

Mass Fusion Splicer

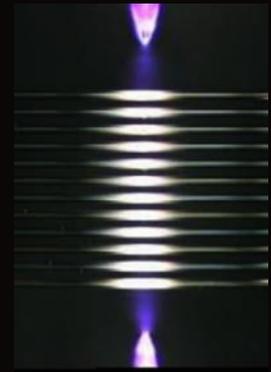
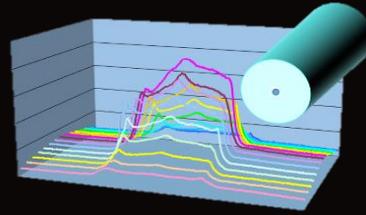
90R16

Designed to keep you going



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 discharge power control by analyzing the fiber's brightness intensity. The 90R16 does not have active core alignment mechanisms, however, during the discharge, fiber surface tension effects minimize preexisting offsets.



Analyzing discharge 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

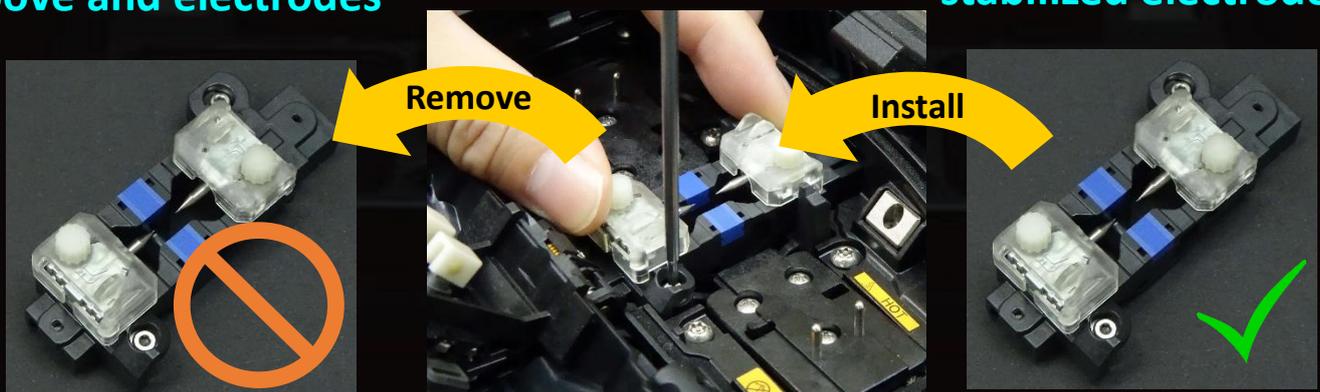
Glass deposition on V-groove

Cause of Large Fiber Offset

No.	Gap [μm]	Offset [μm]	Cleave	
			L	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**

**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 200 μ m or 250 μ m coated Spider Web Ribbon (SWR). The 250 μ m pitch V-grooves in the FH-70-16 fiber holder simplify SWR loading and ribbon preparation.



SWR



FH-70-16

250 μ m coated SWR

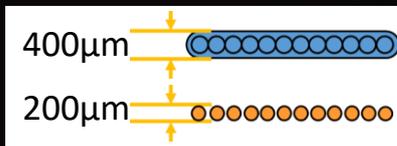


200 μ m coated SWR



2. Universal Ribbon Stripper

The RS series ribbon strippers are compatible with 200 μ m to 400 μ m 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.



Max. 6.0mm diameter
before shrinking



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.



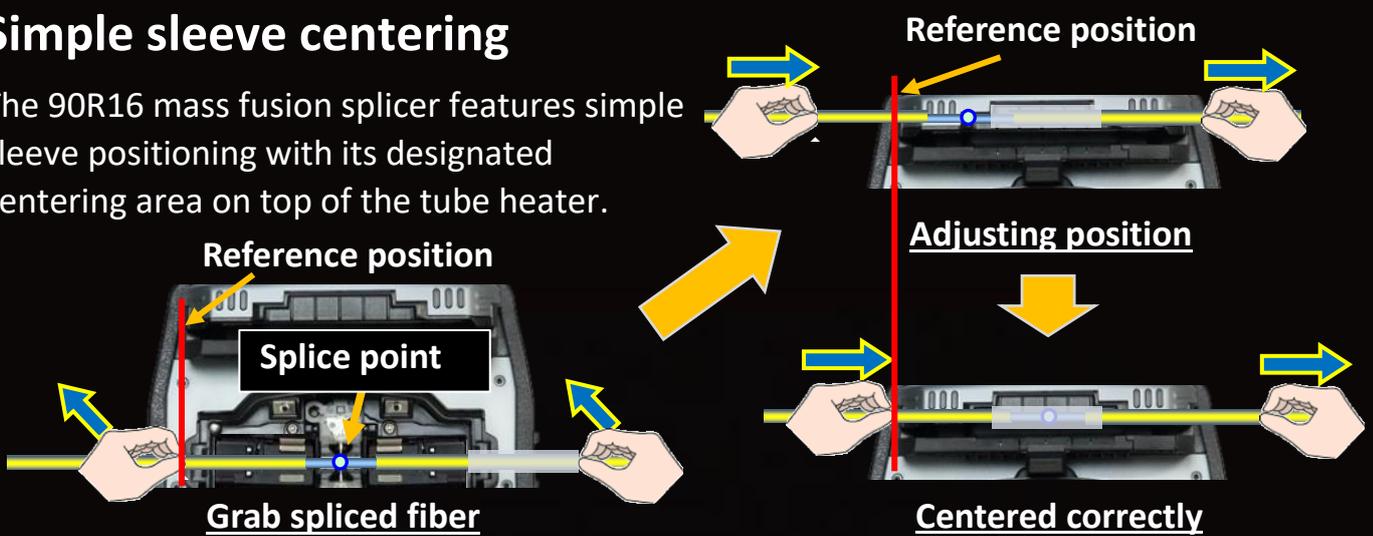
Automated open-close Wind protector



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.



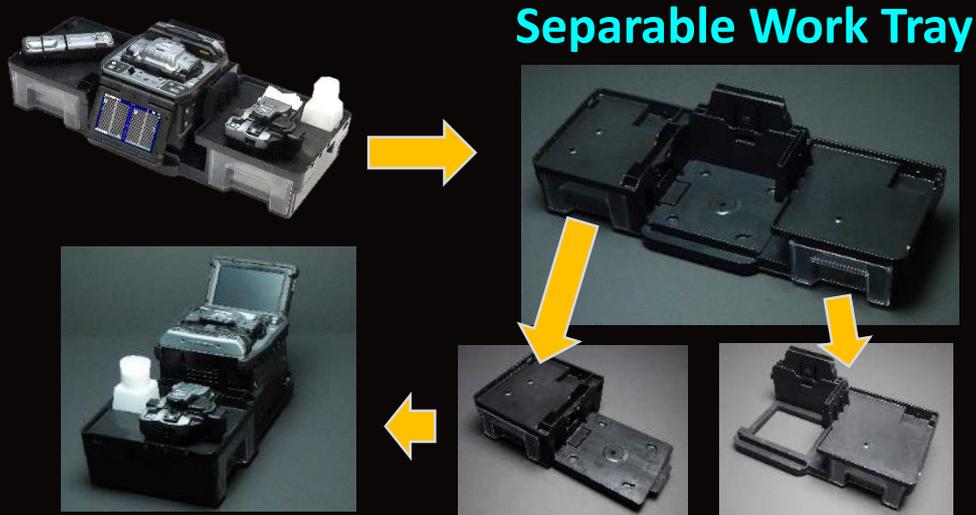
3. Carrying Case

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

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

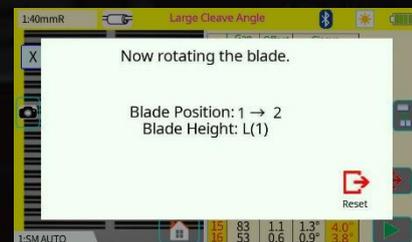
1. Automatic Blade Rotation

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

No.	Gap (μm)	Offset (μm)	Cleave	
			L	R
1	51	0.4	1.1°	1.0°
2	45	2.3	1.3°	0.6°
3	49	0.5	1.8°	0.2°
4	41	0.7	1.6°	0.5°
5	39	1.1	1.1°	1.3°
6	30	1.1	1.7°	0.8°
7	38	0.8	1.9°	1.6°
8	49	1.4	0.5°	0.7°
9	52	0.7	0.5°	0.8°
10	62	0.8	1.9°	0.1°
11	69	1.0	1.6°	0.6°
12	68	1.7	1.6°	1.6°
13	75	1.9	3.5°	1.3°
14	84	0.8	0.7°	1.9°
15	83	1.1	1.3°	4.0°
16	53	0.6	0.9°	3.8°

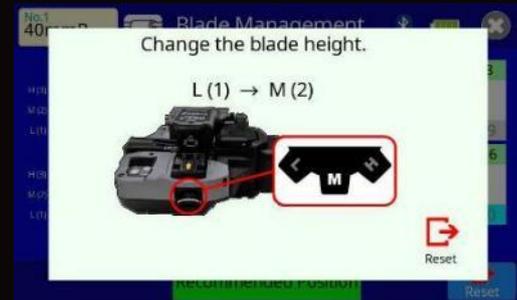
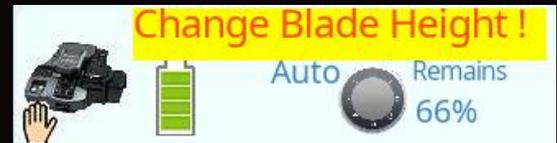


2. Blade Life Management

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.

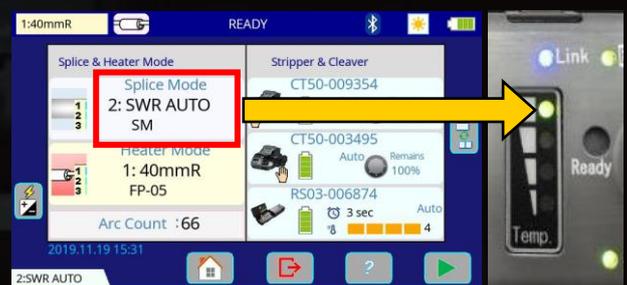
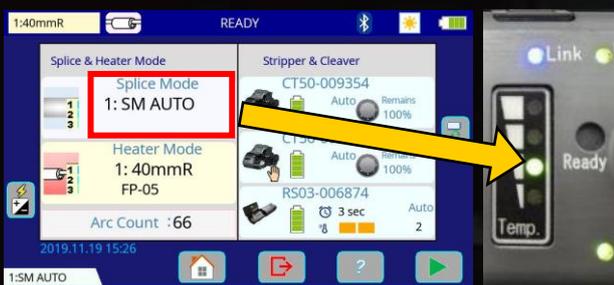
No.1 40mmR		Blade Management							
	No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	
H(3)	0	0	0	0	0	0	0	0	
M(2)	0	0	0	0	0	0	0	0	
L(1)	1014	1041	1175	1167	1522	1134	1530	1439	
	No.9	No.10	No.11	No.12	No.13	No.14	No.15	No.16	
H(3)	0	0	0	0	0	0	0	0	
M(2)	0	0	0	0	0	0	0	0	
L(1)	1185	1218	1025	1407	1338	1484	1259	1060	

Blade Height : L(1)
Recommended Position
Reset



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

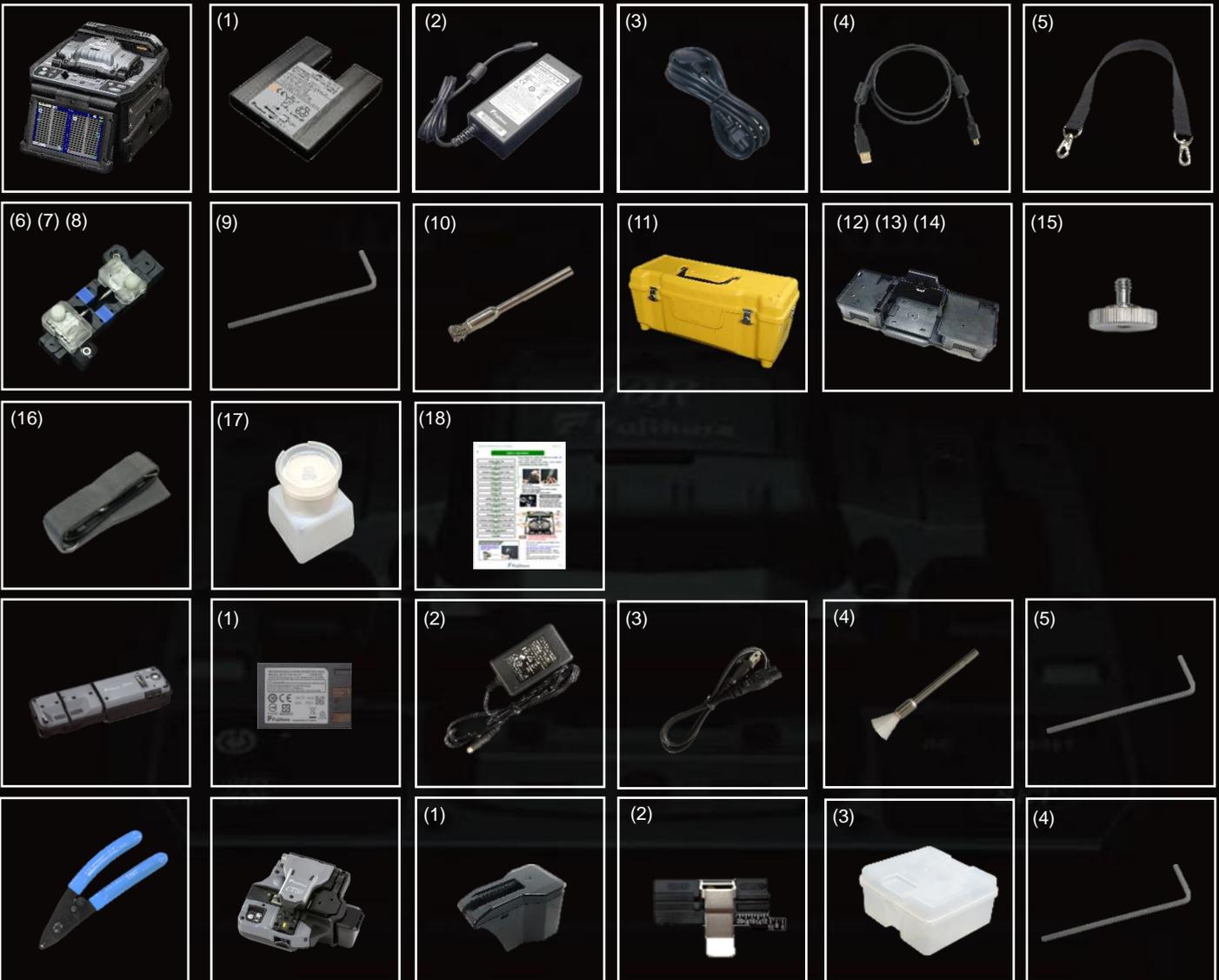
Standard Package

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	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	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 surface melting tension	
Fiber count can be spliced	90R16 : Up to 16 fiber ribbon	
Applicable fiber	Fiber type	
	Cladding dia.	
Applicable coating	Fiber holder	
	Splice loss *1	
Fiber splice performance	Splice time *2	
	Sleeve type	
Applicable protection sleeve	Sleeve length	
	Sleeve dia.	
Sleeve heat performance	Heat time *3	
	Fiber tensile test force	
Electrode life *4	Approx. 800 splices	
Physical description	Dimensions W	
	Dimensions D	
	Dimensions H	
	Weight	
Environmental condition	Temperature	
	Humidity	
	Altitude	
AC adaptor	Input	
Battery pack	Type	
	Output	
	Capacity *5	
	Temperature	
Display	LCD monitor	
	Magnification	
Illumination	V-grooves	
Interface	PC	
	External LED lamp	
	Ribbon Stripper	
	Wireless *7	
Data storage	Splice mode	
	Heat mode	
	Splice result	
	Splice image	
Screw hole for tripod	1/4-20UNC	
Other features	Automatic functions	
		Reference guide

90R16 Options

Item	Model	Remark	
V-groove	VG12-01-200	12 fiber ribbon, 200 to 210µm spacing	
	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-70-10	10 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	
Fiber holder	FH-FC-20	900µm in 2mm diameter cable	
	FH-FC-30	900µm in 3mm diameter cable	
	FH-60-LT900	900µm loose buffer cable	
	DC Adapter	DCA-03	Connect AC adapter not through battery
	DC power cord	DCC-20	Car cigar socket to BTR-15/DCA-03
		DCC-21	Car battery to BTR-15/DCA-03
		DCC-11	Splicer to ribbon stripper
	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
 - (5) Without accessories , RS03 etc. , that use the power supply of the fusion splicer
 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		Specification
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 *C.D. : coating diameter C.D. = 250µm or less : 5 to 20mm *1 250µm < C.D. < =900µm : 10 to 20mm 900µm < C.D. < =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. 60000 fiber cleaves
Physical description	Dimensions W	Approx. 117mm without projection *4
	Dimensions D	Approx. 94mm without projection *4
	Dimensions H	Approx. 59mm without projection *4
	Weight	Approx. 306g including battery and AD-10-M24
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
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	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	Up to 16 fiber ribbon	
	Cladding dia.	Approx. 125µm	
	Coating dia.	200 to 400µm	
Stripping length		Max. 35mm	
Heat time *1		Approx. 3sec Approx. 5sec with Eco-mode	
Heat temperature		85 to 140 degreeC	
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 input	Input	DC10 to 17V, Approx. 1A	
Battery pack	Type	Rechargeable Lithium Ion	
	Output	Approx. DC7.2V, 1840mAh	
	Capacity *2	Approx. 600 times with Eco-mode	
	Temperature	Operate	-10 to 50 degreeC
		Recharge	0 to 40 degreeC
Battery life *3	Long Term Storage : -20 to 30 degreeC Approx. 500 recharge cycles		
Wireless interface *4		Bluetooth 4.1 LE	
Other features	Stripping force	Lower stripping force design	
	Automatic heat setting	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.
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<https://www.fusionsplicer.fujikura.com>

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