

PTR202 - July 31, 2017

Item # PTR202 was discontinued on July 31, 2017. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

VYTRAN® FIBER PROOF TESTERS

▶ Proof and Tension Test Fusion-Spliced Fibers
▶ Linear Proof Tester for Loads up to 20 N
▶ Rotary Proof Tester for Loads up to 89 N

PTR201
Linear Proof Tester
(Handset Controller on Left)

VHJT
Top Fiber Block Insert (Sold Separately)

VHJ500
Bottom Fiber Block Insert (Sold Separately)

PTR202
Rotary Proof Tester

Strip Clean Cleave Splice Taper Recoat Test

OVERVIEW

Features

- Test Fusion-Spliced Fiber's Strength and Durability
- Two Types
 - Linear: Proof Testing with Loads up to 20 N (4.5 lbs)
 - Rotary: Proof and Tension Testing with Loads up to 89 N (20 lbs)
- Fully Programmable with Handset Controller

Item #	PTR201	PTR202
Proof Tester Type	Linear	Rotary
Load Mechanism	1.5" (38 mm) Linear Fiber Clamp	Ø2" (50.8 mm) Rotating Mandrel ^a
Fiber Spacing	2.9" (74 mm)	5" (127 mm)
Minimum Fiber Length	6" (150 mm)	17" (432 mm)
Maximum Load	20 N (4.5 lbs) 235 kpsi (1.6 GPa) for a Ø125 µm Fiber	89 N (20 lbs) >800 kpsi (5.5 GPa) for a Ø125 µm Fiber
Accuracy	±2%	
Ramp Rate^b	Programmable, ≤22.2 N/s (5 lbs/s)	Manual, ≤22.2 N/s (5 lbs/s)
Display Units	lbs, kg, N, kpsi, and GPa	
Dimensions (L x W x H)	10.25" x 5.0" x 5.0" (260 mm x 127 mm x 127 mm)	10.25" x 7.0" x 5.0" (260 mm x 178 mm x 127 mm)

Thorlabs' Vytran® Proof Testers apply a set load to a fusion-spliced fiber at a controlled rate in order to test the spliced fiber's strength.

- Check the minimum short-term bend radius of the fiber to be tested to ensure its compatibility with the Ø2" mandrel.
- The ramp rate is the rate at which the load is applied to the fiber.

These proof testers feature either a linear proof tester (Item # PTR201) or a rotary proof tester (Item # PTR202). The linear proof tester can perform simple proof tests for loads up to 20 N (4.5 lbs). The rotary tester can perform both proof testing and tension testing for loads up to 89 N (20 lbs), making it ideal for process qualifications where very high proof test or tension test levels are required.

During proof or tension testing, the load is taken up to a predetermined level and released. Proof testing is employed in manufacturing applications to ensure the fiber can support the necessary service load. To ensure the long-term reliability of the spliced fiber, the proof test level should be about three times higher than the intended service load. For tension testing, the load is typically increased to the breaking point of the fiber and is best suited for engineering and development applications.

Both testing processes are fully programmable, allowing the user to select parameters such as the load, the rate at which the load is applied, and the hold time.

Fiber Block Inserts and Replacement Proof Test Grips

When ordering the PTR201, it is also necessary to order inserts for its fiber holding blocks. These inserts cover a range fiber coating diameters from 80 µm to 1000 µm. Custom sizes are also available; please contact Tech Support for more information.

The PTR202 does not use fiber holding blocks, and thus it is unnecessary to purchase any inserts for its operation. The Rotary Proof Tester includes one set of proof test grips; replacement proof test grips for the PTR202 are available below in packs of 10.

PRODUCT DEMOS

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Appointment Scheduling and Customer Support

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Product Demonstrations

Thorlabs has demonstration facilities for the Vytran® fiber glass processing systems offered on this page within our Morganville, New Jersey office. We invite you to schedule a visit to see these products in operation and to discuss the various options with a fiber processing specialist. Please schedule a demonstration by contacting technical support. We welcome the opportunity for personal interaction during your visit!

SELECTION GUIDE

The table below outlines the entire PTR series to directly compare the capabilities across the whole line.

Vytran® PTR Series Recoater and Proof Tester Selection Guide ^a														
Item #		PTR205	PTR208	PTR303	PTR303B	PTR304	PTR304B	PTR206	PTR206B	PTR207	PTR207B	PTR201	PTR202	
Recoat Process	Automatic	✓	✓	-	-	-	-	-	-	-	-	-	-	
	Manual	-	-	✓	✓	✓	✓	✓	✓	✓	✓	-	-	
Proof Tester	Linear	-	✓	-	-	-	-	✓	✓	-	-	✓	-	
	Rotary	-	-	-	-	-	-	-	-	✓	✓	-	✓	
Recoat Injection Pump	Automatic	✓	✓	✓	-	✓	-	✓	-	✓	-	-	-	
	Manual	-	-	-	✓	-	✓	-	✓	-	✓	-	-	
Maximum Recoat Length	50 mm	✓	✓	✓	✓	-	-	✓	✓	✓	✓	-	-	
	100 mm	-	-	-	-	✓	✓	-	-	-	-	-	-	
Recoat Material	High Index (Item # AB950200)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	
	Low Index (Item # PC373)	-	-	-	✓	-	✓	-	✓	-	✓	-	-	
Controller Type	Handset	✓	✓	-	-	-	-	✓	✓	✓	✓	✓	-	
	Tablet	-	-	✓	✓	✓	✓	-	-	-	-	-	✓	
Mold Cleaning Requirement		Daily ^b			After Every Recoat Process								N/A	

- These recoaters are designed to be used with high- or low-index recoater material. Thorlabs also offers the PRL201, which is designed for polyimide-coated fibers.
- The mold assembly of these recoaters should be cleaned before the first recoating process of the day and then again after the last recoating process of the day.

Fiber Proof Testers

- ▶ Fiber Proof Tester with Linear or Rotary Proof Tester
 - ▶ Linear: Proof Testing up to 20 N (4.5 lbs)
 - ▶ Rotary: Proof and Tension Testing up to 89 N (20 lbs)
- ▶ Ensure the Long-Term Reliability of the Fiber Splice
- ▶ Fully Programmable with Push Button Operation

Components

Included

- Fiber Proof Tester
- Location-Specific Power Cord
- Handset Controller

Must be Purchased Separately (PTR201 Only)

- Fiber Block Top Inserts (Two Required)
- Fiber Block Bottom Inserts (Two Required)

Thorlabs' Fiber Proof Testers use either a linear or rotary mechanism to test the strength and reliability of a fusion-spliced fiber. The PTR201 utilizes an integrated linear proof tester, which takes the fiber up to a predetermined load (≤20 N) and then releases it. The testing process is fully programmable, allowing the user to select parameters such as the load, the rate at which the load is applied, and the hold time. To ensure the long-term reliability of the fiber, the proof test level should be about three times higher than the applied service load for the spliced fiber.

The PTR202 uses an integrated rotary proof tester, which can perform both proof and tension tests (≤89 N). Tension testing takes the fiber up to its breaking point, and the peak tension is recorded in units of tension (pounds, kilograms, or Newtons) or in units of stress (kpsi or GPa). The testing processes of the rotary proof

testers are also fully programmable. The proof tester includes one set of proof test grips; replacement proof test grips are available separately below.

Each tester comes with a handset controller that allows the user to fully program and control the unit; all proof and tension test parameters can be set through this controller.

Part Number	Description	Price	Availability
PTR201	Fiber Linear Proof Tester	\$9,390.00	Today
PTR202	Fiber Rotary Proof Tester	\$10,350.00	Today

Fiber Block Inserts - Two Top and Two Bottom Required for PTR201

- ▶ Fiber Block Inserts for PTR201 Linear Proof Tester
- ▶ Choose Two Top Inserts and Two Bottom Inserts

For the PTR201 tester sold directly above, the proper set of inserts need to be selected. A total of four inserts (two top and two bottom) are required for a fully functioning unit. The inserts are seated in and secured to the fiber holding blocks. They can easily be swapped out for different sizes, allowing our recoaters to adapt quickly should different fiber coating sizes be desired. These inserts are compatible with fiber coatings ranging from Ø80 µm to Ø1000 µm.

Compatible Fiber Buffer/Coating Diameters & Tester					
Item #	Top or Bottom	Nominal Diameter	Minimum Diameter	Maximum Diameter	Compatible Tester
VHJT	Top	-	80 µm	700 µm	PTR201
VHJT900 ^a	Top	900 µm	700 µm	1000 µm	
VHJ250	Bottom	250 µm	80 µm	375 µm	
VHJ500	Bottom	500 µm	375 µm	700 µm	
VHJ900S ^a	Bottom	900 µm	700 µm	1000 µm	

- Custom mold sizes are available for Ø900 µm fiber coatings for both our automatic and manual fiber recoaters. Please contact Tech Support for more information.

Custom sizes are available; please contact Tech Support for additional information.

Part Number	Description	Price	Availability
VHJT	Top Insert for PTR201, PTR206, & PTR208, Flat	\$102.00	Today
VHJT900	Top Insert for PTR201, PTR206, & PTR208, for Use with VHJ900S Only	\$133.00	Today
VHJ250	Bottom Guide Insert for PTR201, PTR206, & PTR208, Ø80 µm - Ø375 µm Coating	\$189.00	Today
VHJ500	Bottom Guide Insert for PTR201, PTR206, & PTR208, Ø375 µm - Ø700 µm Coating	\$189.00	Today
VHJ900S	Bottom Guide Insert for PTR201, PTR206, & PTR208, Ø700 µm - Ø1000 µm Coating	\$133.00	Today

Replacement Proof Test Grips for Fiber Rotary Proof Testers

The PG200 Proof Test Grips are designed as replacements for the Vytran rotary proof testers listed to the right. Each system is sold with a set of these grips installed.

Compatible Systems

Proof test grips may need to be replaced when the fiber slips at high tension levels. After the proof test grips are replaced the system will need to be calibrated; please contact Tech Support for details. Instructions for replacing the proof test grips are provided in each system's manual.

- PTR202 Fiber Rotary Proof Tester
- PTR207 and PTR207B Manual Fiber Recoaters with Proof Testers
- FFS2000PT Fiber Preparation and Splicing Workstation
- FFS2000WS Fiber Preparation, Splicing, and Proof Testing Workstation

Part Number	Description	Price	Availability
PG200	Replacement Proof Test Grips for Rotary Proof Testers, Qty. 10	\$51.00	Today



PTR202