

High-Performance Height Gage QM-Height Series



World's best-in-class accuracy "4.5 μ m"

Small Tool Instruments and Data Management



Catalog No. E12027

Mitutoyo



High-Performance Height Gage QM-Height Series



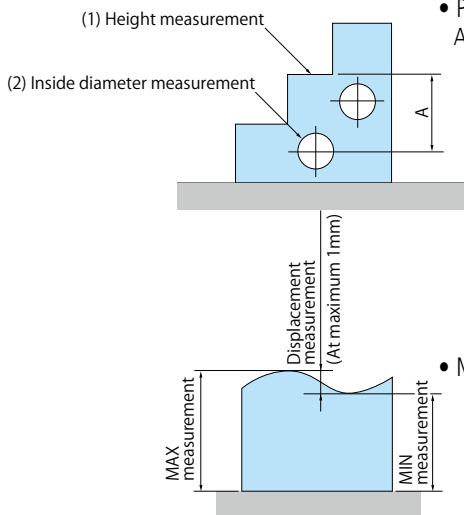
- Best-in-class accuracy $\pm(2.4+2.1L/600)\mu\text{m}$
- Built-in air levitation mechanism using an internal pump enables smooth movement along the surface plate.
(Low-cost version with no air levitation mechanism also available)
- Easy-to-view, simple control panel allows performance of main measurements with a single key.
- A battery life of 300 hours in continuous use with four AA batteries.
(Also works with four commercially available NiMH AA rechargeable batteries)
- A full range of options are provided to enhance operability, including a variety of probe contact points and USB Input Tool Direct, which allows output to a PC.

Go/ \pm NG judgment by LED (red, orange, green) and measurement examples

- LEDs are activated at the time of tolerance judgment – green for Go, red for +NG, and orange for -NG. “-NG”, “GO” and “+NG” also appear on the LCD.



Measurement Example



- Pitch measurement (displayed on bottom level)
A (the pitch) will be displayed on bottom by measuring (1) and (2).

ABS mm
45.000 Z ← Top: Measurement (e.g. height, diameter)
20.000 Z^P ← Bottom: Pitch (A)

- Maximum/minimum and displacement measurement

Inside/outside diameters, maximum/minimum heights and displacement can be measured using a standard probe

- Besides height measurement, Mitutoyo's proprietary mechanism and firmware enables scanning measurement of inside/outside diameters, maximum/minimum heights, and displacement.



QM-Height measures height, as well as step, inside/outside widths, inside/outside diameters and circle pitch (height components), and also measures free-form surface maximum/minimum heights and displacement by scanning measurement*. It also remembers the immediately preceding measurement (height component) and displays the difference (pitch) between results below the measurement.

*Scanning measurement stroke is approx 1mm above and below from the start point of measurement.

Employs an absolute electromagnetic induction linear encoder

- Remembers an origin point once it has been set so it does not have to be reset each time the system is turned on.
- *Origin need to be reset in the event of major environmental changes

External output

- Digimatic and USB output are provided as standard.



When attaching U-WAVE, please purchase the optional mounting plate (No. 02AZE990).



Simple button layout and user-friendly icon keys

- Frequently used keys are indicated with icons.
- An ergonomic cross key configuration enhances operability for setting presets and other settings.

Power supply

- Four alkaline AA batteries (standard accessories)
- Also operates on four commercially available NiMH AA rechargeable batteries
- AC adapter (optional accessory)

Probe elevation wheel

- Used for measurement, allowing fine or coarse adjustment.



Air levitation function

- Pressing a button on the grip activates the internal pump. The base rises and moves smoothly along the surface plate.

*Measurements cannot be made during levitation as it will cause measurement error.

Diverse options expand measurement possibilities

Part no.	Item
Depth measurement	
12AAC072	Depth probe
Interchangeable contact points for ø5 stepped probe	
957261	ø2 ball (coaxial type)
957262	ø3 ball (coaxial type)
957263	ø4 ball (coaxial type)
957264	ø14 disk
957265	ø20 disk
12AAA788	ø4 ball (eccentric type)
12AAA789	ø6 ball (eccentric type)
226116	ø2 collar (used to mount a contact point with ø6 shank)
Special Holder, Special Probe	
12AAA792	Holder for Dial Gage
12AAA793	Long holder
AC adapter	
06AEG180JA	AD620JA (JAPAN/U.S.A.)
06AEG180D	AD620D (EUROPE)
06AEG180E	AD620E (BRITAIN)
06AEG180K	AD620K (SOUTH KOREA)
06AEG180DC	AD620DC (CHINA)
Digimatic cable	
936937	1m
965014	2m
Others	
05HZA143	9 × 9 adapter (requires the following clamp)
05GZA033	Clamp (for 9 × 9 adapter)
05HZA144	6.35 × 12.7 adapter (requires the following clamp assembly)
901385	Clamp (for 6.35 × 12.7 adapter)
02AZE990	U-WAVE mounting plate

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

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SPECIFICATIONS

Code No.	518-230	518-231	518-232	518-233	518-234	518-235	518-236	518-237
Measuring range	0 - 350mm	0 - 350mm/ 0-14"	0 - 600mm	0 - 600mm/ 0-24"	0 - 350mm	0 - 350mm/ 0-14"	0 - 600mm	0 - 600mm/ 0-24"
Resolution (selectable)	0.001mm/ 0.005mm	0.001mm/ 0.005mm/ .00005"/ .0001"	0.001mm/ 0.005mm	0.001mm/ 0.005mm/ .00005"/ .0001"	0.001mm/ 0.005mm	0.001mm/ 0.005mm/ .00005"/ .0001"	0.001mm/ 0.005mm	0.001mm/ 0.005mm/ .00005"/ .0001"
Accuracy at 20°C	Indication accuracy ¹ $\pm (2.4+2.1L/600) \mu\text{m}$							
	Repeatability ¹ $2\sigma \leq 1.8 \mu\text{m}$							
Perpendicularity ² (20°C)	7 μm		12 μm		7 μm		12 μm	
Guiding method	Roller bearing							
Drive method	Manual (wheel)							
Detection principle	Electromagnetic induction absolute encoder							
Measuring force	1.5 \pm 0.5N							
Data output	Digimatic / USB ³							
Air levitation	Not included				Included (for travel only) ⁴			
Power supply	Alkaline AA batteries x 4 (standard accessories) / AC adapter (optional accessory) / Supports NiMH rechargeable batteries x 4							
Battery life guideline ⁵	Approx. 300 hours (continuous use) LED: Other than full-time illumination				Approx. 300 hours (continuous use) LED: Other than full-time illumination			
	Approx. 100 hours (continuous use) LED: Full-time illumination				Approx. 3.3 days (normal use) When used 5 hours/day, 240 days/year. This includes use of air levitation for 0.5 hours/day.			
Mass	25kg		29kg		25kg		29kg	
Size (mm)	Stroke 350mm type: 280(W)x273(D)x784(H)mm Stroke 600mm type: 280(W)x273(D)x1016(H)mm							
Operating temperature range (recommended)	0 - 40°C (10 - 30°C)							
Operating temperature range	20 - 80%RH (Must be free from condensation)							
Storage temperature range	-10 - 50°C							
Storage humidity range	5 - 90% RH (Must be free from condensation)							

*1 The indication accuracy and repeatability represent the values obtained from the height measurement of a flat surface using the standard holder with $\phi 5$ ball contact point. In the case of diameter, minimum (maximum) value, circle pitch or displacement measurement, measuring errors may be larger than the accuracy ratings listed in the table due to variations in measuring force at scanning measurement, which differs from height measurement.

*2 This perpendicularity indicates the value obtained from the measurement of a flat surface placed parallel with the base reference surface using the Lever Head (MLH-321) and Mu-checker (M-411).

*3 Requires special communication driver and software.

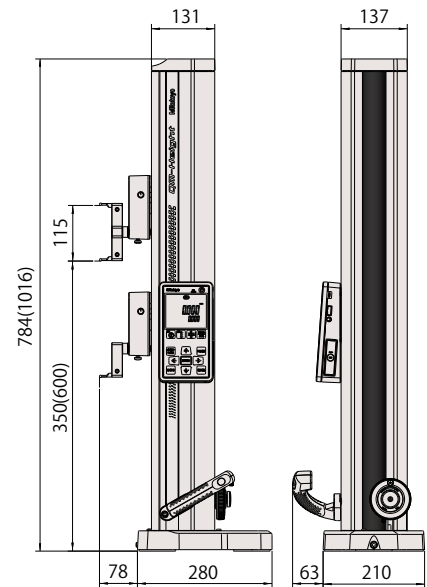
They can be downloaded from Mitutoyo web site. <http://www.mitutoyo.co.jp/eng/>

*4 When using a model with the air levitation feature, please use a JIS 1 class, or higher, surface plate. Using on surfaces with scratches or unevenness may prevent the system operating to the specified performance.

*5 Battery life depends on the operating method.

DIMENSIONS

Unit: mm



() : Range 0-600mm/0-24"

Standard accessories

- Probe diameter calibration block/eliminatio
- $\phi 5$ stepped probe
- Alkaline batteries (LR6) (4 pieces)

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Willrich Precision
Ph 866-945-5742
email: sales@willrich.com

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