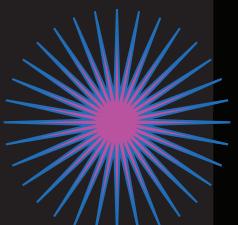
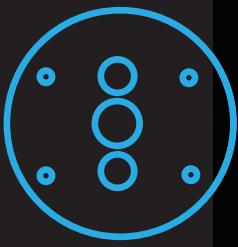
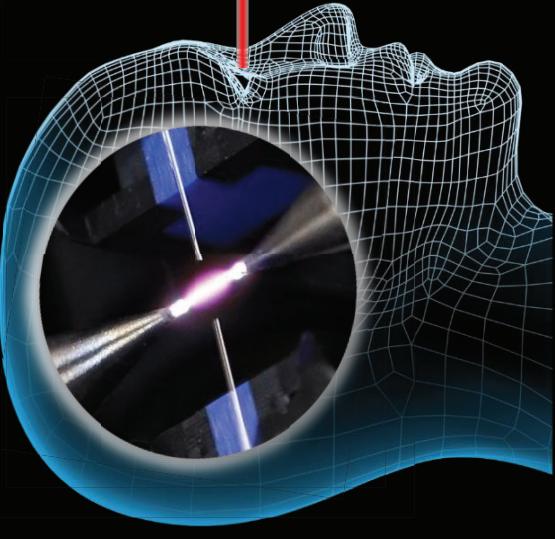
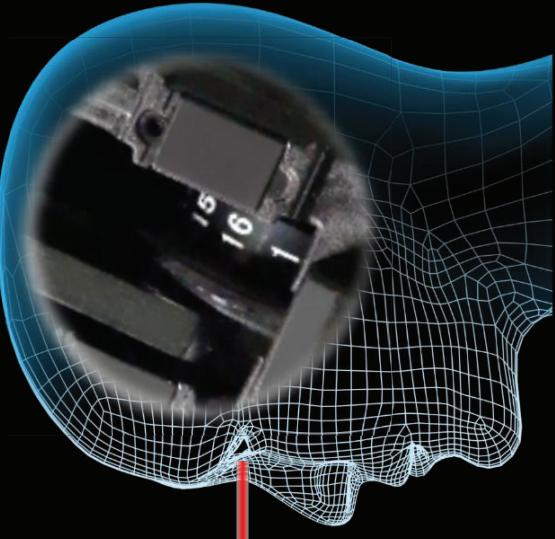


Core Alignment Fusion splicer 90S+ kit



ACTIVE FUSION

CONTROL TECHNOLOGY

ACTIVE BLADE

MANAGEMENT TECHNOLOGY

Enhanced Splice Quality



www.gelecekbt.com

Active Fusion Control Technology



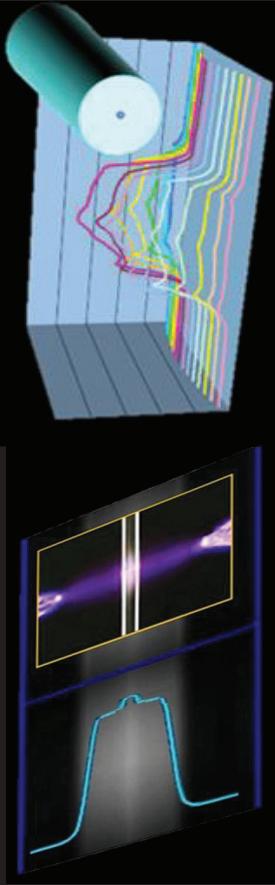
ACTIVE FUSION CONTROL TECHNOLOGY

2. Active Fusion control by fiber brightness

Fusion is easily affected by changes in the environment. The 90S+ uses real-time fusion parameter control by analyzing the fiber's brightness intensity during fusion. It contributes to stable, reduced splice loss.

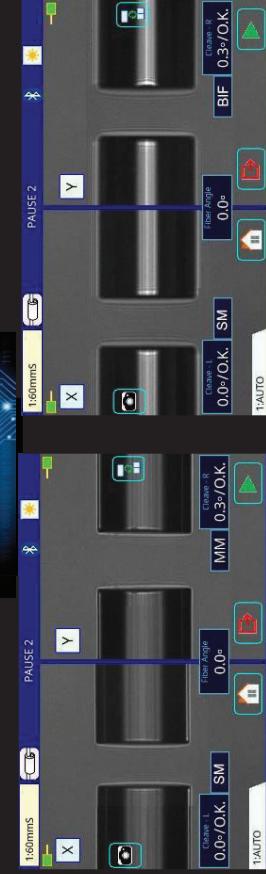
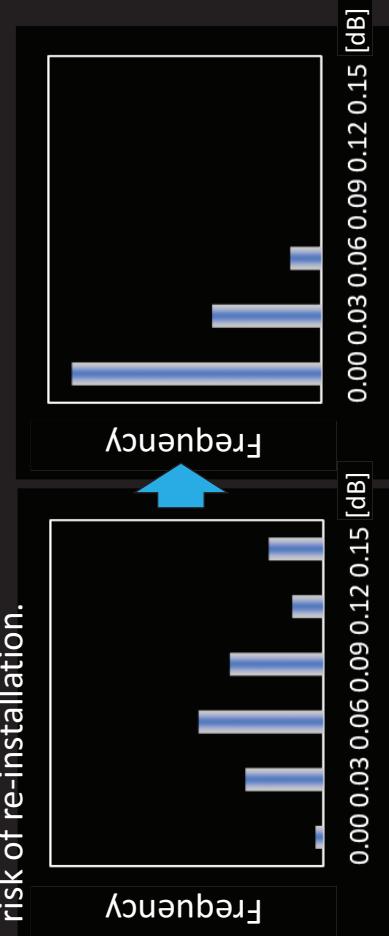
1. Active Fusion control by cleave condition

One of main causes of high splice loss is bad cleave end face. The 90S+ analyzes the condition of both L and R cleave end faces and performs optimal fusion control. This new technology improves splice loss significantly and reduces the risk of re-installation.



3. Active Fusion control by fiber discrimination

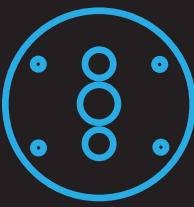
Adequate splice parameters may differ depending on fiber type. The 90S+ automatically applies the optimum splice parameters depending on the fiber type.



*G.652 splicing result measured with a cut-back method. The splicing result changes depending on the fiber type and fiber characteristics.

Left:G.652-Right:G.651 Left:G.652-Right:G.651 Left:G.652-Right:G.657

Active Blade Management Technology



ACTIVE BLADE MANAGEMENT TECHNOLOGY

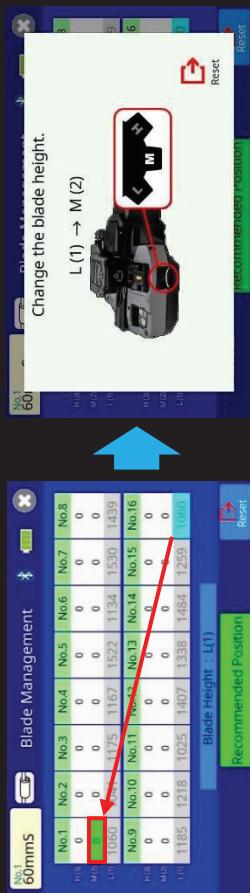
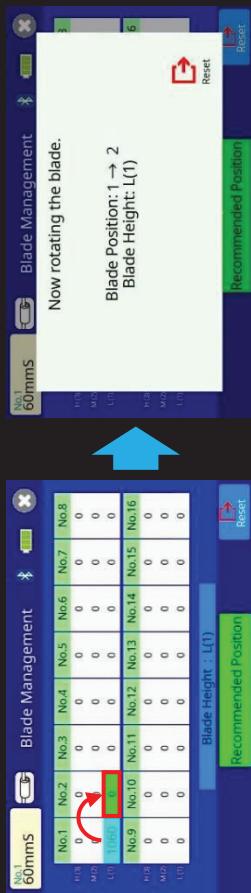
1. Active Blade rotation by motor

The 90S+ and CT50 fiber cleaver are enabled with wireless data connectivity. This capability allows automatic cleaver blade rotation when the 90S+ judges the blade is worn. The 90S+ can connect to two CT50s simultaneously.



2. Active Blade life management

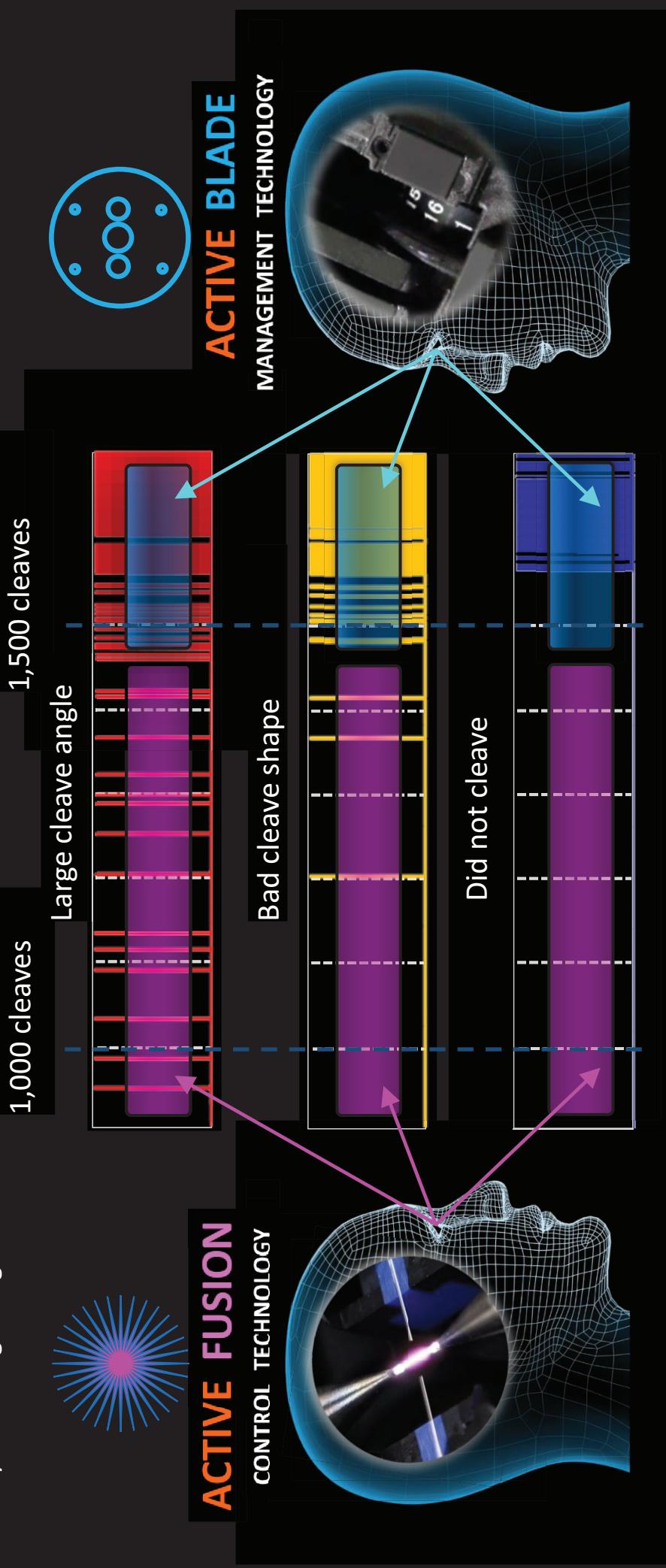
The 90S+ displays the remaining blade life and informs the user when a blade height change, position change, or new blade is required.



Enhanced Splice Quality

The below graphs show the number of cleaves on the horizontal line with frequency of large cleave angle, bad cleave shape and no cleave at all. When the frequency of large cleave angle increases, **Active Blade** Management Technology can detect this increasing ratio point and rotate the blade position automatically. **Active Blade** Management Technology significantly reduces frequency of large cleave angles occurring but even when it does occur **Active Fusion** Control Technology can reduce high splice loss by precise fusion control.

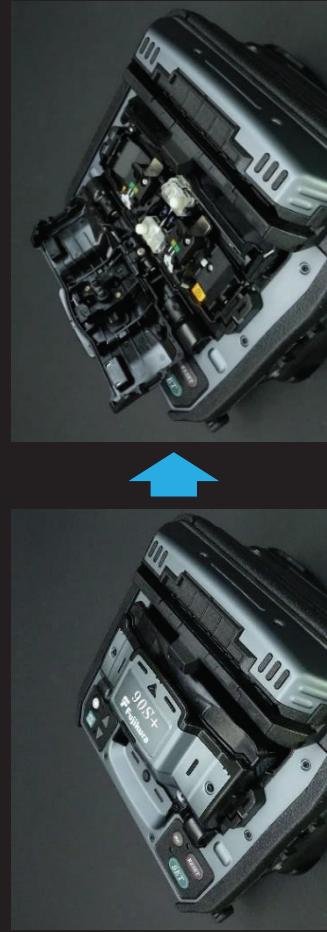
The 90S+ can minimize the occurrence of high splice loss and contribute to reduce the risk of re-Installation by using these 2 key technologies together.



Operation Time Reduction

1. Automatic Open-Close Wind protectors

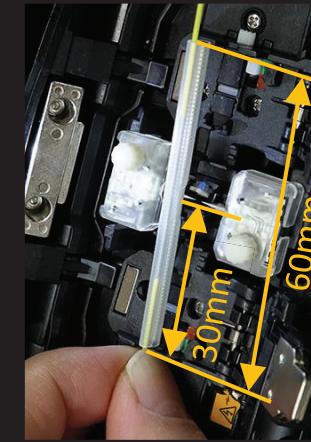
The faster automated features of the 90S+ reduce installation times. With this splicer, an operator can complete the entire splice process from splicing to heating without touching the 90S+ and only moving the fiber.



Automatic Open-Close wind protectors

2. Operation time reduction

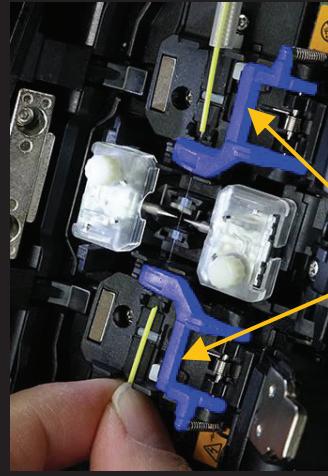
The shape of the sheath clamp is optimized for 60mm length protection sleeves. The length from splice point to the edge of the sheath clamp is 30mm. Therefore, it is easy to center the protection sleeve over the splice by using your fingers to reference the splice point.



Easy centering

3. Fiber retention clamp

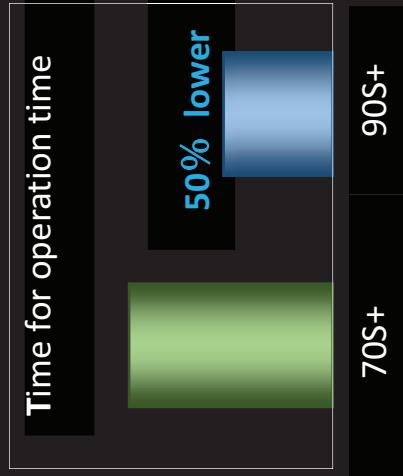
The fiber retention clamps support the automated operations. When the sheath clamps open automatically after splicing, the fiber retention clamps gently hold the spliced fiber to keep it from flying out. The retention clamps release when the fiber is lifted by the operator.



Fiber retention clamps

4. Operation time reduction

These functions enable the 90S+ to reduce operation time by 50% over the previous model.



Automatic heater clamp

User Friendly

1. 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.

Ready to use



Lid of carrying case
becomes a work tray



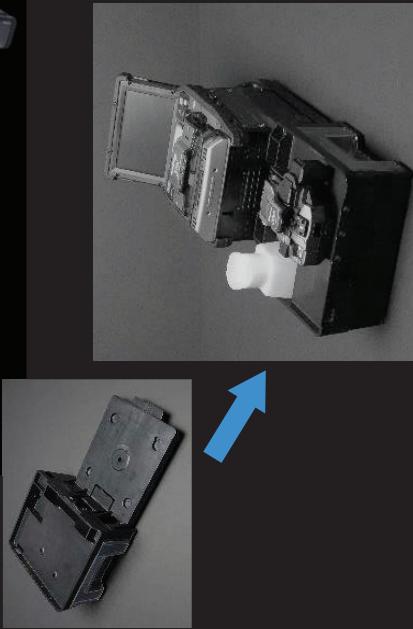
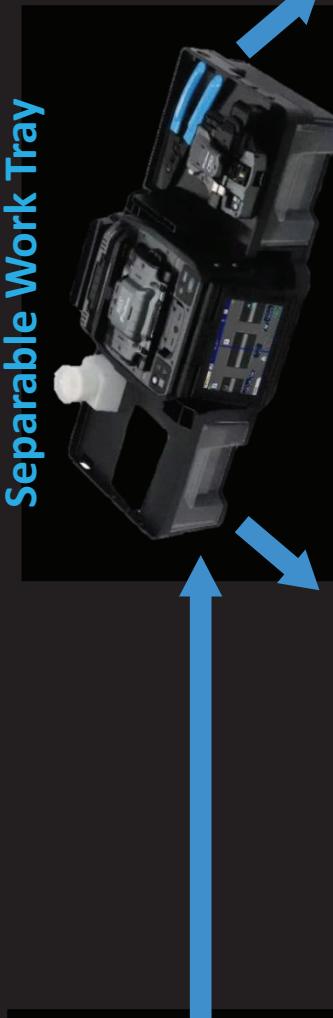
Large storage space
under work tray



2. Work Tray

The newly designed work tray has many functions. There are two drawers for storage which 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



Cleaver & Stripper



Battery packs

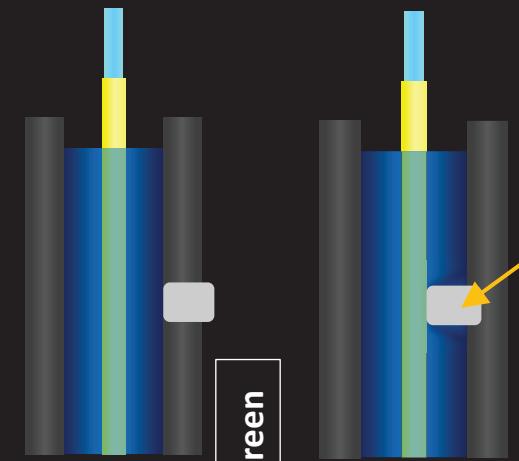
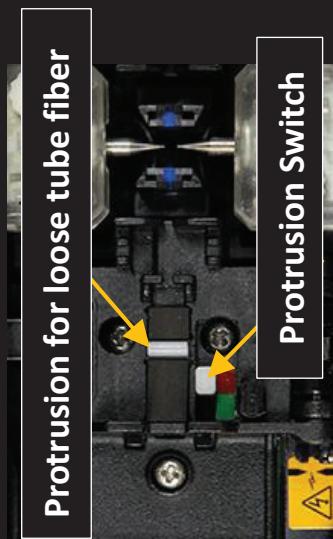


Plenty of space
in work tray

User Friendly

3. Loose tube Compatibility

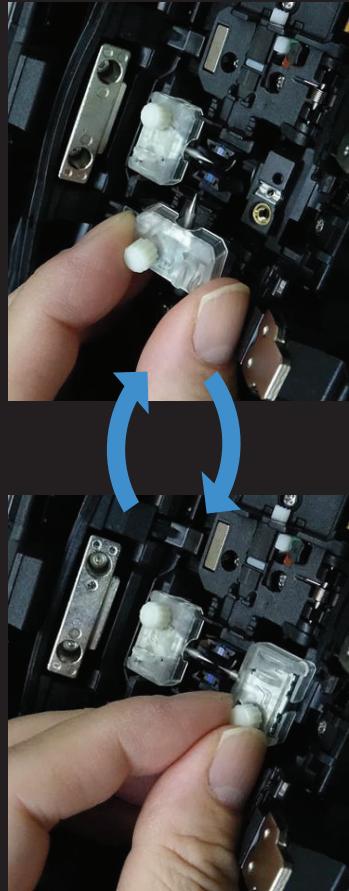
The sheath clamp of the 90S+ is compatible with loose tube fiber. The Protrusion part on the sheath clamp for loose tube fiber engages or retracts by simply changing the switch position with your finger.



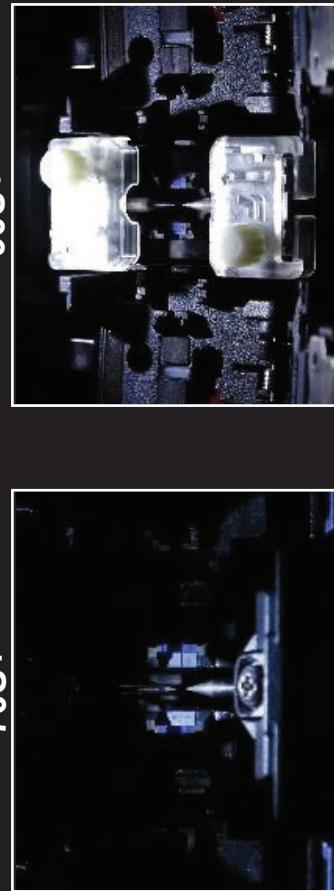
Protrusion can fix fiber position

4. Tool-less Electrodes and illumination

The 90S+ electrodes come as an “assy” including the fixing screw. You can rotate the screw by hand without tools, enabling easy electrode replacement.



The transparent electrode covers support wider illumination of the v-groove. As the sheath clamp opens on the opposite side of the illumination lamp, the sheath clamp area is illuminated without shadow.



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, 17 or 18	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	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	Model	Remark	
Fiber alignment method	Active core alignment	FH-70-200	200μm coating diameter	
Fiber count can be spliced	Single fiber	FH-70-250	250μm coating diameter	
Applicable fiber	Fiber type	FH-70-900	900μm coating diameter	
	Cladding dia.	FH-FC-20	900μm in 2mm diameter cable	
Applicable coating	Sheath clamp	FH-FC-30	900μm in 3mm diameter cable	
			Connect AC adapter not through battery	
Fiber splice performance	Cleave length : 5 to 16mm *1 ITU-T G.652 : Avg. 0.02dB ITU-T G.651 : Avg. 0.01dB ITU-T G.653 : Avg. 0.04dB ITU-T G.654 : Avg. 0.04dB ITU-T G.657 : Avg. 0.02dB SMI/FAST mode : Avg. 7 to 9sec. AUTO mode : Avg. 14 to 16sec.	DC Adapter TU-T G.652 : Avg. 0.02dB TU-T G.651 : Avg. 0.01dB TU-T G.653 : Avg. 0.04dB TU-T G.654 : Avg. 0.04dB TU-T G.657 : Avg. 0.02dB SMI/FAST mode : Avg. 7 to 9sec. AUTO mode : Avg. 14 to 16sec.	DCA-03 DCC-20 DCC-21 CLAMP-DC-12 JP-10 JP-10-FC FP-03 FP-03(L=40) FP-03M	Car digital socket to BTR-15/DCA-03 Car battery to BTR-15/DCA-03 Transferring drop cable on work tray Attaching to splicer, not to work tray JP-10 with fiber clamps 60mm, Max. 900μm coating diameter 40mm, Max. 900μm coating diameter FP-03 with non-magnetic material
Applicable protection sleeve	Sleeve type Sleeve length Sleeve dia.	Notes *1 Cleave length range depending on fiber type 5 to 16mm : 125μm cladding dia. and 250μm coating dia. 10 to 16mm : 125μm cladding dia. and 400 or 900μm coating dia. 5 to 10mm : 80μm cladding dia. and 160μm coating dia. 5 to 16mm : 150μm cladding dia. and 250μm 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 appearing on 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.	Protection sleeve	FP-03M
Sleeve heat performance	Heat time *4	60min slim mode : Avg. 9 to 10sec. 60min mode : Avg. 13 to 15sec.		
Fiber tensile test force	Electrode F15	Approx. 2.0N		
Physical description	Dimensions W Dimensions D Dimensions H Weight	Approx. 170mm without projection Approx. 173mm without projection Approx. 150mm without projection Approx. 2.8kg including battery		
Environmental condition	Temperature Humidity Altitude	Operate : -10 to 50 degreeC Storage : -40 to 80 degreeC Operate : 0 to 95%RH non-condensing Storage : 0 to 95%RH non-condensing Max. 5000m		
AC adaptor	Input Type Output	AC100 to 240V, 50/60Hz, Max. 1.5A Rechargeable Lithium Ion Approx. DC14.4V, 6380mAh		
Battery pack	Capacity / 6 Temperature	Approx. 300 splice and heat cycles Recharge : 0 to 40 degreeC Storage : 0 to 30 degreeC	(1) Splice and heat time : 1 minute cycle (2) Using the splicer power save settings (3) Using a not degraded battery (4) At room temperature	
Display	Battery life / 7 LCD monitor	Approx. 500 recharge Cycles TFT 4.9 inches with touch screen	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.	
Illumination	Magnification V-grooves	200 to 320x LED lamp		
Interface	PC External LED lamp	USB2.0 Mini B type USB2.0 A type Approx. DC5V, 500mA Ribbon Stripper Wireless 8 Splice mode Heat mode	Automatic functions Wind protector : open and close Sheath clamp : open Heater lid : open and close Reference guide Sheath clamp Electrode	
Data storage	Splice result Splice Image	20000 splices 100 images 1/4-20UNC	Vedio and PDF file stored in splicer Easy sleeve position setting clamp Replaceable without tool	
Screw hole for tripod				



90S+ Options

Item	Item	Model	Remark
Fiber alignment method	Active core alignment	FH-70-200	200μm coating diameter
Fiber count can be spliced	Single fiber	FH-70-250	250μm coating diameter
Applicable fiber	Single mode optical fiber	FH-70-900	900μm coating diameter
	Multi-mode optical fiber	FH-FC-20	900μm in 2mm diameter cable
Applicable coating	Coating dia. : Max. 3000μm	FH-FC-30	900μm in 3mm diameter cable
	Cleave length : 5 to 16mm *1		Connect AC adapter not through battery
	TU-T G.652 : Avg. 0.02dB	DC Adapter	
	ITU-T G.651 : Avg. 0.01dB	DCA-03	
	ITU-T G.653 : Avg. 0.04dB	DCC-20	
	ITU-T G.654 : Avg. 0.04dB	DCC-21	
	ITU-T G.657 : Avg. 0.02dB	CLAMP-DC-12	
	SMI/FAST mode : Avg. 7 to 9sec.	Transfer Clamp	
	AUTO mode : Avg. 14 to 16sec.	J-Plate	
		JP-10	Transferring drop cable on work tray
		JP-10-FC	Attaching to splicer, not to work tray
		JP-10 with fiber clamps	
		FP-03	
		FP-03(L=40)	60mm, Max. 900μm coating diameter
		FP-03M	40mm, Max. 900μm coating diameter
			FP-03 with non-magnetic material

Notes

- *1 Cleave length range depending on fiber type
- 5 to 16mm : 125μm cladding dia. and 250μm coating dia.
- 10 to 16mm : 125μm cladding dia. and 400 or 900μm coating dia.
- 5 to 10mm : 80μm cladding dia. and 160μm coating dia.
- 5 to 16mm : 150μm cladding dia. and 250μm 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 appearing on 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 : 1 minute cycle
 - (2) Using the splicer power save settings
 - (3) Using a not degraded battery
 - (4) At room temperature
- *7 The battery capacity changes when testing with different conditions from the above. 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.

Specifications

CT50 Specifications



CT50 Options

Item	Specification
Fiber type	Single mode optical fiber
Applicable fiber	Multi mode optical fiber
Fiber count	Up to 16 fiber ribbon
Cladding dia.	Approx. 125µm
Fiber setting plate	AD-10-M24 : Max. 900µm coating diameter
Fiber holder	Coating shape : Refer to Splicer options AD-10-M24 : 5 to 20mm *1 AD-50 : 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
Cleave length	Fiber holder Single fiber Fiber ribbon
Cleave angle *2	Approx. 10mm Avg. 0.3 to 0.9 degrees Avg. 0.3 to 1.2 degrees
Blade life *3	Dimensions W Dimensions D Dimensions H Weight Temperature Humidity Battery Wireless interface *5 Screw hole for tripod Other features
Physical description	Approx. 117mm without projection *4 Approx. 94mm without projection *4 Approx. 59mm without projection *4 Approx. 306g including battery and AD-10-M24 Operate : -10 to 50 degreeC Storage : -40 to 80 degreeC Operate : 0 to 95%RH non-condensing Storage : 0 to 95%RH non-condensing 2 pieces of LR03 AAA dry battery Bluetooth 4.1 E 1/4-20UNC Motorized rotation Manual rotation dial Replaceable parts Blade Clamp arm
Environmental condition	

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
	SPA-CT08-10	Cleave length 10mm
Spacer	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.



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