

TECHSPEC® 6.5mm Focal Length, HP Series Fixed Focal Length Lens



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SPECIFICATIONS

General

HP Series **Series:**

Not compatible with camera mounted, c-mount **Note:**

filters

Fixed Focal Length Lens **Type:**

High Performance Lens **Imaging Lens Type:**

Physical & Mechanical Properties

Variable **Iris Option:**

77.17 **Length (mm):**

78.00 **Maximum Diameter (mm):**

78.00 **Outer Diameter (mm):**

0 **Maximum Rear Protrusion (mm):**

77.17 **Maximum Length (mm):**

76.97 **Minimum Length (mm):**

Optical Properties

91.4° **Horizontal Field of View @ Max Sensor Format:**

91.4° **Horizontal Field of View, 1.1" Sensor:**

83.9° **Horizontal Field of View, 1" Sensor:**

60.5° **Horizontal Field of View, 2/3" Sensor:**

50.2° **Horizontal Field of View, 1/1.8" Sensor:**

44.9° **Horizontal Field of View, 1/2" Sensor:**

40.8° **Horizontal Field of View, 1/2.5" Sensor:**

34.0° **Horizontal Field of View, 1/3" Sensor:**

25.6° **Horizontal Field of View, 1/4" Sensor:**

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

0.0112 **Numerical Aperture NA, Object Side:**

11 (10) **Number of Elements (Groups):**

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

100 - ∞ **Working Distance (mm):**

f/2.0 - f/16 **Aperture (f/#):**

N4 MgF₂ **Coating:**

N4 MgF₂ **Coating Specification:**

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

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

-12.81 **Image Space Principal Plane (mm):**

20.78 **Maximum Distortion (%):**

-40.21 **Exit Pupil Position (mm):**

VS **Lens Wavelength Range:**

VS **Wavelength:**

Sensor

1.1" **Maximum Sensor Format:**

1.85 x 1.85 **Pixel Size, H x V (µm):**

Threading & Mounting

C-Mount **Mount:**

Environmental & Durability Factors

-20 to +60 **Storage Temperature (°C):**

Regulatory Compliance

[View](#) **Certificate of Conformance:**

PRODUCT DETAILS

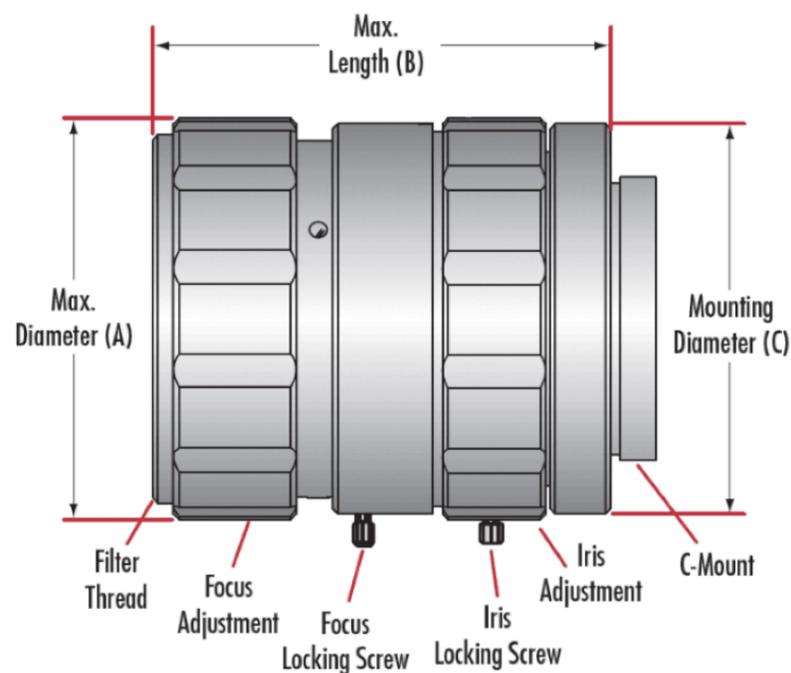
- 1.1", C-Mount Lens
- Up to 20 MegaPixels, 1.85µm Pixel Size Sensors
- High Performance (HP), C-Mount Lens for Machine Vision
- 6.5mm to 50mm Focal Length

TECHSPEC® HP Series Fixed Focal Length Lenses are designed for the harsh demands of **factory automation (FA)** and machine vision (MV) applications. The 6.5mm, 8mm, 12mm, 16mm, 25mm, and 35mm lenses are compatible with 1" and 1.1" sensor formats, while the 50mm lens is compatible with up to 4/3" sensor formats. The f/1.8 and f/2.8 apertures provide increased light throughput and high resolution performance. TECHSPEC® HP Series Fixed Focal Length Lenses are C-Mount and feature a locking focus and iris rings to prevent unwanted adjustments, as well as a front filter thread for integrating standard optical filters. Call for OEM Quantity Pricing.

Edmund Optics has created a family of high performance optical designs (the HP Series family) and developed three customized optomechanical solutions targeted for specific applications. These lens sub-families utilize the same optics as the HP Series lenses providing the same optical performance in a variety of optomechanical solutions to meet your application requirements:

- **HP Series:** Features locking cam focus and iris adjustment. This is the most adjustable version of these optical designs and is the typical high quality machine vision lens.
- **HPi Series:** Simplified mechanics featuring fixed apertures with compact housing. **Industrial Ruggedization** for reduced size, cost, and locked focus.
- **HPr Series:** All optics glued in place and a locking C-clamp focus ring. **Stabilized Ruggedization** for reduced pixel shift and improved focus stability.

TECHNICAL INFORMATION



Dimensions				
Focal Length (mm)	A (mm)	B (mm)	C (mm)	Filter Thread
8mm, 1.1" Format	70.4	83.5	43.5	M105 x 1 with required adapter #89365
12mm, 1.1" Format	48	70.1	43.5	M62 x 0.75 with required adapter #3236
16mm, 1" Format	48	60.4	57.3 - 59.5	M46 x 0.75
25mm, 1" Format	37.5	45.3	45.3	M34 x 0.5
35mm, 1.1" Format	48.1	65.8	60 - 66	M37 x 0.75
50mm, 4/3" Format	50	72.6	60.5 - 72.6	M37.5 x 0.5