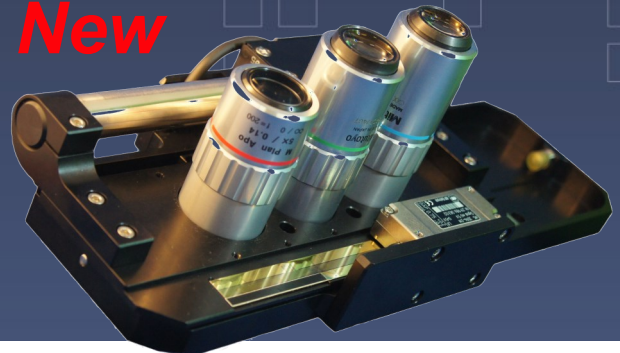


LLC

LINEAR LENS CHANGER

Modular Linear Lens Changer built to suit any need; from fast, lightweight 2 lens changer, to heavy duty 8 lens gantries

New



The Linear Lens Changer Family

WDI's Linear Lens Changers are versatile motorized lens changers allowing automated rapid and accurate objective lens selection. WDI has a lens changer to suit every application, from a compact, two lens system to a modular multi lens system to a heavy duty version capable of high-speed selection of up to 8 objective lenses. All LLC systems are precision designed to maintain a high level of accuracy, repeatability and reliability.

Designed For Speed

WDI designed the LLC line with speed in mind. The LLC2 features a powerful stepper motor designed to eliminate cogging, allowing for a rapid change time between its two lenses. The other products in the family, the LLC4, LLC6, LLC8 and new LLC3+, all feature shaft linear motors which can change between nearby lenses in 0.2 seconds and across five lenses in only 0.4 seconds.

A new level of flexibility

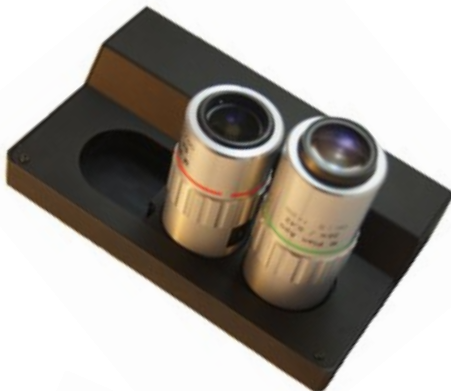
New to the LLC family is the LLC3+, a modular version of the LLC which accepts a number of different objective insert plates. These inserts allow unprecedented flexibility in how a system may be configured. The inserts include 3, 4 and 5 objective versions and depending on the model feature the ability to accept High Resolution large diameter objectives or provide out objective ring light illumination.

Accuracy And Reliability

The LLC family are equipped with digitally controlled servos, which guarantee no oscillation at the lenses' destination point. The onboard encoders built into each LLC give the servos a positioning accuracy of 0.1 micrometers. The high-precision bearings in all LLC products are preloaded to eliminate lateral play, allowing all WDI's LLCs to reliably and accurately perform, every time.

Practical and Powerful

Each Linear Lens Changer is designed for a different type of application, but all are designed to be practical and easy to use. From the lightweight LLC2 to the rugged LLC8, each product is cleanroom Class 10 guaranteed, designed with a small footprint, and precision engineered. They do not require cable track to be installed, and can be seamlessly integrated with many microscopes including WDI's MMS or MIC. Accurate digital control of the LLC is provided by WDI's MCX or MFC control units.



Specifications	LLC2	LLC4	LLC6	LLC8	LLC3+
Maximum Number of Lenses	2	4	6	8	See Below
Lens Spacing Center to Center	35mm	38mm	38mm	38 mm	See Below
Lens Change Time	1 - 8			0.7s	
	1 - 7			0.6s	
	1 - 6		0.5s	0.5s	
	1 - 5			0.4s	
	1 - 4		0.4s	0.4s	
	1 - 3		0.3s	0.3s	0.3s
1 - 2	2s	0.2s	0.2s	0.2s	
Motor Type	Stepper Motor	Shaft Linear Motor			
Motion Actuation Implementation	Linear Actuator	Fixed Forcer & Encoder Head			
Encoder	Linear Encoder				
Servo Type	Digitally Controlled Linear Servo				
Servo Positioning Accuracy	±0.1µm				
Positioning Repeatability	±3µm	±0.1µm			
Bearings	High Precision Cross-Roller				
Recommended Controller	MCX	MFC			
Weight Excluding Lenses	1.8kg	3.2kg	4.1kg	5.4kg	See Below
Dimensions (L X W X H) mm	126 X 85 X 28	433 X 102 X 75	576 X 102 X 75	395 X102 X 75	340 X 112 X 50
Supply Voltage	24V	48V			
Peak Current	1A	2.5A			
Compliance	Clean Room Class 10 SEMI				

Specifications for LLC3+	3L Insert	4L Insert	3S Insert	5S Insert
Maximum Number of Lenses	3	4	3	5
Objective Lens Type	Large Diameter (44mm)	Large Diameter (44mm)	Standard	Standard
Objective Ring Light Illumination	No	No	Yes	No
Lens Spacing Center to Center	54.75mm	36.5mm	54.75mm	27.38mm
Lens Change Time	1 - 5			0.4s
	1 - 4		0.4s	0.4s
	1 - 3	0.4s	0.3s	0.3s
	1 - 2	0.2s	0.2s	0.2s
Weight Excluding Lenses	1.6kg	1.6kg	1.6kg	1.6kg



is a world leader in the manufacturing and integration of industrial autofocus sensors and microscopy automation solutions for the biomedical, metrology, electronics, semiconductor and laser markets. WDI's success lies in an innovative culture and ability to optimize and adapt our technology to a customers' specific requirements by listening to their needs and gaining a deep understanding of their processes, applications and goals. WDI employs over 20 optical, electrical, mechanical and software engineers as well as scientists who are dedicated to servicing our customers. We have locations in Canada and Poland, as well as service centers in Taiwan and South Korea. Contact WDI today to see how we can help solve your microscopy automation needs.



光技術をサポートする
株式会社オプトサイエンス

<http://www.optoscience.com>

東京本社 〒160-0014 東京都新宿区内藤町1番地 内藤町ビルディング TEL:03-3356-1064
 大阪営業所 〒532-0011 大阪市淀川区西中島7-7-2 新大阪ビル西館 TEL:06-6305-2064
 名古屋営業所 〒450-0002 名古屋市中村区名駅2-37-21 東海ソフトビル TEL:052-569-6064

E-mail : info@optoscience.com