OPTICAL FUSION SPLICERS

Tempo Communications fusion splicers utilize two different splicing technologies in our product offering. The FSP200 is a Core Alignment based splicer and the 915FS is an Active Clad splicer.

The FSP200 Core Alignment splicer incorporates six motor technology and is the most capable splicer when splicing legacy or dissimilar fibers. This is because two motors are used to adjust the objective lenses so that the cameras are able to precisely locate the center of the core of the fiber optic cable. This is especially important with older fibers that have geometry variability such as ovality and concentricity of the core with respect to the fiber cladding. The core alignment technology is also more tolerant of contamination and will yield the lowest splice losses in adverse conditions.

The 915FS fusion splicer is an Active Clad fusion splicer and has four motors to align the fibers. No objective lens focusing is provided which is sufficient when splicing two fibers of the similar geometry. Since singlemode fibers produced in the last two decades are of remarkably consistent geometries, even between cable manufacturers, the splice loss is virtually the same as the Core Alignment splicer.

Both the Active Clad and Core Alignment fusion splicers far surpass the performance of the V-Groove technology splicers that employ only two adjustment motors.

Distribution in the UK & Ireland

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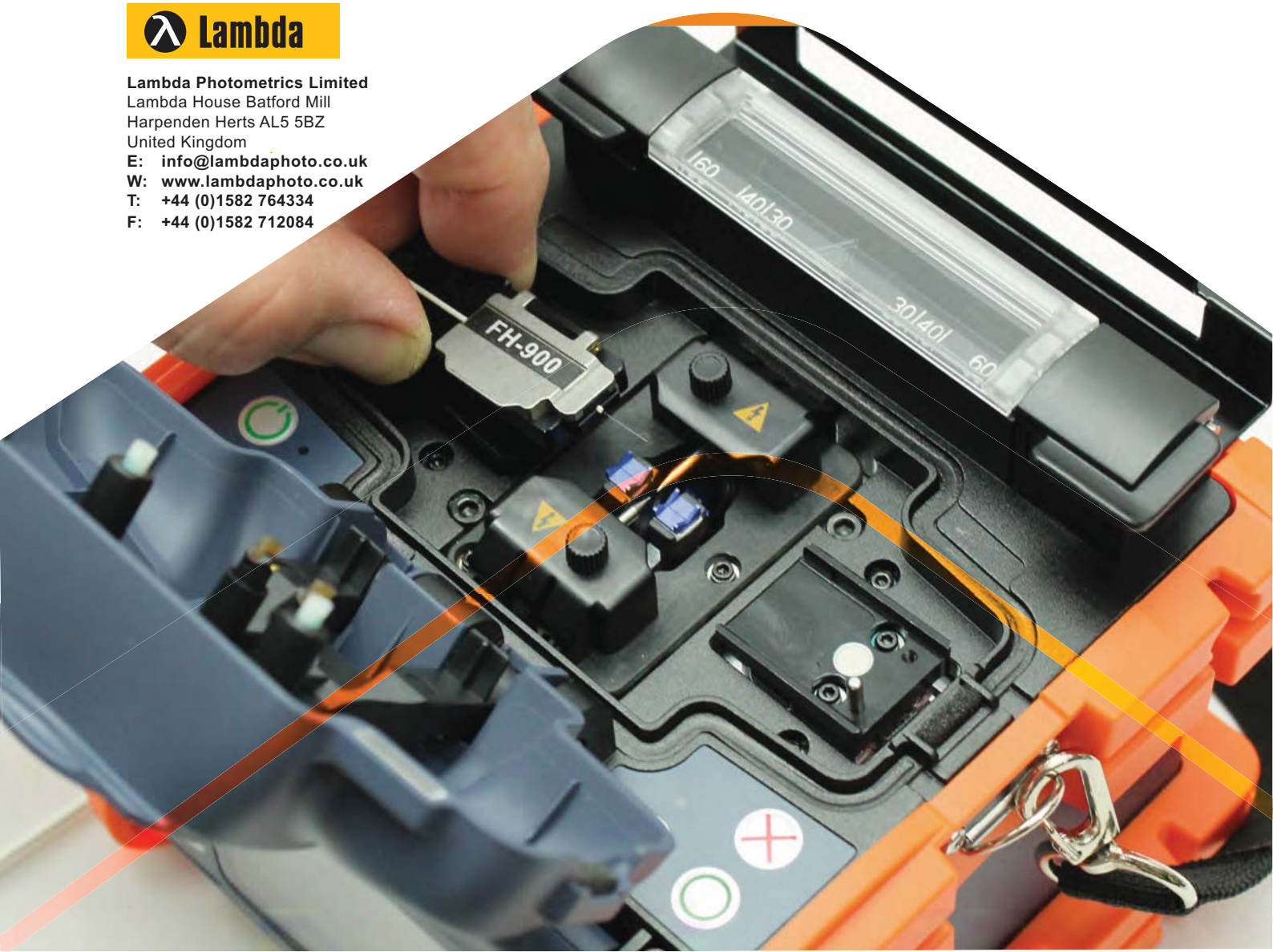


FSP200 CORE ALIGNMENT OPTICAL FUSION SPLICER

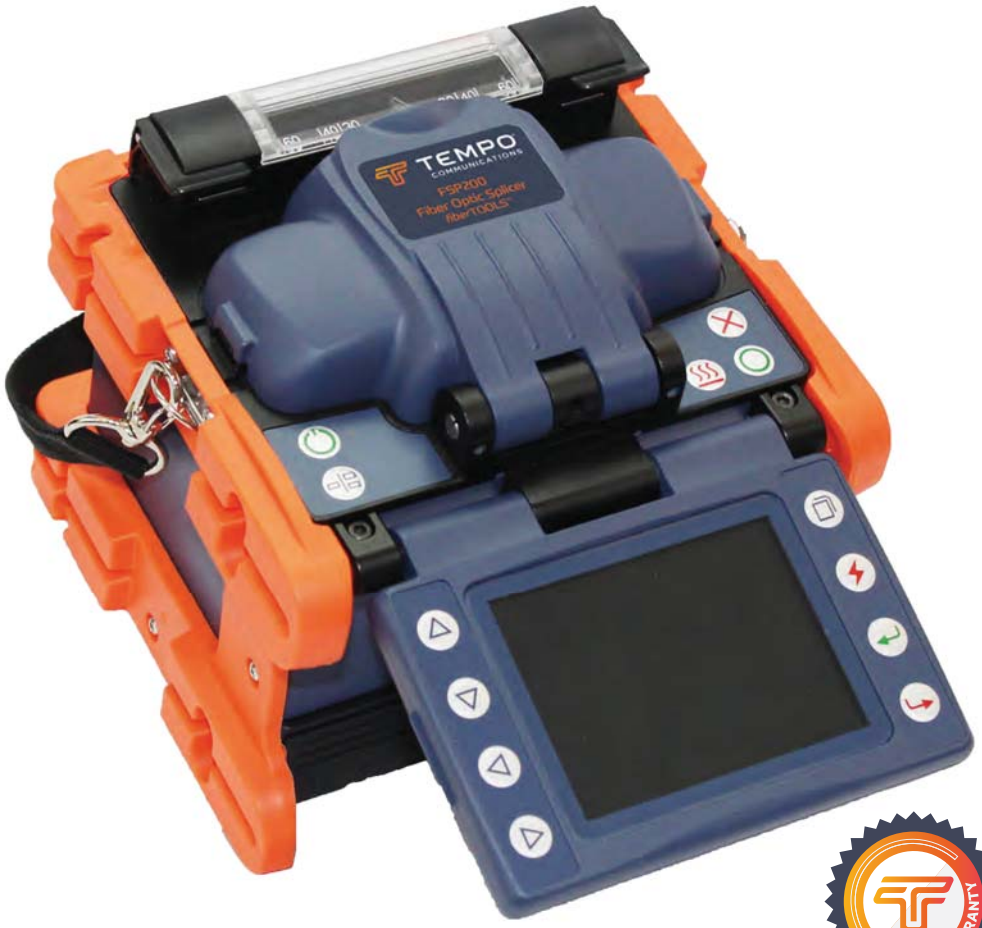
The Tempo Communications FSP200 Optical Fiber Fusion Splicer is intended to fuse two fiber optic cables, resulting in low splice loss and long-term stable splices. The FSP200 is a Core Alignment splicer that utilizes six precision motor transports.

The FSP200 fusion splicer uses a CDS (Core Detection System), which is also widely known as PAS (Profile Alignment System). The two focus cameras determine the center of the core of the two fibers, then adjusts each in the X, Y, and Z dimensions to automatically and precisely align the two fiber cores. A fusing arc is applied, which then provides the lowest loss fusion splice.

The FSP200 with PAS technology is designed for splicing singlemode and multimode fibers including DSF, NZDS and BIF.

Splices are completed in as little time as seven seconds while providing low splice losses typically of 0.01dB. The high capacity battery is capable of splicing over 200 fusion splices on one battery charge.

The intuitive user interface and IP52 rating insures that the technician able to quickly become proficient splicing in the most demanding conditions.



FEATURES

- True Core Alignment for Low Loss Splices
- IP52 provides resistance to dust and water ingress
- Small and lightweight for the most demanding jobs
- Loose tube fiber compatible
- Auto-Calculation of Estimated Splice Loss
- Adapters for 200/250, 900µm and 3mm fiber

SPECIFICATIONS:

Applicable Fibers	SM (G.652); MM (G.651); DS (G.653); NZDS (G.655); BIF (G.657); EDF
Fiber Cleaved Length	10mm
Cladding Diameter	80 to 150µm
Coating Diameter	100 to 1000µm
Fiber Count:	Single
Fiber Aligning Method	Core Alignment
Splice Loss (Typical)	0.02 dB (SM); 0.01 dB (MM); 0.04 dB (DS); 0.04 dB (NZDS & BIF)
Splicing Mode	60 Preset / User Definable Modes
Splice Time (Typical)	7 seconds (1)
Boot Time	5 seconds
Number of Splices Per Battery Charge	200 (including 60mm heat shrink cycle) (2)
Splice -On-Connector	SC, LC, FC, ST
Arc Calibration Mode	Automatic and Manual
Protection Sleeve Length	60mm, 40mm, Micro Sleeves
Ingress Protection(3)	IP5X (Dust); IPX2 (Water)
Storage of Splice Results	5,000 Results, 100 screenshots
Drop Test	76cm on five axis

Tension Test	2N
Fiber Display Magnification	200X
Tube Heating Mode	20 Preset / User Definable Modes Adjustable 0-240 seconds
Tube Heating Time (Typical)	18 seconds (4)
Attenuator Mode	0.1 to 15 dB
Electrode Life	5,000 Splices
Display:	3.5" Color, Turn-Over LCD
Connectivity	USB
Operating Conditions	Pressure: 0 to 16,404 feet (0 to 5,000 meters) above Sea Level Wind Velocity up to 15m/s Humidity: 0 to 95% Temperature: -4 to +131F (-20 to +55C)
Storage Conditions	Temperature: -40 to +158F (-40 to +70C)
Power Supply	100 to 240V AC Adapter; Li-ion Battery (4400 mAh)
Weight	3.74lbs (1.7kg) with battery
Dimensions (HxWxD)	4.9" x 4.9" x 5.3" (125 x 125 x 135mm)
Vibration Resistance	10Hz - 500Hz with a spectral density of 0.03g2/Hz
Password Protection	Yes

(1) Fast mode. (2) 90s/cycle splice time and power save functions activated. Number of cycles may vary depending on battery status and ambient operating conditions. (3) Dust resistance and rain resistance test do not guarantee that the product will not be damaged under these conditions. (4) Dependent on splice protector used and ambient conditions. Time quoted is with power mode enabled and assuming that the oven is not cold.

*Specifications subject to change without notice.

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500052	FSP200	Optical Fusion Splicer
55500053	FSP200-KIT1	FSP200 Fusion Splicer & Cleaver Kit
55500054	FSP200-KIT2	Contractor Fusion Splicer Kit
52063415	06811	915FS FSP200 Batt
52080896	07096	Power Supply, 915FS FSP200
52064141	01325	Splice-On-Connector Adapter (SC & LC)
52066481	02401	Splice-On-Connector Adapter (ST & FC)

PART NO.	CAT. NO.	DESCRIPTION
52063414	01329	Replacement Electrodes
52064143	01332	200/250µm Adapter (Pair)
52064142	01333	900µm Adapter (Pair)
52076996	05801	Loose Tube Adapter (Pair)
52081862	07388	Universal Adapter (Pair)
52067851	03245	3mm Adapter (Pair)
55500059	NA LC	North American Line cord
52066954	02571	European Line Cord
52066952	02570	UK Line Cord
52066930	02568	12 V DC Car Adapter

915FS ACTIVE CLADDING OPTICAL FUSION SPLICER

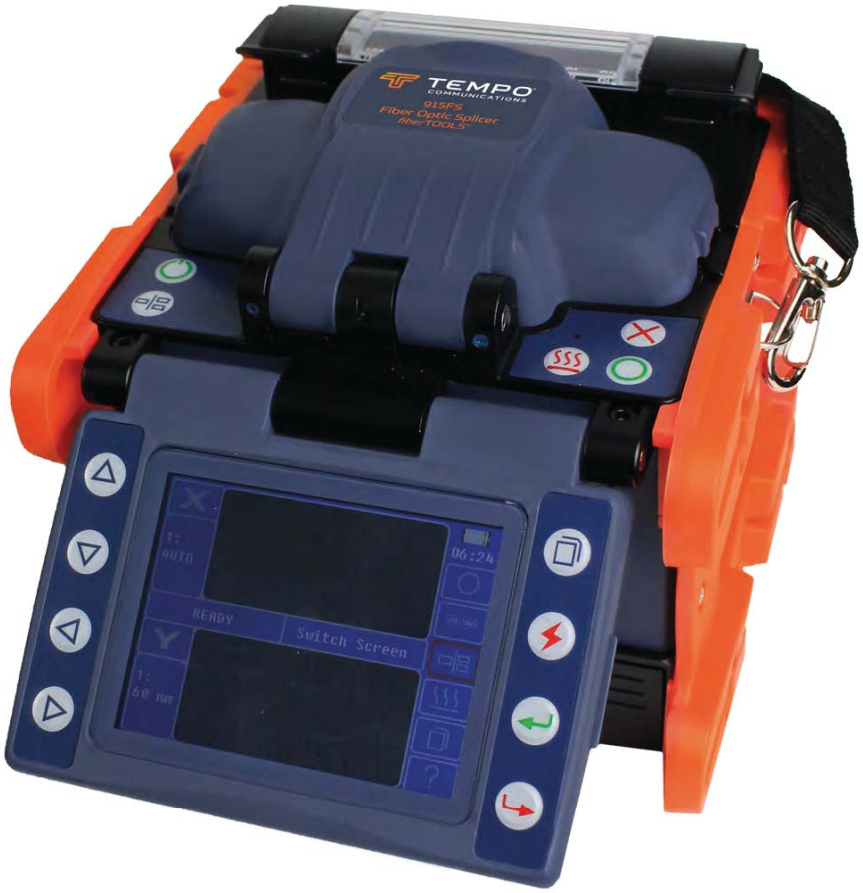
The Tempo Communications 915FS Optical Fiber Fusion Splicer is intended to fuse two fiber optic cables, resulting in low splice loss and long-term stable splices. The 915FS is an Active Clad fusion splicer the utilizes four precision motor transports.

The 915FS fusion splicer capably aligns the two fibers in the X, Y, and Z dimensions to automatically and precisely align the two fibers. A fusing arc is applied, which then provides the lowest loss fusion splice.

The 915FS is designed for splicing singlemode and multimode fibers including DSF, NZDS and BIF.

Splices are completed in as little time as seven seconds while providing low splice losses typically of 0.01dB. The high capacity battery is capable of splicing over 200 fusion splices on one battery charge.

The intuitive user interface and IP52 rating insures that the technician able to quickly



FEATURES

- Active clad technology for todays fibers
- IP52 provides resistance to dust and water ingress
- Small and lightweight for the most demanding jobs
- Loose tube fiber compatible
- Auto-Calculation of Estimated Splice Loss
- Adapters for 200/250, 900µm and 3mm fiber

SPECIFICATIONS:

Applicable Fibers	SM (G.652); MM (G.651); DS (G.653); NZDS (G.655); BIF (G.657); EDF
Fiber Cleaved Length	10mm
Cladding Diameter	80 to 150µm
Coating Diameter	100 to 1000µm
Fiber Count	Single
Fiber Aligning Method	Active Clad Alignment
Splice Loss (Typical)	0.02 dB (SM); 0.01 dB (MM); 0.04 dB (DS); 0.04 dB (NZDS & BIF)
Splicing Mode	60 Preset / User Definable Modes
Splice Time (Typical)	7 seconds (1)
Boot Time	5 seconds
Number of Splices Per Battery Charge	200 (including 60mm heat shrink cycle) (2)
Splice-On-Connector	SC, LC, FC, ST
Arc Calibration Mode	Automatic and Manual
Protection Sleeve Length	60mm, 40mm, Micro Sleeves
Ingress Protection	IP5X (Dust); IPX2 (Water) (3)
Storage Of Splice Results	5,000 Results, 100 screenshots
Drop Test	76cm on five axis

Vibration Resistance	10Hz to 500Hz with a spectral density of 0.03g2/Hz
Tension Test	2N
Fiber Display Magnification	200X
Tube Heating Mode	20 Preset / User Definable Modes Adjustable 0-240 seconds
Tube Heating Time (Typical)	18 seconds (4)
Attenuator Mode	0.1 to 15 dB
Electrode Life	5,000 Splices
Display	3.5" Color, Turn-Over LCD
Connectivity	USB
Operating Conditions	Pressure: 0 to 16,404 feet (0 to 5,000 meters) above Sea Level Wind Velocity up to 15m/s Humidity: 0 to 95%Temperature: -13 to 122°F (-25 to 50°C)
Storage Conditions	Temperature: -40 to 140°F (-40 to 60°C)
Power Supply	100 to 240V AC Adapter; Li-ion Battery (4400 mAh)
Weight	3.3lbs (1.5kg) with battery 2.6lbs (1.2kg) no battery
Dimensions (HxWxD)	4.9" x 4.9" x 5.3" (125 x 125 x 135mm)

(1) Fast mode. (2) 90s/cycle splice time and power save functions activated. Number of cycles may vary depending on battery status and ambient operating conditions.(3) Dust resistance and rain resistance test do not guarantee that the product will not be damaged under these conditions.
(4) Dependent on splice protector used and ambient conditions. Time quoted is with power mode enabled and assuming that the oven is not cold.

* Specifications subject to change without notice.

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52079876	915FS	915FS Optical Fusion Splicer
52079879	915FS-KIT1	915FS Fusion Splicer & Cleaver Kit
52079878	915FS-KIT2	915FS Contractor Fusion Splicer Kit
52063415	06811	915FS FSP200 Batt
52080896	07096	Power Supply, 915FS FSP200
52064141	01325	Splice-On-Connector Adapter (SC & LC)
52066481	02401	Splice-On-Connector Adapter (ST & FC)

PART NO.	CAT. NO.	DESCRIPTION
52063414	01329	Replacement Electrodes
52064143	01332	200/250µm Adapter (Pair)
52064142	01333	900µm Adapter (Pair)
52076996	05801	Loose Tube Adapter (Pair)
52081862	07388	Universal Adapter (Pair)
52067851	03245	3mm Adapter (Pair)
55500059	NA LC	North American Line cord
52066954	02571	European Line Cord
52066952	02570	UK Line Cord
52066930	02568	12 V DC Car Adapter

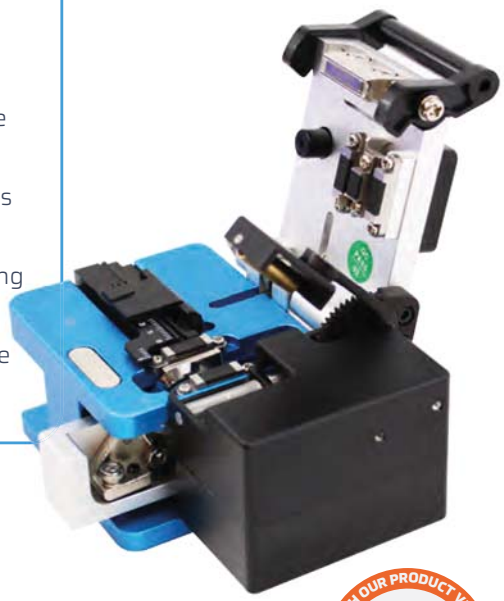
OPTICAL FIBER CLEAVERS

Tempo Communications has a full suite of fiber optic cleavers including the FCL200, FCL100, 915CL and the 920CL. The FCL200 is the most capable cleaver in that it employs auto fiber end cut and auto blade return features. The 915CL has auto blade return with the 920CL providing the most economical alternative in the traditional cleaving footprint. The FCL100 is a low cost cleaver that is typically used in emergency situations or when cleaving field fibers when used in conjunction with mechanical connectors.

FCL200 OPTICAL FIBER CLEAVER

FEATURES

- Accurate Cleaves. Cleave multi-mode and single-mode fiber optic cables.
- Long Life. Blades rotate for longer life - over 48,000 cleaves.
- Adaptable. Supports 200um, 250um, 900um fibers, ribbon and loose tube fibers.
- Fast. For use with the 910FS, 915FS or FSP200 Optical Fusion Splicers for maximum speed and efficiency with auto return mechanism.
- Dust bin. Safely and automatically collects end cuts during the cleaving process.
- Fixed Clamp. Allows the technician to use the FCL200 as a standalone cleaver.



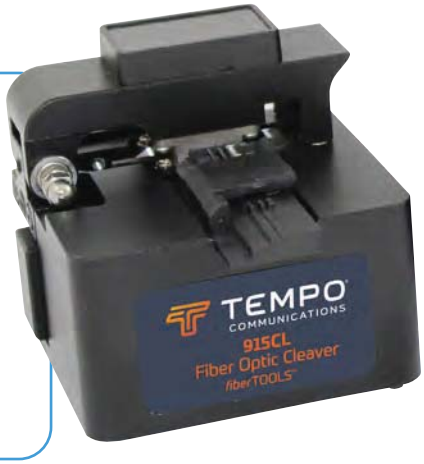
WATCH OUR PRODUCT VIDEO CLICK HERE

SPECIFICATION:

Applicable Fibers	SM (G.652); MM (G.651); DS (G.653); NZDS (G.655); BIF (G.657)
Fiber Cleaved Length	5mm to 25mm
Cladding Diameter	125µm
Coating Diameter	0.20mm, 0.25mm and 0.9mm
Fiber Count	Single and Ribbon (12)

Cleaving Angle	< 1.5°
Blade Rotation Positions	16
Blade Life	48,000 Cleaves
Weight	0.77lbs (350g)
Dimensions	2.55 x 3.85 x 2.55" (65 x 98 x 65mm)

915CL OPTICAL FIBER CLEAVER



FEATURES

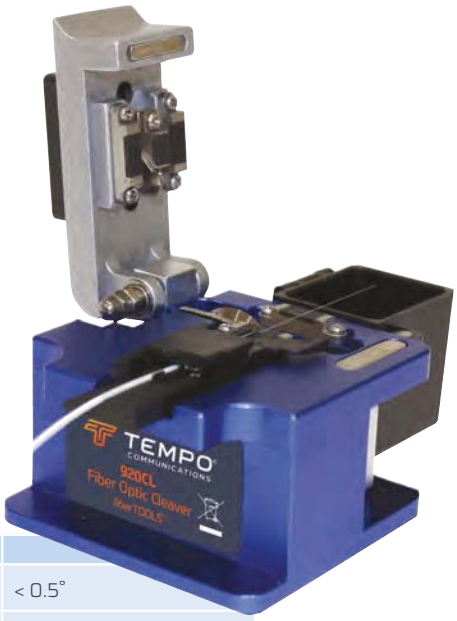
- 48,000 cleaves
- Auto return of blade mechanism for fast and easy cleaves
- Cleaves singlemode and multimode fibers
- Integrated dust bin
- Prepares fibers for use in the 910FS, FSP200 and 915FS fusion splicers
- Supports 200um, 250um, 900um fibers, and loose tube fibers.
- Fixed Clamp. Allows the technician to use the 915CL as a standalone cleaver.

SPECIFICATION:

Applicable Fibers	SM (G.652); MM (G.651); DS (G.653); NZDS (G.655); BIF (G.657)
Fiber Cleaved Length	10mm
Cladding Diameter	125µm
Coating Diameter	0.25mm and 0.9mm
Fiber Count	Single

Cleaving Angle	< 1.5˚
Blade Life	48,000 Cleaves
Weight	0.56lbs (255g)
Dimensions (HXWXD)	2.29 x 2.17 x 1.89" (58 x 55 x 48mm)

920CL OPTICAL FIBER CLEAVER



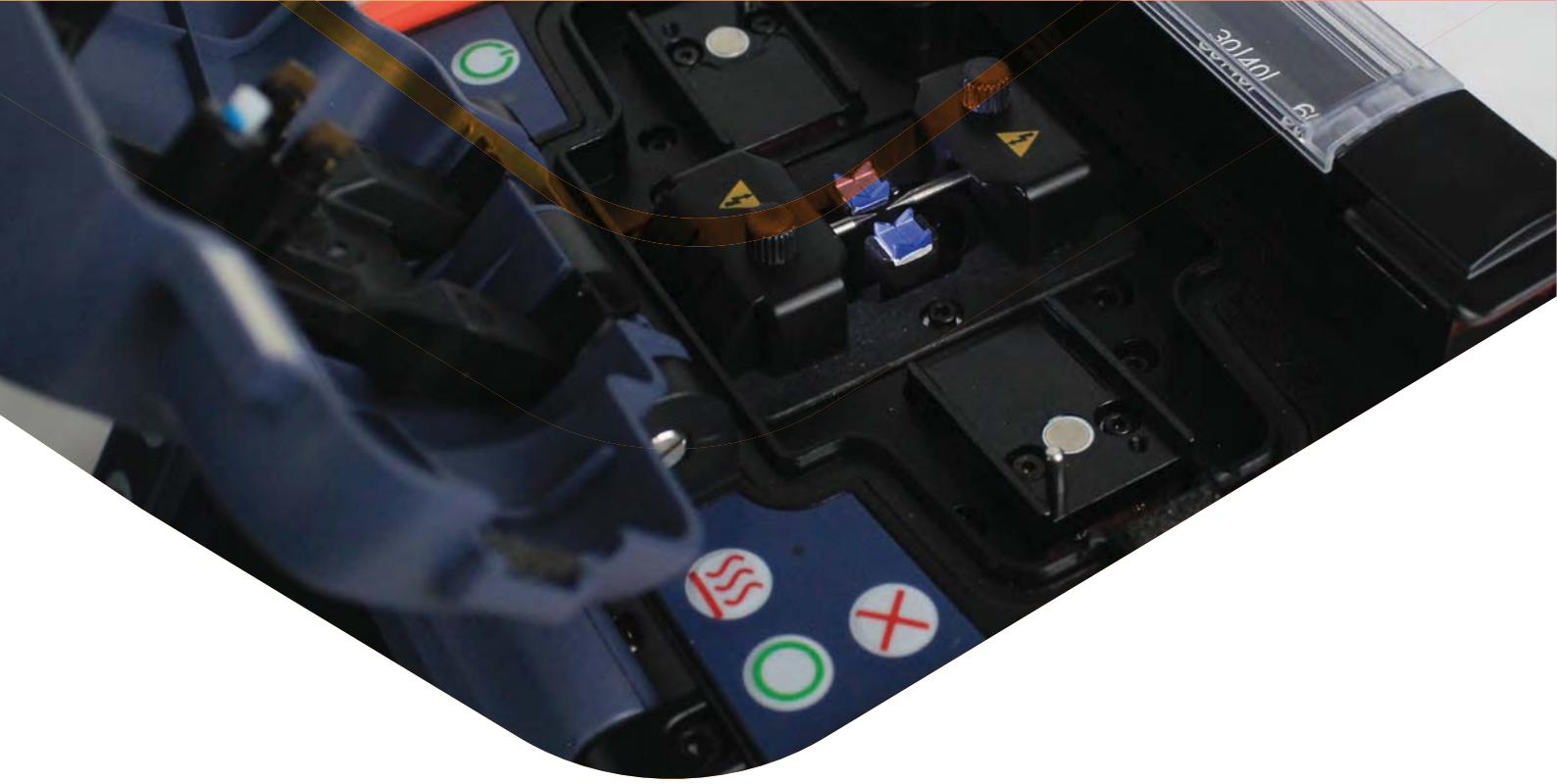
FEATURES

- 48,000 cleaves
- Cleaves single-mode and multi-mode fibers
- Integrated dust bin
- Prepares fibers for use in the 910FS, FSP200 and 915FS fusion splicers
- Supports 200um, 250um, 900um fibers, and loose tube fibers.
- Fixed Clamp. Allows the technician to use the 920CL as a standalone cleaver.

SPECIFICATION:

Fiber Type	SM (G.652); MM (G.651); DS (G.653); NZDS (G.655); BIF (G.657)
Fiber Cleave Length	5mm to 25mm
Cladding Diameter	125µm
Coating Diameter	0.20mm, 0.25mm and 0.9mm
Fiber Count	Single

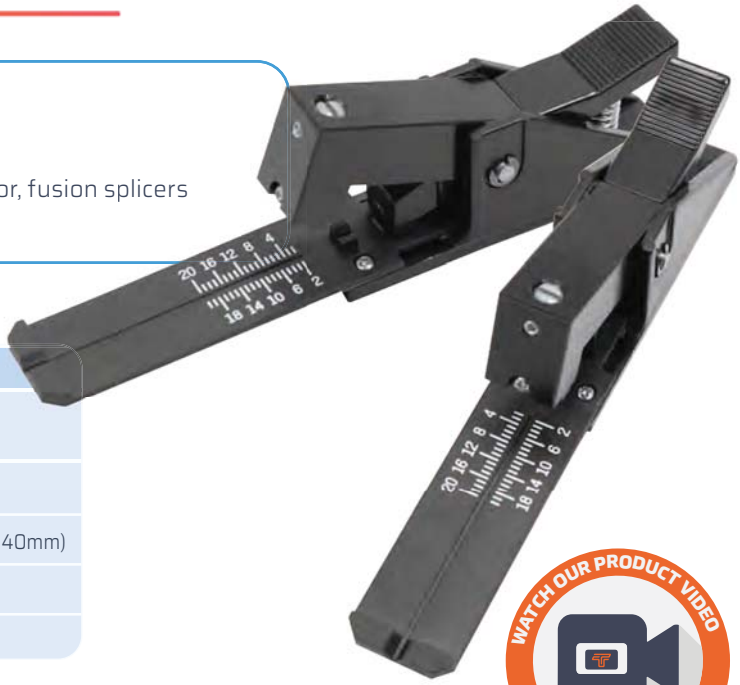
Cleaving Angle	< 0.5˚
Blade Life	48,000 Cleaves
Weight	0.68lbs (310g)
Dimensions	2.13 x 2.28 x 2.28" (54 x 58 x 58 mm)



FCL100 OPTICAL FIBER CLEAVER

FEATURES

- 200, 250 & 900 micron fibers
- Cleaves single-mode and multi-mode fibers
- Prepares fibers for use with mechanical connector, fusion splicers and bare fiber adapters



SPECIFICATION:

Applicable Fibers:	125 Micron Fiber (200/250/900)
Fiber Cleaved Length:	2.0mm to 20.0mm
Dimensions:	4.88" x 0.79" x 1.57" (124mm x 20mm x 40mm)
Weight:	0.13lbs (60g)
Operating:	Spring Activated

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500055	FCL200	FCL200 Optical Fiber Cleaver
52078354	915CL	915CL Optical Fiber Cleaver
52082727	920CL	Fiber Optic Cleaver
52087221	FCL100	Field Cleaver
52064143	01332	200/250µm Adapter (PAIR)
52064142	01333	Adapter, 900µm (PAIR)
52076996	05801	Adapter, Loose Tube (PAIR)

PART NO.	CAT. NO.	DESCRIPTION
52078357	07111	Fixed Clamp with Screw
52086838	04268	Replacement Screw for Fixed Clamp
52064145	01640	Cleaving Wheel
55500194	BLD-01	FCL100 Blade
55500196	SPR-01	FCL100 Spring

MAINTENANCE
OF FSP200, 915FS, FCL200, 915CL AND 920CL

- Turn off splicer.
- Use lint free swabs.
- Do not touch the electrodes.
- Never use compressed air.
- Use the cleaning brush only to clean debris from general working area, never on the lenses, V-grooves or mirrors.

V-GROOVES (RECOMMENDED DAILY). SEE FIGURE 1.

Clean the bottom of the V-groove using 99% pure isopropyl alcohol and a lint free swab.

Fiber Clamps (Recommended Daily)

If contaminants are present on the clamps, proper clamping may not occur resulting in poor quality splices. The fiber clamps should be frequently inspected and periodically cleaned during normal operation. To clean the fiber clamps do the following:

- Clean the surface of the clamps with 99% pure isopropyl alcohol and a lint free swab.

WIND PROTECTOR MIRRORS (RECOMMENDED DAILY ON 910FS). SEE FIGURE 2.

If the wind protector mirrors become dirty, the fiber core position may be incorrect due to decreased optical path clarity, resulting in higher splice loss. To clean the mirror's, do the following:

i. Clean the mirror surface using 99% pure isopropyl alcohol and a lint free swab.
ii. Mirror should look clean with no streaks or smudges.

OBJECTIVE LENSES (RECOMMENDED WEEKLY). SEE FIGURE 3.

If the objective lens' surface becomes dirty, normal observation of the core position may be incorrect, resulting in higher splice loss or poor splicer operation. Therefore, clean both of them at regular intervals. Otherwise, dirt may accumulate and become impossible to remove.

To clean the objective lenses do the following:

i. Before cleaning the objective lenses, always turn off the splicer.
ii. Gently clean the lenses' (X-axis and Y-axis) surface with a dry lint free swab. Using the swab, start at the centre of the lens and move the swab in a circular motion until you spiral out to the edge of the lens surface.
iii. The lens surface should be clean and free of streaks or smudges.
iv. Turn on the power and make sure no smudges or streaks are visible on the monitor screen. Press X/Y key to change the screen and check the state of the lens surface on both the X- and Y-screens.

NOTE:

Do not touch the electrodes when cleaning.

It is recommended to clean the objective lenses when replacing the electrodes.

General Fusion Splicer Cleaning (Recommended Daily)

Use the cleaning brush only to clean debris from general working area, never on the lenses, V-grooves or mirrors.

Periodically clean the fiber adapters with 99% isopropyl alcohol and a lint free swab. Never touch the fiber clamping area of the fiber adapters.

GENERAL FUSION SPLICER CLEANING (RECOMMENDED DAILY)

Use the cleaning brush only to clean debris from general working area, never on the lenses, V-grooves or mirrors. Periodically clean the fiber adapters with 99% isopropyl alcohol and a lint free swab.
Never touch the fiber clamping area of the fiber adapters.

CLEANING FIBER CLEAVER (RECOMMENDED DAILY)

If the circular blade or clamp pads of the fiber cleaver become contaminated, the cleaving quality could degrade. This may lead to fiber surface or end-face contamination, resulting in higher splice loss.Clean the edge of the circular cleaving blade and clamp pads with a lint free swab using 99% pure isopropyl alcohol.

FIGURE 1

Clean V-Groove daily

FIGURE 2

Mirror cleaning in lid

FIGURE 3

Objective Lens

*The above procedures are also recommended for the 910FS and 910CL