

Linear Gage

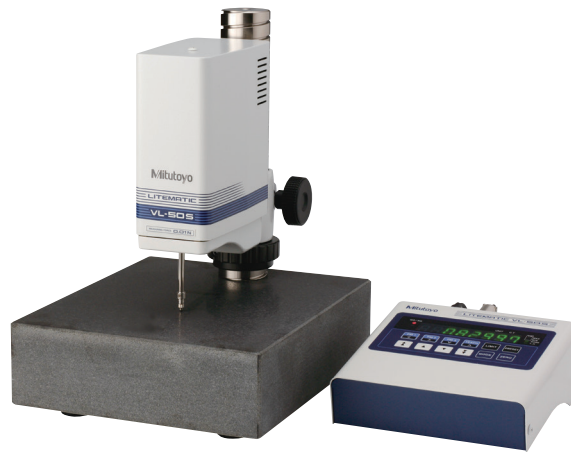
Ideal for integration into harsh environments such as automation applications

SERIES 318 Litematic VL-50-B/50S-B

- The Litematic is designed for measuring easily-deformed workpieces and high-precision parts, with extra-low measuring force of 0.01N.
- 0.15N and 1N types are capable of measuring at a certain measuring force by using a Litematic feature, while the 0.01N type is suitable for measuring delicate workpieces.
- *1: 0.15N, 1N types are factory-installed option.
- The motor-driven spindle moves up/down and stops when the contact point touches the workpiece. Then the maximum, minimum values, and runout value are measured under a constant force.
- High resolution of 0.01 μ m, and wide measuring range of 50mm.
- Measuring system VL-50-B, integrated display type, and VL-50S-B, a separate display type, are available.
- The measuring table supplied with VL-50-B is ceramic, corrosion-free for easier maintenance and storage.
- The spindle is made of low thermal expansion material.
- Motor life is approximately 100,000 operations, after which replacement is advisable. This machine is not suitable for continuous use, such as on a production line.



318-221



318-226

SPECIFICATIONS

Order No.	318-221*	318-222*	318-223*	318-226*	318-227*	318-228*
Measuring range	0 to 50mm (0-2")					
Resolution	0.01/0.1/1.0 μ m (.000005"/.000005"/.00005")					
Display unit	8 digits/14mm (.6") character height (without signs)					
Scale type	Reflection type linear encoder					
Stroke	51.5mm (.2") (when using a standard contact point)					
Indication accuracy (20°C)*1	(0.5+L/100) μ m L=arbitrary measuring length (mm)					
Accuracy guaranteed temperature*2	20 $\pm$ 1°C					
Repeatability*1	σ =0.05 μ m					
Measuring force*1	0.01N	0.15N*3	1N*3	0.01N	0.15N*3	1N*3
Feed	Approx. 2mm/s (.08"/s) or 4mm/s (.16"/s) (changeable by parameter)					
Measurement speed	Fast feed					
Fast feed	Approx. 8mm/s (.3"/s)					
Contact point	ϕ 3mm carbide-tipped (fixing screw: M2.5 (P=0.45) $\times$ 5), standard contact point: 901312					
Measuring table	ϕ 100 (ceramic, grooved, removable)					
Input	Foot switch input (when optional foot switch is used) External Control					
Output	Digimatic output/RS-232C output (changeable by parameter)					
Power supply	85 - 264V AC (depends on AC adapter)					
Power consumption	Max. 12 W (12V, 1A)					
Standard Accessories	AC adapter: 357651 , Power cable/grounding wire: 02ZAA000 , AC cable (Japan): 02ZAA000 * AC cable (USA): 02ZAA010 * AC cable (EU): 02ZAA020 * AC cable (Britain): 02ZAA030 * AC cable (China): 02ZAA040 * AC cable (Korea): 02ZAA050 * Hex wrench (2 pcs, for fixing contact point and for removing fixing bracket)					

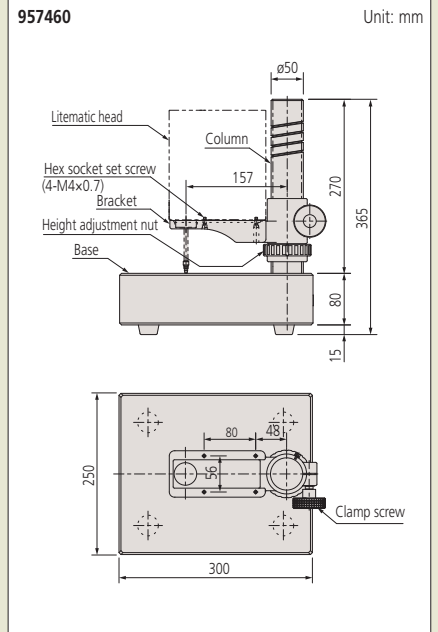
*1: Normal measurement using standard contact point.

*2: Under less temperature change, and hot or cold direct air flow should be avoided.

*3: 0.15N, 1N types are factory-installed option.

Note: To denote your AC power cable add the following suffixes to the order No.: A for UL/CSA, D for CEE, DC for CCC, E for BS, F for SAA, K for KC, C and No suffix are required for PSE.

Optional Stand for VL-50S-B



Optional Accessories

- Foot switch: **937179T**
- Dedicated stand: **957460***4
- SPC cable (1mm): **936937***5
- SPC cable (2m): **965014***5
- VL weight part: **02AZE375***6
- Recommended spare contact point:
 - Shell type
 - Carbide-tipped spherical contact point, $\phi 7.5$
 - Carbide-tipped spherical contact point, $\phi 10.5$
 - Carbide-tipped needle contact point, $\phi 0.45$

*4: Only **VL-50S** is available.

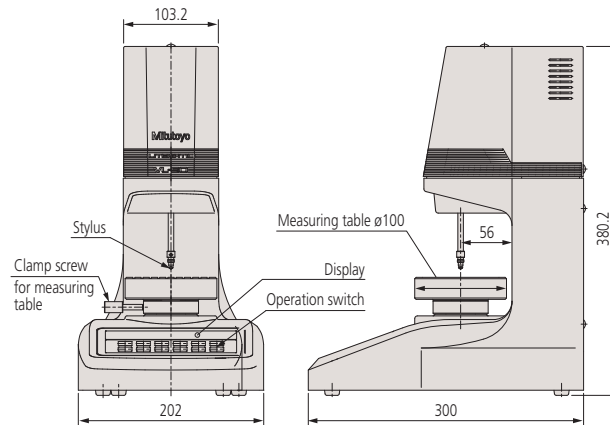
*5: Refer to page G-32 for details of the RS link.

*6: Not applicable to **VL-50-100-B**, **VL-50S-100-B**.

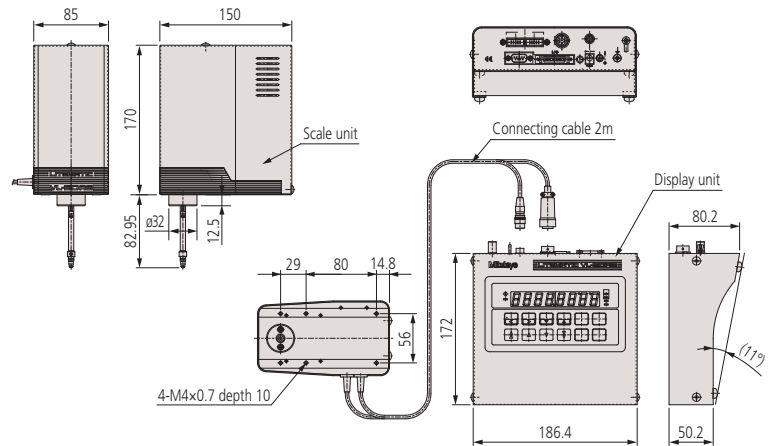
DIMENSIONS

Unit: mm

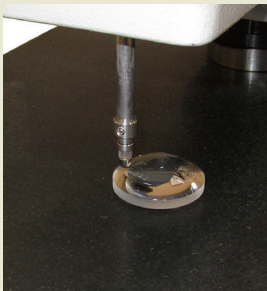
VL-50-B



VL-50S-B



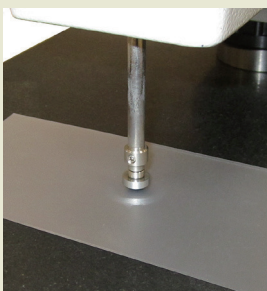
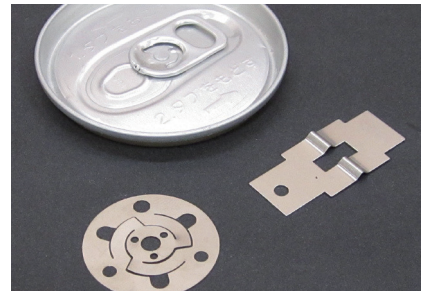
Measurement Examples



Glass dimensional measurement



Thin sheet metal thickness



Thickness measurement of non-metallic sheet

