

# Maximize working space with Long Working Distance Objectives



**OPTEM**  
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 to maximize working space in and around your subject.

Select from the growing line of Optem M Plan APO Objectives when flat-field precision, color accuracy and even illumination are critical... ideal for metrology! With a 50% boost in numerical aperture, turn to the field-proven imaging power of Optem High-Resolution Objectives to achieve the finest detail possible and leverage your high-magnification potential.

- 50X M Plan Apo, Long Working Distance
- 20X M Plan Apo, Long Working Distance
- 10X M Plan Apo, Long Working Distance
- 5X M Plan Apo, Long Working Distance
- 2X M Plan Apo, Long Working Distance
  
- 20X High-Resolution, Long Working Distance
- 10X High-Resolution, Long Working Distance
- 5X High-Resolution, Long Working Distance

*Mitutoyo  
378 Series  
replacements*

**NEW 2X, 5X  
and 50X  
M Plan APOs  
NOW available  
for immediate  
delivery**



Contact Qioptiq Imaging Solutions today for competitive pricing. Ask about private labeling options and custom objective solutions.

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

[www.qioptiqimaging.com](http://www.qioptiqimaging.com)

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**QIOPTIQ**  
Optics with Intelligence

## OPTEM® M PLAN APO, LONG-WORKING DISTANCE OBJECTIVES

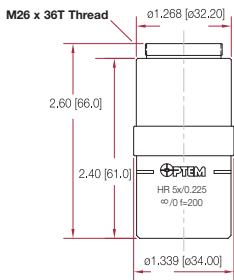
CAT. NO.	OBJECTIVE DESCRIPTION	NUMERICAL APERTURE	WORKING DISTANCE	BACK FOCAL	EFL (mm)	RESOLUTION	DOF (μm)	REAL FOV (mm) (Ø24 eyepiece)	REAL FOV (VxH, mm) (1/2" CCD camera)	MASS (g)
28-21-02-000	LWD 2X	0.055	34mm	0	100	6.1	181.8	Ø12	2.4x0.3.2	330
28-21-05-000	LWD 5X	0.14	34mm	0	40	2.4	28.1	Ø4.8	0.96x0.1.28	280
28-21-10-000	LWD 10X	0.30	34mm	-6.4mm	20	1.1	6.1	Ø2.4	0.48x0.64	240
28-21-11-000	LWD 20X	0.42	20mm	-11.2mm	10	0.8	3.1	Ø1.2	0.24x0.32	280
28-21-50-000	LWD 50X	0.55	13mm	-8.3mm	4	0.61	1.8	Ø0.48	0.10x0.13	N/A

## OPTEM® HIGH-RESOLUTION, LONG-WORKING DISTANCE OBJECTIVES

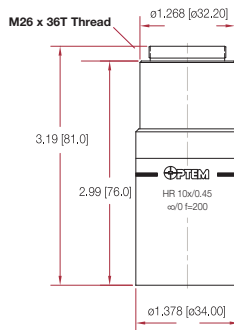
CAT. NO.	OBJECTIVE DESCRIPTION	NUMERICAL APERTURE	WORKING DISTANCE	BACK FOCAL	EFL (mm)	RESOLUTION	DOF (μm)	REAL FOV (mm) (Ø24 eyepiece)	REAL FOV (VxH, mm) (1/2" CCD camera)	MASS (g)
28-20-44-000	High-Res 5X	0.225	34mm	-0.6mm	40	1.5	10.9	Not Applic*	Not Applic	210
28-20-45-000	High-Res 10X	0.45	19mm	-31.0mm	20	0.74	2.7	Not Applic*	Not Applic	190
28-20-46-000	High-Res 20X	0.60	13mm	-14.7mm	10	0.56	1.5	Not Applic*	Not Applic	290

\*Optem High-Resolution Objectives are specifically designed for use with Optem Lens Systems. Not intended for use with conventional microscope optics.

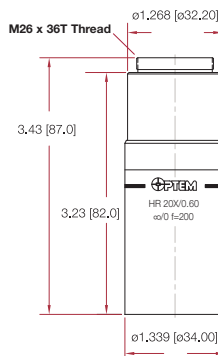
**High-Resolution 5X**  
28-20-44-000



**High-Resolution 10X**  
28-20-45-000



**High-Resolution 20X**  
28-20-46-000



## OPTEM HIGH-RESOLUTION OBJECTIVES

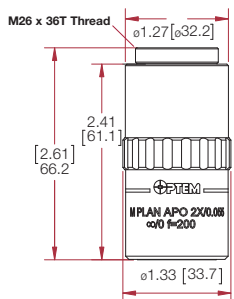
Specifically designed to maximize optical performance over the wider fields-of-view achievable at low magnification with Optem® CCD Lens Systems and A-Zoom Microscopes, Optem® High-Resolution Objectives are the ideal solution for high-end imaging applications where extremely fine detail and edge distinction is critical. These Long-Working Distance Objectives feature a 95mm Parfocal distance as measured from the shoulder of the objective to object plane, and feature m26x36T thread size.

## OPTEM® M PLAN APO OBJECTIVES

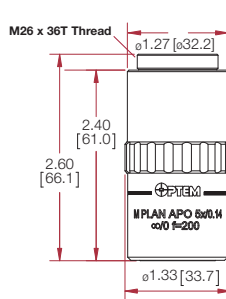
Realize flat-field precision that is free of chromatic aberration when imaging accuracy really counts. Optem M-Plan Apo Objectives are exact replacements for Mitutoyo 378 Series objectives, and feature m26x36T thread and a 95mm Parfocal distance as measured from the shoulder of the objective to object plane.

**Newly Expanded Magnification Offering!**

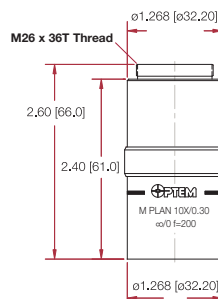
**M Plan APO 2X**  
28-21-02-000



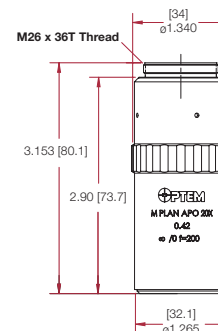
**M Plan APO 5X**  
28-21-05-000



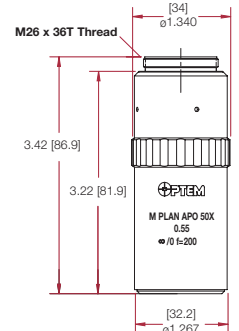
**M Plan APO 10X**  
28-21-10-000



**M Plan APO 20X**  
28-21-11-000



**M Plan APO 50X**  
28-21-50-000



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