TECHSPEC® HPr SERIES FIXED FOCAL LENGTH LENSES #36-860 • 12mm • f/8.0

Designed with a high level of machine vision performance in mind, TECHSPEC[®] HPr Series Fixed Focal Length Lenses are stability ruggedized with all individual lens elements glued in place to reduce object shift on the image. Additionally, they feature robust mechanical components with a simplified focus and stainless steel locking C-Mount clamp. These lenses are exemplary for calibrated imaging systems.



Focal Length:	12mm		
Working Distance ¹ :	100mm - ∞		
Optimized Working Distance:	1000mm - ∞		
Max. Sensor Format:	2/3"		
Camera Mount:	C-Mount		
Aperture (f/#):	f/8.0		
Distortion %2:	<3.88%		
Object Space NA ² :	0.006107		

Magnification Range:	OX - 0.100X			
Туре:	Fixed Focal Length Lens			
Length:	39.2mm			
Weight:	77g			
RoHS:	Compliant			
Stability Ruggedized:	<1 µm pixel shift at 50 G			
Number of Elements (Groups):	10 (6)			
AR Coating:	425 - 675nm BBAR			

1. From front housing 2. At Minimum W.D.

At Minimum W.D. (100mm)								
Sensor Size	1/4"	1/3"	1/2.5"	1/2"	1/1.8"	2/3"		
Field Of View ³	36.1mm - 17.5°	48.3mm - 23.3°	58.6mm - 28.1°	64.8mm - 30.9°	73.1mm - 34.7°	90.2mm - 42.0°		

3. Horizontal FOV on Standard (4:3) sensor format. Min W.D.





Figure 1: Distortion at the maximum sensor format. Positive values correspond to pincushion distortion, negative values correspond to barrel distortion.

Figure 2: Relative illumination (center to corner)

In both plots, field points corresponding to the image circle of common sensor formats are included. Plots represent theoretical values from lens design software. Actual lens performance varies due to manufacturing tolerances.



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MTF & DOF: f/8.0 WD: 1024mm HORIZONTAL FOV: 800mm







Figure 4: Polychromatic diffraction through-focus MTF at 20 linepairs/mm (image space). Contrast is plotted to two times the focus distance. Note object spatial frequency changes with working distance.

Plots represent theoretical values from lens design software. Actual lens performance varies due to manufacturing tolerances.



MTF & DOF: f/8.0 WD: 2585mm HORIZONTAL FOV: 2000mm







Figure 6: Polychromatic diffraction through-focus MTF at 20 linepairs/mm (image space). Contrast is plotted to two times the focus distance. Note object spatial frequency changes with working distance.

Plots represent theoretical values from lens design software. Actual lens performance varies due to manufacturing tolerances.

