

# Mass Fusion Splicer 41R kit

## Smart Management

**ACTIVE FUSION**

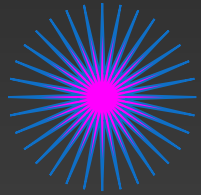
CONTROL TECHNOLOGY

**ACTIVE BLADE**

MANAGEMENT TECHNOLOGY



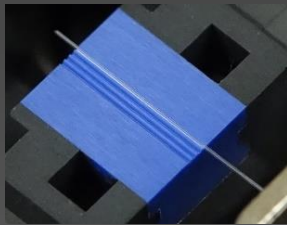
# Active Fusion Control Technology



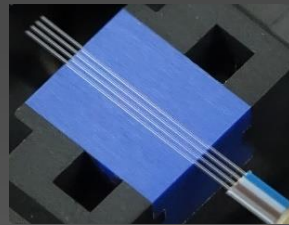
## ACTIVE FUSION CONTROL TECHNOLOGY

### 1. Active Fusion control by fiber count

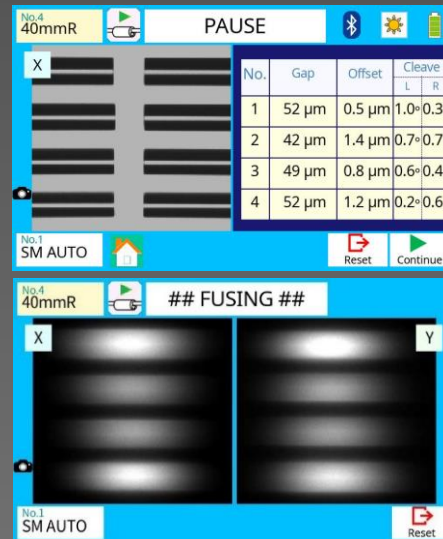
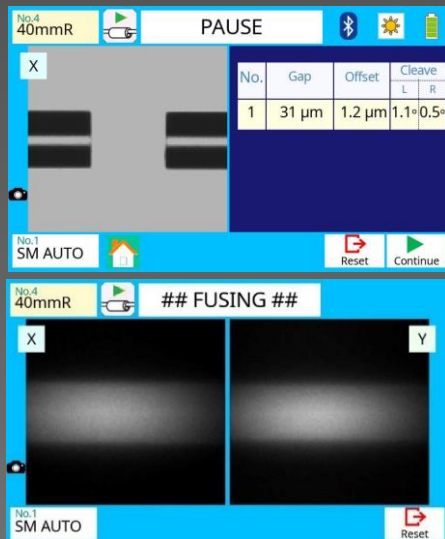
The 41R automatically determines the number of optical fibers from a single to maximum of 4 fiber ribbon. It minimizes splice loss by performing fusion splicing according to the number of fibers.



Single fiber



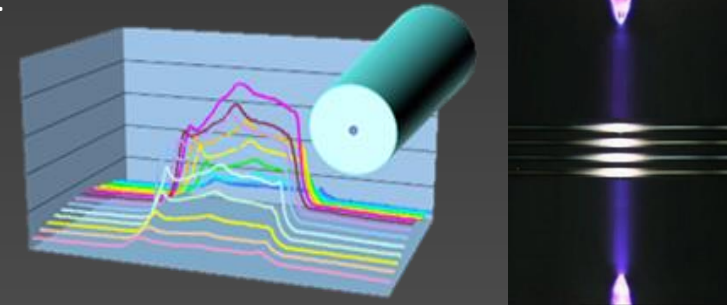
4 fiber ribbon



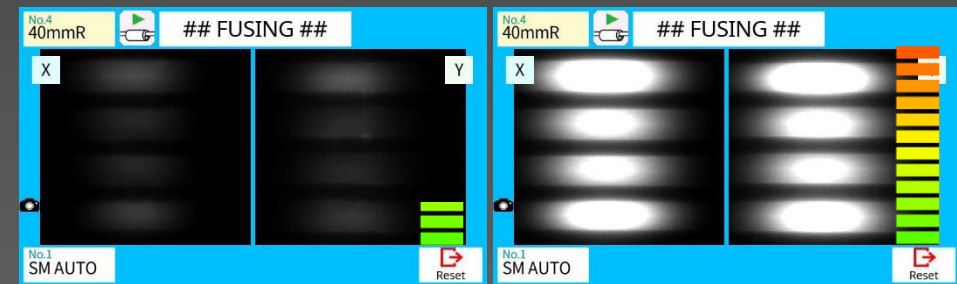
Automatic fusion control by fiber count

### 2. Active Fusion control in real-time

The 41R features real-time fusion power control by analyzing the fiber's brightness intensity during splicing. Therefore, it can splice the fiber using appropriate fusion parameters. The 41R does not have active core alignment mechanisms, however, during fusion, fiber surface tension effects minimize preexisting offsets.



Analyzing Brightness Intensity

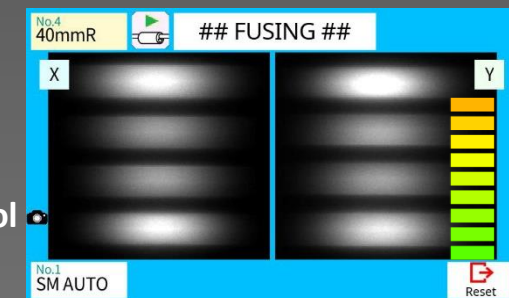


Fiber brightness : Weak

Fiber brightness : Strong

Real-time  
Fusion control

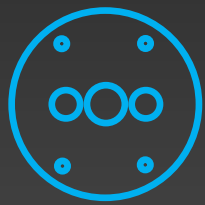
Real-time  
Fusion control



Fiber brightness : Appropriate



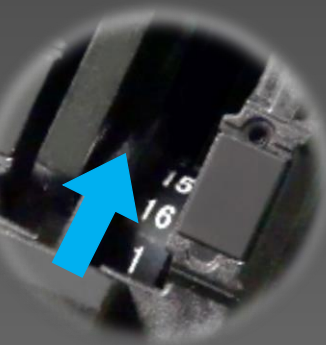
# Active Blade Management Technology



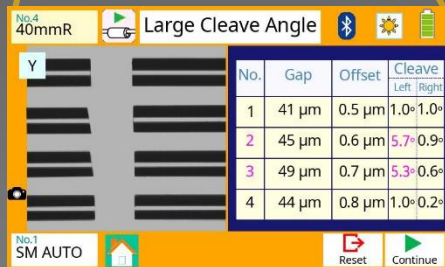
## ACTIVE BLADE MANAGEMENT TECHNOLOGY

### 1. Active Blade rotation by motor

The 41R 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.

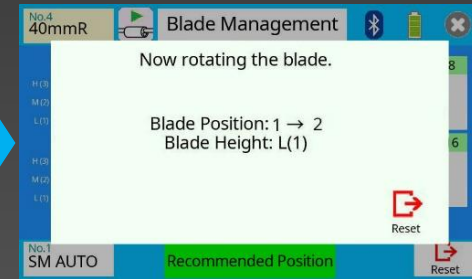


Motorized blade

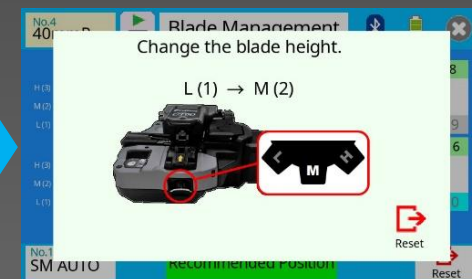


### 2. Active Blade life management

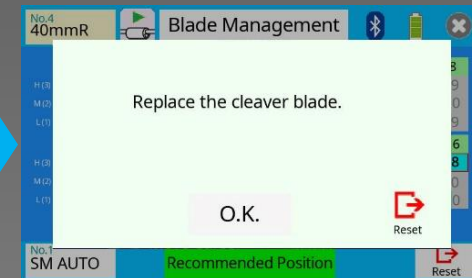
The 41R fusion splicer displays the remaining blade life and informs the user when a blade height change, position change, or new blade is required.



Instructions for changing position



Instructions for changing height

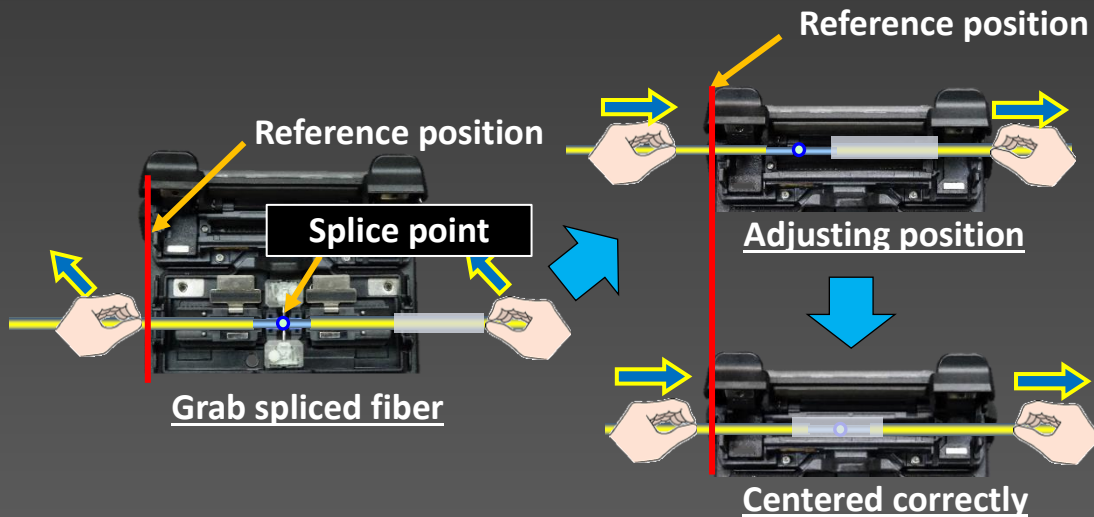


Instructions for changing new blade

# Well-developed operability

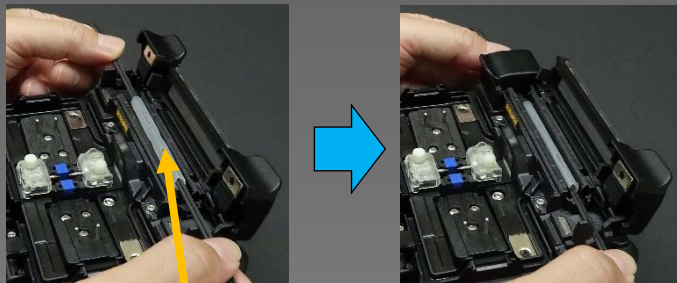
## 1. Simple sleeve centering

The 41R mass fusion splicer features simple sleeve positioning with its designated centering area on top of the tube heater.



## 2. Universal Tube Heater

The 41R mass fusion splicer can accommodate a max 6.0mm (before shrinking) diameter protection sleeve. As a result, it supports a wide range of protection sleeve sizes.



Max. 6.0mm diameter before shrinking

## 3. Easy replacement of consumable parts

### 3-1 Tool-less Electrode replacement

The 41R electrode comes as an assembly including the fixing screw. The screw can be tightened by hand without tools, enabling easy electrode replacement.



Electrode replacement without tools

### 3-2 Easy Maintenance

The CT50 fiber cleaver has a user replaceable blade and rubber clamps - there's no need to send the device to a service center for blade or clamp replacement.



Replaceable rubber clamps

Replaceable cleaver blade

## 4. Carrying Case

There are multiple ways to utilize the 41R carrying case. The 41R is ready to use just by opening the case, but it is also possible to place the tray on top of the carrying case or only with the work tray depending on the work environment.

## 5. Work Tray

The tray incorporates a drawer which can be slid open to provide more work-space. A locking mechanism is also provided which secures the alcohol pot in place





# Standard Package

## 41R Standard Package



Item	Model	Qty
Mass Fusion Splicer	41R	1 pc
(1) Battery Pack *	BTR-11A	1 pc
(2) AC Adapter	ADC-19A	1 pc
(3) AC Power Cord	ACC-08, 09, 10, 11 or 12	1 pc
(4) USB Cable	USB-01	1 pc
(5) Electrodes, for spare	ELCT2-16B	1 pair
(6) V-groove Cleaning Brush	VCB-01	1 pc
(7) Carrying Case	CC-36	1 pc
(8) Work tray	WT-08	1 pc
(9) Tripod Screw	TS-03	1 pc
(10) Carrying Case Strap	ST-03	1 pc
(11) Alcohol Dispenser	AP-02	1 pc
(12) Quick Reference Guide	QRG-04-E	1 pc
Single Fiber Stripper	SS01 or SS03	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
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, for cleaver	CC-37	1 pc
(4) Hexagonal Wrench	HEX-01	1 pc

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



# Specifications

## 41R Specifications



Item		Specification		
Fiber alignment method		Self cladding alignment with surface melting tension		
Fiber count can be spliced		Single and up to 4 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 : Approx. 10mm		
		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		
Fiber splice performance	Splice loss *1	SM FAST mode : Avg. 10 to 12sec. SM AUTO mode : Avg. 15 to 18sec.		
		Splice time *2	Sleeve type Sleeve length Sleeve dia.	
Sleeve heat performance			Heat time *3	Heat shrinkable sleeve Max. 66mm Max. 6.0mm before shrinking
				40mm FP-04T mode : Avg. 29 to 30sec. Single 60mm mode: Avg. 25 to 27sec.
Fiber tensile test force			Approx. 2.0N	
Electrode life *4			Approx. 2000 splices	
Physical description	Dimensions W	Approx.131mm without projection		
	Dimensions D	Approx.201mm without projection		
	Dimensions H	Approx.79mm without projection		
	Weight	Approx. 1.2kg including battery		
Environmental condition	Temperature	Operate : -10 to 50°C Storage : -40 to 80°C		
		Humidity	Operate : 0 to 95%RH non-condensing Storage : 0 to 95%RH non-condensing	
	Altitude		Max. 3700m	
	AC adaptor	Input	AC100 to 240V, 50/60Hz, Max. 1.5A	
Battery pack	Type	Rechargeable Lithium Ion		
	Output	Approx. DC14.4V, 3190mAh		
	Capacity *5	Approx. 140 splice and heat cycles		
	Temperature	Recharge : 0 to 40°C Long Term Storage : -20 to 30°C		
	Battery life *6	Approx. 500 recharge cycles		
Display	LCD monitor	TFT 4.9 inches with touch screen		
	Magnification	Approx. 44 to 66X		
Illumination	V-grooves	LED lamp		
Interface	PC	USB2.0 Mini B type		
	External LED lamp	USB2.0 A type Approx. DC5V, 500mA		
	Wireless *7	Bluetooth 4.1 LE		
	Data storage	Splice mode	100 splice modes	
Heat mode		30 heat modes		
Splice result		10000 splices		
Splice image		100 images		
Screw hole for tripod		1/4-20UNC		
Other features	Automatic functions	Splice mode select by fiber count analysis Fusion power calibration		
	Reference guide	PDF file stored in splicer		
	Electrode	Replaceable without tool		

## 41R Options

Item	Model	Remark
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-FC-20	900μm in 2mm diameter cable
	FH-FC-30	900μm in 3mm diameter cable
	FH-60-LT900	900μm loose buffer cable
Transfer Clamp	CLAMP-DC-12	Transferring drop cable on work tray
Protection sleeve	FP-04(T)	40mm, up to 8 fiber ribbon

### 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) Splice and heat time: 2 minute cycle
  - (2) Using the splicer power save settings, depending on our testing condition.
  - (3) Using a not degraded battery
  - (4) At room temperature
 The battery capacity changes when testing with different conditions to 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		Specification
Applicable fiber	Fiber type	Single mode optical fiber
		Multi mode optical fiber
	Fiber count	Single and up to 16 fiber ribbon
	Cladding dia.	Approx. 125μm
Applicable coating	Fiber setting plate	AD-10-M24 : Max. 900μm coating diameter
	Fiber holder	AD-50 : Max. 3mm coating diameter
Cleave length	Fiber setting plate	Coating shape. : Refer to splicer options
		AD-10-M24 : 5 to 20mm *1
		AD-50 : *C.D. : coating diameter
		C.D. = 250μm or less : 5 to 20mm *1
Cleave angle *2	Single fiber	250μm < C.D. < =900μm : 10 to 20mm
	Fiber ribbon	900μm < C.D. < =3mm : 14 to 20mm
Blade life *3		Approx. 10mm
Physical description	Dimensions W	Avg. 0.3 to 0.9 degrees
	Dimensions D	Avg. 0.3 to 1.2 degrees
	Dimensions H	Approx. 60000 fiber cleaves
	Weight	Approx. 117mm without projection *4
Environmental condition	Temperature	Approx. 94mm without projection *4
	Humidity	Approx. 59mm without projection *4
Battery		Approx. 306g including battery and AD-10-M24
Wireless interface *5	Temperature	Operate : -10 to 50°C
	Humidity	Storage : -40 to 80°C
Screw hole for tripod		Operate : 0 to 95%RH non-condensing
Holding mechanism for the fiber holder		Storage : 0 to 95%RH non-condensing
Other features	Blade rotation	2 pieces of LR03, AAA dry battery
	Replaceable parts	Bluetooth 4.1 LE
		1/4-20UNC
Blade		Existence
Clamp Arm		Motorized rotation
Fiber Scrap Collector		Manual rotation dial
Side cover		Blade
Spacer		Clamp arm

## CT50 Options

Item	Model	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-CT08-09	Cleave length 9mm
	SPA-CT08-08	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 than 10mm.
- \*2 Measured with an interferometer at room temperature, not with a splicer. A new blade was used to cleave both the single fibers and ribbon fibers. 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



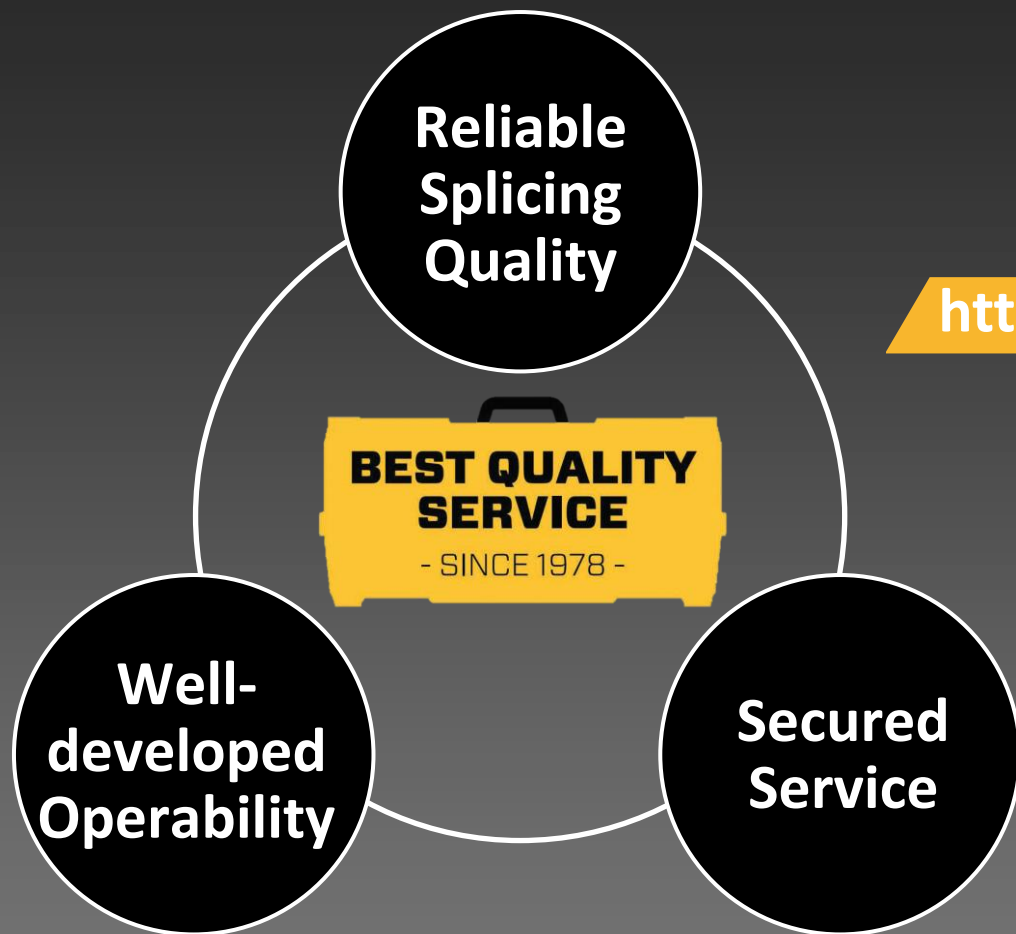
Item		Specification
Applicable fiber	Fiber type	Single mode optical fiber
		Multi mode optical fiber
	Fiber count	Single and up to 16 fiber ribbon
	Cladding dia.	Approx. 125μm
	Coating dia.	200 to 400μm
Stripping length		Max. 35mm
Heat time *1		Approx. 3sec
Heat temperature		Approx. 5sec with Eco-mode
Physical description	Dimensions W	85 to 140°C
	Dimensions D	Approx.156mm without projection
	Dimensions H	Approx.49mm without projection
	Weight	Approx.37mm without projection
Environmental condition	Temperature	Approx. 265g including battery
	Humidity	Operate : -10 to 50°C
AC adaptor		Storage : -40 to 80°C
DC input		Operate : 0 to 95%RH non-condensing
Battery pack	Type	Storage : 0 to 95%RH non-condensing
	Output	AC100 to 240V, 50/60Hz, Max. 0.58A
	Capacity *2	DC10 to 17V, Approx. 1A
	Temperature	Rechargeable Lithium Ion
	Battery life *3	Approx. DC7.2V, 1840mAh
Wireless interface *4	Stripping force	Approx. 600 times with Eco-mode
	Automatic heat setting	Operate : -10 to 50°C
Other features	Stripping force	Recharge : 0 to 40°C
	Automatic heat setting	Long Term Storage : -20 to 30°C

## RS03 Options

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





**Please visit our web site!**

**<https://www.fusionsplicer.fujikura.com>**



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