

Optical fiber cleaver

# FC-7LS

## Operation manual

### IMPORTANT SAFETY PRECAUTIONS

This product has been designed and manufactured to assure personal safety. Improper use can result in bodily injury and serious damage to the fiber cleaver. Please read and observe all warnings instructions given in this operation manual.



Warning

If users ignore this symbol and handle the cleaver the wrong way, serious injury or death could result.



Caution

If users ignore this symbol and handle the cleaver the wrong way, bodily injury and damage to the cleaver could result.

1. Do not touch the blade with bare hands as it is extremely sharp. Doing so can cause bodily injury. A chipped blade will degrade cleaving performance. Take care not to hit the blade against anything.
  2. Optical fiber and glass fiber offcuts are tiny and extremely sharp. Handle with great care. Take care not to prick your finger. Wear safety glasses at all times during cleaving operation for protection from glass fibers.
  3. Do not use the cleaver which has a crack or damage. Doing so can cause bodily injury.
  4. The cleaver is a precision tool. Do not impact the cleaver by hitting or dropping. Doing so can cause bodily injury and loss of cleaving performance.
  5. After use please empty the fiber bin and then store the cleaver in the case. There is a possibility that fiber offcuts could spill out of the bin during transportation if remain in the bin.
  6. In a high location, take safety measures using a strap to prevent fall of the cleaver.
  7. Dispose of glass fiber offcuts in exclusive waste places. Do not mix them with other waste.
  8. Do not disassemble or lubricate any parts of the cleaver. Doing so can cause damage to the cleaver.
  9. Be sure to move the slider with the lid open.  
Moving the slider with the lid closed may cause malfunction.  
Also do not apply force to the slider section when the lid is closed, for example, during storage.
- \*With regards to the names of the cleaver parts, please refer to "2. Structure".
10. Do not use and store the cleaver in high temperature and high humidity. Doing so can cause damage to the cleaver.
  11. Be sure to lock the lid before storage and transportation.
  12. Store the cleaver in the carrying case after use.
  13. If the cleaver is damaged or any problems occur, please contact our authorized service center.



Caution

## 1. General

### Specification

Item		FC-7LS
Applicable fiber	Material	Silica glass
	Cladding diameter	125µm
	Fiber count	Single
	Coating diameter *1	250µm, 900µm, 3mm coated cable Drop cable(2x3mm rectangle) Drop cable(Φ3.5mm round)
Cleave length *2		250µm: 10~20mm 900µm: 10~20mm
Size *3		51(W) × 106(D) × 93(H) mm
Weight		Approx. 124g
Blade life *4		48,000 fibers (2,000 fibers x 24positions)
Operating condition		Temp. -10°C~50°C/Humidity RH below 95% (Non-condensing)
Storage condition		Temp. -40°C~80°C/Humidity RH below 95% (Non-condensing)

\*1 Fiber holders that correspond to the coating diameter are required. The single fiber adapter is included as a standard package item.

\*2 With use of the single fiber adapter.

\*3 A projection region is excluded.

\*4 Blade life is not guaranteed. It may vary depending on the operational environment.

### Standard package

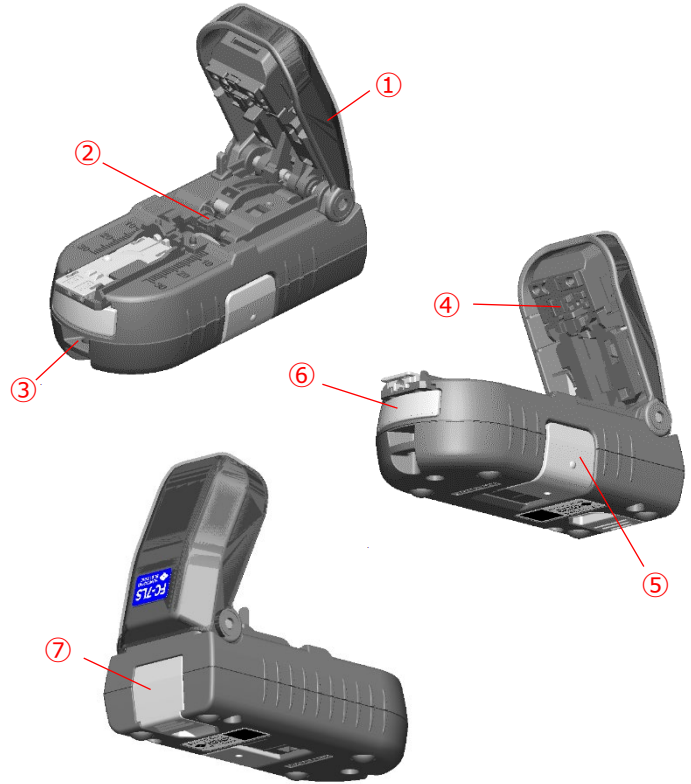
Part name	Part No.	Unit	Qty
Optical fiber cleaver	FC-7LS	pc	1
Single fiber adapter	AP-FC7LS	pc	1
Carrying case	CC-FC7LS	pc	1
Precaution card	-	pc	1

### Optional accessories / Consumables

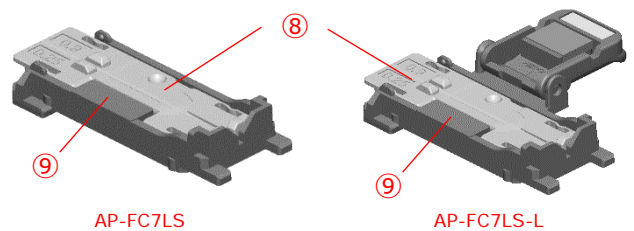
Part name	Part No.	Unit	Qty
Single fiber adapter	AP-FC7LS	pc	1
Single fiber adapter *1	AP-FC7LS-L	pc	1
Fiber bin	TR-FC7LS	pc	1
Replacement blade	FCP-20BL	pc	1

\*1 With lid type.

## 2. Structure



<Single fiber adapter>

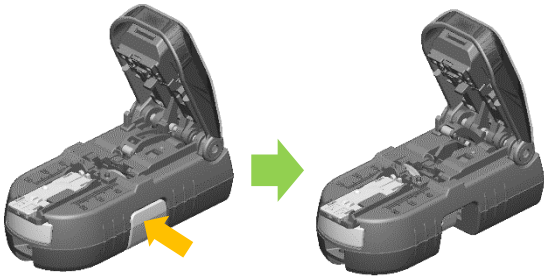


	Name	Function
①	Lid	Fiber is cleaved and fiber offcut is collected along with opening and closing of the lid.
②	Clamp	Holds optical fiber.
③	Strap hook	Secures the strap.
④	Anvil	Cleaves a scratched fiber.
⑤	Slider	Moves the blade.
⑥	Rubber cap	Cap for adjusting screw.
⑦	Fiber bin	Collects fiber offcuts.
⑧	Single fiber adapter (Adjuster)	Compatible with various optical fibers.
⑨	Single fiber adapter (Base)	Fit to the cleaver body.

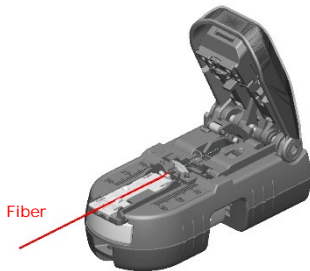
### 3. Operating procedures

(Note) The single fiber adapter shown in the figure is AP-FC7LS, but the AP-FC7LS-L is used in the same way. The only difference is with and without the lid.

(1) Push the slider fully until it's locked.

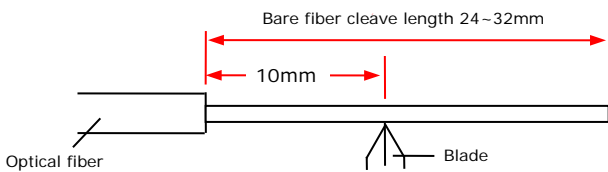


(2) Place fiber onto the single fiber adapter. (Determine a desirable cleave length at your discretion.)

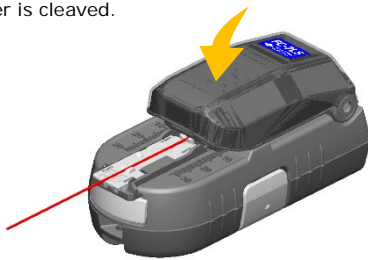


**Caution** The fiber bin collects offcuts when a cleave length is optimum. If not, the fiber bin may not collect an offcut properly.

Optimum cleave length for fiber offcut collector.

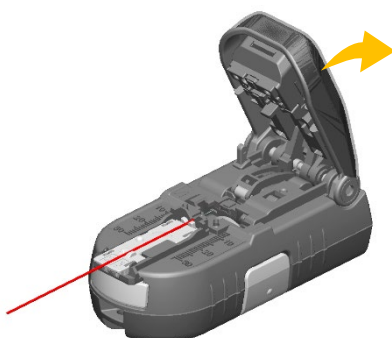


(3) Close the lid. The slider is automatically pushed back. The fiber is cleaved.



**Caution** Do not place your finger where the slider is pushed back. The slider may hit the finger, resulting in an injury.

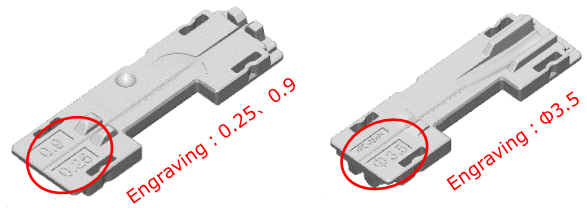
(4) Open the lid. A fiber offcut is automatically collected. The cleaving process is completed. Remove the cleaved fiber from the single fiber adapter.



### 4. Functions

#### Single fiber adapter

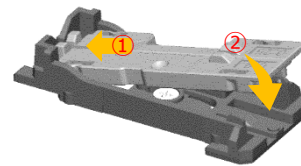
By using the single fiber adapter that comes as standard, it is possible to cleave single fiber at any desired cleave length. The adjuster is reversible and can be used for the following fibers.



Engraving		0.25, 0.9	Φ3.5
Applicable fiber	Φ0.25	Available	Available
	Φ0.9	Available	Available
	Φ3 cord	-	Available
	Φ3.5 drop cable	-	Available
	2×3 drop cable	-	Available

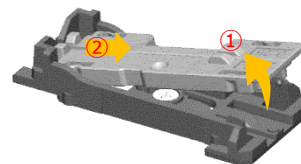
-----<How to fit and remove the adjuster>-----  
**How to fit**

- ① Insert the front end of the adjuster into the single fiber adapter base.
- ② Lower the other end to fit the adjuster into the single fiber adapter base.

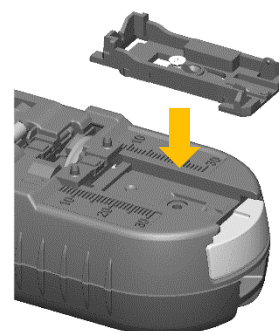


**How to remove**

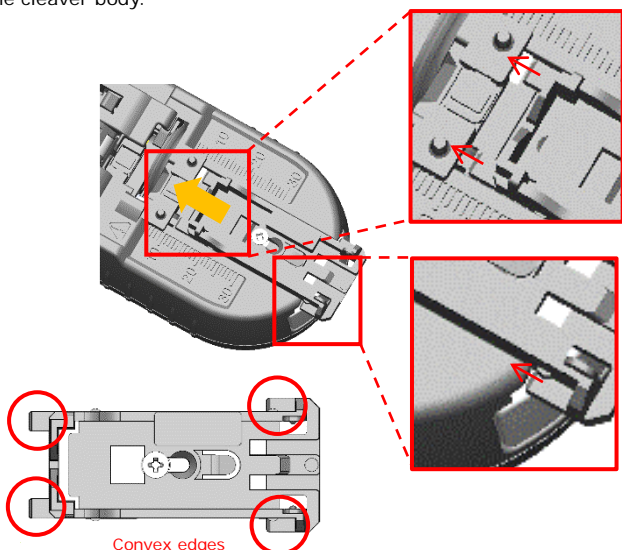
- ① Lift up the rear end of the adjuster to remove it from the single fiber adapter base.
- ② Pull the other end of the adjuster out of the single fiber adapter base.



-----<How to fit the single fiber adapter>-----  
 (1) Put on the single fiber adapter base on the cleaver body.

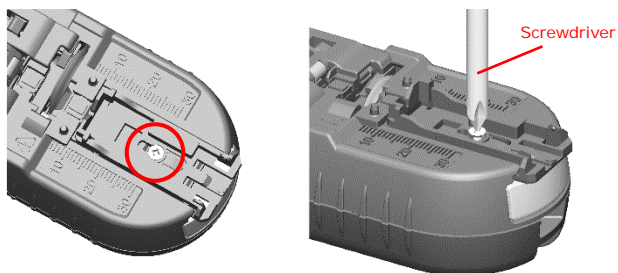


(2) Slide the convex part of the single fiber adapter base all the way into the cleaver body.



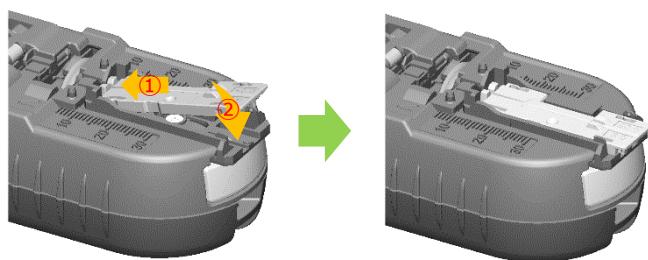
**Caution** · The single fiber adapter has four convex edges.

(3) Tighten the screw to secure the single fiber adapter base.



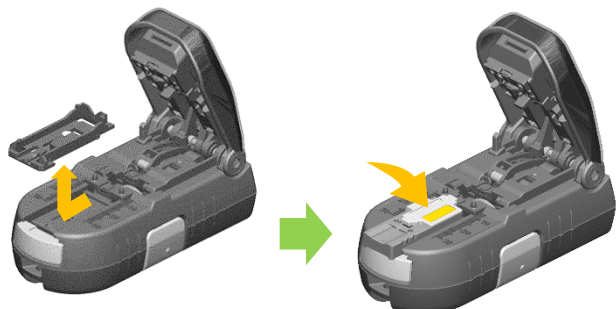
**Caution** · Fixing screws with strong force may damage them.

(4) Attach the single fiber adjuster to the single fiber adapter base.

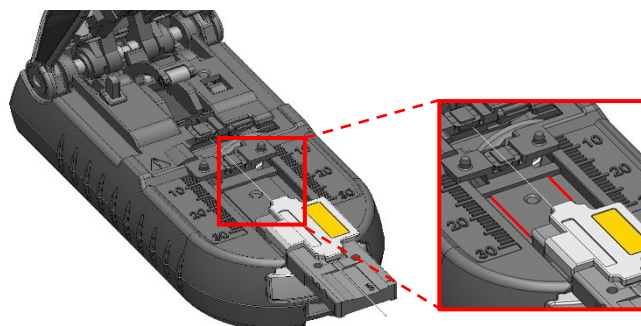


### Fiber holder (FHS series)

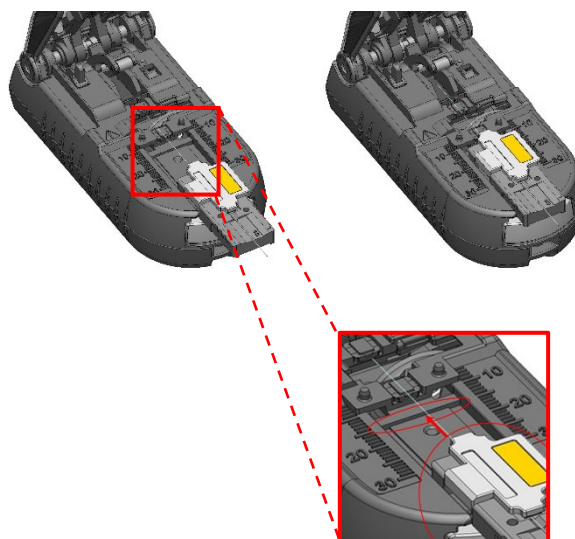
When using a fiber holder, remove the single fiber adapter from the cleaver as shown in the figure below.



(1) Fit the bottom edge of the fiber holder.



(2) Slide the fiber holder all the way toward the blade until it touches the edge of the fiber holder receptacle.



OK	NG	
Correct position	Not pushed enough	Pushed too much

## 5. Maintenance



Caution

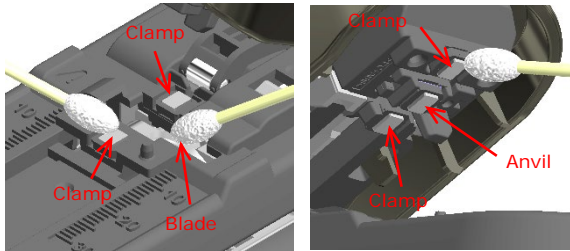
- The blade is extremely sharp. Do not touch it with bare hands.
- Do not disassemble or lubricate any parts of the cleaver. Doing so can cause damage to the cleaver. The quality of disassembled or lubricated cleavers cannot be guaranteed.
- The edge of the blade is precisely manufactured. Take great care not to give any damage to the blade.

### Daily cleaning

To maintain excellent cleaver's performance, daily cleaning is recommended before and after use.

#### (1) Clean the clamp, anvil and blade

Clean the 4 clamps, 1 anvil and 1 blade lightly with a cotton swab moistened with pure alcohol.



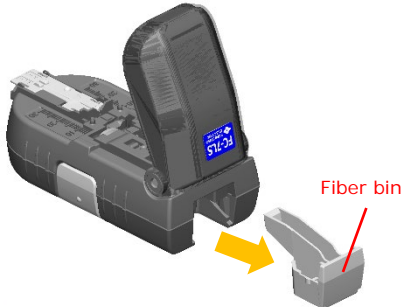
Caution

Fiber offcuts adhering to the cleaver parts may cause loss of cleaving performance and quality.

### Emptying fiber bin

After use and before transportation, dispose of fiber offcuts and empty the fiber bin referring to the procedures below.

- (1) Remove the fiber bin from the back of the cleaver.
- (2) Dispose of fiber offcuts and empty the fiber bin completely.
- (3) Re-fit the fiber bin in the cleaver.



Caution

- Fiber offcuts may scatter. Wearing protection glasses is recommended.
- Using a cotton swab makes it easier to take out fiber offcuts from the fiber bin. Never use bare hands. Doing so can cause bodily injury.
- Empty the fiber bin and then store the cleaver in the case.
- Dispose of fiber offcuts in accordance with local regulations



### How to change the blade position

As the number of the cleaves increases, a symptom that fiber cannot be cleaved or cracks will occur.

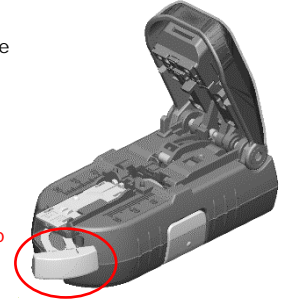
If such symptom continues to appear, the blade position is worn out. Rotate the blade according to the following procedures and use a new blade position.

[Reference] 2,000 fibers per position (※)

(※)The number above is not guaranteed. It may vary depending on the operating environment.

- (1) Remove the rubber cap from the main unit.

Rubber cap

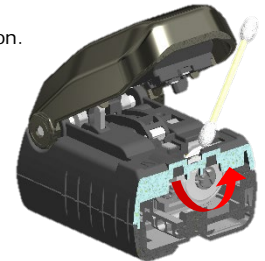


- (2) Loosen the blade setscrew with a slotted screwdriver.



- (3) Rotate the blade to the next position.

If you use a cotton swab to press the side or edge of the blade and push it outward, you can rotate the blade easily.



Caution

- Do not rotate the blade position with hands.
- Do not use metallic tools such as tweezers to rotate the blade. Doing so can cause damage to the blade.

- (4) Tighten the blade setscrew.



Caution

- Be careful not to over-tighten the blade. The screw may be damaged.



- (5) Cleave fiber a couple of times and check the fiber end-face on the screen of the fusion splicer.

If the fiber end-face is not good, adjust the blade height.

## Notes on maintenance

- (1) Please return your cleaver to our authorized service centers for blade replacement.
- (2) When a cleaver reaches up to 48,000 fibers or cannot cleave fibers properly, the blade needs to be replaced.  
(Since the blade is consumables, blade replacement is charged.)
- (3) If you are not going to use the cleaver for a long period of time, store it in a carrying case.

### Japan

#### **Sumitomo Electric Industries, Ltd.**

1-3-13, Motoakasaka, Minato-ku, Tokyo 107-8468, Japan  
<http://global-sei.com/sumitomo-electric-splicers/>

### U.K. (Europe, Russia, Middle East, Africa)

#### **Sumitomo Electric Europe Ltd.**

Unit 220, Centennial Park, Elstree, Hertfordshire, WD6 3SL, U.K.  
 service@sumielectric.com  
<http://www.sumielectric.com/distributors/>

### North & South America

#### **Sumitomo Electric Lightwave Corp.**

201 South Rogers Lane, Suite 100, Raleigh, NC 27610, U.S.A  
<https://sumitomoelectriclightwave.com/contact-us/>

### Brazil

#### **Sei Brasil Industria e Comercio de Solucoes Opticas Ltda.**

Avenida Victor Andrews , 1209 - Distrito Industrial, Sorocaba, Sao Paulo,  
 18086-390 Brasil  
<http://www.seibrazil.com.br/>

### East Asia (Beijing)

#### **Sumitomo Electric Trading (Shenzhen) Co., Ltd Beijing branch**

Room1910, 19F. Beijing Fortune Building, No.5, DongSanHuanBei Road,  
 ChaoYan District, Beijing 100004 China  
<http://www.seac-china.com/>

### East Asia (Shenzhen)

#### **Sumitomo Electric Trading (Shenzhen) Co., Ltd**

3407-10, No.4 Excellence Century Center, Fuhua 3 Road, Futian District,  
 Shenzhen 518033, China  
<http://www.seac-china.com/>

### East Asia (Hong Kong)

#### **Sumitomo Electric Asia, Ltd**

Suites 05-08, 40/F, Office Tower, Langham Place, 8 Argyle Street, Mongkok,  
 Kowloon, Hong Kong  
<http://www.seac-china.com/>

### Asia (Thailand, Vietnam, Cambodia, Myanmar, Laos)

#### **Sumitomo Electric (Thailand) LTD.**

B.B.Bldg. 15F, 54 Sukhumvit 21 Road, Soi Asoke, North Klongtoey, Wattana,  
 Bangkok 10110, Thailand  
<https://www.setl.co.th/en/home>

### Asia (Singapore, Malaysia, Indonesia, Brunei, Oceania)

#### **Sumitomo Electric Asia Pacific Pte. Ltd.**

31, International Business Park, #02-10 Singapore 609921.  
<http://www.seap.com.sg/contact-us/>

### Asia (Philippines)

#### **SEI (Philippines) Incorporated**

4F, King's Court 1 Building, 2129 Chino Roces Ave, Makati City Philippines  
[sales-admin@seiphilippines.com.ph](mailto:sales-admin@seiphilippines.com.ph)

### South Asia (India, Bangladesh, Nepal, Sri Lanka, Bhutan)

#### **SEI Trading India Pvt. Ltd.**

802, Vatika City Point, M.G. Road, Gurgaon, 122002, Haryana, India  
<http://www.sumitomosplicers.in/>