CT-115

CT-116

CT-114, CT-115 and CT-116 Fiber Cleavers

Fujikura's lineup of high-quality, large diameter optical fiber cleavers is built to achieve low cleave angles with pristine end-faces for a vast array of fiber types. These cleavers are heavily utilized in fiber preparation for fusion splicing of standard data communication fibers, octagonal or round large diameter fibers (LDF), polarization maintaining fibers, photonic crystal fibers and even component manufacturing with capillary tubes, ball lenses, end caps and more.

Automation was a key theme during design of these products. The aim was to enable smarter, faster and more reliable decisions than previously capable via operator trial and error. Leveraging the success of their predecessors, the CT-115 and CT-116 fiber clamps will automatically adjust the clamping force to provide the most optimal cleave angle for any fiber in the machine. The fiber backstop position is newly automated to find the optimum location for best cleave angle performance. Microns adjustments can make the difference in achieving required cleave angles for many fibers. As a manual process, this is very difficult to optimize, but this new automation removes this painstaking process. With the unheard-of long blade life of all three cleavers, blade position changes are infrequent, but when needed, the blade will index to the next position automatically, driven by a motorized blade assembly.

As an industry first, this generation LDF cleaver has an RFID sensor which matches the RFID tag on every FH-110 series fiber holder. These cleavers have a new fiber holder management menu where users can pair a fiber holder to a cleave mode. In this menu, each fiber holder has a unique RFID and a user defined name for simple setup of fiber holder and cleave mode combinations. The cleaver utilizes the pairings in this menu to automatically change the cleave mode based on the fiber holder recognized by the cleaver's RFID sensor. This can be used as either a process control measure, or to aid in cleave optimization.

This line of LDF cleavers brings exciting benefits to the specialty fiber optic industry, which promise to yield tangible benefits to its users. Fujikura continues to lead with innovation and value in the quality solutions they develop. Put our LDF cleavers to the test by contacting us at 1-800-235-3423.

CT-114, CT-115 and CT-116 Fiber Cleavers

CT-114 Features

- 80-660 µm cladding diameter
- Automatic blade position change
- RFID fiber holder identification
- Manual fiber clamping and backstop adjustment
- 200,000 cleaves per blade for 250 µm fiber
- PC software and manual downloadable via USB

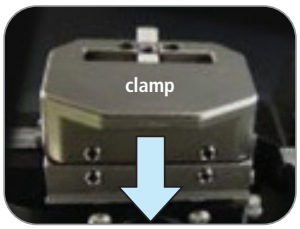
CT-115 Features

- 80-1,250 µm cladding diameter
- Automatic fiber clamping, backstop adjustment and blade position change
- RFID fiber holder identification
- 200,000 cleaves per blade for 250 µm fiber
- PC software and manual downloadable via USB

CT-116 Features

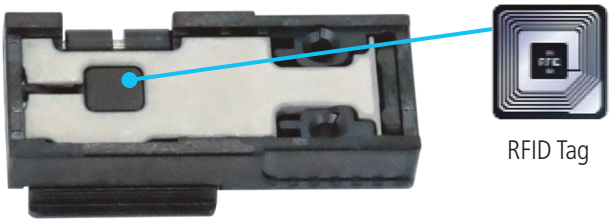
- 80-1,250 µm cladding diameter
- Automatic fiber clamping, backstop adjustment and blade position change
- RFID fiber holder identification
- 200,000 cleaves per blade for 250 µm fiber
- Angled cleaving function (up to 15°)
- PC software and manual downloadable via USB

Angled Cleaving
Angled cleaving up to 15° (only CT-116)

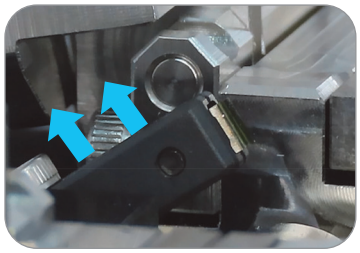


Automatic Clamp Function
CT-115 and CT-116 self-optimizes and applies the clamp force automatically for best cleave results without trial and error.

Backstop
CT-115 and CT-116 automated backstop prevents time and fiber waste with self-optimized positioning for best cleave results.



RFID Fiber Holder System
RFID identification with FH-110 series fiber holders improves quality control in manufacturing and when changing applications in an R&D environment.



Automatic Blade Position Change
Cleaver blade position indexing driven by a motor to remove user error from this critical process.

CT-114, CT-115 and CT-116 Fiber Cleavers

Specifications

PARAMETER		CT-114	CT-115	CT-116
Fiber type		Silica optical fibers and capillary tubes		
Fiber count		Single		
Cladding diameter		80-660 µm	80-1,250 µm	
Coating diameter		81-3,182 µm		
Fiber clamping		Manual [1]	Automatic via motor	
Backstop adjustment		Manual	Automatic via motor	
Tension range [2]		0 to 3,000 gf (29.4 N)	0 to 10,000 gf (98.1 N)	
Cleaving length [3]		30-75 mm		
Cleaving angle		Average 0.2° (Cladding diameter 125 µm)		
		Average 0.3° (Cladding diameter 400 µm)		
		Average 0.4° (Cladding diameter 660 µm) [5]	Average 1.0° (Cladding diameter 1,000 µm) [5]	
Angled cleaving		–	–	0-15° (0 to 180° on cleaver rotator) [6]
Blade life [7]		200,000 fibers (10,000 fibers x 20 positions for 250 µm cladding fiber)		
Dimensions (WxDxH)		240 x 133 x 142 mm without projections		240 x 133 x 151 mm without projections
Weight		3.6 kg without inserts and with fiber holder adapter	3.9 kg without inserts and with fiber holder adapter	4.2 kg without inserts and with fiber holder adapter
Humidity		0 to 95% RH, non-condensing (operation and storage)		
Temperature		0°C to 40°C (operation) -40°C to 80°C (storage)		
Number of cleaving modes		Maximum 100		
Cleave results		10,000 cleave data		
AC Adapter		Input: AC 100 V to 240 V (50 or 60 Hz) (max. 1.5 A) Output: DC 19 V, Max. 2.1 A		
Display		TFT 4.95" touch screen LCD monitor		
Interface	PC	USB 2.0 (Mini-B type) for PC communication		
	Ground point	Applicable by M3 size truss screw		
Wireless communication	RFID	Compliant with ISO 15693		
Other Features	Automatic Functions	Automatic cleave mode selection via RFID tag		
		Motorized blade position change		
		Automatic tension adjustment		
PC Software		Firmware update via internet		
		Cleave mode and parameter upload and download		

Notes:

1. For cladding diameter less than 400 µm, use magnets. For cladding diameter 400-660 µm, use both magnets and clamp lid screw. Clamp lid screw may be necessary depending on the fiber type when it is also under 400 µm.
2. There are some cases where the set tension is different from the actual tension.
3. Cleave length is defined as the distance between the left-side fiber clamp and the end-face of the cleaved fiber.
4. Measured with an interferometer at room temperature. A new blade was used to cleave each fiber. The average cleave angle changes depending on operational conditions such as blade condition, operation method and cleanliness.
5. Measured with an FSM-100P+ splicer at room temperature. A new blade was used to cleave each fiber. The average cleave angle changes depending on operational conditions such as blade condition, operating method and cleanliness.
6. Maximum angled cleave changes depending on the fiber type cleaved and clamp position.
7. The blade life changes depending on the operational conditions such as blade condition, operating method, cleanliness and fiber type cleaved.

CT-114, CT-115 and CT-116 Fiber Cleavers

Ordering Information

DESCRIPTION	AFL NO.
CT-114 LDF Cleaver includes: ADC-21 AC adapter; ACC-09 AC power cord; FHA-CT115 fiber holder adapter; CM-CT115 fiber height mirror; x3 each SPA-CT105-30, 50 and 100 shims; x15 set screws for inserts; HEX-01 hex wrench; USB-01 USB Cable; TR-CT115-E Technical reference manual; and One year factory warranty	S018182
CT-115 LDF Cleaver includes: ADC-21 AC adapter; ACC-09 AC power cord; FHA-CT115 fiber holder adapter; CM-CT115 fiber height mirror; x3 each SPA-CT105-30, 50 and 100 shims; x15 set screws for inserts; HEX-01 hex wrench; USB-01 USB Cable; TR-CT115-E Technical reference manual; and One year factory warranty	S018183
CT-116 Angled LDF Cleaver includes: ADC-21 AC adapter; ACC-09 AC power cord;, FHA-CT115 fiber holder adapter; CM-CT115 fiber height mirror; x3 each SPA-CT105-30, 50 and 100 shims; x15 set screws for inserts; HEX-01 hex wrench; USB-01 USB Cable; TR-CT115-E Technical reference manual; and One year factory warranty	S018184

Accessories

DESCRIPTION	AFL NO.
Fiber Holder Inserts	
Master fiber holder insert kit (includes upper and lower inserts from 80-1750)	S016098
INSERT-L-80	S016085
INSERT-L-125	S016086
INSERT-L-160	S016087
INSERT-L-250	S016088
INSERT-L-400	S016089
INSERT-L-500-750	S016090

DESCRIPTION	AFL NO.
Fiber Holder Inserts (continued)	
INSERT-L-1000-1250	S016091
INSERT-L-1500-1750	S016092
INSERT-L-2000-2250	S016093
INSERT-L-2500-3000	S016094
INSERT-U-80-400	S016079
INSERT-U-500-750	S016080
INSERT-U-1000-1250	S016081
INSERT-U-1500-1750	S016082
INSERT-U-2000-2250	S016083
INSERT-U-2500-3000	S016084

DESCRIPTION	AFL NO.
Height adjusting shim (10-piece pack)	
SPA-CT105-30 (30 µm)	S016095
SPA-CT105-50 (50 µm)	S016096
SPA-CT105-100 (100 µm)	S016097
Miscellaneous Items	
FHA-CT115 Fiber holder adapter	S018211
CM-CT115 Fiber height mirror	S018212
TD-01 Torque Driver	S016738
CB-06A Replacement Blade	S016078
AC adapter ADC-21	S018168
AC power cord ACC-09	S014390

Fiber Holders

DESCRIPTION	AFL NO.
FH-110-60 Fiber Holder	S018215
FH-110-100 Fiber Holder	S018216
FH-110-125 Fiber Holder	S018217
FH-110-150 Fiber Holder	S018218
FH-110-180 Fiber Holder	S018219
FH-110-210 Fiber Holder	S018220
FH-110-250 Fiber Holder	S018221
FH-110-300 Fiber Holder	S018222
FH-110-350 Fiber Holder	S018223
FH-110-400 Fiber Holder	S018224
FH-110-500 Fiber Holder	S018225
FH-110-600 Fiber Holder	S018226
FH-110-700 Fiber Holder	S018227

DESCRIPTION	AFL NO.
FH-110-800 Fiber Holder	S018228
FH-110-900 Fiber Holder	S018229
FH-110-1000 Fiber Holder	S018230
FH-110-1100 Fiber Holder	S018231
FH-110-1200 Fiber Holder	S018232
FH-110-1300 Fiber Holder	S018233
FH-110-1400 Fiber Holder	S018234
FH-110-1500 Fiber Holder	S018235
FH-110-1600 Fiber Holder	S018236
FH-110-1700 Fiber Holder	S018237
FH-110-1800 Fiber Holder	S018238
FH-110-1900 Fiber Holder	S018239
FH-110-2000 Fiber Holder	S018240

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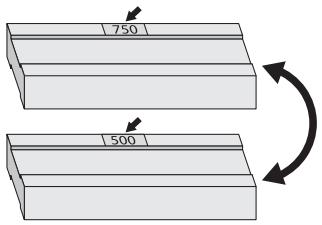
Insert Selection Guide

LOWER INSERT		UPPER INSERT: INSERT-U-80-400	INSERT-U-500-750[1] 500	INSERT-U-500-750[1] 750	INSERT-U-1000-1250[1] 1000	INSERT-U-1000-1250[1] 1250	INSERT-U-1500-1750[1] 1500	INSERT-U-1500-1750[1] 1750	INSERT-U-2000-2250[1] 2000	INSERT-U-2000-2250[1] 2250	INSERT-U-2500-3000[1] 2500	INSERT-U-2500-3000[1] 3000
INSERT-L-80		54-107										
INSERT-L-125		84-167										
INSERT-L-160		115-213										
INSERT-L-250		167-333										
INSERT-L-400		267-533	400-533									
INSERT-L-500-750[1]	500	334-667	467-667	550-667								
	750		634-868	717-1000	787-1000							
INSERT-L-1000-1250[1]	1000			884-1118	954-1188	1037-1272						
	1250				1120-1355	1204-1438	1287-1522					
INSERT-L-1500-1750[1]	1500					1370-1605	1454-1688	1537-1772				
	1750						1620-1855	1704-1938	1780-2015			
INSERT-L-2000-2250[1]	2000							1870-2115	1947-2288	2030-2265		
	2250								2114-2348	2197-2432	2280-2515	
INSERT-L-2500-3000[1]	2500									2364-2598	2447-2682	2614-2848
	3000										2780-3015	2947-3182

Note:
1. Each side of this insert is equipped with a groove that is marked with the size of the fiber diameter on the table.

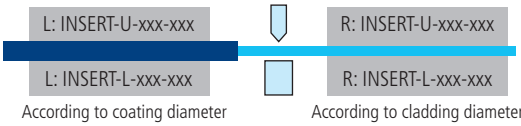
Upper and lower inserts can be changed up or down depending on required fiber fit into the V-groove.

Inserts 500 µm and above are double-sided. Therefore, the visible label when inserted indicates the size of the insert you are using.



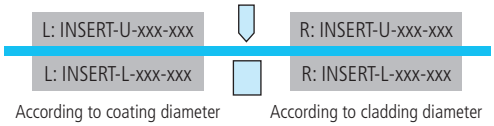
Upper and lower inserts are necessary for both left and right side clamps.

Case 1: Cleaving coating-stripped fiber



Inserts according to both coating diameter and cladding diameter are necessary.

Case 2: Cleaving glass rod



Two insert pairs of the same size according to rod diameter are necessary.