

ProCleave™ HS-MP

ELECTRONIC FIBER CLEAVER WITH MICRO POSITIONER



ProCleave HS-MP is an advanced electronic fiber cleaver designed for the fabrication of in-line optical fiber lens systems with micrometer-level precision in element length. These lens systems are typically produced by splicing graded-index multimode (GRIN) fiber to single-mode fiber (SMF), with a coreless fiber (CLF) segment used to control focal length and spot size. Typical applications include ultra-small probes, high-power beam delivery, and efficient coupling between single-mode fibers.

The ProCleave HS-MP handles fiber diameters from 80 to 250 μm and is specifically designed for both R&D environments and automated production. Using the built-in micro-positioner, the operator can set the individual cleave length of each lens segment with micrometer precision. A high-resolution digital linear scale measures the exact position of the fiber holder immediately before cleaving, enabling fine-tuning of each fiber stub length. After each cleave, a new fiber segment can be spliced on to form a continuous sequence of optical elements. Settings for up to five different lens segments can be programmed, supporting a semi-automated, software-guided production process.

To ensure optimal cleave quality and repeatability, the ProCleave HS-MP utilizes advanced ultrasonic diamond scribe technology. The system produces very flat end faces, low cleave angles (typically $< 0.5^\circ$), and minimal blade intrusion. A user-friendly clamping mechanism is designed for both ease of handling and high process speed. The unit can be powered either by an external power supply or the built-in rechargeable battery. The ProCleave HS-MP is used together with fiber holders* from fusion splicers and can be adapted for all major splicer brands.

* Fiber holder not included in the delivery kit.

Key Features

- Micro positioner with differential adjustment function
- High resolution linear scale
- Up to 5 lens segment settings
- Semi-automated SW guided production process
- Electronic cleave process for optimal cleave quality and repeatability
- Designed for fiber cladding diameters from 80 to 250 μm
- Low cleave angles with very flat end faces, typical $< 0.5^\circ$ (125 μm , SMF28)
- Can be powered with battery or external power supply
- Delivered with platform that support Fujikura, Fitel and 3SAE fiber holders



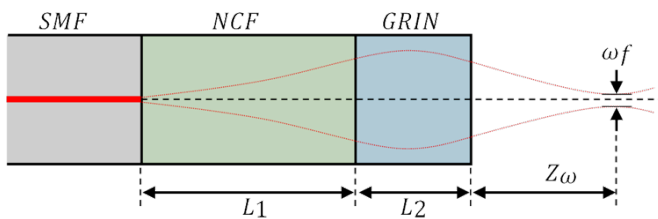
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Technical Specifications	
Dimensions:	150(W) x 94(D) x 47(H) mm 150(W) x 107(D) x 51(H) mm (incl. lever and rubber feet)
Supported fiber cladding:	80 – 250* μm
Cleave angles:	Typical $< 0.5^\circ$ (125 μm , SMF28)
Cleave length adjustment range:	10 mm
Micro positioner fine adjustment:	25 μm per revolution
Weight:	0.91 Kg
Power Source:	Built-in rechargeable Li-Ion battery or external power supply (100 - 240 V AC, 50/60 Hz)
Supported fiber	Depending on fiber holder
* Fiber cladding diameters from $\sim 180 - 250 \mu\text{m}$ may require special fiber holders.	

Product	Part #	Qty
NorthLab ProCleave™ HS-MP	CL-03-04000	
Standard Package		
Power Supply + Cord EU/US	CL-90-90005	1
Tool Kit	CL-03-01001	1
USB 2.0 Cable	N/A	1
MP interface cable with QSB-D to USB adapter	N/A	1
User's Manual & PC Software (USB-stick)	N/A	1
Optional Components		
Spare Diamond Blade	CL-90-90001	



Typical Two Segment Lens System



ProCleave HS-MP micro positioner

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ProCleave Control - KAA924H <<< MANUFACTURER MODE >>>

SEQ #2 - Done

Done

< [] > SET

+82.5 μm

Restart

Cleave

Relative Mirror

#	SET	Fiber Type	Length Δ	Length Σ	=>	Tension	Position	Cleave Δ	Cleave Σ	Error	Tolerance
0	P2	Hi1060 (SMF)				220	-1.0	0.0	0.0		
1	P3	FG125LA (NCF)	355.0	355.0		230	354.0	355.0	355.0	0.0	PASS
2	P4	GIF650 (GRIN)	82.5	437.5		220	437.5	83.5	438.5	1.0	PASS

Reset

Operation Sequence Settings Advanced 1 Advanced 2 Counters Configuration Reports Service Logging About

Cleave tension = 220 g @ 1.62 s

Intuitive SW interface guides the operator step-by-step through multi-cleave sequences

ProCleave Control - KAA924H <<< MANUFACTURER MODE >>>

Ready (P2)

< P2: Hi1060 (SMF) > SET

Sequence: #0

Program: P2

Description: SMF-NCF-GRIN assembly (WD=630um, FWHM=11um) X

Sequence:	#1	#2	#3	#4	#5
Program:	P3	P4			
Stub (Δ):	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Length:	Δ 355.0	Δ 82.5			
Tolerance:	\pm 1.0	\pm 1.0			
Guidance:	Guide To Value				

Default

Operation Sequence Settings Advanced 1 Advanced 2 Counters Configuration Reports Service Logging About

Up to 5 individually defined lens system segments

Information is subject to change without notice. Last update: 2026-03-10.