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# 50X Mitutoyo Plan Apo NIR Infinity Corrected Objective

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50X Mitutoyo Plan Apo NIR Infinity Corrected Objective, #46-405

Stock **#46-405** **4 In Stock**

⊖ 1 ⊕ €4.790<sup>00</sup>

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## Product Downloads

### General

378-825-17 **Model Number:**

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

Microscope Objective **Type:**

Infinity Corrected **Style:**

Mitutoyo **Manufacturer:**

**Note:**  
Example Application: cutting and trimming of semiconductor wafer and circuits

## Physical & Mechanical Properties

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

34 **Maximum Diameter (mm):**

350.00 **Weight (g):**

## Optical Properties

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

532, 1064 **Design Wavelength DWL (nm):**

0.13mm **Horizontal Field of View, 1/2" Sensor:**

0.18mm **Horizontal Field of View, 2/3" Sensor:**

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

50X **Magnification:**

0.42 **Numerical Aperture NA:**

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

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

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

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

17.0 **Working Distance (mm):**

480 - 1800 **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 +45 **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

- Ideal for Bright Field Imaging in UV, Visible, and NIR Spectral Regions
- Excellent Performance at Nd:YAG Laser Lines
- Broad Spectral Ranges

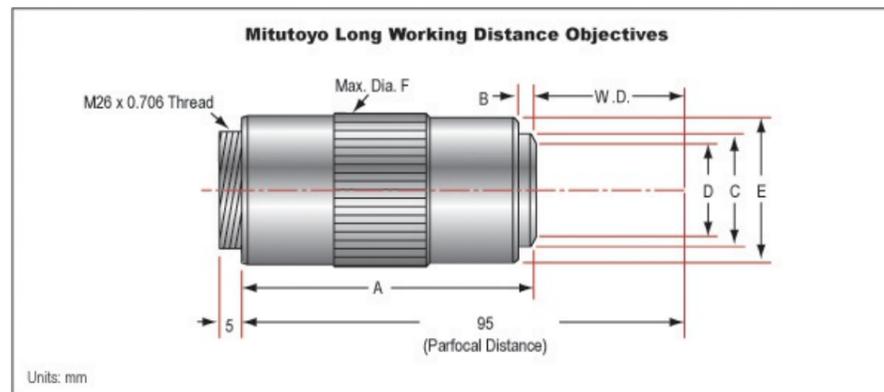
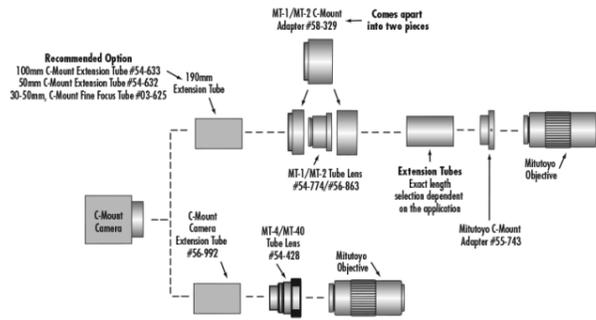
Mitutoyo NIR, NUV, and UV Infinity Corrected Objectives combine the benefits of the standard [M Plan Apo and M Plan Apo SL series objectives](#) with enhanced spectral ranges. The NIR objectives are corrected from 480 to 1800nm and feature enhanced transmission of the fundamental and second harmonic of Nd:YAG lasers for laser cutting applications. The NUV and UV series of objectives also have excellent performance at the second, third, and fourth

Nd:YAG harmonics of 532nm, 355nm, and 266nm respectively. Mitutoyo NIR, NUV, and UV Infinity Corrected Objectives are ideal for applications that require a significant distance between the objective lens and the object such as semiconductor inspection, machine vision, and defect detection. The HR series offers an increased numerical aperture, providing smaller spot sizes and higher resolution.

### Accessory Tube Lenses

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

## Technical Information



Dimensions (mm)								
Stock No.	M Plan NIR	A	B	C	D	E	F	W.D.
#46-402	5XNIR	57.50	-	23.80	23.00	32.20	34.00	37.50
#46-403	10XNIR	64.50	1.00	25.20	24.80	32.20	34.00	30.50
#46-404	20XNIR	75.00	-	-	-	32.20	34.00	20.00
#46-405	50XNIR	78.00	-	-	-	32.20	34.00	17.00
#46-406	100XNIR	83.00	-	25.00	24.60	32.20	34.00	12.00
#56-982	50XNIR HR	85.00	-	-	-	37.00	39.00	10.00
#56-983	100XNIR HR	85.00	-	-	-	37.00	39.00	10.00
#89-350	20XNIR B	69.50	-	-	-	37.00	37.00	25.50
#89-351	50XNIR B	69.50	-	-	-	37.00	37.00	25.50
#37-550*	20XNIR LCD	75.02	-	-	-	32.20	34.00	20.35
Stock No.	M Plan NUV	A	B	C	D	E	F	W.D.
#86-176	10XNUV	64.50	-	25.20	24.80	32.20	34.00	30.50
#46-407	20XNUV	78.00	-	-	-	32.20	34.00	17.00
#46-408	50XNUV	80.00	-	-	-	32.20	34.00	15.00
#46-409	100XNUV	84.00	1.80	25.00	24.00	32.20	34.00	11.00
#86-177	50XNUVHR	85.00	-	-	-	37.00	39.00	10.00
Stock No.	M Plan UV	A	B	C	D	E	F	W.D.
#86-175	10XUV	75.00	-	-	-	32.20	34.00	20.00
#56-320	20XUV	80.00	-	-	-	32.20	34.00	15.00
#56-321	50XUV	83.00	-	-	-	32.20	34.00	12.00
#56-322	80XUV	85.00	-	22.70	-	32.20	34.00	10.00

\*LCD 20X parfocal length is 95.37