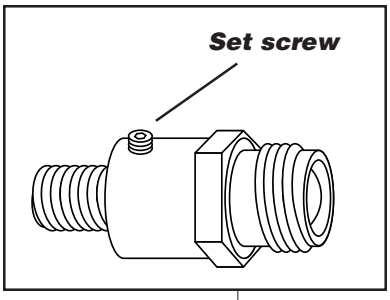
# Fiber Optic Collimator

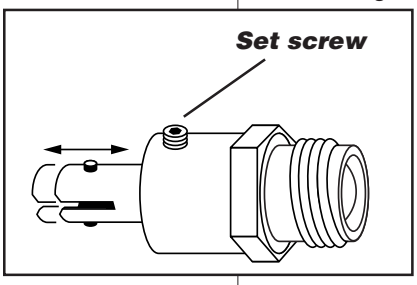
*Produces a collimated beam of UV or visible light*




***Fiber Optic Collimator #300051***

WPI's Fiber Optic Collimator can be used for both collimating a light beam emitted by an optical fiber or coupling light from a collimated light beam into an optical fiber. The numerical aperture of the collimator is optimized for maximum coupling efficiency into typical fused silica fibers. The collimator can, for example, be used to guide a parallel light beam through a sample cuvette or an optical filter with very little optical losses. In this application, one collimator collimates the light into a parallel beam 5 mm in diameter, enabling it to pass a long distance without losing the energy. After the light passes the sample media, a second collimator can be used to collect the beam into the receiving fiber. A unique design feature of this collimator is that the distance between the lens and the optical fiber can be easily adjusted. This permits it to be used as a focusing device or for fine-tuning the color balance when coupling light from a light source into a fiber.

Fiber Optic Collimator **300051** connects to SMA-terminated optical fiber. Fiber Optic Collimator **300052** connects to ST-terminated optical fiber. The collimator is factory-set to collimate light from a 200-micron diameter quartz fiber optic cable. Other assorted quartz and plastic fiber optic cables with various core sizes are available from WPI. If a fiber optic cable other than the 200 μm quartz fiber optic cable is used, the collimator may require adjustments to optimize its performance.




***Fiber Optic Collimator #300052***

The set screws on the collimator body is used to adjust the collimated output beam. Using any light source such as the **Fiber Optic Color Wheel** (WPI's model **FOCW**) or **F-O-Lite** and a fiber optic cable, shine the light from the collimator onto a flat white surface (at more than 1m from the collimator) and watch the beam. If the light beam appears collimated (a high contrast beam) then it may not require any adjustment. If the beam appears diffused then some focusing adjustments may be required. With the supplied wrench, loosen the set screws on the collimator. Hold the collimator body and with attached fiber optic cable. Slide the cable slowly in and out to obtain the best collimated beam. Tighten the set screw. Collimation adjustments can also be made for other distances if required by following the same procedure described above.

Take care not to introduce contamination on the lens surface.

## COLLIMATOR SPECIFICATIONS

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|---|---|
| Lens diameter | 5 mm |
| Lens focal distance | 10 mm |
| Lens material | Ultraviolet grade synthetic fused silica (KU-1) |
| Wavelength range | 170 nm-2 μm |
| 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 one year* 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.

The foregoing obligations set forth in this paragraph are in lieu of all obligations and liabilities, including all warranties of merchantability or otherwise, expressed or implied or statutory, and state WPI's entire and exclusive liability and purchaser's exclusive remedy for any claim of damages in connection with the sale or furnishing of all equipment, including design, suitability for use, operation, or installation. There are no warranties which extend beyond the description of the face hereof. In no event shall WPI be liable for any special or consequential damages.

**Warning: This equipment is not designed or intended for use on humans.**

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


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