

Core Alignment Fusion Splicer

90S

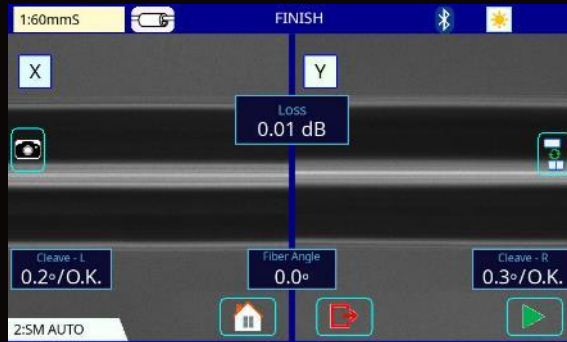
Designed to keep you going



True Core Alignment

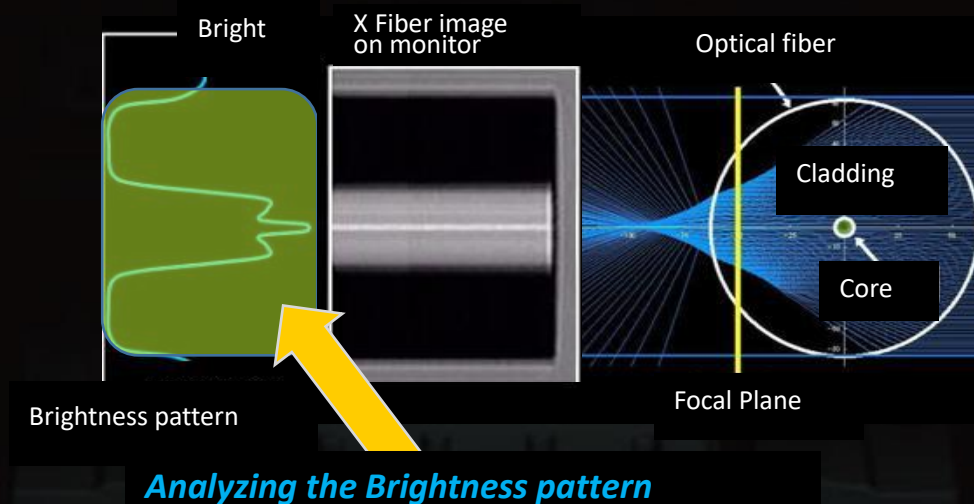
1. Core Alignment Technology

The 90S fusion splicer has high precision lenses which provide accurate core to core alignment regardless of core-cladding concentricity error. Also, the lenses allow the splicer to discriminate between fiber types.



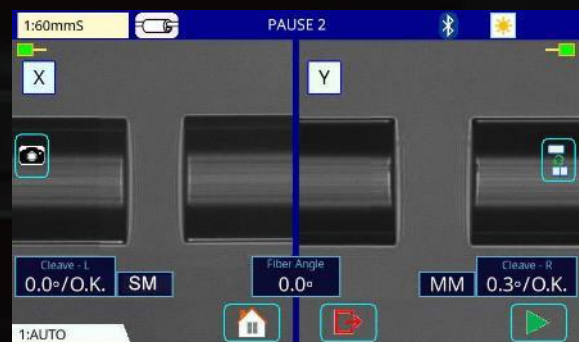
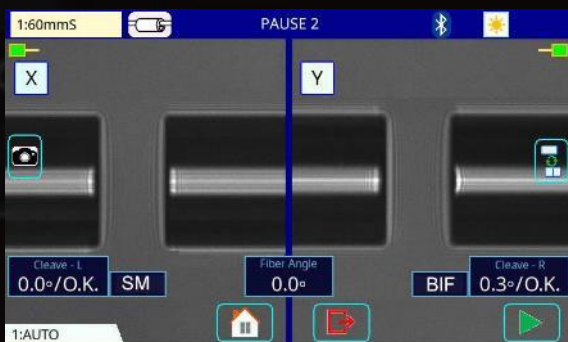
2. Advanced Image Processing Technology

The 90S possesses advanced image processing technology which analyzes the profile of the fiber image as a brightness pattern. The 90S finds the true core position and achieves the consistent lower splice loss.



3. Fiber Discrimination Function

The 90S fusion splicer automatically identifies the optimum arc discharge parameters in accordance with the fiber type.



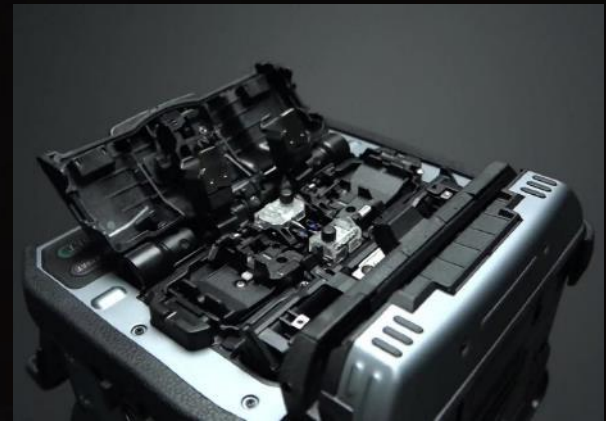
Faster Automation

The faster automated features of the 90S fusion splicer reduce installation times. With this splicer, an operator can complete the entire splicing process from splicing to heating without touching the 90S and only moving the fiber.

Wind protectors

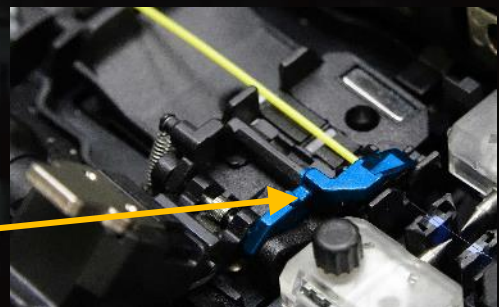


Tube heater clamp

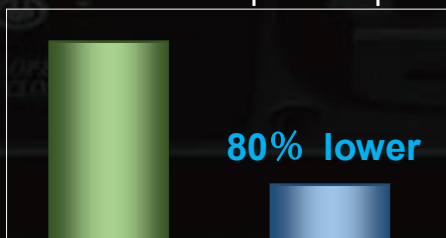


The fiber retention clamps support the automated operations. When the sheath clamps open automatically after splicing, the fiber retention clamps gently hold the spliced fiber to keep it from flying out. The retention clamps release when the fiber is lifted by the operator.

Fiber retention clamp



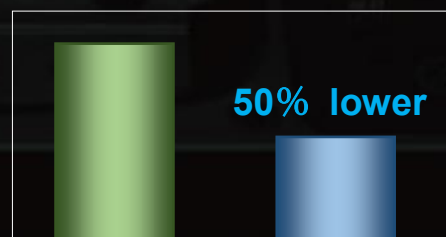
Time for opening wind protector and sheath clamp after splicing



70S

New 90S

Time for placing fiber into heater



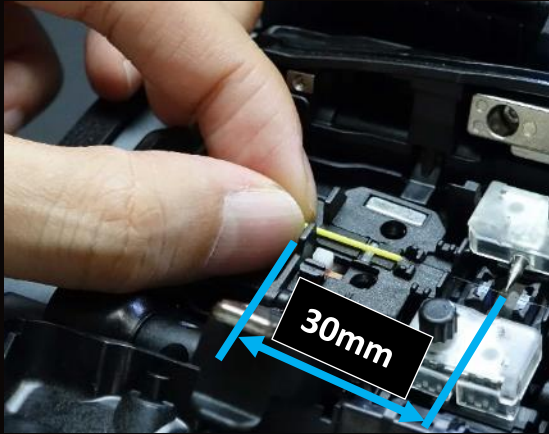
70S

New 90S

User Friendly

1. Easy Fiber Protection Sleeve Positioning

The shape of the sheath clamp is optimized for the 60mm length protection sleeve. The length from splice point to the edge of the sheath clamp is 30mm. Therefore, it is easy to center the protection sleeve over the splice by using your finger as the reference splice point.



2. Carrying Case

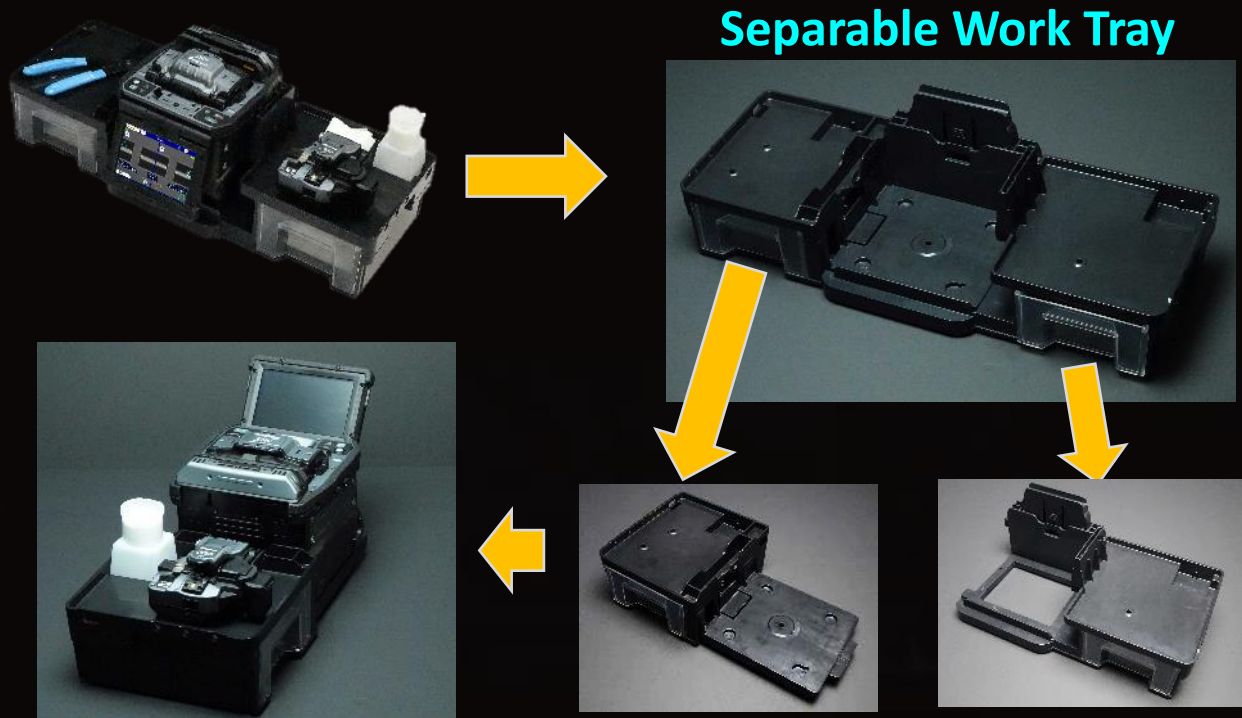
There are multiple ways to utilize the 90S carrying case. The 90S is ready to use just by opening the case, but it is also possible to use the 90S on top of the carrying case or only with the work tray depending on the work environment.



User Friendly

3. 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.



Plenty of space in carrying case



Cleaver & Stripper



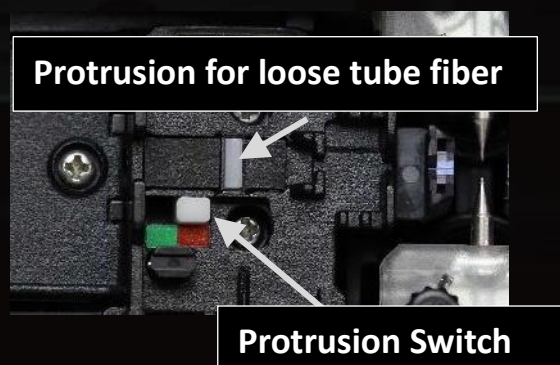
Battery packs



Large storage space under work tray

4. Loose Tube Compatibility

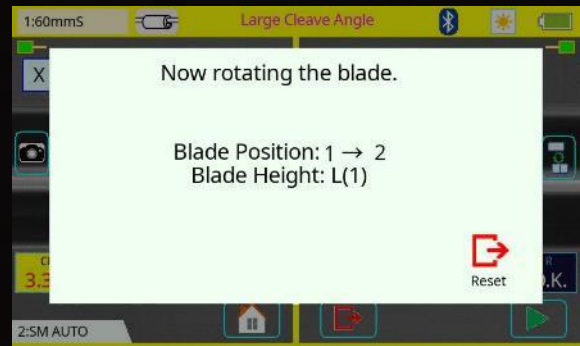
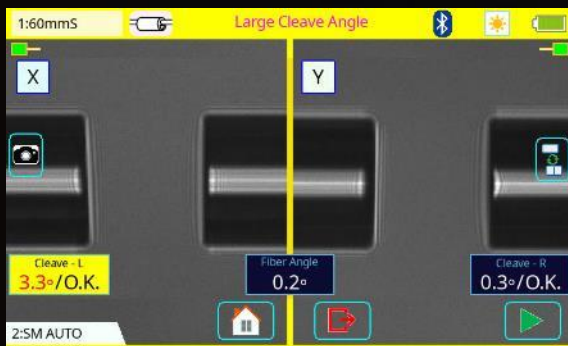
The sheath clamp of the 90S fusion splicer is compatible with loose tube fiber. The Protrusion part on of the sheath clamp for loose tube fiber engages or retracts by simply changing the switch position with your finger.



Active Blade Management Technology

1. Automatic Blade Rotation

The 90S 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 90S fusion splicer can connect to two CT50s simultaneously.



2. Blade Life Management

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



The screenshot shows the "Blade Management" interface with a table of blade data:

| | No.1 | No.2 | No.3 | No.4 | No.5 | No.6 | No.7 | No.8 |
|-------|------|-------|-------|-------|-------|-------|-------|-------|
| H (1) | 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 (1) | 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

Standard Package

90S Standard Package



| Description | Model No. | Qty |
|-------------------------------|----------------------|-------|
| Core Alignment Fusion Splicer | 90S | 1pc |
| (1) Battery Pack* | BTR-15 | 1pc |
| (2) AC Adapter | ADC-20 | 1pc |
| (3) AC Power Cord | ACC-14, 15, 16 or 17 | 1pc |
| (4) USB Cable | USB-01 | 1pc |
| (5) Fusion Splicer Strap | ST-02 | 1pc |
| (6) Electrodes (spare) | ELCT2-16B | 1pair |
| (7) Fiber Holder Set Plate | SP-03 | 1pair |
| (8) Carrying Case | CC-39 | 1pc |
| (9) Work Tray Left | WT-09L | 1pc |
| (10) Work Tray Right | WT-09R | 1pc |
| (11) Work Tray J-Plate | JP-09 | 1pc |
| (12) Tripod Screw | TS-03 | 2pcs |
| (13) Carrying Case Strap | ST-03 | 1pc |
| (14) Alcohol Dispenser | AP-02 | 1pc |
| (15) Quick Reference Guide | QRG-02-E, C or J | 1pc |
| Single Fiber Stripper | SS03 or SS01 | 1pc |
| Optical Fiber Cleaver | CT50 | 1pc |
| (1) Fiber Scrap Collector | FDB-05 | 1pc |
| (2) Fiber Setting Plate | AD-10-M24 | 1pc |
| (3) Case (for Cleaver) | CC-37 | 1pc |
| (4) Hexagonal Wrench | HEX-01 | 1pc |

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



Specifications



90S Specifications

| Item | Specification | |
|------------------------------|-------------------------------|--|
| Fiber alignment method | Active core alignment | |
| Fiber count can be spliced | Single fiber | |
| Applicable fiber | Fiber type | Single mode optical fiber Multi mode optical fiber |
| | Cladding dia. | 80 to 150µm |
| Applicable coating | Sheath clamp | Coating dia. : Max. 3,000µm Cleave length : 5 to 16mm *1 |
| | | |
| Fiber splice performance | Splice loss *2 | SM FAST mode : Avg. 7 to 9sec. AUTO mode : Avg. 14 to 16sec. |
| | | |
| | | |
| | | |
| | | |
| Applicable protection sleeve | Sleeve type | Heat shrinkable sleeve |
| | Sleeve length | Max. 66mm |
| | Sleeve dia. | Max. 6.0mm before shrinking |
| Sleeve heat performance | Heat time *4 | 60mm slim mode : Avg. 9 to 10sec. 60mm mode : Avg. 13 to 15sec. |
| | | |
| Fiber tensile test force | Approx. 2.0N | |
| Electrode life *5 | Approx. 5,000 splices | |
| Physical description | Dimensions W | Approx. 170mm without projection |
| | Dimensions D | Approx. 173mm without projection |
| | Dimensions H | Approx. 150mm without projection |
| | Weight | Approx. 2.8kg 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. 5,000m |
| AC adaptor | Input | AC100 to 240V, 50/60Hz, Max. 1.5A |
| Battery pack | Type | Rechargeable Lithium Ion |
| | Output | Approx. DC14.4V / 6,380mAh |
| | Capacity *6 | Approx. 300 splice and heat cycles |
| | Temperature | Recharge : 0 to 30 degreeC Storage : -20 to 30 degreeC |
| | Battery life *7 | Approx. 500 recharge cycles |
| Display | LCD monitor | TFT 5 inches with touch screen |
| | Magnification | 200 to 320x |
| 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 *8 | Bluetooth 4.1 LE |
| Data storage | Splice mode | 100 splice modes |
| | Heat mode | 30 heat modes |
| | Splice result | 20,000 splices |
| | Splice image | 100 images |
| Screw hole for tripod | 1/4-20UNC | |
| Other features | Automatic functions | Splice mode select by fiber type analysis |
| | | Discharge power calibration |
| | | Wind protector : open/close |
| | | Sheath clamp : open |
| | | Heater lid : open/close |
| | | Heater clamp : open/close |
| | Reference guide | Video and PDF file stored in splicer |
| Sheath clamp | Easy sleeve positioning clamp | |
| Electrode | Replaceable without tool | |

90S Options

| Item | Model | Remark |
|-------------------|-------------|--|
| Battery pack*9 | BTR-15 | Battery pack for replacement |
| Electrodes | ELCT2-16B | Electrodes for replacement |
| Fiber holder | FH-70-250 | 250µm coating diameter |
| | FH-70-900 | 900µm coating diameter |
| | FH-FC-20 | 900µm in 2mm diameter cable |
| | FH-FC-30 | 900µm in 3mm diameter 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 |
| 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-03 | 60mm Max. 900µm coating diameter |
| | FP-03(L=40) | 40mm Max. 900µm coating diameter |
| | FP-03M | FP-03 with non-magnetic material |

Notes

*1: Cleave length range depending on fiber type

5 to 16mm : 125µm cladding dia. / 250µm coating dia.

10 to 16mm : 125µm cladding dia. / 400 or 900µm coating dia.

5 to 10mm : 80µm cladding dia. / 160µm coating dia.

*2: 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.

*3: 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.

*4: 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.

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

*6: Test condition

(1) Splice and heat time : 2 minutes cycle

(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.

*7: 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.

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

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

Specifications

SS01/03 Specifications



| Item | SS01 | SS03 |
|----------------------------|------------------------|----------------|
| 1) Stripping coating dia. | 250um | 250um |
| Fiber dia. after stripping | 125um cladding | 125um cladding |
| 2) Stripping coating dia. | None | 900um |
| Fiber dia. after stripping | None | 250um coating |
| 3) Stripping coating dia. | None | 2000 to 3000um |
| Fiber dia. after stripping | None | 900um coating |
| Dimension | Approx. 164 x 45 x 5mm | |
| Weight | Approx. 100g | |

Fiber Protection Sleeve Specifications



| Item | FP-03/FPS series | FP-04/05 series |
|-----------------------|-----------------------------------|-----------------|
| Outer tube material | Polyethylene | |
| Inner tube material | Ethylene-Vinyl Acetate | |
| Strength member | Stainless | Quartz glass |
| Heat shrink operation | Temperature: -10 to 50 degreeC | |
| | Humidity: 0 to 95% non-condensing | |
| Storage | Temperature: -40 to 60 degreeC | |
| | Humidity: 0 to 95% non-condensing | |

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. 125um |
| Applicable coating | Fiber plate | AD-10-M24 : Max. 900um coating diameter AD-50 : Max. 3mm coating diameter |
| | Fiber holder | Coating shape. : Refer to splicer options AD-10-M24 : 5 to 20mm *1 AD-50 [CD : coating diameter] CD= 250um or less : 5 to 20mm *1 250um < CD < 1000um : 10 to 20mm 1000um < CD < 3mm : 14 to 20mm |
| Cleave length | Fiber plate | Approx. 10mm |
| | 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 when closing the lever |
| | Dimensions D | Approx. 95mm when closing the lever |
| | Dimensions H | Approx. 58mm when closing the lever |
| | 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 *4 | | 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 |
|-----------------------|-------------|---------------------------------------|
| 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 |

Notes

- *1: When the cleave length is from 5 to 10mm, the coating diameter should be 250um 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 5 to 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 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: Bluetooth® word mark and logos are the registered trademarks of Bluetooth SIG, Inc.

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

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