

# High-Performance Height Gage QM-Height Series



Mitutoyo Corporation  
80th Anniversary  
Since 1934

*World's best-in-class accuracy "4.5 $\mu$ m"*

Small Tool Instruments and Data Management



Bulletin No. 2157

# Mitutoyo

# High-Performance Height Gage QM-Height Series



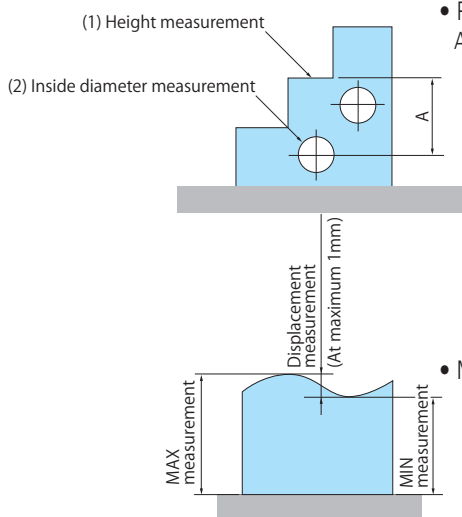
- Best-in-class accuracy  $\pm(2.4+2.1L/600)\mu\text{m}$
- Built-in pneumatic flotation system enables smooth movement along the surface plate.  
(Low-cost version with no pneumatic flotation system also available)
- Easy-to-view, simple control panel allows performance of main measurements with a single 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, output to a PC via USB Input Tool Direct and wireless output via a U-Wave transmitter.

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

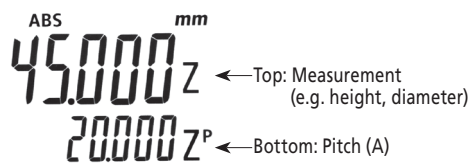
- LEDs are activated at the time of tolerance judgment – green for Go, red for +NG, and orange for -NG. "-NG", "GO" and "+NG" also appear on the LCD.



### 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, inside/outside widths, inside/outside diameters, circle pitch (height components), 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.

### Remembers an origin point once it has been set

- Does not have to be reset each time the system is turned on.
- \*Origin needs to be reset in the event of major environmental changes

### External output

- Digimatic and USB output are provided as standard.
- U-Wave wireless output (optional)



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 (standard accessory)

### Probe elevation wheel

- Allows for fine coarse adjustment during measurement



### Pneumatic flotation system

- 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 flotation 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)
Special Holder, Special Probe	
<b>12AAA792</b>	Holder for Dial Gage
<b>12AAA793</b>	Long holder
AC adapter	
<b>06AEG180JA</b>	AD620JA (JAPAN/U.S.A.)
SPC connecting cables	
<b>936937</b>	1m cable
<b>965014</b>	2m cable
Others	
<b>05HZA143</b>	9 x 9 adapter (requires the following clamp)
<b>05GZA033</b>	Scriber Clamp (for 9 x 9 adapter)
<b>05HZA144</b>	6.35 x 12.7 adapter (requires the following clamp assembly)
<b>901385</b>	Clamp (for 6.35 x 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.



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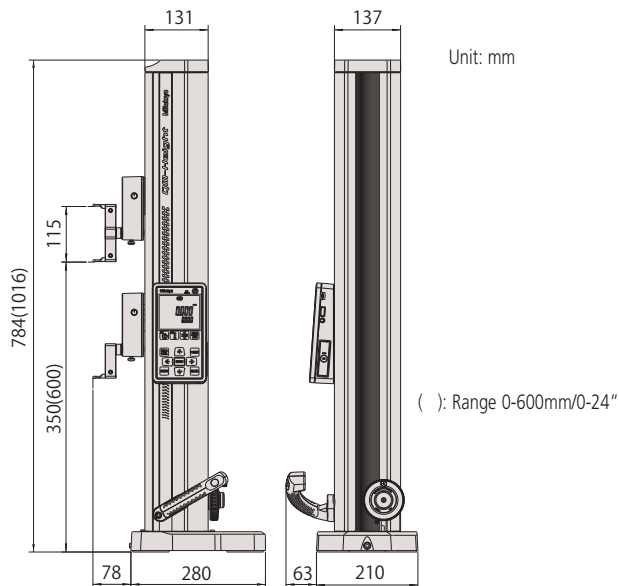
## SPECIFICATIONS

Inch/Metric		64PKA094A	64PKA095A	64PKA129A	64PKA130A
Order No.	Model	QMH-14" A	QMH-24" A	QMH-14" B	QMH-24" B
Range		0 - 14" / 0-350mm	0 - 24" / 0-600mm	0 - 14" / 0-350mm	0 - 24" / 0-600mm
Resolution		0.001 / 0.0005mm / .00005" / .0001"			
Accuracy	Accuracy*1	$\pm(2.4+2.1L/600)\mu\text{m}$ L = Measuring length (mm)			
	Repeatability*1	$2\sigma \leq 1.8\mu\text{m}$			
Perpendicularity		7 $\mu\text{m}$	12 $\mu\text{m}$	7 $\mu\text{m}$	12 $\mu\text{m}$
Guiding method		Roller bearing			
Drive method		Manual Operation			
Scale type		Electromagnetic induction type ABSOLUTE linear encoder			
Measuring force		1.5 $\pm$ 0.5(N)			
Data Output		Digimatic output/USB			
Pneumatic floating system		NA			Included
Power supply		AC adapter battery / (LR6 x 4) Standard accessory / Nickel metal hydride battery (x4)			
Battery operation time		Approx. 300 hours (Not using pneumatic floating system)			
		Approx. 80 hours (Using pneumatic floating system regularly)			
Standard Accessories		Stepped probe (05H2A148) Probe diameter calibration block (12AAA715) LR6 Battery / AC Adapter (06AEG180JA) 120V			
Mass		55.16 lbs (25kg)	63.93 lbs (29kg)	57.32 lbs (26kg)	66.14 lbs (30kg)
Dimensions		41.85"x21.85x18.94" 1063(W)x555(D)x481(H)	51.02"x21.85x18.94" 1296(W)x555(D)x481(H)	41.85"x21.85x18.94" 1063(W)x555(D)x481(H)	51.02"x21.85x18.94" 1296(W)x555(D)x481(H)
	Main Unit	518-231	518-233	518-235	518-237

\* Model with setting block for ball probe (12AAA715)

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

## DIMENSIONS



**Note:** All information regarding our products, and in particular the illustrations, drawings, dimensional and performance data contained in this printed matter as well as other technical data are to be regarded as approximate average values. We therefore reserve the right to make changes to the corresponding designs. The stated standards, similar technical regulations, descriptions and illustrations of the products were valid at the time of printing. In addition, the latest applicable version of our General Trading Conditions will apply. Only quotations submitted by ourselves may be regarded as definitive.

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## Standard accessories

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

Coordinate Measuring Machines	
Vision Measuring Systems	
Form Measurement	
Optical Measuring	
Sensor Systems	
Testing Equipment and Seismometer	
Digital Scale and DRO Systems	
Small Tool Instruments and Data Management	

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Precision is our Profession