

3SAE LDS

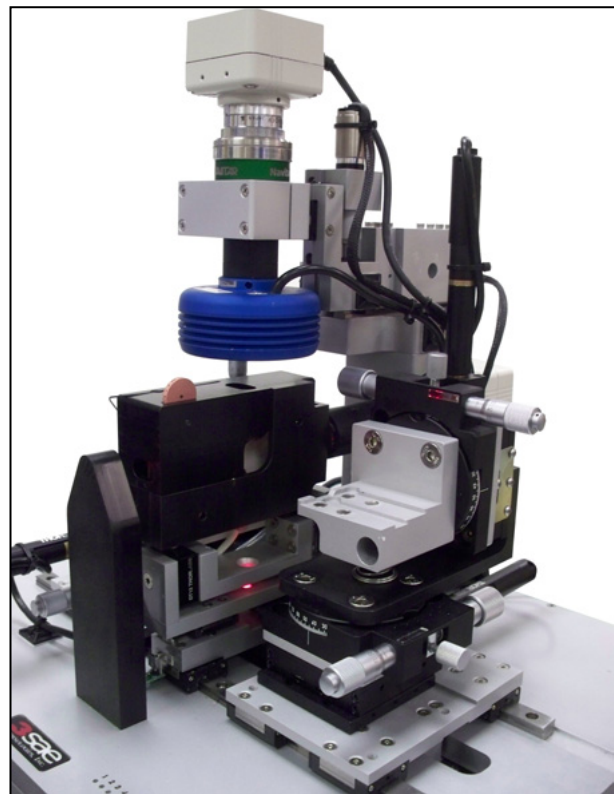
Large Diameter Splicing System

The LDS Large Diameter System is a flexible platform for handling, splicing and tapering of LD-fibers. The patented Ring Of Fire system allows for heating and handling of fibers from 80 μ m to 2500 μ m. High precision mechanics and a piezo driven z-stage for the final overlap enables a superior splicing quality.

The highly sophisticated image processing software allows for unmatched accuracy in aligning not only the position but also the relative pitch, yaw, and (optionally) rotation of each fiber for truly perfect alignment.

FEATURES

- Ring Of Fire arcing unit capable of splicing up to 2.5mm
- Alignment of X/Y/Z and theta on both sides
- Alignment of pitch & yaw on right side
- "Open" labview based software with splicing and analysis modules
- Accessory kit including 250 μ m, 400 μ m and 1000 μ m holders



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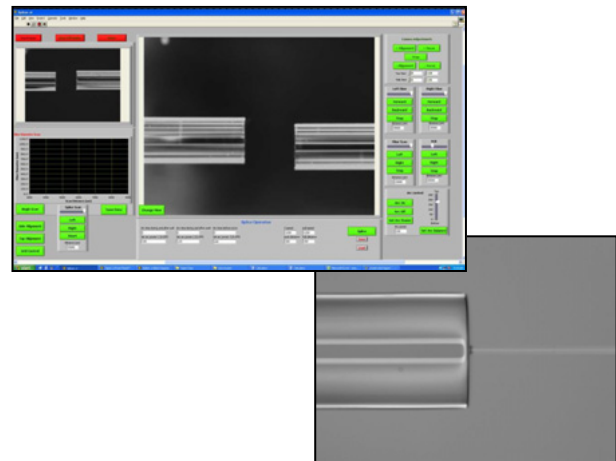
Features

LD splicing

The splicing function can align on the cladding or core depending on the fiber.

The splicing module in the PC-software allows for precise alignment in x/y as well as Pitch and Yaw.

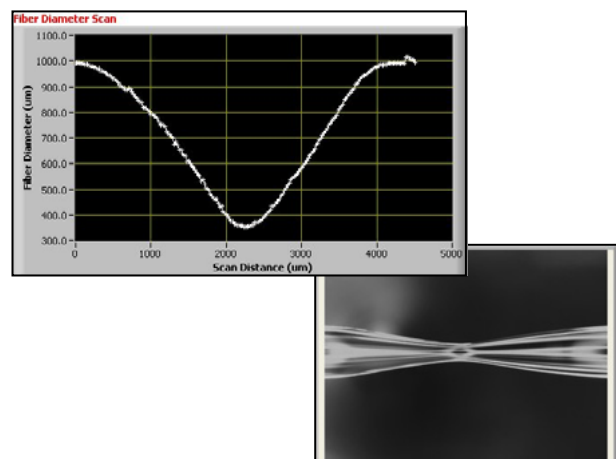
A low angle offset is especially important for mode coupling of low NA fibers.



Tapering

The advanced tapering function uses individual control of both z-motors allowing precise movement of the taper region. The “pulling” motor can be separately accelerated with extreme precision by use of an automatic feedback system (load cell).

A sophisticated PC-software allows for a unique and precise post taper edge tracing function.



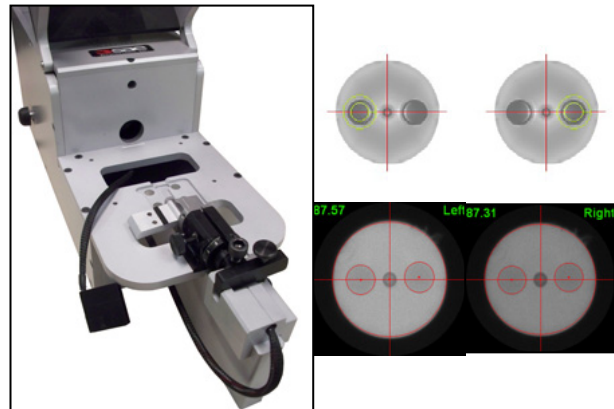
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Features

LD Theta-alignment

The end face station combined with the PC-software allows for a 2-step theta alignment of many different fibers as octagonal shaped fiber or just a regular panda PM-fiber.

The fibers are roughly aligned in the end face station and angle data is stored by the PC-software. The final alignment is performed in the LDS station with the data received by the alignment station.



TECHNICAL SPECIFICATIONS

Supported Fiber Diameters:		125 – 2500 μ m cladding
Alignment X/Y:	Left side Right side	Manual with 12mm stroke and 5 μ m resolution Automatic with 12mm stroke and 0.1 μ m resolution
Alignment Z:	Both sides	Automatic with 30mm stroke and 1.4 μ m resolution Upgradeable to 90mm stroke
Pitch & Yaw:	Right side	Manual with 5 degree range and 0.083 degree resolution
Load cell for tapers:		Right side with 10000 gram maximum load (2000 usable) and 0.5 gram resolution
ROF Output:		Heating of 125 – 2500 μ cladding
ROF translation:		30mm stroke with 6 μ m resolution
Viewing:		X/Y video microscopes with 1600 x 1200 resolution and telecentric lenses of 85x magnification
Piezo control (optional):		Left side 150 μ m stroke with 0.50 μ m resolution
Alignment Theta (optional):		360 degree rotation and 2 degree resolution by use of End Face Inspection Station 5 degree rotation and 0.167 resolution by use of stepper motor in the system
PC software:		Splicer module with automatic x/y alignment Taper module with individual control of z-motors and programmable acceleration of the pulling motor End face inspection for theta alignment of PM-fibers or irregular shaped claddings