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# 50X Mitutoyo Plan Apo NUV HR Infinity Corrected Objective

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Mitutoyo NIR, NUV, and UV Infinity Corrected Objectives

Stock **#86-177** [CONTACT US](#)

-

1

+

£13,512<sup>.00</sup>

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**i** Prices shown are exclusive of VAT/local taxes

Product Downloads

| General                                                        |               |
|----------------------------------------------------------------|---------------|
| 378-888-6                                                      | Model Number: |
| Compatible Tube Lens Focal Length (mm):<br>Focal Length: 200mm |               |
| Microscope Objective                                           | Type:         |
| Infinity Corrected                                             | Style:        |

|                                                                                                                                                              |                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| Mitutoyo                                                                                                                                                     | Manufacturer:                                   |
| <div>Note:<br/>Example Application: passivation (insulation films) of semiconductor circuits and repair of color filters of LCD panels (defect repair)</div> |                                                 |
| Physical & Mechanical Properties                                                                                                                             |                                                 |
| 85.00                                                                                                                                                        | Length excluding Threads (mm):                  |
| 39                                                                                                                                                           | Maximum Diameter (mm):                          |
| 500.00                                                                                                                                                       | Weight (g):                                     |
| Optical Properties                                                                                                                                           |                                                 |
| N/A                                                                                                                                                          | Compatible Cover Glass Thickness (mm):          |
| 355, 532                                                                                                                                                     | Design Wavelength DWL (nm):                     |
| 0.13                                                                                                                                                         | Horizontal Field of View, 1/2" Sensor:          |
| 0.18mm                                                                                                                                                       | Horizontal Field of View, 2/3" Sensor:          |
| 4.00                                                                                                                                                         | Focal Length FL (mm):                           |
| 50X                                                                                                                                                          | Magnification:                                  |
| 0.65                                                                                                                                                         | Numerical Aperture NA:                          |
| 0.42                                                                                                                                                         | Resolving Power (µm):                           |
| 0.65                                                                                                                                                         | Depth of Field (µm):                            |
| 0.48                                                                                                                                                         | Field of View, 24 Diameter Field Eyepiece (mm): |
| 0.35                                                                                                                                                         | Field of View, 18 Diameter Field Eyepiece (mm): |
| 10.0                                                                                                                                                         | Working Distance (mm):                          |
| 355 - 620                                                                                                                                                    | 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 (°C):                     |
| 20 - 80%                                                                                                                                                     | Operating Humidity:                             |
| Regulatory Compliance                                                                                                                                        |                                                 |
| Exempt                                                                                                                                                       | RoHS 2015:                                      |
| View                                                                                                                                                         | Certificate of Conformance:                     |
| Contains SVHC(s)                                                                                                                                             | REACH 241:                                      |

## Product Details

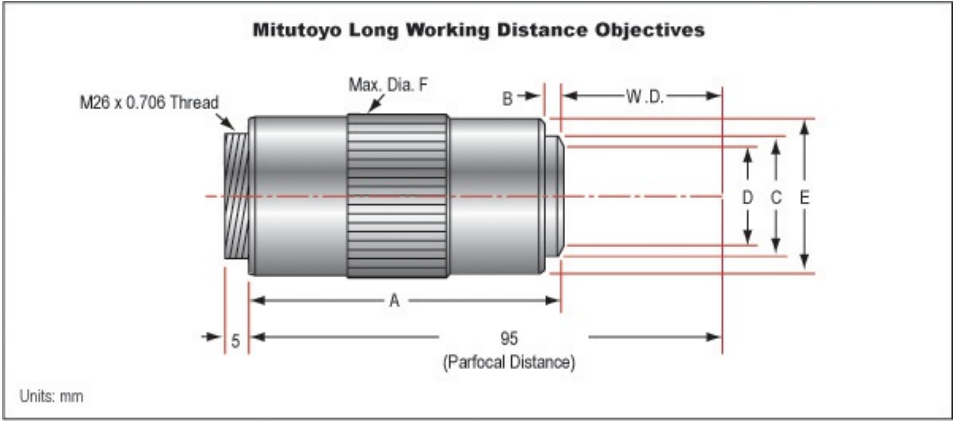
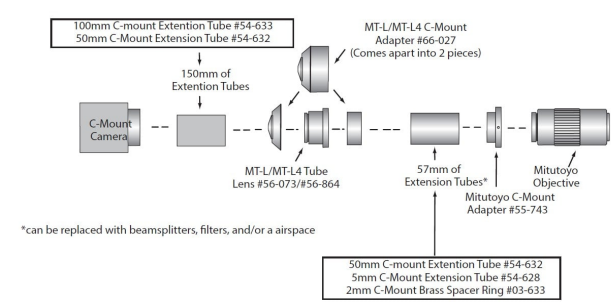
- Ideal for Bright Field Imaging in UV, Visible, and NIR Spectral Regions
  - Excellent Performance at Nd:YAG Laser Lines
  - Broad Spectral Ranges
- Mitutoyo NIR, NUV, and UV Infinity Corrected Objectives combine the benefits of the standard [M Plan Apo and M Plan Apo SL series objectives](#) with enhanced 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         | 50XNUV HR  | 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