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**TECHSPEC® Finite Conjugate, Ultrafast-Enhanced Silver Coated, 20X/0.33NA ReflX Objective**



Stock #13-413 **3 In Stock**

⊖ 1 ⊕ A\$3,840<sup>00</sup>

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**General**

Microscope Objective **Type:**

Finite Conjugate **Style:**

Edmund Optics® **Manufacturer:**

Requires a 200mm secondary tube lens **Note:**

**Physical & Mechanical Properties**

8.4 Diameter of Small Mirror (mm):

7.9 Aperture Diameter (mm):

## Optical Properties

7 (Diameter) Entrance Pupil Position (mm):

0.32mm Horizontal Field of View, 1/2" Sensor:

0.44mm Horizontal Field of View, 2/3" Sensor:

10.06 Focal Length FL (mm):

Ultrafast-Enhanced Silver Coating:

20X Magnification:

0.33 Numerical Aperture NA:

30.19 Obscuration (%):

$\lambda/10$  Transmitted Wavefront, RMS:

18.88 Working Distance (mm):

Coating Specification:  
 $R_{avg} > 99\%$  @ 600 - 1000nm,  $0^\circ$   
 $R_s > 99\%$  @ 540 - 1000nm,  $45^\circ$   
 $R_p > 98.5\%$  @ 730 - 870nm,  $45^\circ$

600 - 1050 Wavelength Range (nm):

$0 \pm 20 \text{fs}^2$  @ 600 - 1050nm GDD Specification:

Damage Threshold, By Design:   
 $0.3 \text{ J/cm}^2$  @ 800nm, 48fs, 100Hz, 1 pulse (typical)  
 $0.16 \text{ J/cm}^2$  @ 800nm, 48fs, 100Hz, 1000 pulses (typical)

## Threading & Mounting

RMS Mounting Threads:

## Regulatory Compliance

[View](#) Certificate of Conformance:

## Product Details

- Industry Leading 19 to 31mm Working Distance
- EO Designed and Manufactured for Focusing or Imaging Applications
- Actively Aligned for Optimal Performance
- Ultra-Wide Spectral Band from 190nm to 11 $\mu$ m with No Chromatic Aberration
- [TECHSPEC® High Performance ReflX™ Objectives](#) Available

TECHSPEC® ReflX™ Objectives are commonly used in applications requiring superior image quality or focusing performance over a broad spectral range. The Schwarzschild-style objective exhibits near-diffraction limited performance over the full reflecting range of the chosen coating. By eliminating the problems of chromatic aberration and material absorption associated with standard microscope objectives, these components are ideal for applications requiring high throughput and excellent resolution in the UV or IR, including FTIR spectroscopy, ellipsometry, photolithography, and semiconductor inspection.

TECHSPEC ReflX™ Objectives are available in both finite and infinite conjugate styles. The finite option is ideal for standard and compact designs as they do not require an additional focusing tube lens. The infinite conjugate design requires a 200mm secondary tube lens. The infinite design allows for the introduction of intermediate filters and beamsplitters, making these objectives ideal for biotech and fluorescence applications as well.

For focusing applications, the beam should fill the stated entrance pupil diameter of the objective. In either case, it should be noted that the light is obscured, creating an irradiance profile with less energy in the central portion of the beam.

The ReflX™ objective design features a number of advantages over common Schwarzschild objectives. The rugged design allows these objectives to be integrated into equipment with moderate heat and vibration without sacrificing performance. All internal surfaces have been specially treated to eliminate stray light. Each objective is manufactured in the U.S.A and assembled, tested, and certified on our Zygo GPI-XP interferometer. A certificate of compliance is included with each objective. [TECHSPEC® High Performance ReflX™](#) objectives are available with  $\lambda/4$  transmitted wavefront (P-V). For customized versions, including laser coatings and different back tube lengths, please contact our [Applications Engineering Department](#).

## Technical Information

### 15X ReflX™ Objectives



### 20X ReflX™ Objectives



### 10X ReflX™ Objectives

