

The Latest Product Lineup of Optical Fiber Fusion Splicers

1. INTRODUCTION

Furukawa Electric offers a variety of optical fiber fusion splicers and preparation tools suitable for various applications ranging from installation work of optical communication systems to manufacturing of optical components. The latest lineup of these products will be presented in this article.



Figure 1 S122-series fusion splicers.

Table 1 Specifications of S122 fusion splicer.

Item	Description
Fiber type	SMF, MMF, DSF, NZDSF
Applicable fiber	<ul style="list-style-type: none"> • S122 A: Single only • S122 M4: Single to 4-fiber ribbon • S122 M8: Single to 8-fiber ribbon • S122 M12: Single to 12-fiber ribbon
Average splice loss*	<ul style="list-style-type: none"> • SMF 0.05 dB • MMF 0.03 dB • DSF 0.08 dB • NZDSF 0.08 dB
Splice time	13 sec. for single SMF 15 sec. for fiber ribbon
Heat time	45 sec. for 40-mm sleeve
Dimensions	<ul style="list-style-type: none"> • S122 A/M4: 140 W×189 D×73H mm • S122 M8/M12: 140 W×189 D×86H mm
Mass	<ul style="list-style-type: none"> • S122 A/M4: 800 g (body), 170 g (battery) • S122 M8/M12: 960 g (body), 170 g (battery)

Note for Tables 1 through 3:

* Testing done in a laboratory environment with similar fibers. Not guaranteed results.

2. PRODUCTS PRESENTATION

2.1 Hand-Held Mass Fusion Splicer “S122”

The S122 series is an ultra-compact fusion splicer with super low-profiled body, which offers superb workability and portability. The splicer allows for high-speed and high-precision splicing simply by setting fibers using an exclusive fiber holder. Four models can be selected in accordance with the applicable fiber count.

2.2 Core-Alignment Fusion Splicer “S177”

The S177 series fusion splicer is exclusively for single fibers, where optical fibers are aligned through direct core monitoring, achieving low-loss splices. The S177 offers high-speed, high-reliability, low-loss splicing of various optical fibers including specialty fibers such as erbium-doped fiber (EDF) used in manufacturing optical compo-



Figure 2 S177 fusion splicer.

Table 2 Specifications of S177 fusion splicer.

Item	Description
Fiber type	SMF, MMF, DSF, NZDSF, EDF, etc
Average splice loss*	<ul style="list-style-type: none"> • SMF 0.02 dB • MMF 0.01 dB • DSF 0.04 dB • NZDSF 0.03 dB
Splice time	9 sec.
Heat time	37 sec. for 40-mm sleeve
Dimensions	130 W×260 D×137 H mm
Mass	2,200 g (body with battery)

nents and equipment, as well as ordinary fibers for CATV and FTTH.

2.3 Advanced Fusion Splicer “S183PM”

The S183PM is a highly functional high-end fusion splicer of high-performance, which is designed using every feedback of requirements from the R&D fields and production lines of optical components and devices. It can be used to splice optical fibers of different sizes such as small diameter fibers (80 μm in cladding diameter) and large diameter fibers (200 μm in cladding diameter), as well as polarization maintaining fibers, EDFs and high-delta fibers. Moreover, high-strength splicing (25 N on average) is possible using exclusive tools.

2.4 Thermal Stripper “S218R”

The S218R hot-stripping tool removes the coating of single fibers and ribbon fibers through heating and softening. It runs on an AC power supply using an AC adaptor, or, where an AC power supply is not available, on a built-in battery providing cordless access.

2.5 One-Action Precision Cleaver “S325A”

The S325A cleaver is used for cleaving fibers to the specified cleave lengths, after coating is removed to proceed to splicing. A series of operations including scratching, cleaving the fiber, waste fiber collection and reset is made automatically at the push of a button.



Figure 3 S183PM fusion splicer.

Table 3 Specifications of S183PM fusion splicer.

Item	Description
Fiber type	SMF, MMF, DSF, NZDSF, CSF, DCF, EDF, PMF, etc
Average splice loss*	<ul style="list-style-type: none"> • SMF 0.02 dB • DSF 0.04 dB • PMF 0.05 dB
Typical extinction ratio*	• PANDA 40 dB
Splice time	20 sec. for SMF 42 sec. for PMF with cladding clamping
Heat time	90 sec. for 60-mm sleeve
Dimensions	350 W×197 D×154 H mm
Mass	8,700 g

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Figure 4 S218R hot stripper.

Table 4 Specifications of S218R hot stripper.

Item	Description
Fiber type	Single to 12-fiber ribbons
Coating diameter	<ul style="list-style-type: none"> • 0.25 mm to 0.4 mm for Single fiber • 0.3 mm to 0.4 mm thickness for ribbons
Battery running time	Approximately 10 hrs. (Normal mode)
Charge time	Approximately 2.5 hrs. (in off position)
Dimensions	125 W×48 D×41 H mm
Mass	260 g (body with battery)



Figure 5 S325A cleaver.

Table 5 Specifications of S325A cleaver.

Item	Description
Fiber type	Single to 12-fiber ribbons
Dimensions	93 W×68 D×52 H mm
Mass	330 g