

Mitutoyo

Linear Height

1D/2D Measuring Gage

**Ease and Accuracy with a
Unique Pneumatic Floating System**

The new Mitutoyo Linear Height, multifunctional single axis height gage, makes 2D measurement simple and accurate. It is possible to measure from simple 1D parameters of the surface height, circle diameter, distance, perpendicularity and straightness to sophisticated 2D measurement.

LINEAR HEIGHT



- Excellent accuracy of $(2+L/600)\mu\text{m}$ with $0.1\mu\text{m}/0.5\mu\text{m}$ resolution/repeatability.
- Perpendicularity (frontal) of $6\mu\text{m}$ and straightness of $4\mu\text{m}$ are guaranteed.
- Unique pneumatic full/semi-floating system makes it possible to adjust the height of the air-cushion according to the operation (movement/measurement). It achieves rapid inspection speed while maintaining the accuracy.
- One-key operation for semiautomatic measuring run.
- Automatic stand-by in the repeat measurement.
The probe automatically moves to the next start position of measurement to stand-by.
- Independent drive/measurement speed setting for quick moving (max. 40mm/s) and circumspect measuring.
- Immediate GO/NG judgment at each measurement.
- Complete stand-alone design with rechargeable battery pack and self-contained pneumatic system.
- 24kg smart body for high mobility.
- Large memory capacity for 50 measuring programs and 60,000 measured data.
- Off-line part programming for increased measurement efficiency.

- In addition to the provided basic statistical processing, RS-232C data output allows you to evaluate the measurement data with an external PC and SPC software.
- Data entry from a Digimatic tool.
- Optional external battery charger and spare battery pack are available for continuous operation.
- Choice of message language in English, German, French, Spanish, Italian and Japanese for user friendly operation.



With power grip model


















Functions



The LH-600B affords greater convenience and ease of use through the integration of sequential key operations for frequent measurement. The touch of a single key automatically runs the Linear Height until the last result display. This eliminates troublesome key operations at each step in the measurement process, allowing you to concentrate on workpiece inspection.



Basic functions

	Measures the height of an upward-facing surface.		Measures the difference between maximum height and minimum height of the upward or downward-facing surface.
	Measures the height of a downward-facing surface.		Measures the width and center position between two elements.
	Measures the diameter and center of a hole.		Sets the ABS origin (absolute reference origin) or INC origin (incremental origin defined by a user), switches the ABS/INC origin, and sets the offset ABS origin.
	Measures the diameter and center of a shaft.		Sets the probe type, measures the probe diameter, inputs the probe diameter, saves the probe, loads the probe and shifts the probe position.
	Measures the width and center of an inner diameter.		Performs calculation, including angle.
	Measures the width and center of an outer diameter.		Displays a comment when operations are paused, measures the position of a hole with a tapered probe, inputs measurement from a Digimatic measuring instrument and measures the perpendicularity.
	Measures the maximum height of a downward or upward-facing surface.		Suspends or resumes system operation.
	Measures the minimum height of an upward or downward-facing surface.		

Other functions

2D measurement

- 2-D origin setting
- X/Y axis setting
- Coordinate system rotation
- 2-D origin translation
- Coordinate save
- Coordinate recall
- Element recall
- Polar coordinate recall
- Coordinate distance calculation
- 2-D distance calculation
- 2 elements intersection-angle calculation
- 3 elements intersection-angle calculation
- Pitch-circle calculation

Tolerance judgment function

- Tolerance/nominal value setting
- Tolerance judgment result output
- Warning function

User-support function

- Switching resolution
- Power saving function
- Switchable measurement speed
- Semi-floating measurement

Part-program functions

- Creating/editing/executing a part program

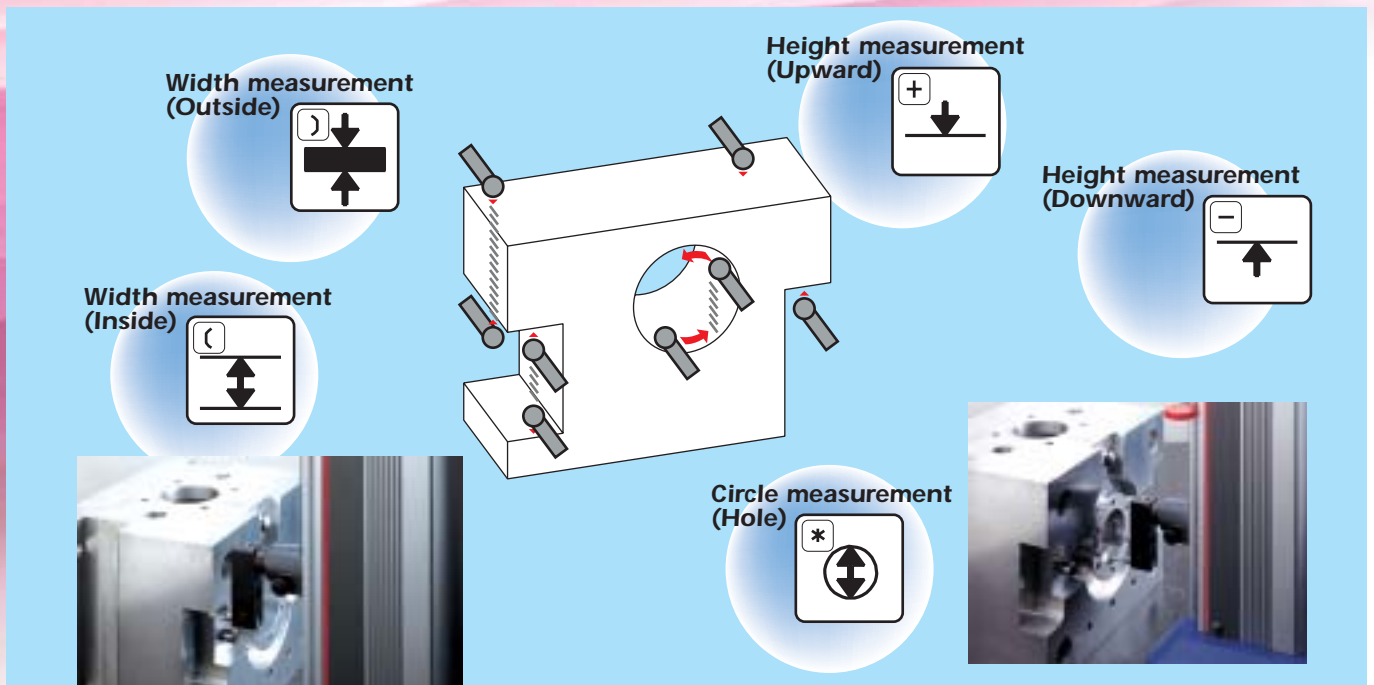
Statistical processing functions

- Basic statistical processing
- Histogram

Accuracy-compensation functions

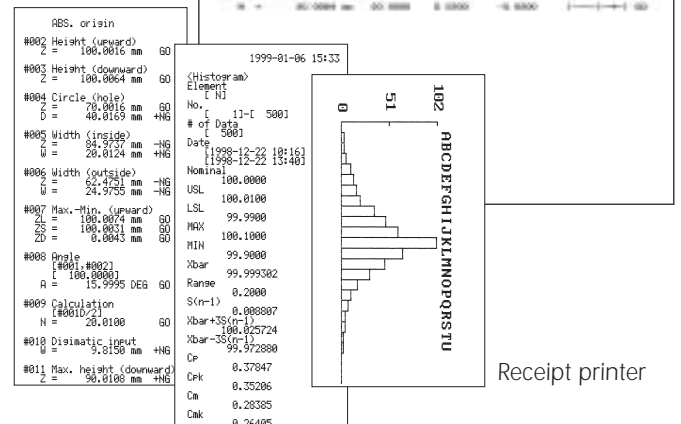
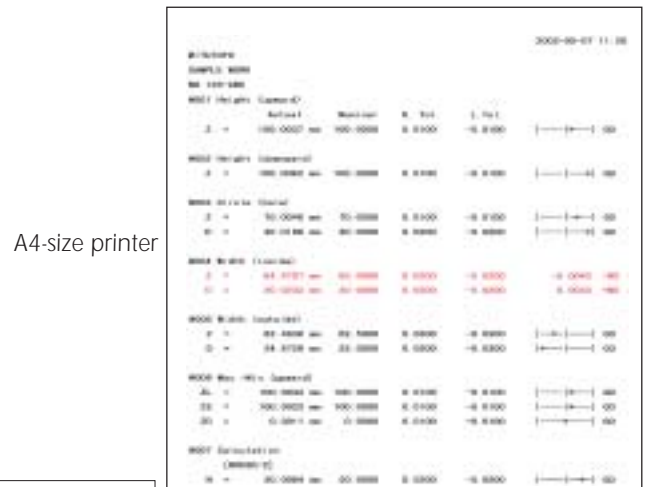
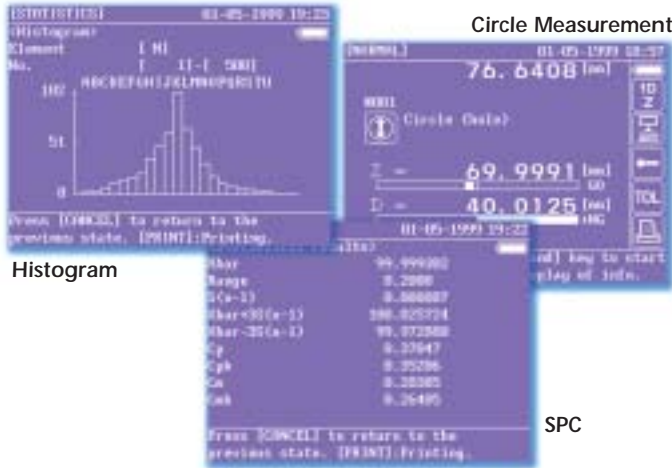
- Temperature compensation
- Scale factor
- Setting of workpiece thermal-expansion coefficient

An Example of Measurement

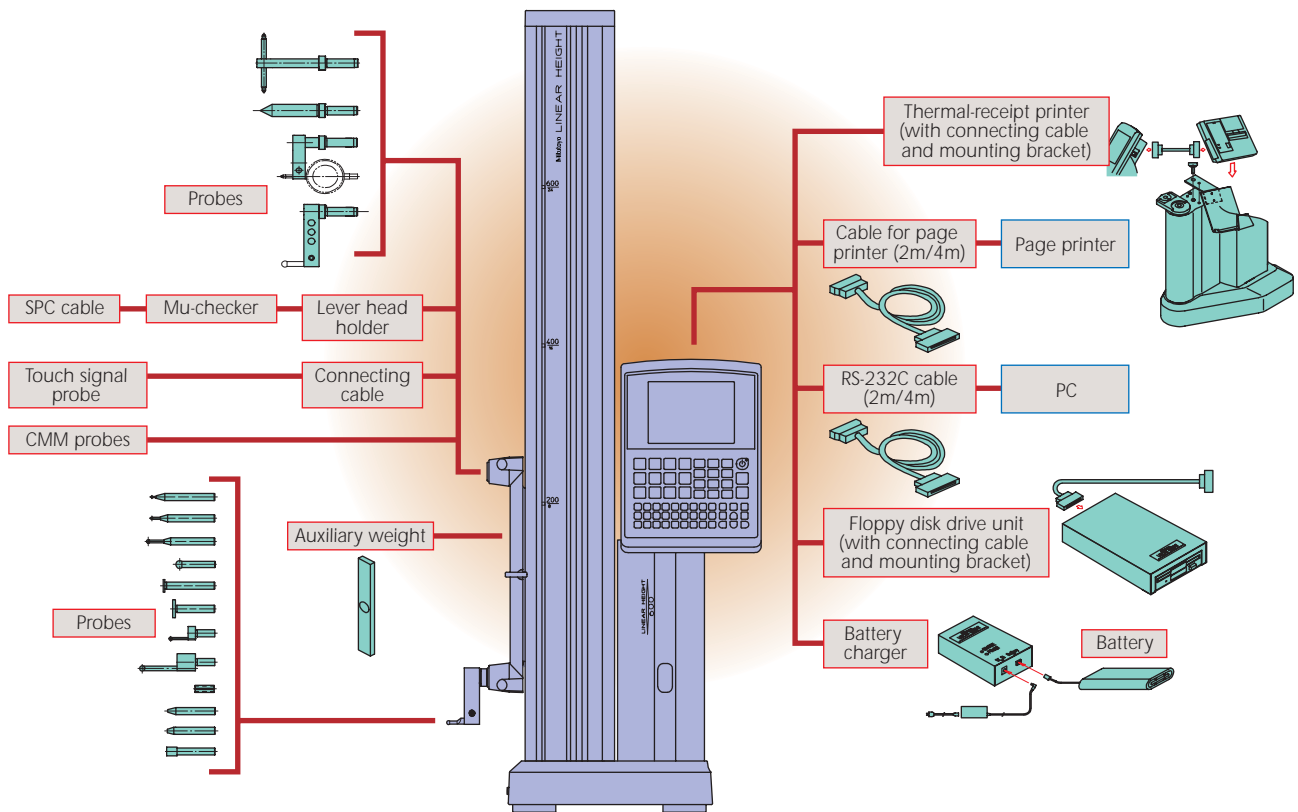


An example of a printout

A receipt printer, which can be set on the main unit of the Linear Height, is provided as an optional accessory. Printout can also be executed using a commercially available *A4-size printer.



Optional Accessories



- 12AAA787** Block for calibrating probe diameter (applicable to taper probe)
- 957261** $\phi 2$ ball probe
- 957262** $\phi 3$ ball probe
- 957263** $\phi 4$ ball probe
- 12AAB552** $\phi 10$ ball probe
- 12AAA788** $\phi 4$ ball offset probe
- 12AAA789** $\phi 6$ ball offset probe
- 957264** $\phi 14$ disk probe
- 957265** $\phi 20$ disk probe
- 226116** Test indicator ($\phi 6$ stem) adapter
- 226117** M2 CMM stylus adapter
- 226118** M3 CMM stylus adapter
- 12AAC072** Depth probe

- 12AAC073** $\phi 20$ taper probe
- 12AAB136** $\phi 10$ cylindrical probe
- 12AAA793** Probe extension holder (84mm/3.3")
- 12AAA792** Dial indicator ($\phi 8$ stem) holder
- 12AAA837** Dial indicator ($\phi 3/8"$ stem) holder
- 932361** Mu-checker lever head holder
- 06AAN066** Touch signal probe
- 12AAA794** Probe connecting cable
- CMM ball and disk hard probes are available
- 12AAA798** Auxiliary weight



Thermal-receipt printer, Floppy disk drive unit, Battery charger

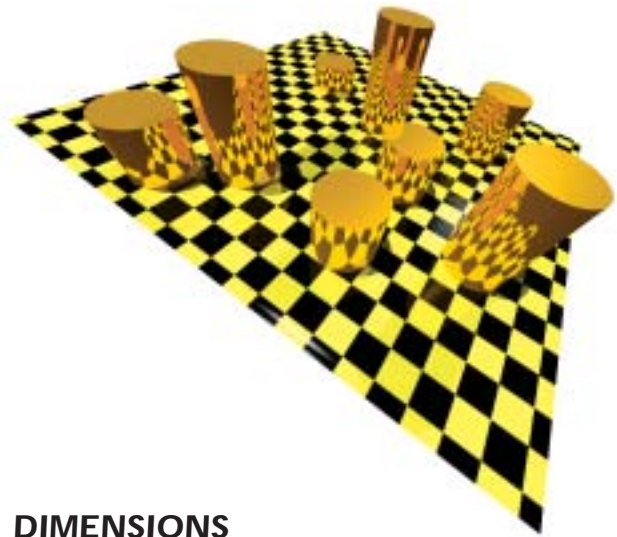
- Thermal receipt printer and page printer are available for recording of the measurement result.
Thermal-receipt printer (220V): **12AAA796**
Thermal-receipt printer (120V): **12AAA797**
Thermal print paper (10pcs.): **12AAA802**
- Page printer recommended: EPSON LQ-300 or LX-300
Cable for page printer (2m): **12AAA804**
Cable for page printer (4m): **12AAA805**
- Floppy disk drive unit allows for storage and retrieval of measuring programs, measurement results and measuring conditions.
Floppy disk drive: **12AAA799**
- Battery charger: **12AAA800**
- RS-232C cable (2m/80"): **12AAA807**
RS-232C cable (4m/160"): **12AAA808**
- SPC cable (1m/40"): **936937**
- SPC cable (2m/80"): **965014**

Detailed Specification

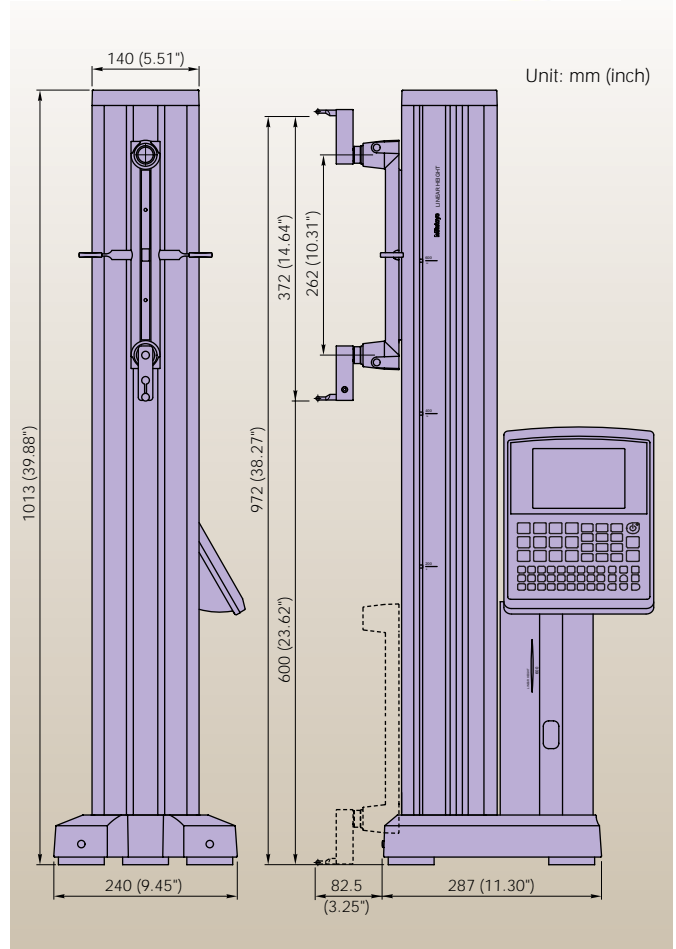
Order No.	518-321-20	
	Linear Height 24 in w/o Manual & Power Grip	
	518-321-20A	
	Linear Height (in/mm)	24 in, 120V
Measuring range (stroke)	0 - 972mm (600mm)/0 - 38" (24")	
Resolution (selectable)	0.0001mm/0.001mm/0.01mm/0.1mm/.000001"/.00001"/.0001"/.001"	
Accuracy at 20°C	Measuring accuracy*1	(2+L/600)µm L=Measuring length (mm)
	Repeatability (2σ)*1	Plane: 0.5µm Bore: 1µm
	Perpendicularity*2	6µm
	Straightness*2	4µm
Drive method	Manual/Motor (5 - 40mm, 7 steps)	
Measuring force	1N	
Balancing method	Counter balance	
Main unit floating method	Full/semi-floating with air	
Air source	Built-in air compressor	
LCD	Graphic LCD (320x240 dot, with backlight)	
Language for display	English/German/French/Spanish/Italian/Dutch/Portuguese/Swedish/Czech/Hungarian/Slovenian/Polish/Japanese	
Number of program	50 (max.)	
Number of data	60,000 (max.)	
Power supply	AC adapter/Battery (Ni-MH)	
Power consumption	43VA	
Operation time	Approx. 5hours	
Mass	24kg/52.8lbs	
Standard accessories	ø5 stepped probe, block for calibrating probe diameter	

*1 This accuracy is guaranteed when using the standard eccentric ø5 probe.

*2 This accuracy is guaranteed when using a lever head (MLH-321) or Mu-Checker (M-411)



DIMENSIONS



Specifications are subject to change without notice.

Mitutoyo
PRECISION IS OUR PROFESSION

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