

PIFOC QuickLock Thread Adapter

Installation instructions

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Introduction

This document describes mounting and demounting the PIFOC QuickLock thread adapter for the P-721 and P-725 PIFOC positioner. The PIFOC positioners are suitable for focusing microscope objectives in the nanometer range. They are inserted between the microscope and the objective using the QuickLock thread adapter.

The QuickLock thread adapter was developed to allow use of the same PIFOC positioner with any of the supported microscope and objective thread types. Previous PIFOC positioners could only be used with a single microscope thread size.

All QuickLock thread adapters can be installed without the need to turn the PIFOC positioner. This avoids tangling the cables.

Note that the respective PIFOC positioners and QuickLock thread adapters must be ordered separately. The tool for mounting is included in the scope of delivery of the QuickLock thread adapter.

Design

The QuickLock thread adapters consist of interchangeable inserts matching threads for the microscope and the objective. The objective insert accommodates the microscope objective and is screwed into the the aperture of the PIFOC positioner from below. The microscope threaded insert is screwed into the microscope and fits onto the housing of the PIFOC positioner.

NOTICE



Possible damage due to excessive torque!

Only moderate torque is necessary to secure the objective insert in the PIFOC positioner.

- Only use the included flat wrench for tightening the objective insert.

P-721.xxQ PIFOC QuickLock Thread Adapter

The P-721.xxQ QuickLock thread adapters are available for apertures with different inner diameters:

QuickLock Thread Adapter / item no.	Thread size	Aperture diameter
P-721.02Q	M26 × 0.75 mm	21 mm
P-721.03Q	M27 × 0.75 mm	21 mm
P-721.04Q	M28 × 0.75 mm	21 mm
P-721.05Q	M32 × 0.75 mm	21 mm
P-721.06Q	M26 × 1/36"	21 mm
P-721.08Q	M19 × 0.75 mm	14 mm

Technical Note

P721T0002, valid for P-721 and P-725

Eco/Cbo/KSch, 11/07/2018

Component Overview

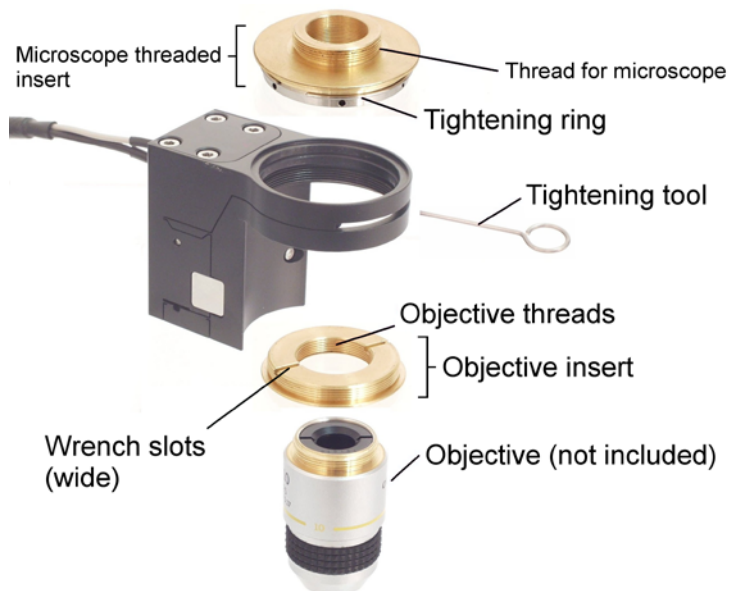


Figure 1: P-721.xxQ: PIFOC positioner with QuickLock adapter and microscope objective. A QuickLock adapter consists of a microscope threaded insert and an objective insert. The tightening tool is included in the scope of delivery.

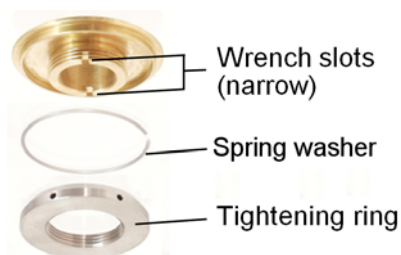


Figure 2: P-721.xxQ: Microscope threaded insert

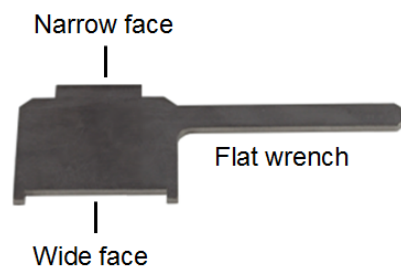


Figure 3: P-721.xxQ: flat wrench (in the scope of delivery)

INFORMATION

The tightening and loosening directions are indicated by "open/close" inscription on the PIFOC positioner.

Assembly

1. Screw the objective insert into the aperture of the PIFOC positioner from below.
2. Tighten the objective insert using the wide face of the flat wrench as shown in the figure below.



Figure 4: Tightening the objective insert with the wide face of the flat wrench

3. Screw the microscope threaded insert into the microscope.
4. Tighten the microscope threaded insert with the narrow face of the flat wrench.
5. Make sure that the spring washer of the microscope threaded insert is neither too tight nor too loose. If necessary, set the tension of the spring washer with the tightening ring of the microscope thread adapter. Only unscrew the tightening ring as far as necessary.
6. Press the PIFOC positioner slowly into the microscope threaded insert until it snaps in completely.
7. Insert the tightening tool into one of the holes in the tightening ring of the microscope threaded insert and lightly tighten the ring. The tightening ring will be visible through the slot in the PIFOC positioner. Make sure the tightening tool is well seated before applying any pressure.
8. Align the PIFOC positioner as required.
9. Tighten the tightening ring of the microscope threaded insert with the tightening tool.
10. Screw a suitable objective into the objective ring.
Pay attention to a maximum torque of 0.6 Nm.

Demounting

1. If an objective is installed, unscrew and remove the objective.
2. Insert the tightening tool into one of the holes in the tightening ring of the microscope threaded insert. On an assembled unit, the tightening ring will be visible through the slot in the PIFOC positioner. Make sure the tightening tool is well seated before applying any pressure.
3. Loosen the tightening ring of the microscope threaded insert by turning the ring in the "open" direction at least enough to allow the insert to rotate freely.
4. Remove the microscope threaded insert in one of the following ways:
 - If the microscope threaded insert is **not** installed in a microscope, pull it off the PIFOC positioner.
 - If the microscope threaded insert is installed in a microscope, remove the PIFOC positioner from the microscope and unscrew the microscope threaded insert using the narrow face of the flat wrench.

5. Unscrew the objective insert using the wide face of the flat wrench as shown in the figure below.



Figure 5: Unscrewing the objective insert using the wide face of the flat wrench

P-721.xxA PIFOC QuickLock Thread Adapter for Large Apertures

The P-721.xxA QuickLock thread adapters are available for large apertures with different inner diameters:

QuickLock thread adapter / Item No.	Thread size	Aperture diameter
P-721.A02	M26 × 0.75 mm	23 mm
P-721.A03	M27 × 0.75 mm	24 mm
P-721.A04	M28 × 0.75 mm	25 mm
P-721.A05	M32 × 0.75 mm	29 mm
P-721.A06	M26 × 1/36"	23 mm
P-721.A11	M25 × 0.75 mm	22 mm

Technical Note

P721T0002, valid for P-721 and P-725

Eco/Cbo/KSch, 11/07/2018

Component Overview

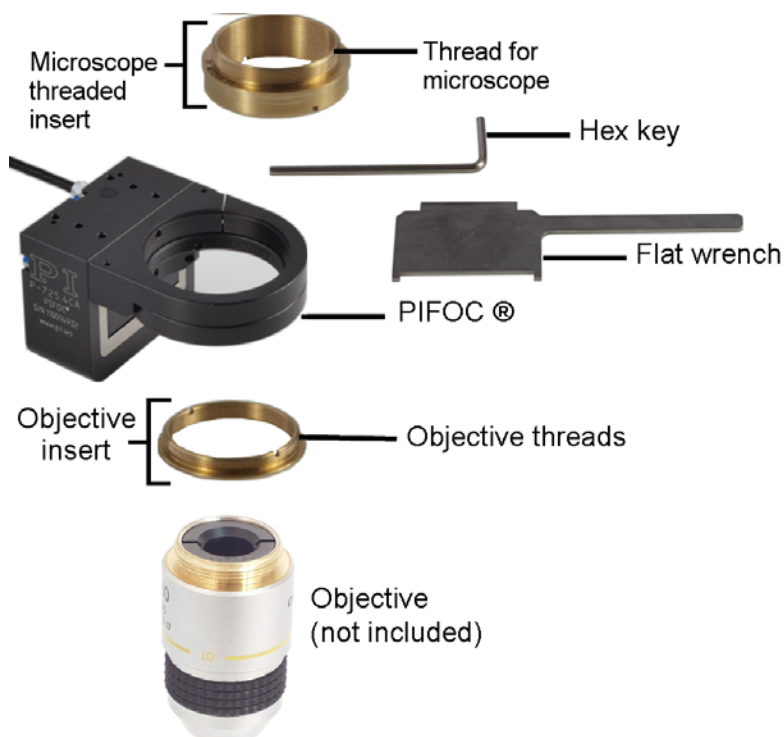


Figure 6: P-721.xxA: PIFOC with QuickLock thread adapter and microscope objective. A QuickLock thread adapter consists of a microscope threaded insert and an objective insert. The tool for mounting is in the scope of delivery.

Assembly

1. Screw the objective insert into the aperture of the PIFOC positioner from below.
2. Tighten the objective insert using the wide face of the flat wrench as shown in the figure below.

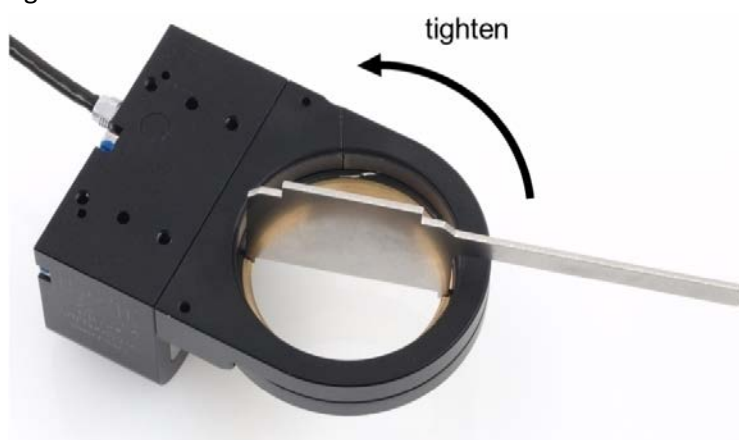


Figure 7: Tightening the objective insert with the wide face of the flat wrench

3. Screw the microscope threaded insert into the microscope.
4. Tighten the microscope threaded insert with the wide face of the flat wrench.

5. Untighten the clamping screw of the aperture using the hex key supplied as shown in the figure below.



Figure 8: Preparing the aperture for inserting the microscope threaded insert

6. Insert the PIFOC positioner into the microscope threaded insert that is screwed on the microscope.
7. Tighten the microscope threaded insert in the PIFOC positioner using the hex key supplied, as shown in the following figure.



Figure 9: Tighten the microscope threaded insert using the hex key (here without microscope)

8. Screw a suitable objective into the objective insert. Figure 9 shows the PIFOC positioner with the objective insert and the microscope threaded insert only. Pay attention to a maximum torque of 0.6 Nm.

Demounting

To demount the objective and the PIFOC positioner, reverse the steps as described in "Assembly" (p. 6).