

## QM-HEIGHT SERIES

HIGH-PERFORMANCE HEIGHT GAGE

SMALL TOOL INSTRUMENTS  
AND DATA MANAGEMENT



# High-Performance Height Gage QM-Height Series

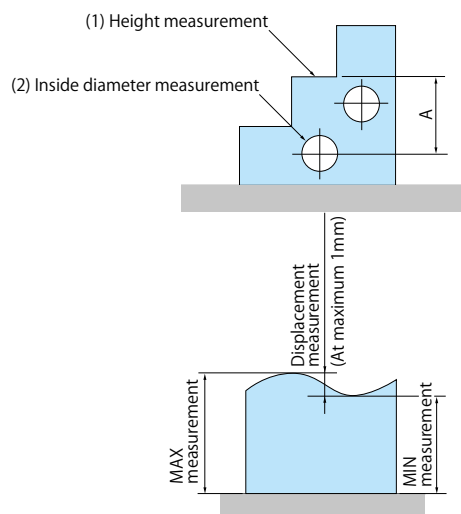
- Very high accuracy  $\pm(2.4+2.1L/600)$   $\mu\text{m}$
- Built-in air levitation mechanism using an internal pump enables smooth movement along the surface plate.  
(Low-cost version with no air levitation mechanism also available.)
- Easy-to-view, simple control panel allows performance of main measurements 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

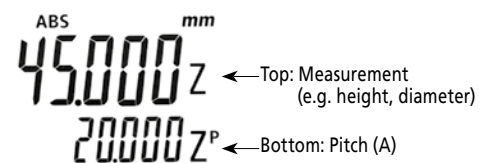
- LEDs are activated at the time of tolerance judgment – green for Go, red for +NG, and orange for -NG. “-NG”, “GO” and “+NG” also appear on the LCD.



### Measurement Example



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



- 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 1 mm 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	
<b>12AAC072</b>	Depth probe
Interchangeable contact points for ø5 stepped probe	
<b>957261</b>	ø2 ball (coaxial type)
<b>957262</b>	ø3 ball (coaxial type)
<b>957263</b>	ø4 ball (coaxial type)
<b>957264</b>	ø14 disk
<b>957265</b>	ø20 disk
<b>12AAA788</b>	ø4 ball (eccentric type)
<b>12AAA789</b>	ø6 ball (eccentric type)
<b>226116</b>	ø2 collar (used to mount a contact point with ø6 shank)
Special Holder, Special Probe	
<b>12AAA792</b>	Holder for Dial Gage
<b>12AAA793</b>	Long holder
AC adapter	
<b>06AEG180D</b>	AD620D (EUROPE)
<b>06AEG180E</b>	AD620E (BRITAIN)
Digimatic cable	
<b>936937</b>	1 m
<b>965014</b>	2 m
<b>06ADV380D</b>	USB Input Tool Direct cable (2 m)
<b>02AZD790D</b>	Connecting cable U-WAVE
Others	
<b>05HZA143</b>	9 × 9 adapter (requires the following clamp)
<b>05GZA033</b>	Clamp (for 9 × 9 adapter)
<b>05HZA144</b>	6.35 × 12.7 adapter (requires the following clamp assembly)
<b>901385</b>	Clamp (for 6.35 × 12.7 adapter)
<b>02AZE990</b>	U-WAVE mounting plate

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



## Specifications

Code No.	518-230	518-232	518-234	518-236
Measuring range	0 - 350 mm	0 - 600 mm	0 - 350 mm	0 - 600 mm
Resolution (selectable)	0.001 mm/0.005 mm	0.001 mm/0.005 mm	0.001 mm/0.005 mm	0.001 mm/0.005 mm
Accuracy at 20°C	Indication accuracy <sup>*1</sup>	± (2.4+2.1L/600) μm		
	Repeatability <sup>*1</sup>	2σ ≤ 1.8 μm		
Perpendicularity <sup>*2</sup> (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±0.5N			
Data output	Digimatic / USB <sup>*3</sup>			
Air levitation	Not included		Included (for travel only) <sup>*4</sup>	
Power supply	Alkaline AA batteries x 4 (standard accessories) / AC adapter (optional accessory) / Supports NiMH rechargeable batteries x 4			
Battery life guideline <sup>*5</sup>	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	25 kg	29 kg	25 kg	29 kg
Size (mm)	Stroke 350 mm type: 280(W)x273(D)x784(H) mm Stroke 600 mm 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 ø5 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.

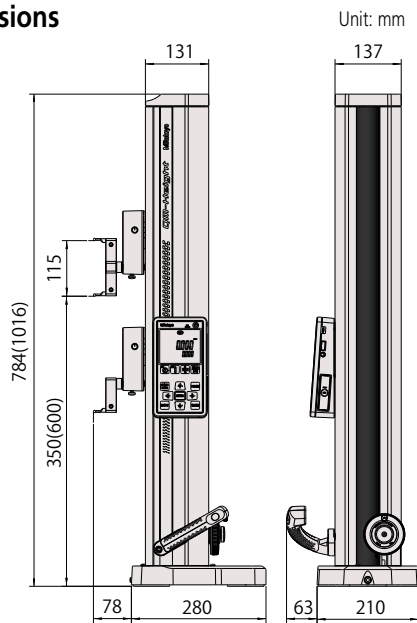
\*2 This perpendicularity indicates the value obtained from the measurement of a flat surface placed parallel with the base reference surface using the Lever Head (MLH-321) and Mu-checker (M-411).

\*3 Requires special communication driver and software.

\*4 When using a model with the air levitation feature, please use grade 0, 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.

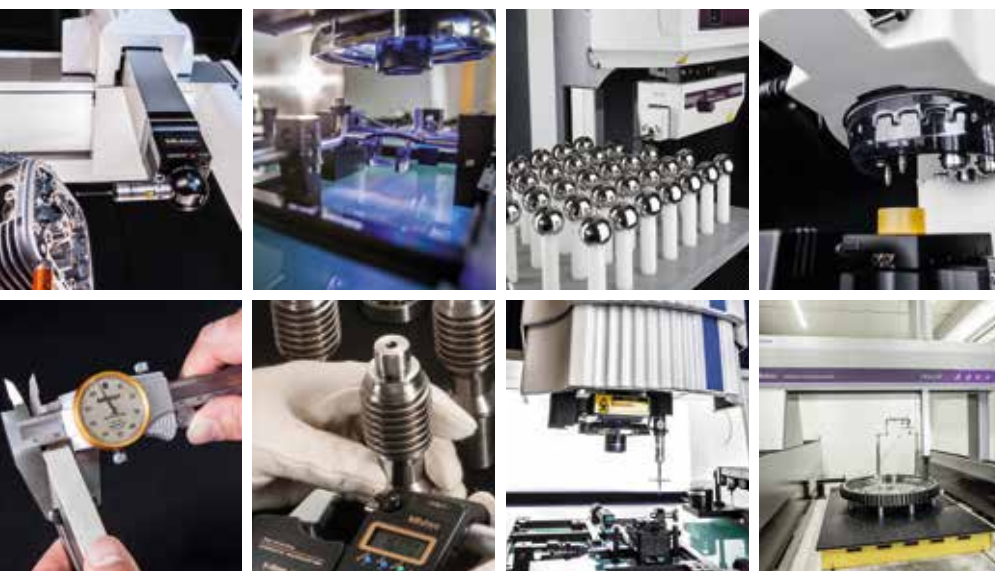
## Dimensions



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

## Standard accessories

- Probe diameter calibration block
- ø5 stepped probe
- Alkaline batteries (LR6) (4 pieces)



**Whatever your challenges are,  
Mitutoyo supports you from start to finish.**

Mitutoyo is not only a manufacturer of top quality measuring products but one that also offers qualified support for the lifetime of the equipment, backed up by comprehensive services that ensure your staff can make the very best use of the investment.

Apart from the basics of calibration and repair, Mitutoyo offers product and metrology training, as well as IT support for the sophisticated software used in modern measuring technology. We can also design, build, test and deliver bespoke measuring solutions and even, if deemed cost-effective, take your critical measurement challenges in-house on a sub-contract basis.

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Test Equipment  
and Seismometers

Digital Scale and DRO Systems

Small Tool Instruments  
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