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Filter Wheel Installation Instruction

Applies to the following LEP filter wheels:
99A041, 99A042, 99A045, 99A075, 99A076, 99A141, 99A142, 99A145, 99A175, 99A176
Shutters:
99A043, 99A143

Ludl Electronic Products Ltd.
171 Brady Avenue
Hawthorne, NY 10532
(914) 769-6111
(914) 769-4759 FAX
support@ludl.com
www.ludl.com

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LEP Filter Wheel Installation

NOTICE**:**

A qualified technician should only attempt this installation. It involves some minor disassembly of critical mechanical components. If you are not familiar with this type mechanical assembly do not attempt this installation, consult your local microscope representative.

Introduction:

The LEP filter wheel has been designed to easily integrate with various microscopes between the lamp housing and the microscope body or between the microscope and a detector (e.g. camera, photometer, etc) using microscope specific mounting flanges. The hinged construction of the filter wheel housing facilitates easy filter interchange without removal of the filter wheel and realignment of the light source.

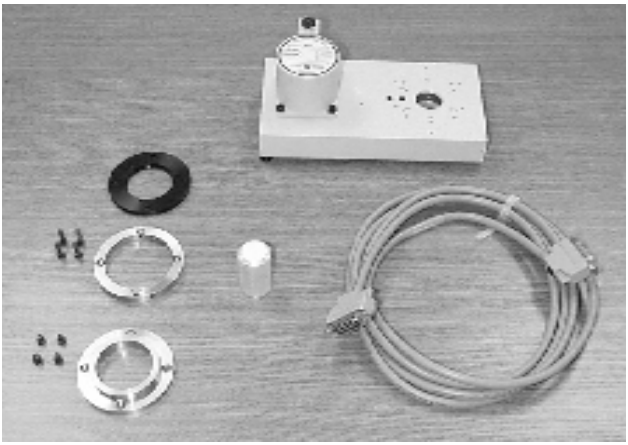
This manual illustrates installation for a single standard filter wheel. All other filter wheels are very similar although some specific steps may not apply.

Components:

The LEP filter wheel assembly is comprised of the following components:

- Filter wheel
- 15 pin cable (2 cables for dual filter wheels)
- Filter wheel tool
- Threaded filter retaining rings and spacers (mounted in the filter wheel)

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Tools needed:

In order to install the LEP Filter Wheel, the following tool will be needed assuming the mounting flange is installed:

- 2.0 mm hex wrench

Additional tools may be required to remove existing components from the microscope. A set of metric hex wrenches ranging from 1.5 mm to 4 mm is suggested for most applications.

Before installing the filter wheel:

1 Remove the lamp house or detector from the microscope.

2 If your filter wheel is equipped with a shutter, take precautions to prevent any damage or contamination of the shutter.

3 The mounting flange should already be properly attached to the filter wheel such that the reflective side of the shutter (if applicable) is directed towards the light source.

Note:

The filter wheel uses sensitive electronics for calibration purposes / proper ESD procedures should be followed whenever working with the filter wheel.

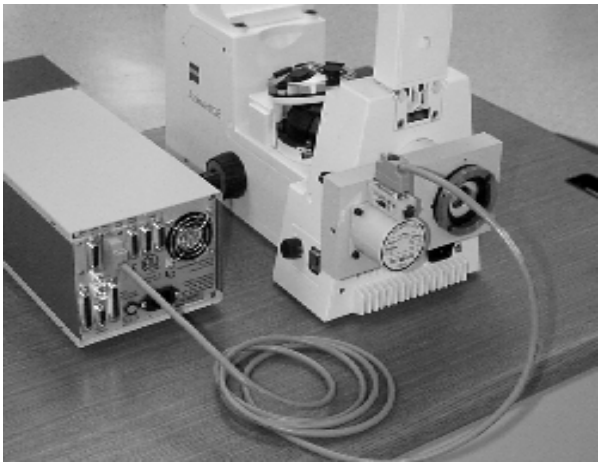
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Installing the Filter Wheel

1 Preferably, the filter wheel should be mounted horizontally. Align the filter wheel-mounting flange with the mating flange on the microscope body. With the exception of Nikon microscopes, simply tighten the locking set screws in the mounting flange with a 2-mm hex wrench. Nikon microscopes use a bayonet mount that requires the user to twist the locking collar in place.

2 Attach the mating flange on the lamp house or detector to the mounting flange of the filter wheel and tighten the locking set screw or twist the locking collar for Nikon microscopes.

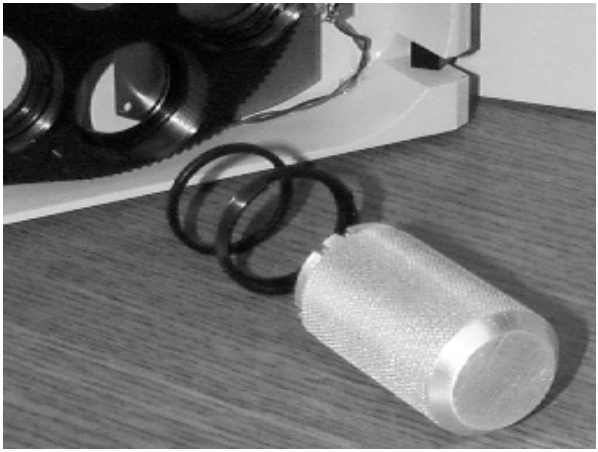
3 Connect the supplied 15-pin cable (2 cables for a dual filter wheel) between the filter wheel and the filter wheel controller. Match the label on the cable with the label on the filter wheel and the rear of the controller.



4 Upon power up of the controller, the filter wheel will rotate to the home position. This corresponds to position 1 and should be used for reference when installing filters.

5 Open the filter wheel door by loosening the two thumbscrews. Using the provided filter wheel tool unthread the filter retaining ring for the desired filter position. For thin filters (< 3 mm) the spacer rings are required; for thicker filters these spacers may be removed and saved for future use. Install the filter and thread the retaining ring into place. Again, *take care to not damage the shutter during installation of the filters.*

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6 Follow the same procedure to install filters in a dual filter wheel, however, to install filters in the second wheel use the access port in the filter wheel housing. Filter position three is accessible through the port when the filter wheel is in the home position.

Final note:
LEP mounting flanges are designed to accept a 42-mm diameter heat filter that may be purchased separately from your local microscope dealer. The filter may be installed between the filter wheel housing (reflective side of the shutter) and the mating flange to the lamp house in an effort to prevent damage to expensive optical filters.



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Mounting Flange Part Numbers

Microscope - Excitation Side	Part Number
Zeiss old-type, includes IM-32 and Universal	99A044
Zeiss Axio-line	99A046
Zeiss Jena Sedival	99A146
Nikon, bayonet	99A047
Nikon, Atto Carv	99A047-AC
Nikon Episcopic Microphot FXA adapter	99A147
Leica DM series for LH105	99A022
Leica DMIRB	99A022-1
Leica DM series for LH106/107	99A148
Leica DM for LH106, Atto Carv	99A148-AC
Olympus BX, IX and AX	99A024
Olympus BX, IX and AX, Atto Carv	99A024-AC
Olympus old type, pre BX, IX and AX	99A048

Microscope - Emmission Side	Part Number
Zeiss, replaces Zeiss PN: 456105	99A118
Zeiss, 44mm interface	99A149
Nikon, used with Nikon PN: 92077	99A119
Nikon, TE2000	99A191
Leica DM, replaces Leica PN: 541510	99A120
Olympus, BX IX TriNoc Port	99A135
Male/Female C-Mount	99A192

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Accessories	Part Number
Table stand for isolated mounting of filterwheel	99A002
Filter wheel spare parts kit, 25mm	99A003
Filter wheel spare parts kit, 32mm	99A004
Filter adapter set 32mm to 25mm	99A009
Footswitch Shutter control for MAC 5000	99A144
Replacement shutter 25mm diameter aperture	84-VS25S1S0L
Replacement shutter 32mm diameter aperture	84-VS32S1S0L
Tool for removing 25mm/32mm diam. filter retainer	74-M000030

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