

Non-contact, high-speed, high-precision measurement

- Capable of measuring down to 5 μm outside diameter*¹.
- Provides ultra-high accuracy of $\pm 0.3 \mu\text{m}$ over the entire measuring range (5 μm to 2 mm).



Order No.		544-531	544-532
Applicable laser standards		JIS	IEC, FDA
User's Manual		Japanese version	English version
Measuring range		0.005 to 2 mm* ¹	
Resolution		0.01 to 10 μm (selectable)	
Repeatability* ²		±0.03 μm	
Accuracy (20 °C)* ³		±0.3 μm	
Positional error* ⁴		±0.4 μm	
Measuring range* ⁵		1×2 mm (0.005 to 2 mm)	
Scanning rate		3200 scans/s	
Laser wavelength		650 nm (Visible)	
Laser scanning speed		76 m/s	
Operating environment	Temperature	0 to 40 °C	
	Humidity	RH 35 to 85 % (non-condensing)	
Protection Level		IP64* ⁶	

LSM-501S Measuring Unit

SERIES 544 — 50 μm to 10 mm Measuring Unit

- Provides ultra-high accuracy of $\pm 0.5 \mu\text{m}$ over the entire measuring range (0.05 to 10 mm).
- Narrow range accuracy of $\pm (0.3 + 0.1\Delta D) \mu\text{m}$ for high-precision measurement.



Order No.		544-533	544-534
Applicable laser standards		JIS	IEC, FDA
User's Manual		Japanese version	English version
Measuring range		0.05 to 10 mm	
Resolution		0.01 to 10 μm (selectable)	
Repeatability*1		±0.04 μm	
Accuracy*2 (20 °C)	Whole range	±0.5 μm	
	Narrow range	±(0.3+0.1ΔD) μm*3	
Positional error*4		±0.5 μm	
Measuring range*5		2×10 mm (ø0.05 to ø0.1 mm) 4×10 mm (ø0.1 to ø10 mm)	
Scanning rate		3200 scans/s	
Laser wavelength		650 nm (Visible)	
Laser scanning speed		113 m/s	
Operating environment	Temperature	0 to 40 °C	
	Humidity	RH 35 to 85 % (non-condensing)	
Protection Level		IP64*6	

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- Multifunctional display unit, **LSM-6200**:

Order No.	Display type	Remarks
544-071	Japanese mm/E	Japanese user's manual
544-071*	English mm/E	English user's manual
544-072*	English mm/inch	

* 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."

- Easy-to-operate display unit, **LSM-5200**.

Order No.	Remarks
544-046	Japanese user's manual
544-047	English user's manual

- Standard calibration gage set ($\varnothing 0.1$, $\varnothing 2.0$) : **02AGD110**
- Guide pulley : **02AGD200**
- Air blower : **02AGD220**

Order No.	Cable length
02AGN780A	5 m
02AGN780B	10 m
02AGN780C	15 m

DIMENSIONS

Unit: mm

- Multifunctional display unit, **LSM-6200**:

Order No.	Display type	Remarks
544-071	Japanese mm/E	Japanese user's manual
544-071*	English mm/E	English user's manual
544-072*	English mm/inch	

* 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."

- Easy-to-operate display unit, **LSM-5200**

Order No.	Remarks
544-046	Japanese user's manual
544-047	English user's manual

- Standard calibration gage set (ø0.1, ø10.0): **02AGD120**
- Wire guiding pulley : **02AGD210**
- Adjustable workstage : **02AGD400**
- Air blower : **02AGD230**
- Workstage : **02AGD270**
- Extension signal cable

Order No.	Cable length
02AGN780A	5 m
02AGN780B	10 m
02AGN780C	15 m

- Extension relay cable

Order No.	Cable length
02AGC150A	1 m

Unit: mm

Top View:

- Overall width: 230
- Overall height: 64
- Reception Unit width: 40
- Base width: 157
- Measuring range: 39
- Measuring position: 68
- Signal cable connection: 70mm
- Cable space: 40
- Relay cable connection: 40
- Dimensions for mounting holes: $\phi 3.1$ hole, depth 6; 3-M4; 50; 22; 0.5; 18.5; 13.5; 150; 40; 40.

Front View:

- Overall height: 104
- Reception Unit height: 40
- Base height: 157
- Measuring range: 39
- Measuring position: 68
- Signal cable connection: 70mm
- Cable space: 40
- Relay cable connection: 40
- Dimensions for mounting holes: $\phi 3.1$ hole, depth 6; 3-M4; 50; 22; 0.5; 18.5; 13.5; 150; 40; 40.

Side View:

- Overall width: 110
- Reception Unit width: 40
- Base width: 157
- Measuring range: 39
- Measuring position: 68
- Signal cable connection: 70mm
- Cable space: 40
- Relay cable connection: 40
- Dimensions for mounting holes: $\phi 3.1$ hole, depth 6; 3-M4; 50; 22; 0.5; 18.5; 13.5; 150; 40; 40.

Bottom View:

- Overall width: 110
- Reception Unit width: 40
- Base width: 157
- Measuring range: 39
- Measuring position: 68
- Signal cable connection: 70mm
- Cable space: 40
- Relay cable connection: 40
- Dimensions for mounting holes: $\phi 3.1$ hole, depth 6; 3-M4; 50; 22; 0.5; 18.5; 13.5; 150; 40; 40.

Notes:

- <Mass>: Emission Unit: 0.7kg
- <Range>: Reception Unit: 0.4kg
- Base: 0.3kg
- Signal cable (5m): 0.5kg
- *1: Extendable up to 6.6mm

- Multifunctional display unit, **LSM-6200**:

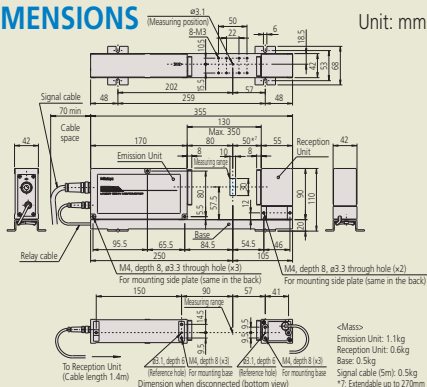
* To denote your AC power cable add the following suffixes to the order No.: A for UL/CSA, D for CEE, DC for CCC, E for BS, F for SAA, K for KC. C and No suffix are required for PSE."

- Easy-to-operate display unit. **LSM-5200:**

- Standard calibration gage set (ø0.1, ø30.0) : **02AGD130**
- Adjustable workstage : **02AGD490**
- Air blower : **02AGD240**
- Workstage : **02AGD270**
- Extension signal cable

• Extension relay cable	
02AGC150A	1 m
02AGC150B	3 m
02AGC150C	5 m

Unit: mm



- Multifunctional display unit, **LSM-6200**:

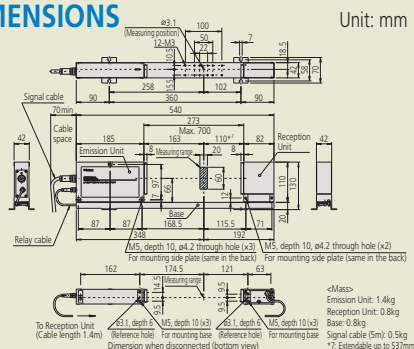
* To denote your AC power cable add the following suffixes to the order No.: A for UL/CSA, D for CEE, DC for CCC, E for BS, F for SAA, K for KC. C and No suffix are required for PSE."

- Easy-to-operate display unit, **LSM-5200**

- Standard calibration gage set (ø0.1, ø60.0) : **02AGD140**
- Adjustable workstage : **02AGD520**
- Air blower : **02AGD250**
- Extension signal cable

• Extension relay cable	
02AGC150A	1 m
02AGC150B	3 m
02AGC150C	5 m

Unit: mm



- Ensures $\pm 1.0 \mu\text{m}$ accuracy over the entire measuring range (0.3 to 30 mm).
- Narrow range accuracy of $\pm(0.6+0.1\Delta D) \mu\text{m}$ for high-precision measurement.



Order No.		544-535	544-536
Applicable laser standards		JIS	IEC, FDA
User's Manual		Japanese version	English version
Measuring range		0.3 to 30 mm	
Resolution		0.02 to 100 μm (selectable)	
Repeatability*1		±0.11 μm	
Accuracy*2 (20 °C)	Whole range	±1.0 μm	
	Narrow range	±(0.6+0.1ΔD) μm*3	
Positional error*4		±1.5 μm	
Measuring range*5		10×30 mm (0.3 to 30 mm)	
Scanning rate		3200 scans/s	
Laser wavelength		650 nm (Visible)	
Laser scanning speed		226 m/s	
Operating environment	Temperature	0 to 40 °C	
	Humidity	RH 35 to 85 % (non-condensing)	
Protection Level		IP64*6	

- *1: Determined at the level of $\pm 2\sigma$ (σ : standard deviation) when measuring $\phi 30$ mm at the interval of 0.32 sec. (average 1024 times).
 *2: Applies at the center of the measuring range when measuring outside diameters.
 *3: ΔD =Difference in diameter between the master gage and workpiece (Unit: mm)
 *4: An error in outside diameter measurement due to variation in workpiece position either in the optical axis direction or in the scanning direction.
 *5: The area given by [optical axis direction]x[scanning direction].
 *6: The protection level provided for the interior. If the workpiece or glass of the measuring unit window is soiled by water or dust, the unit may malfunction.

- Ensures $\pm 3 \mu\text{m}$ accuracy over the entire measuring range (1 to 60 mm).
- Narrow range accuracy of $\pm(1.5+0.5\Delta D) \mu\text{m}$ for high-precision measurement.



Order No.		544-537	544-538
Applicable laser standards		JIS	IEC, FDA
User's Manual		Japanese version	English version
Measuring range		1 to 60 mm	
Resolution		0.05 to 100 µm (selectable)	
Repeatability*1		±0.36 µm	
Accuracy*2 (20 °C)	Whole range	±3 µm	
	Narrow range	±(1.5+0.5ΔD) µm*3	
Positional error*4		±4 µm	
Measuring range*5		20×60 mm (1 to 60 mm)	
Scanning rate		3200 scans/s	
Laser wavelength		650 nm (Visible)	
Laser scanning speed		452 m/s	
Operating environment	Temperature	0 to 40 °C	
	Humidity	RH 35 to 85 % (non-condensing)	
Protection Level		IP64*6	

- *1: Determined at the level of $\pm 2\sigma$ (σ : standard deviation) when measuring $\phi 60$ mm at the interval of 0.32 sec. (average 1024 times).
 *2: Applies at the center of the measuring range when measuring outside diameters.
 *3: ΔD =Difference in diameter between the master gage and workpiece (Unit: mm)
 *4: An error in outside diameter measurement due to variation in workpiece position either in the optical axis direction or in the scanning direction.
 *5: The area given by [optical axis direction]x[scanning direction].
 *6: The protection level provided for the interior. If the workpiece or glass of the measuring unit window is soiled by water or dust, the unit may malfunction.

Non-contact, high-speed, high-precision measurement

- Ensures $\pm 6 \mu\text{m}$ accuracy over the entire measuring range (1 to 120 mm).
- Narrow range accuracy of $\pm(4.0+0.5\Delta D) \mu\text{m}$ for high-precision measurement.



Order No.	544-539	544-540
Applicable laser standards	JIS	IEC, FDA
User's Manual	Japanese version	English version
Measuring range	1 to 120 mm	
Resolution	0.1 to 100 µm (selectable)	
Repeatability*1	±0.85 µm	
Accuracy*2 (20 °C)	Whole range	±6 µm
	Narrow range	±(4.0+0.5ΔD) µm*3
Positional error*4	±8 µm	
Measuring range*5	30x120 mm (1 to 120 mm)	
Scanning rate	3200 scans/s	
Laser wavelength	650 nm (Visible)	
Laser scanning speed	904 m/s	
Operating environment	Temperature	0 to 40 °C
	Humidity	RH 35 to 85 % (non-condensing)
Protection Level	IP64*6	

*6: The protection level provided for the interior. If the workpiece or glass of the measuring unit window is soiled by water or dust, the unit may malfunction.

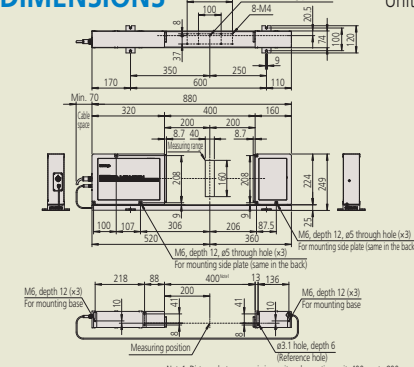
- Ensures $\pm 7 \mu\text{m}$ accuracy over the entire measuring range (1 to 160 mm).
- Narrow range accuracy of $\pm(4.0+2.0\Delta D) \mu\text{m}$ for high-precision measurement.



Order No.		544-541	544-542
Applicable laser standards		JIS	IEC, FDA
User's Manual		Japanese version	English version
Measuring range		1 to 160 mm	
Resolution		0.1 to 100 μm (selectable)	
Repeatability*1		±1.4 μm	
Accuracy*2 (20 °C)	Whole range	±7 μm	
	Narrow range	±(4.0+2.0ΔD) μm*3	
Positional error*4		±8 μm	
Measuring range*5		40x160 mm (1 to 160 mm)	
Scanning rate		3200 scans/s	
Laser wavelength		650 nm (Visible)	
Laser scanning speed		1206 m/s	
Operating environment	Temperature	0 to 40 °C	
	Humidity	RH 35 to 85 % (non-condensing)	
Protection Level		IP64*6	

*6: The protection level provided for the interior. If the workpiece or glass of the measuring unit window is soiled by water or dust, the unit may malfunction.

Unit: mm

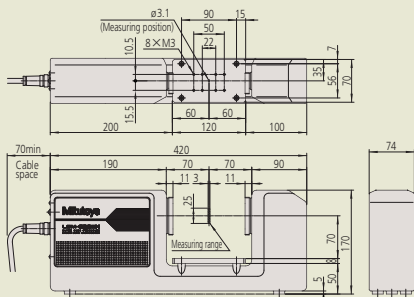


Optional Accessories

(Refer to page G-36 for details.)

- Standard calibration gage set (ø1.0, ø25.0) : **02AGD180**
- Workstage : **02AGD270**
- Adjustable workstage : **02AGD280**
- Digimatic code output unit (2-ch) : **02AGC840**

Measuring Unit External Dimensions Unit: mm



LSM-6902H Measuring Unit and 6900 Display SERIES 544 — 0.1 mm to 25 mm High Accuracy

- Demonstrates the best repeatability available in the 25 mm class.
- The ultra-precise scanning motor enables the highest measurement accuracy to be realized.
- Thanks to excellent linearity, an accuracy of $\pm 0.5 \mu\text{m}$ over the entire measuring range and a higher accuracy of $\pm (0.3 + 0.1\Delta D)$ over a narrow range are guaranteed.

- The optimal solution for measuring the outside diameter of pin gages or plug gages.



6900

LSM-6902H

SPECIFICATIONS

Set Order No.	544-497	544-498	544-499
Measuring unit			
Type	mm	mm	inch/mm
Applicable standards	JIS	IEC, FDA	
Measuring range	0.1 to 25 mm (0.004 to 1.0 in)		
Resolution	0.01 to 10 μm (selectable) (0.00001 to 0.0005 in)		
Repeatability*1	Whole range	±0.045 μm (±0.0000018 in) (ø25 mm)	
	Narrow range	±0.03 μm (±0.0000012 in) (ø10 mm)	
Accuracy*2 (20 °C)	Whole range	±0.5 μm (±0.000020 in)	
	Narrow range	±(0.3+0.1ΔD) [D: mm] ±(0.000012+0.01ΔD) [D: inch]*5	
Positional error*3	±0.5 μm (±0.000020 in)		
Measuring range*4	±1.5 mm×25 mm (±0.006×1.0 in)		
Scanning rate	1600 scans/s		
Laser wavelength	650 nm (Visible)		
Laser scanning speed	112 m/s		
Operating environment	Temperature	0 to 40 °C	
	Humidity	RH 35 to 85 % (non-condensing)	

*1: At the 2σ level in the case where $\phi 25$ mm and $\phi 10$ mm diameters are measured using a measurement time of 1.28 seconds (2048 scans on average).

*2: The value at the center of the measuring range.

*3: The additional error (in outside diameter) caused by workpiece movement within the measuring envelope during the measuring cycle.

*4: Length along optical axis \times Scanning length (Measuring range)

*5: ΔD is the difference in outside diameter between the master gage and workpiece.

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.

Display unit

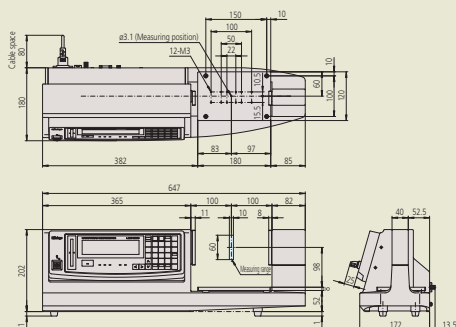
Display	16-digit plus 11-digit fluorescent display, and guide message LED
Segment	1 to 7 (1 to 3, transparent) or 1 to 255 edges
Averaging times	Arithmetic average: 1 to 2048 scans. Moving average: 32 to 2048 scans.
Judgment	Selection from "target value + tolerance", "lower tolerance + upper tolerance", or "7 classes multilimit tolerance zone".
Measurement mode	Standby, Single measurement, Continuous measurement
Statistical analysis	Maximum, Minimum, Average, Dispersion, (S,D)
External dimensions	335(W) \times 134(H) \times 250(D) mm
Power supply	100 to 240 VAC ± 10 % 50W 50/60 Hz
Standard I/F	RS-232C, Analog I/O
Optional I/F	Digimatic code output unit (2-ch), 2nd I/O analog I/F, BCD I/F
Operating environment	0 to 40 °C, RH 35 to 85 % (non-condensing)
Others	Nominal setting, sample setting, suppression of unnecessary digits, transparent object measurement, automatic measurement in edge mode, output timer, abnormal data elimination, SHL change, group judgment, simultaneous measurement, statistical processing, mastering, buzzer function, automatic workpiece detection (dimension/position), zero-set/offset Note: In the case of dual measuring-unit connection, extra-fine line measurement and some of the communication commands are not available

Optional Accessories

- Standard calibration gage set ($\phi 1$, $\phi 60$): **02AGD170**

DIMENSIONS

Unit: mm



LSM-9506 Integrated Display/Measuring Unit SERIES 544 — 0.5 mm to 60 mm High Accuracy

- High accuracy of $\pm 2.5 \mu\text{m}$, integrated display unit with many functions equivalent to the multi-function display unit.



SPECIFICATIONS

Order No.	544-115*	544-116**
Type	mm	inch/mm
Measuring range	0.5 to 60 mm	0.02 in to 2.36 in/0.5 to 60 mm
Resolution	0.05 to 100 μm (selectable)	0.000002 in to 0.005/0.00005 to 0.1 mm
Repeatability*1	$\pm 0.6 \mu\text{m}$ (± 0.00003 in)	
Accuracy*2 (20 °C)	$\pm 2.5 \mu\text{m}$ (± 0.0001 in)	
Positional error*3 (optical axis/scanning direction)	$\pm 2.5 \mu\text{m}$ (± 0.0001 in)	
Measuring range*4	L: Displacement between workpiece center and optical axis center $\pm 5 \times 60$ mm ($\pm 0.2 \times 2.36$ in)	
Scanning rate	1600 scans/s	
Laser wavelength	650 nm (Visible)*5	
Laser scanning speed	226 m/s (8900 in/s)	
Display unit	16-digit dot matrix (upper column) + 7 segment 11-digit (lower column), guidance LEDs	
Standard interface	RS-232C, Digimatic code output unit (1ch)	
Optional interface	No	
Power supply	AC100 V to 240 V ± 10 %, 40 VA, 50/60 Hz	
Operating environment	0 to 40 °C, RH 35 to 85 % (non-condensing)	

*1: Determined at the level of $\pm 2\sigma$ (σ : standard deviation) when measuring $\phi 10$ mm at the interval of 0.32 sec. (average 512 times).

*2: Applies at the center of the measuring range when measuring outside diameters.

*3: ΔD =Difference in diameter between the master gage and workpiece (Unit: mm)

*4: An error in outside diameter measurement due to variation in workpiece position either in the optical axis direction or in the scanning direction.

*5: FDA Class II (544-116-1A)/IEC Class 2 (All models except 544-116-1A) semiconductor laser for scanning (Maximum power: 1.0 mW)

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

** 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, K for KC, C and No suffix are required for PSE.

Laser Scan Micrometer

Non-contact, high-speed, high-precision measurement

LSM-5200 Display Unit SERIES 544 — Panel-mount Type

- A compact controller which could be used for multi-unit system configurations.
- A panel-mount type display unit designed for the LSM-S series.
- Analog I/O and RS-232C is standard.
- Measurement of odd fluted parts, and simultaneous measurement / 2-program function are equipped.



SPECIFICATIONS

Order No.	544-047
Display	9 digits plus 8 digits LED, guide message LED
Segment	1 to 7 (1 to 3, transparent) or 1 to 255 edges* ¹
Averaging method	Arithmetic average: from 4 to 2048; Moving average: from 32 to 2048 (Arithmetic average is from 16 to 2048 when using LSM-500S .)
Judgment	Selecting from "target value ± tolerance value" or "lower limit/upper limit".
Measurement mode	Standby, Single measurement, Continuous measurement
Statistical analysis	Calculation result is output via USB or RS-232C.
External dimensions	144(W)×72(H)×197.1(D) mm
Power supply* ³	24 V DC±10 %, 1.3 A or more
Standard I/F	USB2.0, RS-232C, I/O analog
Operating environment	0 to 40 °C, RH 35 to 85 % (non-condensing)
Preservation environments	-20 to 70 °C, RH 35 to 85 % (non-condensing)
Other functions	Measurement of odd fluted parts, simultaneous measurement, nominal setting, sample setting, selection of unnecessary digits, transparent object measurement* ² Automatic workpiece detection (dimension/position detected)* ¹ , abnormal data elimination, mastering, statistical processing (when using USB, RS-232C), output timer, automatic measurement in edge mode, presetting Note that every function is limited in its combination possibilities. See the user manual for details.
Mass	1.4 kg

*1: The measuring range will be 0.1 mm to 2 mm in the 1 to 255 edge measurement mode or when activating the automatic workpiece detection with **544-531**, **544-532**. Each function has its combination limit.

*2: The measuring range is 50 μm to 2 mm when using **544-531**, **544-532**. For smaller ranges, contact your local Mitutoyo sales office.

*3: DC24V external power supply (commercial item) is required separately.

Note 1: Cannot be connected to **544-495**, **544-496**.

Note 2: Previous models such as **544-451** cannot be connected.

Note 3: For USB communication with a PC, a dedicated device driver is required. For details, contact your local Mitutoyo sales office.

LSM-6200 Display Unit SERIES 544 — Multi-function Type

- 2-axis display unit enables 2 items be displayed simultaneously.
- Capable of statistical analysis such as: average, maximum value, minimum value, range (max. to min.).
- Segment measurement (7 points) or edge measurement (1 to 255 edges) can be selected.
- A function to eliminate abnormal values is standard.
- 100 tolerance values, preset values, or settings can be stored.



SPECIFICATIONS

Order No.	544-071	544-072
Type	mm	inch/mm
Display	16-digit plus 11-digit fluorescent display, and guide message LED	
Segment	1 to 7 (1 to 3, transparent) or 1 to 255 edges* ¹	
Averaging times	Arithmetic average: per 2 to 2048/ Moving average: per 32 to 2048 (Arithmetic average is per 16 to 2048 when using 544-531 , 544-532)	
Judgment	Selection from "target value + tolerance", "lower tolerance + upper tolerance", or "7 classes multi-limit tolerance zone".	
Measurement mode	Standby, Single measurement, Continuous measurement	
Statistical analysis	Maximum, Minimum, Average, Dispersion, σ (S.D)	
Size	335(W)×134(H)×250(D) mm	
Power supply	100 to 240 V AC ±10 %, 40 VA, 50/60 Hz	
Standard I/F	RS-232C, Analog I/O	
Optional I/F	Digimatic code output unit (2-ch), 2nd I/O analog I/F, BCD I/F	
Operating environment	0 to +40 °C, RH 35 to 85 % (non-condensing)	
Other functions	Nominal setting, sample setting, selection of unnecessary digits, transparent object measurement* ² , measurement of odd fluted parts, automatic measurement in edge mode, output timer, abnormal data elimination, SHL change, group judgment, simultaneous measurement, statistical processing, mastering, buzzer function, automatic workpiece detection (dimension/position)* ¹ , zero-set/offset, dual measurement (optional)	

*1: The measuring range will be 0.1 mm to 2 mm in the 1 to 255 edge measurement mode or when activating automatic workpiece detection with **544-531**, **544-532**. Each function has its combination limit.

*2: The measuring range is 50 μm to 2 mm when using **544-531**, **544-532**. For smaller ranges, contact your local Mitutoyo sales office.

Note 1: 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.

Note 2: Cannot be connected to **544-495**, **544-496**.

Note 3: Previous models such as **544-451** cannot be connected.

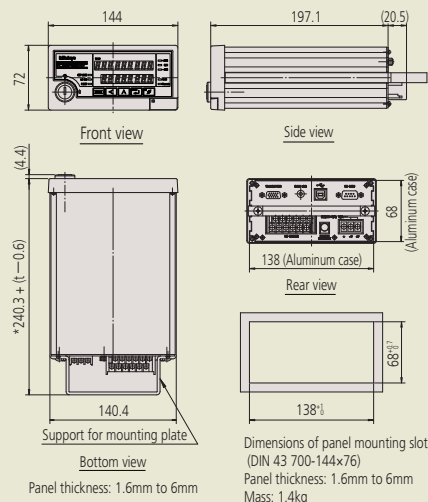
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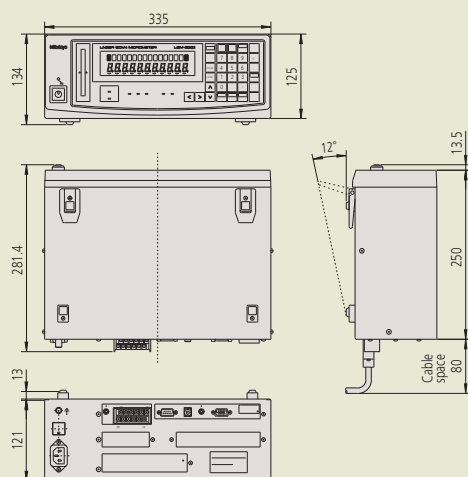
DIMENSIONS

Unit: mm



DIMENSIONS

Unit: mm



Optional Accessories SERIES 544 — Laser Scan Micrometer (Measuring Unit)

Standard calibration gage set

- Standard cylinder gage set suitable for calibration of Laser Scan Micrometers.
- Nominal gage diameters (1 to 160 mm) are as given in Specifications.



SPECIFICATIONS

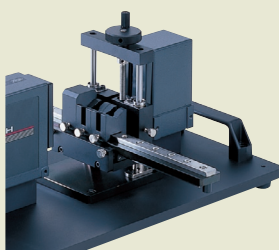
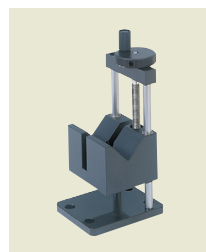
For calibrating models		LSM-6902H	LSM-500S	LSM-501S	LSM-503S	LSM-506S	LSM-512S	LSM-516S	LSM-9506
		544-498, 544-499	544-531, 544-532	544-533, 544-534	544-535, 545-536	544-537, 544-538	544-539, 544-540	544-541, 544-542	544-115, 544-116
Set No.		02AGD180	02AGD110	02AGD120	02AGD130	02AGD140	02AGD150	02AGM300	02AGD170
Configuration (Order No.)	Stand	02AGD181	02AGD111	02AGD121	02AGD131	02AGD141	02AGD151	02AGM320	02AGD171
	Gages	ø1: 02AGD920 ø25: 02AGD963	ø0.1: 958200 ø2: 958202	ø0.1: 958200 ø10: 229317	ø1: 02AGD920 ø30: 02AGD961	ø1: 02AGD920 ø60: 02AGD962	ø20: 229730 ø120: 234072	ø20: 229730 ø160: 02AGM303	ø1: 02AGD920 ø60: 02AGD962
	Carrying case	02AGD190	958203	958203	02AGD980	02AGD980	02AGD990	02AGM310	02AGD970

Workstage

- Easy set-up and height adjustment enables high-precision measurement.

SPECIFICATIONS

Model	LSM-501S LSM-503S LSM-6902H
Order No.	02AGD270

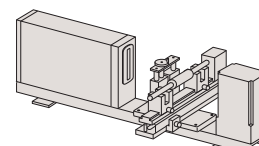


Adjustable workstage

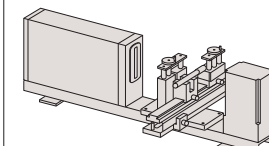
- Vertical/horizontal slide mechanism enables easy measurement of various workpiece diameters.
- Best suited for quality assurance of high-precision pin gages.

Measurement Examples

- Roller of copying machine



- Pin gage or plug gage



Basic configuration

Basic set	Order No.	Model	Standard Accessories	Measuring range (mm)	Horizontal stroke (mm)	Vertical stroke (mm)
(1) Main unit (2) V-block (3) Stop	02AGD280	LSM-6902H	V-block (02AGD420), 2 pcs Stopper (02AGD430), 1 pc	0.1 to 25	130	47
	02AGD400	LSM-501S		0.05 to 10	130	32
	02AGD490	LSM-503S		0.3 to 30	200	35
	02AGD520	LSM-506S*	V-block A (02AGD550), 2 pcs V-block B (02AGD560), 1 pc V-block C (02AGD570), 1 pc	1 to 60	300	45
	02AGD370	LSM-9506*		0.5 to 60	200	45
	02AGD680			0.5 to 60	300	45

* The stop is not included in the basic set for these models.

Note: Optional part for the adjustable workstage, such as center support, adjustable V-block (up/down) etc., are available.

Guide pulley

- Used for supporting measurement of outside diameter of fine wirelike materials such as magnetic wire or fiber.

SPECIFICATIONS

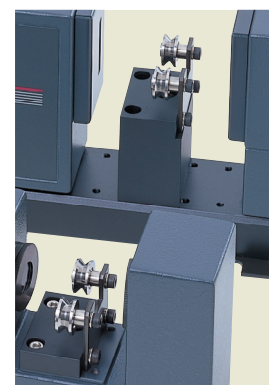
Model	LSM-500S	LSM-501S
Order No.	02AGD200	02AGD210

Each measurement range is as follows:

LSM-500S: ø5 µm to ø1.6 mm

LSM-501S: ø50 µm to ø2 mm

For calibration, the calibration gage set for LSM-500S (02AGD110) is required.



Laser Scan Micrometer

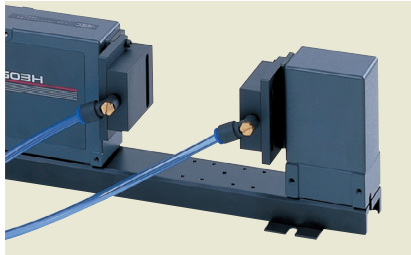
Non-contact, high-speed, high-precision measurement

Optional Accessories

SERIES 544 — Laser Scan Micrometer (Measuring Unit)

Air shield

- Air blows from the air outlet installed on the laser section to clear dust adhering to the laser window.



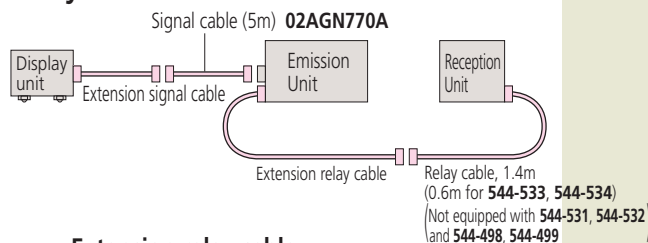
SPECIFICATIONS

Air supply unit	Air shield	Applicable models
957608	02AGD220	LSM-500S (544-531, 544-532)
	02AGD230	LSM-501S (544-533, 544-534)
	02AGD240	LSM-503S (544-535, 544-536)
	02AGD250	LSM-506S (544-537, 544-538)
	02AGD260	LSM-512S (544-539, 544-540)

Note: Air shield is supplied with 5 m air tube (Outside Diameter: 6 mm).

Extension signal cable / Extension relay cable

- Extension signal cables are necessary when the measuring unit and display unit are separated in operation; Extension relay cables are necessary when the optical section is separated in operation.



SPECIFICATIONS

Extension signal cable

Order No.	Cable length
02AGN780A	5 m
02AGN780B	10 m
02AGN780C	15 m
02AGN780D	20 m

- * For 544-531, 544-532, 544-533, 544-534 the allowable maximum length for signal cable is 20 m; relay cable is 2 m.
- * For 544-535, 544-536, 544-537, 544-538, 544-539, 544-540, 544-541, 544-542 the allowable maximum length for signal cable is 30 m; relay cable is 5 m.
- * The maximum extension length of the signal cable and relay cable is 32 m in total.
- * Cannot be used with 544-498 and 544-499.

Extension relay cable

Order No.	Cable length
02AGC150A	1 m
02AGC150B	3 m
02AGC150C	5 m

Optional Accessories

SERIES 544 — Laser Scan Micrometer (Display Unit)

Thermal printer DPU-414

- Measurement data can be printed.



SPECIFICATIONS

Order No.	02AGD600A, 02AGD600B, 02AGD600C, 02AGD600D
Printing method	Thermal dot matrix
Printing capacity	40 Columns (Normal)
Character configuration	9x8 dot matrix
Printing direction	Bidirectional
Interface	RS-232C
Power supply	AC 100 to 240V 50/60 Hz (AC adapter)
Standard Accessories	Printer cable 2 m (02AGD620A), Printer paper 1 roll, AC adapter
Printer paper (optional)	Order No.223663 (10-roll set)

Foot switch



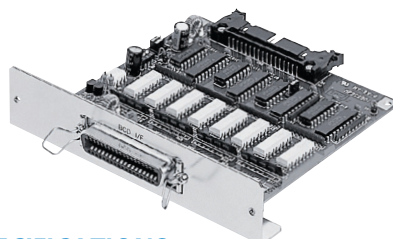
- For LSM-6200 (544-071, 544-072), LSM-6902H (544-498, 544-499) and LSM-9506 (544-115, 544-116).

Optional Accessories

Interface for LSM6200, 6902H

BCD Interface

- Outputs measurement data in BCD output (7-digit) or HEX output.
- Data logic can be switched.
- Isolated I/O circuitry
- Available for LSM-6200 (544-071, 544-072) and LSM-6902H (544-498, 544-499).

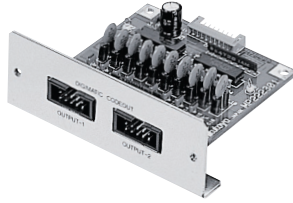


SPECIFICATIONS

Order No.	02AGC910
Standard Accessories	Connector (DDK) 57-30360 (214188)

Optional Accessories SERIES 544 — Laser Scan Micrometer (Display Unit)

Digimatic code output unit

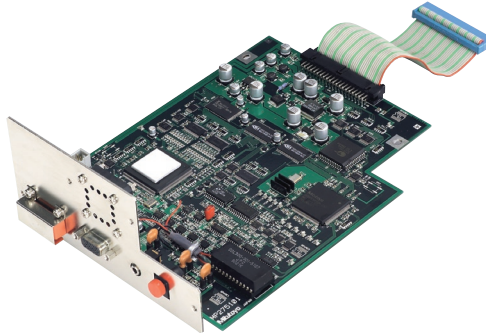


SPECIFICATIONS

Order No.	02AGC840
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- 2-channel Digimatic code output
- In simultaneous measurement, measurement data are output as follows:
Program No. 0 to No. 4 in OUTPUT-1
Program No. 5 to No. 9 in OUTPUT-2
(10 programs operated)
- 10 pin MIL type connector.
- Output cable is not supplied.
Connecting cable (optional) 1 m (936937)
- Available for **LSM-6200 (544-071, 544-072)** and **LSM-6902H (544-498, 544-499)**.
- * Output is 6 digits of measurement data.
- * Displaying 6th and 7th digit after the decimal point is not supported.

Dual connection unit

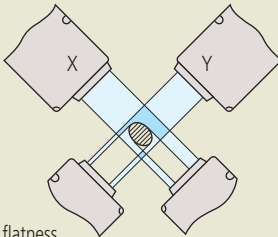


- Enables second unit connection to **LSM-6200 (544-071, 544-072)**. (both units must be the same model)
- * Cannot be used for **LSM-6902H (544-498, 544-499)**.
- Depending on the layout of the two measuring units, large-diameter measurement, XY measurement, and parallel measurement are possible.
- Both of the measuring units and display units can be simultaneously operated.

SPECIFICATIONS

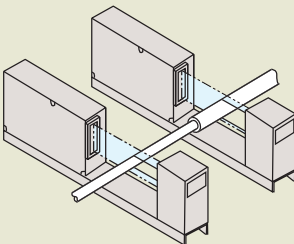
Order No.	02AGP150
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XY Measurement

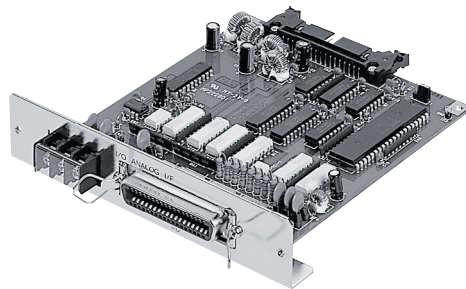


(X-Y): flatness
(X+Y)/2: average
* XY requires 10 mm-interval.

Parallel Measurement



2nd I/O analog I/F



- I/O, analog output.
- Simultaneous measurement is supported by two pairs of GO/NG judgment outputs.
- Available for **LSM-6200 (544-071, 544-072)** and **LSM-6902H (544-498, 544-499)**.

SPECIFICATIONS

Order No.	02AGC880
Standard Accessories	Connector (DDK) 57-30360 (214188)

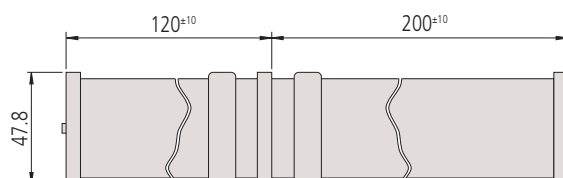
Cable for BCD and 2nd I/O simultaneous mount

- Both BCD (02AGC910) and 2nd I/O analog I/F (02AGC880) can be mounted on **LSM-6200 (544-071, 544-072)** and **LSM-6902H (544-498, 544-499)** using this cable.
- * If using this cable, the dual connection unit (02AGP150) cannot be used.

SPECIFICATIONS

Order No.	02AGE060
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DIMENSIONS



Unit: mm