

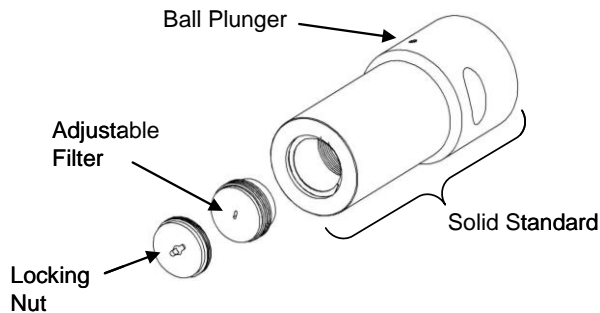
Introduction

The following information describes how to use the Cyclops-6K Solid Secondary Standards:

| | |
|--------------|---|
| P/N 2160-900 | <i>In Vivo</i> Chlorophyll, Phycocyanin and Phycoerythrin |
| P/N 2160-901 | CDOM/FDOM, Crude Oil and Refined Fuels |

Features

- Can be used in place of a primary liquid standard once a correlation between a primary standard and the solid standard is established.
- Can be used to check fluorometer stability and/or check for loss in sensitivity.
- Provides a broad range of very stable fluorescent responses.
- Has an adjustment screw allowing users to set to a desired signal.

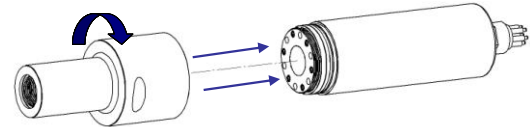


Specifications

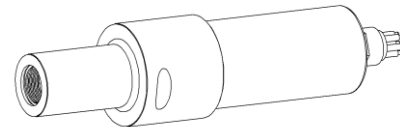
| | |
|---------------|----------------------|
| Material | Delrin |
| Weight | 90.7 g (0.2 lbs.) |
| Length | 9.7 cm (3.82 inches) |
| Base Diameter | 5.2 cm (2.05 inches) |

Installation

- 1) Align Solid Secondary Standard with Cyclops-6K Sensor's optical head and snap on the Solid Secondary Standard.
- 2) Slightly rotate Solid Secondary Standard until it is set into position. *Note: you will feel/hear a click when the Ball Plunger seats into position.*



- 3) The Solid Standard's signal is now ready to be adjusted using the green screwdriver provided with the Solid Standard



- 4) Unscrew the locking nut as far as it will go.
- 5) Insert the green screwdriver through the hole in the locking nut and rotate until it engages with the adjustment screw on the Adjustable Filter beneath the locking nut.
- 6) Rotate the Adjustable Filter to adjust the reading. Turning clockwise increases the signal and counterclockwise decreases the signal.
- 7) Once the desired reading has been obtained, the locking nut should be screwed down to hold the Adjustable Filter firmly in place.

Note: The response of every solid standard is unique. A new correlation must be determined for every sensor.

Use of the Solid Secondary Standard for *in vivo* Chlorophyll Applications

1. Using your Cyclops-6K Fluorometer, measure a sample containing algae and record the response and the gain values for that measurement.
2. Dry off the optical end of the Cyclops-6K, attach the Solid Secondary Standard to the fluorometer, and adjust the Solid Secondary Standard to produce the same response in the same gain as in step 1.
3. Perform a chlorophyll extraction to determine the actual chlorophyll concentration of the sample.

Note: EPA Method 445.0 (in vitro determination of chlorophyll in algae) can be found on Turner Designs' website.

4. The Solid Secondary Standard's signal is now equivalent to the concentration value determined from step 3 and can be used in place of a liquid primary standard for future calibration of that specific Cyclops-6K Fluorometer.

Care and Storage

Solid Secondary Standards should be stored at room temperature (~20 degree C) in their case when not in use and kept free of dust and moisture. Special care must be taken with the UV Solid Secondary Standard P/N 2160-901 to ensure that it is not exposed to UV light for prolonged periods of time. This can result in degradation of the standard.