

OLYMPUS[®]

Your Vision, Our Future

MEASURING MICROSCOPE

STM6-LM/STM6

STM6 SERIES

UIS
UNIVERSAL
INFINITY SYSTEM

Versatile, High-Reliability Lineup Packed With Features To Meet Any and Every Measurement Need.

The new STM6 series offers more system versatility and higher performance than ever before. Maintaining the exceptional levels of precision and durability that have always characterized Olympus measuring microscopes, the series features a wide range of models to cover the ever-expanding user demand for new measuring capabilities and superior functionality. The range includes the STM6-LM, for fast inspection of large samples, and the high-precision STM6 which offers the most compact body in this class. In addition, multiple add-on units ensure that any and every user need can be met. Among the series' outstanding features are motorized focusing (a world first from Olympus), highly advanced UIS optics, the high-rigidity body with integrated counters, and much more. The STM6 series: created and built to perform today's most demanding measuring tasks.



STM6 SERIES LINEUP

STM6-LM

Large motorized 3-axis measuring microscope with 0.1 μ m readout

STM6-LM

Large motorized 3-axis measuring microscope with 0.5 μ m readout

STM6

Compact motorized 3-axis measuring microscope with 0.1 μ m readout

STM6

Compact manual 3-axis measuring microscope with 0.5 μ m readout

STM6

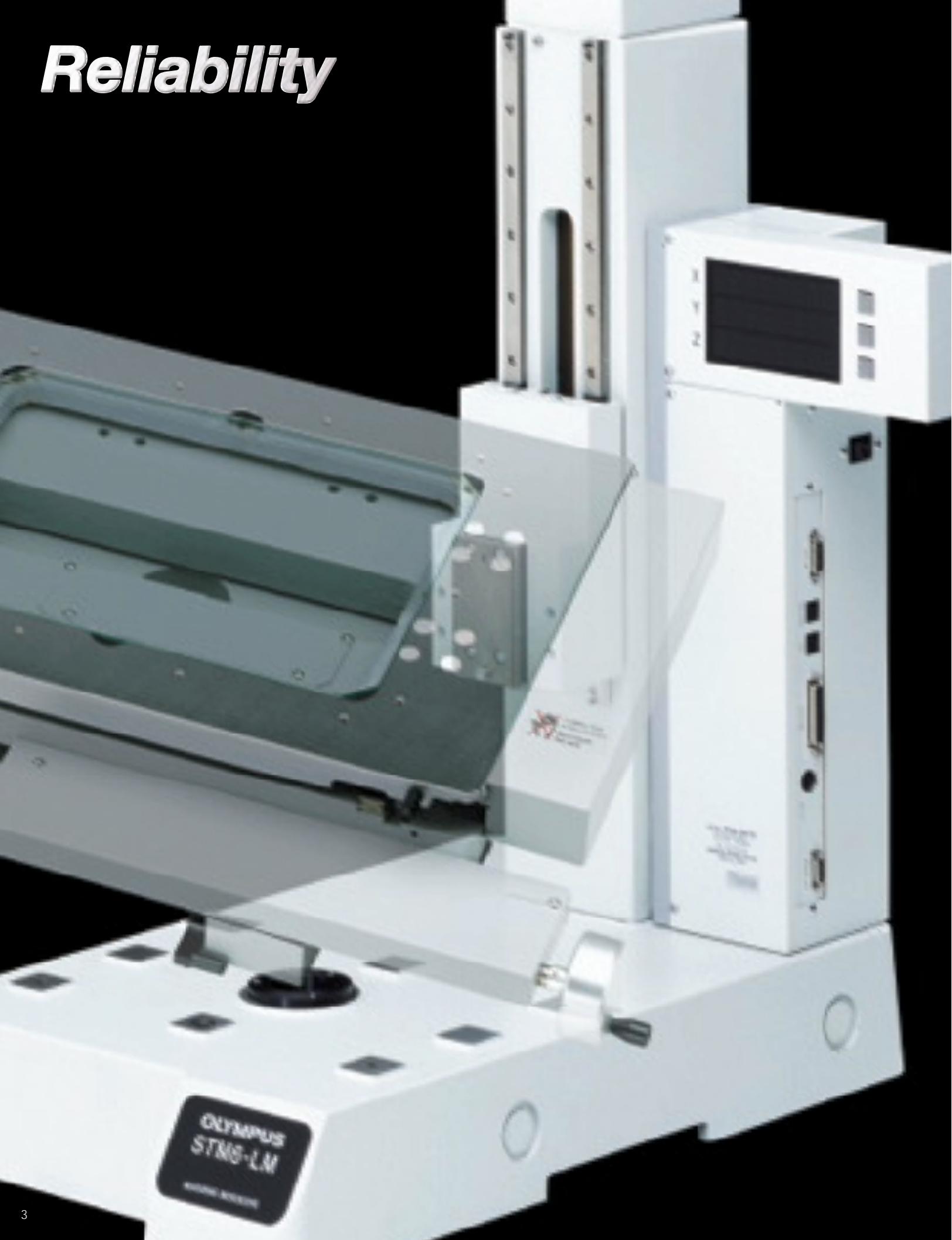
Compact manual 3-axis measuring microscope with 0.1 μ m readout

STM6

Compact manual 2-axis measuring microscope with 0.5 μ m readout



Reliability

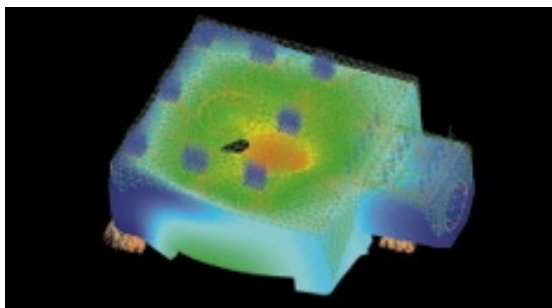


Technology with traceability — the road to high precision

Accurate design and leading-edge technology: two keys to significant quality and process improvements

Rigid body and stage for rock-solid stability over long periods

STM6 series quality derives from two main sources: time-tested manufacturing expertise plus valuable feedback from actual user experiences. Recognizing that precision and rigidity must not only be provided but also maintained for long periods, Olympus achieved exceptional lengths to ensure a high standard of rigidity in the microscope body and stage. Linearity is maintained by utilizing a line guide mechanism. In addition, newly developed Olympus original integrated optical linear scale provides improved reliability.



FEM analysis

Cold light illumination* to minimize heat effect on measuring precision

Fiber-carried cold light is used for both reflected light and transmitted light illumination, ensuring minimum heat effect on the sample and microscope body even during long-time inspections. The light source itself is a 12V, 100W halogen lamp that provides a bright and uniform observation field of view and reduces operator eye fatigue. Reflected and transmitted light illuminators can be used simultaneously, with continuous adjustment available for both from a

single power unit — a design feature that increases operating convenience and saves valuable installation space. *May not be available in some area



Optical linear scale to guarantee sub-micron resolution

All optical information gained through Olympus' originally developed optical linear scale is processed and measured electrically. The precision of the scale is obviously critical to measuring accuracy — so to minimized error, this scale is mounted to the best position based on the Abbe formula, which defines the ideal position of scale and measured object as on the linear line, toward the measuring direction.

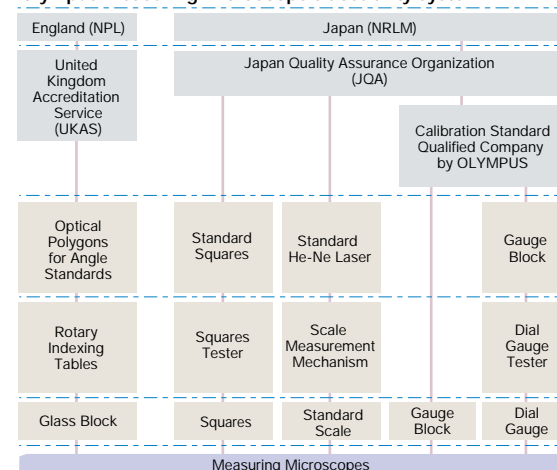


Traceability system for higher quality

Rigorous manufacturing procedures ensure top-class quality control

Olympus puts the highest priority on precision throughout all the stages of production and assembly. As well as maintaining a strictly controlled thermostatic manufacturing environment, skilled Olympus engineers apply the most rigorous standards to component material selection, high-precision machining, delicate finishing processes and final adjustment. All completed products and component parts are fully controlled under a rigorous traceability system.

•Olympus measuring microscope traceability system



Maneuverability

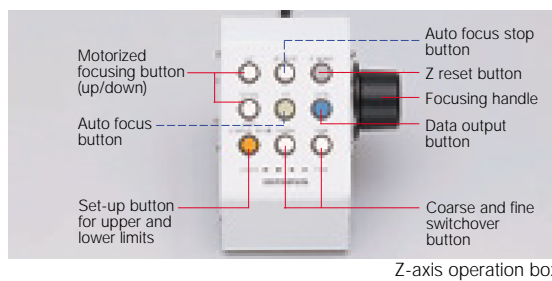


For Olympus, system expansion and ease of use starts with concern for the user

Design ideas to reduce fatigue even in long-time operations

Motorized focusing for quick and precise Z-axis measurement

Olympus' introduction of motorized focusing to this category of microscopes drastically improves operability in both focusing and the measuring of height and depth. Exchanges of coarse and 4-step fine movements (800, 400, 200 and 50 μ m/rotation) are carried out from the Z-axis control box conveniently located right by the operator's hand.
(For STM6-LM and STM6 motorized type)



Towards the ideal observation eye-point position: column with counter

The column with counter is integrated with the microscope body, with the display section comfortably located at almost the same height as the observation eye-point position. The operator can thus confirm the measuring value with only a slight change of eye angle, allowing easier concentration on the sample observation and positioning.



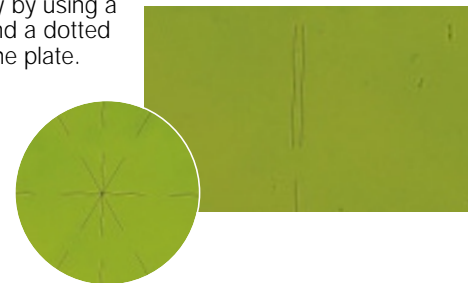
Highly advanced optics for edge detection and microscopic inspection

Clear edge detection, which is indispensable for accurate measuring, is ensured by the superb resolution and high contrast of advanced UIS optics. This results in greatly improved both measurement and microscopic inspection.



Easy positioning using reticles which correspond to the resolving power of the human eye

For any measuring microscope, accurate alignment of the measuring object to the reticles is critical. In straight-line alignment, research shows that the use of a reticle and a dotted line produces more accurate results than using only a single line. Through analysis of the characteristics and resolving power of the human eye, Olympus has improved alignment accuracy by using a reticle and a dotted line on the plate.



A versatile lineup of add-on motorized units that allow selection of necessary functions and bring dramatic improvements to measurement efficiency

For high magnification measurement and Nomarski DIC observation

Three different types of reflected light illumination units are available for both the STM6-LM and STM6, to meet the full range of users' measurement requirements. Corresponding to measuring objectives or metallurgical objectives using the revolving nosepiece, these enable brightfield, darkfield and Nomarski DIC observations. The system can be freely upgraded by adding further units according to need.



A range of add-on type units that bring dramatic improvements to measurement efficiency

Several optional units are available to improve measuring efficiency, including an auto focus unit to measure height and depth automatically and a transmitted light edge sensor unit, which automatically detects a sample edge. These units dramatically improve measurement efficiency by shortening observation time and reducing fatigue.

(MM6-AF may not be available in some area)



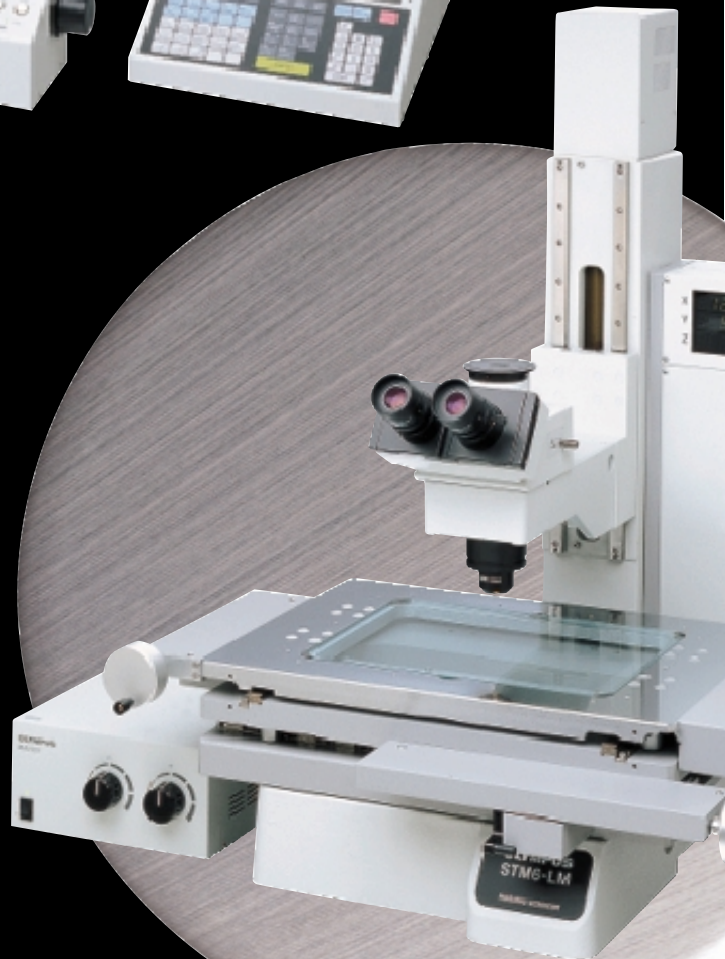
STM6-LM



- XYZ 0.1µm
- Motorized
- 250x150 Stage
- Auto Focus Option
- Edge Sensor Option

Large motorized 3-axis measuring microscope with 0.1µm readout

MM6-ES edge sensor unit,
MM6-AF AF unit,
MM6-VLU universal reflected light illuminator,
and MM6-CAL22 2-dimensional data processing unit
combination example



- XYZ 0.5µm
- Motorized
- 250x150 Stage
- Auto Focus Option
- Edge Sensor Option

Large motorized 3-axis measuring microscope with 0.5µm readout

MM6-VL reflected light illuminator combination example

Motorized focusing as standard, for fast, high-precision measurement of large samples

Motorized focusing dramatically reduces fatigue in Z-axis measurement

Motorized focusing is equipped as a standard feature. Since the single control box puts the focusing controls right by the operator's hands, it is no longer necessary to take awkward positions to control the Z-axis.

Space efficient body with integrated electric apparatus

The counter column and electric apparatus are integrated with the microscope body to save space and facilitate operation. Data can be transmitted via the built-in RS232C, which enables easy connection to external equipment like a personal computer or printer. Data in a personal computer can then easily be used to make a database using such software as Microsoft Excel.

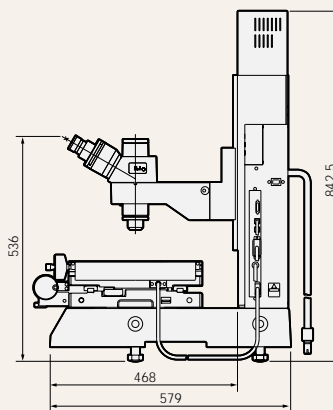
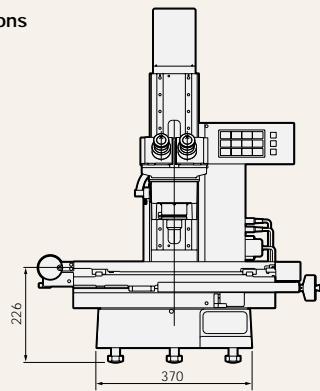


Clutch-type large stage allows quick inspection of large areas

The stage provides a large measuring area (250 x 150mm). All X and Y movements are clutch-controlled, and quick changeover between coarse and fine movements is performed by simply moving a lever. Free movements on the X/Y axis and X/Y plane allow even large samples to be quickly and accurately inspected. It is also possible to measure multiple samples on the stage at the same time.

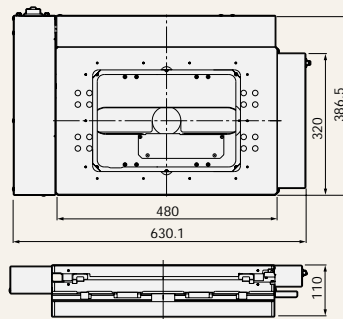


STM6-LM dimensions

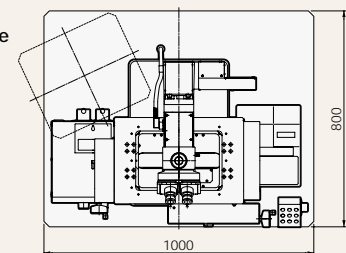


(Unit: mm)

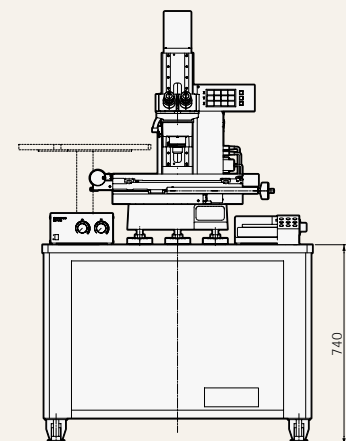
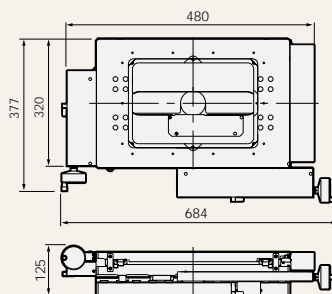
MM6-CS250AS dimensions



Setting example



MM6-CS250 dimensions



STM6



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Compact motorized 3-axis measuring microscope with 0.1µm readout

MM6C-RLAS universal illuminator combination example



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Compact manual 3-axis measuring microscope with 0.1µm readout

MM6C-RLAS universal illuminator combination example



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Compact manual 3-axis measuring microscope with 0.5µm readout

MM6C-KMAS brightfield illuminator combination example



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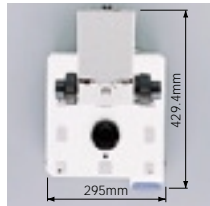
Compact manual 2-axis measuring microscope with 0.5µm readout

MM6C-VL reflected light illuminator for STM6 revolving nosepiece combination example

Compact and highly functional design, with many possible combinations of bodies and stages

Space-saving body allows installation to convenient place

This model is the smallest in size in this class of measuring microscope despite of its numerous versatile function.

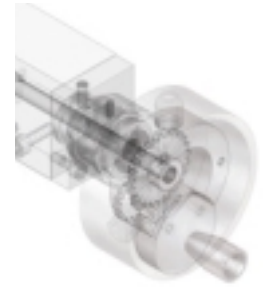


4-model lineup to perform a full range of different jobs

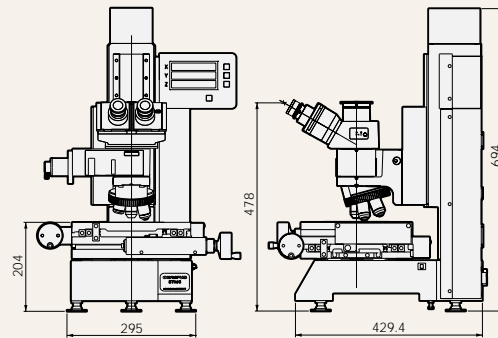
One motorized 3-axis model with 0.1μm readout, two manual 3-axis models with 0.1μm and 0.5μm readouts and one manual 2-axis model with 0.5μm readout give users a wide variety of selection to suit their specific purpose.

Compliance with high magnification requirement and wide measuring areas

Operation at high magnifications and over wide measuring areas. Users can select or add from four types of stage and a variety of reflected light illumination systems. Three of the stage types (50 x 50, 100 x 50 and 100 x 100) are equipped with coaxial knobs for coarse and fine movement, while the fourth (150 x 100) has a clutch-free mechanism to enable quick movement and precise positioning.

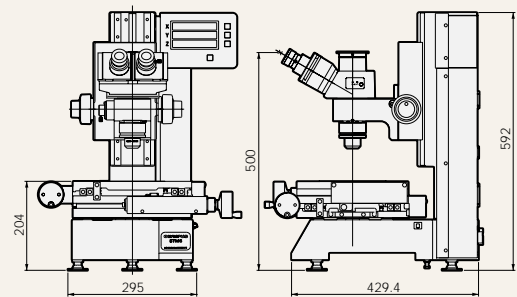


STM6 (Motorized model) dimensions

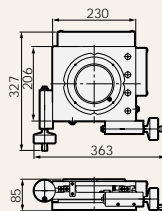


STM6 (Manual model) dimensions

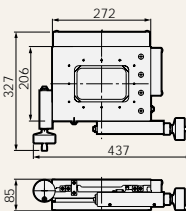
(Unit: mm)



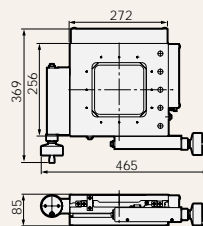
MM6C-CS50
dimensions
50x50 stage



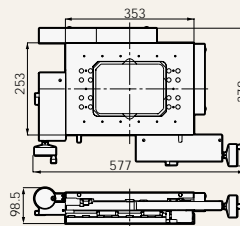
MM6C-CS100R
dimensions
100x50 stage



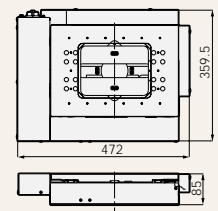
MM6C-CS100
dimensions
100x100 stage



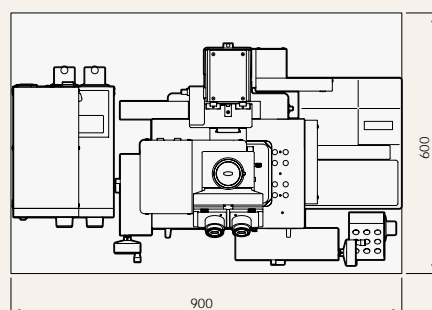
MM6C-CS150
dimensions
150x100 stage



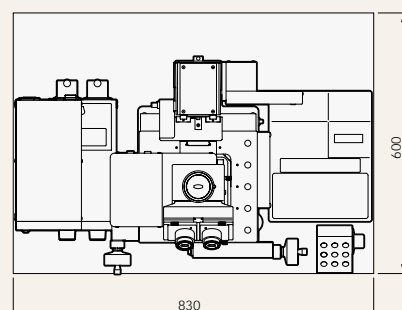
MM6C-CS150AS
dimensions
150x100 stage



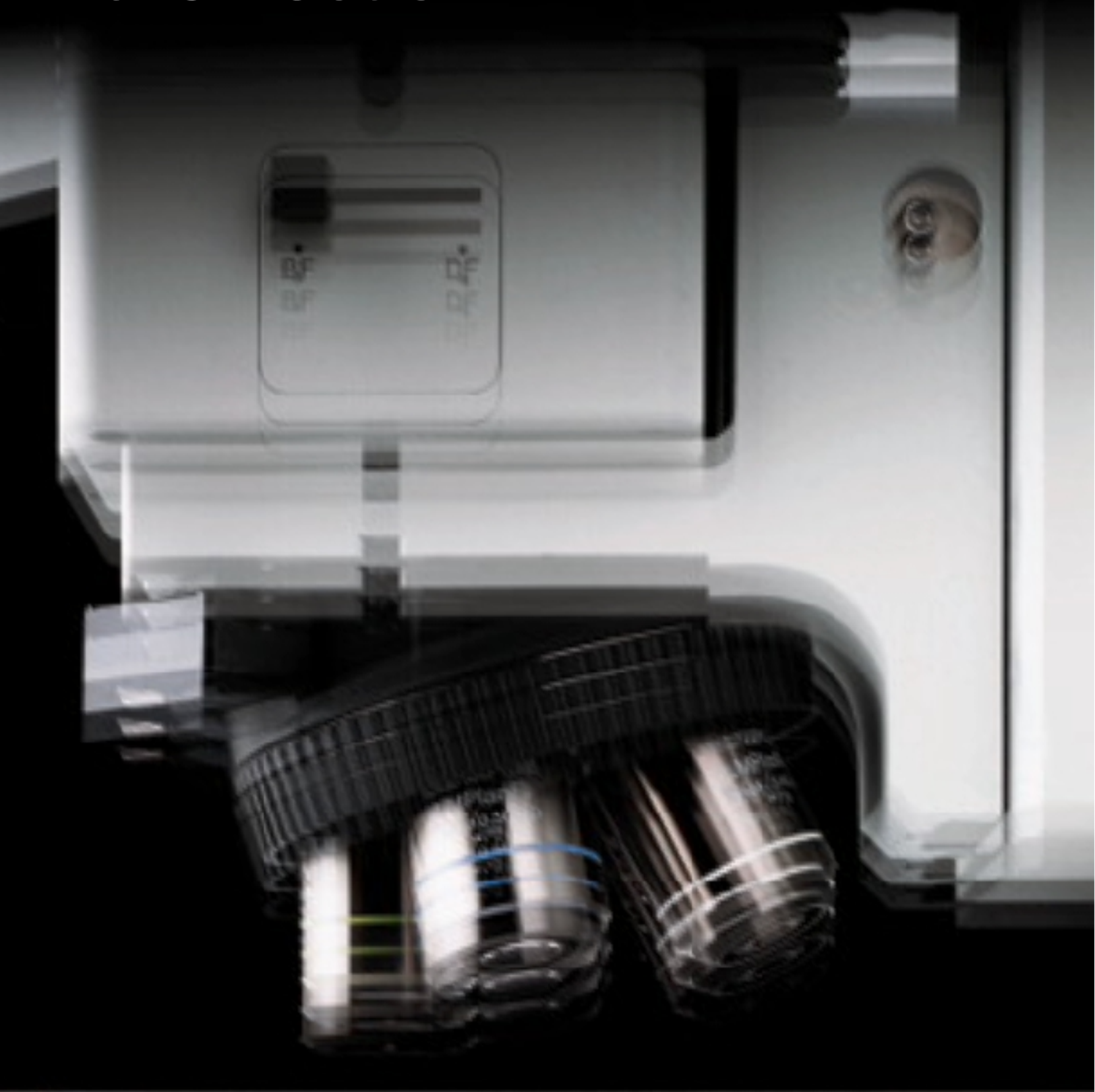
Setting example:
150x100 stage combination



Setting example:
50x50 stage, 100x50 stage or
100x100 combination



Auto Focus



Instant, high-precision focusing for minute or uneven areas

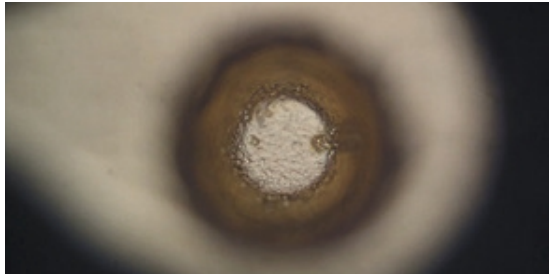
Quick and accurate measuring free from operators' error

Simple add-on type auto focus unit

Assist focus mode is newly added to STM6 series in addition to the One-shot and Tracking focus modes. All the height and depth measurements, which require the continuous fine and accurate operation, can be done with utilizing each focusing mode. Z direction measurement efficiencies are dramatically improved with the auto focus so that the human error is now minimized. This unit can be easily added on because of its intermediate tube type compact design.

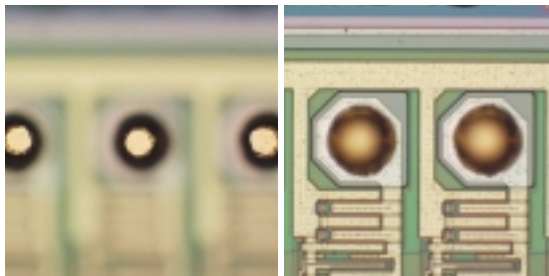
1 One-shot mode

From the roughly focused state, this mode enables instant focus on the center of the field of view.



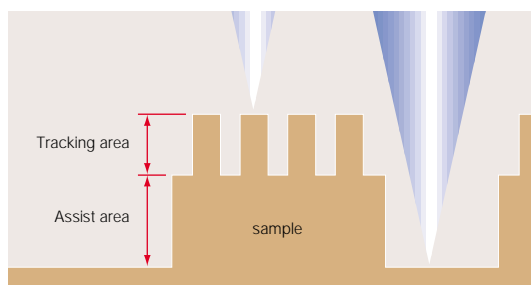
2 track mode

This mode maintains focus by following the focused surface. Since image is always focused, work efficiency is dramatically improved.

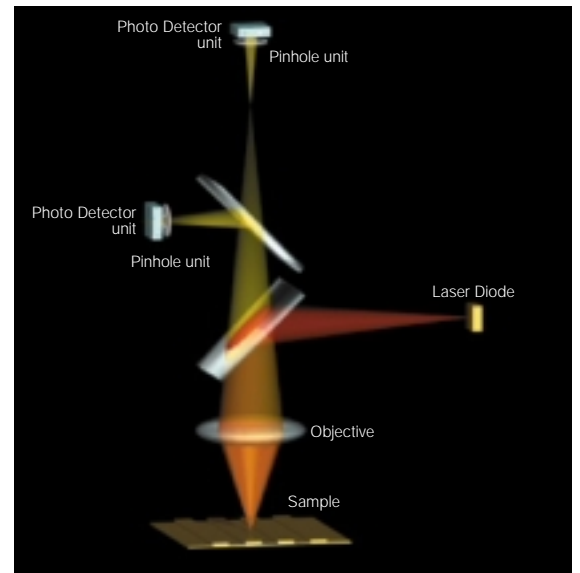


3 Assist mode

Auto focus goes into the waiting mode when sample surface run off from the focus tracking area. Move the stage up or down with motorized control to bring the sample surface into the tracking area so that auto focus will be again working to get the focus.



MM6-AF may not be available in some area



Active reflective type auto focus optical path

Reproducibility to 1µm using high-magnification objectives

The confocal auto focus employs active reflection method. This system maintains steady focusing even on samples with angle or unevenness on surfaces. With a 100x objective, reproducibility is 1µm.

Objective	Reproducibility ($2\sigma_{n-1}$)
LMPLFL20x	2µm
LMPLFL50x	1µm
LMPLFL100x	1µm

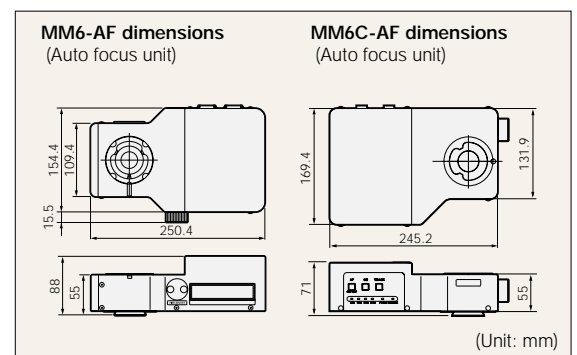
Values based on our standard samples

Auto focusing on the very small areas

When using 50x and 100x objectives, the laser spot diameter is 1µm. This allows Z-axis measurement on smaller areas — enabling measurement of, for example, the bonding wires in semiconductor chips.

Objective	Spot diameter
LMPLFL20x	ø2.5µm
LMPLFL50x	ø1µm
LMPLFL100x	ø1µm

Theoretical values from calculations



Wavelength $\lambda=785\text{nm}$, IEC60825-1 Class 1 compatible

MM6-CAL22



No need for parallel alignment necessary

Since no parallel alignment for the sample is necessary, the operator can start measuring immediately after the sample is placed on the stage.

Calculate and output the result with point data input

Simply 2-dimensional calculation is processed with only the point data input. 3 new alignment items and 6 new measuring items are added for better and effective measuring work.

Hot-key registration assignment for alignment and measuring items

Now the necessary function can be assigned to the buttons without increasing number of keys. It realizes the easy and user-friendly operation.

RS232C interface as standard

Stored measurement data can be transferred to a personal computer via the standard RS232C interface, and organized with commonly used software.

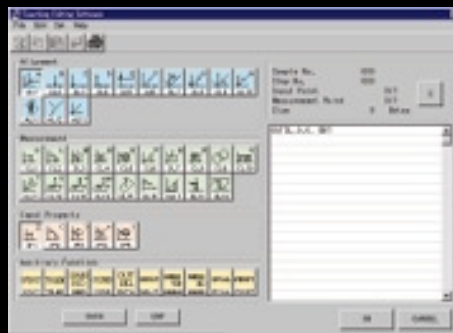
Editing teaching programs with personal computer

Up to 8 different patterns of measuring procedures may be saved to the MM6-CAL22 with combination of various kinds of measuring function.

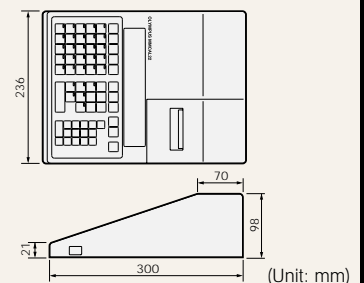
The teaching software lets users edit and manage teaching programs on a PC.

Teaching software system requirements

OS	Microsoft Windows 98 English version
RAM	32MB or more
Disk space	5MB or more
PC	PC/AT compatible
I/O device	Communication port (COM1 or COM2), parallel port and FD drive
CPU	Intel 80486DX2/66MHz or higher, Pentium processor or fully compatible processor
Display	Minimum resolution: 800x600 Minimum display color: 16
Display adapter	Windows compatible
Pointing device	Mouse or other pointing devices
Keyboard	Windows compatible
Dongle	Enclosed in the package

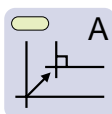


MM6-CAL22 dimensions

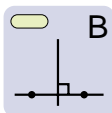


Versatile calculation functions in a compact data processor

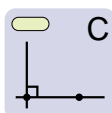
Alignment



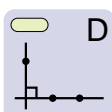
A Parallel X/Y shift
Input point "1" will be the new original position with shifting the X/Y coordinates position.



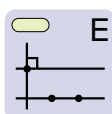
B Two points for X and center
The line through input points 1 and 2 becomes the X-axis and the midpoint becomes the origin.



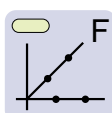
C Two points for X and origin
The line through input points 1 and 2 becomes the X-axis and input point 1 becomes the origin.



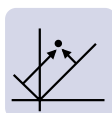
D Three points for X and Y
The line through input points 1 and 2 becomes the X-axis, and the perpendicular line from input point 3 down to the X-axis becomes the Y-axis.



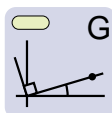
E Three points for X and Y
Input point 3 becomes the origin and the line parallel to the line through point 1 and 2 will be X-axis.



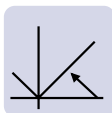
F Four points for X and origin
The line through input points 1 and 2 becomes the X-axis. The intersection of the X-axis and the line through input points 3 and 4 becomes the origin.



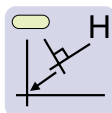
G One point to rotate coordinates
Input 1 and use numeric keypad to input either X-axis value and Y-axis value signs or X-axis value signs and Y-axis value signs. Rotate the coordinate system so that input point 1 becomes the set up axis value sign.



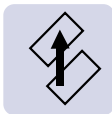
H One point to rotate for X-axis
Without shifting the origin point, rotate the coordinate system so that input point 1 lies on the X-axis.



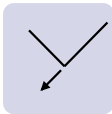
I Angle for rotation
Rotate the coordinate system by the entered angle A.



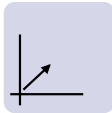
J Previous coordinates
Go back to the previous coordinates setting.



K One point for Z parallel move
Shift the Z-axis in parallel so that the origin point lies in the plane of input point 1.

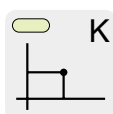


L Boot-up coordinates
Go back to the boot-up coordinates setting.

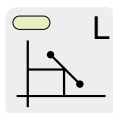


M Coordinates for origin
Input X and Y points via the numeric keypad as the new origin so that the coordinates moves in parallel to the new origin.

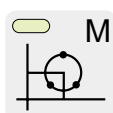
Measuring and calculating items



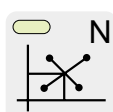
N Direct coordinates
Measures the coordinate of input point 1.



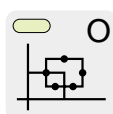
O Midpoint coordinates
Calculate the coordinate of the midpoint between input points 1 and 2.



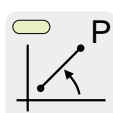
P Three points for circle measurement
Calculate the diameter, radius, and center coordinates of a circle determined by the input three points.



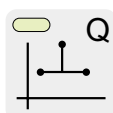
Q Four points for coordinates and angle
Calculate the intersection coordinates and intersection angle of two lines determined by point 1 and 2, and point 3 and 4.



R Five points for rectangle
Calculate each side of a rectangle that passes point 1 through 5, and its center coordinates.



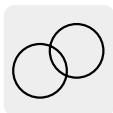
S Two points for angle, distance and coordinates
Calculate angle of a line through points 1 and 2 to the X-axis, the distance between the 2 points, and the coordinate differences of the X-and Y-axes.



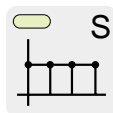
T Three point for perpendicular distance
Calculate the perpendicular distance from point 3 to the line through points 1 and 2.



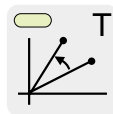
U Five points for radius and coordinates
Calculate the intersection coordinates created by a circle that passes point 1 through 3, and a line determined with points 4 and 5 as well as the radius of the circle.



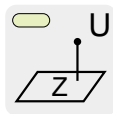
V Six points for intersection coordinates and radius
Calculate intersection coordinates created by a circle that passes point 1 through 3, and a circle that passes point 4 through 6. Also measures the radius of each circle.



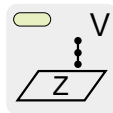
W Coordinates, differences and distance
Calculate X-Y coordinates at the input point, as well as differences of X-Y coordinates and distances the previous input points.



X Distance from origin and angular difference
Calculate distance between input point and original point; the angle from the X-axis; and the angle difference from the previous input point.

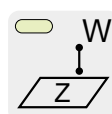


Y One point for Z distance
Calculate the Z-axis distance of input point 1 from the reference plane.



Z Z distance
Measure Z coordinate of input point plane and Z distance from previously input point's plane.

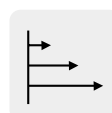
Data input methods



AA Two points for distance
Calculate the distance between two input points at different height.



AB Four points for perpendicular distance
Calculate the perpendicular distance from input point 4 and after to a plane determined by point 1 through 3.



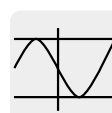
AC Distance from reference line and previous point
Determine a line with point 1 and 2 then measure the distance from point 3 to the line. Measure distance to the line and to the previous point from the 4th and after point.



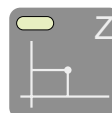
AD Parallelism measurement
Calculate crossing angle of two lines that are determined with point 1 and 2, and point 3 and 4. Also calculate length of perpendicular line from the line determined with point 3 and 4 to the other at the typed in reference position on the line determined with point 1 and 2.



AE Perpendicularity measurement
Calculate shift of crossing angle of two lines that are determined with point 1 and 2, and point 3 and 4 (Obtaining crossing angle is calculated as the difference angle from the reference angle of 90°).



AF Flatness of plane
Calculate the difference between highest and lowest value (flatness) among any input points on the same plane.



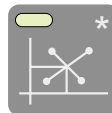
AG 1 point input
Used when directly input a point as data. Measured data is processed as input data.



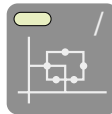
AH 2-point input
Used when the input point is midpoint of two measured points. This midpoint coordinate is processed as input data.



AI 3-point input
Used when input point is the center of a circle. The center coordinates of the circle created by three measured points is processed as input data.



AJ 4-point input
Used when input point is the intersection of two lines. The intersection coordinates value created by two lines from 4 input points is processed as input data.

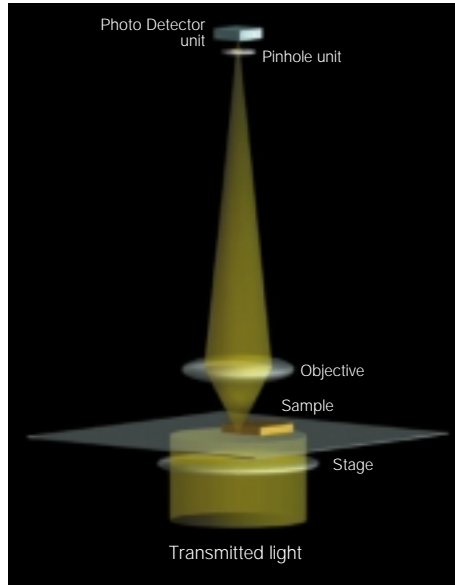


AK 5-point input
Used when input point is the center of the rectangle. Two input points form one side of rectangle and the other three points for other three sides of rectangle. This center coordinates is processed as input point data.

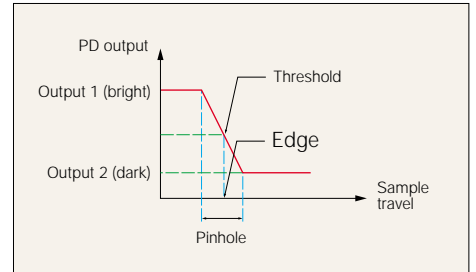
Accessories

■Edge sensor

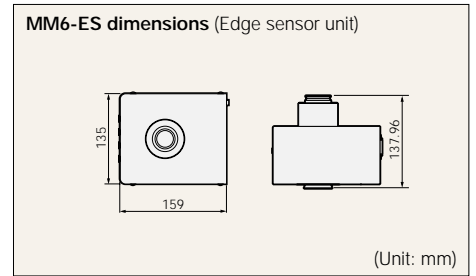
An edge sensor unit that automatically detects the sample edge is easily added to the STM6 series. Detection is performed by simply passing the sample edge through the sensor. As better reproducibility can be obtained, use of this sensor shortens measuring time and reduces personal errors caused by differences between individual operators.



Transmitted light edge sensor optical path diagram

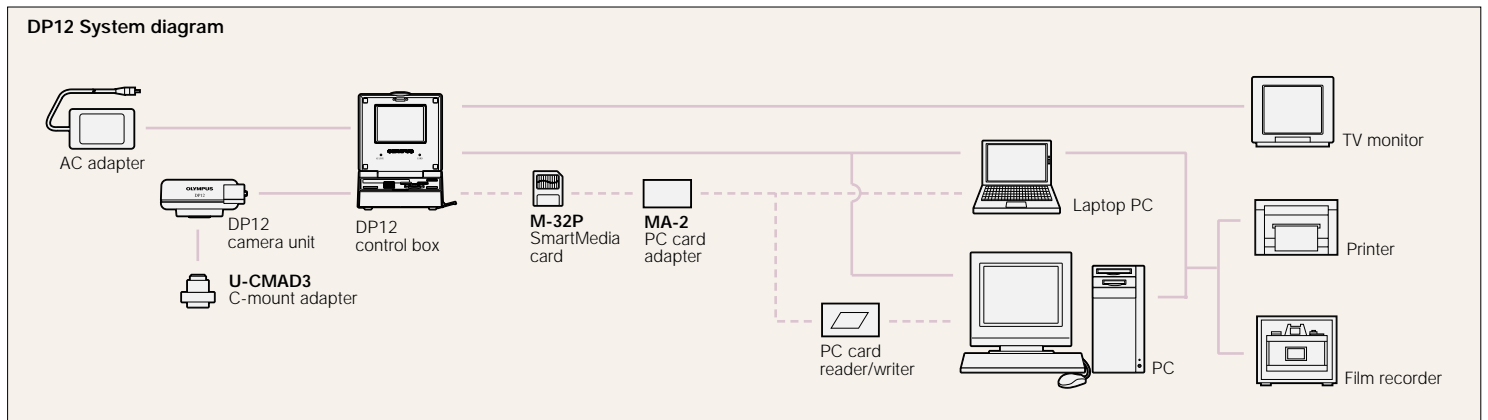
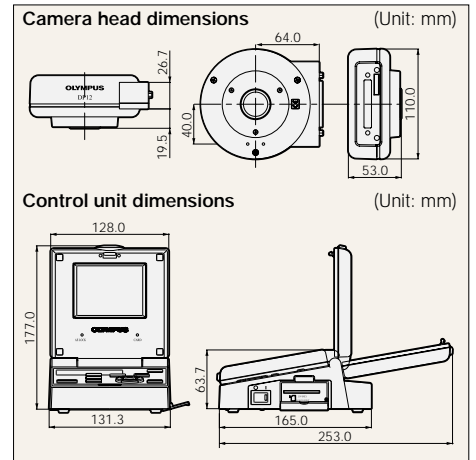


Theory of edge sensor detection



■DP12/ Microscope Digital Camera

The DP12 is a stand-alone type camera for use without a personal computer. The overall design is compact, with a palm-size multi function control unit integrating a 3.5" LCD monitor with 200,000-pixel display, and a small footprint that makes it easy to install and lay out any necessary auxiliary equipment. The 3.34 million-pixel and 1/1.8 inch progressive scanning CCD system ensures highly precise digital images which can be stored in SmartMedia at a maximum resolution of 2048x1536.





■MM6-RHS250, MM6C-RHS100 / Reset switch

The switch to reset X and Y counter values is near the operator's hand.



■MM6-RK01 / Remote key unit

X, Y and Z counter reset, data output and one-half count exchange are fully controlled from close to the operator's hand.



■MMFS01 / Foot switch

Enables hands-free transmission of data to a printer or 2-dimensional data processing unit.



■MM6-EMO / Erect image monocular tube

Monocular tube for erect images. Can be used in combination with MM6-OCC10x (eyepiece with cross line).



■SZ-FLR / Fluorescence light guide

Provides constant, even illumination without shadows (adapter is required).



■LG-R66 / Ring light guide

Cuts observation-disturbing sample shadows for clearer, brighter images (adapter is required).

■Stage

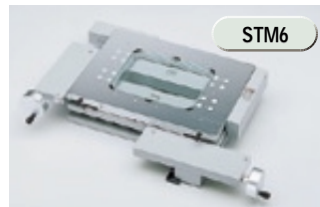
Several kinds of stages are available to suit different sample sizes.



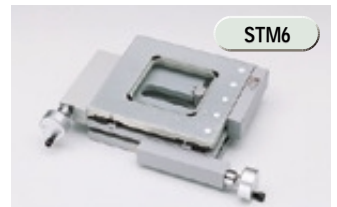
MM6-CS250AS 250x150 stage



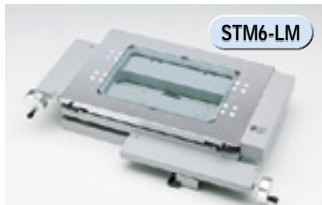
MM6C-CS150AS 150x100 stage



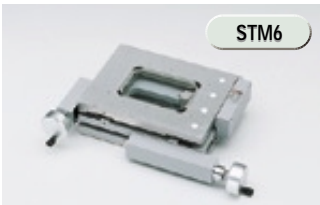
MM6C-CS150 150x100 stage



MM6C-CS100 100x100 stage



MM6-CS250 250x150 stage



MM6C-CS100R 100x50 stage



MM6C-CS50 50x50 stage

■Rotatable table

Enables easy parallel alignment of sample.



MM6-RS3 rotatable stage, type 3
(For MM6-CS250)



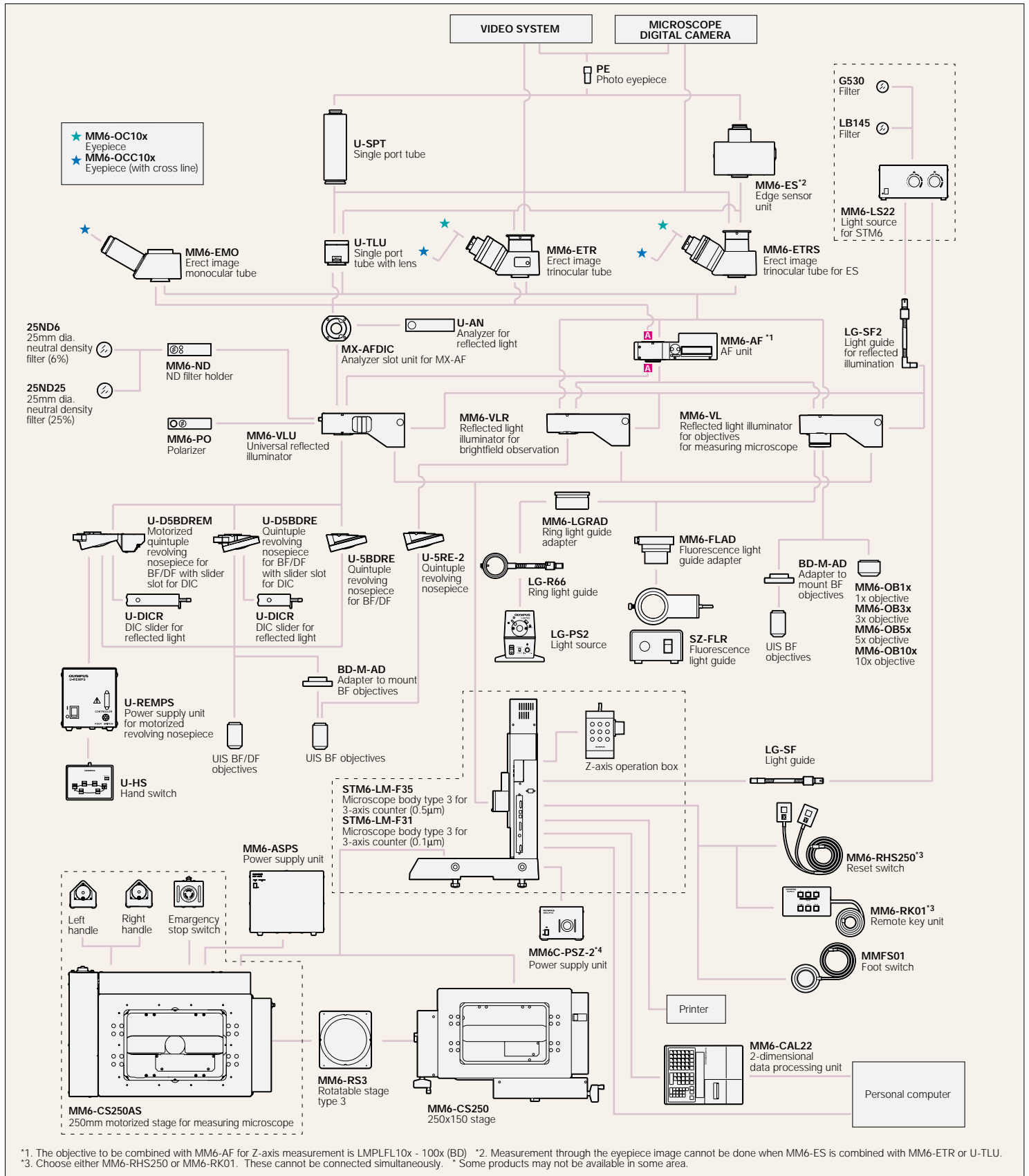
MM6-RS2 rotatable stage, type 2
(For MM6C-CS150R)



MM6C-RS1 rotatable stage, type 1
(For MM6C-CS100R and MM6C-CS100)

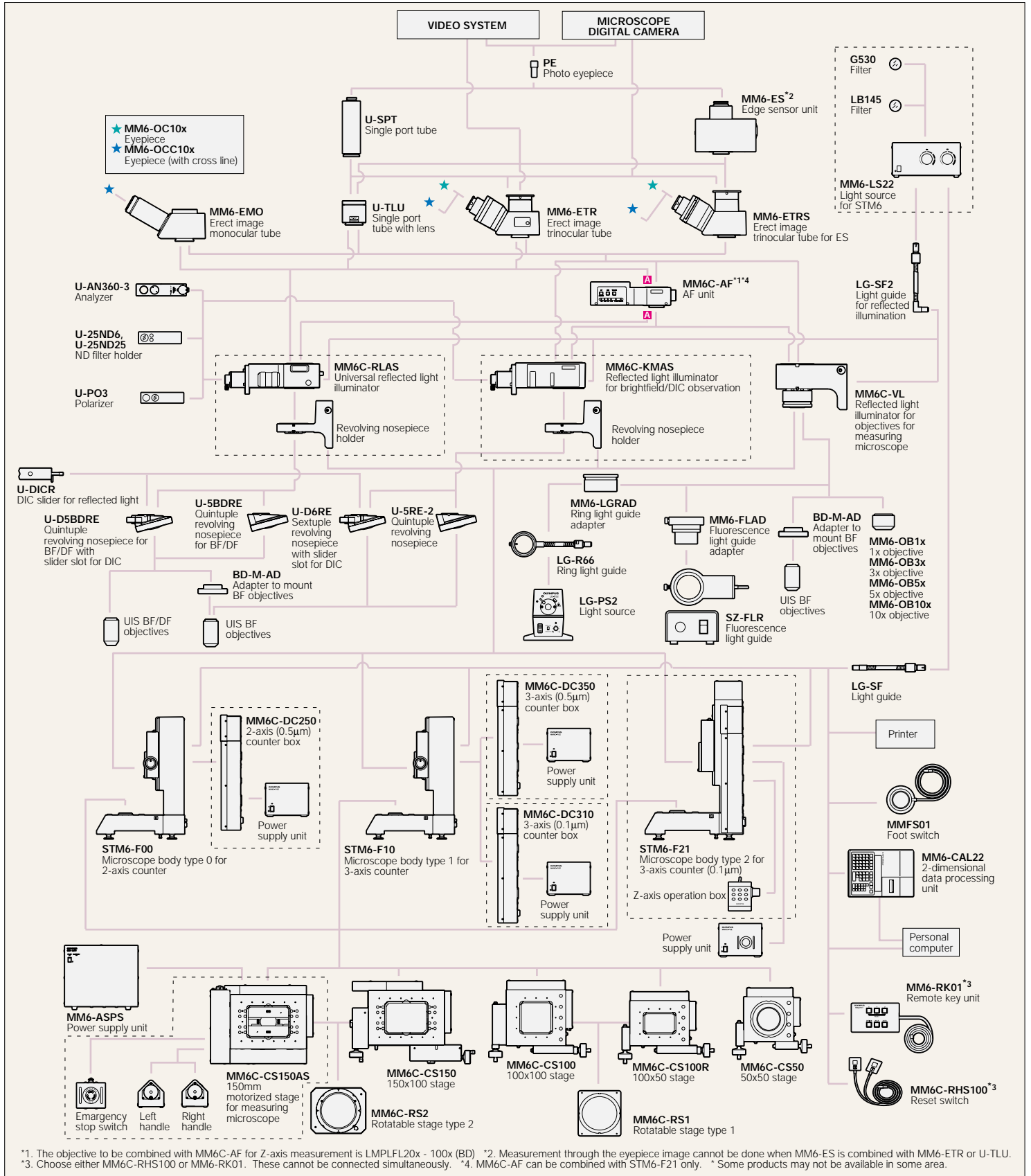
System Diagram

STM6-LM



*1. The objective to be combined with MM6-AF for Z-axis measurement is LMPLFL10x - 100x (BD) *2. Measurement through the eyepiece image cannot be done when MM6-ES is combined with MM6-ETR or U-TLU.
*3. Choose either MM6-RHS250 or MM6-RK01. These cannot be connected simultaneously. * Some products may not be available in some area.

STM6



*1. The objective to be combined with MM6C-AF for Z-axis measurement is LMPLFL20x - 100x (BD) *2. Measurement through the eyepiece image cannot be done when MM6-ES is combined with MM6-ETR or U-TLU.
*3. Choose either MM6C-RHS100 or MM6-RK01. These cannot be connected simultaneously. *4. MM6C-AF can be combined with STM6-F21 only. * Some products may not be available in some area.

STM6-LM/STM6 specifications

		STM6-LM	STM6		
			Manual 2-axis	Manual 3-axis	Motorized 3-axis
Microscope body	Focus	Vertical movement range	205mm		
		Maximum accepted sample height	205mm *1, 150mm *2		
		Z-axis measurement range	205mm *1, 150mm *2		
		Coarse focusing speed	4.8mm / sec		
	Fine focusing speed (variable)	800µm / 400µm / 200µm / 50µm (full rotation of knob) 4 steps	—		155mm *1, 100mm *2
illumination	Cold light fiber guided illumination	12V100W halogen (for both reflected and transmitted light)			
Observation tube		Erect image monocular tube, erect image trinocular tube, erect image trinocular tube for ES (100:0 / 0:100 / 10:90)			
Objectives (UIS)		For metallurgical microscope	MM6-OB series		
		For measuring microscope	UMPlanFL series, LMPlanFL series, UMPlanFL-BD series, LMPlanFL-BD series		
Eyepiece (UIS)		MM6-OCC10X (with cross line, F.N. 22), MM6-OC10X (F.N. 22)			
Stage	Stroke	MM6-CS250 = X-axis: 250mm, Y-axis: 150mm	MM6C-CS50 = X-axis: 50mm, Y-axis: 50mm / MM6C-CS100R = X-axis: 100mm, Y-axis: 50mm MM6C-CS100 = X-axis: 100mm, Y-axis: 100mm / MM6C-CS150 = X-axis: 150mm, Y-axis: 100mm		
	Measuring accuracy	X-axis: (3+5L / 250) µm Y-axis: (3+5L / 150) µm [L: measuring length (mm)]	50mm stroke: (3+L / 50) µm 100mm stroke: (3+2L / 100) µm 150mm stroke: (3+3L / 150) µm [L: measuring length (mm)]		
Counter display	Minimum readout	0.1µm/0.5µm (selectable)	0.5µm	0.1µm/0.5µm (selectable)	0.1µm
Dimensions *3		480 (W) X 579 (D) X 843 (H) mm	465 (W) X 437 (D) X 596 (H) mm	465 (W) X 437 (D) X 592 (H) mm	465 (W) X 437 (D) X 696 (H) mm
Weight *4		Approx. 170kg	Approx. 94kg	Approx. 95kg	Approx. 97kg
Power consumption		100 -120 / 220 - 240V~0.9 / 0.4A 50 / 60Hz	100 -120 / 220 - 240V~0.7 / 0.4A 50 / 60Hz		100 -120 / 220 - 240V~1.6 / 0.8A 50 / 60Hz

*1: With objectives for metallurgical microscope

*2: With objectives for measuring microscope

*3: STM6-LM microscope body + MM6-CS250 stage combination, STM6 microscope body + MM6C-CS100 stage combination

*4: STM6-LM microscope body + MM6-CS250 stage + integrated unit combination, STM6 microscope body + MM6C-CS100 stage + integrated unit combination

Objectives working distance

Objectives for measuring microscope	Magnifications	1X	3X	5X	10X	—	
MM6-OB		59.6	76.8	65.4	50.5	—	
Objectives for metallurgical microscope	Magnifications	5X	10X	20X	50X	100X	
	UMPlanFL series	For brightfield	20.0	10.1	3.1	0.66	0.31
	LMPlanFL series	Long working distance	22.5	21.0	12.0	10.6	3.4
	UMPlanFL-BD series	For brightfield/darkfield	12.0	6.5	3.0	0.66	0.31
LMPlanFL-BD series	For brightfield/darkfield, long working distance	15.0	10.0	12.0	10.6	3.3	

Specifications are subject to change without any obligation on the part of the manufacturer.



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