

**NEW
GENERATION**

EMS

SWISS LITHOCLAST® 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 →

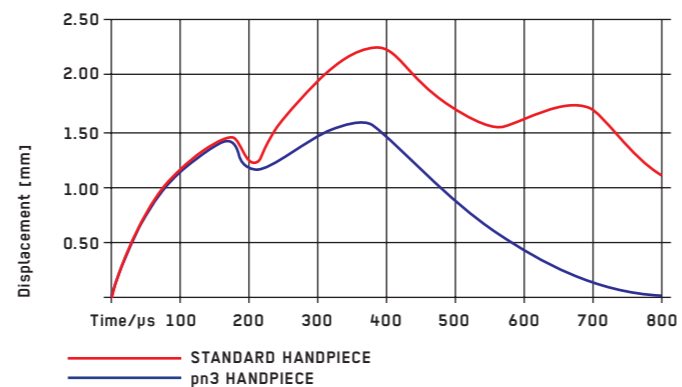
THE RESULT OF RESEARCH AND DEVELOPMENT – THE INNOVATIVE HANDPIECE OF THE SWISS LITHOCLAST® 2 →

- > 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



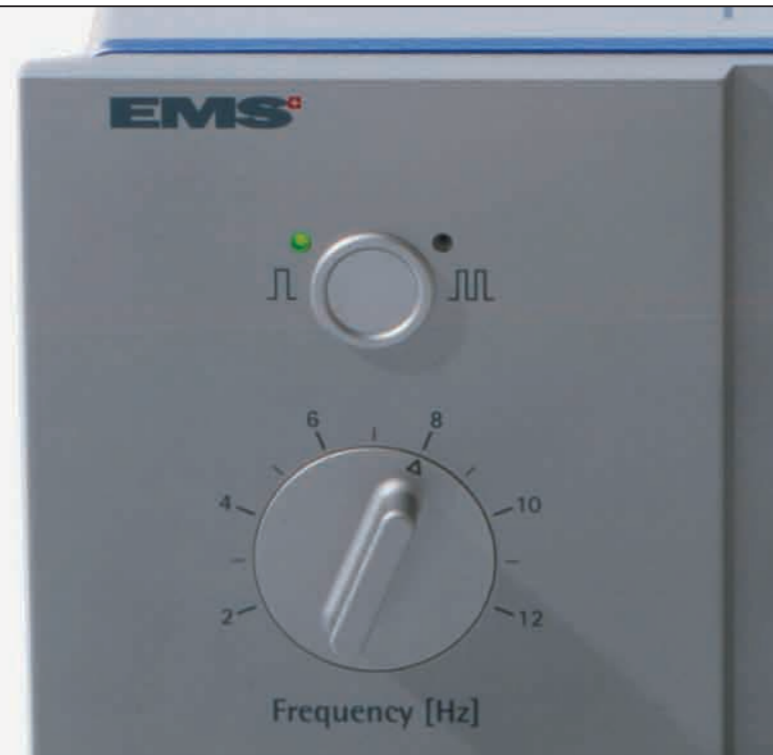
pn3 →
STATE OF THE ART

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

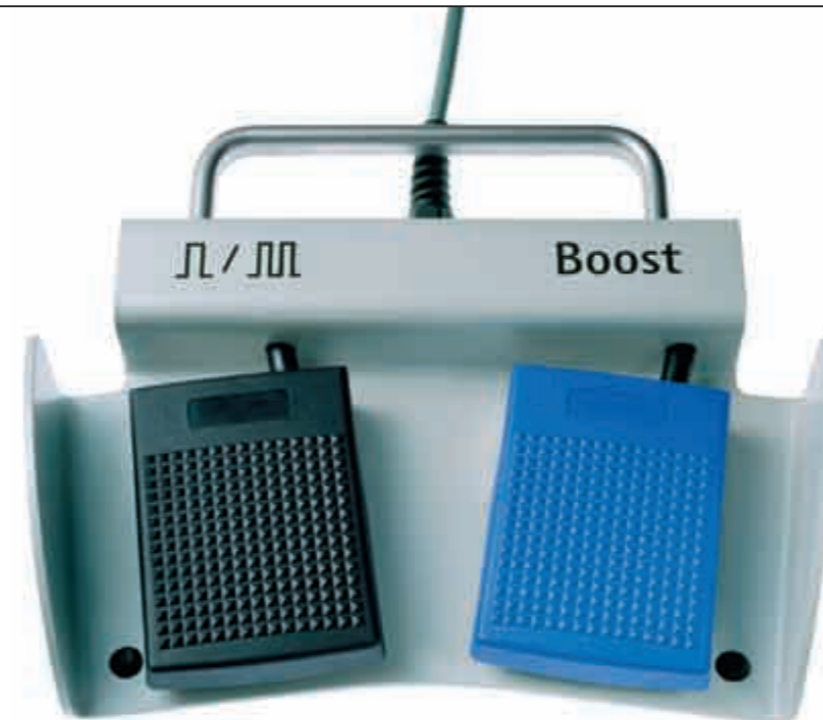


THE CHALLENGE FOR THE DEVELOPMENT TEAM OF THE SWISS LITHOCLAST® METHOD WAS THE “PUSH-BACK EFFECT” →

> 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

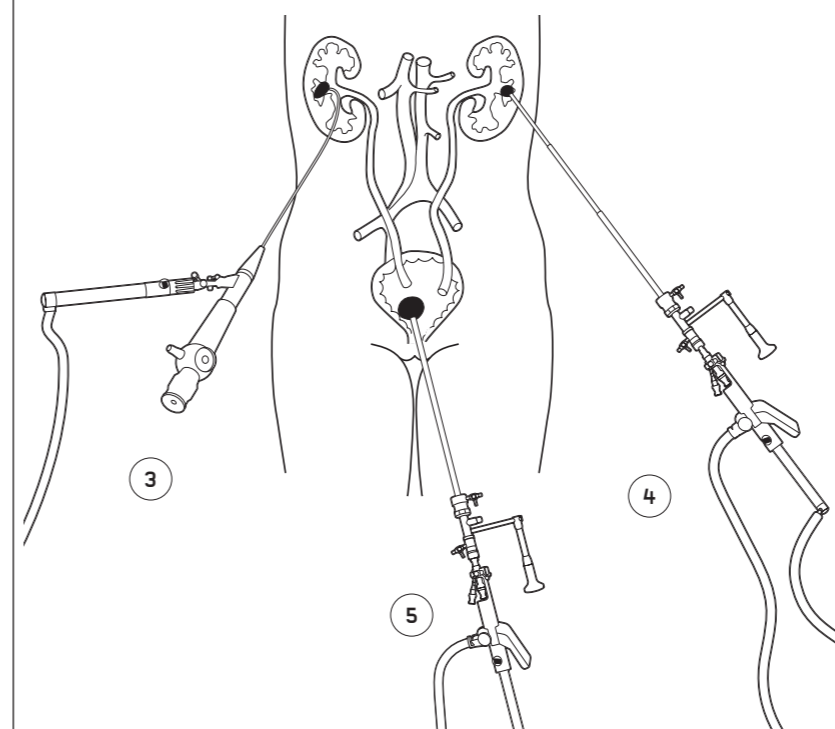
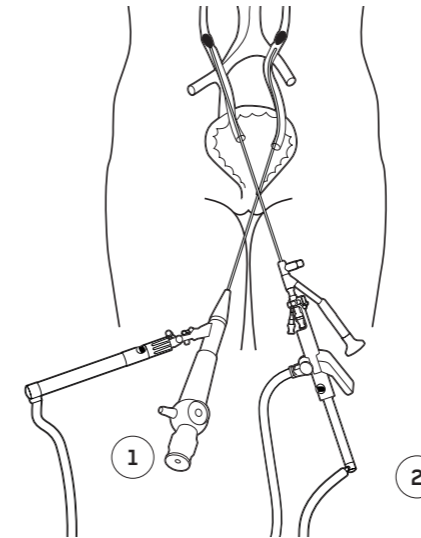


Urinary stones, fragmented
Image scale approx. 4:1

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® 2 in the ureter
- 2 Suction lithotripsy of ureteric stones with Swiss LithoClast® 2 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[®] Method – developed by EMS – since its market introduction in 1990.
- > The Swiss LithoClas[®] 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[®] 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[®] suction system is user friendly and easy to clean and to sterilize.
- > The new generation of Swiss LithoClas[®] 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[®] 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. foot pedal, compressed-air connection,
pneumatic pn3 handpiece,
Swiss LithoClast® probes 0.8/1/1.6/2 mm

FT-158W

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-212
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

STONE CATCHER

Stone catcher holder
Stone catcher sterile (box of ten)

FR-126

DT-059



> Stone catcher:
collection of stone fragments

URETERORENOSCOPE HANDPIECE ADAPTER

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

FR-114

FR-024

FR-075

FR-010

FR-009

SWISS LITHOVAC®

Swiss LithoVac® set lv3
Suction probe Ø 1.6 mm, 555 mm length
Suction probe Ø 3.5 mm, 360 mm length
Suction probe Ø 4 mm, 330 mm length

FR-127

EL-213

EL-212

EL-211

STERILIZATION TRAY

Sterilization tray 700x120x75 mm,
autoclavable

FR-112

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.



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