

Optem Long Working Distance Infinity-Corrected Objectives

With a generous parfocal distance of 95mm*, Optem® Long Working Distance Objectives are the perfect machine vision and industrial imaging solution when you need added magnification and resolving power without sacrificing working space around your subject.

Select from the complete line of Optem M Plan APO Objectives when flat-field precision, color accuracy and even illumination are critical... ideal for metrology! Or leverage a 50% boost in numerical aperture with the field-proven imaging power of Optem High-Resolution Objectives to achieve the finest detail possible and fully leverage your imaging power. All Optem Objective feature M26x36T threads.

Optem LWD Infinity-Corrected Objectives

- 28-21-50-000..... 50X M Plan APO, LWD
- 28-21-11-000..... 20X M Plan APO, LWD
- 28-21-10-000..... 10X M Plan APO, LWD
- 28-21-05-000..... 5X M Plan APO, LWD
- 28-21-02-000..... 2X M Plan APO, LWD

- 28-20-46-000..... 20X High-Resolution, LWD
- 28-20-45-000..... 10X High-Resolution, LWD
- 28-20-44-000..... 5X High-Resolution, LWD

* Parfocal distance measured from the objective shoulder to the object plane



**Maximize your
 working space...**

TECHNICAL SPECIFICATIONS

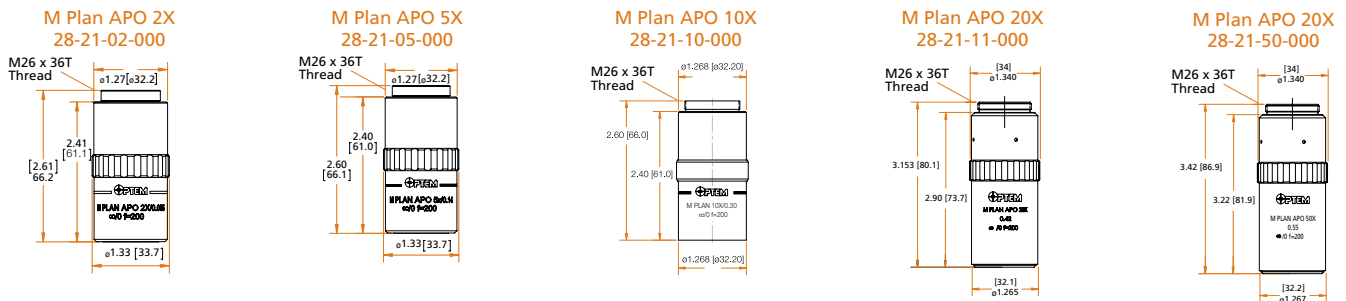
Optem Long Working Distance, Infinity-Corrected Objectives

Optem® M Plan APO Objectives

Realize flat-field precision that is free of chromatic aberration when imaging accuracy really counts. Optem M-Plan Apo Objectives feature m26x36T threads and are optimized for use with Optem Micro-Inspection Lenses, A-Zoom® & A-Zoom μ Probing Microscopes and a range of popular industrial inspection and semiconductor microscopes. A parallel replacement for Mitutoyo 378 Series objectives.

Cat. No.	Objective Description	Numerical Aperture	Working Distance	BACK Focal Point**	EFL (mm)	Resolution (μm)	DOF (μm)	Real FOV (mm) (Ø24 eyepiece)	Real FOV (VxH, mm) (1/2" CCD)	Mass (g)
28-21-02-000	LWD 2X	0.055	34mm	0	100	6.1	181.8	Ø12	2.4 x 0.3.2	330
28-21-05-000	LWD 5X	0.14	34mm	0	40	2.4	28.1	Ø4.8	0.96 x 0.1.28	280
28-21-10-000	LWD 10X	0.30	34mm	-6.4mm	20	1.1	6.1	Ø2.4	0.48 x 0.64	240
28-21-11-000	LWD 20X	0.42	20mm	-11.2mm	10	0.8	3.1	Ø1.2	0.24 x 0.32	280
28-21-50-000	LWD 50X	0.55	13mm	-8.3mm	4	0.61	1.8	Ø0.48	0.10 x 0.13	295

**Back Focal Point is the point at which light comes to focus when collimated light is projected through the front of the objective. It is measured from the objective shoulder.

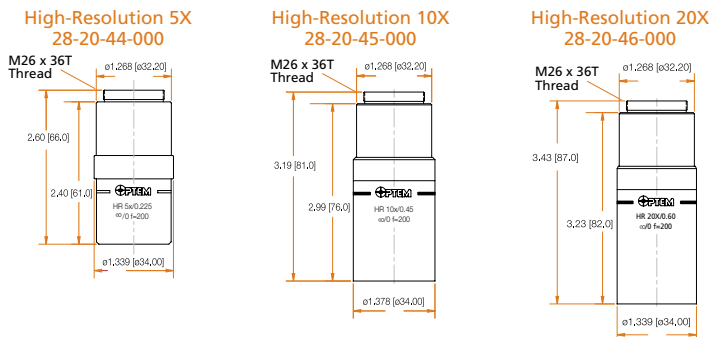


Optem® High-Resolution Objectives

Specifically designed to maximize optical resolution at hi magnification and smaller field-of-view with Optem® Micro-Inspection Lenses and A-Zoom® & A-Zoom μ Microscopes*. These High-Resolution Objectives are the ideal solution for high-end imaging applications where extremely fine detail and edge distinction is critical. All Optem Objectives afford a 95mm Parfocal distance as measured from the shoulder of the objective to object plane, and feature m26x36T thread.

Cat. No.	Objective Description	Numerical Aperture	Working Distance	BACK Focal Point**	EFL (mm)	Resolution (μm)	DOF (μm)	Real FOV (mm) (Ø24 eyepiece)	Real FOV (VxH, mm) (1/2" CCD)	Mass (g)
28-20-44-000	High-Res 5X	0.225	34mm	-8.3mm	40	1.5	10.9	N/A*	N/A	210
28-20-45-000	High-Res 10X	0.45	19mm	-31.0mm	20	0.74	2.7	N/A*	N/A	190
28-20-46-000	High-Res 20X	0.60	13mm	-14.7mm	10	0.56	1.5	N/A*	N/A	290

*Optem High-Resolution Objectives are specifically designed for use with Optem Lens Systems. Not intended for use with conventional microscope optics. **Back Focal Point is the point at which light comes to focus when collimated light is projected through the front of the objective. It is measured from the objective shoulder.



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