

# Mitutoyo Objectives (long working distance)

**Mitutoyo** are recognised and respected manufacturers of infinity corrected Long working distance (LWD) and Ultra-long distance (ULWD) objectives. Their ranges include colour corrected objectives for Bright Field, Dark Field, NIR and NUV ranges and include laser applications.

In several cases Mitutoyo also supply objectives with a higher NA and these will have a significant advantage to resolve the finest details at high magnification ie 50x and 100x. In these applications we recommend they are used with Navitar's **Modular Tube Lenses (MTL)** which can then accommodate a wide range of camera formats including C-mount, F-mount, M42 and SLR and a sensor size up to 33 mm diagonal.

The Modular Tube Lens system also has the option of a multiple objective changer and a range of LED illuminators. In addition these Mitutoyo objectives are suitable for the Zoom 6000, Zoom 12x and Precise Eye ranges from **Navitar**.

**Close-Ups** are long time dealers in Mitutoyo Objectives and supply research, manufacturing and semiconductor companies. We believe we are the best value supplier of Mitutoyo objectives and can advise on the components to build a bespoke video inspection system.

Infinity correction allow the placement of additional components between the main lens body and the objective such as DIC, Co-axial, Filter sets and angled adapters.

Mitutoyo work on a standard tube length of 200 mm and their objectives have a thread size of M26 x 0.706 mm pitch (36 TPI) Mitutoyo manufacture in Japan and their quality of manufacture is well renowned.

## M Plan Apo/ M Plan Apo HR

Long working distance – Plan-Apochromat

Infinity corrected – Bright field observation

Part No.	Mag.	NA	WD	
378-800-12	1x	0.025	11.0	
378-801-12	2x	0.055	34.0	
378-802-6	5x	0.14	34.0	
378-807-3	7.5x	0.21	34.0	
378-803-3	10x	0.28	34.0	
378-804-3	20x	0.42	20.0	
378-805-3	50x	0.55	13.0	
378-806-3	100x	0.7	6.0	
378-788-4	10x	0.42	15	
378-814-4	50x	0.75	5.2	higher NA
378-815-4	100x	0.90	1.3	higher NA



## Ultra-long working distance versions

Part No.	Mag.	NA	WD	
378-810-3	20x	0.28	30.5	
378-811-15	50x	0.42	20.5	
378-812-3	80x	0.5	15	(discontinued - please contact for availability)
378-813-3	100x	0.55	13.0	
378-816-3	200x	0.62	13.0	(discontinued - please contact for availability)

The new website for **Close-Ups** [imageoptics.co.uk](http://imageoptics.co.uk)  
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# Mitutoyo Objectives (long working distance) contd.

## M Plan Apo NIR

Wavelength correction from visible to near-infrared (1800nm)

Long working distance – Plan-Apochromat

Infinity corrected – Bright field and Laser applications

Part No.	Mag.	NA	WD	
378-822-5	5x	0.14	37.5	
378-823-5	10x	0.26	30.5	
378-824-5	20x	0.40	20.0	
378-825-5	50x	0.42	17.0	
378-826-15	100x	0.50	12.0	
378-863-5	50x	0.65	10.0	higher NA
378-864-5	100x	0.70	10.0	higher NA



## LCD Plan Apo NIR

Wavelength correction from visible to near-infrared (1800nm)

Long working distance – Plan-Apochromat

Infinity corrected – Bright field and Laser applications

Designed for cover glass 1.1 mm or 0.7 mm

Part No.	Mag.	NA	WD
378-827-5	20x/t1.1	0.40	19.98
378-829-5	50x/t0.7	0.42	17.26
378-752-5*	100x/t1.1	0.50	12.13
378-754-15	100x/t0.7	0.50	11.76

\*Made to order

## M Plan Apo NUV

Performance optimized for near-ultraviolet (355nm) to visible

Long working distance – Plan-Apochromat

Infinity corrected – Bright field and Laser applications

Part No.	Mag.	NA	WD	
378-809-5	10x	0.28	30.5	
378-818-4	50x	0.42	15.0	(discontinued - please contact for availability)
378-819-4	100x	0.50	11.0	
378-888-6	50x	0.65	10.0	higher NA

