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# 100X Mitutoyo Plan Apo HR Infinity Corrected Objective

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100X Mitutoyo Plan Apo HR Infinity Corrected Objective, #58-238

Stock **#58-238** **2 In Stock**

⊖ 1 ⊕ €8.010<sup>00</sup>

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## Product Downloads

### General

378-815-4 **Model Number:**

Compatible Tube Lens Focal Length (mm):  
Focal Length: 200mm

Microscope Objective **Type:**

Infinity Corrected **Style:**

Mtutoyo **Manufacturer:**

## Physical & Mechanical Properties

93.70 **Length excluding Threads (mm):**

34 **Maximum Diameter (mm):**

410.00 **Weight (g):**

3.60 **Exit Pupil Diameter (mm):**

## Optical Properties

N/A **Compatible Cover Glass Thickness (mm):**

0.06mm **Horizontal Field of View, 1/2" Sensor:**

0.09mm **Horizontal Field of View, 2/3" Sensor:**

2.00 **Focal Length FL (mm):**

100X **Magnification:**

0.90 **Numerical Aperture NA:**

0.3 **Resolving Power ( $\mu\text{m}$ ):**

0.30 **Depth of Field ( $\mu\text{m}$ ):**

0.24 **Field of View, 24 Diameter Field Eyepiece (mm):**

0.18 **Field of View, 18 Diameter Field Eyepiece (mm):**

1.3 **Working Distance (mm):**

435 - 655 **Wavelength Range (nm):**

95 **Parfocal Length (mm):**

N/A **Immersion Liquid:**

## Sensor

2/3" **Maximum Sensor Format:**

## Threading & Mounting

M26 x 36 TPI **Mounting Threads:**

## Environmental & Durability Factors

+5 to +40 **Operating Temperature ( $^{\circ}\text{C}$ ):**

20 - 80% **Operating Humidity:**

## Regulatory Compliance

[Exempt](#) **RoHS 2015:**

[View](#) **Certificate of Conformance:**

[Contains SVHC\(s\)](#) **REACH 241:**

## Product Details

- Long Working Distances
- Bright Field Inspection
- High Quality Plan Apochromat Design
- Flat Image Surface over Entire Field of View

Mtutoyo Infinity Corrected Long Working Distance Objectives are world-renowned for setting the standard of excellence for long working distance microscope optics. They have achieved the best combination of working distance and optical performance by using a new approach—avoiding outdated conventions used by competitors. Making the objectives larger and longer has made the designs easier (95mm parfocalization length). The lenses are all Plano Apochromats to maintain as high an N.A. and contrast as possible. An apochromatic objective lens is chromatic aberration corrected for red, blue, and yellow, while a standard achromatic objective lens is only corrected for red and blue. Plano Apochromats are typically very expensive, but high-volume production has made it possible to keep the cost down comparative to standard Achromat long working distance objectives. Mtutoyo Infinity Corrected Long Working Distance Objectives are optimized for bright field illumination (incident illumination parallel to the optical axis) and are ideal for in-line illumination applications. A secondary (or tube) lens is required for an infinity correction

system. All stated magnifications are based on a tube lens focal length of 200mm. Mounting thread: M26 x 0.706 pitch (36 TPI).

### M Plan Apo SL Series

- Super-Long Working Distance for Bright Field Inspection
- 13mm Working Distance for 100X and 200X Models
- High Quality Apochromat Design
- Flat Image Surface over Entire Field of View
- Good Color Reproducibility

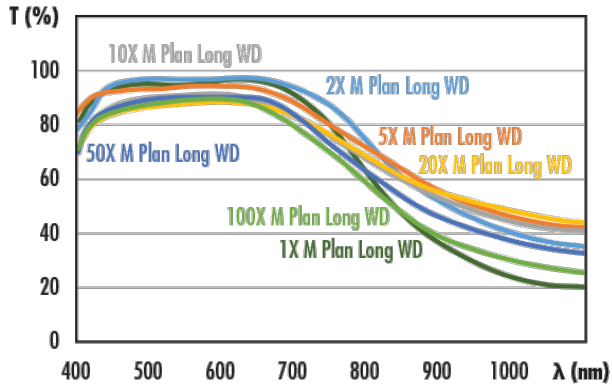
### Accessory Tube Lenses

Accessory Tube Lenses and C-Mount Thread Adapters can be used to adapt the Mitutoyo objectives to additional configurations.

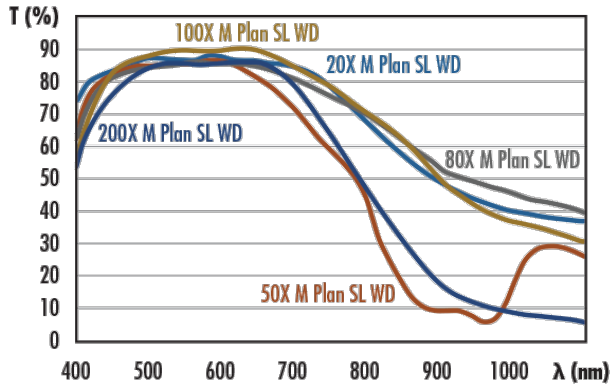
Edmund Optics is the main source for Mitutoyo Objectives. Place your orders now for these in demand quality products.

## Technical Information

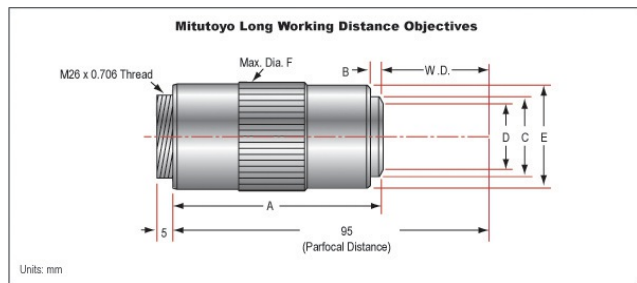
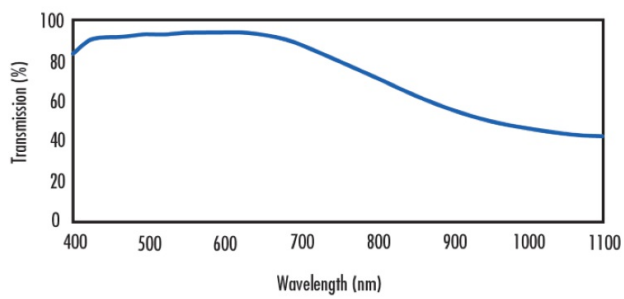
**Transmission of Mitutoyo Plan Apo Long Working Distance Objectives**



**Transmission of Mitutoyo Plan Apo SL Series Objectives**



**Typical Transmission for M Plan Apo**



| Stock No. | M Plan Apo    | A    | B   | C    | D    | E    | F    | W.D. |
|-----------|---------------|------|-----|------|------|------|------|------|
| #58-235   | 1X            | 84.0 | -   | 38.0 | -    | 41.0 | 34.0 | 11.0 |
| #46-142   | 2X            | 61.0 | 1.4 | 27.5 | 24.7 | 32.2 | 34.0 | 34.0 |
| #46-143   | 5X            | 61.0 | 1.6 | 25.0 | 23.0 | 32.2 | 34.0 | 34.0 |
| #66-383   | 7.5X          | 60.0 | -   | 25.0 | 24.0 | 32.2 | 34.0 | 35.0 |
| #46-144   | 10X           | 61.0 | 2.0 | 28.2 | -    | 32.2 | 34.0 | 34.0 |
| #46-145   | 20X           | 75.0 | 1.5 | 29.2 | -    | 32.2 | 34.0 | 20.0 |
| #46-146   | 50X           | 82.0 | 1.5 | 29.2 | -    | 32.2 | 34.0 | 13.0 |
| #46-147   | 100X          | 89.0 | 4.7 | 29.2 | 17.8 | 32.2 | 34.0 | 6.0  |
| Stock No. | M Plan Apo HR | A    | B   | C    | D    | E    | F    | W.D. |

|           |              |      |     |      |      |      |      |      |
|-----------|--------------|------|-----|------|------|------|------|------|
| #34-247   | 5XHR         | 69.5 | 3.7 | 24.8 | -    | 32.2 | 34.0 | 25.5 |
| #58-236   | 10XHR        | 80.0 | 7.5 | 29.0 | 26.0 | 37.0 | 39.0 | 15.0 |
| #58-237   | 50XHR        | 89.8 | 2.0 | 28.2 | -    | 32.2 | 34.0 | 5.2  |
| #58-238   | 100XHR       | 93.7 | 2.0 | 28.2 | -    | 32.2 | 34.0 | 1.3  |
| Stock No. | M Plan APOSL | A    | B   | C    | D    | E    | F    | W.D. |
| #46-398   | 20XSL        | 64.5 | 1.5 | 24.8 | 24.0 | 32.2 | 34.0 | 30.5 |
| #46-399   | 50XSL        | 74.5 | 3.9 | 25.2 | 23.5 | 32.2 | 34.0 | 20.5 |
| #46-401   | 100XSL       | 82.0 | 1.4 | 23.9 | 22.0 | 32.2 | 34.0 | 13.0 |

