



# FO-6000 Inline FO Filter Holder

*FO-6000FILT*

## **INSTRUCTION MANUAL**

Serial No. \_\_\_\_\_

083011

[www.wpiinc.com](http://www.wpiinc.com)



**CONTENTS**

ABOUT THIS MANUAL ..... 1

INTRODUCTION ..... 2

    Features ..... 2

    Notes and Warnings ..... 2

INSTRUMENT DESCRIPTION ..... 3

    Parts List ..... 3

    Unpacking ..... 3

    Setup ..... 3

OPERATING INSTRUCTIONS ..... 4

MAINTENANCE ..... 5

ACCESSORIES ..... 6

TROUBLESHOOTING ..... 7

SPECIFICATIONS ..... 8

INDEX ..... 13

DECLARATION OF CONFORMITY ..... 14

WARRANTY ..... 15

    Claims and Returns ..... 15

    Repairs ..... 15

*Copyright © 2011 by World Precision Instruments, Inc. All rights reserved. No part of this publication may be reproduced or translated into any language, in any form, without prior written permission of World Precision Instruments, Inc.*



## ABOUT THIS MANUAL

The following symbols are used in this guide:

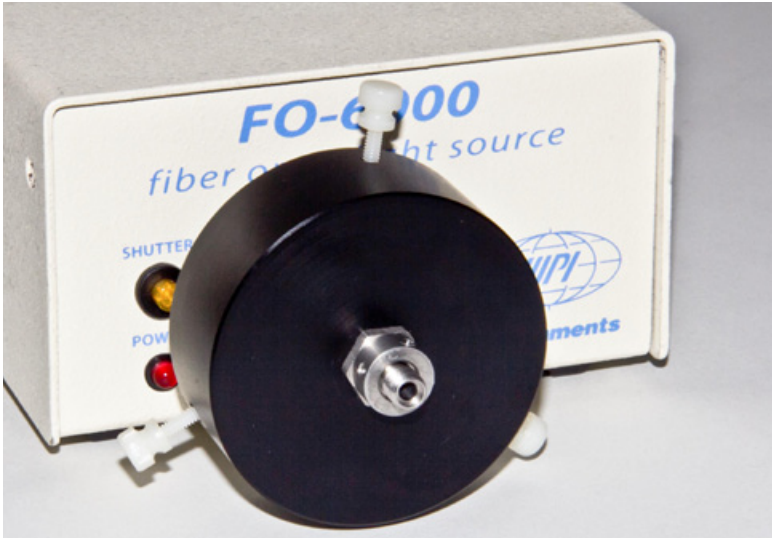


This symbol indicates a CAUTION. Cautions warn against actions that can cause damage to equipment. Please read these carefully.



This symbol indicates a WARNING. Warnings alert you to actions that can cause personal injury or pose a physical threat. Please read these carefully.

NOTES and TIPS contain helpful information.



*Fig. 1—This fiber optic filter holder fits directly on the FO-6000 light source.*

---

# INTRODUCTION

WPI's inline fiber optic filter holder allows insertion of optical filters within a fiber optic pathway. The connectors of the filter holder assembly are compatible with WPI's range of fiber optic cables and can be coupled using SMA connectors.

Filters with outer diameters from 12.7–25.4mm and thickness from 2–10mm may be used. The design limits lateral and axial movement of the filter when secured in the holder.

The pre-aligned fiber optic collimator from the **FO-6000** light source is mounted in the holder to pass collimated light through the filter and then refocus the filtered light into the aperture of the output fiber. Spectral range is largely limited by the bandpass of the optical fibers (from UV to near IR using WPI UV-enhanced cables. See "Accessories" on page 6.

For information on fiber optic collimators and how to adjust them, refer to the collimator manual (*30051-52 Fiber Optic Collimators*) that can be found on the Manuals page of the WPI website ([www.wpiinc.com/manuals](http://www.wpiinc.com/manuals)).

## Parts List

After unpacking, verify that there is no visible damage to the assembly. Verify that all items are included:

- (1) FO-6000FILT Inline Filter Holder Assembly
- (1) Hex wrench for adjusting the filter retaining set screws
- (1) Instruction Manual

## Unpacking

Upon receipt of this instrument, make a thorough inspection of the contents and check for possible damage. Missing cartons or obvious damage to cartons should be noted on the delivery receipt before signing. Concealed damage should be reported at once to the carrier and an inspection requested. Please read the section entitled "Claims and Returns" on page 7 of this manual. Please contact WPI Customer Service if any parts are missing at 941.371.1003 or [customerservice@wpiinc.com](mailto:customerservice@wpiinc.com).

**Returns:** Do not return any goods to WPI without obtaining prior approval (RMA # required) and instructions from WPI's Returns Department. Goods returned (unauthorized) by collect freight may be refused. If a return shipment is necessary, use the original container, if possible. If the original container is not available, use a suitable substitute that is rigid and of adequate size. Wrap the instrument in paper or plastic surrounded with at least 100mm (four inches) of shock absorbing material. For further details, please read the section entitled "Claims and Returns" on page 7 of this manual.

## INSTRUMENT DESCRIPTION

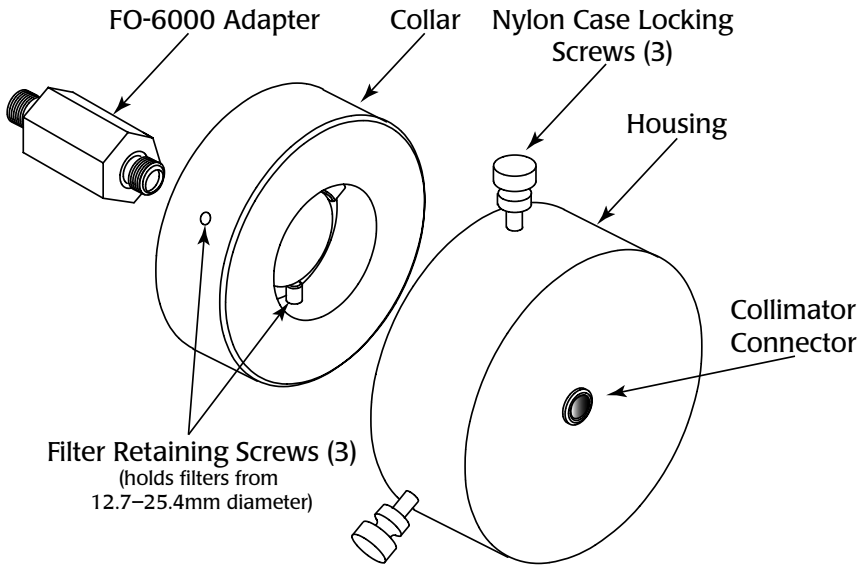


Fig. 2—This exploded view show the three main pieces of the filter holder.

### Installing the Filter Holder on the FO-6000

1. Remove the collimator from the **FO-6000**.
2. Remove the white washer from the collimator.

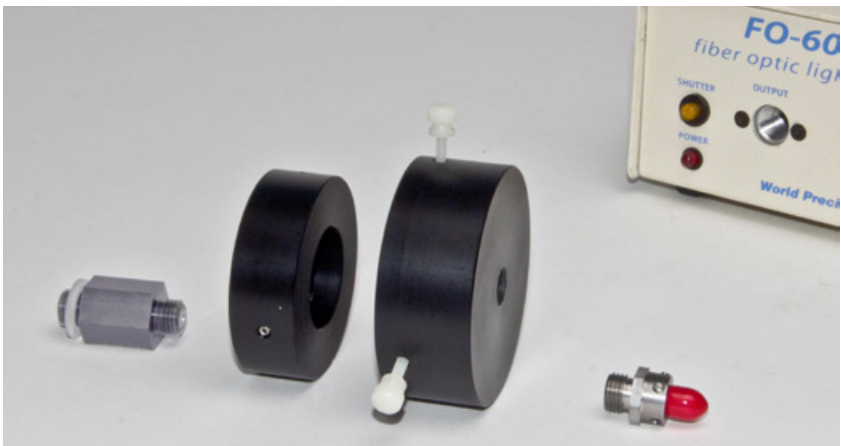


Fig. 3—Remove the collimator from the FO-6000.

- 
3. Notice that the threads on the adapter are the same, but one side is longer. Place the washer on the side of the adaptor with the longest length of threads. (Fig. 4.)



Fig. 4—The short side of the adapter fits into the collar.

4. Screw the short end of the adapter into the collar finger tight.

**NOTE:** If the adapter is install backwards, the filter could crack.

5. Screw the other end of the adapter (with the washer installed) into the Output connection on the front of the **FO-6000**. (Fig. 5.) Tighten it finger tight to prevent stray light from entering the unit.

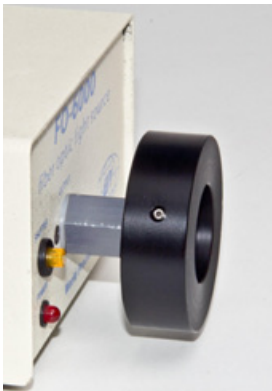


Fig. 5—(left) The adapter (with the washer installed) fits into the FO-6000 Output connector.  
Fig. 6—(right) The filter slides into the collar and the three filter retaining screws hold it in place.

6. Install the filter. See “Mounting a Filter” on page 5.
7. Orient the housing as desired and slide it over the collar. Tighten the nylon case locking screws finger tight to secure it in place. (Fig. 7.)



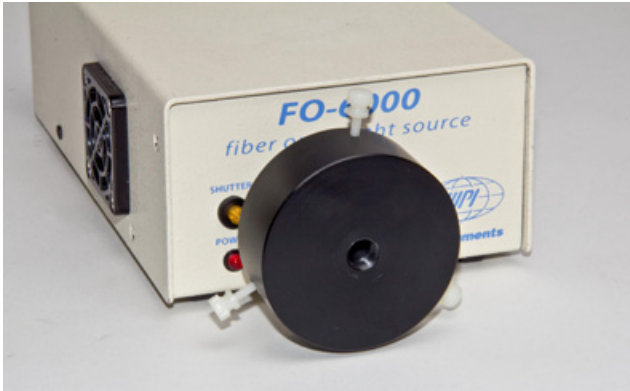


Fig. 7—When the housing is installed, secure it with the white screws.

8. Screw the collimator (taken from the **FO-6000**) into the housing.

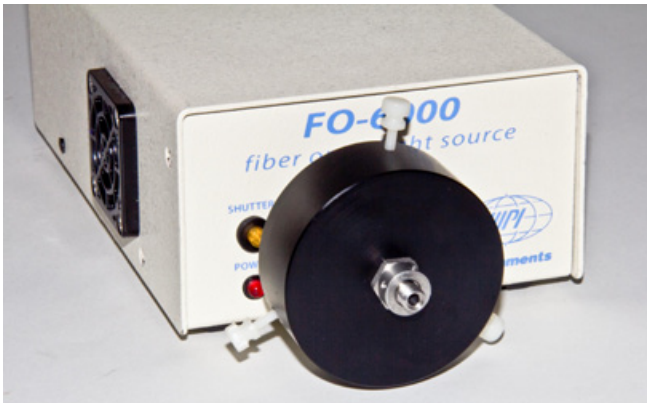


Fig. 8—Once the collimator is installed, the unit is ready.

## Mounting a Filter

1. Remove the housing by loosening the white nylon case locking screws until the unit comes apart.
2. Place the filter in the center of the collar. Use a mounted filter, if possible.
3. Using the Allen wrench provided, gently secure the filter by tightening the filter retaining setscrews. Over-tighten could damage the filter
4. Slide the filter housing over the collar. Tighten the case locking screws finger tight.
5. Attach the fibers to the SMA connector of the collimators.

---

# ACCESSORIES

---

**Table 1: Accessories**

<b>Part Number</b>	<b>Description</b>
<b>300051</b>	Fiber Optic Collimator for connecting to an SMA terminated optical fiber
<b>FO-50-SMA</b>	Fiber Optic cable, SMA, 50mM Core, UV-Enhanced
<b>FO-100-SMA</b>	Fiber Optic cable, SMA, 100mM Core, UV-Enhanced
<b>FO-200-SMA</b>	Fiber Optic cable, SMA, 200mM Core, UV-Enhanced
<b>FO-400-SMA</b>	Fiber Optic cable, SMA, 400mM Core, UV-Enhanced
<b>FO-400SMA/ST</b>	Fiber Optic cable, SMA/ST adapter, 400mM Core, UV-Enhanced
<b>FO-600-SMA</b>	Fiber Optic cable, SMA, 600mM Core, UV-Enhanced
<b>FO-1000-SMA</b>	Fiber Optic cable, SMA, 1000mM Core, UV-Enhanced

# SPECIFICATIONS

This unit conforms to the following specifications:

Lens diameter	5 mm
Lens focal distance	10 mm
Lens material	Ultraviolet grade synthetic fused silica (KU-1)
Wavelength range	170 nm-2 $\mu$ m
Mounting threads	3/8-24 UNF
Divergence	< 0.1 rad for 1 mm core fiber
Fiber connector interface	SMA (#300051) or ST (#300052)

## WARRANTY

WPI (World Precision Instruments, Inc.) warrants to the original purchaser that this equipment, including its components and parts, shall be free from defects in material and workmanship for a period of 30 days\* from the date of receipt. WPI's obligation under this warranty shall be limited to repair or replacement, at WPI's option, of the equipment or defective components or parts upon receipt thereof f.o.b. WPI, Sarasota, Florida U.S.A. Return of a repaired instrument shall be f.o.b. Sarasota.

The above warranty is contingent upon normal usage and does not cover products which have been modified without WPI's approval or which have been subjected to unusual physical or electrical stress or on which the original identification marks have been removed or altered. The above warranty will not apply if adjustment, repair or parts replacement is required because of accident, neglect, misuse, failure of electric power, air conditioning, humidity control, or causes other than normal and ordinary usage.

To the extent that any of its equipment is furnished by a manufacturer other than WPI, the foregoing warranty shall be applicable only to the extent of the warranty furnished by such other manufacturer. This warranty will not apply to appearance terms, such as knobs, handles, dials or the like.

WPI makes no warranty of any kind, express or implied or statutory, including without limitation any warranties of merchantability and/or fitness for a particular purpose. WPI shall not be liable for any damages, whether direct, indirect, special or consequential arising from a failure of this product to operate in the manner desired by the user. WPI shall not be liable for any damage to data or property that may be caused directly or indirectly by use of this product.

## Claims and Returns

Inspect all shipments upon receipt. Missing cartons or obvious damage to cartons should be noted on the delivery receipt before signing. Concealed loss or damage should be reported at once to the carrier and an inspection requested. All claims for shortage or damage must be made within ten (10) days after receipt of shipment. Claims for lost shipments must be made within thirty (30) days of receipt of invoice or other notification of shipment. Please save damaged or pilfered cartons until claim is settled. In some instances, photographic documentation may be required. Some items are time-sensitive; WPI assumes no extended warranty or any liability for use beyond the date specified on the container

Do not return any goods to us without obtaining prior approval and instructions from our Returns Department. Goods returned (unauthorized) by collect freight may be refused. Goods accepted for restocking will be exchanged or credited to your WPI account. Goods returned which were ordered by customers in error are subject to a 25% restocking charge. Equipment which was built as a special order cannot be returned.

## Repairs

Contact our Customer Service Department for assistance in the repair of apparatus. Do not return goods until instructions have been received. Returned items must be securely packed to prevent further damage in transit. The Customer is responsible for paying shipping expenses, including adequate insurance on all items returned for repairs. Identification of the item(s) by model number, name, as well as complete description of the difficulties experienced should be written on the repair purchase order and on a tag attached to the item.

*\* Electrodes, batteries and other consumable parts are warranted for 30 days only from the date on which the customer receives these items.*



## ***World Precision Instruments, Inc.***

### **USA**

International Trade Center, 175 Sarasota Center Blvd., Sarasota FL 34240-9258  
Tel: 941-371-1003 • Fax: 941-377-5428 • E-mail: sales@wpiinc.com

### **UK**

1 Hunting Gate, Hitchin, Hertfordshire SG4 0TJ  
Tel: 44 (0)1462 424700 • Fax: 44 (0)1462 424701 • E-mail: wpiuk@wpi-europe.com

### **Germany**

Zossener Str. 55, 10961 Berlin  
Tel: 030-6188845 • Fax: 030-6188670 • E-mail: wpide@wpi-europe.com

### **China & Hong Kong**

WPI Shanghai Trading Co., Ltd.  
Rm 20a, No8 Dong Fang Rd., Lu Jia Zui Financial District, Shanghai PRC  
Tel: +86 688 85517 • E-mail: chinasales@china.wpiinc.com

### **Internet**

[www.wpiinc.com](http://www.wpiinc.com)