

NEW
UNIVERSAL HOLMIUM:YAG
LASER SYSTEM
SMALLEST SIZE
HIGHEST EFFICIENCY

Swiss LaserClast®

SWISS LASERCLAST®

EMS 
ELECTRO MEDICAL SYSTEMS



> The EMS Swiss LaserClast® Holmium:YAG laser system: compact yet powerful with universal capability for stone and soft-tissue treatment

SWISS LASERCLAST®

20W VERSATILE
HOLMIUM:YAG LASER,
OPTIMUM POWER
AND PULSE DURATION
FOR EFFECTIVE STONE AND
SOFT-TISSUE TREATMENTS

- THE MOST COMPACT LASER IN ITS CLASS
- A WIDE DYNAMIC POWER RANGE
- HIGH MAXIMUM PULSE ENERGY (3.5 J) AND PULSE FREQUENCY (20 Hz)
- A BROAD RANGE OF EMS SMARTFIBERS
- OPERATOR SELECTABLE LONG AND SHORT PULSE MODES

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

SHORT OR LONG PULSES →

PULSE DURATION MAKES THE DIFFERENCE

- OPTIMUM PULSE LENGTH SELECTION ADAPTING TO SPECIFIC STONE AND TISSUE TREATMENT REQUIREMENTS
- PREDEFINED ENERGY / FREQUENCY PARAMETERS FOR SIMPLE AND OPTIMIZED LASER SETTINGS

SAFE OPERATION AND APPLICATION →

- > 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
- > 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

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 PROTECTS THE SYSTEM AGAINST DAMAGE BY MISALIGNED OR DAMAGED FIBERS →



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



HO:YAG BENEFITS →

2.1 μm RADIATION OF THE SWISS LASERCLAST® SYSTEM IS HEAVILY ABSORBED BY WATER AND TISSUE. MINIMAL PENETRATION, LESS THAN 0.5 mm, ENSURES SAFE TISSUE ABLATION →

- > Water absorption ensures safe operation because only the target directly in front of the fiber tip interacts with laser radiation. Tissues with a distance to the fiber tip are not affected
- > The laser beam breaks up all types of stones into smaller fragments as opposed to lasers with a pulse duration shorter than 1 μs such as Nd:YAG



**USER
SELECTABLE
PULSE
DURATION
RANGE**

SELECTION OF LONG OR SHORT PULSE MODE DELIVERS →

- > Excellent stone fragmentation especially for harder stones in short pulse mode
- > Better fragmentation control: minimized stone migration and smaller fragment production when working in long pulse mode on stones
- > Reduced laser fiber burn back in long pulse mode
- > Efficient tissue haemostasis and cutting in long pulse mode

> Swiss LaserClast® in action

EMS SMARTFIBERS → USER-FRIENDLY, SAFE AND EFFECTIVE

AVAILABLE IN 4 SIZES →

- > 200 μm SmartFiber provides full deflection for flexible ureteroscopes and high irrigation flows due to its very small outer diameter of only 400 μm
- > 272 μm SmartFiber is a small fiber with high output continuity
- > 365 μm SmartFiber – smallest diameter to transmit maximum laser power
- > 550 μm SmartFiber for tissue application through rigid endoscopes

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



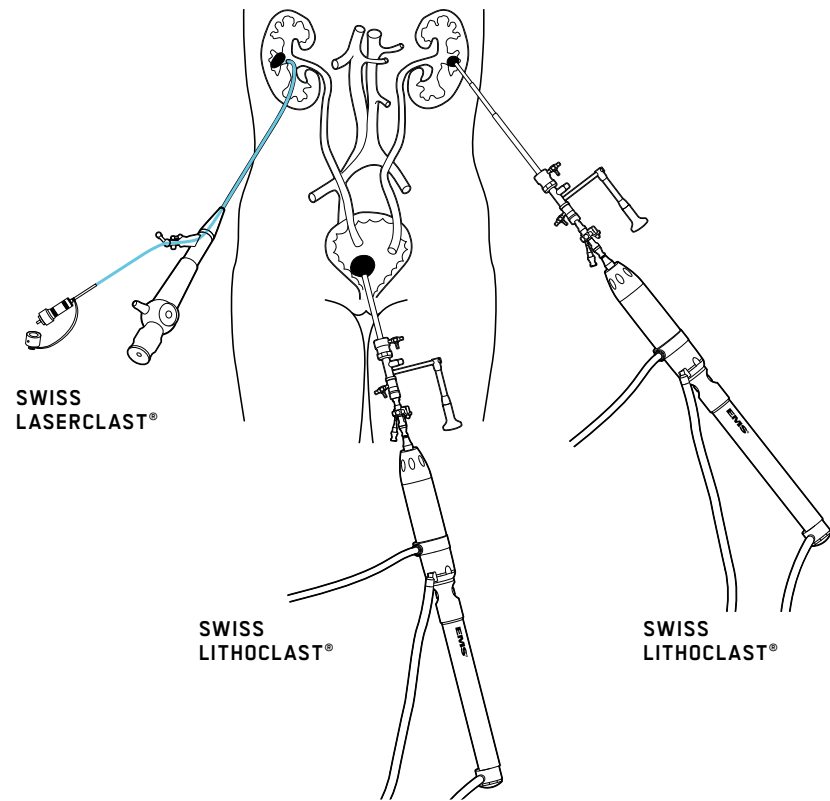
> 200 μm SmartFibers enables a full 270° deflection of the flexible ureteroscope

INNOVATIVE TECHNOLOGY

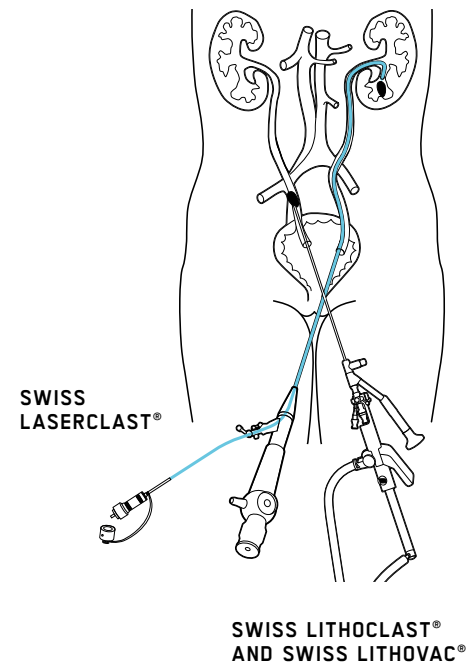
GREATER FREEDOM OF CHOICE →

NOW SELECT THE BEST TREATMENT FOR EACH STONE
CASE WITH THE ALL-IN-ONE SYSTEM →

KIDNEY AND BLADDER



URETER



MISSIONS

LARGE STONE REMOVAL

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

EFFECTIVE STONE FRAGMENTATION WITH THE HIGHEST TISSUE SAFETY

> EMS Swiss LithoClast® pneumatic lithotripsy, EMS 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

> EMS Swiss LaserClast®, powerful Holmium: 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



THE ALL-IN-ONE LITHOTRIPSY
SOLUTION IS NOW COMPLETE
→ THE NEW SWISS LASERCLAST®

> Complementing the Swiss LithoClast® Master for an all-in-one rigid/semi-rigid and now flexible stone treatment solution for all stone types in all locations

> The EMS Lithotripsy Station includes the Swiss LithoClast® Master, the Swiss LithoPump® and the Swiss LaserClast® – all mounted on the All-in-one cart

THE NEW EMS LITHOTRIPSY STATION

SWISS LASERCLAST® SYSTEM

LASER TYPE	Flashlamp Pumped Ho:YAG
WAVELENGTH	2.1 µm
POWER TO TISSUE	20 W (for ≥300 µm core fiber)
ENERGY / PULSE	0.5 ÷ 3.5 J
PULSE DURATION	300 - 1500 µs
PULSE FREQUENCY	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; 16 A
DIMENSIONS	318 (W) X 435 (D) X 496 (H) mm
WEIGHT	Approx. 37 Kg
OPERATION TEMPERATURE	+10 °C + 30 °C
STORING TEMPERATURE	+10 °C + 40 °C
TRANSPORT TEMPERATURE	-10 °C + 80 °C
RELATIVE HUMIDITY	From 30 % to 85 % (no condensing)
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

EMS SMARTFIBERS SPECIFICATIONS

EMS SMARTFIBERS REFERENCES	FR-178	FR-186	FR-180	FR-182	FR-177	FR-185	FR-179	FR-181
JACKET COLOUR	Blue				Black			
QUANTITY PER PACKAGING UNIT	5 / box, sterile				5 / box, sterile			
LENGTH	3 m				3 m			
NUMBER OF REUSES	10 times				Single-use			
CORE DIAMETER	200 µm	272 µm	365 µm	550 µm	200 µm	272 µm	365 µm	550 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)	600 µm (1.8 F)	870 µm (2.7 F)
MAX. ENERGY	2.0 J	2.0 J	3.5 J	3.5 J	2.0 J	2.0 J	3.5 J	3.5 J
MAX. POWER	12 W	12 W	20 W	20 W	12 W	12 W	20 W	20 W
MAX. FREQUENCY	10 - 20 Hz				10 - 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

- EMS SmartFibers 200 µm single-use **FR-177**
- EMS SmartFibers 200 µm 10 times reusable **FR-178**
- EMS SmartFibers 272 µm single-use **FR-185**
- EMS SmartFibers 272 µm 10 times reusable **FR-186**
- EMS SmartFibers 365 µm single-use **FR-179**
- EMS SmartFibers 365 µm 10 times reusable **FR-180**
- EMS SmartFibers 550 µm single-use **FR-181**
- EMS SmartFibers 550 µm 10 times reusable **FR-182**

ALL-IN-ONE CART

DW-038

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**



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® MASTER "ULTRASOUND ONLY"

Swiss LithoClast® Master basic unit incl. single foot pedal, Vario ultrasound handpiece, stone catcher and a selection of ultrasound probes **FT-190#**

SWISS LITHOCLAST® 2

Swiss LithoClast® 2 basic unit incl. dual foot pedal, compressed air connection, pneumatic pn3 handpiece, stone catcher and a selection of ultrasound probes **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#**



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