

**NEW  
GENERATION**

**EMS**

# SWISS LITHOCLAST<sup>®</sup> 2

**EMS**

**EMS**   
ELECTRO MEDICAL SYSTEMS

SWISS LITHOCLAST® 2  
EVOLUTION



SWISS LITHOCLAST® 2  
EVOLUTION

# THE GENUINE SWISS LITHOCLAST® 2

THE EVOLUTION IN LITHOCLAST®  
STONE THERAPY – FROM  
THE INVENTOR OF THE  
SWISS LITHOCLAST® METHOD

- BETTER TREATMENT RESULTS
- BETTER HANDLING
- EASIER REPROCESSING

**SETTING A NEW STANDARD FOR  
SAFETY AND EFFECTIVENESS**

# THE NEW PNEUMATIC pn3 HANDPIECE – INNOVATIVE FUNCTION AND DESIGN →

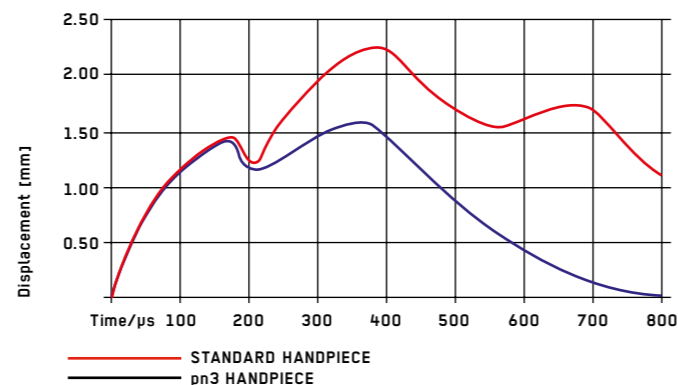
## THE RESULT OF RESEARCH AND DEVELOPMENT – THE INNOVATIVE HANDPIECE OF THE SWISS LITHOCLAST® 2 →

- > The pn3 handpiece is extremely lightweight and ensures optimum operator control with its good ergonomic design.
- > The coupling section of the air supply tube rotates and the compressed-air tube is now longer without losing any pulse efficiency. This allows greater freedom of movement for the user in all treatment situations.
- > The pn3 handpiece and compressed-air tube is a sealed system and can be autoclaved or sterilized without additional sealing caps. This means no penetration of liquids and moisture, no blocking of the projectile and no related handpiece failure.
- > The quick-connection probe caps provide easy, fast and sterile probe change.
- > All components – handpiece and probes – remain extremely durable due to highest material and manufacturing quality.

## INNOVATION IN THE HANDS OF THE PHYSICIAN →

→ GREATLY REDUCED PROBE DISPLACEMENT  
WITH THE pn3 HANDPIECE IMPROVES  
FRAGMENTATION CONTROL AND REDUCES  
PUSH-BACK EFFECT

→ SWISS LITHOCLAST® pn3 HANDPIECE  
COMPARED TO STANDARD HANDPIECE –  
PROBE DISPLACEMENT MEASURED AT A  
PRESSURE OF 2 BAR



pn3 →  
STATE OF THE ART

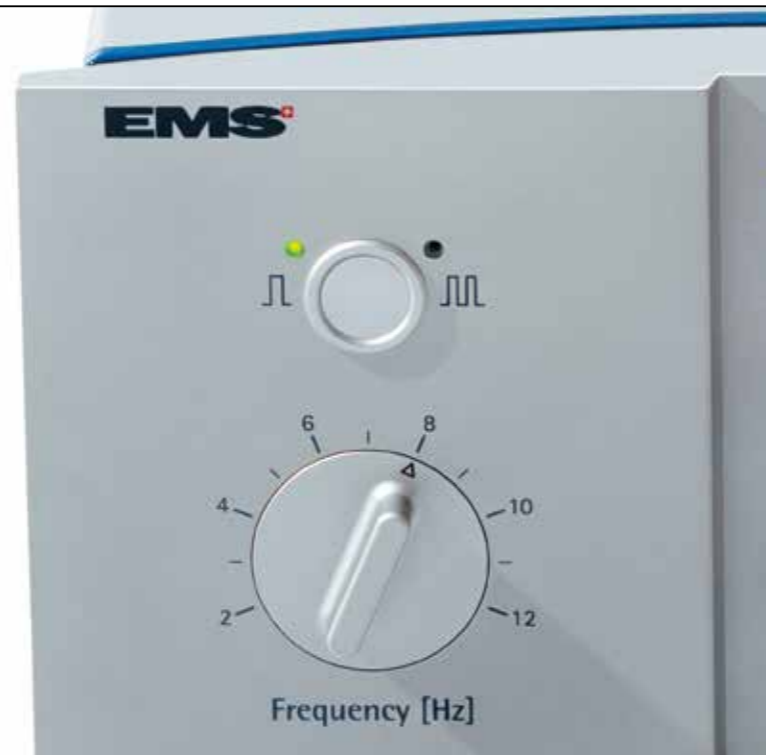
Ratio 1:1



# FLEXIBLE IMPULSE FREQUENCY, CONTROLLED BY THE PHYSICIAN →

SELECTION OF IMPULSE FREQUENCY IN 12 STEPS,  
WITH SINGLE IMPULSE SHOTS OR WITH  
CONTINUOUS IMPULSES ON BOOST FREQUENCY –  
CONTROLLED BY THE PHYSICIAN THROUGH  
A DUAL FOOT PEDAL

→ SELECTION OF  
HIGHER/LOWER IMPULSE  
FREQUENCY RANGE  
AND VARIABLE FREQUENCY  
ADJUSTMENT 1-12 Hz

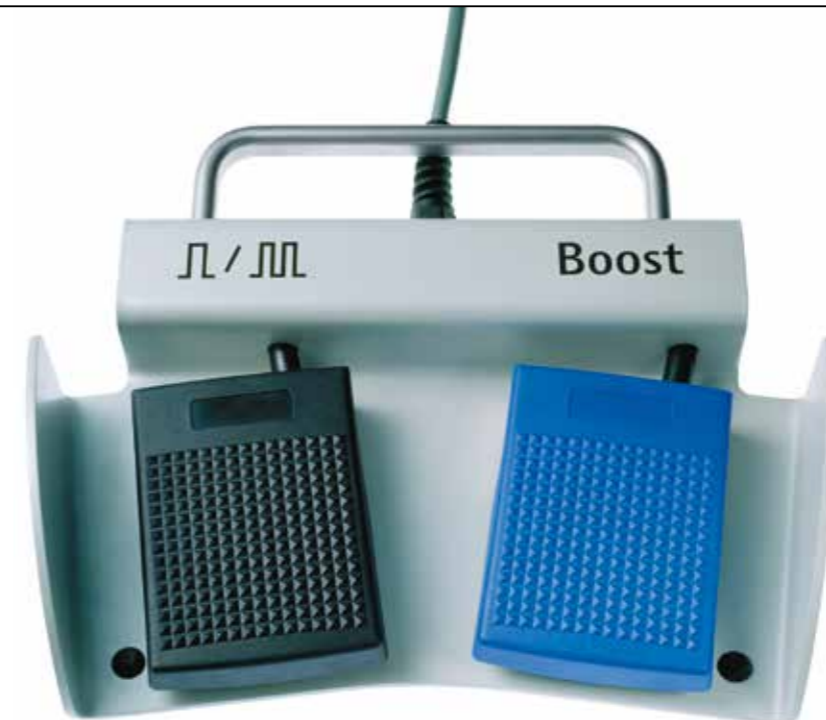


## THE CHALLENGE FOR THE DEVELOPMENT TEAM OF THE SWISS LITHOCLAST® METHOD WAS THE “PUSH-BACK EFFECT” →

> Loss of mobile stones up the ureter, caused by the lithotripsy impulse, was frustrating. This was often caused by an impulse frequency badly suited to the treatment situation. This problem occurs, if the physician cannot control or adapt the impulse frequency quickly and easily.

## THE SWISS LITHOCLAST® 2 FIGHTS THE PUSH-BACK EFFECT BY MEANS OF THREE ESSENTIAL INNOVATIONS →

- > The impulse frequency can be adjusted in single Hertz increments – by means of the dual foot pedal, the physician can intraoperatively select between single impulse, low impulse frequency and boost frequency.
- > The probe displacement has been greatly reduced – this reduces forward momentum on the stone at impact.
- > The newly developed Swiss LithoVac® suction system – suction lithotripsy in the ureter – enables continuous irrigation ureteroscopy and controls the push-back effect on its own.



→ SELECTION OF SINGLE IMPULSES,  
OR PRESET IMPULSE FREQUENCY  
OR BOOST FREQUENCY VIA A DUAL  
FOOT PEDAL

**EVERYTHING IS UNDER CONTROL**

**SWISS LITHOCLAST® 2**  
CONTROLLED

# FLEXIBILITY LINKED TO CONTROL →



**NEWLY DEVELOPED SWISS LITHOVAC® SUCTION  
SYSTEM FOR CONTINUOUS IRRIGATION URETEROSCOPY  
HELPS TO CONTROL THE PUSH-BACK EFFECT →**

**CLINICAL PROOF FOR THE EFFECTIVENESS OF THE SWISS LITHOVAC® SUCTION SYSTEM →**

- > Stenzl, Seibold et al. – Pneumatic lithotripsy with an optional suction device (LithoVac®) for treatment of ureteric stones – Japanese Journal of Endourology, vol. 9, No.1, 1996
- > Haupt, Pannek et al. – The LithoVac®: New suction device for the Swiss LithoClast®, Journal of Endourology, vol. 9, No. 5, 1995

## FIRST-SHOT SOLUTION →

SAFE AND SUCCESSFUL LITHOTRIPSY WITH  
VERY SHORT TREATMENTS,  
INDEPENDENT OF STONE COMPOSITION

→ SUCCESSFUL TREATMENT OF ALL TYPES OF URINARY STONES

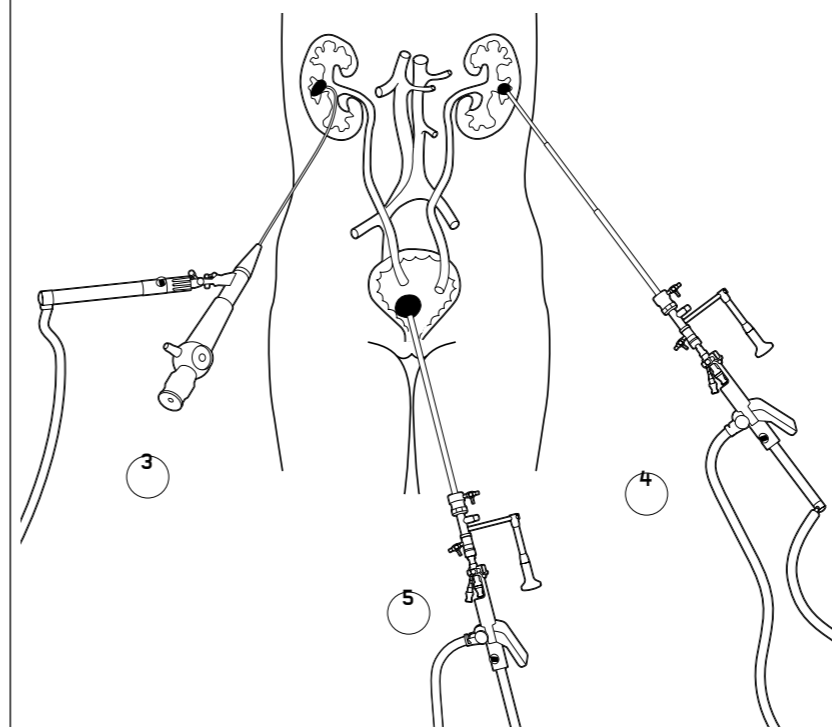
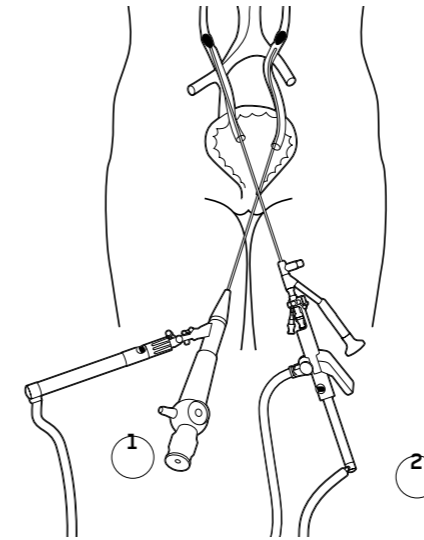


Urinary stones, fragmented  
Image scale approx. 4:1

URINARY STONES OF DIFFERENT COMPOSITION – FRAGMENTED WITH  
THE SWISS LITHOCLAST® METHOD →

- > The Swiss LithoClast® transmits energy from the probe onto the stone – thermal tissue damage is excluded.
- > The urothelium remains intact even after being hit repeatedly with impulses at the highest energy setting of the Swiss LithoClast® 2.

## LARGE, MEDIUM, SMALL →



- 1 Flexible lithotripsy with the Swiss LithoClast® in the ureter
- 2 Suction lithotripsy of ureteric stones with Swiss LithoClast® and Swiss LithoVac®
- 3 Percutaneous application with flexible nephroscope and flexible Swiss LithoClast® probe
- 4 Percutaneous stone fragmentation with Swiss LithoClast® and Swiss LithoVac®
- 5 Pneumatic suction lithotripsy using Swiss LithoClast® and Swiss LithoVac® in the bladder

**THE SWISS LITHOCLAST®  
METHOD TREATS ALL STONES  
IN ALL LOCATIONS**

# SWISS LITHOCLAST® 2, SWISS LITHOCLAST® ENDOSCOPES, SWISS LITHOVAC® SUCTION → THE GENUINE SWISS LITHOCLAST® METHOD

- > Safe, effective and cold: these are the main features of the genuine Swiss LithoClas<sup>®</sup> Method – developed by EMS – since its market introduction in 1990.
- > The Swiss LithoClas<sup>®</sup> generates energy without heat development – thermal damage in the urinary tract is eliminated for maximum tissue safety.
- > No electrical energy is used for generating the acoustic waves – the highest safety for the patient and physician is guaranteed.
- > The outstanding effectiveness of the Swiss LithoClas<sup>®</sup> results in short treatment duration, independent of the stone composition, with the flexibility of use in the entire urinary tract. And, last but not least, it is the quality of all components, as well as their ease of use and maintenance which made this a unique success.

## THE ROAD TO SUCCESS →

- > The newly developed Swiss LithoVac<sup>®</sup> suction system is user friendly and easy to clean and to sterilize.
- > The new generation of Swiss LithoClas<sup>®</sup> endoscopes has an impressive and outstanding optical system – ureteroscopy with 50 000 Pixel image resolution in small-diameter scopes represents a new dimension in endoscopic image quality.
- > The Swiss LithoClas<sup>®</sup> endoscopes enhance stone therapy – simple, safe handling, no kinking of lithotripsy and suction probes thanks to special guidance adapters.

THE GENUINE SWISS LITHOCLAST® METHOD – FOR MORE THAN A DECADE THE MODERN TERM FOR ENDOSCOPIC LITHOTRIPSY, SETTING THE BENCHMARK FOR SAFE AND EFFECTIVE STONE THERAPY



SWISS LITHOCLAST® pn3 HANDPIECE  
AND SWISS LITHOVAC® SUCTION SYSTEM WITH  
SWISS LITHOCLAST® URETEROSCOPE →

**ONE OPTIMIZES  
THE OTHER**

## DEVICES, OPTIONS, ACCESSORIES → COVERING ALL NEEDS FOR A SUCCESSFUL STONE THERAPY

### SWISS LITHOCLAST® 2

Swiss LithoClast® 2 basic unit  
100-240 VAC, 40 VA, 50/60 Hz  
incl. dual foot pedal, compressed-air connection,  
pneumatic pn3 handpiece,  
Swiss LithoClast® probes 0.8/1/1.6/2 mm

**FT-158**

### STONE CATCHER

Stone catcher holder  
Stone catcher sterile (box of ten)



> Stone catcher: collection of stone fragments

### SWISS LITHOVAC®

Swiss LithoVac® set lv3  
Suction probe Ø 1.6 mm, 595 mm length  
Suction probe Ø 3.5 mm, 380 mm length  
Suction probe Ø 4 mm, 353 mm length

**FR-127**

**EL-213**

**EL-212**

**EL-211**

### STERILIZATION TRAY

Sterilization tray 700x120x75 mm,  
autoclavable

**FR-112**

### SWISS LITHOCLAST® PROBES

Probe Ø 2 mm, 425 mm length  
Probe Ø 1.6 mm, 605 mm length  
Probe Ø 1 mm, 605 mm length  
Probe Ø 0.8 mm, 605 mm length  
Probe Ø 3.2 mm, 425 mm length  
Handpiece probe cap for 3.2-mm probe  
Probe Ø 1.6 mm, 453 mm length  
for suction probe EL-212  
Probe Ø 0.8 mm, 668 mm length  
for suction probe EL-213  
Flexible probe Ø 0.89 mm, 940 mm length  
for flexible ureterorenoscopes  
Flexible probe Ø 0.89 mm, 600 mm length  
for flexible nephroscopes

**EL-044**

**EL-058**

**EL-045**

**EL-046**

**EL-092**

**AD-425**

**EL-081**

**EL-080**

**EL-254B**

**EL-304B**

### URETERORENOSCOPE HANDPIECE ADAPTER

Handpiece adapter for EMS FR-107/108/132  
Handpiece adapter for EMS FR-023  
Handpiece adapter for Olympus  
type A-29xx  
Handpiece adapter for Olympus  
type A-24xx

**FR-114**

**FR-024**

**FR-075**

**FR-010**

# EMS IS THE GOLD STANDARD →

- > EMS – Electro Medical Systems – has been setting the standards in the development and production of medical devices since 1981. Each product is individually produced and tested in Switzerland – with Swiss precision.
- > With over 8,000 Swiss LithoClast® devices in daily use, EMS is the world's largest supplier of intracorporeal shockwave lithotriptors for the treatment of kidney, ureteral and bladder stones.
- > EMS is one of the world's leading manufacturers of prophylactic dental devices.
- > With its patented Swiss DolorClast®, EMS offers products that benefit from the expertise and experience with pneumatically generated shockwaves. Since its market introduction in 1999, Swiss DolorClast® has been the reference for successful pain therapy and has made EMS the number one in Radial Shockwave Therapy.
- > Product certification received by EMS: ISO 9001, EN 46001 (Medical Devices), GMP (Good Manufacturing Practice) and CE guidelines.
- > Like all EMS products, Swiss LithoClast® meets the highest European and international quality standards.



**EMS**<sup>+</sup>  
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