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## NIR Scan and Tube Lens for Multiphoton Imaging

NEW  
product

MPM-SL

The MPM-SL is a premounted scan and tube lens combination that is designed to image the scan plane of a laser scanning mirror system onto the back aperture of the objective lens. The MPM-SL was designed for the MPM200 series of multiphoton imaging systems (see pages 1660 – 1665) and is now available as a component to support the construction of custom multiphoton or other NIR imaging systems. The scan lens has an effective focal length (EFL) of 40 mm while the tube lens has an EFL of 200 mm. Both lenses are optimized for broadband NIR imaging in the 680 – 1400 nm wavelength range.

SPECIFICATIONS	
Effective Focal Length	Scan Lens: 40 mm Tube Lens: 200 mm
Back Focal Length	Scan Lens: 33 mm
Entrance Pupil Diameter	4 mm
Diffraction Limited Field-of-View*	FN12
Design Field-of-View*	FN16
F-Theta Distortion	@ FN16: <4.25% @ FN12: <2.25%
Optical Path Difference	<0.25λ Across All Wavelengths

\*The Field Number (FN) is given in mm. The Field of View of the imaging system equals the FN divided by the magnification of the objective lens.

ITEM #	\$	£	€	RMB	DESCRIPTION
MPM-SL	\$ 6,500.00	£ 4,680.00	€ 5,655.00	¥ 51,805.00	NIR Scan and Tube Lens for NIR Multiphoton Imaging (680 – 1400 nm)

## Visible Scan Lens for Laser Scanning Microscopy

NEW  
product

CLS-SL

The CLS-SL scan lens is ideal for point-by-point laser scanning imaging in the visible wavelength range. This scan lens was originally designed for Thorlabs' Confocal Laser Scanning Microscopy Systems (see pages 1680 – 1683) and is now made available for customers designing their own laser scanning systems. The CLS-SL has a 70 mm effective focal length and is optimized for broadband imaging in the 400 – 750 nm wavelength range. It can be used in combination with the ITL200 tube lens presented below.

SPECIFICATIONS	
Effective Focal Length	70 mm
Design Wavelength Range	400 – 750 nm
F#	17.5
Entrance Pupil Diameter	4 mm (Max)
Diffraction Limited Field of View*	18 mm x 18 mm @ 486 – 750 nm (FN 25.5) 16 mm x 16 mm @ 400 – 750 nm (FN 23)
F-Theta Distortion	<0.05%
Axial Color	<50 μm @ 400 – 750 nm
Field Curvature*	<700 μm @ FN 25; <500 μm @ FN 21
Scanning Position	59 ± 5 mm from Mounting Plate
Working Distance	54 mm
Mounting Thread	External SM2 (2.035"-40) on Both Ends

\*The Field Number (FN) is given in mm. The Field of View of the imaging system equals the FN divided by the magnification of the objective lens.

ITEM #	\$	£	€	RMB	DESCRIPTION
CLS-SL	\$ 2,500.00	£ 1,800.00	€ 2,175.00	¥ 19,925.00	Scan Lens for LSM (400 – 750 nm)

## Infinity-Corrected Tube Lens

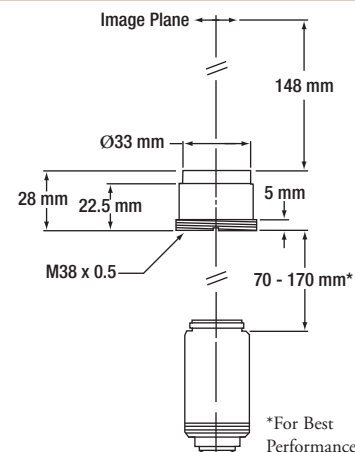
NEW  
products

ITL200

SM2A20  
Adapter shown  
with ITL200  
Tube Lens



The ITL200 is an infinity-corrected tube lens with an effective focal length of 200 mm that is designed for use with Plan Fluorite Objective lenses (see page 1714). The tube lens is used in applications that do not use an eyepiece (e.g., imaging onto a CCD camera). When paired with the CLS-SL scan lens presented above, the scan plane of a laser scanning imaging system can be relayed to the back aperture of the imaging objective. The M38 x 0.5 external thread on the ITL200 can be easily converted to SM2 (2.035"-40) threading using the SM2A20 adapter, which enables the construction of an optical system consisting of a scan lens and a tube lens using Thorlabs' standard SM2 lens tube components (starting on page 154).



ITEM#	\$	£	€	RMB	DESCRIPTION
ITL200	\$ 450.00	£ 324.00	€ 391.50	¥ 3,586.50	Infinity-Corrected Tube Lens for Nikon Plan Fluorite Objectives
SM2A20	\$ 45.00	£ 32.40	€ 39.15	¥ 358.65	Thread Adapter with Internal M38 x 0.5 and External SM2 Threads