



FSM-100P+



FSM-100M+

## ARC Master™

### FSM-100M+ and FSM-100P+ Fusion Splicers

The FSM-100M+ and FSM-100P+ specialty fusion splicers provide advanced capabilities suitable for fiber lasers, sensors, research and development and the medical field. New capabilities include an innovative “end-view” fiber observation system, XLDF (Extra Large Diameter Fiber) splicing capability using “Plasma Zone Path Modulation,” enhanced sweep arc technology and other features for glass processing and fiber tapering, and patented split V-groove clamping system. With State of the ARC™ technology, the ARC Master series of fusion splicers sets a new standard for fusion splicing, providing the ultimate in performance and flexibility.

#### Features: FSM-100M+/FSM-100P+

- End-view observation system for alignment of non-circular, “holey” and other exotic fibers
- XLDF (Extra Large Diameter Fiber) splicing capability up to 1200 μm diameter fiber
- Patented “split V-groove” clamping system covers a range from 60 to 2000 μm
- Advanced “Plasma-Zone” control methods to optimize heating for specific fiber types
  - Motorized electrodes to change electrode gap to optimize Plasma Zone shape
  - Adjustable vertical height to position fiber within Plasma Zone
  - Electrode oscillation produces “Plasma Zone Path Modulation” for XLDF splicing
- Enhanced ability for fiber shaping, glass processing, tapering, etc.
  - Custom multi-step “Special Functions” programmability
  - Long-travel sweep arc technology (fiber sweep motion up to +/- 18 mm)
  - Long-travel left/right Z-drive mechanisms
- Three selectable arc calibration methods
  - Conventional calibration method for standard fibers
  - New melt-back method with new parameters for special fibers including XLDF
  - Real-time calibration by arc brightness observation (with fiber brightness learning function)
- Dual 4.1 inch monitors with user-selectable information display
- Extensive PC connectivity functions (software upload, data upload/download, PC control)

#### Features: FSM-100P+

- Three alignment methods for PM fibers
  - Fast PANDA mode alignment by PAS system
  - New IPA mode for aligning all kinds of PM fibers (with learning function for expandable PM fiber auto-recognition database)
  - End-view PM fiber alignment including ability to align PM fiber core
- Theta rotation for non-PM LMA fibers
  - Provides best alignment of both LMA core and pump guide (inner clad)

#### Ordering Information

DESCRIPTION	AFL NO.
<b>ARC Master FSM-100M+ Fusion Splicer</b> (machine only) Includes: FH-100-250 fiber holders (pair), FH-100-250-EV fiber holders (pair), FH-100-900, ELCT3-25-LDF Included electrode for LDF, ELCT3-25 STD Electrode (Installed), ADC-15 AC adapter, EV-LS01 End-View Light Source, ACC-02 AC power cord, USB cable, dust cleaning swab set, EC-01 Electrode Cleaner, operation manual and software on CD and transit case	S014813
<b>ARC Master FSM-100P+ Fusion Splicer</b> (machine only) Includes: FH-100-250 fiber holders (pair), FH-100-400 fiber holders (pair), FH-100-250-EV fiber holders (pair), FH-100-400-EV fiber holders (pair), FH-100-900, ELCT3-25-LDF Included electrode for LDF, ELCT3-25 STD Electrode (Installed), EV-LS01 End-View Light Source, ADC-15 AC adapter, ACC-02 AC power cord, USB cable, dust cleaning swab set, EC-01 Electrode Cleaner, operation manual and software on CD and Transit case	S014815
One year extended warranty (extends factory warranty by one year)	S012996
Two year extended warranty (extends factory warranty by two years)	S013000



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### FSM-100M+ and FSM-100P+ Fusion Splicers

#### Accessories

DESCRIPTION	AFL NO.		
<b>High Strength Accessories</b>			
High Strength Preparation Kit Includes: USC-02, AFL PowerStrip and AFL PowerCleave	S013632		
Ultrasonic Cleaner (USC-02)	S014783		
HTS-12 High Tensile Stripper - includes 250 µm blades (400 µm available)	S012094		
AFL PowerStrip High Tensile Stripper	S012808		
AFL PowerCleave High Strength Cleaver	S009972		
<b>Strippers</b>			
RS02 Thermal Stripper	S016815		
RS03-80 Thermal Stripper	S016842		
SPA-RS02-08 Spacer	S016818		
<b>Electrodes</b>			
ELCT3-25 STD Electrodes	S015184		
ELCT3-25-LDF Electrodes	S015015		
<b>Cleavers</b>			
CT52 Cleaver	S017078		
CT58 Cleaver (for 80 µm cladding)	S017097		
<b>Fiber Holders (Pairs)</b>			
FH-100-60 Fiber Holder (55 - 71 µm)	S014977	FH-100-60-EV Fiber Holder (55-71 µm)	S014989
FH-100-100 Fiber Holder (94 - 117 µm)	S014828	FH-100-100-EV Fiber Holder (94 - 117 µm)	S014990
FH-100-125 Fiber Holder (118 - 139 µm)	S014829	FH-100-125-EV Fiber Holder (118 - 139 µm)	S014991
FH-100-150 Fiber Holder (140 - 169 µm)	S014861	FH-100-150-EV Fiber Holder (140 - 169 µm)	S014992
FH-100-180 Fiber Holder (170 - 199 µm)	S014830	FH-100-180-EV Fiber Holder (170 - 199 µm)	S014993
FH-100-210 Fiber Holder (200 - 239 µm)	S014831	FH-100-210-EV Fiber Holder (200 - 239 µm)	S014994
FH-100-250 Fiber Holder (240 - 289 µm)	S014832	FH-100-250-EV Fiber Holder (240 - 289 µm)	S014995
FH-100-300 Fiber Holder (290 - 339 µm)	S014833	FH-100-300-EV Fiber Holder (290 - 339 µm)	S014996
FH-100-350 Fiber Holder (340 - 389 µm)	S014834	FH-100-350-EV Fiber Holder (340 - 389 µm)	S014997
FH-100-400 Fiber Holder (390 - 489 µm)	S014835	FH-100-400-EV Fiber Holder (390 - 489 µm)	S014998
FH-100-500 Fiber Holder (490 - 589 µm)	S014836	FH-100-500-EV Fiber Holder (490 - 589 µm)	S014999
FH-100-600 Fiber Holder (590 - 689 µm)	S014837	FH-100-600-EV Fiber Holder (590 - 689 µm)	S015000
FH-100-700 Fiber Holder (690 - 789 µm)	S014838	FH-100-700-EV Fiber Holder (690 - 789 µm)	S015001
FH-100-800 Fiber Holder (790 - 889 µm)	S014839	FH-100-800-EV Fiber Holder (790 - 889 µm)	S015002
FH-100-900 Fiber Holder (890 - 989 µm)	S014840	FH-100-900-EV Fiber Holder (890 - 1000 µm)	S015003
FH-100-1000 Fiber Holder (990 - 1089 µm)	S014978	FH-100-1000-EV Fiber Holder (990 - 1089 µm)	S015004
FH-100-1100 Fiber Holder (1090 - 1189 µm)	S014979	FH-100-1100-EV Fiber Holder (1090 - 1189 µm)	S015005
FH-100-1200 Fiber Holder (1190 - 1289 µm)	S014980	FH-100-1200-EV Fiber Holder (1190 - 1289 µm)	S015006
FH-100-1300 Fiber Holder (1290 - 1389 µm)	S016813	FH-100-1300-EV Fiber Holder (1290 - 1389 µm)	S015007
FH-100-1400 Fiber Holder (1390 - 1489 µm)	S014982	FH-100-1400-EV Fiber Holder (1390 - 1489 µm)	S015008
FH-100-1500 Fiber Holder (1490 - 1589 µm)	S014983	FH-100-1500-EV Fiber Holder (1490 - 1589 µm)	S015009
FH-100-1600 Fiber Holder (1590 - 1689 µm)	S014984	FH-100-1600-EV Fiber Holder (1590 - 1689 µm)	S015010
FH-100-1700 Fiber Holder (1690 - 1789 µm)	S014985	FH-100-1700-EV Fiber Holder (1690 - 1789 µm)	S015011
FH-100-1800 Fiber Holder (1790 - 1889 µm)	S014986	FH-100-1800-EV Fiber Holder (1790 - 1889 µm)	S015012
FH-100-1900 Fiber Holder (1890 - 1989 µm)	S014987	FH-100-1900-EV Fiber Holder (1890 - 1989 µm)	S015013
FH-100-2000 Fiber Holder (1990 - 2100 µm)	S014988	FH-100-2000-EV Fiber Holder (1990 - 2100 µm)	S015014
FH-40-LT900 Fiber Holder	S013584		

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## ARC Master™

### FSM-100M+ and FSM-100P+ Fusion Splicers

#### Accessories

DESCRIPTION	AFL NO.
<b>Power and Cords</b>	
ADC-15 AC Adapter (FSM-100M/P)	S014826
ACC-02 AC Power Cord	S001171
ADC-09A AC Adapter (RS01)	S016820
ACC-09 AC Power Cord (for ADC-09)	S014390
<b>Miscellaneous</b>	
CC-27 Transit Case (100 M/P)	S014825
DCS-01 Dust Cleaning Swab	S014827
EC-01 Electrode Cleaner	S015024
USB-01 USB Cable	S014777
HP Power Meter Coupling Adapter	S012180
ILX Power Meter Coupling Adapter	S012184
Fiber Holder Adapter for HP/ILX PM	S012188
Splicer V-Groove Cleaning Kit	S014397

#### Specifications

PARAMETER	VALUE
Applicable Fiber	Silica based Single-mode and Multimode glass fiber: SMF (G.652), MMF (G.651), NZDSF (G.655), EDF, DCF, LDF and PMF, etc.
Fiber Dimension	Cladding dia.: 60 to 1,200 µm; Coating dia.: 60 to 2,000 µm
Cleave Length	Glass clamping 8 to 30 mm (standard 9 mm) Coating clamping 3 to 5 mm (standard 4 mm)
Typical Splice Loss	SMF: 0.03 dB; MMF: 0.02 dB; NZDSF/LDF: 0.05 dB; PMF: 0.06 dB
Splicing Time	SMF/MMF: 15 seconds; NZDSF/LDF: 25 seconds; PMF (PANDA): 35 to 50 seconds (FSM-100P+); PMF (IPA): 70 to 300 seconds (FSM-100P+)
Polarization Cross-Talk	PMF (PANDA): -40 dB / 0.6 degree (FSM-100P+); PMF (IPA): -40 dB / 0.6 degree (FSM-100P+)
Return Loss	60 dB or more
Heating Time	FP-03 (40 mm): 30 seconds; FP-03 (60 mm): 35 seconds; Micro sleeves: 55 seconds
Sweep Range	±18 mm
Electrode Life	2,500 Arc Discharges (SMF28 G.652 with 1 mm electrode gap)
Electrode Gap	1 to 3 mm
Electrode Offset	-0.3 to +0.1 mm
Proof Test	1.96 to 2.45 N
Dimensions	470 mm (W) x 232 mm (D) x 160 mm (H)
Weight	8.0 kg (FSM-100M+) / 8.4 kg (FSM-100P+) excluding AC adapter.
Operation Temp.	0 to 40°C at 0 to 95 % RH (non-dew)
Storage Temp.	-40 to 80°C at 0 to 95 % RH (non-dew)
Monitor Type	4.1 inch TFT color LCD monitor x 2 pcs.
Magnification	125 µm: 187 to 300 X, 250 µm: 3.5 to 300 X, 400 µm: 58 to 93 X, 1000 µm: 3.5 to 7.0 X