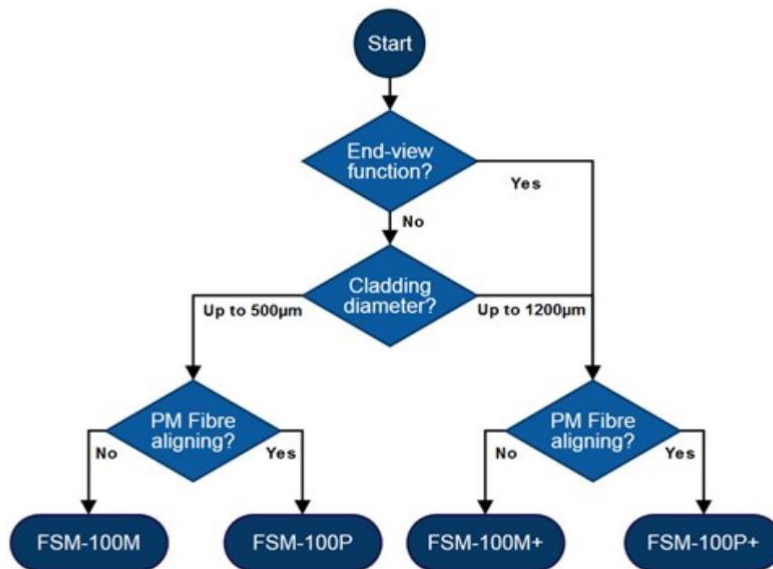


## Fujikura - Fusion Splicers Specialty - Overview

### Fusion Splicers - Specialty



Fujikura's ARCMaster™ splicers are engineered with features to offer customers superior splicing technology and reliability available in the global market. The need for Accurate, Reliable, and Consistent splicing has expanded to applications beyond telecommunications. The ARCMaster™ splicer series from Fujikura is developed to provide the ultimate in performance and flexibility for diverse markets around the world.



ARCMaster FSM-100M  
and FSM-100P



ArcMaster FSM-100M+  
and 100P+



LAZERMasteR  
LZM-100 Laser  
Splicing System



LAZERMasteR  
LZM-110M /110P



LAZERMasteR  
LZM-110M+ /110P+  
Splicing and Glass  
Processing System

Specifications and descriptions are subject to change without prior notice.

**Fujikura - Arc Master FSM-100series**

Specialty Fiber Fusion Splicers



**ARC Master™**  
**FSM-100 series**

FSM-100M, FSM-100P, FSM-100M+, FSM-100P+

- Advanced plasma zone control methods
- LDF (Large Diameter Fiber) splicing capability
- Enhanced arc calibration methods
- Dual splice loss estimation
- Enhanced Sweep arc
- Fiber profile learning function
- Enhanced ability for fiber shaping, glass processing, tapering
- EndView observation system (FSM-100M+, FSM-100P+)
- Advanced PM fiber alignment methods (FSM-100P, FSM-100P+)



**FSM-100P**



**FSM-100P+**

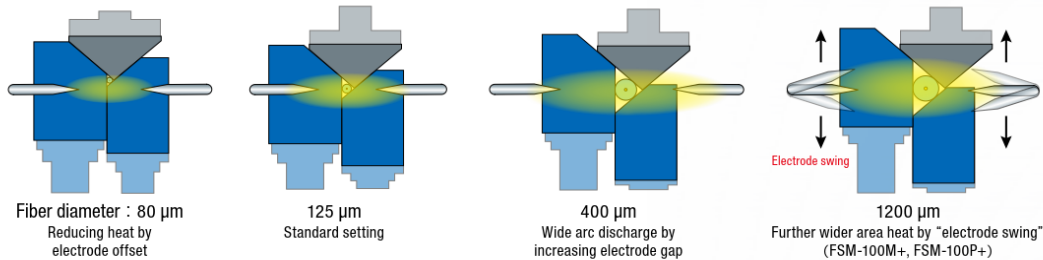
# FSM-100 series

Fujikura specialty fiber splicer FSM-100 series offer a host of innovative technology to address the rapidly expanding splicing needs for factory, manufacturing, laboratory and R&D applications. These models are introduced as "ArcMaster" splicers due to their unique capabilities to control the plasma zone of the fusion arc. These capabilities will revolutionize the way users will splice various types of specialty fibers, LDFs, PMFs and so on.

## Functions

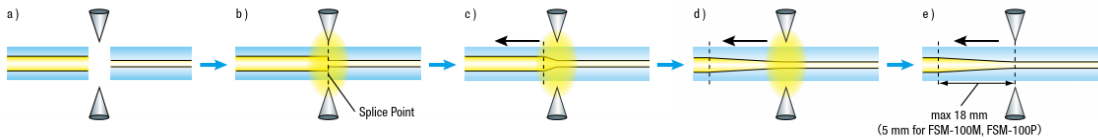
### Optimum Plasma Zone Control

Patented "Split V-groove" and electrode systems create flexible the plasma zone flexible.



### Enhanced Sweep Arc

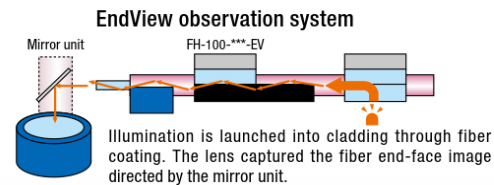
Sweep function moving both L and R fiber together, guides to better splice loss especially for dissimilar fiber splicing and fiber shaping.



### PM Fiber Splicing FSM-100P, FSM-100P+

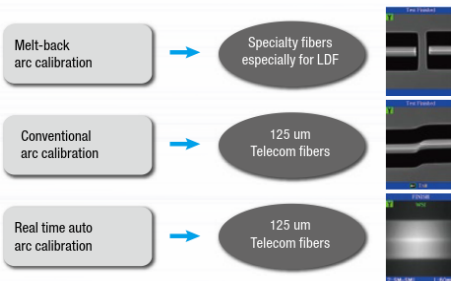
Three alignment methods for PM fibers

- Fast PANDA mode aligning by PAS system
- New IPA mode for aligning all kinds of PM fibers
- EndView PM fiber aligning (FSM-100P+ only)



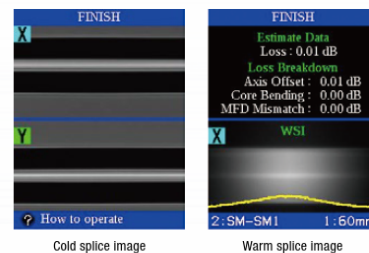
### Enhanced Arc Calibrations

FSM-100 series provides three types of arc calibration methods, for not only 125  $\mu\text{m}$  fibers but also LDF.



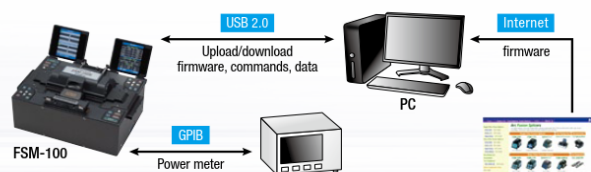
### Dual Splice Loss Estimation

FSM-100 series provides loss estimation method by both cold and warm splice image. It offers accurate splice loss estimation.



### USB, GPIB Communication

Splicer firmware can be upgraded via internet connection. Also, splice data upload/download is available. GPIB connection provides power meter feedback aligning.



### Fiber Profile Learning function

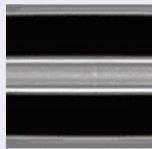
The splicer learns the fiber profile with the adequate focusing in order to observe the core accurately. After learning, it shorten the splicing time.

FSM-100P and FSM-100P+ learn the PM fiber profile to analyze polarization.

## FSM-100 series can...

### Specialty Fiber Splicing

#### PM Fiber Splicing

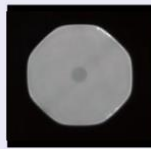


By PAS  
FSM-100P  
FSM-100P+



By EndView  
FSM-100P+

#### Special Shape Fiber Splicing



Polygon shape fiber  
FSM-100P+

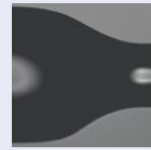


Photonic crystal fiber  
FSM-100M+  
FSM-100P+

#### Dissimilar Fiber Splicing



Different MFD



Different diameter



### Fiber Shaping

#### Tapering

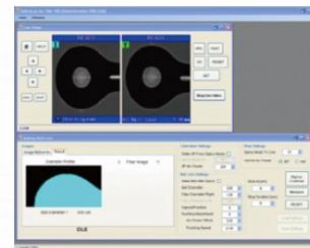


#### End Cap



PC software "SpliceLab" for  
"Fiber Shaping" is available.

Applicable to  
Microsoft Windows® XP, 7



### Comparison of FSM-100 series

	FSM-100M	FSM-100P	FSM-100M+	FSM-100P+
Cladding diameter	60 ~ 500 μm		60 ~ 1200 μm	
Cleave length	Coating clamp	3-8 mm (standard 4 mm)		8-13 mm (standard 9 mm)
	Glass clamp	3-21 mm (standard 4 mm)		8-26 mm (standard 9 mm)
PM fiber splicing	-	✓	-	✓
EndView	-	-	-	✓
Electrode swinging	-	-	-	✓
Maximum sweep length	± 5 mm		± 18 mm	

## Specifications

Description		FSM-100M	FSM-100P	FSM-100M+	FSM-100P+
Applicable Fiber	Fiber Type	SMF (ITU-T-G652), NZDSF (G655), MMF (G651), EDF, DCF LDF (large diameter fibers) and other specialty fibers.			
	PM fiber	—	PANDA and other PMF	—	PANDA and other PMF
	Cladding Diameter	60 to 500 µm		60 to 1200 µm	
	Coating Diameter	100 to 2000 µm			
	Fiber Count	single			
Cleave Length	Coating Clamp	3-8 mm (standard 4 mm)		3-21 mm (standard 4 mm)	
	Glass Clamp	8-13 mm (standard 9 mm)		8-26 mm (standard 9 mm)	
Typical Splice Loss	SMF	0.03 dB			
	NZDSF/LDF	0.05 dB			
	MMF	0.02 dB			
	PMF	—	0.06 dB	—	0.06 dB
Typical Splice Time	SMF	15 sec			
	NZDSF/LDF	25 sec			
	PMF (PANDA)	—	30 to 50 sec	—	30 to 50 sec
	PMF (non-PANDA)	—	70 to 300 sec	—	70 to 300 sec
Typical Polarization Crosstalk	PMF (PANDA)	—	-40 dB/0.6 deg	—	-40 dB/0.6 deg
	PMF (non-PANDA)	—	-32 dB/1.6 deg	—	-32 dB/1.6 deg

Description	FSM-100M	FSM-100P	FSM-100M+	FSM-100P+
EndView Observation System	—		with EndView mirror	
Return Loss	>>60 dB			
Tube Heat Time	30 sec for FP-03 (40 mm), 24 to 45 sec for FPS-series			
Electrode Life	2500 arc discharged, SMF with 1 mm electrode gap			
Proof Test	1.96 to 2.45 N			
Image Magnification on LCD	35 to 300 changeable			
Num. of Splice Program	300 for splice, 100 for heater mode			
Num. of Splice Data Storage	2000 for splice data, 100 for splice image			
Language	English / Japanese / Chinese / French			
Display	Dual 4.1" color LCD monitor			
Dimensions [mm] ※ 1	311 (W) x 232 (D) x 160 (H)	470 (W) x 232 (D) x 160 (H)		
Weight	7.5 kg	8.0 kg	7.9 kg	9.0 kg
Power Supply	AC100-240 V (50/60 Hz) with AC adaptor ADC-15			
Operation Condition	0 to 95%RH and 0 to 40° respectively			
Storage Condition	0 to 95%RH and -40 to 80° respectively			
Terminals	Power supply: DC19 V 4.5 A			
	USB2.0 (mini-B type) for PC communication			
	IEEE-488 24pin for power meter feedback splicing			
Two 6 pin mini-DIN connector for external equipments				

※ 1 : excluding rubber foot

## Standard Items

Name	Model	FSM-100M	FSM-100P	FSM-100M+	FSM-100P+
Splicer Main Body	FSM-100M	1pc	—	—	—
	FSM-100P	—	1pc	—	—
	FSM-100M+	—	—	1pc	—
	FSM-100P+	—	—	—	1pc
Carrying Case	CC-27	1pc			
Fiber Holder	FH-100-250	1pair			
	FH-100-250-EV	—	—	1pair	
	FH-100-400	—	1pair	—	1pair
	FH-100-400-EV	—	—	—	1pair
AC Adaptor	ADC-15	1pc			
AC Code	ACC-xx	1pc: ACC-01: Japan, -02: USA, -03: UK, -04: EU, -05: Australia			
Electrodes	ELCT2-25	2pairs (1pair for spare)		—	
	ELCT3-25	—		1pair	
	ELCT3-25-LDF	—		1pair for spare	
EndView Light Source	EV-LS01	—		2pcs	
USB Cable	USB-01	1pc			
Dust Cleaning Stick	DCS-01	1pc			
Electrode Cleaner	EC-01	—		1pc	
Warning and Cautions	W-100MP-E	1pc			
Instruction Manual	M-100MP-E	1pc			
Splicing Report	SR-01-E	1pc			

## Standard Package



## Optional Items

Item	Model	Note
Fiber Holder	FH-100-xxx	xxx: coating diameter 060, 100, 125, 150, 180, 210, 250, 300, 350, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000
	FH-100-xxx-EV	-EV model is the fiber holder for EndView observation system.
	FH-40-LT900	for 900 µm coating loose tube fiber.
Fiber Cleaver	CT-100	Cladding diameter: 80-250 µm, Cleave length: 3-40 mm, Angled cleaving available up to 15 deg.
	CT-32	Cladding diameter: 125 µm, Cleave length: 3-5, 8-10 mm
	CT-38	Cladding diameter: 80 µm, Cleave length: 3-5, 8-10 mm
Jacket Strippt	JS-02-900	Cladding diameter: 125 µm, Coating diameter 900 µm
	HJS-02	Cladding diameter: 125 µm, Coating diameter 250-400 µm
	HJS-02-80	Cladding diameter: 80 µm, Coating diameter up to 250 µm
	PCS-100	for polyimide coated fiber
Ultra Sonic Cleaner	USC-02	
Recoater & Proof Tester	FSR-02	Selectable mold size: 195 µm, 280 µm, 450 µm, 670 µm, 1000 µm
Protection Sleeves	FP-, FPS-series	

Specifications and descriptions are subject to change without prior notice.

---

---

**Fujikura - LAZER Master LZM-110M P**

Splicing and Glass Processing System



**LZM-110M /110P**

**LAZERMaster™**

**Tremendous Capability for Production:**

- Splices and glass processing of fibers with 80 um up to 2.3 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 & glass shaping control

**CO<sub>2</sub> Laser Heat Source for Splicing & Glass Shaping:**

- Very clean heat source: Absolutely no deposits on fiber surface as might occur with filaments or electrodes. Provides extremely stable & repeatable operation with virtually no maintenance
- Substantially reduces maintenance & 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 Laser with redundant automated laser safety features



# LZM-110M /110P

## LAZERMaster™

The LZM-110M /110P LAZERMaster is a splicing and glass processing system that uses a CO<sub>2</sub> laser heat source to perform splicing, tapering (to create MFAs), lensing, or other glass shaping operations with glass diameters of 2.3 mm. 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-110M /110P 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.

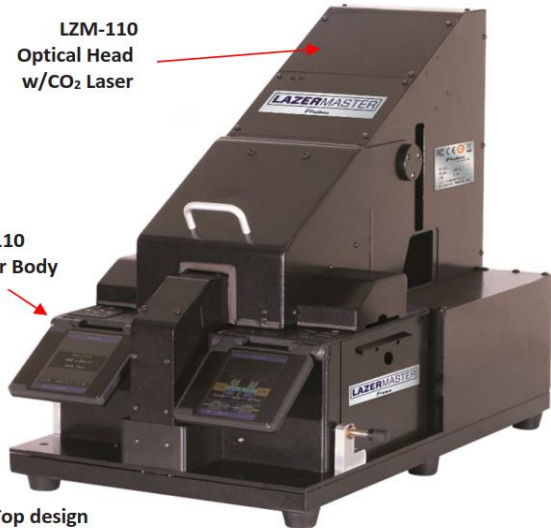
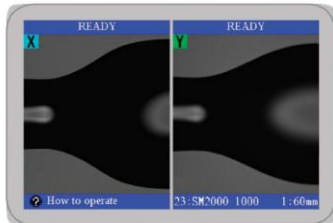
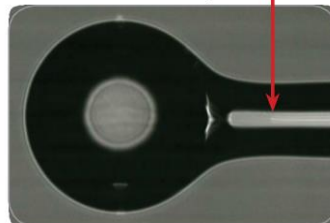


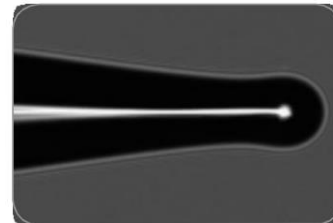
Table Top design



1 mm to 2 mm X-LDF Splice



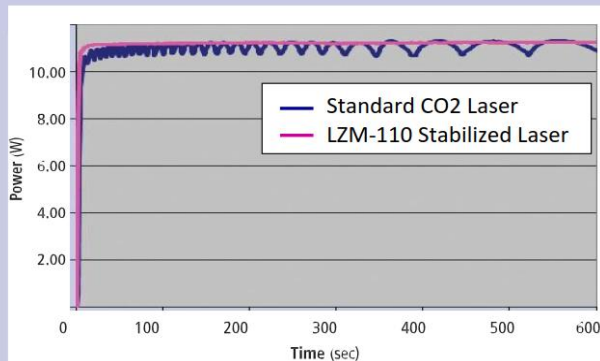
Coreless Ball Lens to Collimate SMF Fiber Output



Tapered Probe with Small Ball End

### Clean & Stable Heating by CO<sub>2</sub> Laser

The LZM-110 LAZERMaster uses a CO<sub>2</sub> laser heat source to heat fibers, ensuring repeatable performance and low maintenance, and eliminating electrode or filament maintenance and instability. CO<sub>2</sub> laser heating also eliminates any deposits on the fiber surface that might occur from use of a filament or electrodes. The very clean and deposit-free fiber surface ensures reliable operation of very high power fiber lasers or power delivery systems.

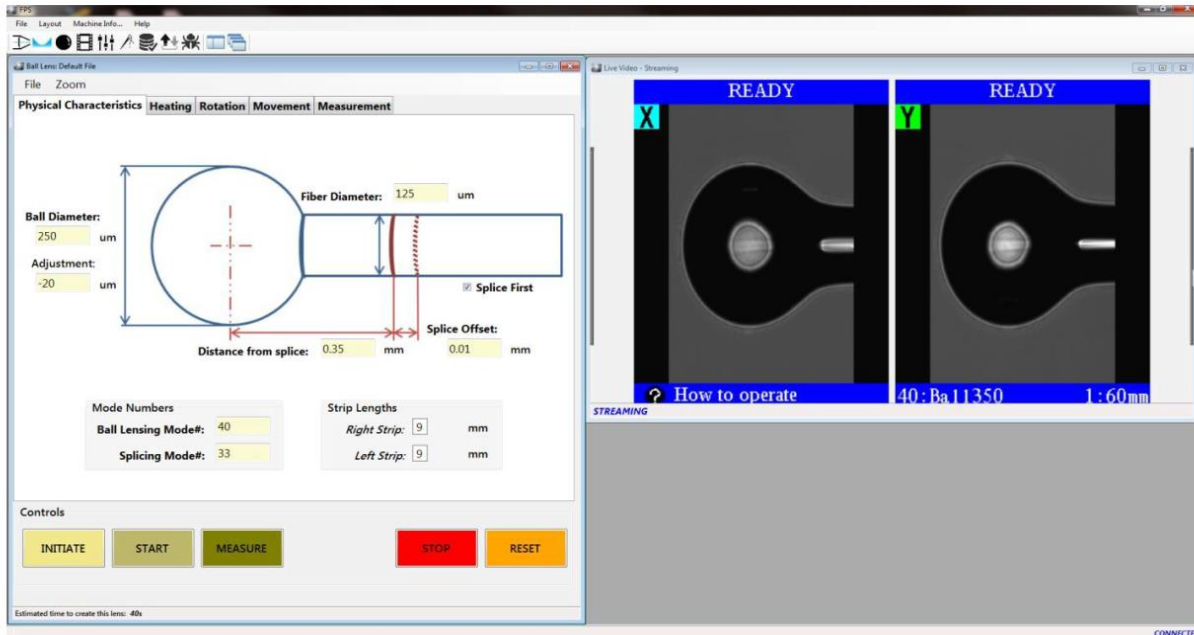


#### Laser Power Stability

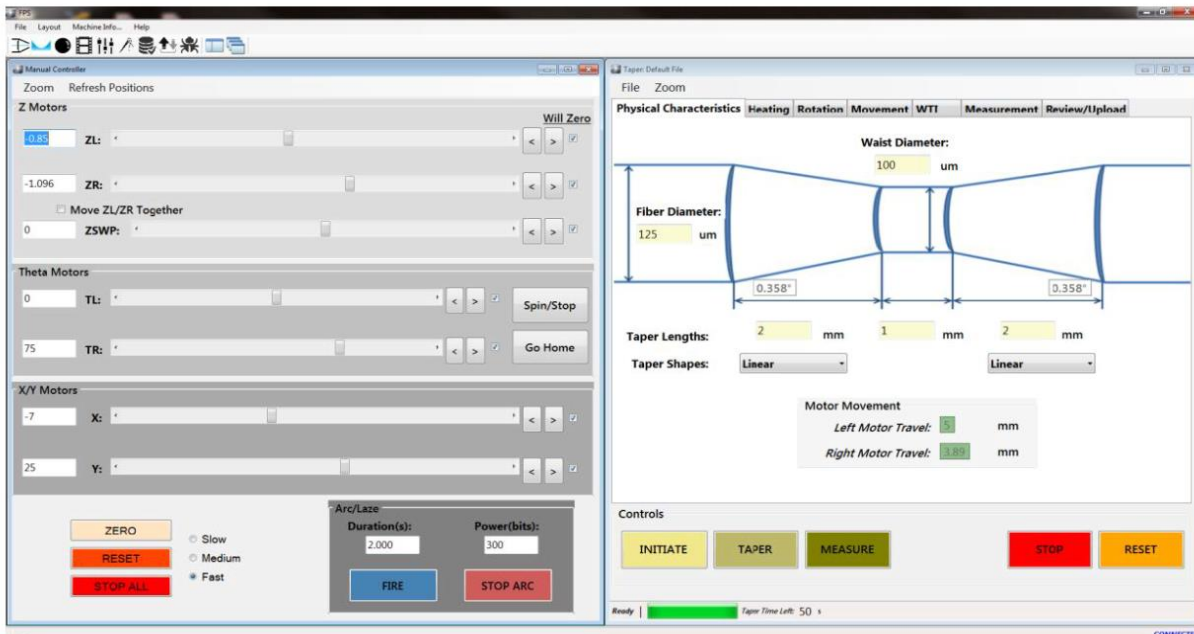
Typical CO<sub>2</sub> lasers have an output power fluctuation of +/- 5%. This produces inconsistent splicing results and may cause irregularity and ripple in a taper profile.

The LZM-110 utilizes proprietary (patent pending) closed-loop power stabilization techniques, resulting in power stability within 0.5%, as shown to left. This enables highly repeatable processes and very smooth taper profiles.

User-Friendly Graphical User Interface  
**Advanced Ball Lens Capability**



**Advanced Taper Capacity**





## ORDERING INFORMATION

DESCRIPTION	ITEM NO.
LAZERMaster LZM-110M Glass Processing & Splicing System (Standard baseline LZM-110 system. Includes AC adapters & cords and FPS PC software)	S016410
LAZERMaster LZM-110P Glass Processing & Splicing System (Standard baseline LZM-110 system. Includes AC adapters & cords and FPS PC software)	S016412
All-in-one Computer (includes keyboard and mouse, monitor stand for mounting all-in-one computer. FPS software pre-installed.) (recommended)	S015242

## SPECIFICATIONS

Fiber Heating and Splicing Method	CO <sub>2</sub> Laser
CO <sub>2</sub> Laser Power	30 W standard (Lasers with other power levels may be selected to meet customer requirements.)
Laser Safety Features	Metal cover with interlock, class 1 enclosure Automatic actuation of safety shutter Automatic laser power cutoff Triple redundancy
Laser Beam Control	Proprietary feedback system assures laser beam power stability Laser beam size and shape may be customized to meet specific user requirements
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	2.5 mm
Fiber Observation Methods	<ul style="list-style-type: none"> <li>PAS (Profile Alignment System) via transverse fiber observation.</li> <li>WSI (Warm Splice Image) and WTI (Warm Taper Image)</li> </ul>
Applicable Fiber Diameter	80 μm to 2000 μm for automatic alignment by PAS Larger diameter fibers may be aligned manually or by power meter feedback
V-Groove Clamping System	Infinitely variable from 80 μm up to 2300 μm Clamping bare fiber or fiber coating Patented "split V-groove" system
Fiber Handling	Fujikura FSM-100, FSM-45, & FSM-40 splicer fiber holders
Alignment Methods	3 methods for PM alignment: PAS (Profile Alignment System, automatic alignment by camera observation) Manual; Other methods by PC control; Power meter feedback via GPIB;
Endless Theta Rotation	360 deg endless rotation for 100P model, angle resolution 0.1 deg
X/Y Alignment Resolution	0.1 μm
Maximum Z Travel Length	10mm (both left and right Z units) as well as sweep
Z Travel Resolution	0.125 μm theoretical
Maximum Taper Length	8 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 & Glass Shaping Control	Internal firmware or operation by PC
PC Control	FPS software will be provided complete command set for PC control
PC Option	All-in-one Computer is available as an option. 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 (for power meter feedback)
Electrical Power	100-240 VAC
Operating / Storage Conditions	15-30 °C / 15-40 °C
Rotation Motors	Optional (Provides theta rotational motion for PM fiber alignment in the LZM-110P model)
PM Fiber Alignment Methods	<ul style="list-style-type: none"> <li>PAS (For PANDA and other PM fibers)</li> <li>IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.)</li> <li>Power meter feedback (Requires polarizer &amp; analyzer, as well as GPIB interface)</li> <li>Manual</li> <li>Other methods by PC control</li> </ul>
Flexibility for Customer Design Input	Customizable platform

Specifications and descriptions are subject to change without prior notice.

**Fujikura - LAZER LZM-110M+ P+**

Splicing and Glass Processing System



**LZM-110M+ /110P+**

**LAZERMaster™**

**Tremendous Capability for Production:**

- Splices and glass processing of fibers with 80m up to 2.3 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 & glass shaping control

**CO<sub>2</sub> Laser Heat Source for Splicing & Glass Shaping:**

- Very clean heat source: Absolutely no deposits on fiber surface as might occur with filaments or electrodes  
Provides extremely stable & repeatable operation with virtually no maintenance
- Substantially reduces maintenance & 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 Laser with redundant automated laser safety features

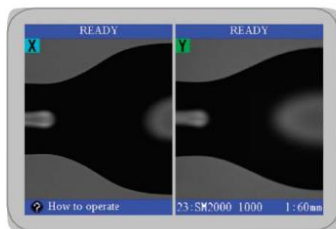
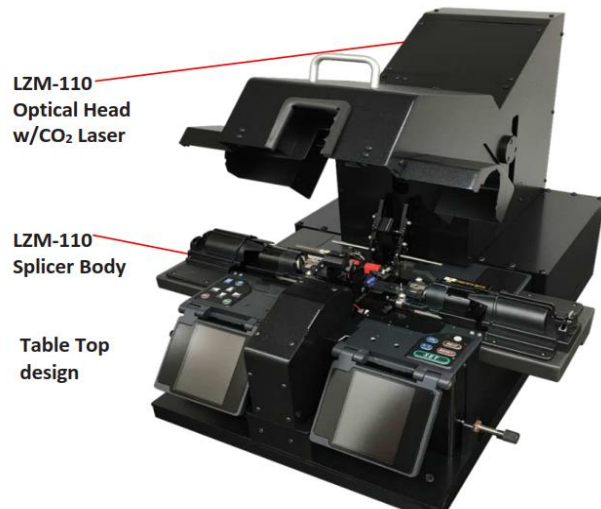


# LZM-110M+ /110P+

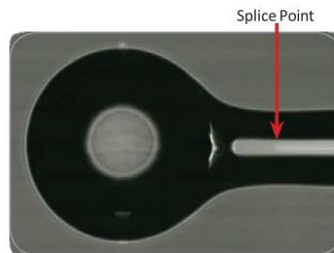
## LAZERMaster™

The LZM-110M+ /110P+ LAZERMaster is a splicing and glass processing system that uses a CO<sub>2</sub> laser heat source to perform splicing, tapering (to create MFAs), lensing, or other glass shaping operations with glass diameters of 2.3 mm or more. The high resolution optical analysis system works in conjunction with on-board firmware for fully automatic splicing, tapering and other glass shaping processes.

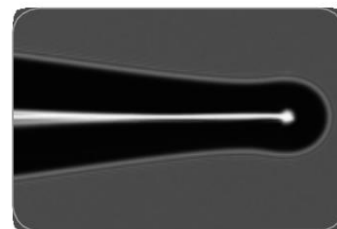
High precision glass processing is enabled by the intuitive and user-friendly on-board firmware (virtually identical to that of the Fujikura FSM-100 splicers). Operations may also be performed manually and by PC control. The FPS PC control GUI is supplied with the LZM-110M+ /110P+ to provide additional features, greater flexibility and finer control. The FPS 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.



1 mm to 2 mm X-LDF Splice



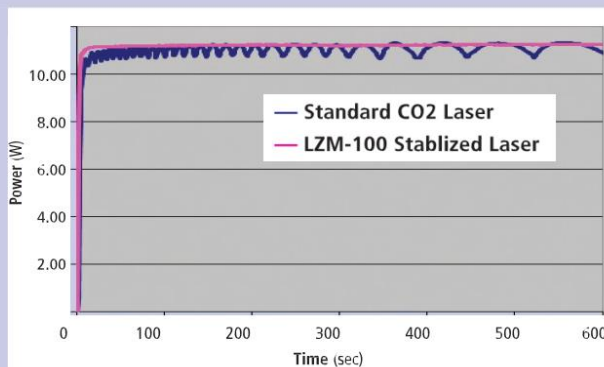
Coreless Ball Lens to Collimate SMF Fiber Output



Tapered Probe with Small Ball End

### Clean & Stable Heating by CO<sub>2</sub> Laser

The LZM-110 LAZERMaster uses a CO<sub>2</sub> laser heat source to heat fibers, ensuring repeatable performance and low maintenance, and eliminating electrode or filament maintenance and instability. CO<sub>2</sub> laser heating also eliminates any deposits on the fiber surface that might occur from use of a filament or electrodes. The very clean and deposit-free fiber surface ensures reliable operation of very high power fiber lasers or power delivery systems.

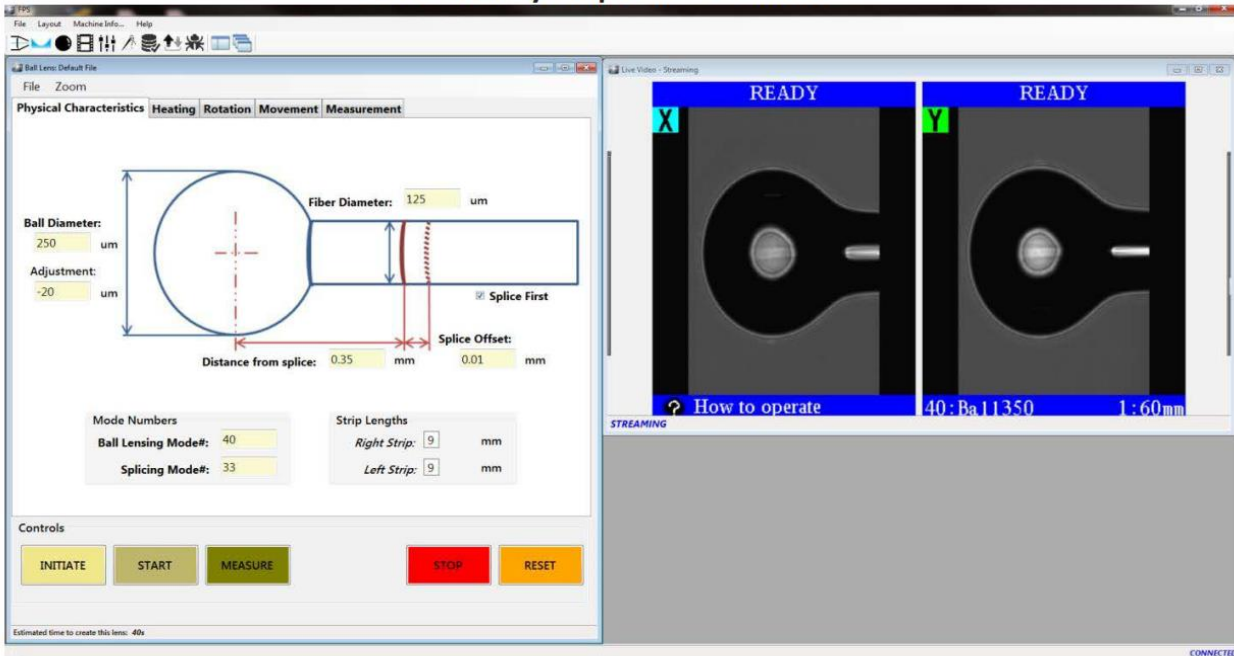


### Laser Power Stability

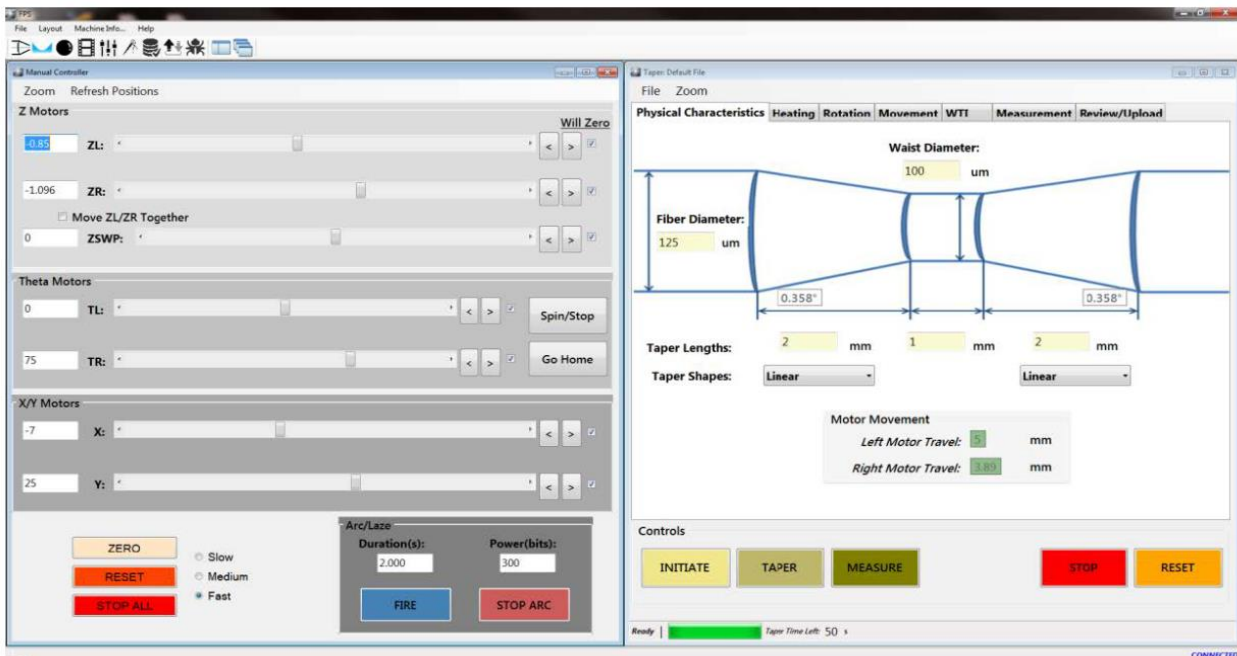
Typical CO<sub>2</sub> lasers have an output power fluctuation of +/- 5%. This produces inconsistent splicing results and may cause irregularity and ripple in a taper profile.

The LZM-110 utilizes proprietary (patent pending) closed-loop power stabilization techniques, resulting in power stability within 0.5%, as shown to left. This enables highly repeatable processes and very smooth taper profiles.

**Advanced Ball Lens Capability  
User-Friendly Graphical User Interface**



**Advanced Ball Lens Capability**



## ORDERING INFORMATION

DESCRIPTION	ITEM NO.
LAZERM Master LZM-110M+ Glass Processing & Splicing System (Standard baseline LZM-110 system. Includes AC adapters & cords and FPS PC software)	S016411
LAZERM Master LZM-110P+ Glass Processing & Splicing System (Standard baseline LZM-110 system. Includes AC adapters & cords and FPS PC software)	S016413
Optional Notebook PC (includes FPS software pre-installed.)	S015241

## SPECIFICATIONS

Fiber Heating and Splicing Method	CO <sub>2</sub> Laser
CO <sub>2</sub> Laser Power	30 W standard (Lasers with other power levels may be selected to meet customer requirements.)
Laser Safety Features	Metal cover with interlock: class 1 enclosure: Automatic actuation of safety shutter: Automatic laser power cutoff: Triple redundancy
Laser Beam Control	Proprietary feedback system assures laser beam power stability Laser beam size and shape may be customized to meet specific user requirements
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	<ul style="list-style-type: none"> <li>• PAS (Profile Alignment System) via transverse fiber observation.</li> <li>• WSI (Warm Splice Image) and WTI (Warm Taper Image)</li> <li>• End-view observation (Optional)</li> </ul>
Applicable Fiber Diameter	80 μm to 2300 μm for automatic alignment by PAS Larger diameter fibers may be aligned manually or by power meter feedback
V-Groove Clamping System	Infinitely variable from 80 μm up to 2300 μm Clamping bare fiber or fiber coating Patented "split V-groove" system
Fiber Handling	Fujikura FSM-100, FSM-45, & FSM-40 splicer fiber holders
Alignment Methods	4 methods for PM alignment: PAS (Profile Alignment System, automatic alignment by camera observation) Manual; Other methods by PC control; Power meter feedback via GPIB; (Optional) End-view (Optional)
Endless Theta Rotation	360 deg endless rotation, angle resolution 0.1 deg (LZM-100P+ only)
X/Y Alignment Resolution	0.1 μm
Maximum Z Travel Length	36mm (both left and right Z units) as well as sweep
Z Travel Resolution	0.125 μm theoretical
Maximum Taper Length	36 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 (Optional 5 mm/sec)
Splicing Control	Internal firmware or operation by PC
Fiber Tapering & Glass Shaping Control	Internal firmware or operation by PC
PC Control	FPS software will be provided Complete command set for PC control
PC Option	A notebook PC is available as an option. 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 (Optional, for power meter feedback)
Electrical Power	100-240 VAC
Operating Conditions	15-30°C / 15-40°C
Rotation Motors	Optional (Provides theta rotational motion for PM fiber alignment. Available for both left & right fibers, or one side only depending upon customer requirements.)
PM Fiber Alignment Methods	<ul style="list-style-type: none"> <li>• PAS (For PANDA and other PM fibers)</li> <li>• IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.)</li> <li>• End-view (Optional)</li> <li>• Power meter feedback (Requires polarizer &amp; analyzer, as well as optional GPIB interface)</li> <li>• Manual</li> <li>• Other methods by PC control</li> </ul>
End-View Observation & Alignment	Optional internal end-view system
Flexibility for Customer Design Input	Customizable platform

Specifications and descriptions are subject to change without prior notice.

**Fujikura - ARC Master LZM-100**

Splicing and Glass Processing System



*LZM-100*

**LAZERMaster™**

**CO<sub>2</sub> Laser Heat Source for Splicing & Glass Shaping:**

- Very clean heat source: Absolutely no deposits on fiber surface as might occur with filaments or electrodes
- Provides extremely stable & repeatable operation with virtually no maintenance
- Eliminates electrode or filament instability and maintenance & calibration requirements
- Proprietary feedback system ensures heating power stability
- No need for process gas (as required with filament systems)
- Redundant automated laser safety features
- Excellent performance for dissimilar diameter fiber splicing

**Tremendous Capability for R&D and Production:**

- Ultra high-strength splicing
- Splices and processes fibers with up to 2.3 mm diameter
- Long travel / high resolution Z motion for very long adiabatic tapers
- Onboard multi-step "Special Functions" simplifies complicated glass shaping processes
- SpliceLab PC GUI provides additional glass shaping control & measurement capabilities

**Adaptable to Meet Specific Customer Needs:**

- An advanced configurable system capable of producing tapers, ball lenses, combiners, MFA's, glass shaping and splicing
- Customizable chassis & mechanical architecture
- Laser beam size, shape & power can be tailored to meet customer requirements
- Complete set of PC command codes enables users to develop proprietary processes
- End-View observation & alignment system option

**Simple & Easy Operation:**

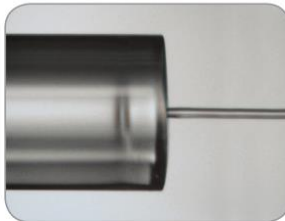
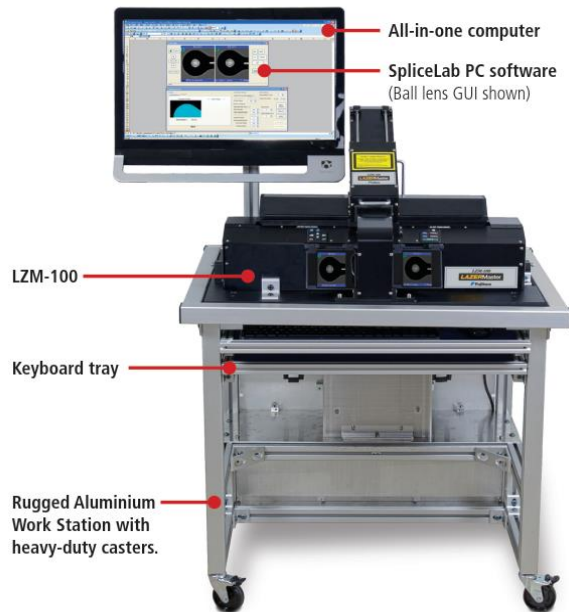
- Simple onboard menus and parameters common to Fujikura FSM-100 splicers
- Intuitive SpliceLab PC GUI: Easy to understand, navigate and operate
- Patented "split v-groove" clamping system automatically adjusts for 80 to 2,300 µm fibers
- Compatible with standard fiber preparation equipment and methods



*LZM-100*  
**LAZERMaster™**

The LZM-100 LAZERMaster is a glass processing and splicing system that uses a CO<sub>2</sub> laser heat source to perform splicing, adiabatic tapering (to create MFAs or pump combiners), lensing, or other glass shaping operations with glass diameters of 2.3 mm or more. The high resolution optical analysis system works in conjunction with on-board firmware for fully automatic splicing, tapering and other glass shaping processes.

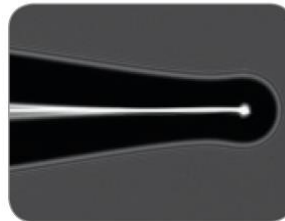
High precision glass processing is enabled by the intuitive and user-friendly on-board firmware (virtually identical to that of the Fujikura FSM-100 ARCMaster splicers). Operations may also be performed manually and by PC control. A SpliceLab PC control GUI is supplied with the LZM-100 to provide additional features, greater flexibility and finer control. The SpliceLab GUI is pre-installed on the All-in-one computer. Customers can also create proprietary PC control algorithms using a complete set of PC control commands.



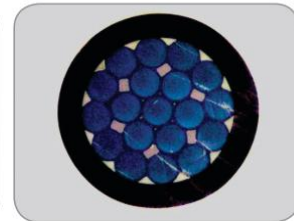
2 mm to 125 µm Splice



Ball Lens 320 µm with  
125 Splice to 80 µm Fiber



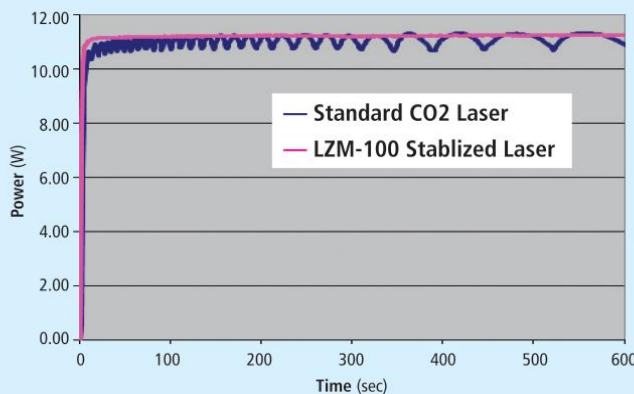
Tapered Probe with Small Ball End



19 to 1 Combiner

**Clean & Stable Heating by CO<sub>2</sub> Laser**

The LZM-100 LAZERMaster uses a CO<sub>2</sub> laser heat source to heat fibers, ensuring repeatable performance and low maintenance, and eliminating electrode or filament maintenance and instability. CO<sub>2</sub> laser heating also eliminates any deposits on the fiber surface that might occur from use of a filament or electrodes. The very clean and deposit-free fiber surface ensures reliable operation of very high power fiber lasers or power delivery systems.

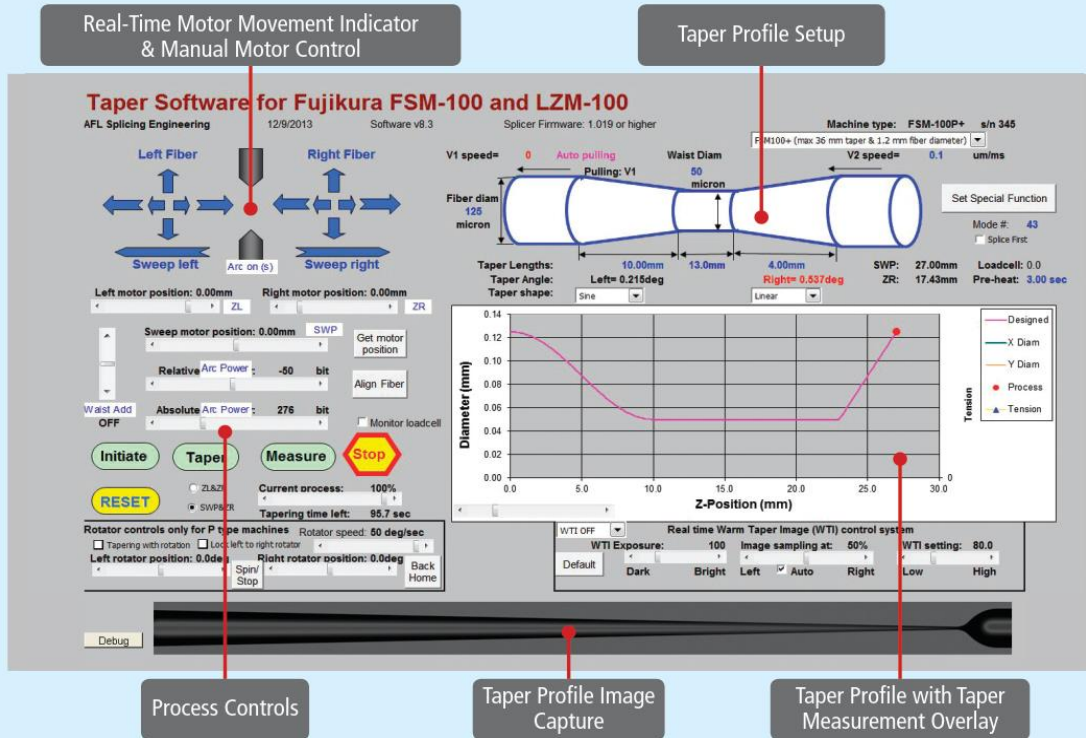


**Laser Power Stability**

Typical CO<sub>2</sub> lasers have an output power fluctuation of +/- 5%. This produces inconsistent splicing results and may cause irregularity and ripple in a taper profile.

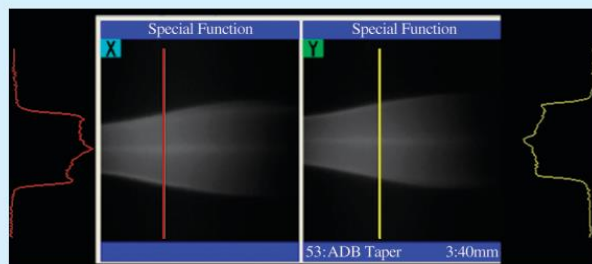
The LZM-100 utilizes proprietary (patent pending) closed-loop power stabilization techniques, resulting in power stability within 0.5%, as shown to left. This enables highly repeatable processes and very smooth taper profiles.

**Advanced Adiabatic Tapering Capability  
User-Friendly Tapering Graphical User Interface**



**Warm Tapering Image Monitoring for Precise Control of Heating Power**

The Warm Tapering Image (WTI) brightness level is captured in real time during the tapering process. The WTI value can be used to adjust the CO<sub>2</sub> laser output power in real time to a level appropriate for the decreasing mass of a fiber as it is tapered to a smaller diameter. This can be critical to ensure achievement of the desired taper shape.



**ORDERING INFORMATION**

MODEL	DESCRIPTION
LZM-100	LAZERMaster standard baseline system. Includes AC adapters & cords and SpliceLab PC software. Standard baseline LZM-100 system. Includes AC adapters & cords and SpliceLab PC software).
LZM-100P	LZM-100 with dual theta motors.
EVS-01	End view observation & alignment option.
OPPC-02	Optional Touch-Screen PC. Includes wireless keyboard & mouse, monitor stand for mounting all-in-one computer. SpliceLab software pre-installed.
STWS-01	Side table work station. Work surface to provide additional area for accessories such as fiber preparation equipment. May be attached to the left or right side of the LZM-100, or both sides. Folds down against the side of the LZM-100 chassis when not in use, or to enable LZM-100 movement through narrow doorways, corridors etc.
CLLH-01	Cylindrical Lens & Lens Holder. Necessary item for End-cap splicing, hollow core/PCF splicing, dissimilar fiber splicing, small diameter tapers and ball lens using small diameter fiber.



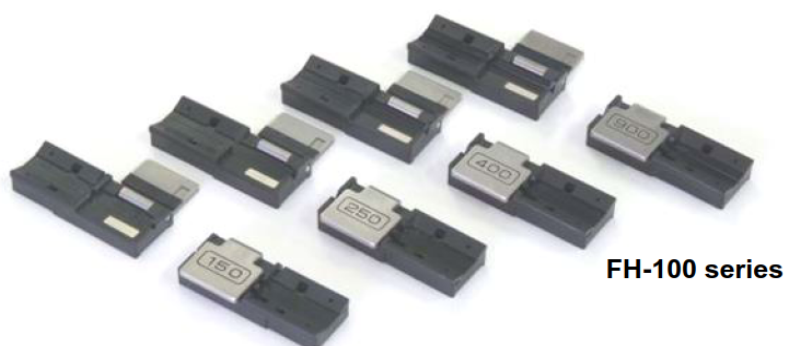
SPECIFICATIONS	
Fiber Heating and Splicing Method	CO <sub>2</sub> Laser
Laser Safety Features	Metal cover with interlock, class 1 enclosure Automatic actuation of safety shutter Automatic laser power cutoff Triple redundancy
Laser Beam Control	Proprietary feedback system assures laser beam power stability Laser beam size and shape may be customized to meet specific user requirements
Typical Splice Loss	0.02 dB for SMF (ITU-T G.652)
Typical Splice Strength	>400 kpsi for SMF (ITU-T G.652) using appropriate fiber preparation equipment
Camera Field of View	2.7 mm
Fiber Observation Methods	<ul style="list-style-type: none"> <li>• PAS (Profile Alignment System) via transverse fiber observation.</li> <li>• WSI (Warm Splice Image) and WTI (Warm Taper Image)</li> <li>• End-view observation (Optional)</li> </ul>
Applicable Fiber Diameter	80 µm to 2300 µm for automatic alignment by PAS Larger diameter fibers may be aligned manually or by power meter feedback
V-Groove Clamping System	Infinitely variable from 80 µm up to 2300 µm Clamping bare fiber or fiber coating Patented "split V-groove" system
Fiber Handling	Fujikura FSM-100, FSM-45, & FSM-40 splicer fiber holders Custom fixtures to meet specific customer requirements
Alignment Methods	PAS (Profile Alignment System, automatic alignment by camera observation) Manual Other methods by PC control Power meter feedback via GPIB (Optional) End-view (Optional)
X/Y Alignment Resolution	0.1 µm
Maximum Z Travel Length	150 mm (both left and right Z units)
Z Travel Resolution	0.125 µm theoretical
Maximum Taper Length	130 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 & Glass Shaping Control	Internal firmware or operation by PC
PC Control	SpliceLab software will be provided Complete command set for PC control
PC Option	An all-in-one computer is required. Use of the SpliceLab software on a PC provides finer control and additional features compared to the LZM-100 internal firmware. Using another software application, the PC interface also allows for advanced maintenance functions such as the ability to confirm laser beam alignment, and align if required.
Interface Ports	USB 2.0 (For PC communications, data and image download, etc.) GPIB (Optional, for power meter feedback)
Electrical Power	100-240 VAC
Operating Conditions	15-40°C
Rotation Motors	Optional: Provides theta rotational motion for PM alignment for both left and right sides
PM Fiber Alignment Methods	<ul style="list-style-type: none"> <li>• PAS (For PANDA and other PM fibers)</li> <li>• IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.)</li> <li>• End-view (Optional)</li> <li>• Power meter feedback (Requires polarizer &amp; analyzer, as well as optional GPIB interface)</li> <li>• Manual</li> <li>• Other methods by PC control</li> </ul>
End-View Observation & Alignment	Optional internal end-view system

Specifications and descriptions are subject to change without prior notice.

## Fujikura - Fiber Holders FH-100series



### *Fiber Holder FH-100 series*



Fiber holder FH-100 series are for Fujikura Fusion Splicer FSM-100 series and FSM-45F/PM series. The FH-100 series has various models depending on coating diameter from 55µm to 1000µm, and custom one from over 1000µm may be available.

SPECIFICATION		VARIATION	
Applicable coating diameter	55µm to 1,000µm	Model	Coating dia. (µm)
Type variation	In accordance with coating diameter See VARIATION table on the right	FH-100-060	55 to 71
Fiber holding	Magnetic clamping	FH-100-100	94 to 117
Fiber Holder placing onto splicer	Guide-pin system with two pins per one side of Fiber Holder	FH-100-125	118 to 139
Dimensions	42L x 16W x 7H [mm]	FH-100-150	140 to 169
Weight	20g for 1pair	FH-100-180	170 to 199
Material	Base plate: Heat-hardening plastic Lid: Iron-Nickel alloy	FH-100-210	200 to 239
Use for	Fusion Splicers	FH-100-250	240 to 289
	Fiber Cleavers	FH-100-300	290 to 339
		FH-100-350	340 to 389
		FH-100-400	390 to 489
Jacket Strippers	FH-100-500	490 to 589	
	FH-100-600	590 to 689	
	FH-100-700	690 to 789	
		FH-100-800	790 to 889
		FH-100-900	890 to 1000
		FH-100-***	1000 to (max)2000 Contact with us.

Special Fiber-Holders on request

Specifications and descriptions are subject to change without prior notice.

**Fujikura - Fibre Cleaver CT-30**

*High Precision Fiber Cleaver*

**CT-30 series**



**Features**

- Compact body & light weight
- Applicable up to 12-fiber cleaving
- 48,000 fibers blade life (3 height x 16 positions)
- Fiber scrap collection-free
- Both compact type and large capacity type of Fiber scrap container available

**1. Blade setting**



**2. Fiber placing**



**3. Cleaving**



SPECIFICATION			
Model	CT-30	CT-30A	CT-30B
Fiber count	Up to 12	Single	Single
Cleaving length	10mm	6 to 20mm (250µm)	16mm
Fiber placing	Fiber holder	Fiber plate (AD-30A)	Fiber plate (AD-30B)
Applicable fibers	Silica optical fiber		
Bare fiber diameter	125µm		
Cleaving angle	Typical 0.5 degrees with single fiber		
Blade life	48,000 fibers (1,000 fibers X 3 heights X 16 positions)		
Blade positions	3 heights and 16 rotating positions		
Dimensions	102W X 82D X 46H (mm) with FC-02 and FDB-03		
Weight	210g with FC-02 and FDB-03		



APPLICATION	
Optical fibers	Cleave length
Single fiber 250µm	6mm, 8mm, 10mm, 11mm, 16mm, 20mm
Single fiber 400µm	CT-30 with FH-50-250, FH-60-250
Single fiber 900µm	CT-30 with FH-50-900, FH-60-900
Single fiber 2-3mm (for 2mm/3mm cord & drop cable)	CT-30 with AD-30C
Fiber ribbon 2-fiber	CT-30 with FH-50-2
Fiber ribbon 4-fiber	CT-30 with FH-50-4
Fiber ribbon 5-fiber	CT-30 with FH-50-5
Fiber ribbon 6-fiber	CT-30 with FH-50-6
Fiber ribbon 8-fiber	CT-30 with FH-50-8
Fiber ribbon 10-fiber	CT-30 with FH-50-10
Fiber ribbon 12-fiber	CT-30 with FH-50-12

STANDARD PACKAGE			
Description	Model No. Q'ty		
	CT-30	CT-30A	CT-30B
Main body	CT-30 1 pc.	CT-30A 1 pc.	CT-30B 1 pc.
Fiber plate	—	AD-30A 1 pc. (attached)	AD-30B 1 pc. (attached)
Fiber scrap collector	FC-02 1 pc.		
Fiber scrap container (compact)	FDB-02 1 pc.		
Fiber scrap container (large)	FDB-03 1 pc.		
Side cover	SC-01 1 pc.		
Carrying case	CC-21 1 pc.		
Hexagonal wrench	HEX-01 1 pc.		
Instruction manual	1 pc.		



OPTIONAL ITEMS		
Description	Model No.	Note
Fiber plate	AD-30A	
	AD-30B	
	AD-30C	11 mm fixed at 2 to 3 mm coating diameter (for 2mm/3mm cord & drop cable)
Holder base attachment	HBA-01	Additional Fiber Holder support



FIBER HOLDERS									
Usage	For ribbon / bundled fiber							For single fiber	
	FH-50-2	FH-50-4	FH-50-5	FH-50-6	FH-50-8	FH-50-10	FH-50-12	FH-50-250 FH-60-250	FH-50-900 FH-60-900
Fiber holder									
Fiber count	2	4	5	6	8	10	12	1	1
Cleaving length	10mm	10mm	10mm	10mm	10mm	10mm	10mm	10mm	10mm

Specifications and descriptions are subject to change without prior notice.

## Fujikura - Fibre Cleaver CT-32



### *High Precision Fiber Cleaver CT-32*



**CT-32**

- The CT-32 is designed for cleaving silica fiber with 125mm cladding diameter, specially for its short length cleaving capability. Minimum 3mm cleave is possible by up to 400mm fiber coating, while the coating to be clamped.
- The CT-32 accepts the fiber setting with FH-40 and FH-100 series Fiber Holder System.

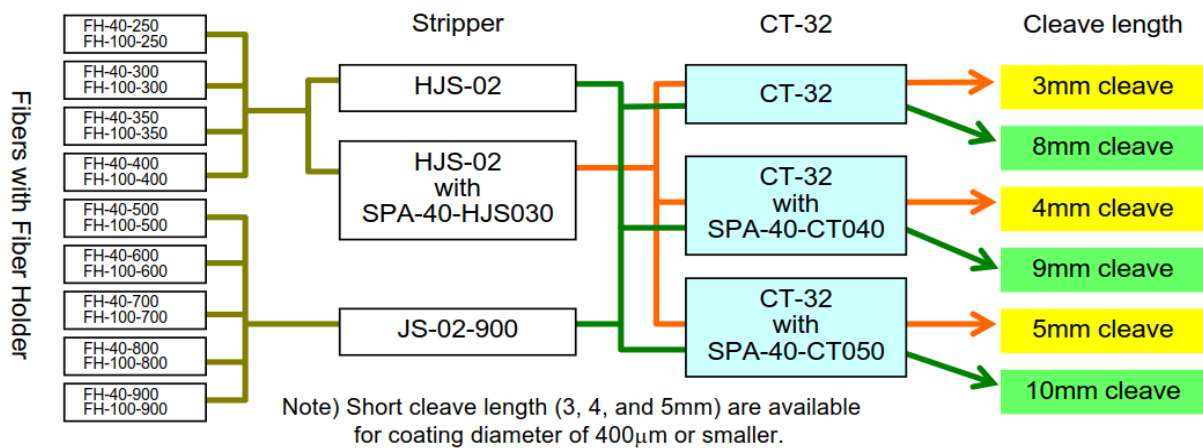
SPECIFICATION	
Applicable fiber	Silica optical fiber
Fiber count	Single
Cladding diameter	125 $\mu$ m
Coating diameter	250 $\mu$ m to 900 $\mu$ m
Fiber setting	by FH-40 and FH-100 series Fiber Holder
Cleave angle	Typical 0.5 degrees
Blade life	48,000 cleaves 1,000 x 3 height x 16 positions
Dimensions	105W x 82D x 46H (mm)

STANDARD PACKAGE		
Description	Model	Q'ty
Main body	CT-32	1pc.
Fiber scrap collector	FC-02	1pc.
Fiber dust container	FDB-02	1pc.
High capacity container	FDB-03	1pc.
Carrying case	CC-21	1pc.
Cleaver spacer	SPA-40-CT-040	1pc.
Hexagonal wrench	HEX-01	1pc.
Side cover	SC-01	1pc.
Instruction manual	-	1pc.

OPTIONAL ITEMS	
Description	Model
Cleaver spacer	SPA-40-CT040
Cleaver spacer	SPA-40-CT050

## *High Precision Fiber Cleaver CT-32*

### APPLICATION



Specifications and descriptions are subject to change without prior notice.

## Fujikura - Fibre Cleaver CT-38



### *High Precision Fiber Cleaver CT-38*



**CT-38**

The CT-38 is designed for cleaving silica optical fiber with an 80µm cladding diameter. Minimum 3mm cleave is possible, while the coating to be clamped.

The CT-38 accepts the FH-40 and FH-100 series Fiber Holder System.

STANDARD PACKAGE		
Description	Model	Q'ty
Main body	CT-38	1pc.
Carrying case	CC-21	1pc.
Cleaver spacer	SPA-40-CT040	1pc.
Hexagonal wrench	HEX-01	1pc.
Side cover	SC-01	1pc.
Instruction manual	-	1pc.

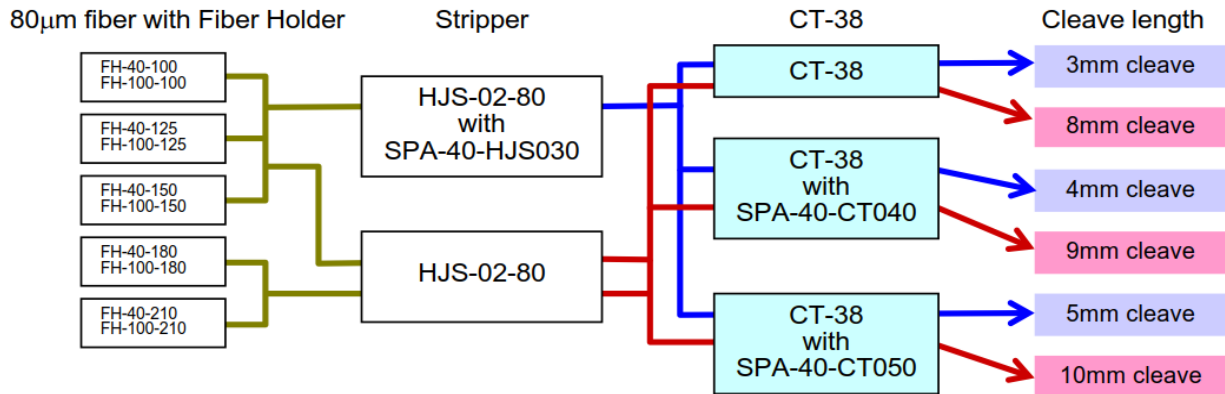
Note) Fiber Scrap Collector, FC-02 is not available to be equipped to CT-38.

SPECIFICATION	
Applicable fiber	Silica optical fiber
Fiber count	Single
Cladding diameter	80µm
Coating diameter	up to 200µm
Fiber setting	by FH-40 and FH-100 series Fiber Holder
Cleave angle	Typical 0.5 degrees
Blade life	48,000 cleaves 1,000 x 3 height x 16 positions
Dimensions	66W x 82D x 46H (mm)
Weight	180g (previous)

OPTIONAL ITEMS	
Description	Model
Cleaver spacer	SPA-40-CT040
Cleaver spacer	SPA-40-CT050

## *High Precision Fiber Cleaver CT-38*

### APPLICATION



Note) Short cleave length (3, 4, and 5mm) are available for coating diameter of 165µm or smaller.

Specifications and descriptions are subject to change without prior notice.



**Fujikura - Cleaver CT-101-102**

**CT-101/CT-102**

*Reliable.  
Quality.*



*Advanced optical fiber cleaver*  
**CT-101/CT-102**



- Consistent cleaving quality.
- Fiber with up to 250  $\mu\text{m}$  cladding diameter.
- Adjustable fiber cleave angle from 0 to 15 degrees.
- Indicator for digital cleave counter, cleave menu.
- Both AC adapter and battery powered.

# Fujikura CT-101/CT-102

## SPECIFICATIONS

Model	CT-101	CT-102
Applicable fibers	Conventional silica single optical fiber Cladding dia. : 0.80 to 0.250 mm Coating dia. : 0.16 to 2.00 mm.	
Cleave length	3 to 40 mm	
Fiber Holder	FH-100 series	FH-60 series
Performance of the cleaving angle	Typical 0.30 degrees. (125 μm SMF)	
Range of the angle cleaving	0 to 15 degrees (adjustable)	
Blade	Material : Diamond Life : 20,000 fibers (1,000 fibers × 20 points) (125 μm SMF)	
Dimensions	140 W × 110 D × 95 H [mm]	
Weight	900 g or less (batteries optional)	
Power source	AC : 100 to 240 V (50 / 60 Hz) with ADC-16 DC : "AA" size battery 4pcs. (number of cleaving 1,000 fibers)	
Operating condition	Temperature : 0 to 40 degC / Humidity : 0 to 95% RH (non-dew)	
Storage condition	Temperature : -40 to 80 degC / Humidity : 0 to 95% RH (non-dew)	

## STANDARD ITEMS

Description	Model	Qty.	Note
Advanced optical fiber cleaver	CT-101 or CT-102	1pc	
AC adapter	ADC-16	1pc	
AC power cord	ACC-08	1pc	
Hexagonal wrench	HEX-01	1pc	For blade adjustment For angle adjustment For tension adjustment
Hexagonal wrench	HEX-02	1pc	For cleave length adjustment
Instruction manual	M-CT101-E	1pc	
Cleave test report	—	1pc	

## STANDARD ITEMS



## OPTIONAL ITEMS

Item	Model
Fiber holder for CT-101	FH-100*** FH-100***EV
Fiber holder for CT-102	FH-60***
Cleave blade	CB-06

Table. Comparison of Fujikura cleaver for specialty use

	Fiber diameter [μm]					Angle cleaving Function	Fiber holder	
	80	125	250	600	1200		FH-60-xxx	FH-100-xxx
CT-101	✓	✓	✓			✓		✓
CT-102	✓	✓	✓			✓	✓	

Specifications and descriptions are subject to change without prior notice.

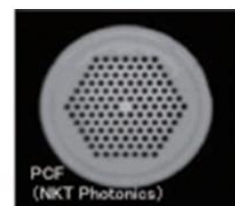
**Fujikura - Cleaver CT-104**



*Large Diameter Optical Fiber Cleaver*  
**CT-104**



- Applicable up to 600  $\mu\text{m}$
- Manual fiber clamping system
- Includes 100 programmable modes
- Fiber holder adapter (Option) for fusion splicer FSM-100 series, FH-100-xxx, are available



# Fujikura CT-104

## SPECIFICATIONS

DESCRIPTION	CT-104
Applicable optical fiber	Glass optical fibers, capillary
Number of fibers	Single
Cladding diameter	80-600 μm
Coating diameter	160-3,000 μm
Fiber clamping	Manual clamping
Cleaving length	5-40 mm
Blade life	20,000 fibers (Cladding diameter 125 μm)
Number of cleaving mode	Maximum 100
Language	English/Japanese/chinese
Monitor	4.7 inches color LCD
Dimensions	240 (W) × 134 (D) × 155 (H) mm
Weight	3.4 kg
Power supply	AC adapter : ADC-19 Input : AC100 to 240 V (50 to 60 Hz) (max. 20 W)
Operation condition	0 to 95% RH and 0 to 40°C (non-dew)
Storage condition	0 to 95% RH and -40 to 80°C (non-dew)
Terminal	USB2.0 (Mini-B type) for PC communication

## STANDARD ITEMS

DESCRIPTION	MODEL NAME	Qty.
Main body	CT-104	1
AC adapter	ADC-19	1
AC power cord	ACC-xx	ACC-08: Japan-09: US-10: UK-11: EU-12: Australia
Instruction manual CD	M-CT-105	1
Test report	—	1
Hexagonal wrench	HEX-01	1
USB cable	USB-01	1
Height adjusting spacer	SPA-CT105-30 (30 μm)	3
	SPA-CT105-50 (50 μm)	3
	SPA-CT105-100 (100 μm)	3

## OPTIONAL ITEMS

DESCRIPTION	MODEL NAME
Blade for replacement	CB-06
Upper insert	INSERT-U-xxx-xxx
Lower insert	INSERT-L-xxx-xxx
Insert set 80-1750 μm	INSERT-SET-80-1750
Height adjusting spacer (10 piece pack)	SPA-CT105-30 (30 μm)
	SPA-CT105-50 (50 μm)
	SPA-CT105-100 (100 μm)
Fiber holder adapter	AD-CT105-FH100
Torque Driver	TD-01

## OPTIONAL PARTS SELECTION GUIDE - INSERT

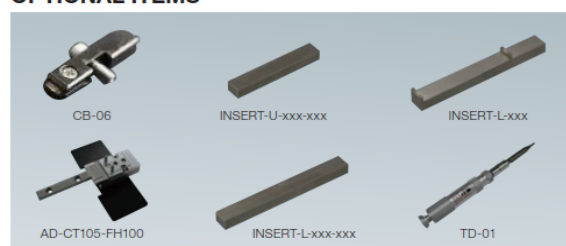
Standard items DOES NOT include upper and lower insert. Referring the size table, please order both upper and lower insert.

	INSERT-U-80-400	INSERT-U-500-750		INSERT-U-1000-1250	
		F	R	F	R
INSERT-L-80	60-100				
INSERT-L-125	90-160				
INSERT-L-160	115-200				
INSERT-L-250	180-300				
INSERT-L-400	280-500				
INSERT-L-500-750	F	475-700			
	R		675-950		
INSERT-L-1000-1250	F			925-1150	
	R				1125-1400

## STANDARD ITEMS



## OPTIONAL ITEMS



Specifications and descriptions are subject to change without prior notice.

---

**Fujikura - Cleaver CT-105-106**

**Large Diameter Optical Fiber Cleaver**



# CT-105 / CT-106

Fujikura, the world-wide leader of fusion splicer technology, is proud to announce our new line of large diameter fiber cleavers. Fujikura continues to expand its specialty fiber optic product line with technologies that support our customers' needs around the globe.



CT-105



CT-106

- Applicable up to 1,250  $\mu\text{m}$  diameter fibers
- Automatic Clamping system
- Up to 100 program modes can be stored
- The CT-106 also provides an Angle Cleaving function

## Large Diameter Optical Fiber Cleaver CT-105/CT-106

When exceptional cleave quality is required for fibers up to 1,250  $\mu\text{m}$  the new CT-105/CT-106 cleaver family will provide both flat and angled cleaves that rival anything available on the market today. The extensive programming features allow the user to take control for optimal results. The ability to then store those parameters insure consistent results.

### Automatic Clamp Function

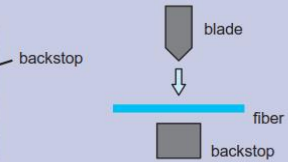
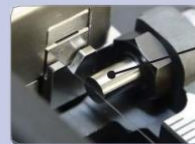
Clamping optical fiber with programmable force automatically. No compressed air or torque wrenches required.



Always adequate clamping force

### Backstop as Standard Item

A back stop is important for cleaving both very small and large diameter fibers. This is standard on all CT-105/CT-106.



### Angled Cleaving

Angled cleaving from 0-15° are possible for fibers up to 800  $\mu\text{m}$ . (only for CT-106)



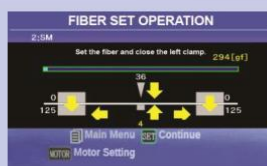
### USB Communication

Saving and restoring cleaving programs to a PC is also possible.



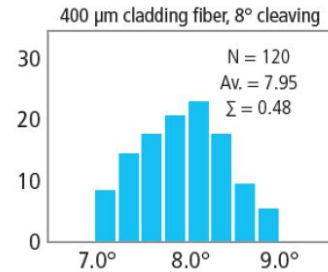
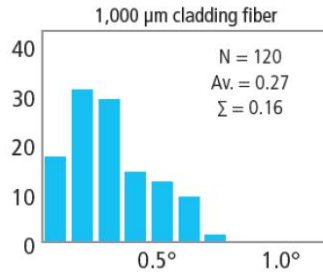
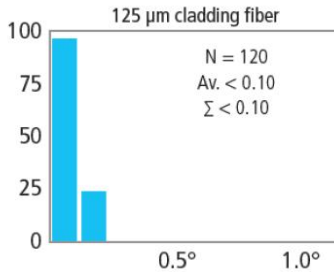
### Color LCD Monitor

LCD shows the cleaving progress and recommended insert size depending on fiber coating and cladding diameter.

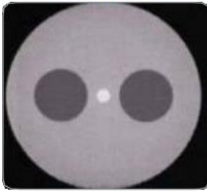


## Cleaving Performances

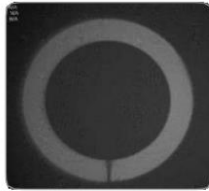
### Cleaving Angle



### Cleaving Surface



PMF



Capillary 800 μm / 1,100 μm



1,000 μm diameter fiber  
Interference microscope image  
1 stripe = 0.01°

### OPTIONAL PARTS SELECTION GUIDE - INSERT

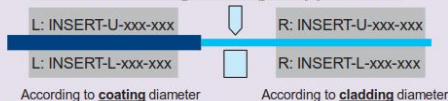
	INSERT-U-80-400	INSERT-U-500-750		INSERT-U-1000-1250		INSERT-U-1500-1750		INSERT-U-2000-2250		INSERT-U-2500-3000	
		Side F - 500	Side R - 750	Side F - 1000	Side R - 1250	Side F - 1500	Side R - 1750	Side F - 2000	Side R - 2250	Side F - 2500	Side R - 3000
INSERT-L-80	60-100										
INSERT-L-125	90-160										
INSERT-L-160	115-200										
INSERT-L-250	180-300										
INSERT-L-400	280-500										
INSERT-L-500-750	F - 500	475-700									
	R - 750		675-950								
INSERT-L-1000-1250	F - 1000			925-1150							
	R - 1250				1125-1400						
INSERT-L-1500-1750	F - 1500					1375-1700					
	R - 1750						1675-1900				
INSERT-L-2000-2250	F - 2000							1875-2200			
	R - 2250								2175-2450		
INSERT-L-2500-3000	F - 2500									2425-2750	
	R - 3000										2725 - 3175

### How to find the adequate size inserts

The number in the table shows the applicable diameter [μm].

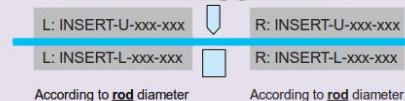
### Upper and lower insert are necessary for both left and right side clamp.

#### Case1: Cleaving coating stripped fiber



Inserts according to both coating diameter and cladding diameter are necessary.

#### Case2: Cleaving glass rod



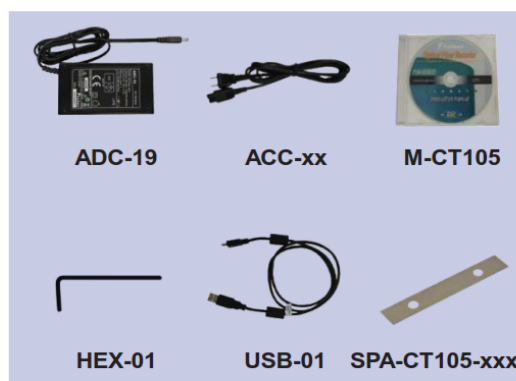
2 insert pairs of the same size according to rod diameter are necessary.

**SPECIFICATION**

DESCRIPTION	CT-105	CT-106
Applicable optical fiber	Glass optical fibers, capillary	
Number of fibers	Single	
Cladding diameter	80 - 1,250 μm	
Coating diameter	160 - 3,000 μm	
Fiber clamping	Automatic clamping	
Cleaving length	5 - 40 mm	
Angled cleaving	-	0 - 15° (up to 800 μm cladding fiber)
Blade life	20,000 fibers (Cladding diameter 125 μm)	
Number of cleaving mode	Maximum 100	
Language	English/Japanese	
Monitor	4.7 inches color LCD	
Dimensions	240(W)×134(D)×155(H) mm	240(W)×134(D)×162.5(H) mm
Weight	3.5 kg	3.8 kg
Power supply	AC adapter : ADC-19 Input : AC100 to 240 V (50 to 60 Hz) (max. 20 W)	
Operation condition	0 to 95% RH and 0 to 40°C (non-dew)	
Storage condition	0 to 95% RH and -40 to 80°C (non-dew)	
Terminal	USB2.0 (Mini-B type) for PC communication	

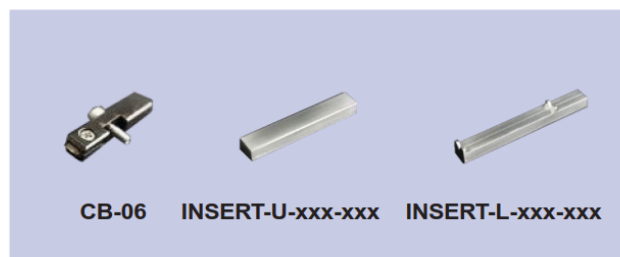
**STANDARD ITEMS**

DESCRIPTION	MODEL NAME	CT-105	CT-106
Main body	CT-105	1	-
	CT-106	-	1
AC adapter	ADC-19	1	
AC power cord	ACC-xx	ACC-08:Japan -09:US -10:UK -11:EU -12:Australia	
Instruction manual CD	M-CT105	1	
Test report	-	1	
Hexagonal wrench	HEX-01	1	
USB cable	USB-01	1	
Height adjusting spacer	SPA-CT105-30 (30 μm)	3	
	SPA-CT105-50 (50 μm)	3	
	SPA-CT105-100 (100 μm)	3	



**OPTIONAL ITEMS**

DESCRIPTION	MODEL NAME
Blade for replacement	CB-06
Upper insert	INSERT-U-xxx-xxx
Lower insert	INSERT-L-xxx-xxx
Hexagonal wrench	HEX-01
Height adjusting spacer (10 piece pack)	SPA-CT105-30 (30 μm)
	SPA-CT105-50 (50 μm)
	SPA-CT105-100 (100 μm)



Specifications and descriptions are subject to change without prior notice.



**Fujikura - Automatic Cleaver & Preparation APM-101-102**

Optical Fiber Automatic Preparation Machine



# APM-101/APM-102



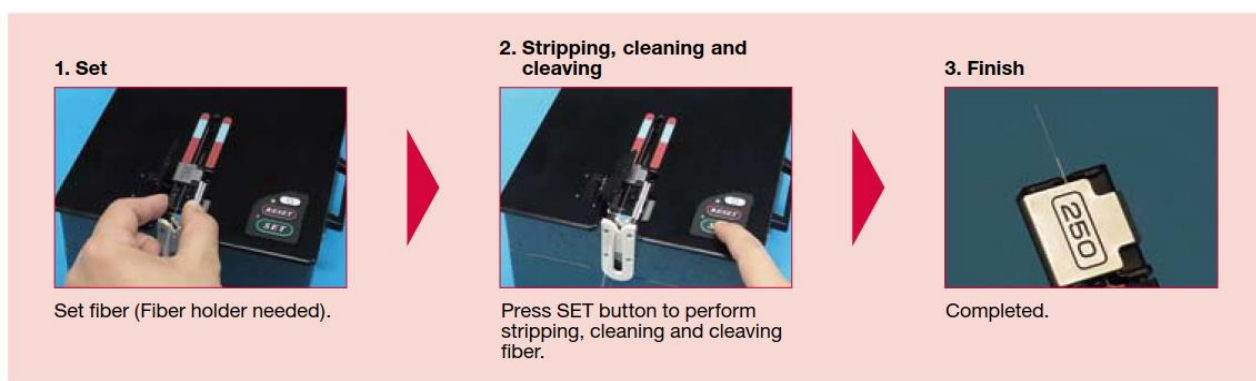
## Features

- Automatic, no skills required.
- Quick operation as little as 23 sec for stripping / cleaning / cleaving.
- Automatic residue collection and cleaning.
- Alcohol circulation system allowing prolonged time between refills.
- Diamond blade provides consistent cleaving quality.
- Stripping method reliable with minimum fiber damage.

SPECIFICATION		
Description	APM-101	APM-102
Applicable fiber	Conventional silica optical fiber	
Fiber diameter	Cladding diameter : 125 μm, Coating diameter : 250 μm	
Coating material	UV curable resin	
Fiber holder	FH-100-250, FH-100-250-EV, FH-40-250	FH-60-250
Cleave length	3 to 10 mm	
Cleaving angle	Typically 0.5 degrees (single mode fiber)	
Operation time	23 sec	
Dimensions	170 (W) × 370 (D) × 120 (H) mm	
Weight	Main body 5.1 kg	
Power supply	AC adapter : ADC-15 Input AC100 to 240 V (50 ~ 60 Hz)	
Operating condition	0 to 40 degC and 0 to 95%RH (non-dew)	
Storage condition	-40 to 80 degC and 0 to 95%RH (non-dew)	
Compressed air	0.4MPa (4bar)	

STANDARD ITEMS		
Name	Model	Qty.
Optical fiber automatic preparation machine	APM-101 or APM-102	1pc
AC adapter	ADC-15	1pc
AC power cord	ACC-** 01 : Japan, 02 : USA, 03 : UK, 04 : EU, 05 : Australia	1pc
Alcohol container	ALC-01	1pc
Alcohol tube	ALT-01	3pcs
Air pressure regulator	REG-01	1pc
Hexagonal wrench (1.5 mm)	HEX-01	1pc
Hexagonal wrench (1.27 mm)	HEX-03	1pc
Silicon grease	SIG-01	1pc
Instruction manual	M-APM101 / 102-E	1pc
Cleave test report	-	1pc



Specifications and descriptions are subject to change without prior notice.

**Fujikura - Recoater FSR-Series**

**Optical Fiber Recoaters**



***FSR-05/FSR-06/FSR-07***



**FSR-06**



**FSR-05**



**FSR-07**

- High quality shape of recoating
- Automated easy operation
- Colored and non-colored fiber recoating capability
- Various sizes of mold are available  
(195 μm, 255 μm, 280 μm, 450 μm, 670 μm, 1000 μm)
- Easy mold, resin, and pump exchange
- New bubble catching system removes potentially trapped bubbles before the mold
- Programmable resin injection quantities
- Selectable proof-tester
- Compatible with special recoating resins to provide higher stiffness recoating of 900 μm jacketed fibers.
- PC interface with USB



## FSR-05

FSR-05 is a model which has recoating only without a proof tester. This model is appropriate for manufactures that don't require constant proof testing after each recoat.

## FSR-06

FSR-06 is a model which has a recoater and proof tester with a linear clamping system. This model is appropriate for devices which conformation of reliability is required.



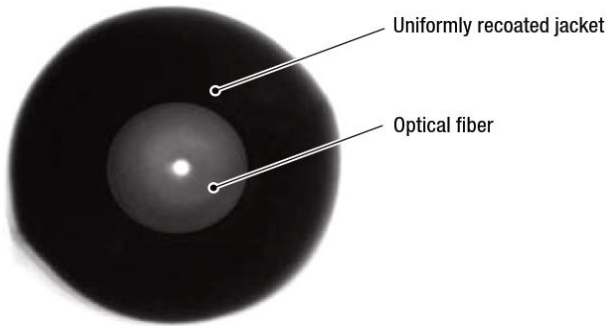
## FSR-07

The FSR-07 has a recoater and mandrel proof testing. This model is appropriate not only for recoating but also reliability proof testing as well as tension testing to failure.

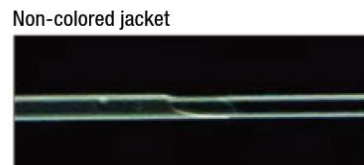
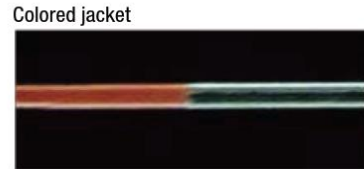
### FSR-05 / FSR-06 / FSR-07 Features

MODEL	Recoat	Proof tester	
		Jacket Clamp Method	Tension
FSR-05	✓	—	—
FSR-06	✓	Linear clamp	0.5 kgf ~ 2.0 kgf
FSR-07	✓	Mandrel	0.5 kgf ~ 10.0 kgf

**High quality shape recoats with high-precision quartz molds**



Cross section of fiber



Recoated fiber over coated with 280 mold

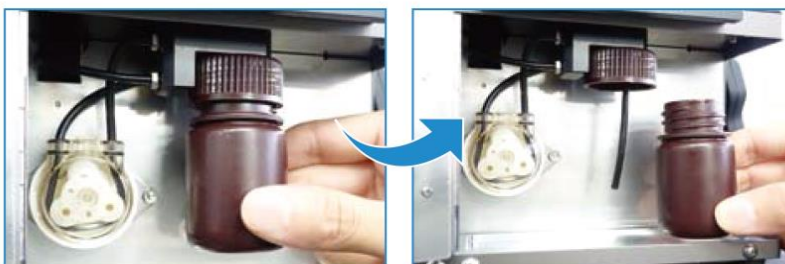
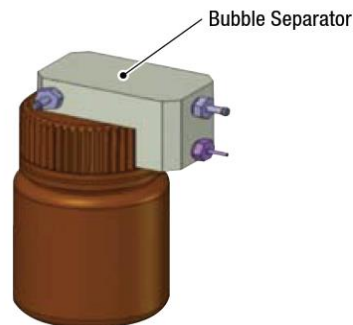


Mold exchange

Easy mold, resin, and pump exchange.  
Factory installation is not required.  
Easy replacement of the molds by operators.



Bubble Separator Performance



resin and pump exchange

Spare Pump for quickly changing  
UV resin type : FSR-05-pump-01



## Specifications

Description	FSR-05	FSR-06	FSR-07
Applicable optical fiber	Single fiber		
Applicable fiber coating	Colored and non-colored		
Recoating diameter	195 μm, 255 μm, 280 μm, 450 μm, 670 μm, 1000 μm Custom sizes are available		
Recoating length	4 to 50 mm		
Recoating time	Injection 20 sec / Curing 4 sec (Jacket diameter 250 μm with 280 μm MOLD)		
Resin injection	Volume and speed are programmable.		
Recoat material	UV curable Acrylate Recommended specification for other viscosity 2000-6000 cps curing wavelength 365+ / -15 nm DSM Desotech DesoLite® 950-200 recommended.		
Material of mold	Quartz		
Recoat modes	100 modes All variables programmable		
Proof-test modes	—	30 modes speed, force, time programmable	
Load application	—	Flat clamp	Linear Mandrel
Tension	—	0.5 ~ 2.0 kgf	0.5 ~ 10.0 kgf
Dimensions	252 mm (W) x 135 mm (D) x 169 mm (H)	252 mm (W) x 175 mm (D) x 169 mm (H)	
Wight	2.9 kg	4.3 kg	4.5 kg
Power source	AC 100 to 240 V / 50 to 60 Hz (External AC adaptor ADC-19)		
LCD monitor	4.7 inch, Tilt angle		
PC interface	USB 2.0 Type B mini		
Operating condition	10 to 30°C, 0 to 90% (non dew)		
Storage condition	-40 to 60°C (non dew, no resin)		

## Standard Items

Name	Model	FSR-05	FSR-06	FSR-07
Main body	FSR-05	1pc	—	—
	FSR-06	—	1pc	—
	FSR-07	—	—	1pc
Mold	FSR-05-MOLD-****	Select 1 size from table on this page.		
AC adaptor	ADC-19	1pc		
AC power cord	ACC-xx	1pc 08: JAPAN, 09: USA, 10: UK, 11: EU, 12: Australia		
USB cable	USB-01	1pc		
Instruction manual	M-FSR05	1pc		
Recoating Report	—	1pc		
Warning and Cautions	W-FSR05-E	1pc		
Fiber protect cover	—	—	PC-02 x 1pc	PC-03 x 1pc
Tube set	FSR-05-TUBE-01	1set		

## Optional Items

Item	Model
MOLD for 280 μm	FSR-05-MOLD-280
MOLD for 195 μm	FSR-05-MOLD-195
MOLD for 255 μm	FSR-05-MOLD-255
MOLD for 450 μm	FSR-05-MOLD-450
MOLD for 670 μm	FSR-05-MOLD-670
MOLD for 1000 μm	FSR-05-MOLD-1000
UV Resin Bottle	FSR-05-BTL-01
Spare Pump for quickly changing UV resin type	FSR-05-PUMP-01
Force gauge adaptor (For FSR-06 / FSR-08)	FGA-02

## Standard Package



Specifications and descriptions are subject to change without prior notice.

---

**Fujikura - Coating Stripper PCS-100**

Polyimide Coating Stripper



# PCS-100



**Features**

- Quick stripping of a fiber minimum 20sec.
- Window stripping available.
- Safer and quality stripping with no oxidization by burning.
- Adjustable parameters various fiber coating, including polyimide coated carbon fiber.
- Mechanical fiber proof tester.

**SPECIFICATION**

Description	PCS-100
Applicable fiber	Conventional silica optical fiber
Fiber count	Single fiber
Cladding diameter	φ 60 to 1200 μm
Fiber holder	FH-100-xxx
Coating diameter	φ 60 to 1500 μm
Stripping length	1 to 35mm (Window stripping : 1 to 33mm)
Stripping time	Coating removing action × 4 : 20 sec Coating removing action × 8 : 35 sec Coating removing action × 12 : 50 sec
Blade life	350 fibers (coating removing action × 4)
Dimension	230 (W) × 214 (D) × 151 (H) mm
Weight	5 kg
Power supply	AC adapter : ADC-15 Input : AC100 to 240 V (50 to 60Hz)
Operating condition	0 to 40 degC and 0 to 95%RH (non-dew)
Storage condition	-40 to 80 degC and 0 to 95%RH (non-dew)

**STANDARD ITEMS**



**STANDARD ITEMS**

Description	Model	Qty.	Note
Polyimide coating stripper	PCS-100	1pc	
AC adapter	ADC-15	1pc	
AC power cord	ACC-**	1pc	** : 01 JP / 02 USA / 03 UK / 04 EU / 05 AUS
Fiber holder	FH-100-150	1pair	
Instruction manual	M-PCS100-E	1pc	
Blade	PCB-01	1pc	50 pcs / box For replacement
Hexagonal wrench	HEX-01	1pc	For blade replacement

**OPTIONAL ITEMS**

Item	Model	Note
Fiber Holder	FH-100-***	Fiber Holder for FSM-100 series *** : Coating diameter
	FH-100-***-EV	060, 100, 125, 150, 180, 210, 250, 300, 350, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000 μm -EV is Fiber Holder for End-view observation system
Blade	PCB-01	50 pieces of 1 box, for replacement

**1. Set**



Set fiber.

**2. Stripping**



Coating is peeled off with stripping blade.

**3. Proof test**



Transfer the fiber to the proof test unit.

Specifications and descriptions are subject to change without prior notice.



## Fujikura - HP Fiber Stripper HTS-12



### *High Precision Fiber Stripper HTS-12*



**HTS-12**

The HTS-12 is designed for stripping single count of silica optical fiber by keeping the stripped fiber's glass surface free from any physical contact.

In order to achieve the above condition, the HTS-12 has a precise linear slide base for stripping action. The fiber is not scuffed by the blade or any other materials when being stripped. The HTS-12 is equipped with a heater to soften the fiber coating.

The HTS-12 accepts the FH-40 series and FH-100 series Fiber Holder System.

STANDARD PACKAGE			SPECIFICATIONS	
Description	Model	Q'ty	Fiber count	Single
Stripper main body	HTS-12	1pc.	Fiber type	Silica optical fiber
Blades for 250 $\mu$ m	HTS-CT-250	1pc.	Coating material	UV cured resin
AC adapter	ADC-08	1pc.	Cladding diameter	125 $\mu$ m
AC power cord	ACC-08~12	1pc.	Coating diameter	250 $\mu$ m, 400mm, with optional blade
Cleaning brush	BRS-1	1pc.	Stripping length	Max. 35mm
Instruction manual	-	1pc.	Heating time	Approx. 3sec.
			Temperature setting	120, 140, 160, 180 degrees C, adjustable
			Fiber placing	With FH-40 series and FH-100 series Fiber Holder
			Power supply	100 to 240V AC / 50 to 60Hz with ADC-08
			Voltage polarity	Positive $\ominus \bullet \oplus$
			Dimensions, Weight	140W x 60D x 60H mm, 600g
OPTIONAL ITEMS				
Description	Model			
Blades for 400 $\mu$ m	HTS-CT-400			
Grease for blade setting	HTS-GREASE			



**HTS-12**

Note ) The export of HTS-12 is controlled under Foreign Exchange and Foreign Trade Law of Japan. Therefore, your order shall be subject to the approval of the Japanese Government.

Specifications and descriptions are subject to change without prior notice.

**Fujikura - Ribbon Fiber Stripper RS02-RS03**

**RS02/RS03**



*Ergonomic Design*



*Ribbon Fiber Stripper*  
**RS02/RS03**



- 80% gripping force as compete with previous model.
- Fast Heating Time
- Bluetooth capable for wireless connection with Smartphones
- High capacity battery approx. 600 times (RS03)

# RS02/RS03

## SPECIFICATIONS

	RS02	RS03	RS03-80
Applicable optical fiber	Glass optical fibers		
Fiber count	1 to 12		Single
Cladding diameter	125μm		80μm
Coating diameter	200 to 400 μm		150 to 250 μm
Stripping length	Up to 35mm		
Typical heating time	3sec. 5sec. at Eco mode		
Standard heating temperature	100°C		
Fiber holder	FH-50series, FH-60series, FH-100series Except for FH-50-250		
Wireless connectivity	Bluetooth®4.1 LE*1 OS:Android 5.0 or above, iOS 8.0 or above (iPhone6 or above)		
Dimensions	155.5(W)×48.7(D)×32.5(H)mm	155.5(W)×48.7(D)×36.8(H)mm	
Weight	185g	265g(with Battery)	
Power supply	100 to 240V AC with optional AC adapter, ADC-09A DC10~17V with external DC power supply : DC7.4V with Battery pack , BTR-12(Rechargeable Lithium-ion battery )		
Battery capacity	-	1620mAh : Typical 3.5h , 600 times at Eco mode	
Operating conditions	Temperature: -10 to 50°C, Humidity: 0 to 95% RH (Non-condensing)		
Storage conditions	Temperature: -40 to 80°C, Humidity: 0 to 95% RH (Non-condensing)		
Resistance feature	Shock resistance : 76cm (30inch) all surface drop(Telcordia GR -955-CORE) Rain resistance : H=10mm/hr for 10min(JIS C 0 034)		

※The Bluetooth wireless connection of this product is not guaranteed to work with all smartphones or other devices.

\*Bluetooth® and Bluetooth logo is a registered trademark of Bluetooth SIG, Inc.



## STANDARD PACKAGE

Description	Model	RS02	RS03	RS03-80
Main body	RS02	1pc	-	-
	RS03	-	1pc	-
	RS03-80	-	-	1pc
Battery pack	BTR-12	-	1pc	
DC power cord	DCC-11	1pc	Option	
AC adaptor	ADC-09A	Option		
AC power cord	ACC-xx	Option	1pc, selectable ACC ●08: Japan type ●09: USA type ●10: EU type ●11: UK type ●12: Australia type	
Instruction manual	M-RS02/03-E	1pc		
Hexagon wrench	HEX-01	1pc		
Brush	BRS-02	1pc		

## OPTIONAL ITEMS

Description	RS02	RS03	RS03-80
Spacer		SPA-RS02-08	

## STANDARD PACKAGE



## Get "Splice+" app !!



RS02/03

*Splice+* is a smartphone application that works in cooperation with the RS02/RS03 series ribbon fiber strippers which have Bluetooth capability.

The app provides functions to edit settings of the devices, a function to update firmware, tutorials of the devices, and so on.

*Splice+* is available free of charge on Google Play or App Store.



fujikura splice+



### Startup instruction

When the app starts, the app shows the list of the devices available to be connected or the devices that were connected once.

+There are rectangular link icons on the left of the top menu.

When there is/are dark blue link icon(s) in the list, tapping that icon establishes a connection between the app and the device.

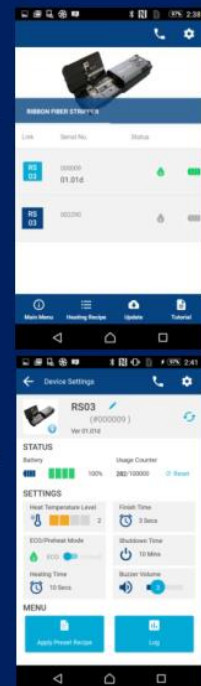
+The link icon of a connected device is colored with blue.

+When the link icon is grey, the corresponding device isn't ready for connection.

However, you can still check the information of the device collected during the last connection.

If you want the app to connect a device that doesn't appear on the list or link icon of which is colored with grey, press and hold the Bluetooth button on the device until the Bluetooth lamp starts blinking.

Once the Bluetooth led starts blinking, the device appears on the list and its link icon becomes dark blue. Then you can connect the device to the app by tapping the icon.



Specifications and descriptions are subject to change without prior notice.

## Fujikura - Ultra Sonic Cleaner USC-03



# Ultrasonic Cleaner USC-03

The USC-03 is Ultrasonic Cleaner designed for the cleaning of optical fiber using the FH-40, 50, 60 and 100 series of Fujikura Fiber Holder. Timer switch and Cleaning Power Volume enable to edit cleaning program.

By using this equipment the fiber can be cleaned after stripping without any physical contact.

### Appearance



### Fiber holder plate



with the fiber holder  
FH-100 series



### Specifications

Applicable optical fiber	Single optical fiber
Applicable fiber holder	FH-40/50/60/100 series fiber holder
Max cleaning fiber length	49mm
Cleaning liquid type	Ethyl-alcohol, Iso-propanol
Cleaning liquid volume	43-53cm <sup>3</sup>
Dimensions	95mm(W)×190mm(D)×162mm(H)
Weight	1.0kg
Vibration unit	Langevin type
Output power	Max 3.0W, adjustable
Power source	AC 100-240V 50/60Hz by ADC-10
Voltage Polarity	⊖ ⊕
Cleaning timer	0 to 99sec, adjustable
Operating environment	0 to 40 °C, 0 to 95%RH (no dew)
Storing condition	-20 to 60 °C (no dew)

### Standard items

Ultra sonic cleaver	USC-03	1pc
Lid	LID-02	1pc
AC adaptor	ADC-10	1pc
AC power cord	ACC-08: Japan type ACC-09: USA type ACC-10: EU type ACC-11: UK type ACC-12: Australia type	1pc select
Instruction manual	M-USC03-E	1pc

Specifications and descriptions are subject to change without prior notice.

**Fujikura - Fiber Arrangement Tool FAT-04**



*Fiber Arrangement Tool **FAT-04***



The FAT-04 is designed to arrange 250µm coated fibers and to make a temporary ribbon configuration so that the fibers may be mass fusion spliced using the same procedures as conventional ribbon fiber. Any number of fibers which are applicable to mass fusion splicing may be arranged and pasted into a ribbon.

**FAT-04 and accessories**

APPLICABLE FIBERS	
Applicable fibers	Silica glass fiber
Coating diameter	250micron
Coating material	UV cured resin

SPECIFICATION	
Fiber count for arrangement	Up to 12 fibers
Fiber bundled length	Approx. 200mm
Fiber arrangement method	Guide slit
Dimensions	300L x 90W x 40H [mm]
Weight	350g

STANDARD PACKAGE		
Description	Model	Q'ty
Main body	FAT-04	1 pc.
Paste applicator block	PAB-01	1 pc.
Clip	CLP-02	2 pcs.
Paste	FAA-03	1bottle (130ml)
Sponge Pads	SP	1pack (125 blks)
Cotton Swabs	FM-225	1pack (100 pcs.)
Instruction manual	-	1 pc.

OPTIONAL ITEMS		
Paste	FAA-03	1set (5 bottles x 130ml)
Fiber holders	FH-50-xx	Refer below table

FIBER HOLDERS							
Fiber count	2 fibers	4 fibers	5 fibers	6 fibers	8 fibers	10 fibers	12 fibers
Model	FH-50-2	FH-50-4	FH-50-5	FH-50-6	FH-50-8	FH-50-10	FH-50-12

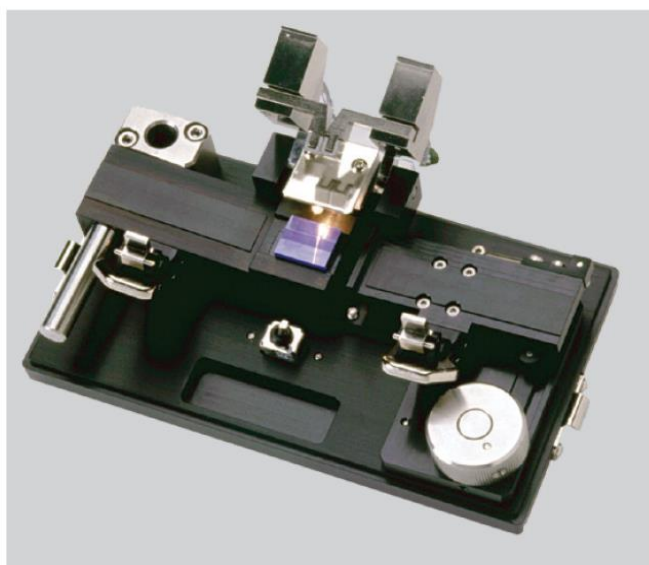
Available as version: with or without Glue - Version with Glue IATA dangerous goods  
Spare Glue 130ml or 0.5L

Specifications and descriptions are subject to change without prior notice.

## Fujikura - Temporary Joining Tool TJ-03



### TJ-03 Temporary Joining Tool



The TJ-03 is a temporary mechanical fiber splice for fiber and cable connections to test equipment such as OTDRs or fiber optic cable reels. The TJ-03 uses a precision ceramic V-groove to align up to 12 fibers simultaneously. The fibers are prepared for joining by using standard mass fusion fiber preparation tools (fiber holders, hot jacket stripper, and cleaver.) Using the TJ-03 in conjunction with an OTDR equipped with an optical switch provides rapid one button optical tests of 12 fibers.

#### Features

- Precision ceramic V-groove alignment
- Built-in magnifier and lamp to inspect fiber placement in V-grooves

#### Ordering Information

DESCRIPTION	AFL NO.
TJ-03 Temporary Splice Kit Includes: Fiber Holders (1 pair) FH-50-12, CT-30 Cleaver, HJS-02 Hot Jacket Stripper, ADC-09 AC Adapter for HJS-02, and the ACC-09 Power Cord	S012772
TJ-03 Temporary Splice (without fiber preparation tools)	S010456

Specifications and descriptions are subject to change without prior notice.