

## Thread Adapters for PIFOC Objective Scanners

P-721.xxx and P-725.xxx Thread Adapters

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# Installation Instructions

P721T0002, applies to P-721.xxQ, P-721.xxA and P-725.xxM/.xxL/.xxS  
ECo/CBo/KSch, 2021-07-27

## About this Document

This document describes mounting and demounting the thread adapters for the P-721 and P-725 PIFOC positioners.

The letter "x" in the product number stands for various models.

## Typographic Conventions

Symbol/Label	Meaning
1.	Action consisting of several steps with strict sequential order
2.	
➤	Action consisting of one or more steps without relevant sequential order
▪	Lists
p. 5	Cross-reference to page 5

## Symbols Used

### NOTICE



#### Dangerous situation

If not avoided, the dangerous situation will result in damage to equipment.

- Measures for avoiding the risk.

## Other Applicable Documents

Product	Document
P-721 PIFOC Objective Scanners	P721T0007 User Manual
P-725 PIFOC Objective Scanners	P725T0010 User Manual
P-5xx / P-6xx / P-7xx Piezo Positioning Systems	PZ240 Short Instructions

## Downloading Manuals

### INFORMATION

If a manual is missing or problems occur with downloading:

- Contact our customer service department (p. 14).

# Installation Instructions

P721T0002, applies to P-721.xxQ, P-721.xxA and P-725.xxM/.xxL/.xxS  
ECo/CBo/KSch, 2021-07-27

## Downloading manuals

1. Open the website **www.pi.ws**.
2. Search the website for the product number (e.g., P-725) or the product family (e.g., PIFOC).
3. Click the corresponding product to open the product detail page.
4. Click **Downloads**.  
The manuals are shown under **Documentation**.
5. Click the desired manual and fill out the inquiry form.  
The download link will then be sent to the email address entered.

## Product Description

The thread adapters described in this document are used for inserting PIFOC® positioners between the microscope and objective.

The thread adapters have suitable threads for the microscope and objective. The thread adapter for the objective side accommodates the microscope objective and is screwed into or clamped on the aperture of the PIFOC positioner from below. The thread adapter for the microscope side is screwed into the microscope and fits onto the housing of the PIFOC positioner.

The thread adapter was developed to allow use of the same PIFOC positioner with any of the supported microscope and objective thread types.

All 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 thread adapters must be ordered separately. The tool for mounting is included in the scope of delivery of the thread adapter.

## Compatibility

Product no.	Description	Suitability for PIFOC positioners
P-721.xxQ	QuickLock thread adapter set	P-721.xxQ/.SL2 and P-725.xxD/.xxL
P-721.xxA	QuickLock thread adapter set with large aperture	P-721.xxA and P-725.xCA
P-725.xxM	Thread adapter for microscope	P-725.xCDE2 (microscope side)
P-725.xxL	Thread adapter for objective	P-725.xCDE2 (objective side)
P-725.xxS	Objective spacer for P-725.xCDE2 series for correcting the parfocal length	P-725.xCDE2 (objective side)

# Installation Instructions

P721T0002, applies to P-721.xxQ, P-721.xxA and P-725.xxM/.xxL/.xxS  
ECo/CBo/KSch, 2021-07-27

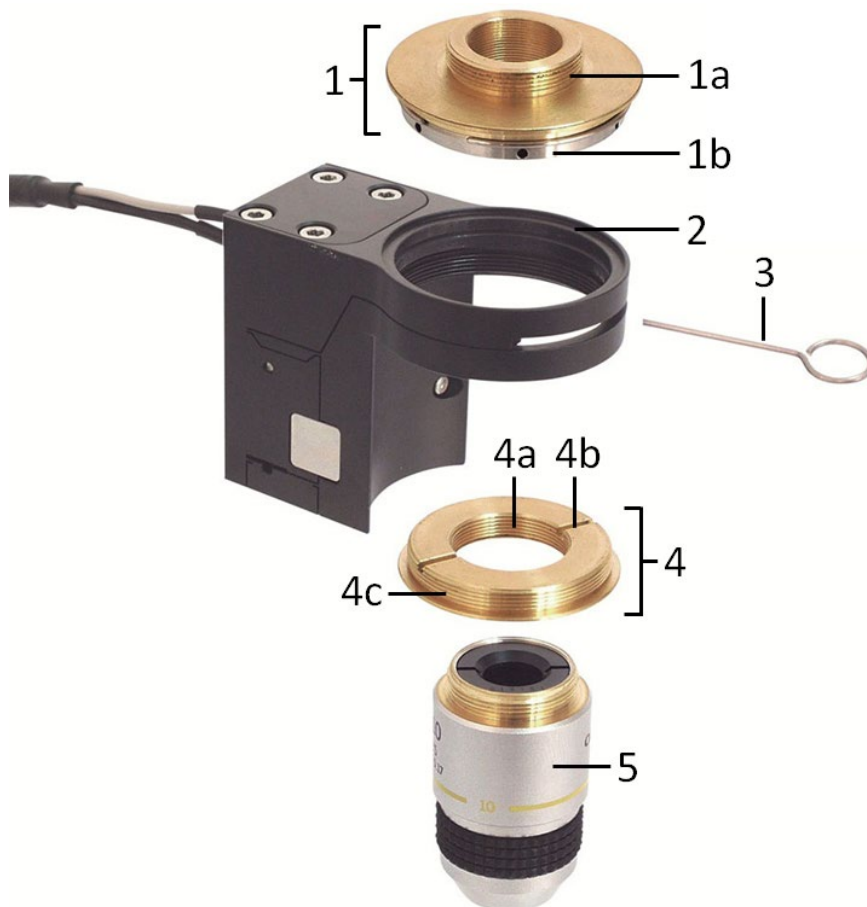
## Installation

### P-721.xxQ Thread Adapter Set (for P-725.xxD/.xxL and P-721.xxQ/.SL2)

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

QuickLock thread adapter set	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

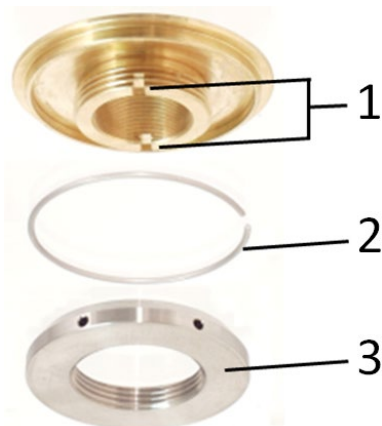
### Component Overview



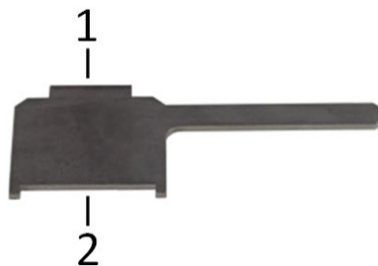
# Installation Instructions

P721T0002, applies to P-721.xxQ, P-721.xxA and P-725.xxM/.xxL/.xxS  
ECo/CBo/KSch, 2021-07-27

- Fig. 1: P-721.xxQ thread adapter with PIFOC positioner and microscope objective
- 1: Thread adapter, microscope side:
    - 1a: Thread for microscope
    - 1b: Clamping ring
  - 2: PIFOC positioner
  - 3: Tightening tool (included in the thread adapter's scope of delivery)
  - 4: Thread adapter, objective side:
    - 4a: Inner thread for objective
    - 4b: Recesses for key tool
    - 4c: Outer thread for PIFOC positioners
  - 5: Objective (not included in the scope of delivery)



- Fig. 2: P-721.xxQ: Thread adapter, microscope side (view from below)
- 1: Recesses for key tool (narrow side)
  - 2: Spring washer
  - 3: Clamping ring



- Fig. 3: P-721.xxQ: Key tool (included in the scope of delivery of the thread adapter set)
- 1: Narrow side of the key tool
  - 2: Wide side of the key tool

# Installation Instructions

P721T0002, applies to P-721.xxQ, P-721.xxA and P-725.xxM/.xxL/.xxS  
ECo/CBo/KSch, 2021-07-27

## Mounting the P-721.xxQ Thread Adapter Set

### NOTICE



#### Possible damage due to excessive torque!

Only moderate torque is required to fix the thread adapter in the PIFOC positioner on the objective side.

- Use the key tool supplied for tightening the thread adapter on the objective side.

### Requirements

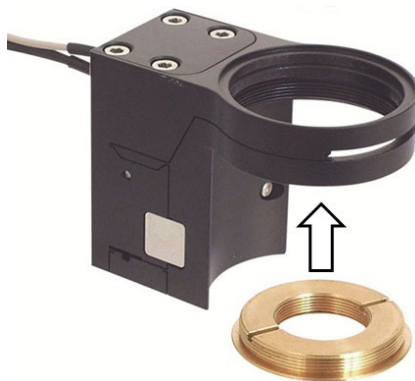
- ✓ The PIFOC positioner is **not** connected to the electronics.

### Tools and accessories

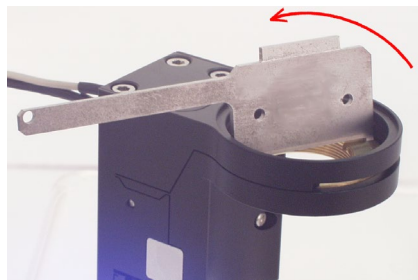
- P-721.xxQ QuickLock thread adapter set
- Key tool supplied (see Fig. 3, p. 5)
- Tightening tool supplied (see Fig. 1, p. 5)

### Mounting the P-721.xxQ thread adapter set

1. Screw the thread adapter for the objective side into the aperture of the PIFOC positioner from below.



2. Tighten the thread adapter on the objective side using the wide face of the key tool as shown in the figure below.



3. Screw the thread adapter on the microscope side into the microscope.
4. Tighten the thread adapter on the microscope side with the narrow side of the key tool.

# Installation Instructions

P721T0002, applies to P-721.xxQ, P-721.xxA and P-725.xxM/.xxL/.xxS  
ECo/CBo/KSch, 2021-07-27

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5. Make sure that the thread adapter's spring washer on the microscope side is neither too tight nor loose. If necessary, set the tension of the spring washer by turning the clamping ring. Only unscrew the clamping ring as far as necessary.
6. Push the PIFOC positioner slowly into the thread adapter on the microscope side until it snaps in completely.
7. Insert the tightening tool into one of the holes in the clamping ring for the thread adapter on the microscope side and lightly tighten the ring. The clamping ring will be visible through the slot in the PIFOC positioner. Make sure the clamping tool is well seated before applying any pressure.
8. Align the PIFOC positioner as required.
9. Tighten the clamping ring for the thread adapter on the microscope side with the tightening tool.
10. Screw the objective from below into the thread adapter on the objective side of the PIFOC positioner. Do not exceed the maximum torque of 0.6 Nm.

# Installation Instructions

P721T0002, applies to P-721.xxQ, P-721.xxA and P-725.xxM/.xxL/.xxS  
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## P-721.xxA Thread Adapter Set (for P-721.xxA and P-725.xCA)

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

QuickLock thread adapter set	Thread size	Aperture diameter
P-721.02A	M26 × 0.75 mm	23 mm
P-721.03A	M27 × 0.75 mm	24 mm
P-721.04A	M28 × 0.75 mm	25 mm
P-721.05A	M32 × 0.75 mm	29 mm
P-721.06A	M26 × 1/36"	23 mm
P-721.11A	M25 × 0.75 mm	22 mm

### Component Overview

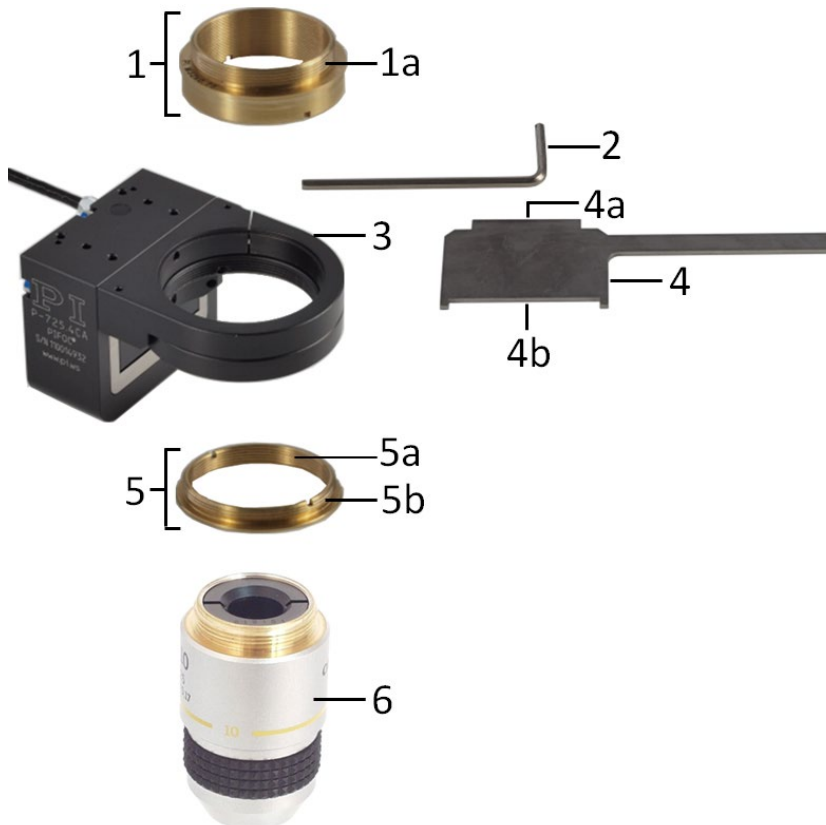


Fig. 4: P-721.xxA thread adapter with PIFOC positioner and microscope objective

- 1: Thread adapter, microscope side:
  - 1a: Thread for microscope
- 2: Hex key (included in the thread adapter set's scope of delivery)
- 3: PIFOC positioner
- 4: Key tool (included in the thread adapter set's scope of delivery):
  - 4a: Narrow side of the key tool
  - 4b: Wide side of the key tool
- 5: Thread adapter, objective side:
  - 5a: Inner thread for microscope objective
  - 5b: Outer thread for PIFOC positioner
- 6: Microscope objective (not included in the scope of delivery)



# Installation Instructions

P721T0002, applies to P-721.xxQ, P-721.xxA and P-725.xxM/.xxL/.xxS  
ECo/CBo/KSch, 2021-07-27

## Mounting the P-721.xxA Thread Adapter Set

### NOTICE



#### Possible damage due to excessive torque!

Only moderate torque is required to fix the thread adapter in the PIFOC positioner on the objective side.

- Use the key tool supplied for tightening the thread adapter on the objective side.

### Requirements

- ✓ The PIFOC positioner is **not** connected to the electronics.

### Tools and accessories

- P-721.xxA QuickLock thread adapter set
- Hex key supplied (see Fig. 4, p. 8)
- Key tool supplied (see Fig. 4, p. 8)

### Mounting the P-721.xxA thread adapter set

1. Screw the thread adapter for the objective side into the aperture of the PIFOC positioner from below.



# Installation Instructions

P721T0002, applies to P-721.xxQ, P-721.xxA and P-725.xxM/.xxL/.xxS  
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2. Tighten the thread adapter on the objective side using the wide face of the key tool as shown in the figure below.



3. Screw the thread adapter on the microscope side into the microscope.
4. Tighten the thread adapter on the microscope side with the wide side of the key tool.
5. Loosen the clamping screw of the aperture using the hex key supplied as shown in the figure below.



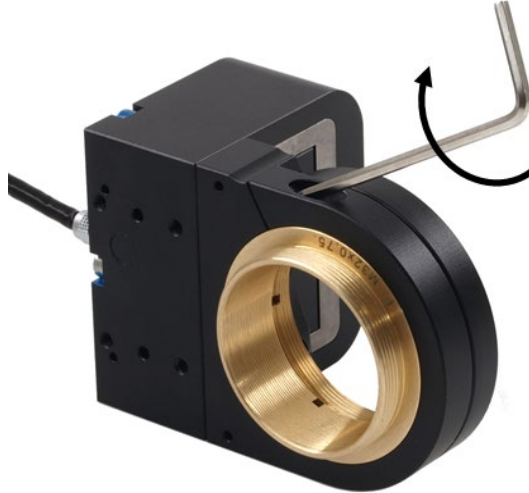
6. Insert the PIFOC positioner into the thread adapter screwed on the microscope.

# Installation Instructions

P721T0002, applies to P-721.xxQ, P-721.xxA and P-725.xxM/.xxL/.xxS  
ECo/CBo/KSch, 2021-07-27

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7. Tighten the thread adapter on the microscope side in the PIFOC positioner using the hex key supplied, as shown in the following figure.



Note: The figure above shows the mounting without microscope.

8. Screw the objective from below into the thread adapter on the objective side of the PIFOC positioner. Do not exceed the maximum torque of 0.6 Nm.

# Installation Instructions

P721T0002, applies to P-721.xxQ, P-721.xxA and P-725.xxM/.xxL/.xxS  
ECo/CBo/KSch, 2021-07-27

## P-725.xxM and P-725.xxL Thread Adapters (for P-725.xCDE2)

The P-725.xxM and P-725.xxL thread adapters are available with apertures that have various different inner diameters:

Thread size	Microscope side thread adapter		Objective / lens side thread adapter	Objective spacer for correcting the parfocal length
	P-725.xxM	ID in mm	P-725.xxL	P-725.xxS
M26 x 0.75	P-725.02M	22	P-725.02L	P-725.02S
M27 x 0.75	P-725.03M	22	P-725.03L	P-725.03S
M28 x 0.75	P-725.04M	22	P-725.04L	P-725.04S
M32 x 0.75	P-725.05M	25	P-725.05L	P-725.05S
M26 x 1/36"	P-725.06M	22	P-725.06L	P-725.06S
M19 x 0.75	P-725.08M	15	P-725.08L	P-725.08S
M25 x 0.75	P-725.11M	22	P-725.11L	P-725.11S
W0.8 x 1/36"	P-725.12M	16	P-725.12L	P-725.12S
SM1 (1.035"-40)	P-725.13M	22	P-725.13L	P-725.13S
M34 x 1	P-725.14M	28	P-725.14L	P-725.14S

## Component Overview

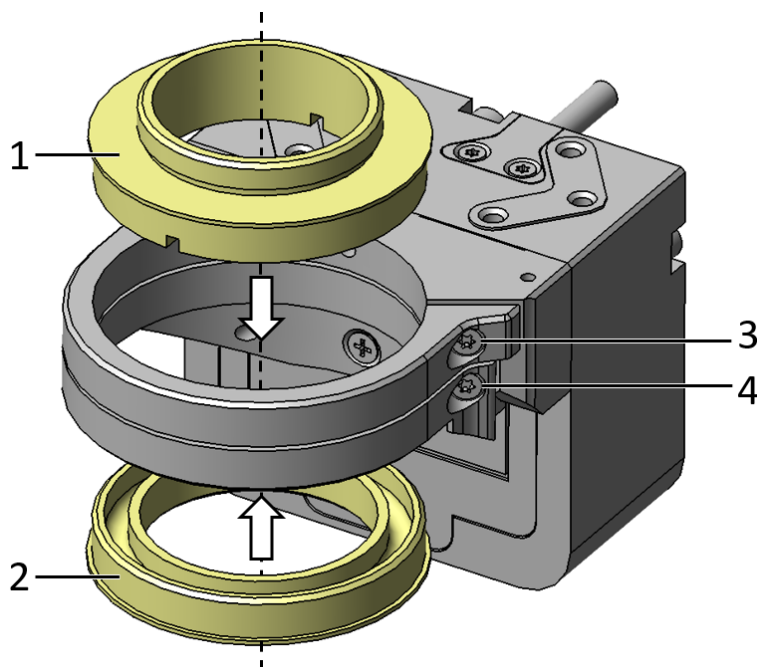


Fig. 5: Schematic diagram of parts relevant for mounting the P-725

1: Thread adapter, microscope side:

2: Thread adapter, objective side:

3: Screw for thread adapter in the microscope side

4: Screw for thread adapter in the objective side

Arrows: Direction for mounting the respective thread adapter into the P-725's aperture

# Installation Instructions

P721T0002, applies to P-721.xxQ, P-721.xxA and P-725.xxM/.xxL/.xxS  
ECo/CBo/KSch, 2021-07-27

## Mounting the P-725.xxM and P-725.xxL Thread Adapters

### Requirements

- ✓ The PIFOC positioner is **not** connected to the electronics.

### Tools and accessories

- P-725.xxM thread adapter for microscope side
- P-725.xxL thread adapter for objective side
- Torx wrench supplied
- Key tool (in the scope of delivery for the P-725.xxM thread adapter)

### Mounting the P-725.xxM and P-725.xxL thread adapters

1. Insert the thread adapter for the objective side into the aperture of the PIFOC positioner from below.
2. Use the Torx wrench to tighten the screw for the thread adapter on the objective side (see figure).
3. Screw the thread adapter on the microscope side into the microscope.
4. Tighten the thread adapter on the microscope side with the wide side of the key tool.
5. Insert the PIFOC positioner into the thread adapter on the microscope side.
6. Use the Torx wrench to tighten the screw for the thread adapter on the microscope side (see figure).
7. Screw the objective from below into the thread adapter on the objective side of the PIFOC positioner. Do not exceed the maximum torque of 0.6 Nm.

## Demounting

### NOTICE



#### Falling down when removing the thread adapters!

The PIFOC positioner could fall down while removing the upper thread adapter (microscope side) if it is not secured or tightly screwed. The thread adapter and the objective screwed in could fall down while removing the lower thread adapters (objective side).

- Secure all parts against falling down while removing the thread adapters:
  - Screw the objective out before removing.
  - Hold the PIFOC positioner firmly when you loosen the upper thread adapter.
- To demount the objective and the PIFOC positioner, reverse the steps of the relevant installation instructions in "Installation" (p. 4).

# Installation Instructions

P721T0002, applies to P-721.xxQ, P-721.xxA and P-725.xxM/.xxL/.xxS  
ECo/CBo/KSch, 2021-07-27

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## Customer Service

For inquiries and orders, contact your PI sales representative or send us an email ([service@pi.de](mailto:service@pi.de)).

- If you have questions concerning your system, provide the following information:
  - Product and serial numbers of all products in the system
  - Firmware version of the controller (if applicable)
  - Version of the driver or the software (if applicable)
  - PC operating system (if applicable)
- If possible: Take photographs or make videos of your system that can be sent to our customer service department if requested.

The current versions of the user manuals can be downloaded at [www.pi.ws](http://www.pi.ws).