



A13.0910-R A13.0910-RT

Upright Metallurgical Microscope, BF+DF+PL+DIC, Semi-APO



A12.0910, A13.0910, A16.0910 Series



A12.0910
Research Scientific Laboratory Microscope,
Semi-APO, Upgrade BF+DF+PL+PH+FL+DIC



A13.0910
Upright Metallurgical Microscope,
Semi-APO, BF+DF+PL+DIC



A16.0910
Research Fluorescence Microscope,
Semi-APO, Upgrade BF+DF+PL+PH+FL+DIC



A13.0910-R Reflect Light A13.0910-RT Reflect & Transmist Light

Adhering to the philosophy of continuous exploration & self-transcending, new A13.0910 series metallurgical microscope for research with a number of pioneering design in appearance and functions, is born to provide a perfect detection solution and develop a new pattern of industrial field



A13.0910 Metallurgical Microscope



Viewing Head with Multi-splitting Ratio

A13.0910 viewing head is designed of multiple options for splitting ratio. With wide beam imaging system, 26.5mm super wide field of view is available. Trinocular head with erect image makes moving direction of samples is as the same as observed. , splitting ratio switchable between E100:P0 or E0:P100.

Trinocular head with inverted image, splitting ratio E100:P0 or E20:P80 or E0:P100. Except for concentrating 100% light to eyepiece tube or camera tube, there is another option with 20% light to eyepiece tube and 80% to camera tube, so that eyepiece observation and image output can be available at the same time.

Polarization System

The polarizer and analyzer in polarization system contribute to eliminate the stray light in semiconductor and PCB detection, image with clear detail is achievable. There are fixed analyzer and rotatable analyzer for option. The sample can be observed at different polarizing angles with 360° rotatable analyzer. Besides, this polarization system can be upgraded to Nomarski differential interference contrast system after installing a new developed DIC attachment.

Nomarski Differential Interference Contrast (DIC)

The weeny asperities on the surface which can not be found in bright field, is able to be detected by using U-DICR attachment to create high contrast background. It is widely used for testing the conductive particle of LCD, surface scratch of precision disk.

Linkage Between Neutral Density Filter & Switch For BF/DF

The lever in front of illuminator is used to switch between bright field and dark field, and it is in tandem with a neutral density filter (ND50). When you switch from DF to BF, the built-in ND50 filter takes the role to decay the light intensity. More scientific and more comfortable.

Ergonomic Design

- The intensity can be flexibly adjusted by the dimming device which is located on the right side of frame. The voltage change all-digital displays. Adjusting intensity and coaxial focusing at the same time, improves the work efficiency.

- Reflected or transmitted illumination can be switched by the button on the digital dimming display. Using the RE-SET button to keep the light intensity at around 8V (with a camera mark on the dimming display) which is an optimal voltage for photomicrography.

- Four built-in filter holders with three standard filters, one empty holder for optional filter. All the filters can be moved out the optical path by pulling out the lever.

- Low position coaxial focusing system with tension adjustment. The coarse range is 25mm and the fine precision is 0.001mm. The height of a tiny sample, such as solder ball, can be measured.

Erect Image Head

30° Inclined Image Infinity Gemel Trinocular Head,
Interpupillary Distance 50~76mm, Light Splitting
Ratio Switch E100:P0/E0:P100

C-Mount Adapter 0.5X

Light Splitting Ratio Switch
E100:P0/E0:P100

EYE
PHOTO

BF/DF Reflect Illumination

Epi Illumination System With Iris Diaphragm, Aperture
Diaphragm, Both Center Adjustable, With BF/DF
Switch, With Polarizer & Analyzer Slot, Filter Slot



Digital Dimming Illumination

12V100W Halogen Illumination with Iris Diaphragm, With Light Indicator, Digital Dimming System Have Brightness Set & Reset Function. One Key Switch Reflect / Transmit Light Source



Transmit Filters

Built-In Transmit Filters LBD/ND6/ND25



Coaxial Focusing

Ergonomic Low-Position Coaxial Coarse & Fine Adjustment With Coarse Adjustment Stop And Tightness Adjustment.



BF/DF 6 Holes Nosepiece

6 Holes Nosepiece For Both Bright Field & Dark Field, With Socket For DIC Slide & Polaring Analyzer Slide, For Metallurgical. 5 Holes Optional



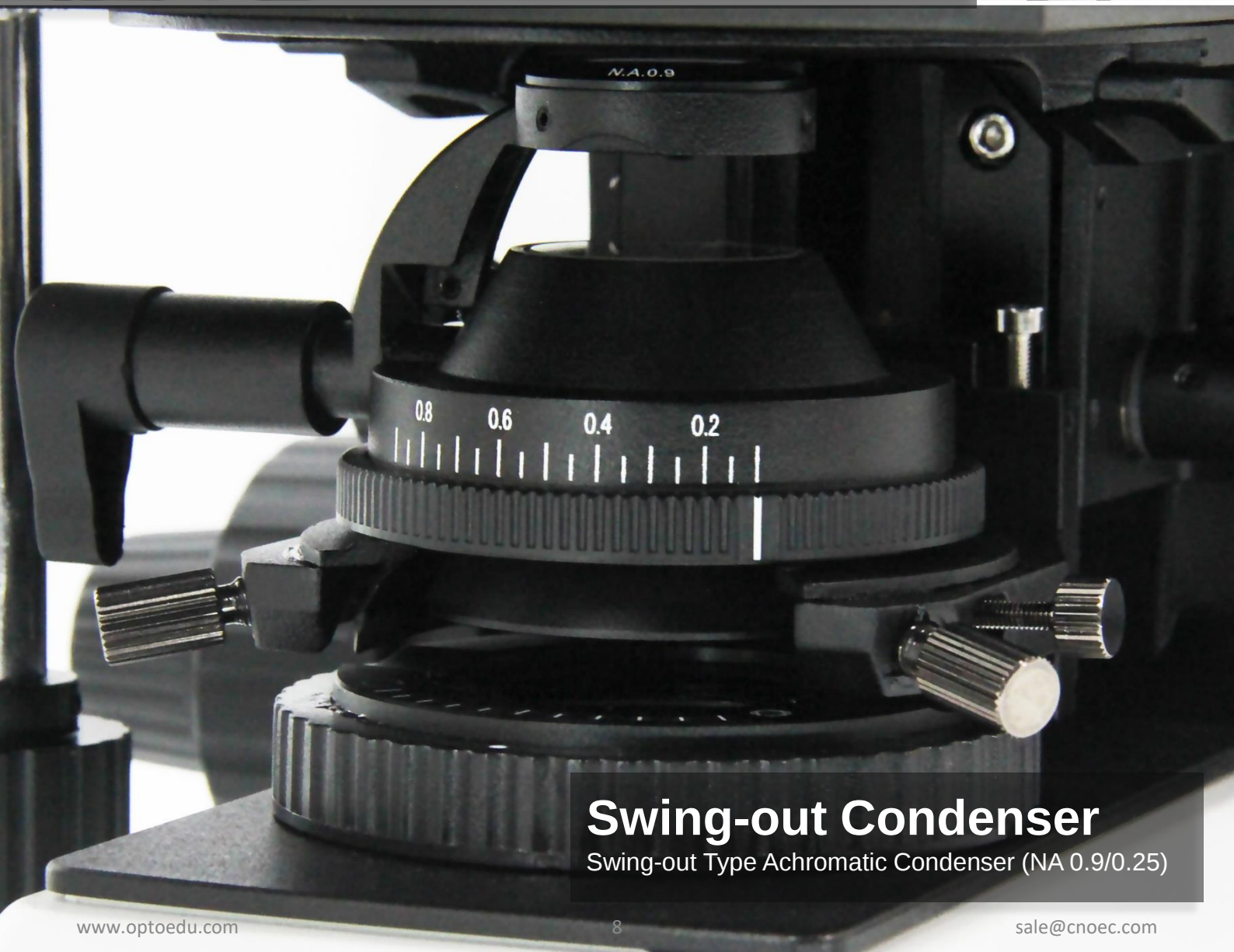
4" Large Working Stage

4" Three Layer Mechanical Stage, For Transmit & Reflect Light Moving Range 102*105mm, Low Position X/Y Moving Handle, With Glass Plate For RT Model, With Metal Plate For R Model



12V100W Halogen Light Source

12V 100W Halogen Lamp House For Both Reflection And Transmission Illumination, Bulb Center Adjustable, Built-in Reflect Mirror Center Adjustable.



Swing-out Condenser

Swing-out Type Achromatic Condenser (NA 0.9/0.25)



	Mag.	N.A.	W.D.	Cover (mm)	Confocal (mm)	Conjugate (mm)
BF Semi-APO Metallurgical Objective	5x	0.15	13.50	-	45	∞
	10x	0.30	9.00	-		
	20x	0.50	2.50	0		
	50x	0.80	1.00	0		
	100x	0.90	1.00	0		
	Mag.	N.A.	W.D.	Cover (mm)	Confocal (mm)	Conjugate (mm)
BF/DF Semi-APO Metallurgical Objective	5x	0.15	19.50	-	45	∞
	10x	0.30	10.80	-		
	20x	0.50	3.20	0		
	50x	0.80	1.20	0		
	100x	0.90	1.00	0		



BF/DF DIC Semi-APO Objective

Professional LWD Infinity Plan Metallurgical BF/DF DIC Semi-APO Objective 5x, 10x, 20x, 50x, 100x, Enable Bright Field, Dark Field View, DIC View and Polarizing View in Same Objective,

Accessories



Filters For Reflect Light

A5M.0953 Interference Filter, For Reflect Light (For A13.0910-R & RT)



Filters For Transmit Light

Built-in Stand Filters, LBD, ND6, ND25 (For A13.0910-RT)



Work With A59.4972

8K 5G WIFI+HDMI+USB+WAN 12.0M,
C-Mount, Digital Camera

Output	USB,HDMI,5G WIFI, WAN
Sensor	12.0M, 1/2.3" Sony CMOS,
Resolution	8K (4000x3000) To HDMI Monitor
Record	Snapshot .JPG, Record MP4 1920x1080@60FPS
Spectral	380-650 For Fluorescent View



Excellent Silicon Wafer Viewer

Check details of silicon wafer under professional
metallurgical microscope & high speed
WIFI/HDMI/USB digital camera

Specification

A13.0910 Upright Metallurgical		-R	-RT	Cata. No.
Infinity Optical System	BF/DF, Bright Field/Dark Field, Reflect Light	•		
	BF/DF, Bright Field/Dark Field, Transmit & Reflect Light		•	
	PL, Polarizing	•	•	
	DIC, Different Interference Contrast	○	○	
Head	30° Inclined Erect Image Infinity Gemel Trinocular Head, Interpupillary Distance 50~76mm, Light Splitting Ratio Switch E100:P0/E0:P100,	•	•	A53.0913-T30E
	30° Inclined, Invert Image Infinity Gemel Trinocular Head, Interpupillary Distance 50~76mm; Light Splitting Ratio Switch E100:P0 or E20:8E0 or E0:P100	○	○	A53.0913-T30
	5-35° Tilttable, Inverted Image, Infinity Gemel Trinocular Head, Interpupillary Distance 50~76mm; Light Splitting Ratio E50:E50 or E100:P0 or E0:P100	○	○	A53.0913-T535
CCD Adapter	0.5x C-Mount, For 1/2"CCD, Focus Adjustable	○	○	A55.0930-05
	0.35x C-Mount, For 1/2"CCD, Focus Adjustable	○	○	A55.0930-35
	0.65x C-Mount, For 1/2"CCD, Focus Adjustable	○	○	A55.0930-65
	1.0x C-Mount, For 1"CCD, Focus Adjustable	○	○	A55.0930-10
Eyepiece	High Eyepoint Plan PL10x/25mm, Diopter Adjustable	••	••	A51.0904-1025T
	High Eyepoint Plan PL10x/26.5mm, Diopter Adjustable	○	○	A51.0904-10265T
	High Eyepoint Plan PL10x/25mm, Diopter Adjustable, With Reticle	○	○	A51.0905-1025T
	High Eyepoint Plan PL10x/26.5mm, Diopter Adjustable, With Reticle	○	○	A51.0905-10265T
Objective	Infinity Plan Semi-APO LWD Metallurgical BF/DF DIC Objective			
	5x/0.15, W.D.=13.5mm	•	•	A5M.0941-5
	10x/0.30, W.D.=9mm	•	•	A5M.0941-10
	20x/0.50, W.D.=2.5mm	•	•	A5M.0941-20
	20x/0.40, W.D.=8.5mm	○	○	A5M.0941-20A
	50x/0.80, W.D.=1.0mm	•	•	A5M.0941-50
	100x/0.90, W.D.=1.0mm	•	•	A5M.0941-100
	Infinity Plan Semi-APO LWD Metallurgical BF DIC Objective			
	5x/0.15, W.D.=19.5mm	○	○	A5M.0942-5
	10x/0.30, W.D.=10.9mm	○	○	A5M.0942-10
	20x/0.50, W.D.=3.20mm	○	○	A5M.0942-20
	50x/0.80, W.D.=1.20mm	○	○	A5M.0942-50
	100x/0.90, W.D.=1.0mm	○	○	A5M.0942-100
	Semi-APO Objective With Correcting Ring 50X/0.70, WD=2.3~2.9mm	○	○	A5M.0945-50
Nosepiece	BF/DF 5 Holes, With Socket For DIC Slide & Polaring Analyzer Slide, For Metallurgical	○	○	A54.0930-RM5BD
	BF/DF 6 Holes, With Socket For DIC Slide & Polaring Analyzer Slide, For Metallurgical	•	•	A54.0930-RM6BD
	BF 6 Holes, With Socket For DIC Slide & Polaring Analyzer Slide, For Metallurgical	○	○	A54.0930-RM6
	BF 7 Holes, With Socket For DIC Slide & Polaring Analyzer Slide, For Metallurgical	○	○	A54.0930-RM7
DIC	DIC Attachment, Apply For BD Objective	○	○	A5M.0952
Working Stage	4" Three Layer Mechanical Stage, For Transmit & Reflect Light	•	•	A54.0950-M4
	Moving Range 102*105mm, Low Position X/Y Moving Handle, With Glass Plate For RT Model, With Metal Plate For R Model			
	Rotatable Working Stage 4", For Wafer 2", 3", 4"	○	○	A54.0950-W234
Focusing	Low-Position Coaxial Coarse & Fine Adjustment, Coarse Adjustment Distance: 25mm; Fine Precision: 0.001Mm. With Coarse Adjustment Stop And Tightness Adjustment.	•	•	
Main Body	Reflected Body, Digital Dimming System With Light Indicator, Brightness Set & Reset Function	•		
	Reflected/Transmitted Body, Digital Dimming System With Light Indicator, Brightness Set & Reset Function, With Condenser Holder		•	

A13.0910 Upright Metallurgical		-R	-RT	Cata. No.
Transmit Light	12V100W Halogen Lamp House, Pre-Centered		•	A56.0915-LH
	12V100W Halogen Bulb (Philps 7724)		•	A56.0923-12100
	Swing-out Type Achromatic Condenser, N.A.0.9/0.25		•	A56.0934-R
	Built-In Transmit Filters LBD/ND6/ND25		•	
Reflect Light	BF/DF Reflect Illuminator, With Iris Field Diaphragm and Aperture Diaphragm, Both Central Adjustable, With Filter Slot and Polarizing Slot, With BF/DF Switch	•	•	A56.0915-RL
	12V100W Halogen Lamp House, Pre-Centered	•	•	A56.0915-LH
	12V100W Halogen Bulb (Philps 7724)	•	•	A56.0923-12100
	Interference Filter, For Reflect Light, Natural White	•	•	A5M.0953-LBD
	Interference Filter, For Reflect Light, Blue, <480nm	○	○	A5M.0953-B
	Interference Filter, For Reflect Light, Green, 520~570nm	○	○	A5M.0953-G
	Interference Filter, For Reflect Light, Red, 630~750nm	○	○	A5M.0953-R
Polarizing For Reflect	Fixed Polarizer Flashboard	•	•	A5P.0924-RP
	360° Rotatable Analyzer Flashboard	•	•	A5P.0924-RA360
	Fixed Analyzer Flashboard	○	○	A5P.0924-RA
Power	Built-In 100-240V Wide Voltage Transformer, One Way Power Output	•		
	Built-In 100-240V Wide Voltage Transformer, Double-Way Power Output.		•	
Other	Allen Key M3	•	•	
	Allen Key M4	•	•	
	Specimen Presser	○	○	A5M.0920
Remark: '•' Means Standard Outfit, '○' Means Optional				



A51.0904-1025T PL10x/25mm



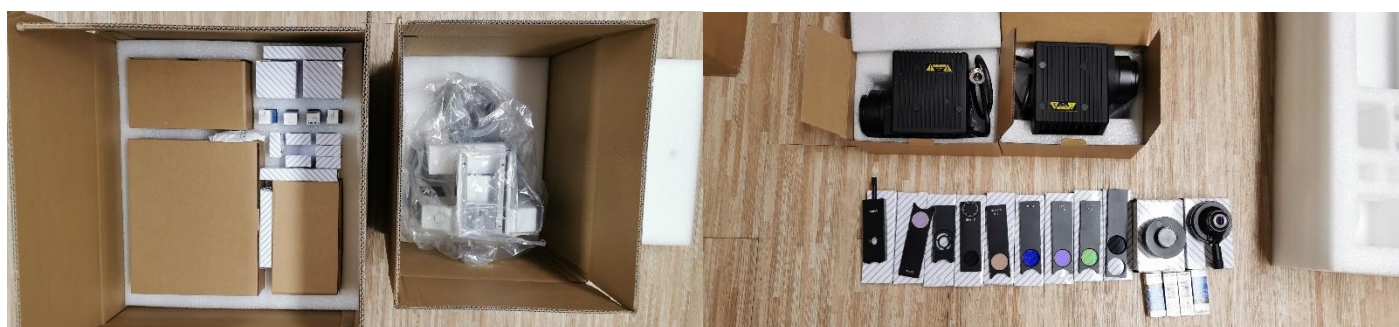
A55.0930-05 0.5x C-Mount



A5M.0953 Interference Filter

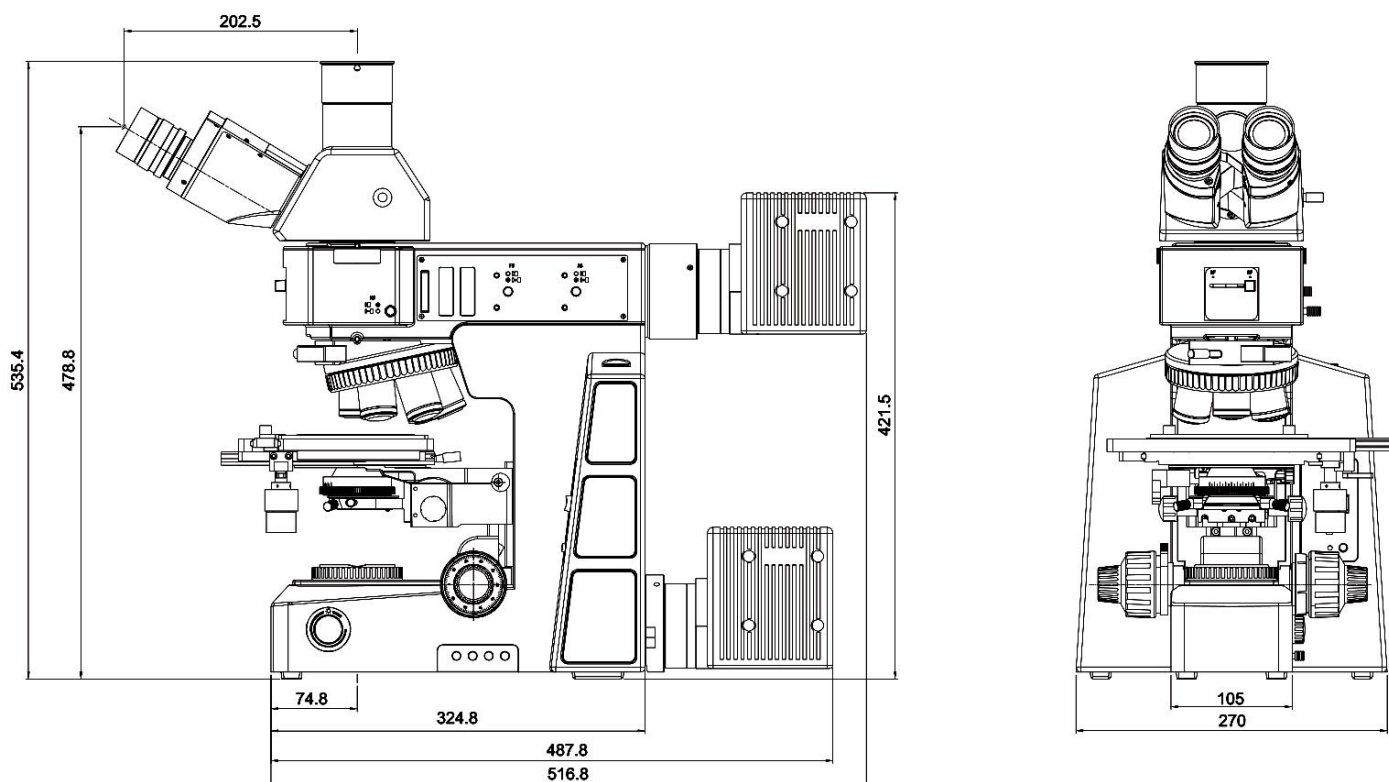


A5M.0952 DIC Attachment

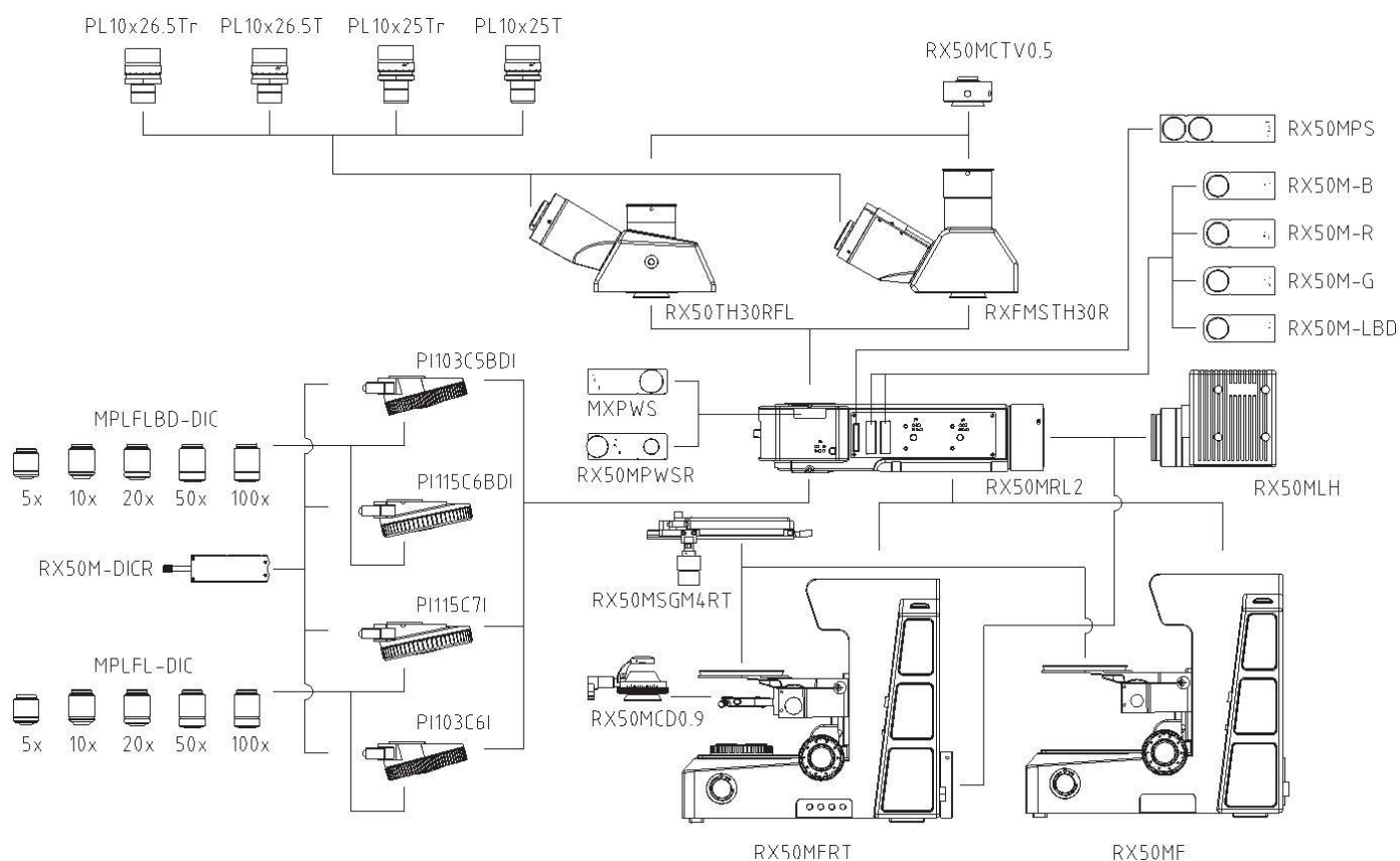


Size And Configuration

System Size: mm



System Configuration Diagram



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The Key To Micro World

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