

**TECHSPEC®**

## Infinite Conjugate, Ultrafast-Enhanced Silver Coated, 20X/0.33NA ReflX Objective



Stock #13-412 [CONTACT US](#)

− 1 + €2.400<sup>00</sup>

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| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1+         | €2.400,00 each                |
| Qty 2+         | €2.160,00 each                |
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ⓘ Prices shown are exclusive of VAT/local taxes

Product Downloads

**General**

Microscope Objective **Type:**

InfinityCorrected **Style:**

Edmund Optics® **Manufacturer:**

**Physical & Mechanical Properties**

Diameter of Small Mirror (mm):

8.4

Aperture Diameter (mm):

7.9

Flange Distance (mm):

150

## Optical Properties

Entrance Pupil Position (mm):

7 (Diameter)

Horizontal Field of View, 1/2" Sensor:

0.32mm

Horizontal Field of View, 2/3" Sensor:

0.44mm

Focal Length FL (mm):

9.91

Coating:

Ultrafast-Enhanced Silver

Magnification:

20X

Numerical Aperture NA:

0.33

Obscuration (%):

30.46

Transmitted Wavefront, RMS:

$\lambda/10$

Working Distance (mm):

18.88

Coating Specification:

$R_{avg} >99\%$  @ 600 - 1000nm, 0°

$R_s >99\%$  @ 540 - 1000nm, 45°

$R_p >98.5\%$  @ 730 - 870nm, 45°

Wavelength Range (nm):

600 - 1050

GDD Specification:

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

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

Mounting Threads:

RMS

## Regulatory Compliance

Certificate of Conformance:

[View](#)

## 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.

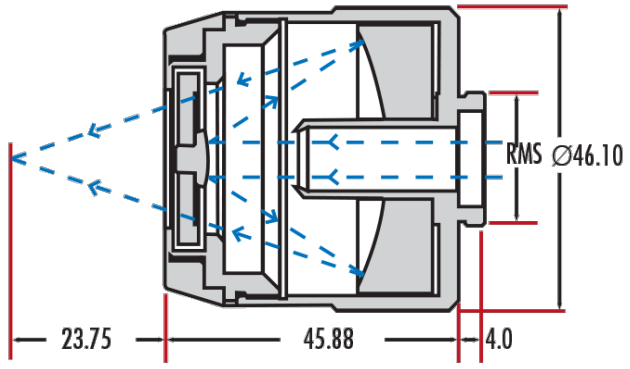
TECHSPEC ReflX™ Objectives are available in both finite and infinite conjugate styles. The finite option is ideal for standard and compact designs as they do not require an additional focusing tube lens. The infinite conjugate design requires a 200mm secondary tube lens. The infinite design allows for 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.

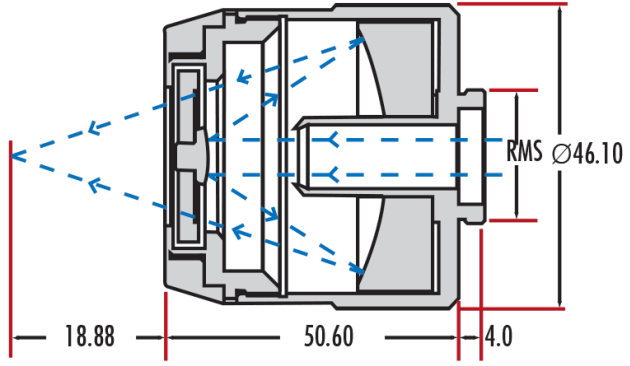
The ReflX™ objective design features a number of advantages over common Schwarzschild objectives. The rugged design allows these objectives to be integrated into equipment with moderate heat and vibration without sacrificing performance. All internal surfaces have been specially treated to eliminate 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

