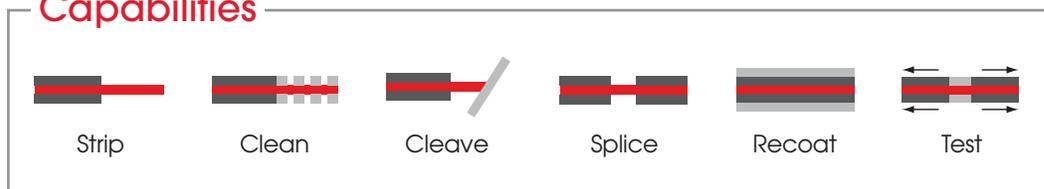


All-in-One Workstations



FFS2000WS

Capabilities



vytran® All-in-One Workstations

Thorlabs' Vytran® All-in-One Workstations allow you to take fiber through the stripping, cleaning, cleaving, splicing, and recoating process at one convenient station.

We offer four different All-in-One Workstations that can handle single mode and multimode fibers with claddings from $\varnothing 80 \mu\text{m}$ to $\varnothing 200 \mu\text{m}$. Options that support polarization-maintaining fibers and offer proof testing setups are also available.

Integrated True Core Imaging® technology provides high-resolution images of the sides and end faces of the fibers for precise measurement and alignment. An array of stepper motors position, align, and rotate the fibers for high-quality, low-loss splicing.

Applications

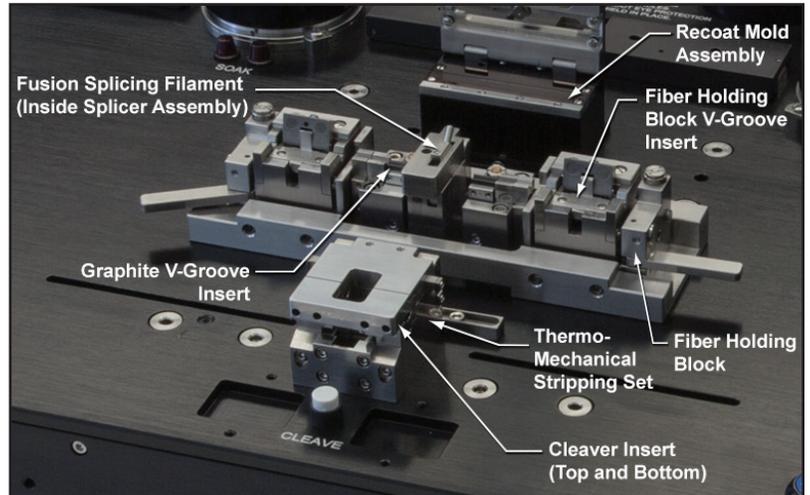
- ◆ Complete Workstation for End-to-End Production of Fiber Optic Gyros (FOG)
- ◆ 20 Year History of Commercial FOG Production
- ◆ Ideal for $\varnothing 80 \mu\text{m}$, $\varnothing 125 \mu\text{m}$, and $\varnothing 200 \mu\text{m}$ Cladding Fibers

THORLABS

System Overview

Features

- ◆ Integrated Stations for Each Fiber Processing Step
- ◆ Carriages and Blocks for Transporting Fiber Between Stations
- ◆ Simple Layout for Fast, Convenient Production
- ◆ True Core Imaging® for Automatic Fiber Alignment and Accurate Splice Loss Determination
- ◆ Quartz Recoat Molds for Best Recoat Diameter Accuracy
- ◆ Includes PC with GUI Software



Each labeled component above can be purchased separately to configure the workstation for various fiber types.

Specifications

Item #	FFS2000	FFS2000PM	FFS2000PT	FFS2000WS
Accepted Fiber Cladding Diameters	80 to 200 μm			
Fiber Type	SM or MM	SM, MM, or PM	SM or MM	SM, MM, or PM
Thermo-Mechanical Stripper				
Accepted Coating Materials	Single or Dual Acrylate			
Maximum Stripping Temperature	~130 °F (54 °C)			
Ultrasonic Cleaner				
Accepted Cleaning Solvents	Acetone or Isopropyl Alcohol			
Cleaning Time	1 to 120 s			
Cleaver				
Cleave Method	Tension and Scribe (ACL83 Replacement Blade Sold Separately)			
Cleave Type	Flat (0°)			
Maximum Tension ^a	2.45 N (0.55 lbs)			
Splicing				
Fusion Method	Filament Fusion			
Filament Power	40 W (Max)			
XY Fiber Positioning Resolution	Stepper Motor Controlled with 0.01 μm Resolution			
Z Fiber Feed Resolution	Stepper Motor Controlled with 0.125 μm Resolution			
Insertion Loss (SMF to SMF)	0.02 dB (Typical)			
Tensile Strength	≥ 250 kpsi (Typical)			
Recoating				
Recoat Mold	Quartz			
Recoat Diameter	$\varnothing 280 \mu\text{m}$, $\varnothing 430 \mu\text{m}$, or $\varnothing 600 \mu\text{m}^b$			
UV Source	Four Tungsten Halogen Lamps (UVRB Replacement Bulb Sold Separately)			
Proof Testing				
Maximum Tension ^c	N/A		89 N (20 lbs)	
Mandrel Size	N/A		$\varnothing 2"$ ($\varnothing 50.8 \text{ mm}$)	
Accuracy	N/A		$\pm 2\%$	

a. Tension can be adjusted manually by the user for different fiber sizes. The cleaver is calibrated using standard weights that are hung off a pulley, so the tension settings are programmed in grams. The maximum tension corresponds to 250 g.

b. Additional sizes available upon request by contacting techsupport@thorlabs.com.

c. The proof tester is calibrated using standard weights that are hung off of a pulley, so the tension settings are programmed in grams. This maximum tension corresponds to 9.1 kg.

1. Soak

Use the coating soaking station for fibers that require a solvent pre-soak to soften the coating before stripping the fiber.

2. Strip

A thermo-mechanical stripping station provides a fast, single-step process for safely removing acrylate coatings while maintaining fiber integrity.

3. Clean

The ultrasonic fiber cleaning station removes coating particles and residue left on the glass surface that could reduce splice strength.

4. Cleave

An automatic fiber cleaver produces a flat cleave, which is important for achieving low-loss splices.

5. Fuse

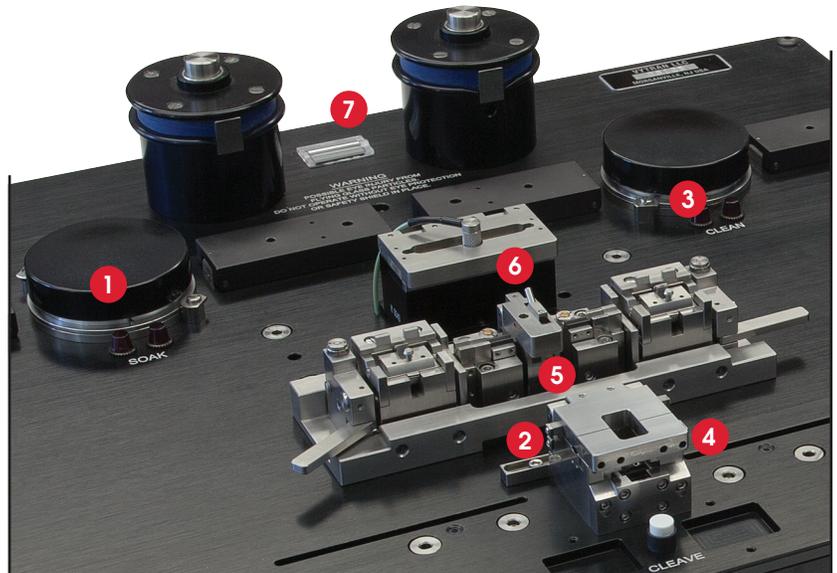
Our omega-shaped filament provides uniform, concentric heating for fusing fibers.

6. Recoat

The recoater restores the protective polymer coating over the spliced region.

7. Test

The rotary proof tester can perform tension tests, where a splice is tested to failure, or proof tests, where a splice is tested to a specified tension.



Top of FFS2000WS with Numbers Marking the Location of Each Step

Build Your System

Required for Basic Setup

- ◆ One FFS2000 Series Workstation
- ◆ Two V-Groove Inserts for Fiber Holding Blocks
- ◆ One Thermo-Mechanical Stripping Blade Set
- ◆ >99.999% Purity Argon Gas
- ◆ Two Bottom Cleaver Inserts
- ◆ Two Top Cleaver Inserts
- ◆ One Mold Assembly for Recoater
- ◆ Recoat Material
- ◆ Soaking and Cleaning Solvents



Recoat Mold Assembly



Stripping Blade Set



Fusion Splicing Filament

Additional Customization

- ◆ Filament Options
 - Tungsten Filaments for High-Heat, Large-Core Applications
 - Iridium Filaments for Soft Glass Fibers Requiring Lower Heat
- ◆ Fiber Holder Insert Options
 - V-Groove Inserts and Cleaver Inserts Come in Various Sizes to Accommodate a Range of Fiber Diameters
- ◆ Stock Recoater Mold Assemblies for Three Coating Diameters; Short Lead Times on Custom Sizes
- ◆ High Index and Low Index Options for UV-Cured Recoat Material

Contact Us

Contact Vytran for assistance in selecting components for your specific application.

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