

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

With power grip
LH-600EG

SPECIFICATIONS

| Metric | | LH-600E*3 (without power grip) | LH-600EG*3 (with power grip) |
|---------------------------------------|---|--|---------------------------------|
| Model | | | |
| 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*1 | $(1.1 + 0.6L/600) \mu\text{m}$, L=Measured length (mm) | |
| | Repeatability*1 | Plane: 0.4 μm (2 σ), Hole: 0.9 μm (2 σ) | |
| | Perpendicularity (forward and backward)*2 | 5 μm (after compensation) | |
| | Straightness (forward and backward)*2 | 4 μm (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 | 247x438x1013 mm |
| Mass | | 24 kg | 24.5 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.



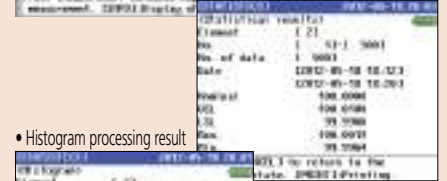
An inspection certificate is supplied as standard. Refer to page U-9 for details.

Screenshot examples

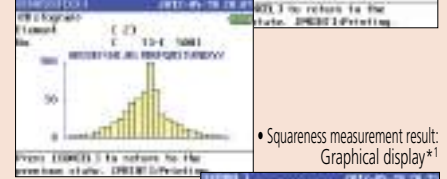
- Measurement screen



- Statistical processing result



- Histogram processing result



- Squareness measurement result: Graphical display*1

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



- Squareness measurement result: Numeric display*2

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

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*3
- *3 Two auxiliary weights come with the main unit.

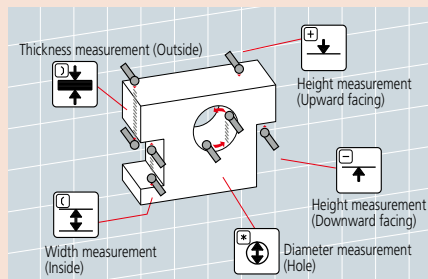
Model without power grip

| 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

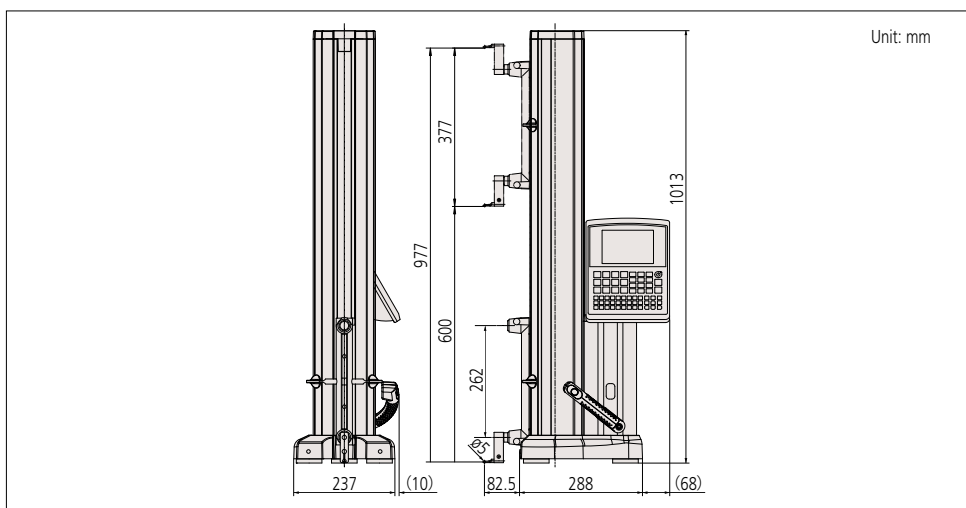


The power grip makes it easy to approach the workpiece.



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

DIMENSIONS



Optional Accessories



| No. | Order No. | Item | Order No. | Item |
|------|-----------|---|-----------|--|
| (1) | 12AAC072 | Depth probe | 12AAB136 | ø10 mm cylindrical probe |
| (2) | 12AAC073 | Taper probe | 12AAF666 | ø1 mm ball probe (coaxial type) |
| (3) | 932361 | Mu-checker lever head holder* ¹ *1 Two additional pieces of auxiliary weights required (total 4 pcs.) | 12AAF667 | ø2 mm ball probe (coaxial type) Ruby ball |
| (4) | 12AAA792 | Dial indicator holder | 12AAF668 | ø10 mm ball probe (coaxial type) L: 82 mm |
| (5) | 12AAA793 | Probe extension holder | 12AAF669 | ø10 mm ball probe (coaxial type) L: 120 mm |
| (6) | 12AAB552 | ø10 mm ball probe (coaxial type) | 12AAF670 | ø5 mm disk probe |
| (7) | 957265 | ø20 mm disk probe | 12AAF671 | ø10 mm disk probe |
| (8) | 957264 | ø14 mm disk probe | 12AAF672 | ø1 mm ball offset probe |
| (9) | 957261 | ø2 mm ball probe (coaxial type) | 05HAA394 | ø5 mm ball offset probe |
| (10) | 957262 | ø3 mm ball probe (coaxial type) | 12AAA879 | Sample workpiece |
| (11) | 957263 | ø4 mm ball probe (coaxial type) | 932377A | ø2 mm CMM ball probes |
| (12) | 226118 | M3 CMM stylus adapter* ² | 932378A | ø3 mm CMM ball probes |
| (13) | 226117 | M2 CMM stylus adapter* ² | 932379A | ø5 mm CMM ball probes |
| (14) | 12AAA789 | ø6 mm ball offset probe | 932380A | ø6 mm CMM ball probes |
| (15) | 12AAA788 | ø4 mm ball offset probe | 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.