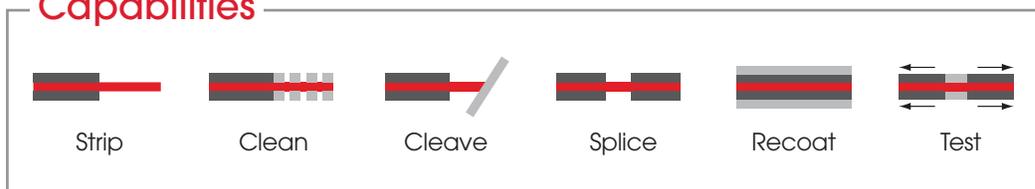


All-in-One Workstations



FFS2001WS

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 $\text{\O}80 \mu\text{m}$ to $\text{\O}200 \mu\text{m}$. 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

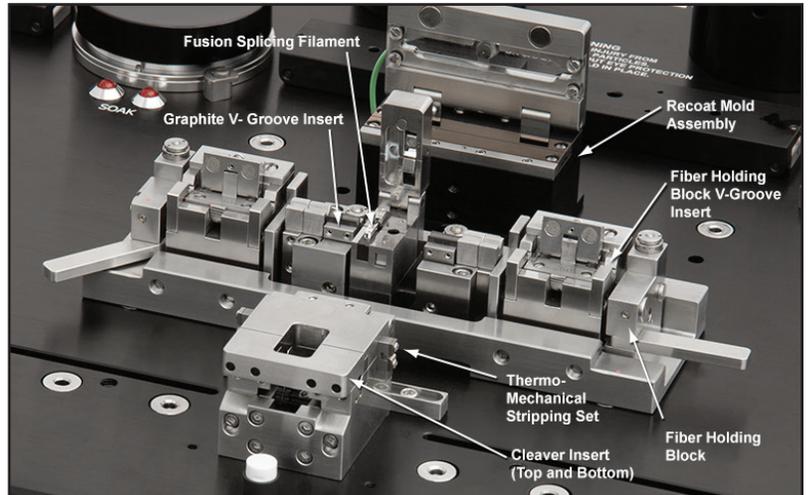
- ◆ Complete Workstation for End-to-End Production of Fiber Optic Gyros (FOG)
- ◆ 20 Year History of Commercial FOG Production
- ◆ Ideal for $\text{\O}80 \mu\text{m}$, $\text{\O}125 \mu\text{m}$, and $\text{\O}200 \mu\text{m}$ Cladding Fibers

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 #	FFS2001	FFS2001PM	FFS2001PT	FFS2001WS
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	Ø280 µm, Ø430 µm, or Ø600 µm ^b			
UV Source	14 UV LEDs			
Proof Testing				
Maximum Tension^c	N/A		89 N (20 lbs)	
Mandrel Size	N/A		Ø2" (Ø50.8 mm)	
Accuracy	N/A		±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

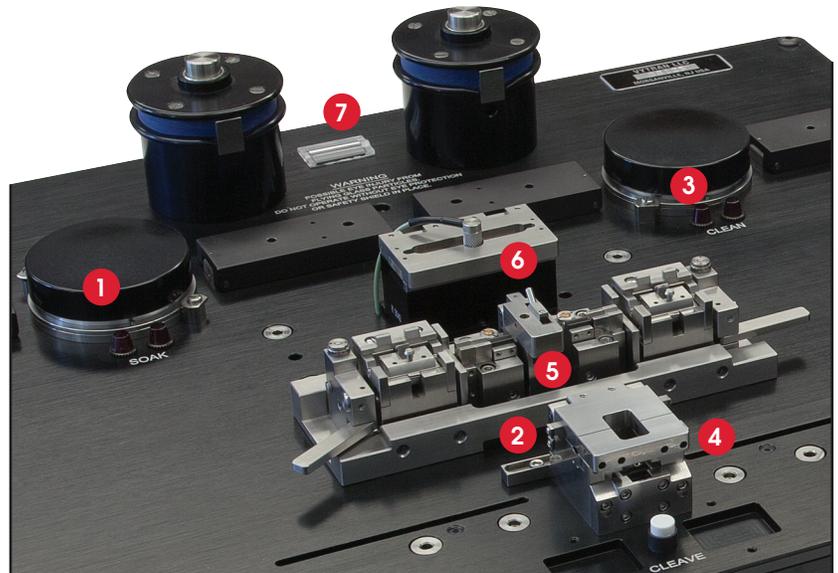
Our omega-shaped filament provides uniform, concentric heating for fusing fibers.

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 FFS2001WS with Numbers Marking the Location of Each Step

Build Your System

Required for Basic Setup

- ◆ One FFS2001 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

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



Recoat Mold Assembly



Stripping Blade Set



Fusion Splicing Filament

Contact Us

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

1-973-300-3000 or
techsales@thorlabs.com



Robert Walz
General Manager
Thorlabs Vytran Division

Worldwide Support



Thorlabs, Inc.
Newton, New Jersey
Phone: 1-973-300-3000
Email: sales@thorlabs.com

Thorlabs Vytran® Division
Morganville, New Jersey
Phone: 1-973-300-3000
Email: sales@thorlabs.com

Thorlabs Measurement Systems (TMS) - NJ
Sparta, New Jersey
Phone: 1-908-362-6200
Email: tms-sales@thorlabs.com

Thorlabs Measurement Systems (TMS) - NH
Londonderry, New Hampshire
Phone: 1-973-300-3000
Email: tms-sales@thorlabs.com

Thorlabs Lens Systems
Rochester, New York
Phone: 1-973-300-3000
Email: techsales@thorlabs.com

Thorlabs Quantum Electronics (TQE)
Jessup, Maryland
Phone: 1-973-300-3000
Email: sales-TQE@thorlabs.com

Thorlabs Imaging Systems
Sterling, Virginia
Phone: 1-703-651-1700
Email: imaging-sales@thorlabs.com

Thorlabs Spectral Works (TSW)
West Columbia, South Carolina
Phone: 1-973-300-3000
Email: sales@thorlabs.com

Thorlabs Ultrafast Optoelectronics
Ann Arbor, Michigan
Phone: 1-973-300-3000
Email: sales@thorlabs.com

Thorlabs Laser Division
Lafayette, Colorado
Phone: 1-973-300-3000
Email: sales@thorlabs.com

Thorlabs Crystalline Solutions (TCS)
Santa Barbara, California
Phone: 1-973-300-3000
Email: sales@thorlabs.com

Thorlabs Praevium Research Division
Goleta, California

Thorlabs Canada
Phone: 1-973-300-3000
Email: sales@thorlabs.com

Thorlabs Ltda, Brazil
Phone: +55 (21) 2018 6490
Email: brasil@thorlabs.com

Thorlabs Ltd.
Phone: +44 (0)1353 654440
Email: sales.uk@thorlabs.com

Thorlabs SAS France
Phone: +33 (0) 970 444 844
Email: sales.fr@thorlabs.com

Thorlabs GmbH / Thorlabs Lübeck
Phone: +49 (0) 8131 5956-0
Email: europe@thorlabs.com

Thorlabs Elliptec® GmbH
Phone: +44 (0)1353 654440
Email: sales.uk@thorlabs.com

Thorlabs Vytran® Europe
Phone: +44 (0) 1392-445777
Email: vytran.uk@thorlabs.com

Thorlabs Sweden AB
Phone: +46 31 733 30 00
Email: scandinavia@thorlabs.com

Thorlabs China Ltd.
Phone: +86 (0)21-60561122
Email: chinasales@thorlabs.com

Thorlabs Japan
Phone: +81-3-6915-7701
Email: sales@thorlabs.jp