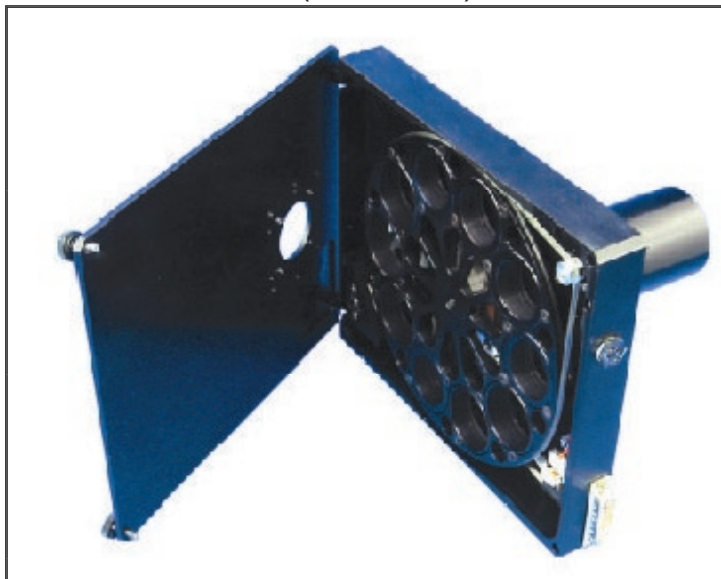


Filter Wheel Installation Instruction

(300 Series)



Applies to the following LEP Single filter wheels:

99A350, 99A351, 99A353, 99A354, 99A357

Dual filter wheels:

99A355, 99A356

Shutters:

99A360



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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:

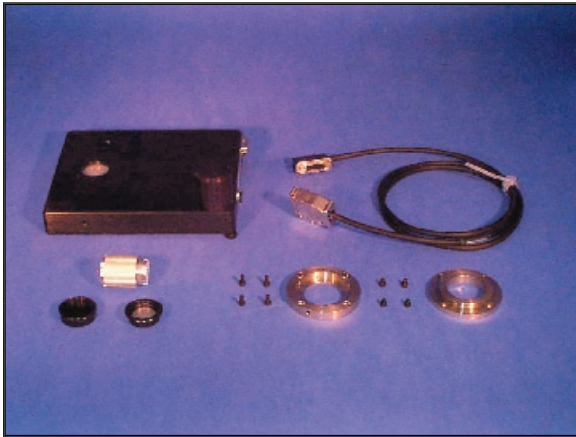
The LEP filter wheel has been designed to easily integrate with various microscopes between the lamp housing and the microscope body or between the microscope and a detector (e.g. camera, photometer, etc) using microscope specific mounting flanges. The hinged construction of the filter wheel housing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

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

Components:

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

- Filter wheel
- 15 pin cable (2 cables for dual filter wheels)
- Filter wheel tool
- 25/32mm Filter holder
- Threaded filter retaining ring and spacers (mounted in the filter wheel)



Tools needed:

To install the LEP Filter Wheel, the following tool's will be needed assuming the mounting flange is installed:

- 2.0 mm hex wrench
- #0 philips screw driver



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.



Note:

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

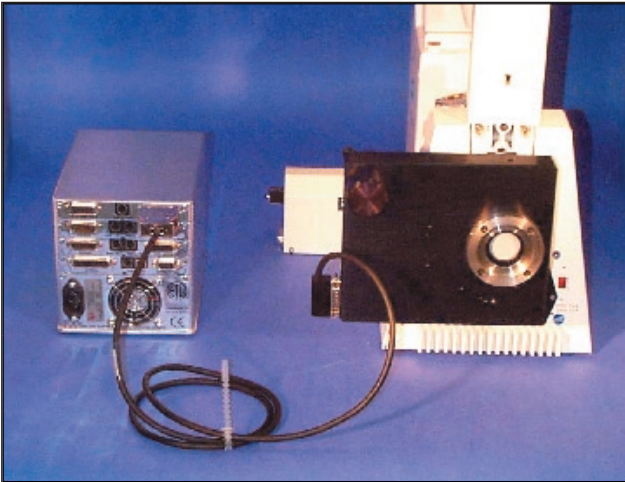
Before installing the filter wheel:

- 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 shutter side of the filterwheel (if applicable) is directed towards the light source.

- 4 Install the 25/32mm filter holder into the desired locations engraved on the filter wheel. Use a #0 philips screw driver to tighten down the filter holders. If needed, the entire wheel can be removed from the unit by removing the two center screws with a #0 philips screw driver. **Note:** If the wheel is removed the home position may be needed to be re-programmed. (See Step 5 in *Installing the Filter Wheel* section)

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(s) 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.

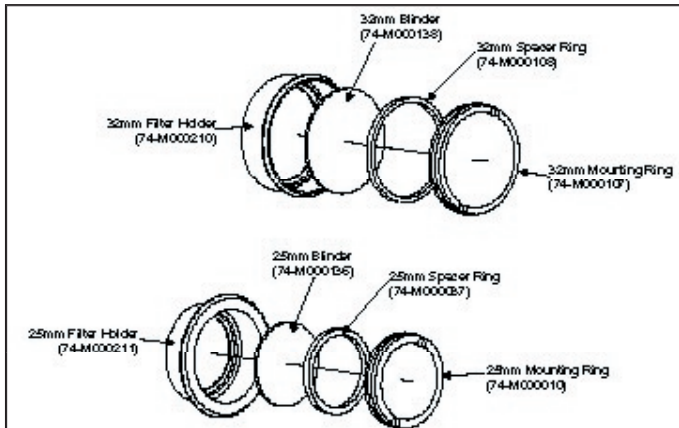


4 Upon power up of the controller, the filter wheel will rotate to the home position. This should be the #1 filter position.

5 To manually reset the home position, hold the corresponding move switch up for 10 seconds or until the busy light comes on. The motor power will turn off allowing the wheel to turn freely. By hand, move the #1 filter into position and push the move switch to the down position. This will store the home position and perform a home.



6 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.*



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 (shutter side) and the mating flange to the lamp house in an effort to prevent damage to expensive optical filters.



Mounting Flange Part Numbers

<u>Microscope - Excitation Side</u>	<u>Part Number</u>
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
<u>Microscope - Emission Side</u>	<u>Part Number</u>
Zeiss, replaces Zeiss PN: 456105.....	99A118
Zeiss, 44mm interface	99A149
Nikon, used with Nikon PN: 92077	99A119
Nikon, TE2000.....	99A191
Nikon, E400/E600 (mounts under trinoc tube)	99A093
Leica DM, replaces Leica PN: 541510	99A120
Olympus, BX IX TriNoc Port	99A135
Male/Female C-Mount.....	99A192

Accessories**Part Number**

Footswitch Shutter control for MAC 5000.....	99A144
Filter wheel table stand for 300 series.....	99A010
Filter holder, 25mm.....	74-M000211
Filter holder, 32mm.....	74-M000210
Filter spacer, 25mm.....	74-M000037
Filter spacer, 32mm	74-M000108
Threated retainer, 25mm	74-M000010
Threated retainer, 32mm	74-M000107
Blinder, 25mm	74-M000136
Blinder, 32mm	74-M000138
Tool for removing 25mm/32mm diam. filter retainer ..	74-M000030