ACTIVE BLADE MANAGEMENT technology

Mass Fusion Splicer

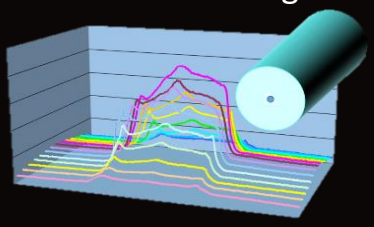
90R16

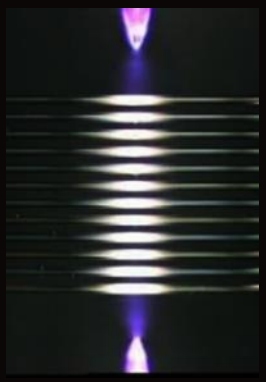
Designed to keep you going

Fujikura

Mass Fusion Technology

The 90R16 mass fusion splicer has a wide heating area for up to 16 fibers. The wide electrode gap melts the fibers uniformly and has real-time arc discharge control by analyzing the arc's brightness intensity. The 90R16 does not have active core alignment mechanisms, however, during the discharge, fiber surface tension effects minimize preexisting offsets.





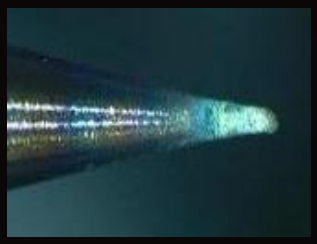
Analyzing arc power by observing the brightness intensity

Advanced Innovation

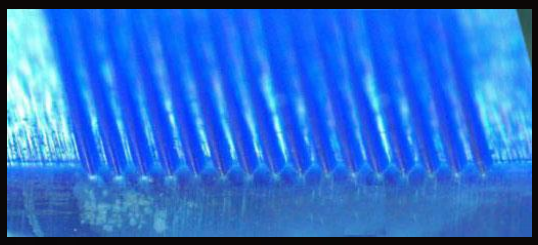
Replaceable V groove

The 90R16 mass fusion splicer includes a spare set of 16 fiber V-grooves with electrodes installed and ready to splice as part of the standard package. These spare V-grooves are field replaceable, so your downtime is minimized.

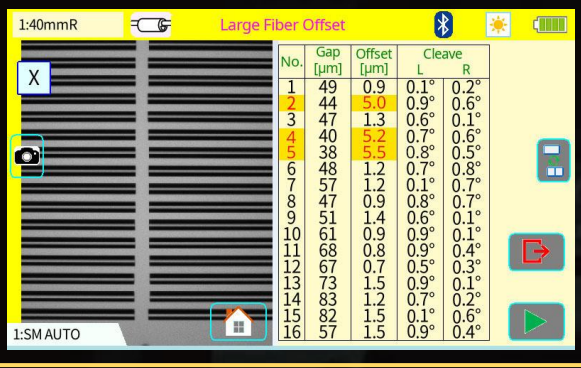
Glass deposition on Electrode



Glass deposition on V-groove

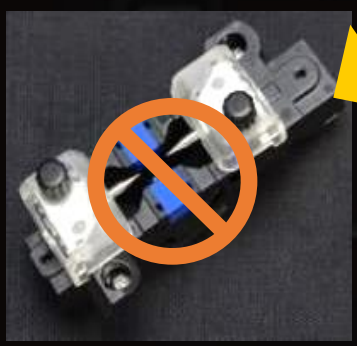


Cause of Large Fiber Offset

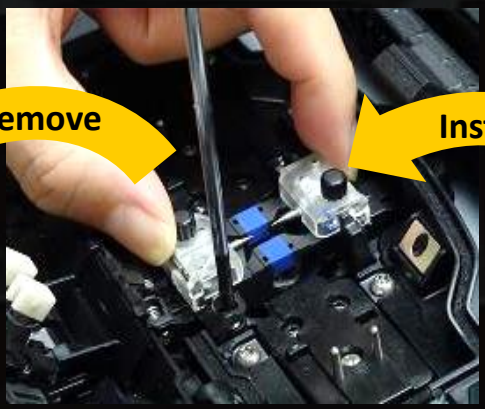


No.	Gap [µm]	Offset [µm]	Cleave L	Cleave R
1	49	0.9	0.1°	0.2°
2	44	5.0	0.9°	0.6°
3	47	1.3	0.6°	0.1°
4	40	5.2	0.7°	0.6°
5	38	5.5	0.8°	0.5°
6	48	1.2	0.7°	0.8°
7	57	1.2	0.1°	0.7°
8	47	0.9	0.8°	0.7°
9	51	1.4	0.6°	0.1°
10	61	0.9	0.9°	0.1°
11	68	0.8	0.9°	0.4°
12	67	0.7	0.5°	0.3°
13	73	1.5	0.9°	0.1°
14	83	1.2	0.7°	0.2°
15	82	1.5	0.1°	0.6°
16	57	1.5	0.9°	0.4°

Glass deposited V-groove and electrodes

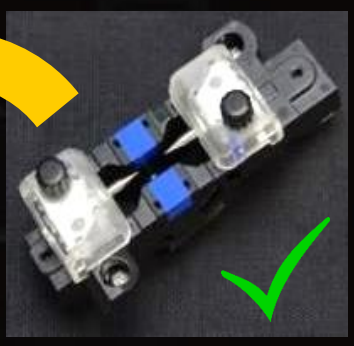


Remove



Install

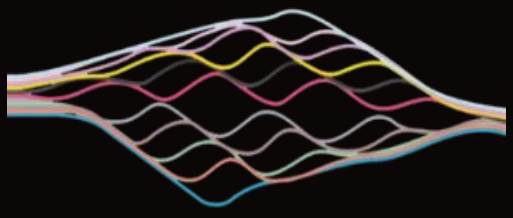
Spare V-groove with stabilized electrodes



Universal Features

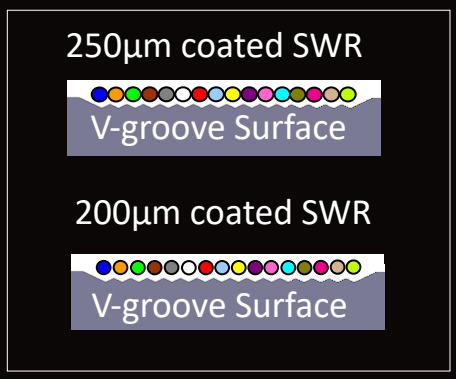
1. Universal Fiber Holder

The FH-70-16 fiber holder is compatible with many types of 16 fiber ribbon, such as 0.3mm or 0.4mm thick encapsulated ribbons and 200µm or 250µm coated Spider Web Ribbon (SWR). The 250 µm pitch V-grooves in the FH-70-16 fiber holder simplify SWR loading and ribbon preparation.



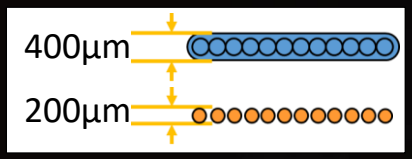
SWR

FH-70-16



2. Universal Ribbon Stripper

The RS series ribbon strippers are compatible with 200 µm to 400µm coated fibers without replacing the stripper blades.

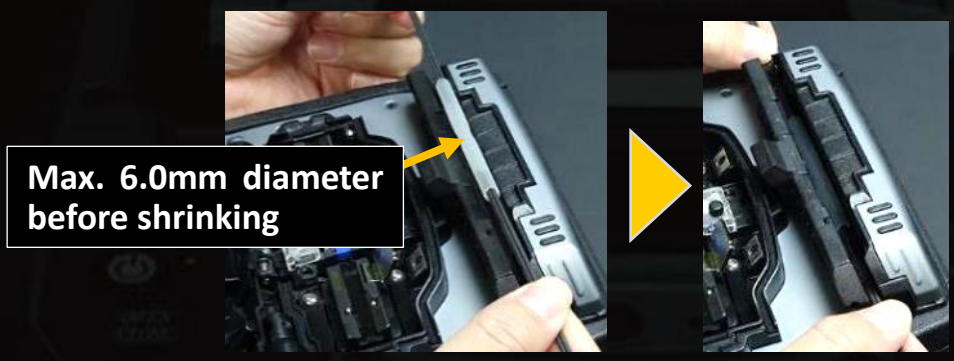


Available thickness range

RS03

3. Universal Tube Heater

The 90R16 mass fusion splicer can accommodate a max 6.0mm diameter heat sleeve before shrinking. As a result, it supports a wide range of protection sleeve sizes.



User Friendly

1. Automated Functionality

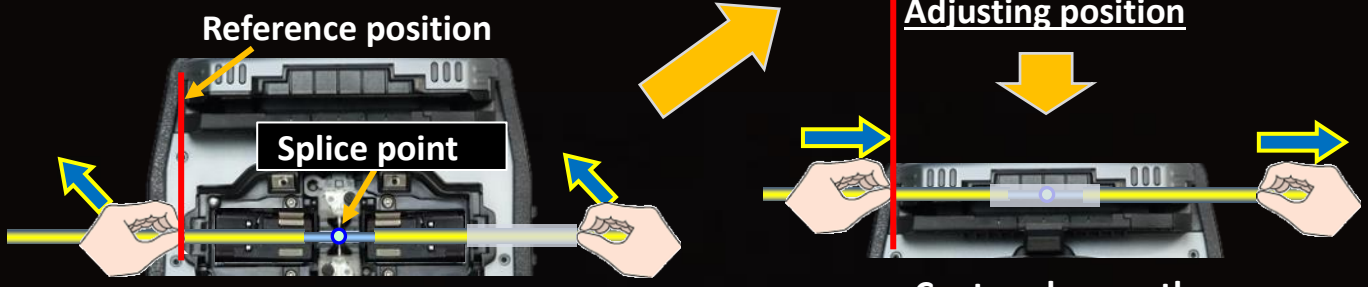
The automated wind protector and heater clamps support the operator in completing the entire splicing process with minimal manual steps.

Automated open-close Wind protector

Automated Tube heater clamp

2. Simple sleeve centering

The 90R16 mass fusion splicer features simple sleeve positioning with its designated centering area on top of the tube heater.



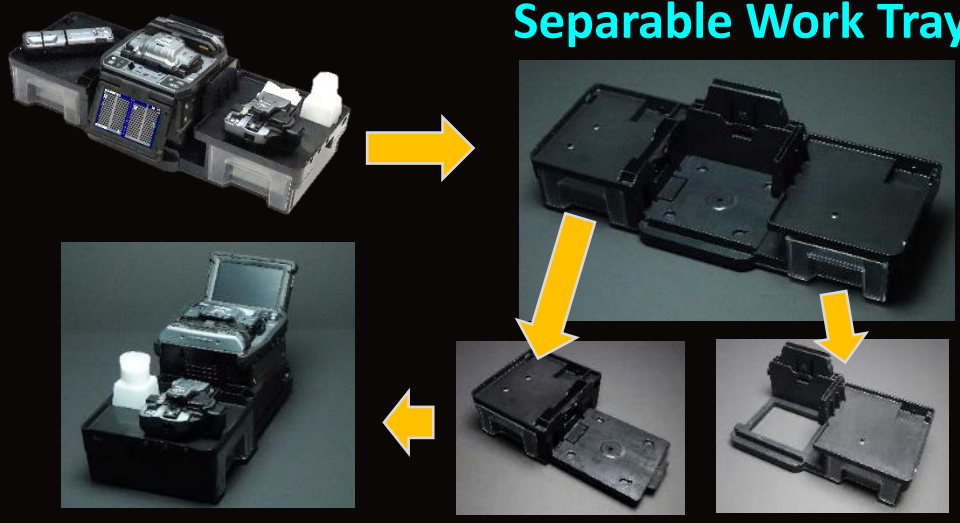
3. Carrying Case

There are multiple ways to utilize the 90R16 carrying case. The 90R16 is ready to use just by opening the case, but it is also possible to use the 90R16 on top of the carrying case or only with the work tray depending on the work environment.

4. Work Tray

The newly designed work tray has many functions. There are two drawers for storage, and the drawers are large enough to store tools or battery packs. Also, the work tray can be divided in two, so it is configurable to fit your work space.

Separable Work Tray



Plenty of space in carrying case

Cleaver & Stripper

Battery packs

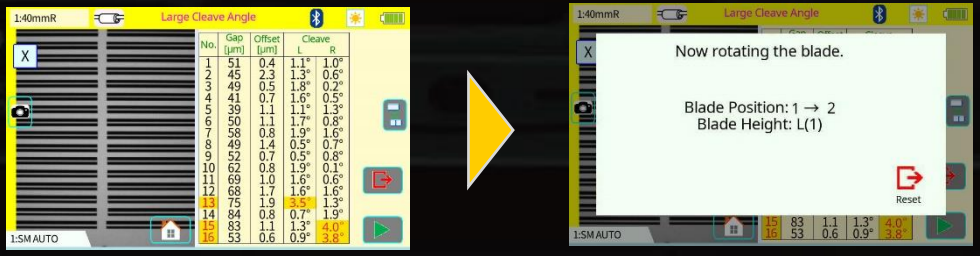
Large storage space under work tray

Active Blade Management Technology

1. Automatic Blade Rotation

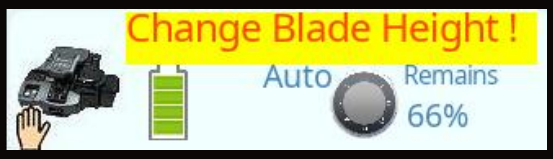
The 90R16 fusion splicer and CT50 fiber cleaver are enabled with wireless data connectivity. This capability allows automatic cleaver blade rotation when the splicer judges the blade is worn. Also, the 90R16 fusion splicer can connect to two CT50s and RS03 simultaneously.

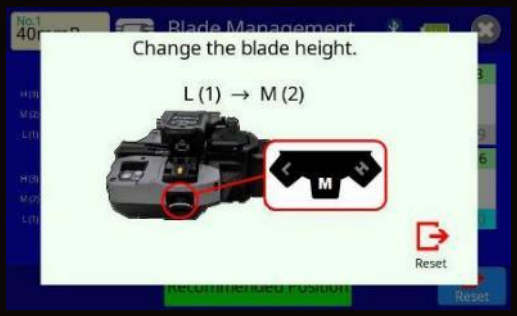
Motorized blade



2. Blade Life Management

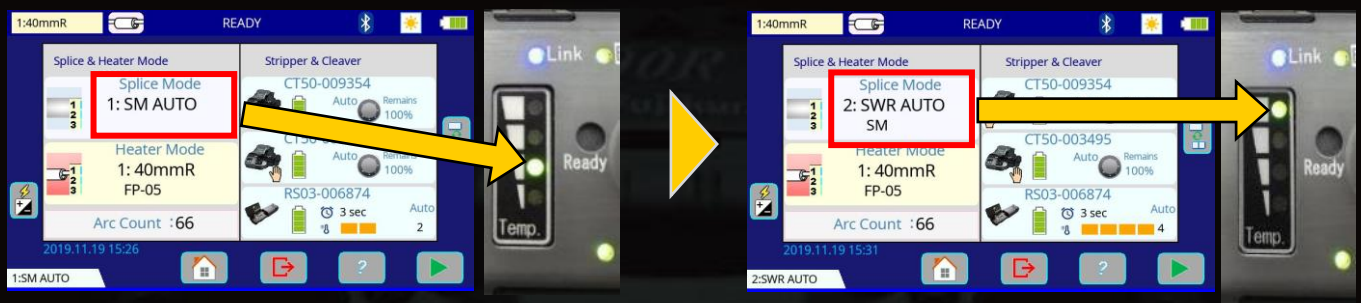
The 90R16 fusion splicer displays the remaining blade life and informs the user when a blade height change, position change, or new blade is required.





3. Stripping Condition Control

When the user changes the splice mode, e.g. from 16 fiber ribbon splice mode to SWR fiber splice mode, the ribbon stripper RS03 automatically changes its heating temperature and time with a wireless command from the splicer.



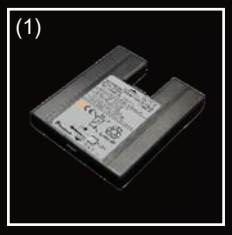
Heat temperature changes in accordance with Splice mode

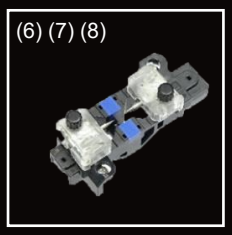
Standard Package

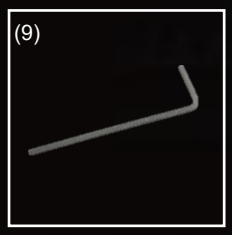
90R16 Standard package

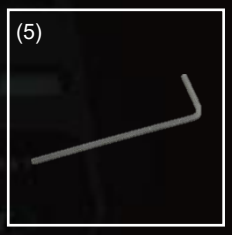
Item	Model	Qty
Mass Fusion Splicer	90R16	1 pc
(1) Battery Pack *	BTR-15	1 pc
(2) AC Adapter	ADC-20	1 pc
(3) AC Power Cord	ACC-14, 15, 16, 17 or 18	1 pc
(4) USB Cable	USB-01	1 pc
(5) Fusion Splicer Strap	ST-02	1 pc
(6) Electrodes (on spare V-groove)	ELCT2-16B	2 pair
(7) 16 fiber V-groove (spare)	VG16-01, 250 to 255µm spacing	1 pc
(8) 12 fiber V-groove (spare)	VG12-01, 250 to 255µm spacing	1 pc
(9) Hexagonal Wrench	HEX-01	1 pc
(10) V-groove Cleaning Brush	VCB-01	1 pc
(11) Carrying Case	CC-39	1 pc
(12) Work Tray Left	WT-09L	1 pc
(13) Work Tray Right	WT-09R	1 pc
(14) Work Tray J-Plate	JP-09	1 pc
(15) Tripod Screw	TS-03	2 pcs
(16) Carrying Case Strap	ST-03	1 pc
(17) Alcohol Dispenser	AP-02	1 pc
(18) Quick Reference Guide	QRG-03-E, C or J	1 pc
Ribbon Fiber Stripper	RS03	1 pc
(1) Battery Pack *	BTR-12A	1 pc
(2) AC Adapter	ADC-09A	1 pc
(3) AC Power Cord	ACC-08, 09, 10, 11 or 12	1 pc
(4) Blade Cleaning Brush	BRS-02	1 pc
(5) Hexagonal Wrench	HEX-01	1 pc
Single Fiber Stripper	SS03 or SS01	1 pc
Optical Fiber Cleaver	CT50	1 pc
(1) Fiber Scrap Collector	FDB-05	1 pc
(2) Fiber Setting Plate	AD-10-M24	1 pc
(3) Case	CC-37	1 pc
(4) Hexagonal Wrench	HEX-01	1 pc

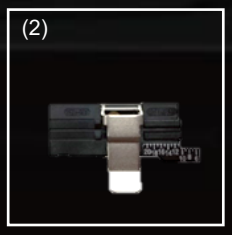
* Please follow IATA regulation when shipping the battery by air.

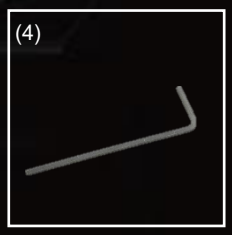












Specifications

90R16 Specifications

Item		Specification
Fiber alignment method		Self cladding alignment with melting surface tension
Fiber count can be spliced		Up to 16 fiber ribbon
Applicable fiber	Fiber type	Single mode optical fiber
		Multi mode optical fiber
	Cladding dia.	Approx.125μm
Applicable coating	Fiber holder	Coating shape. : Refer to options
		Cleave length : 10mm
Fiber splice performance	Splice loss *1	ITU-T G.652 : Avg. 0.05dB
		ITU-T G.651 : Avg. 0.02dB
		ITU-T G.653 : Avg. 0.08dB
		ITU-T G.655 : Avg. 0.08dB
		ITU-T G.657 : Avg. 0.05dB
	Splice time *2	SM FAST mode : Avg. 14 to 15sec.
		SM AUTO mode : Avg. 19 to 20sec.
Applicable protection sleeve	Sleeve type	Heat shrinkable sleeve
	Sleeve length	Max. 66mm
	Sleeve dia.	Max. 6.0mm before shrinking
Sleeve heat performance	Heat time *3	40mm FP-05 mode : Avg. 38 to 40sec.
		40mm FP-04T mode : Avg. 17 to 19sec.
		Single 60mm mode: Avg. 13 to 15sec.
Fiber tensile test force		Approx. 2.0N
Electrode life *4		Approx. 800 splices
Physical description	Dimensions W	Approx.170mm without projection
	Dimensions D	Approx.173mm without projection
	Dimensions H	Approx.150mm without projection
	Weight	Approx. 2.6kg including battery
Environmental condition	Temperature	Operate : -10 to 50 degreeC
		Storage : -40 to 80 degreeC
	Humidity	Operate : 0 to 95%RH non-condensing
		Storage : 0 to 95%RH non-condensing
	Altitude	Max. 3,700m
AC adaptor	Input	AC100 to 240V, 50/60Hz, Max. 1.5A
Battery pack	Type	Rechargeable Lithium Ion
	Output	Approx. DC14.4V / 6,380mAh
	Capacity *5	Approx. 130 splice and heat cycles
	Temperature	Recharge : 0 to 40 degreeC
		Storage : -20 to 30 degreeC
	Battery life *6	Approx. 500 recharge cycles
Display	LCD monitor	TFT 5 inches with touch screen
	Magnification	Approx. 15X : 16 ribbon to 60X : single
Illumination	V-grooves	LED lamp
Interface	PC	USB2.0 Mini B type
	External LED lamp	USB2.0 A type Approx. DC5V, 500mA
	Ribbon Stripper	Mini DIN 6pin DC12V, Max. 1A
	Wireless *7	Bluetooth 4.1 LE
Data storage	Splice mode	100 splice modes
	Heat mode	30 heat modes
	Splice result	10,000 splices
	Splice image	100 images
Screw hole for tripod		1/4-20UNC
Other features	Automatic functions	Splice mode select by fiber count analysis
		Discharge power calibration
		Wind protector : open/close
		Heater lid : open/close
		Heater clamp : open/close
	Reference guide	Video and PDF file stored in splicer
	Electrode	Replaceable without tool

90R16 Options

Item	Model	Remark
V-groove	VG12-01-200	12 fiber ribbon, 200 to 210μm spacing
Fiber holder	FH-70-200	200μm coating diameter
	FH-70-250	250μm coating diameter
	FH-70-900	900μm coating diameter
	FH-70-2	2 fiber ribbon
	FH-70-4	4 fiber ribbon
	FH-70-8	8 fiber ribbon
	FH-70-12	12 fiber ribbon
	FH-70-16	16 fiber ribbon
	FH-70-12PC	Pitch conversion for 12 fiber ribbon
	FH-70-12-200	12 fiber ribbon, 200 to 210μm spacing
	FH-FC-20	900μm in 2mm diameter cable
	FH-FC-30	900μm in 3mm diameter cable
	FH-60-LT900	900μm loose buffer fiber
DC Adapter	DCA-03	Connect AC adapter not through battery
DC power cord	DCC-20	Car cigar socket to BTR15/DCA-03
	DCC-21	Car battery to BTR-15/DCA-03
	DCC-11	Splicer to ribbon stripper
Optical Fiber Cleaver	CT58	Cladding diameter 80μm only
Ribbon Fiber Stripper	RS03-80	Cladding diameter 80μm, up to 16 fiber ribbon
Ribbonizing Tool	FAT-04	2 to 16 fibers, 250μm diameter
	RT-02	2 to 12 fibers, 200 to 250μm diameter
Transfer Clamp	CLAMP-DC-12	Transferring drop cable on work tray
J-Plate	JP-10	Attaching to splicer, not to work tray
	JP-10-FC	JP-10 with fiber clamps
Protection sleeve	FP-04(T)	40mm up to 8 fiber ribbon
	FP-05	40mm, up to 12 ribbon & 16 fiber SWR

Notes

*1: Measured with a cut-back method relevant to ITU-T and IEC standard after splicing Fujikura identical fibers. The average splice loss changes depending on the environmental condition and fiber characteristics.

*2: Measured at room temperature. The definition of splice time is from the fiber image appeared in LCD monitor to the estimated loss displayed. The average splice time changes depending on the environmental conditions, fiber type, and fiber characteristics.

*3: Measured at room temperature with the AC adapter. The heat time is defined from the start beep sound to the finish beep sound. The average heat time changes depending on the environmental conditions, sleeve type and battery pack condition.

*4: The electrode life changes depending on the environmental conditions, fiber type and splice modes.

*5: Test condition
(1) 16 fiber ribbon : Splice and heat time : 3.5 minutes cycle with FP-05 sleeve
(2) Using the splicer power save settings
(3) Using a not degraded battery
(4) At room temperature
The battery capacity changes when testing with different conditions from the above.

*6: The battery capacity decreases to a half after approx. 500 discharge and recharge cycles, The battery life is shortened further when using outside of the storage temperature range, operating temperature range, if completely discharged by storing for a long time without recharging.

*7: Bluetooth® mark and logos are the registered trademarks of Bluetooth SIG, Inc.

Specifications

CT50 Specifications

Item		Specifications
Applicable fiber	Fiber type	Single mode optical fiber
		Multi mode optical fiber
	Fiber count	Up to 16 fiber ribbon
	Cladding dia.	Approx. 125µm
Applicable coating	Fiber setting plate	AD-10-M24 : Max. 900µm coating diameter
		AD-50 : Max. 3mm coating diameter
	Fiber holder	Coating shape. : Refer to splicer options
Cleave length	Fiber setting plate	AD-10-M24 : 5 to 20mm *1
		AD-50 *CD : coating diameter CD= 250µm or less : 5 to 20mm *1 250µm < CD < 1000µm : 10 to 20mm 1000µm < CD < 3mm : 14 to 20mm
	Fiber holder	Approx. 10mm
Cleave angle *2	Single fiber	Avg. 0.3 to 0.9 degrees
	Fiber ribbon	Avg. 0.3 to 1.2 degrees
Blade life *3		Approx. 60,000 fiber cleaves
Physical description	Dimensions W	Approx. 120mm without projection *4
	Dimensions D	Approx. 95mm without projection *4
	Dimensions H	Approx. 58mm without projection *4
	Weight	Approx. 305g including battery and AD-10-M24
Environmental condition	Temperature	Operate : -10 to 50 degreeC
		Storage : -40 to 80 degreeC
	Humidity	Operate : 0 to 95% non-condensing
		Storage : 0 to 95% non-condensing
Battery		2 pieces of LR03/AAA dry battery
Wireless interface *5		Bluetooth 4.1 LE
Screw hole for tripod		1/4-20UNC
Other features	Blade rotation	Motorized rotation
		Manual rotation dial
	Replaceable parts	Blade
		Clamp arm

CT50 Options

Item	Model Name	Remark
Fiber Setting Plate	AD-50	Optional fiber setting plate
Blade	CB-08	Blade for replacement
Clamp Arm	ARM-CT50-01	Clamp arm with anvil for replacement
Fiber Scrap Collector	FDB-05	Spare scrap collector
Side cover	SC-CT50-01	Side cover instead of scrap collector
Spacer	SPA-CT08-10	Cleave length 10mm
	SPA-CT08-9	Cleave length 9mm
	SPA-CT08-8	Cleave length 8mm

Notes
*1: When the cleave length is less than 10mm, the coating diameter should be 250µm or less. Also, a blade height adjustment is required before cleaving. The average cleave angle is worse than the specification when the cleave length is less than10mm.
*2: Measured with an interferometer at room temperature, not with a splicer. A new blade was used to cleave both the single fibers and 12 fiber ribbons. The cleave length is set from 10 to 16mm. The average cleave angle changes depending on the environmental conditions, blade condition, operating method, and cleanliness.
*3: The blade life changes depending on the environmental conditions, operating method, and the fiber type cleaved.
*4: Measured in a condition when closing the lever
*5: Bluetooth® mark and logos are the registered trademarks of Bluetooth SIG, Inc.

RS03 Specifications

Item		Specifications
Applicable fiber	Fiber type	Single mode optical fiber
		Multi mode optical fiber
	Fiber count	Up to 16 fiber ribbon
	Cladding dia.	Approx. 125µm
	Coating dia.	200 to 400µm
Strip length		Max. 35mm
Heat time *1		Approx. 3sec
		Approx. 5sec with Eco-mode
Heat temperature		85 to 140 degree C
Physical description	Dimensions W	Approx.156mm without projection
	Dimensions D	Approx.49mm without projection
	Dimensions H	Approx.37mm without projection
	Weight	Approx. 265g including battery
Environmental condition	Temperature	Operate : -10 to 50 degreeC
		Storage : -40 to 80 degreeC
	Humidity	Operate : 0 to 95%RH non-condensing
		Storage : 0 to 95%RH non-condensing
AC adaptor	Input	AC100 to 240V, 50/60Hz, Max. 0.58A
DC adaptor	Input	DC10 to 17V, Approx. 1A
Battery	Type	Rechargeable Lithium Ion
	Output	Approx. DC7.2V, 1840mAh
	Capacity *2	Approx. 600 times with Eco-mode
	Temperature	Recharge : 0 to 40 degreeC
		Storage : -20 to 30 degreeC
	Battery life *3	Approx. 500 recharge cycles
Wireless interface *4		Bluetooth 4.1 LE
Other features	Strip operation	Lower stripping force than previous model
	Setting change	Controlled from splicer or smartphone

RS03 Options

Item	Model Name	Remark
Spacer	SPA-RS02-08	Coating length 8mm
DC power cord	DCC-11	Splicer to ribbon stripper

Notes
*1: Measured at room temperature. The heat time changes depending on the environmental conditions and fiber coating type.
*2: Tested at room temperature with a not degraded battery and Eco-mode. The number of cycles changes depending on the environmental conditions, stripper settings and battery degrading condition.
*3: The battery capacity decreases to a half after approx. 500 discharge and recharge cycles, The battery life is shortened further when using outside of the storage temperature range, operating temperature range, if completely discharged by storing for a long time without recharging.
*4: Bluetooth® mark and logos are the registered trademarks of Bluetooth SIG, Inc.

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