

# USB-FHS Filter Holder Installation Instructions

## Description

The Ocean Optics USB-FHS Direct –attach Filter Holder consists of a USB-ISS-VIS light source mounted onto a base plate. This product is designed to attach a light source directly to a USB Series Spectrometer.

The light source includes a tungsten source and violet LED, which provide extra signal in the blue region. The USB-FHS is used to measure the transmission of filters and other samples up to 18-mm thick.



For more information about the Ocean Optics USB Series Spectrometers, visit our website at <http://www.oceanoptics.com>. Select *Technical* → *Operating Instructions*, then select the desired USB Spectrometer from the available drop-down lists. Or, use the **Search by Model Number** field at the bottom of the web page.

Engineering-level documentation is located on our website at *Technical* → *Engineering Docs*.

## Parts Included

The Ocean Optics USB-FHS ships with the following items:

- USB-ISS-VIS light source attached to a metal plate
- Collimating lens
- 10-pin connector extension
- Five screws

## Attaching the Spectrometer to the USB-FHS

### ► Procedure

Follow the steps below to attach the USB Series Spectrometer to the USB-FHS Filter Holder:

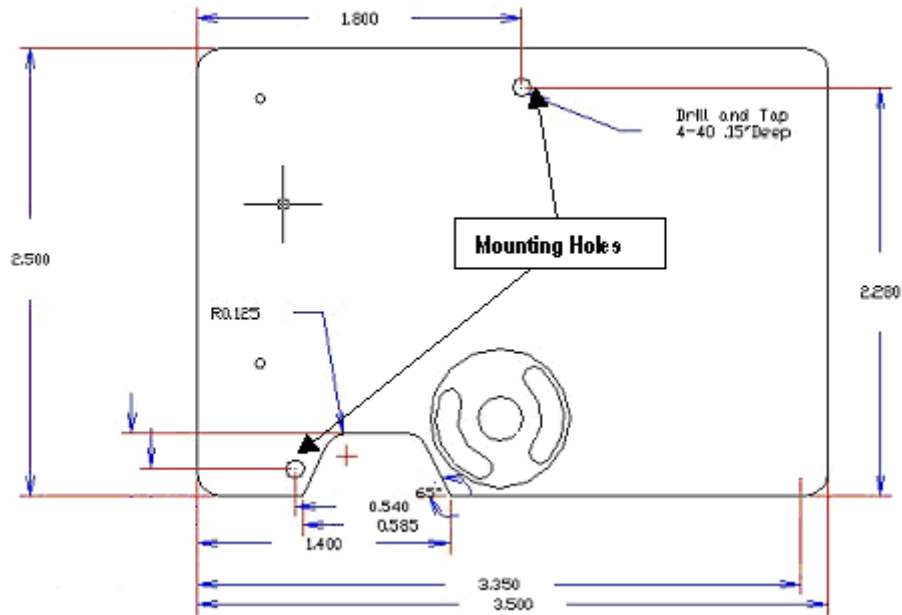
1. Use two of the screws provided to attach the collimating lens to the spectrometer.



2. Attach the female end of the 10-pin connector extension to the USB-FHS Filter Holder and the male end to the spectrometer.



3. Use two of the screws provided to attach the USB2000 to the USB-FHS metal plate.



Bottom of USB Spectrometer

## Specifications

Specifications	Criteria
Physical Specifications (with base plate):	
Physical Dimensions	153 mm x 89 mm x 40.8 mm
Weight	320 g (with base plate)
Power Consumption	160 mA at +5 VDC
Spectrometer	USB Series (USB2000, USB2000+, USB4000)
Filter Size (maximum)	50-mm diameter round; any sample up to 18-mm thick
Light Source	Tungsten bulb and violet LEDs
Wavelength Range	390–950 nm
Bulb life (hours)	45,000
Time to stabilized output	~5 minutes

