

**ENHANCED  
PERFORMANCE**

Swiss LaserClast®

**SWISS LASERCLAST®**

**EMS** 



# SWISS LASERCLAST®

## 20W VERSATILE HOLMIUM:YAG LASER, OPTIMUM ENERGY AND PULSE DURATION

- EFFECTIVE STONE AND SOFT-TISSUE TREATMENTS
- OPTIMUM DUSTING & FRAGMENTATION THROUGH SMALL DIAMETER FIBERS
- A WIDE DYNAMIC POWER RANGE
- HIGH MAXIMUM PULSE ENERGY (3.5 J) AND PULSE FREQUENCY (20 Hz)
- A BROAD RANGE OF EMS SMARTFIBERS

**A SWISS QUALITY PRODUCT  
MEETING THE HIGHEST  
ENDOUROLOGY REQUIREMENTS**

# MAKE THE DIFFERENCE → SHORT OR LONG PULSES

## SAFE OPERATION AND APPLICATION →

- > Optimum pulse length selection adapting to specific stone and tissue treatment requirements
- > Predefined energy / frequency parameters for simple and optimized laser settings
- > Enhanced procedure and safety system assured with automatic maximum power setting and fiber reuse cycle supervision when using the original EMS SmartFibers
- > Use of EMS SmartFibers avoids fiber overuse and related loss of laser performance or system damage. Also prevents operator errors

## EASE OF TRANSPORT AND INSTALLATION →

- > Connects to standard electrical power outlet 100 - 240 VAC, 16 A
- > Integrated water / air cooling circuit – no external water connection required
- > Low weight and compact size
- > Can be combined with Swiss LithoClast® systems and integrated into the All-In-One cart to form a universal stone treatment station
- > Compact size allows integration in an endoscopy tower and saves OR space

## INTEGRATED EASY-TO-CHANGE BLAST SHIELD →

- > Blast shield protection of the optical laser system minimizes laser damage and avoids costly repair
- > EMS design allows the blast shield to be changed by the user thus minimizing maintenance costs
- > Comprehensive user guidance through graphical user interface touch screen



- > Trapdoor enables the end-user to replace the blast shield



# HOLMIUM:YAG BENEFITS →

## SAFE

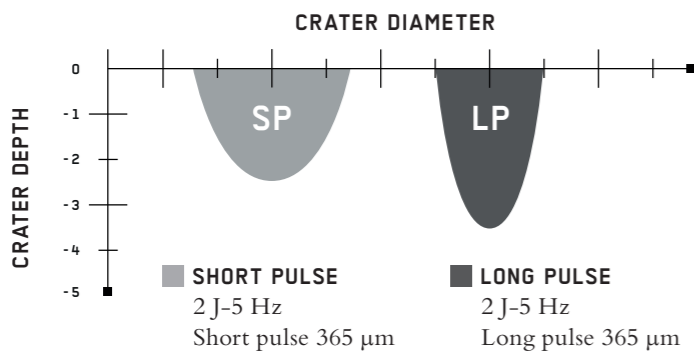
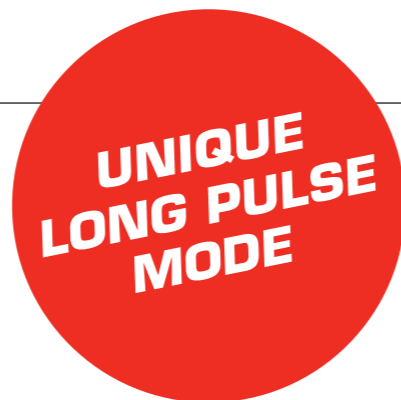
- > Ho:YAG laser emits light at 2.1 μm, which is highly absorbed by water and by biological tissue
- > Depth of penetration is less than 0.5 mm, providing safe tissue ablation
- > Only the target directly in front of the fiber tip interacts with laser radiation

## EFFICIENT

- > 20 W Ho:YAG laser can effectively fragment stones regardless of their size, location or chemical composition

## COST EFFECTIVE

- > Limiting power to 20 W allows very compact housing with limited heating, hence reducing power consumption, noise and cost



SOURCE: Sroka Ronald et al., Investigation on the impact of pulse duration for laser induced lithotripsy - Proc. SPIE 8926, March 4, 2014

## SHORT PULSES →

- > Powerful fragmentation
- > For larger hard stones
- > Fastest fragmentation effect

## LONG PULSES →

- > Fine fragmentation or dusting
- > Minimized retropulsion
- > No need for baskets
- > Less cladding burn back on fiber
- > Hemostasis and tissue incision

# EMS SMARTFIBERS POWER →

## ENHANCED SWISS LASERCLAST® PERFORMANCE →

- > Optimum dusting and fragmentation through small diameter fibers: up to 20 W and 20 Hz
- > Full deflection of flexible ureteroscope: increased irrigation and visibility
- > Highest performance and life-time thanks to automatic settings and tracking

## EXCELLENT PERFORMANCE AS WELL AS HIGHLY BIOCOMPATIBLE CORE CLADDING AND JACKET MATERIALS →

- > Automatic recognition of the optical fiber for correct setting of maximum energy, avoiding any damage to fibers and devices
- > Automatic tracking of number of reuses facilitates life cycle management by OR staff and avoids performance loss and potential laser damage



- > 200 μm SmartFibers enables a full 270° deflection of the flexible ureteroscope

**INNOVATIVE TECHNOLOGY**

# A SOLUTION FOR ALL STONES →

## LARGE STONE REMOVAL →

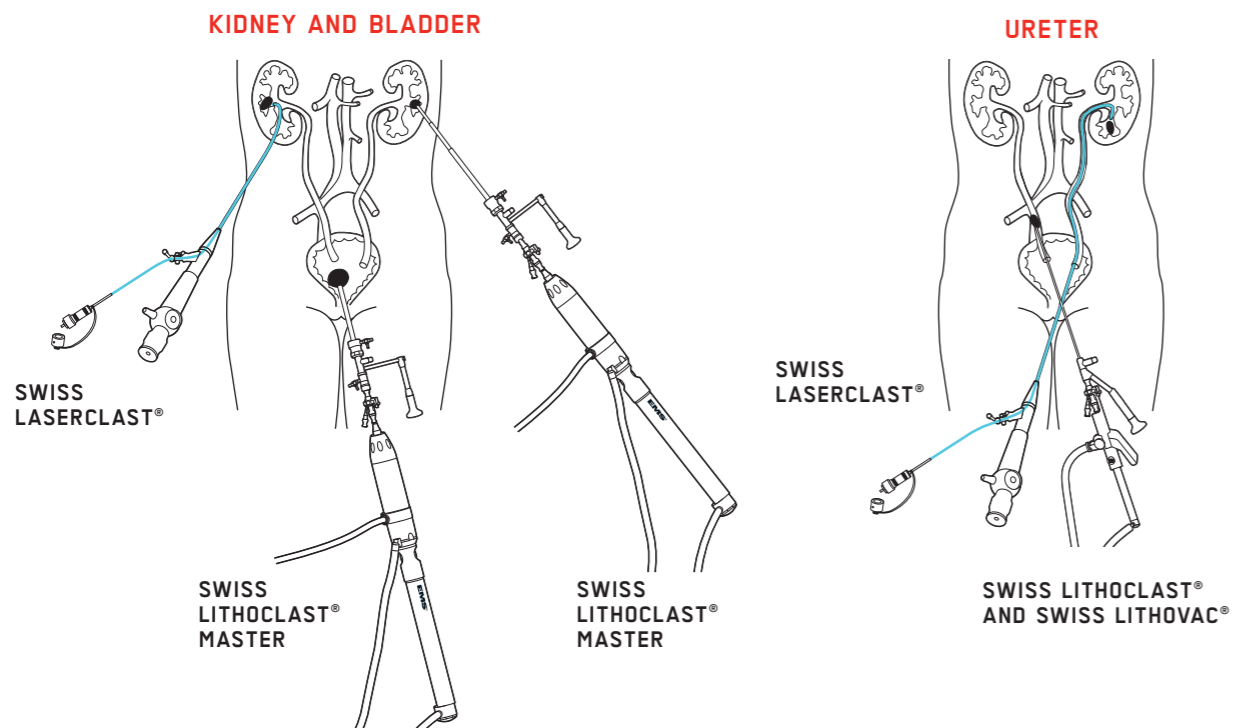
- > Swiss LithoClast® Master simultaneous ultrasonic and pneumatic lithotripsy; ultrafast clearance time for large stones in the kidney and bladder

## EFFECTIVE STONE FRAGMENTATION WITH THE HIGHEST TISSUE SAFETY →

- > Swiss LithoClast® pneumatic lithotripsy, Swiss LithoBreaker®, cordless lithotripter; fragmentation of even the hardest stones in the urinary tract; maximum tissue safety for the treatment of stones, even if impacted

## STONE TREATMENT THROUGH FLEXIBLE ACCESS IN URETER, KIDNEY AND BLADDER →

- > Swiss LaserClast®, powerful Ho:YAG laser lithotripsy; fragmentation of stones in all locations of the urinary tract with excellent fragmentation control due to the choice between the short and long pulse modes



**SWISS LASERCLAST® SYSTEM**

LASER TYPE	Flashlamp Pumped Holmium YAG
WAVELENGTH	2.1 µm
POWER TO TISSUE	20 Watts
ENERGY / PULSE	0.5 - 3.5 J
PULSE WIDTH	150 - 1500 µs
REPETITION RATE	3 - 20 Hz
LASER FIBERS	Laser fiber connector type: SMA 905 connector for free-standing fibers EMS SmartFibers detection: > Automatic power setting > Fiber wear detection
AIMING BEAM	Green 532 nm (adjustable <5 mW)
ELECTRICAL REQUIREMENTS	100 - 240 VAC; 50 / 60 Hz; 1500 VA
DIMENSIONS	318 (W) X 435 (D) X 496 (H) mm
WEIGHT	Approx. 37 Kg
OPERATION TEMPERATURE	+10 °C + 25 °C
STORING TEMPERATURE	+10 °C + 40 °C
TRANSPORT TEMPERATURE	-10 °C + 80 °C
OPERATING RELATIVE HUMIDITY	From 30 % to 85 % (no condensing)
STORAGE AND TRANSPORT HUMIDITY	From 10 % to 85 %
COOLING	Air cooled in closed water circuit
ELECTRICAL PROTECTION	Class I
APPLIED PART	Type BF
DEGREE OF PROTECTION	IP21 (IEC 60529)
LASER CLASS	4
AIMING BEAM LASER CLASS	3R
MULTILINGUAL INTERFACE	EN   DE   FR   IT   ES   PT   NL   SV   PL   RU   TR   CN   JP

SPECIFICATIONS:	EMS SMARTFIBERS				EMS SMARTFIBERS POWER	
QUANTITY PER PACKAGING UNIT	5 / box, sterile				5 / box, sterile	
LENGTH	3 m				3 m	
NUMBER OF REUSES	Reusable: 10 times Single use: 1 time				Reusable: 10 times Single use: 1 time	
CORE DIAMETER	200 µm	272 µm	365 µm	550 µm	200 µm	272 µm
MAX. OUTER DIAMETER	400 µm (1.2 F)	500 µm (1.5 F)	600 µm (1.8 F)	870 µm (2.7 F)	400 µm (1.2 F)	500 µm (1.5 F)
MAX. ENERGY	2.0 J	2.0 J	3.5 J	3.5 J	2.5 J	3.5 J
MAX. POWER	12 W	12 W	20 W	20 W	15 W	20 W
MAX. FREQUENCY	10 Hz	10 Hz	20 Hz	20 Hz	10 Hz	20 Hz

# THE SWISS LITHOCLAST® AND SWISS LASERCLAST® SYSTEMS COVER THE ENTIRE SPECTRUM OF ENDOSCOPIC STONE MANAGEMENT →

## SWISS LASERCLAST®

Swiss LaserClast® unit incl. foot pedal, 2 pairs of safety goggles, spare blast shield, interlock connector, accessories for fibers and water filling/draining set

**FT-211#**

## EMS SMARTFIBERS

SmartFibers 200 µm single-use  
SmartFibers 200 µm 10x reusable  
SmartFibers 272 µm single-use  
SmartFibers 272 µm 10x reusable  
SmartFibers 365 µm single-use  
SmartFibers 365 µm 10x reusable  
SmartFibers 550 µm single-use  
SmartFibers 550 µm 10x reusable

**FR-177**

**FR-178**

**FR-185**

**FR-186**

**FR-179**

**FR-180**

**FR-181**

**FR-182**

## EMS SMARTFIBERS POWER

SmartFibers Power 200 µm single-use  
SmartFibers Power 200 µm 10x reusable  
SmartFibers Power 272 µm single-use  
SmartFibers Power 272 µm 10x reusable

**FR-272**

**FR-273**

**FR-275**

**FR-276**

## ALL-IN-ONE CART

**DW-038**

## SWISS LITHOCLAST® MASTER

Swiss LithoClast® Master basic unit incl. dual foot pedal, compressed air connection, pneumatic pn3 handpiece, Vario ultrasound handpiece, stone catcher and a selection of pneumatic and ultrasound probes

**FT-128#**

## SWISS LITHOCLAST® 2

Swiss LithoClast® 2 basic unit incl. dual foot pedal, compressed air connection, pneumatic pn3 handpiece

**FT-158#**

## SWISS LITHOBREAKER®

Swiss LithoBreaker® cordless lithotripter unit incl. power pack, batteries, charger, selection of pneumatic probes

**FT-206#**

## SWISS LITHOPUMP®

Swiss LithoPump® basic unit incl. overflow protection filters, connection set, compressed air connection and exhaust connector kit

**FT-184#**

## OTHER ACCESSORIES

Fiber stripper (0.3 - 1 mm) **DT-469**  
Fiber stripper (0.1 - 0.4 mm) **DT-470**  
Fiber cutter **DT-471**  
Safety goggles **DZ-020**  
Refill water bottle **DT-473**  
Interlock connector **DT-472**  
Blast shield **EP-081**





[WWW.EMS-UROLOGY.COM](http://WWW.EMS-UROLOGY.COM)

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