



Motic®

MORE THAN MICROSCOPY



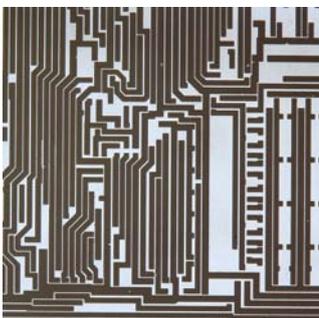
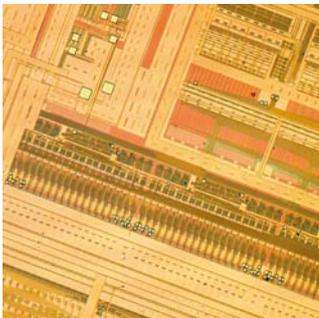
PSM1000

An Advanced Modular
compound microscope
for Probing Applications

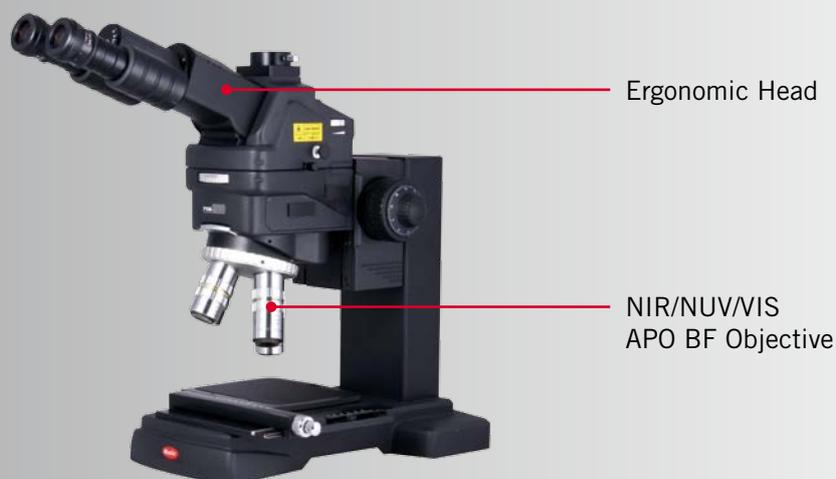


PSM1000 | An Advanced Modular compound microscope for Probing Applications

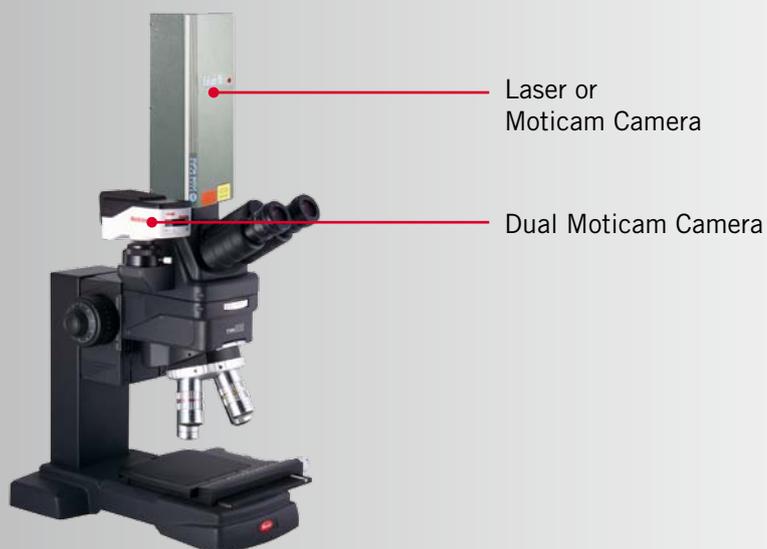
The PSM1000 series, an advanced modular compound probe microscope, is designed to meet the diversified demands of probing applications efficiently. New PSM1000 series offers all kinds of advanced features upon the “all-in-one” design concept, integrates high compatible spectrum optics lens, ultra long working distance, micron precision, polarization observation, superb beam splitting methodology, semi or automatic control modes into one platform. The modular design makes it flexible to cover a wide variety of industrial applications in Semiconductor, Integrated Circuit (IC), Wafer Probing, Flat Panel Display (FPD), Micro-Electro-Mechanical Systems (MEMS) as well as fabs facility etc..



> PSM1000E



> PSM1000DC



> PSM1000M (Available in China Market)



Notes: Please be aware that the export of PSM1000M requires the approval of China government according to the relevant trade policy. Please contact your local vendor or sellers for more details.

Motic PSM1000 offers the diversified features upon industrial typical demands based on “All-in-one” concept:

High compatible spectrum optics lens for laser rework

PSM1000 is standard equipped for laser rework covering the most popular wavelengths of 1064nm (NIR), 532nm (VIS), 355nm (NUV), with the sophisticated compatible optics spectrum lenses via turret 1X IR/VIS, 2X VIS and 1X UV/VIS.



Ultra long working distance, micron precision

New PSM1000 offers Micron precision, highest resolution is 0.34 μm under Plan APO 100x objective, and max working distance is 34mm in 5x APO objective.



Modular design and ready for system integration

The Modular design offers PSM1000 with flexibility to be integrated into custom-design manufacturing and inspection systems, such as prober station for semiconductor and laser-repairing for Flat Panel Display.



Superb beam splitting methodology

Superb beam splitting tech make new PSM1000 can perform the specific detail and counter inspection or probe inspection under live video simultaneously. (Using eyepiece to perform the laser rework is not recommended).



Detail and contour inspection



Laser rework under live video

Semi or automatic control mode

Semi/automatic control is realizable while connecting with the probe station or customized equipment system via an ISO standard RS232 serial port, maximum transmission distance is 25 feet. Rapid and accurate objectives exchange can be done by the remote control in external motorization console. Efficiency is increased while workload is taken off and particularly convenient for the requirements in efficiency and closed environment.



Practical Configuration

A set of configurations have been established base on PSM1000 platform to best fit your applications with high cost-efficiency.



PSM1000E



PSM1000 Standard



PSM1000DC



PSM1000M

To eliminate any inconvenience due to maintenance or upgrade after-sales, new PSM1000 series also offers the incredible manipulative.

New compact nosepiece in smaller spread-out angle

The new compact nosepiece is quadruple and outward-facing with a smaller spread-out angle 30°, saving in the space and avoiding the most of the potential collisions with surroundings in a system.



Easy observation path switching

The ocular observation, video inspection and laser work can be switched among 50:50 and 0:100 by pushing in or pulling back of the changing-over lever. For PSM1000DC, it is switchable between 50:50 of Eyepiece/Trinocular CCD or 50:50 of Trinocular CCD/Dual CCD.



Easy light intensity adjustment for optical system

The resolution, contrast, depth of view can be adjusted to fit different observation demands with the adjustment of the aperture diaphragm size.



Easy illumination switching for diversified brightness and color temperature demands

An excellent LED fiber optic illuminator is also available in the new PSM1000 series besides Halogen fiber illumination. It is low in power consumption and keeps the work-piece, operator and workshop free from thermal and heat influence.



3W LED fiber optic illuminator with lower color temperature from 3050k~3250K or high color temperature from 6000K~7000K



150W Halogen fiber optic with light guide and color temperature adjustable from 500K~3700K

It is easy to realize the digitalization and documentation



Laser emission unit on Single Port



2 CCD Camera on dual Ports

CAUTION!

Motic assumes no responsibility whatsoever for the performance and safety of the laser system used with Motic microscopes. The laser emission may lead to unknown and harmful to health issues. Therefore, a serious examination of the system and the environment is required. It is extremely important to follow the laser manufacturer safety instructions pertaining to the laser usage and internal factory requirements regarding laser safety legislation. It is strongly recommended to understand the requirements before selecting a laser emission unit.

Motic enthusiastically pursue to assist the end-user to configure the specific inspection system upon the budget, for instance:

Selecting from the manual and motorized quadruple nosepiece upon your differentiated demands of efficiency.



Manual nosepiece



Motorized nosepiece

New PSM1000 series offers single port or dual ports to realize the single or dual object inspection demand.



Single CCD Camera Port



Dual CCD Camera Ports

Selecting from the standard observation head and ergonomic head. The observation angle of ergonomic head is adjustable between 3°-30°.



Standard Trinocular Head



Tilting Trinocular Head





**New PSM1000 series employs top grade Plan APO objectives in the industrial field.
The longest working distance is 34 mm under 5x magnification, highest resolution is 0.34 μm .**

Parfocality Adjustability is a Motic unique feature to assure smooth transitions between magnifications as a convenient time saving function. The ULWD (Ultra Long Working Distance), ELWD(Extra Long Working Distance) and PA (Parfocality Adjustment) objectives are available to meet a variety of observation demands respectively.

Application example of Plan APO Objectives for probing applications range from:

1. Micron level circuit Failure Analysis
2. Laser-Cutting of thin-films of wafer, FPD
3. Quality Control of Wafer, MEMs, PFD, fine PCB, fine FPC etc..



Plan Apochromat Objectives Parameters

Type	Magnification	N.A.	W.D.(mm)	Resolution(μm)	Purchasing part Code
ELWD PA	2x	0.055	34.0	5.0	1101001700141
	5x	0.140	34.0	2.0	1101001700181
	10x	0.280	33.5	1.0	1101001700112
	20x	0.420	20.0	0.7	1101001700122
ELWD	2x	0.055	34.0	5.0	1101001700052
	5x	0.140	34.0	2.0	1101001700072
	10x	0.280	33.5	1.0	1101001700032
	20x	0.420	20.0	0.7	1101001700042
	50x	0.550	13.0	0.5	1101001700062
	HNA100x	0.800	3.0	0.34	1101001700021
ULWD	50x	0.420	20.5	0.7	1101001700092
	100x	0.550	13	0.5	1101001700082
NIR	20x	0.400	20.5	0.7	1101001703531
	50x	0.420	19	0.7	1101001703541



CONFIGURATION

PSM-1000



PSM1000

PSM1000 Standard is equipped with a compact nosepiece.

To meet the basic demands of online or offline probing applications, such as: long working distance, laser-cutting, high resolving power, POL observation.

To meet the requirement of limited space, weight sensitive of probe station, without sacrificing the convenience of installing or dismantling objective, convenient revolving operation.



PSM1000DC

PSM1000DC is equipped with 2 CCD camera video ports to fill up the your tremendous expectation in inspection or documentation.

Primarily used for simultaneous live video observation under different magnification or laser cutting under live video efficiently, for example.

Application 1:

To realize online or offline the simultaneous observation under different magnification upon demands, such as : online or offline sort failures by contour and details at same time.

Application 2:

Online or offline laser rework under live video observation simultaneously.



PSM1000E

PSM1000E is equipped with ergonomic head for easier and more comfortable observation.

To meet the dynamical observation, inspection requirements ergonomically. Observation tube can be adjusted to accommodate a variety of human being characteristics of height, observation habit or observation condition etc..



PSM1000M

PSM1000M is equipped with motorized nosepiece and remote control console to make your objectives exchange efficient.

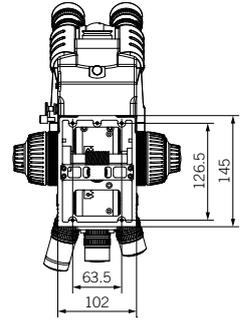
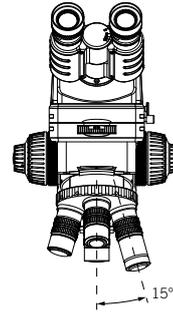
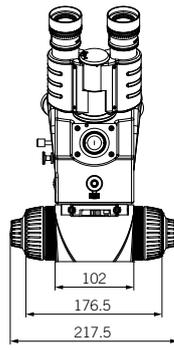
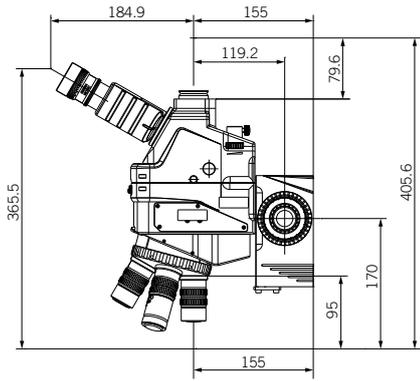
Be designed to improve the efficiency via motorization. The primary motivation is to fit the observation/inspection requirements for high speed/high volume production. The operation involve online or offline inspection, laser rework, capturing failure and engineering analysis via live video for complex and multiple task on one station, or can be embedded into customized automation system to perform the programed operation etc..

Specification of Laser Ready Modular Microscope PSM-1000 Series

Model	PSM1000	PSM1000E	PSM1000-DC	PSM1000-M
Magnification Range	20x - 2000x			
Trinocular Tube	Image	Erect Image		
	Interpupillary Adjustment	55 - 70mm		
	Eyepiece	Widefield high eyepoint 10X / F.N. 24, with diopter adjustment (Optional: Widefield 15X / F.N. 16, Widefield 20X / F.N. 12)		
	Optical Pass Ratio	[Eyepiece/Trinocular CCD = 0:100] or [Eyepiece/Trinocular CCD = 50:50]	[Eyepiece/Trinocular CCD=50:50] or [Trinocular CCD/Dual CCD = 50:50]	[Eyepiece/Trinocular CCD = 0:100] or [Eyepiece/Trinocular CCD = 50:50]
	Observation Tube	Standard trinocular head	Tilting trinocular head	Trinocular head with dual CCD ports
Turret Lenses	3-lens changeover turret [1XUV, 1XIR, 2XVIS]			
Laser Work	Pull out beam splitter, Laser Safety Pin, Shims			
Applicable Laser	355nm [UV] to 532nm [Green] to 1064nm [IR]			
Camera Mount	Optional 1X/ 0.5X/ 0.4X adapters with parfocality adjustable			
Nosepiece	Manual quadruple nosepiece			Motorized quadruple nosepiece
Objectives (Optional)	For Observation	ELWD Plan Apochromat with parfocality adjustable 2X/ 5X/ 10X/ 20X ELWD Plan Apochromat 2X/ 5X/ 10X/ 20X/ 50X/ 100X HNA ULWD Plan Apochromat 50X/ 100X Range of magnifications from 2x to 100x, M26 x 1/36"(0.706) thread size		
	For Laser-Cutting	NIR 20X/ 50X		
Focusing Block	Focusing Stroke: 50mm Coaxial operation system Coarse: 4mm per rotation Fine:0.1mm per rotation 1 mm resolution 45 lbs. Mountable weight			
Optional Contrast	Polarisation Spectrum range: 400nm - 700nm Adjustable Polariser available			
Illumination (Optional)	MLC-150 Fiber Optic Illuminator	Switchable Power Supply [110V - 220V] 21V/ 150W output 1,600,000 lux Colour Temperature Range: 500K - 3700K Flexible light guide 2m in length and Ø15mm distal end		
	LED Fiber Optic Illuminator	3W LED fiber optic illuminator with high color temperature 6000K-7000K 3W LED fiber optic illuminator with low color temperature 3050K-3250K		
Stand and Mechanical Stage (Optional)	Compact footprint stand with attached 150mm x 100mm mechanical stage			

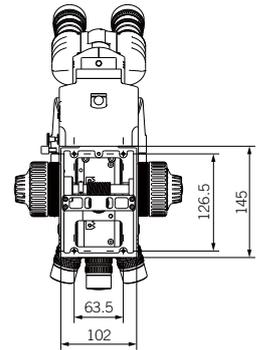
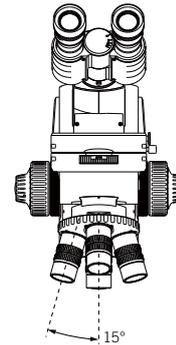
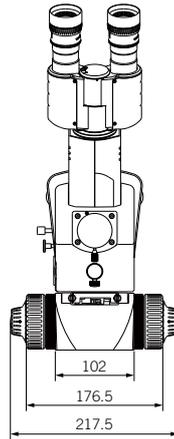
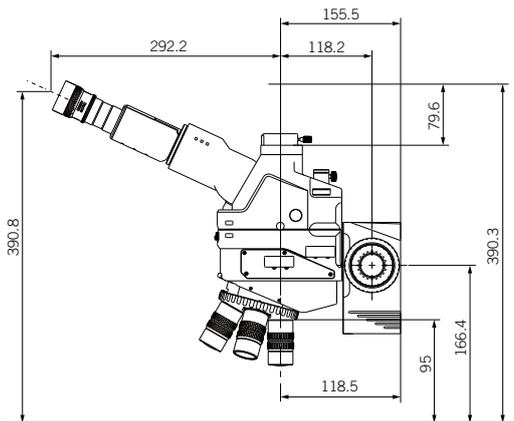
PSM-1000 Dimension

Unit: mm



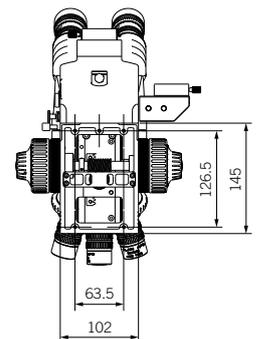
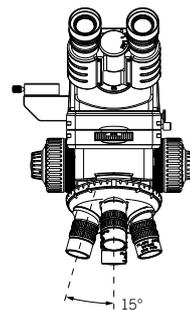
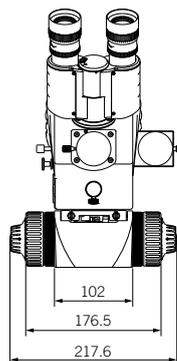
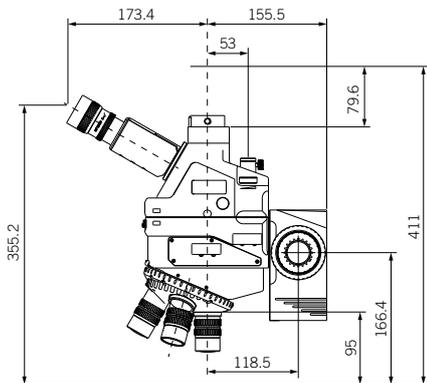
PSM-1000E Dimension

Unit: mm



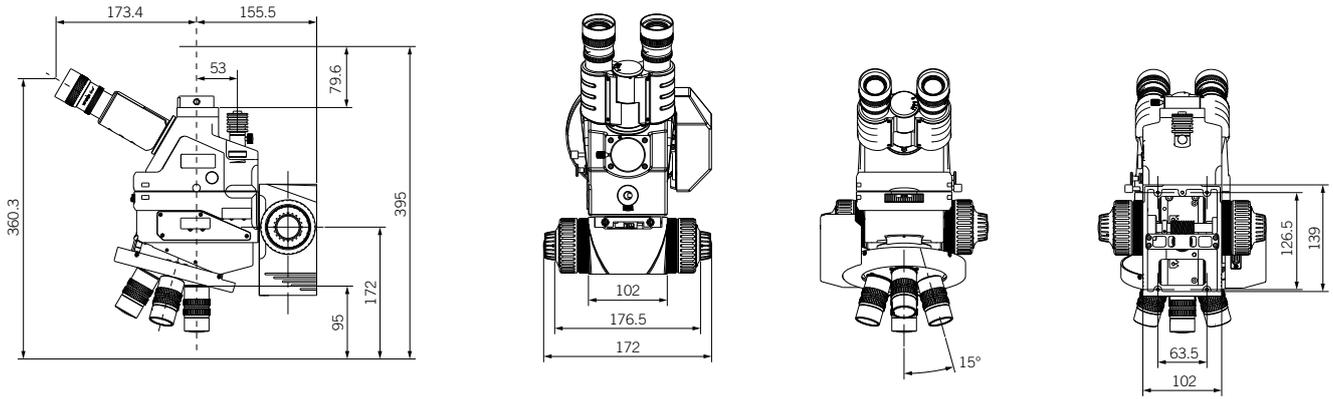
PSM-1000-DC Dimension

Unit: mm

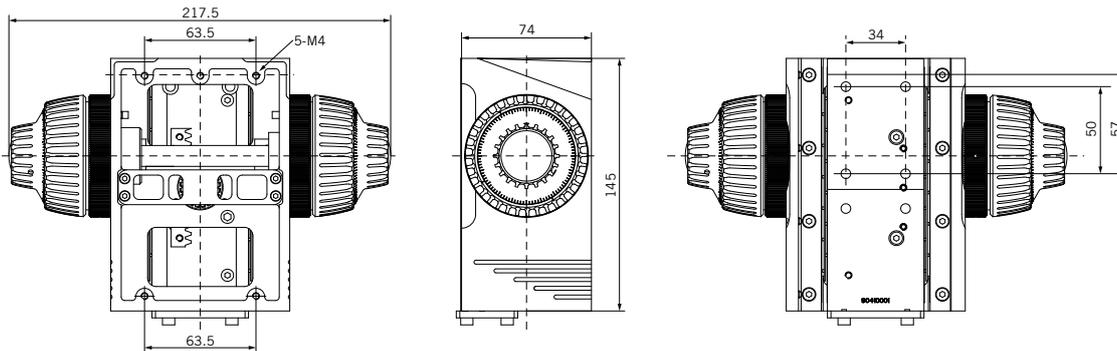


PSM-1000M Dimension

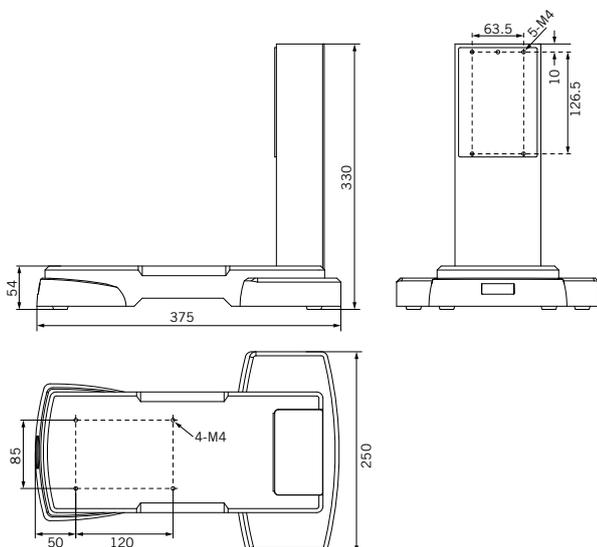
Unit: mm



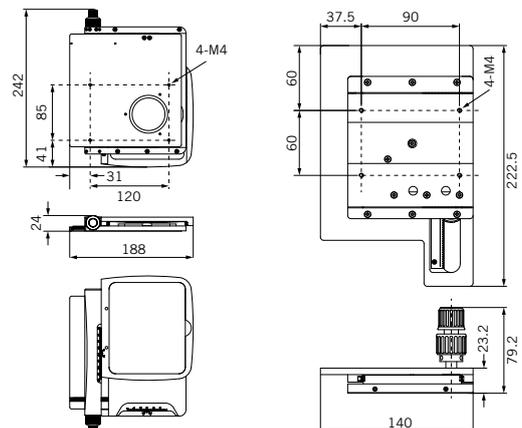
Focusing block



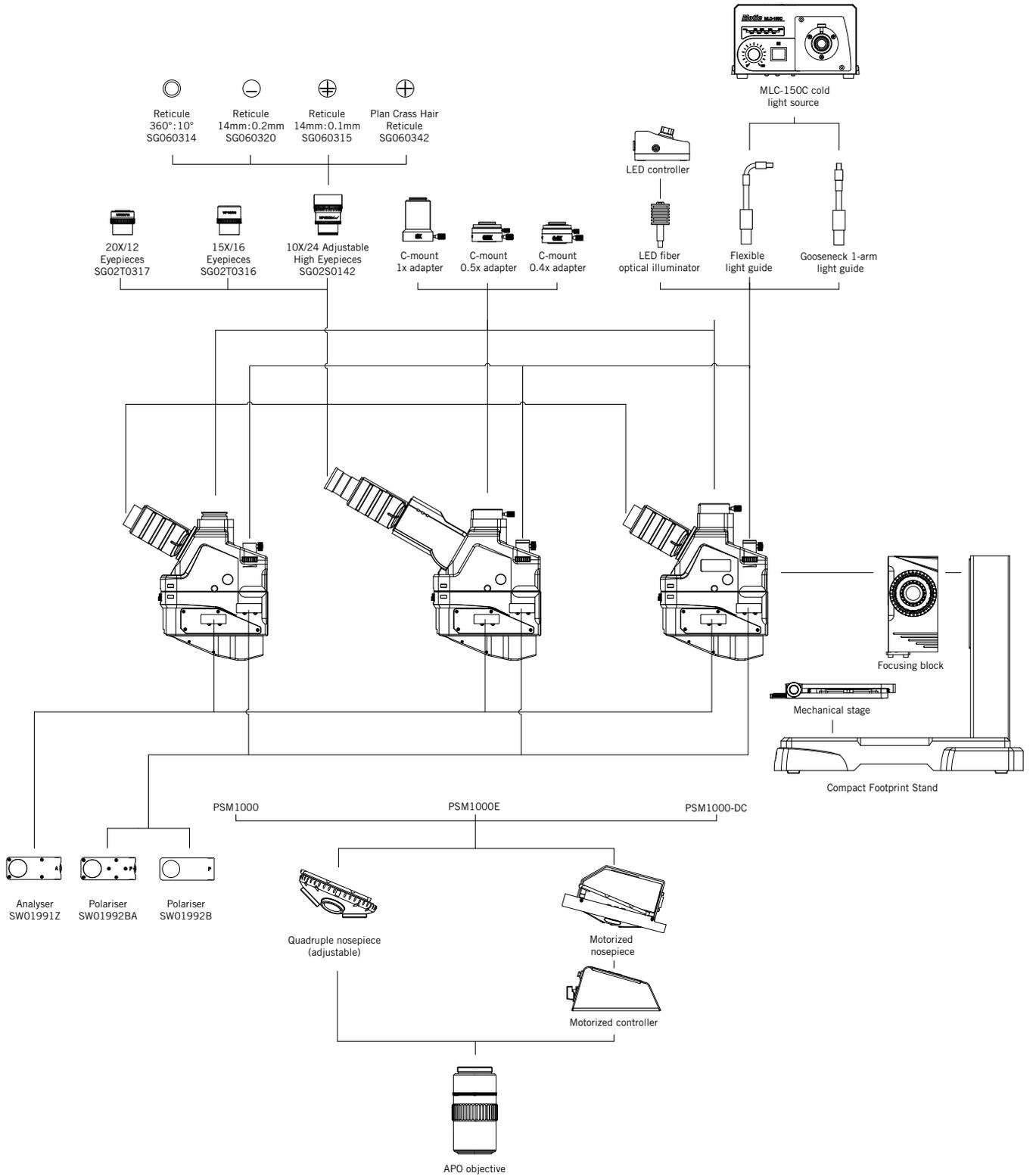
Compact Footprint stand



Mechanical Stage



PSM-1000 Series System Diagram





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