

## inspec.x L 5.6/105 VIS-NIR 0.5x

for large format high-resolution sensors optimized for VIS and NIR sensitivity



The new VIS-NIR lens series from Excelitas sets standards in the field of visual and non-visual inspection. Developed for long line and large area sensors, it offers an incredibly good apochromatic design. Ultra-sharp and high-contrast images can be created at a wide range of different wavelengths from 400 to 1150nm without having to refocus. The diffraction-limited design impresses with extreme performance across the entire object field, so that optimal results can also be achieved at the edges.

### Your Benefits

- VIS-NIR scan without refocus
- Apochromatically corrected lens from 400 to 1150nm
- Diffraction limited design
- Ultra high resolution for large area and line sensors
- Great price performance ratio

The new inspec.x VIS-NIR series comes with four different lenses that are optimized for different magnifications and are equipped with the established V-groove interface.

Every version of this new series matches the Excelitas Modular Focus System and scores with flexibility and modularity.

### Applications

- PCB inspection
- Print inspection
- Surface inspection
- Waste inspection
- Battery inspection
- Food inspection

# LINOS

## Key Features

- No refocusing across VIS and NIR range (apochromatic correction for 400-1150nm)
- Perfect match with 5µm Pixel size
- Flexible mounting system for almost any image processing camera
- Full metal barrel with lockable aperture

Mechanical accessories, including helical focus mounts, adapters and extension tubes are described @ [excelitas.com/product/linos-machine-vision-accessories](http://excelitas.com/product/linos-machine-vision-accessories)

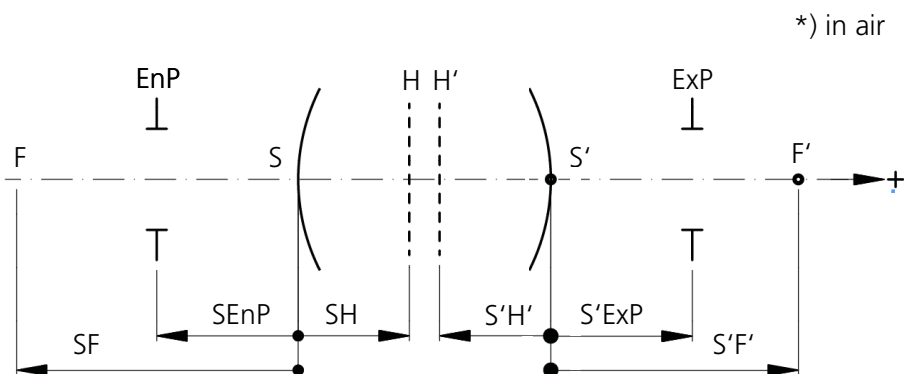


## Specifications

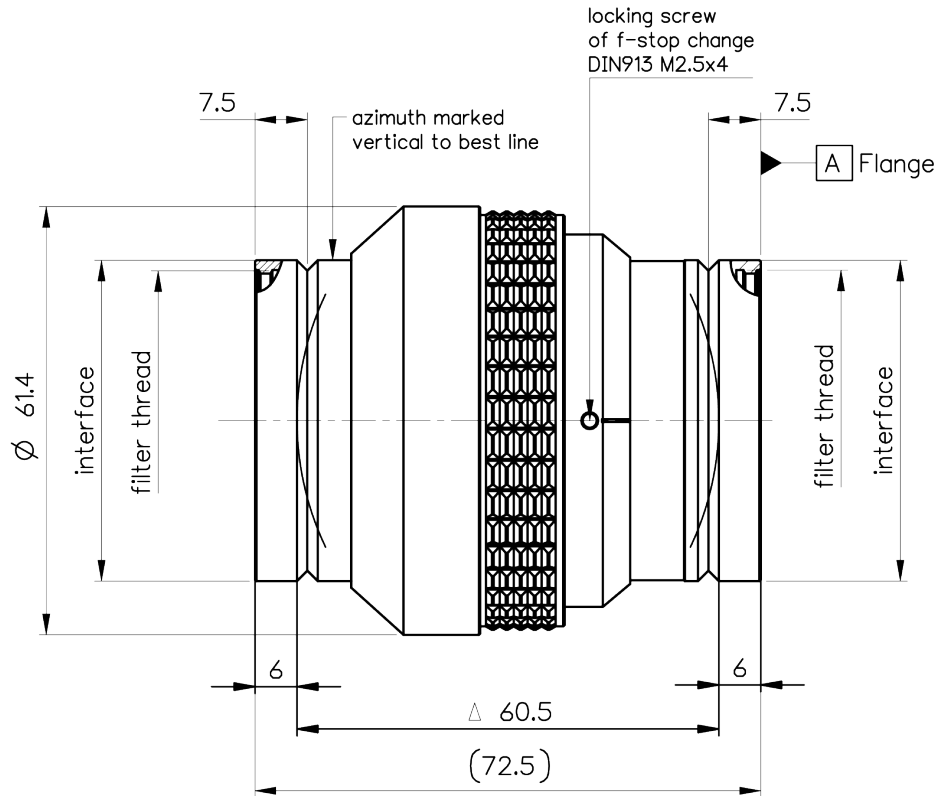
Part No.	0703-084-000-30
Focal length [mm]	105.4
f-stop	5.6
f-stop range	5.6 ... 22
f-stop lockable	yes, locking screw
Numerical aperture (object/image)	0.06/0.12
Image circle max. [mm]	82
Magnification optimized	0.5
Rec. magnification range	0.4 ... 0.65
Rec. working distance [mm]	228 ... 330
Spectral range [nm]	400 - 1150
Azimuth marked	yes
Interface	V-groove ø46h7
Filter thread	M43 x 0.75
Length [mm]	72.5
Diameter [mm]	61.4
Weight [g]	370
Storage temperature [°C]	-25 ... +70
Working temperature [°C]	0 ... +50
Optical number	7608-9031
Sensor cover glass (included)	0.76mm D263

## Optical data

Part No.		0703-084-000-30
SF [mm]		-72.0
S'F' *) [mm]		71.0
HH' *) [mm]		-7.5
SH *) [mm]		33.4
S'H' [mm]		-34.4
SEnP [mm]		33.6
S'Exp *) [mm]		-34.2
f-stop	ø EnP	ø ExP
5.6	18.8	18.8
8	13.2	13.2
11	9.6	9.6
16	6.6	6.6
22	4.8	4.8



**Dimensions**

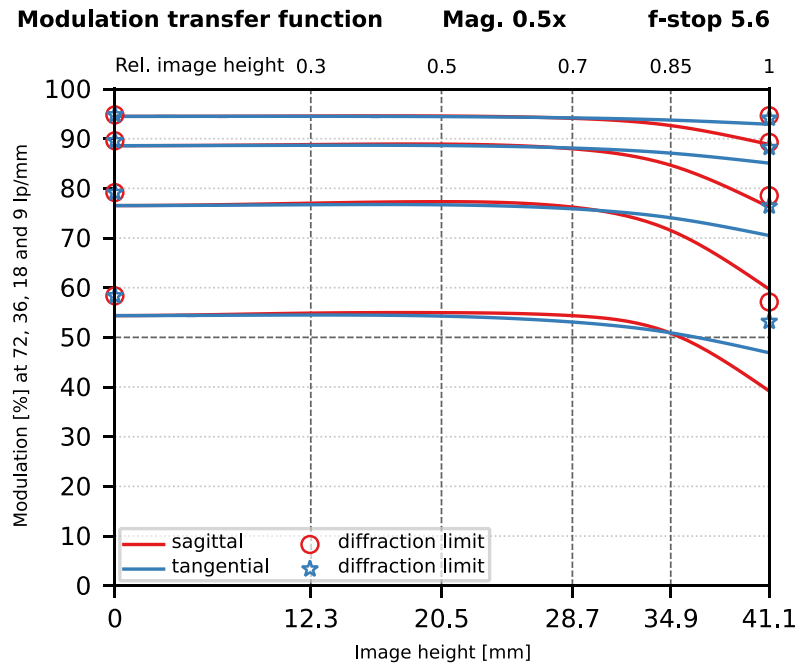


For further information about our Inspec.x L series, please scan or click the QR-Code.

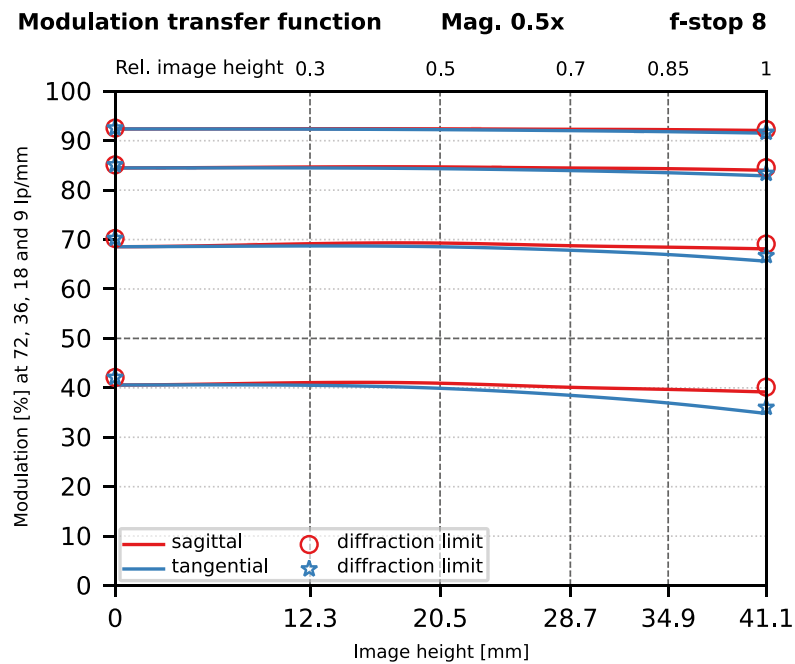


## Optical Performance

### MTF at ratio 0.5x f/5.6

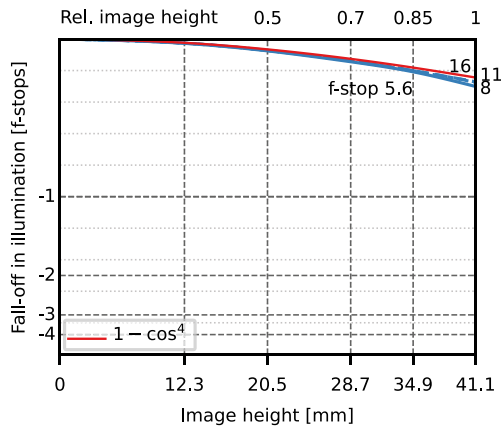


### MTF at ratio 0.5x f/8.0

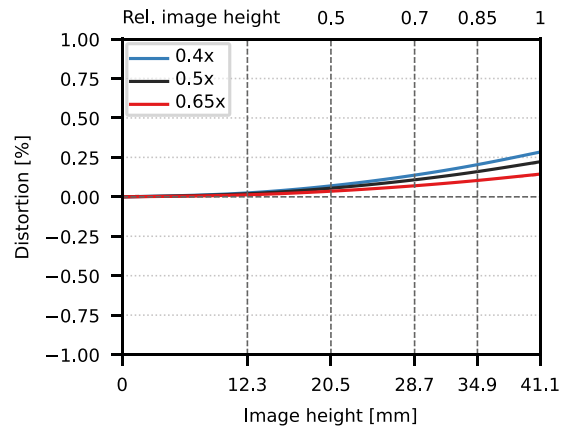


All spatial frequencies [lp/mm], image heights [mm] and magnifications are related to sensor side.

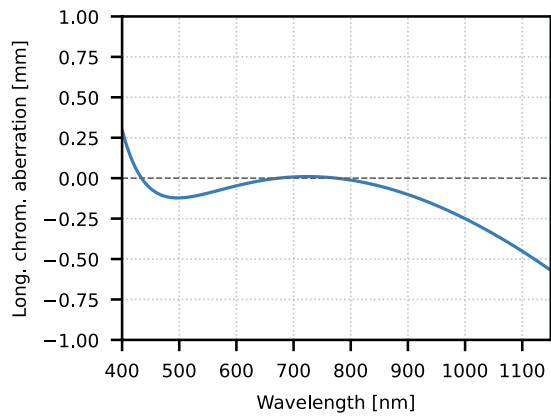
**Fall-off in illumination Mag. 0.5x**



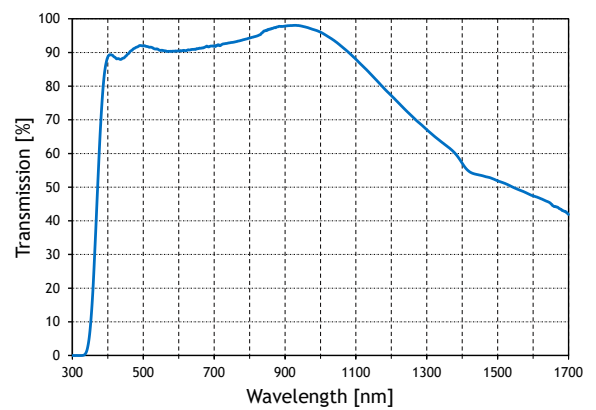
**Distortion Mag. 0.4x ... 0.65x**



**Long. chrom. aberration Mag. 0.5x**



**Transmission - inspec.x L 5.6/105 VIS/NIR 0.5x**



All spatial frequencies [lp/mm], image heights [mm] and magnifications are related to sensor side.

# MachVis

## Lens Selection and Configurator Software

#	Lens Name	Focus Device	Ext	Lens EFL	Total WD.	Free WD.	Object Size	Image Size	Mag. Value
	Theory			78.9mm	33A.0mm	180.00mm	45.0mm	43.3mm	-0.962x
1	Apo Rodagon D 1x	Modular Focus	1	74.9mm	285.4mm	117.2mm	45.0mm	43.3mm	-0.962x
2	Apo Rodagon D 1x	Smart Focus	2	74.9mm	285.4mm	117.2mm	45.0mm	43.3mm	-0.962x

**Solution 1 Lens: Apo Rodagon D 1x [0703-005-000-40]**  
[H: 12.9mm LA: 3.7mm Ext: 60.0mm Foc: 15.9-40.8mm CA: 0.7mm CBD: 46.5mm] Flange FD Range: 126.7-151.7mm

Components shown in drawing:  
 - Lens Adapter 2408-009-118-00  
 - Extension Tube [1x] 2408-009-123-00  
 - Camera Adapter 2408-009-142-00  
 - Modular Focus 2408-009-000-42



MachVis:  
Access for FREE!



For further information about our Lens Selection Software MachVis, please scan or click the QR-Code.

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