*LAZER*Master®

LZM-125A+ Splicing System

The LAZERMaster LZM-125A+ is a splicing and glass processing system that uses a CO_2 laser heat source to perform splicing, tapering (to create MFAs), lensing, or other glass shaping operations with glass diameters of 2.0 mm or less. The high-resolution optical analysis system works in conjunction with on-board firmware for fully automatic splicing, tapering and other glass shaping processes.

High precision glass processing is enabled by the intuitive and user- friendly on-board firmware (virtually identical to that of the Fujikura FSM-100 splicers). Operations may also be performed manually and by PC control. The FPS PC control GUI is supplied with the LZM-125A+ to provide additional features, greater flexibility, and finer control. The FSP GUI may be used on a PC chosen by the customer. Customers can also create proprietary PC control algorithms using a complete set of PC control commands.
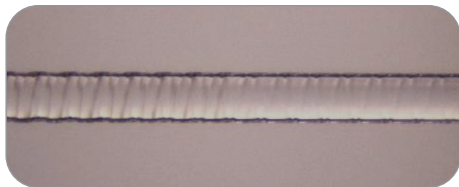
Ablated Fiber Surface
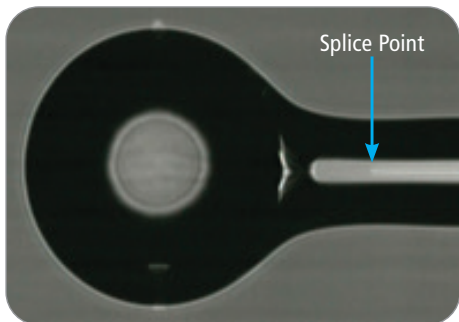
Coreless Ball Lens to Collimate SMF Fiber
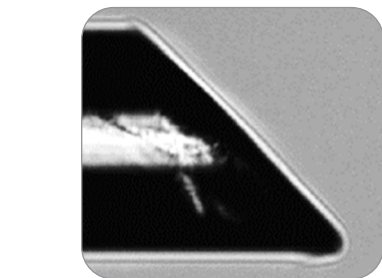
Ablated Fiber Surface

Features

- Fiber Ablation that can be used for cleaving, shaping, or custom mode stripping
- Splices and glass processing of fibers with 80 µm up to 2.0 mm diameter
- High resolution motion for precise control during splicing and glass processing operations
- Extensive library of applications which are transferable between the LZM and FSM family
- FPS PC GUI provides additional measurement capabilities and glass shaping control
- Clean modular laser heat source: Absolutely no deposits on fiber surface as might occur with filaments or electrodes.
- Substantially reduces maintenance and calibration requirements
- Proprietary feedback system ensures heating power stability
- No need for external process gas (as required with filament systems) or Vacuum systems
- Class 1 System with redundant automated laser safety features
- Motorized mirrors to automatically adjust the beam path

Ordering Information

DESCRIPTION
LAZERMaster LZM-125A+ Glass Processing and Splicing System (Standard baseline LZM-125 system. Includes AC adapters and cords and FPS PC software.)
Optional Tablet PC (includes FPS software pre-installed) (recommended)
LZM Training (Optional US based at customer locations)
LZM Training (Optional International)
Splicer V-groove Cleaning Kit

Specifications and descriptions are subject to change without prior notice.

FUjikura

Laser Splicing Systems

*LAZER*Master®

LZM-125A+ Splicing System

Specifications

PARAMETER	CO₂ LASER
Fiber Heating and Splicing Method	30 W standard
CO₂ Laser Power	Metal cover with multiple interlocks, class 1 enclosure, automatic actuation of shutter, automatic laser power cutoff
Laser Safety Features	Proprietary feedback system assures laser beam power stability
Laser Beam Control	Standard beam size is 4.5 mm X 2 mm and a minimum spot of 30 µm for ablations)
Typical Splice Loss	0.02 dB for SMF (ITU-T G.652)
Typical Splice Strength	250+kpsi for SMF (ITU-T G.652) using appropriate fiber preparation equipment
Camera Field of View	2.3 mm
Fiber Observation Methods	PAS (Profile Alignment System) via transverse fiber observation WSI (Warm Splice Image) and WTI (Warm Taper Image) End-view observation
Applicable Fiber Diameter	End-view observation
V-Groove Clamping System	80 µm to 2000 µm for automatic alignment by PAS Larger diameter endcaps may be aligned manually
Fiber Handling	Infinitely variable from 80 µm up to 2000 µm Clamping bare fiber or fiber coating in the "split V-groove" system
Alignment Methods	• PAS (Profile Alignment System, automatic alignment by camera observation) • Manual • PC control with Power Meter feedback via GPIB/USB • End-view
Endless Theta Rotation	360° endless rotation, angle resolution 0.1°
X/Y Alignment Resolution	Sub-micron
Maximum Z Travel Length	18 mm (both left and right Z units) as well as sweep with a total of 36 mm
Z Travel Resolution	0.125 µm theoretical
Maximum Taper Length	32 mm
Maximum Taper Ratio	10:1 standard (For uniform direction, one-pass tapering) Dual direction tapering offers greatly increased taper ratios, as does tapering with more than one tapering pass.
Maximum Taper Speed	1 mm/sec standard
Splicing Control	Internal firmware or operation by PC
Fiber Tapering and Glass Shaping Control	Internal firmware or operation by PC
PC Control	FPS software will be provided Complete command set for PC control
PC Option	Optional Tablet PC (includes FPS software pre-installed). Use of the FPS software on a PC provides finer control and additional features compared to the LZM-110 internal firmware
Interface Ports	USB 2.0 (For PC communications, data and image download, etc.) GPIB/USB (for power meter feedback)
Electrical Power	100-240 VAC
Operating Conditions / Storage Conditions	10 to 40°C / 5 to 60°C
Rotation Motors	For LZM-125A+, theta rotational motion is available for PM fiber alignment.
PM Fiber Alignment Methods	• AS (For PANDA and other PM fibers) • I A (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) • End-vie • ower meter feedback (Requires polarizer and analyzer, as well as GPIB interface) • Manua • Other methods by PC contro
End-View Observation and Alignment	Internal end-view system
Flexibility for Customer Design Input	Customizable platform

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Opternus

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