

HIGH-ACCURACY LENGTH MEASURING SYSTEMS

IDEAL FOR MEASURING THE OUTSIDE DIAMETER OF
STEEL BALLS AND ROLLERS FOR ANTI-FRICTION BEARINGS



High-accuracy Length Measuring System

Features

- The wide 10mm measuring range is achieved with a high resolution and accuracy specification that eliminates the inconvenience of the need for frequent resetting to master gages, as required by conventional comparator-type gages, and so fewer of these gages are needed.
- Measurement data can be stored and controlled by PC software.
- The system can measure high-precision parts such as steel balls and rollers for anti-friction bearings by comparison with a master gage, also allowing use as the standard of calibration and evaluation of master gages.

LGH stand

971750

This LGH stand greatly helps the gage to achieve high accuracy.

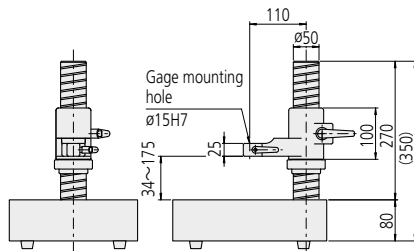
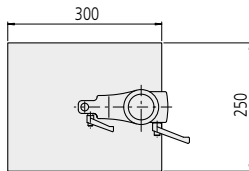
Mass: 23 kg

Maximum measuring range

LGH-0510(C)-B-EH :
0-139 mm

LGH-1010(C)-B-EH :
0-137 mm

Measuring table:
granite



ø30mm mounting bush*

For mounting on a commercially-available stand.
(User-specified size acceptable)

* Custom-made option



Spindle lifting cable

971753 Mass: 50 g

Allows the LGH spindle to be lifted and lowered without touching the measuring head.



LGH Stand	971750
Spindle lifting cable	971753
PC software: SENSORPAK	02NGB070

Inspection of high-precision parts



* Needle contact-point mounting example

PC software: SENSORPAK 02NGB070

This is a software program that allows graphic meter indication and control chart display as well as record/storage of measurement data.



* To connect between a PC and the exclusive counter, a USB cable (A-B type) is required separately.

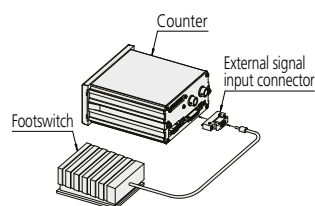
External signal input connector*

Allows external signals to trigger data output and zero-set the counter in combination with the foot switch.

* Custom-made option

Application example

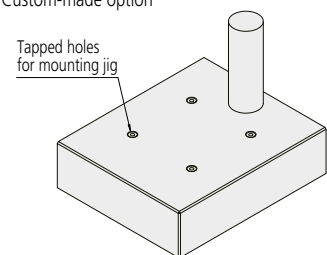
- Data output trigger
- Preset (zero-set)
- Peak hold clear



Custom stand 1*

Useful for making a stand to mount a custom jig (to user-specified dimensions).

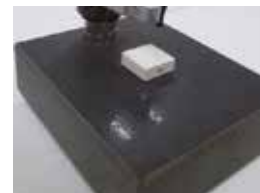
* Custom-made option



Custom stand 2*

Useful for making a stand incorporating a high-accuracy ceramic platen.
(Flatness: 0.3µm)

* Custom-made option



Quality Assurance

Standard Accessories: Inspection certificate



Option

- Calibration certificate
- Traceability system chart



Specifications

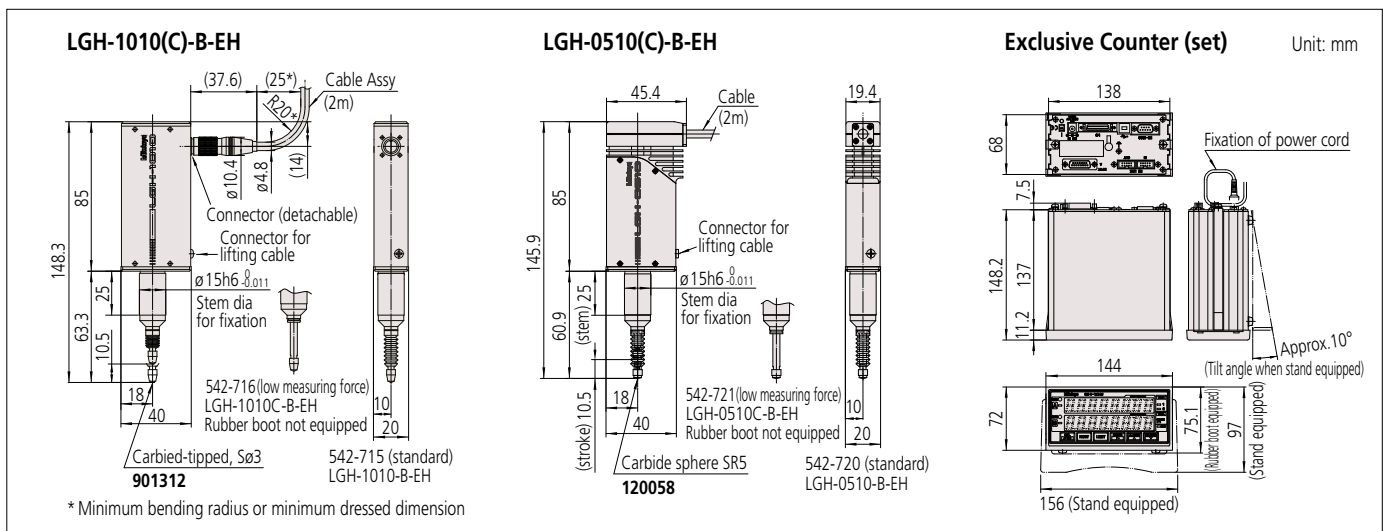
Order No.	Resolution 0.01 μ m / Accuracy 0.2 μ m model		Resolution 0.005 μ m / Accuracy 0.1 μ m model	
	542-715 (Standard)	542-716 (Low measuring force)	542-720 (Standard)	542-721 (Low measuring force)
Model	LGH-1010-B-EH	LGH-1010C-B-EH	LGH-0510-B-EH	LGH-0510C-B-EH
Measuring range	10mm			
Resolution	0.01 μ m (0.05 μ m, 0.1 μ m, 0.5 μ m, 1 μ m can be selected from the counter)		0.005 μ m (0.01 μ m, 0.05 μ m, 0.1 μ m can be selected from the counter)	
Measuring accuracy (20°C) *1	0.2 μ m		0.1 μ m	
Repeatability (20°C) *1	0.1 μ m (2 σ)		0.02 μ m (2 σ)	
Retrace error (20°C) *1	0.1 μ m		0.05 μ m	
Measuring force	Contact point downwards	0.65 N or less	Approx. 0.12 N	0.65 N or less
	Contact point horizontal	0.55 N or less	Not applicable	0.55 N or less
	Contact point upwards	0.45 N or less	Not applicable	0.45 N or less
Maximum operation speed	In normal measurement: 700 mm/sec; for peak detection: 120 mm/sec		In normal measurement: 250 mm/sec	
Contact point	Carbide-tipped, S ϕ 3 mm (M2.5 (P=0.45)×5 mm), standard contact point: 901312		Carbide sphere SR5 (M2.5 (P=0.45)×5 mm), standard contact point: 120058	
Stem	ϕ 15 mm			
Functions	Zero-setting, presetting, direction changeover, tolerance, judgment (3 steps/5 steps)			
Hold function	Yes		No	
Power supply	Supplied AC Adapter, or +12 to 24V DC, max 700 mA			
Operating temperature/humidity	0°C - 40°C (Reference temperature 20°C)/20-80%RH (no condensation)		10°C - 30°C (Reference temperature 20°C)/30-70%RH (no condensation)	
Storage temperature/humidity	-10°C - 60°C/20-80%RH (no condensation)		-10°C - 60°C/20-80%RH (no condensation) *2	
Standard accessories	Wrench for contact point, rubber boot, stand, washer (for counter), AC Adapter, AC cord, DC plug, user's manual, inspection certificate			

*1 Applies when used with counter (excluding quantizing error).

*2 The storage temperature/humidity range after unpacking is the same as the operating temperature/humidity range.

Refer to the Linear Gauge(Catalog No.E13013) for more details

Dimensions

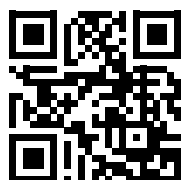




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Apart from the basics of calibration and repair, Mitutoyo offers product and metrology training, as well as IT support for the sophisticated software used in modern measuring technology. We can also design, build, test and deliver bespoke measuring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



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