



# Matterhorn

Brightfield / Darkfield  
Metallurgical Microscopes



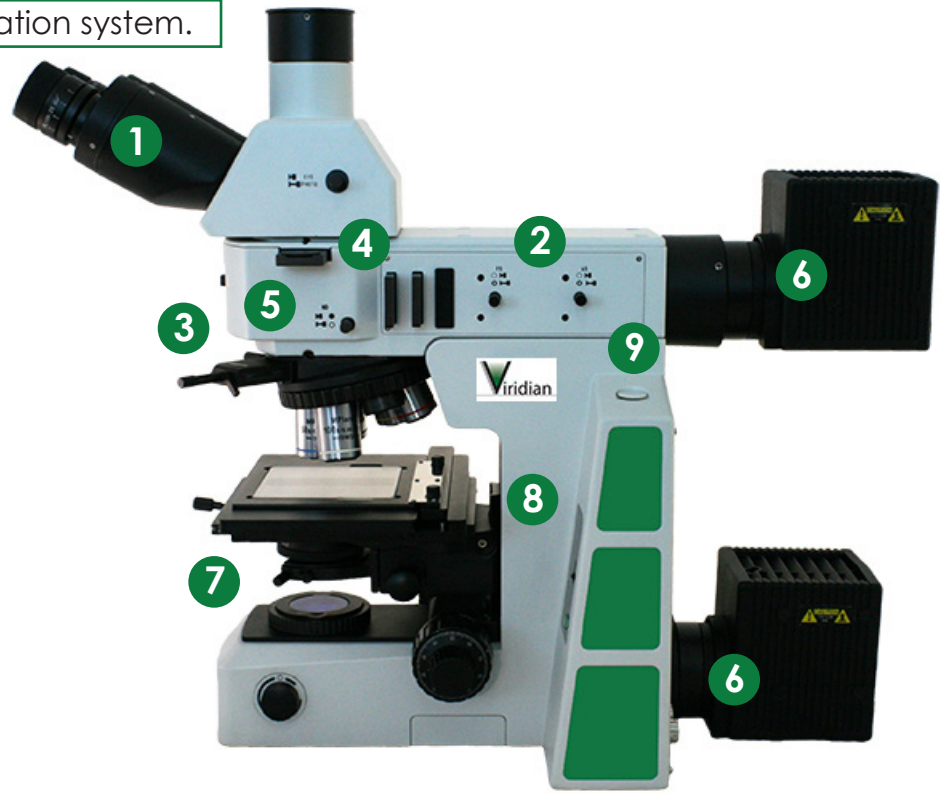
Matterhorn BF/DF Metallurgical Microscopes

- 1 Ergonomically inclined head with eyetubes at 30° places user in the best working position, creating less tension and fatigue. Interpupillary distance is adjustable from 50~76mm.
- 2 Pull levers for adjusting field diaphragm and aperture diaphragm. Stray light can be eliminated, resulting in a higher clarity image.
- 3 DIC is instrumental when viewing highly reflective and opaque specimens. Slopes, valleys, and other discontinuities on the surface of the sample create optical path differences, which are transformed by reflective light DIC microscopy into amplitude or intensity variations that create a topographical profile.
- 4 Simple polarization includes polarizer and 360° rotatable analyzer.

5 Koehler reflected illumination system.

6 12v 100w halogen illumination system.

7 Matterhorn-RT reflected and transmitted light microscope includes condenser with swing-out lens for maximized focused light and the ability to adjust numerical aperture to match objectives, resulting in higher image clarity and resolution.



8 Matterhorn-RT reflected and transmitted light microscope can accommodate a 28mm sample height. Matterhorn reflected light microscope can accommodate a 78mm high sample when dropping the stage 50mm by repositioning the screw in the stage holder.

9 M4 allen wrench for all microscope set screws stored in the microscope frame making it always available when needed.

# Microscope Options



## Semi APO BF/DF MET Infinity Corrected Objectives

Part #	Objective	N.A.	W.D.
BD-SAPO-5	5x	0.15	19.5mm
BD-SAPO-10	10x	0.30	10.9mm
BD-SAPO-20	20x	0.45	3.2mm
BD-SAPO-50	50x	0.80	1.3mm
BD-SAPO-100	100x	0.90	1.0mm



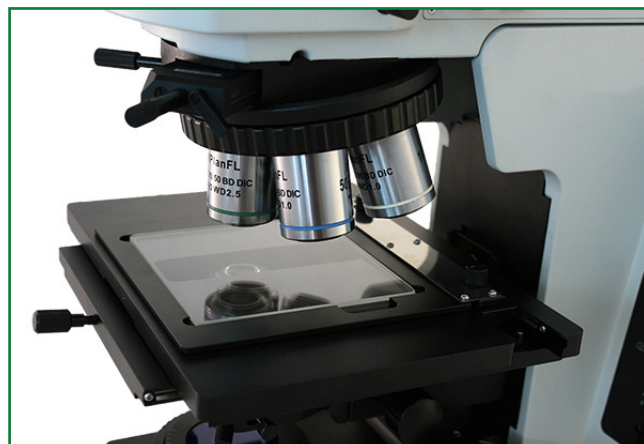
## Semi APO BF MET Infinity Corrected Objectives



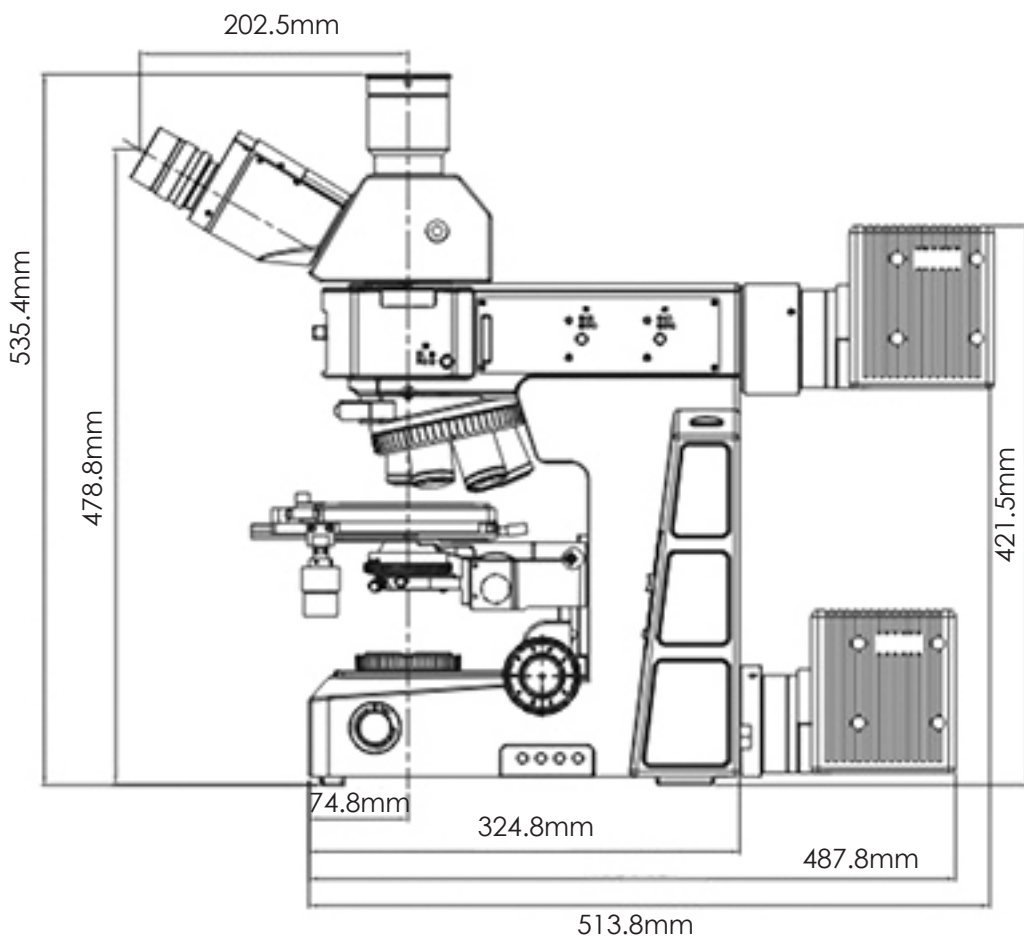
Part #	Objective	N.A.	W.D.
BF-SAPO-M5	5x	0.15	19.5mm
BF-SAPO-M10	10x	0.30	10.9mm
BF-SAPO-M20	20x	0.50	3.2mm
BF-SAPO-M50	50x	0.80	1.2mm
BF-SAPO-M100	100x	0.90	1.0mm

## Microscope Models

Matterhorn: Reflected Light Only  
 Matterhorn-RT: Reflected & Transmitted Light  
 Binocular & Trinocular Available



Observation	Brightfield, darkfield, polarization, DIC.
Optical System	Infinity Color Corrected Optical System.
Viewing Head	30° inclined binocular head, interpupillary distance adjustable 50~76mm.
	30° inclined trinocular head (erect image), interpupillary distance adjustable 50~76mm, beam splitter ratio = 100:0, 0:100.
Eyepieces	High eyepoint WF PL10x / 25mm, eyepiece diopter +/-5. Reticle retaining ring for 27mm diameter reticle.
Objective Lenses	Semi APO Brightfield/Darkfield Metallurgical Infinity Corrected 5x, 10x, 20x, 50x, 100x.
	Semi APO Brightfield Metallurgical Infinity Corrected 5x, 10x, 20x, 50x, 100x.
Nosepiece	Inclined sextuple nosepiece for brightfield/darkfield, with DIC slot.
Focus Adjustment	Matterhorn-RT (reflected & transmitted frame): coaxial focus system with tension adjustment and upper-limit device, coarse range of 33mm, fine precision of 0.001mm. Stage can be adjusted up and down. Maximum sample height = 28mm.
	Matterhorn (reflected frame): coaxial focus system with tension adjustment and upper-limit device, coarse range of 33mm, fine precision of 0.001mm. Stage can be adjusted up and down. Maximum sample height = 78mm.
Stage	Matterhorn-RT (reflected & transmitted frame): 4" double layer mechanical stage with X/Y coaxial adjustment. Moving range = 105mm (X) x 102mm (Y). Transmitted illumination range = 96mm x 96mm. Y-axis locking mechanism. Includes glass plate for transmitted light.
	Matterhorn (reflected frame): 4" double layer mechanical stage with X/Y coaxial adjustment. Moving range = 105mm (X) x 102mm (Y). Includes metal plate. Y-axis locking mechanism.
Reflected Illumination	Wide range voltage 100~240V. Reflected lamp house with 12v 100w halogen lamp. Koehler illuminator with center adjustable field and aperture diaphragm.
Transmitted Illumination	(Matterhorn-RT only). Wide range voltage 100~240V. Transmitted lamp house with pre-centered 12v 100w halogen lamp. Koehler illuminator with center adjustable field and aperture diaphragm. Switch between reflected/transmitted light. Built-in LBD, ND6, ND25 filters.
Polarization	Rotatable 360° analyzer and polarizer sliders fit in slots on reflected illuminator arm. Polarizer fits over transmitted light on Matterhorn-RT.
Condenser	Matterhorn-RT (reflected & transmitted frame): NA 0.90 swing-out achromatic condenser with center adjustable aperture iris diaphragm.
C-Mount Adapters	C-Mount camera adapters 0.5x, 0.65x, 1.0x.
Filters	Reflected light empty filter sliders available.
	Transmitted light built-in filters: LBD, ND6, ND25 and blank filter slider.
Reticles	Variety of 27mm Ø reticles available including: grid, ruler, cross-line, etc. Metric or inches.



[www.viridianmicro.com](http://www.viridianmicro.com)  
[info@viridianmicro.com](mailto:info@viridianmicro.com)

