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## TECHSPEC® 17.5mm FL f/8, Blue Series IR-Cut M12 Lens



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### General

Blue Series **Product Family:**  
M12 Imaging Lens **Type:**  
Yes **IR Cut Filter:**  
**Special Type of Lens:**

## Physical & Mechanical Properties

Fixed	<b>Iris Option:</b>
20.70	<b>Length (mm):</b>
14	<b>Maximum Diameter (mm):</b>
14	<b>Outer Diameter (mm):</b>
7	<b>Weight (g):</b>

## Optical Properties

**Horizontal Field of View @ Max Sensor Format:**  
23.1°

**Field of View at Max Sensor Format:**  
Horizontal: 57.0mm - 23.1°  
Vertical: 38mm - 15.6°  
Diagonal: 63.3mm - 25.6°

**Horizontal Field of View, 1.2" Sensor:**  
50.7mm - 20.6°

**Horizontal Field of View, 1/1.8" Sensor:**  
57.0mm - 23.1°

**Horizontal Field of View, 1/2.5" Sensor:**  
45.9mm - 18.7°

**Horizontal Field of View, 1/3" Sensor:**  
38.0mm - 15.6°

**Horizontal Field of View, 1/4" Sensor:**  
28.5mm - 11.7°

**Maximum Image Circle (mm):**  
9.00

**Numerical Aperture NA, Object Side:**  
0.0067

**Number of Elements (Groups):**  
6(5)

**Wavelength Range (nm):**  
400 - 700

**Focal Length FL (mm):**  
17.50

**Working Distance (mm):**  
150 - ∞

**Aperture (f/#):**  
f/8

**Distortion (%):**  
0.76 @ Full Field

**Back Focal Length BFL (mm):**  
5.8 - 4.9

**Coating Specification:**  
M4 MgF<sub>2</sub> @ 550nm

**Entrance Pupil Position (mm):**  
13.01

**Object Space Principal Plane (mm):**  
5.57

**Image Space Principal Plane (mm):**  
-12.71

**Maximum Distortion (%):**  
-0.76

**Exit Pupil Position (mm):**  
-7.49

**Lens Wavelength Range:**  
VIS (IR-Cut Filter)

## Sensor

**Maximum Sensor Format:**  
1/1.8"

**Pixel Size (µm):**  
1.40

## Threading & Mounting

**Filter Thread:**  
N/A

**Mount:**  
S-Mount (M12 x 0.5)

## Regulatory Compliance

**Compliant** **RoHS 2015:**

**View** **Certificate of Conformance:**

**Compliant** **Reach 247:**

## Product Details

- Up to 1/2", S-Mount Lens
- Up to 5 MegaPixels, 1.4µm Pixel Size Sensors
- High Resolution Board Camera Lens Optimized for Close WD
- 2mm to 35mm Focal Length
- **Ruggedized Designs** Also Available

TECHSPEC® Blue Series M12 Lenses feature high resolution performance, along with the same great versatility of our **TECHSPEC® Green Series M12 Lenses**. Each lens consists of several precision glass elements mounted in a compact, aluminum housing. These lenses can connect to C-Mount cameras using the M12 x0.5 Adapter for C-Mount Cameras (**#53-675**) or the M12 x0.5 C-Mount Adapter with Rubber O-Ring (**#59-241**) for vibration-sensitive environments. TECHSPEC® Blue Series M12 Lenses are ideal for automotive, industrial, and medical imaging application. Prescription data is available by submitting a **Request for Prescription Form**.

**Note:** Compatible **TECHSPEC® M12 Imaging Lens Accessories** available.

Edmund Optics has created multiple product families of our TECHSPEC® M12 S-Mount Lenses, which are designed to provide high resolution. These high performance lenses feature precision glass designs in a metal housing and have optimized specifications between each product family to meet your application needs.

- **Blue Series M12 Lenses:** High resolution finite conjugate designs optimized for machine vision working distances.
- **Rugged Blue Series M12 Lenses:** **Stabilized ruggedization** versions of our Blue Series M12 Lenses, utilizing the same optics.
- **Green Series M12 Lenses:** Finite conjugate designs optimized for machine vision working distances.
- **Red Series M12 Lenses:** Infinite conjugate designs optimized for high resolution performance out to infinity.
- **HEO Series M12 Lenses:** Harsh Environment Optics (HEO) sealed versions of our Red Series M12 Lenses.
- **Liquid Lens M12 Lenses:** Integrated liquid lens for fast electronic focus.

## Technical Information

Focal Length	A	B	C*	D
2.0mm	18.0mm	21.7mm	2.26mm	4.75mm
3.0mm	14.0mm	17.1mm	4.8 - 4.7mm	5.8mm
4.0mm	14.0mm	19.7mm	6.1 - 6.0mm	4.4mm
5.0mm	14.0mm	14.6mm	4.0 - 3.9mm	3.7mm
6.0mm	14.0mm	14.1mm	6.9 - 6.8mm	4.5mm
8.0mm	14.0mm	12.3mm	8.8 - 8.6mm	3.7mm
10.0mm	14.0mm	17.0mm	6.6 - 6.3mm	3.7mm
12.5mm	15.0mm	22.9mm	10.1 - 9.7mm	4.8mm
17.5mm	14.0mm	20.7mm	5.8 - 4.9mm	7.6mm
25.0mm	18.0mm	30.0mm	8.5 - 6.5mm	11.5mm
35.0mm	18.0mm	29.5mm	18.72 - 14.0mm	14.5mm



\*Specified for Optimized Working Distance of 150 - 250mm.

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