

# ARCMaster™

## 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+

## ARCMaster™ product line

Fujikura's new "ARCMaster" splicers are engineered with a robust set of features that offer customers technology and reliability not available elsewhere. The need for Accurate, Reliable, and Consistent splicing is expanding to new applications beyond telecommunications. These entirely new "ARCMaster" fusion splicers from Fujikura have been developed to provide the ultimate in performance and flexibility for a variety of customers and markets.

Additional information can be found at [www.StateoftheARC.com](http://www.StateoftheARC.com) website which is the central repository of information for all of Fujikura's state of the art fusion splicer products. Stay tuned to [www.StateoftheARC.com](http://www.StateoftheARC.com) for forthcoming additions to the "ARCMaster" family of specialty fusion splicers where incremental capabilities will be revealed.



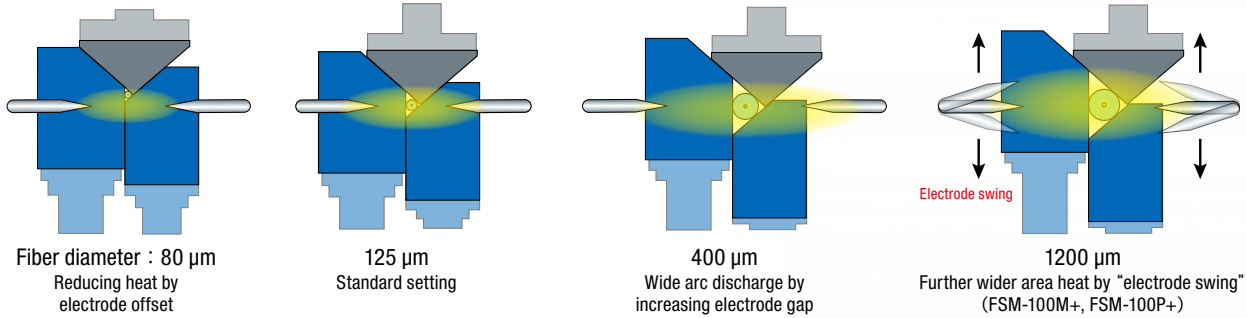
# FSM-100 series

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

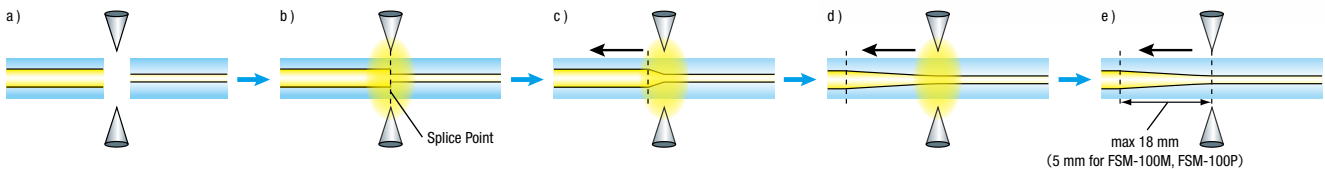
### Optimum Plasma Zone Control

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.

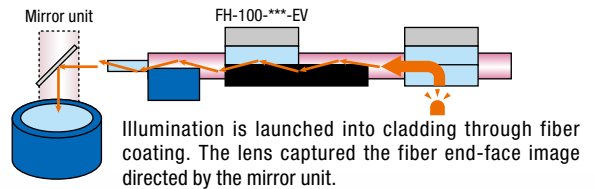


### PM Fiber Splicing FSM-100P, FSM-100P+

Three alignment methods for PM fibers

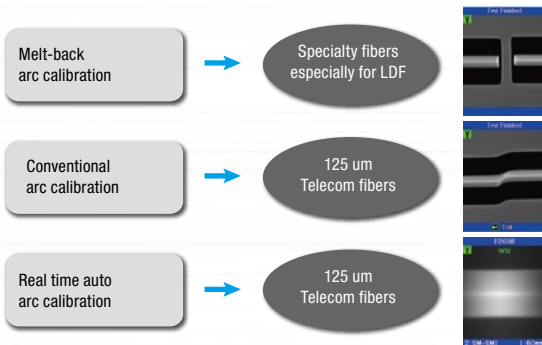
- Fast PANDA mode aligning by PAS system
- New IPA mode for aligning all kinds of PM fibers
- EndView PM fiber aligning (FSM-100P+ only)

### EndView observation system



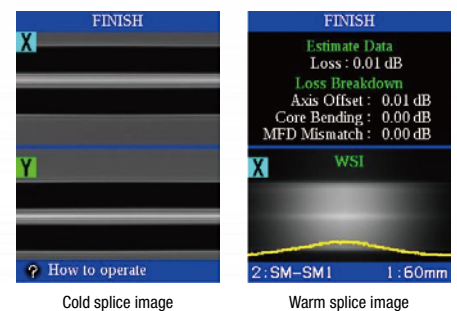
### Enhanced Arc Calibrations

FSM-100 series provides three types of arc calibration methods, for not only 125 μm fibers but also LDF.



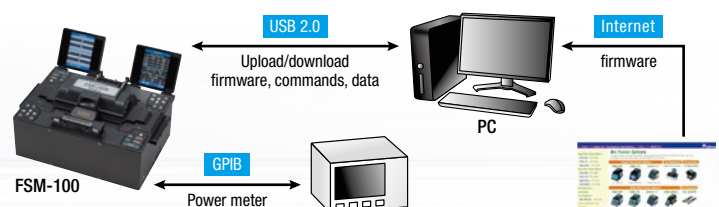
### Dual Splice Loss Estimation

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.



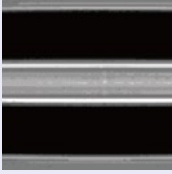

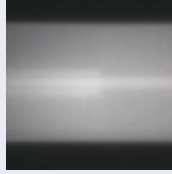
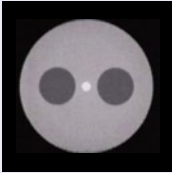
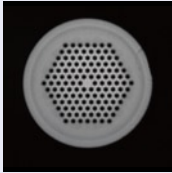
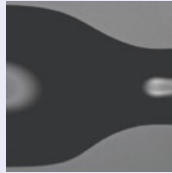
### Fiber Profile Learning function

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

<p><b>PM Fiber Splicing</b></p>  <p>By PAS FSM-100P FSM-100P+</p>	<p><b>Special Shape Fiber Splicing</b></p>  <p>Polygon shape fiber FSM-100P+</p>	<p><b>Dissimilar Fiber Splicing</b></p>  <p>Different MFD</p>
<p>By EndView FSM-100P+</p> 	<p><b>Photonic crystal fiber</b></p>  <p>FSM-100M+ FSM-100P+</p>	<p>Different diameter</p> 

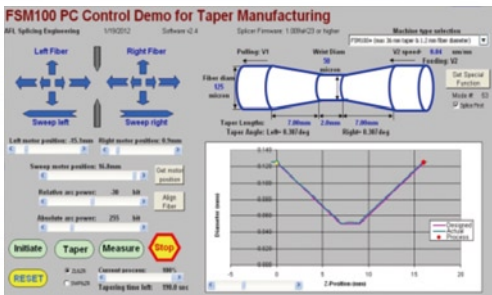


## Fiber Shaping

### Tapering

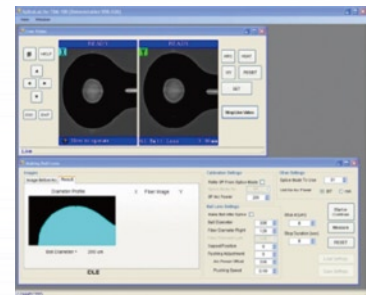


### End Cap



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 $\mu$ m		60 ~ 1200 $\mu$ m	
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		$\pm$ 5 mm		$\pm$ 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 FH-100-xxx-EV	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 -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 Stripprt	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.

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