



90R

MASS FUSION SPLICER

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Building network backbones has never been faster, simpler, or more reliable.



- Class-leading 12 and 16-fibre ribbon splicing technology
- Splices single-fibres, standard encapsulated ribbons, & SpiderWeb Ribbon® fibres
- User replaceable V-grooves
- Fujikura Active Blade Management Technology

The 90R is a mass fusion splicer capable of splicing up to 16-fibre ribbons. The 90R series is the first of its kind with an innovative user replaceable V-groove assembly which can be quickly and easily fitted in the field to minimise downtime and maximise productivity.

In previous mass fusion splicer models, the V-grooves could become dirty over time because they accumulated debris and glass deposits from splicing. That splicing debris could lead to fibre offsets and high losses if the V-grooves weren't regularly cleaned, which added to the overall process time, so along with providing application versatility, our replaceable V-grooves make cleanliness issues a thing of the past. Spare replaceable V-grooves are supplied as standard items in the 90R kit.

The 90R's overall working time has been significantly reduced compared to our previous mass fusion splicer. This is achieved through a combination of improvements, with special attention paid to the reaction times of the automated wind protector and automated heater - ribbon splicer automation only found on a Fujikura machine. The 5-inch colour LCD adjustable touch screen and Active Blade Management Technology (which can simultaneously connect to two CT50 cleavers) boost convenience even more.





Mass fusion technology

The 90R series is suitable for 4, 12 and 16-fibre ribbon, while also being capable of splicing encapsulated ribbon and single-fibres. The wide electrode gap melts the fibre uniformly and because the 90R analyses the arc's brightness and intensity, it delivers real-time arc discharge control for optimal fusion. The final stage of the splice process benefits from a wide heating area, which gives you quick and easy heating for high fibre count splices. The fast, automated heater works in partnership with the automated wind protector to deliver a reduction in overall working time.

Features

Automatic wind protector

The 90R's improved automatic wind protector design reduces overall splice time and can also be used manually according to user preference.

Application versatility

An extensive range of fibre holders means the 90R can handle a range of different applications. Because the fibre holders are compatible with single-fibres, standard encapsulated ribbons and SpiderWeb Ribbons®, you can avoid cleanliness issues.

A battery you can trust

The 90R is powered by a high-capacity lithium-ion battery which provides up to 165 12-fibre splices and heat shrinks.

Pitch conversion system

The 90R can accommodate 200µm fibres (VG12-01-200 V-groove) and 250µm fibres (using the standard VG12-01 V-groove) and allows users to splice any combination of the two. The pitch converter system enables splicing of 200µm and 250µm single-fibres. FH-7012PC pitch converter fibre holder lets you convert 200µm pitch fibres to 250µm.



Carrying case and work tray

The 90R comes with a redesigned, larger capacity carry case and multifunctional work tray. The 90R is ready to use just by opening the case, but it is also possible to use it on top of the carrying case or just with the work tray. The work tray's two storage drawers make it easy to stay organised and efficient, and the drawers are large enough to store tools or batteries.

RS03 stripping condition control



To save time by smoothing workflow, when a 90R user changes the splice mode (e.g. from 12-fibre ribbon splice mode to SpiderWeb Ribbon® splice), the RS03 ribbon stripper automatically adjusts its heating temperature and time with a wireless command from the splicer.

Every splice optimised

ACTIVE FUSION
CONTROL TECHNOLOGY



The 90R analyses both cleave end faces and applies optimal fusion control to deliver a significant reduction in splice loss and less chance of having to rework splices. It also uses real-time fusion parameter control by analysing the fibre brightness intensity during splicing - contributing to stable, low-loss splice results.



ACTIVE BLADE
MANAGEMENT TECHNOLOGY

The 90R and CT50 fibre cleaver are equipped with wireless data connectivity. This capability provides automatic cleaver blade rotation when the 90R judges that the blade is worn. The 90R displays the remaining blade life and informs the user when a blade height change, blade position change, or new blade is required. The 90R can simultaneously connect to two CT50 cleavers.

SPECIFICATION

FIBRE ALIGNMENT METHOD	Cladding alignment
SPLICEABLE FIBRE COUNT	12 and 16-fibre ribbon
FIBRE TYPE	Single-mode and multi-mode optical fibre
CLADDING DIAMETER	Approx. 125µm
APPLICABLE COATING SHAPE	Refer to options
APPLICABLE COATING CLEAVE LENGTH	10mm
ITU-T G.652 SPLICE LOSS ¹	Avg. 0.05dB
ITU-T G.651 SPLICE LOSS ¹	Avg. 0.02dB
ITU-T G.653 SPLICE LOSS ¹	Avg. 0.08dB
ITU-T G.655 SPLICE LOSS ¹	Avg. 0.08dB
ITU-T G.657 SPLICE LOSS ¹	Avg. 0.05dB
SM FAST MODE SPLICE TIME ²	Avg. 14 to 15 seconds
AUTO MODE SPLICE TIME ²	Avg. 19 to 20 seconds
PROTECTION SLEEVE TYPE	Heat-shrinkable sleeve
SLEEVE LENGTH	Max. 66mm
SLEEVE DIAMETER	Max. 6mm before shrinking
40MM FP-05 MODE HEAT TIME ³	Avg. 36 to 40 seconds
40MM FP-04 MODE HEAT TIME ³	Avg. 17 to 19 seconds
SINGLE 40MM MODE HEAT TIME ³	Avg. 14 to 16 seconds
SINGLE 60MM MODE HEAT TIME ³	Avg. 13 to 15 seconds
FIBRE TENSILE TEST FORCE	Approx. 2.0N
ELECTRODE LIFE ⁴	Approx. 1,500 splices
WIDTH	Approx. 170mm without projection
DEPTH	Approx. 173mm without projection
HEIGHT	Approx. 150mm without projection
WEIGHT	Approx. 2.6kg including battery
OPERATING TEMPERATURE	-10 to 50°C
STORAGE TEMPERATURE	-40 to 80°C
OPERATING HUMIDITY	0 to 95% RH non-condensing
OPERATING ALTITUDE	Max. 3700m
AC ADAPTOR INPUT	AC100 to 240V, 50/60Hz, Max. 1.5A
BATTERY TYPE	Rechargeable lithium-ion
BATTERY OUTPUT	Approx. DC14.4V, 6,380mAh
BATTERY CAPACITY ⁵	Approx. 164 splice and heat cycles
BATTERY RECHARGE TEMPERATURE RANGE	0 to 30°C
BATTERY STORAGE TEMPERATURE	-20 to 30°C
BATTERY LIFE ⁶	Approx. 500 recharge cycles
LCD DISPLAY	4.9-inch colour TFT touch screen
DISPLAY MAGNIFICATION	Approx. 20X (12 ribbon) to 60X (single)
V-GROOVE ILLUMINATION	LED lamp
PC INTERFACE	USB 2.0 Mini B connector
EXTERNAL LED LAMP INTERFACE	USB 2.0 A connector Approx. DC5V, 500mA
RIBBON STRIPPER INTERFACE	Mini DIN 6 pin DC12V, Max. 1A
WIRELESS CONNECTIVITY ⁷	Bluetooth® 4.1 LE
SPLICE MODE DATA STORAGE	100 splice modes
HEAT MODE DATA STORAGE	30 heat modes
SPLICE RESULT DATA STORAGE	10,000 splices
SPLICE IMAGE DATA STORAGE	100 images
TRIPOD SCREW HOLE	1/4-20UNC

¹ Measured with a cut-back method relevant to ITU-T and IEC standard after splicing Fujikura identical fibres. The average splice loss changes depending on the environmental condition and fibre characteristics.

² Measured at room temperature. The definition of splice time is from the fibre image appearing on LCD monitor to the estimated loss displayed. The average splice time changes depending on the environmental conditions, fibre type, and fibre characteristics.

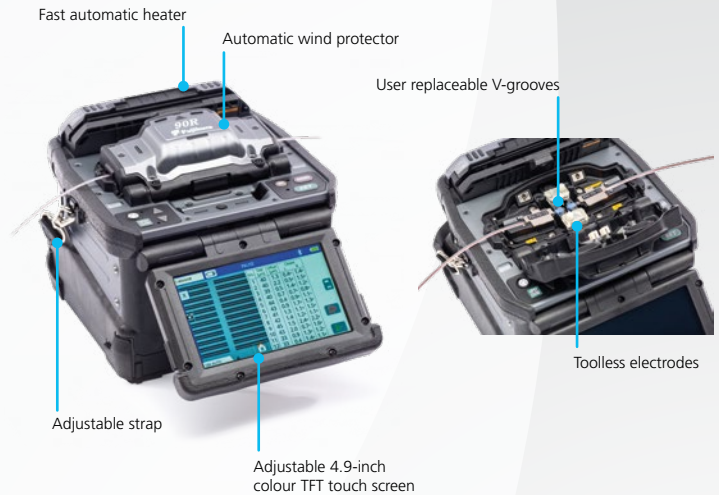
³ Measured at room temperature with the AC adaptor. The heat time is defined from the start beep sound to the finish beep sound. The average heat time changes depending on the environmental conditions, sleeve type and battery pack condition.

⁴ The electrode life changes depending on the environmental conditions, fibre type and splice modes.

⁵ Test condition [1] Splice and heat time: 1 minute cycle. [2] Using the splicer power save settings. [3] Using a healthy battery. [4] At room temperature. The battery capacity changes when testing with different conditions from the above.

⁶ 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.

⁷ Bluetooth® mark and logos are the registered trademarks of Bluetooth SIG, Inc.



Splice+ app

Splice+ allows you to edit device settings, update firmware, access tutorials, record splice locations via GPS and automatically upload splice results to Google Drive.

IN THE BOX

ITEM	PART NUMBER
MASS FUSION SPLICER	90R12/16
BATTERY	BTR-15
AC ADAPTOR	ADC-20
AC POWER CABLE	ACC-14, 15, 16, 17 or 18
USB CABLE	USB-01
FUSION SPLICER STRAP	ST-02
SPARE ELECTRODES	ELCT2-16B
SPARE 12-FIBRE V-GROOVE	VGX12-01, 250 to 255µm spacing
CARRY CASE	CC-39
WORK TRAY LEFT	WT-09L
WORK TRAY RIGHT	WT-09R
WORK TRAY J-PLATE	JP-09
TRIPOD SCREW	TS-03
CARRY CASE STRAP	ST-03
ALCOHOL DISPENSER	AP-02
QUICK REFERENCE GUIDE	QRG-03-E
RIBBON FIBRE STRIPPER	RS03
FIBRE STRIPPER	SS03 OR SS01
FIBRE CLEAVER	CT50



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