PRODUCT CATALOGUE

SWISS LITHOCLAST®2

SWISS LITHOCLAST® MASTER

SWISS LITHOPUMP®

ACCESSORIES

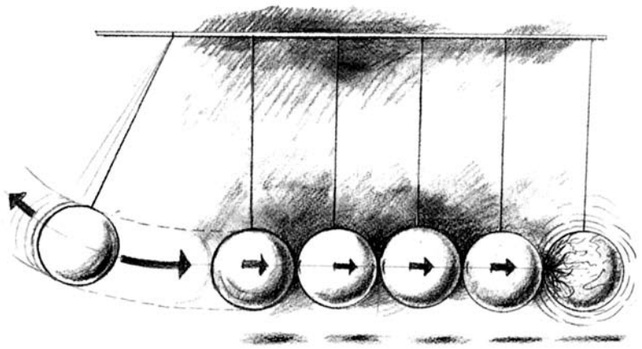
EMS
ELECTRO MEDICAL SYSTEMS

GENERAL INFORMATION

EMS product catalogue urology, edition March 2008.

Please note:
Technical characteristics of the products, contents of sets and single items described in this catalogue are subject to change and are not binding.

TABLE OF CONTENTS



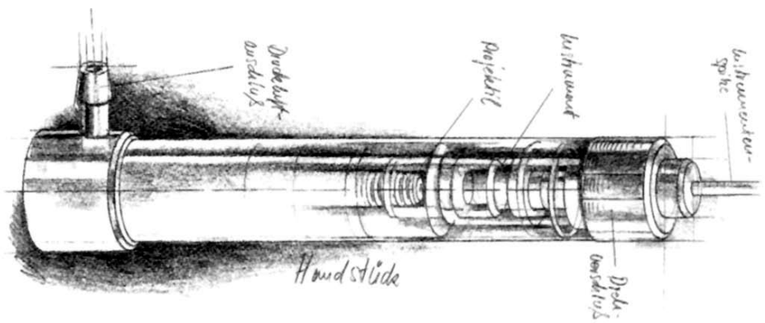
THE LITHOCLAST® PRINCIPLE

In 1687 the scientist Isaac Newton established his well-known law of „action and reaction“. The working principle of the Swiss LithoClast® is based on the momentum theorem derived from this law. Perfectly controlled shockwaves are transmitted to the calculus through special rigid or flexible probes.

Compressed air is being used to generate ballistic energy in the handpiece of the Swiss LithoClast®. A projectile, guided within precision of one micrometer, is accelerated to a high speed by means of a precisely controlled burst of compressed air. When the projectile hits the probe installed in the handpiece, a shockwave is transmitted through the probe to the calculus. The different acoustic characteristics of the metal probe and the stone lead to a fast and effective lithotripsy.

The Swiss LithoClast® technology can be perfectly combined with the EMS ultrasound lithotripsy, the principle of the „LithoClast® Master“. Faster disintegration of calculi, efficient suction, shorter treatment duration and complete removal of the calculi are the results of this combined application. The Swiss LithoClast® 2 and the Swiss LithoClast® Master can be used with all well-known endoscopes of the leading manufacturers for the treatment of renal, ureteral and bladder stones.

Newton’s Cradle (picture above) and impulse transfer in the LithoClast® handpiece (picture below): **the same working principle**

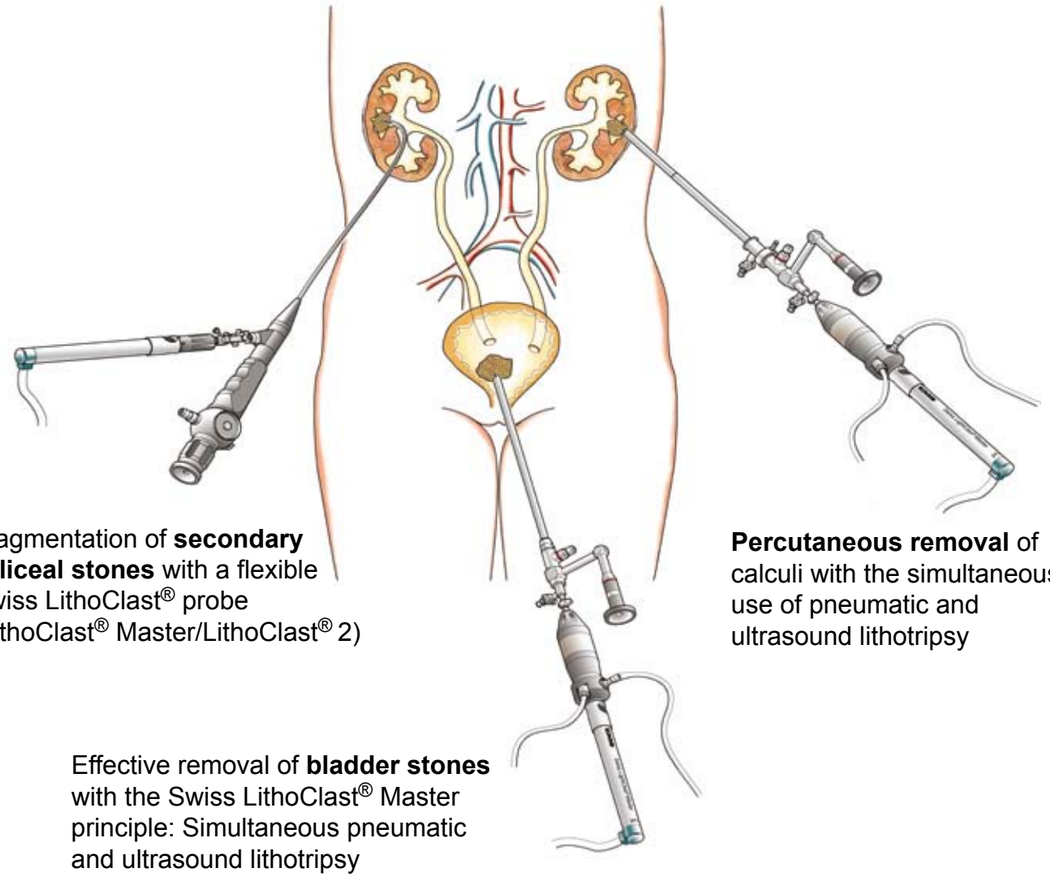


THE INDICATIONS (I)- KIDNEY AND BLADDER

Suffering from urinary calculi is known as a widespread disease. On average, 4 % of the Western European adults suffer one or several times in their life from urinary calculi.

Urinary calculi are generally built in the kidney. The majority of these stones migrate into the ureter as ureteric stones. As for larger stones in the kidney, the simultaneous, combined application of pneumatic and ultrasonic lithotripsy with the Swiss LithoClast® Master has become a new standard for the percutaneous endoscopic disintegration of calculi. By using a combination of both methods simultaneously, the stone removal time is dramatically reduced. Of course, the two lithotripsy methods can also be used seperately, depending on the indication. A Lithoclast® Flexprobe is available for flexible cystoscopes / nephroscopes which allows to treat stones in the lateral calyx through a lower or upper pole access.

When using the Swiss LithoClast® 2 for fragmentation of kidney and bladder stones, the Litho-Vac® lv3 system is recommended in addition for aspiration and suction of fragments in kidney and bladder.



Fragmentation of **secondary caliceal stones** with a flexible Swiss LithoClast® probe (LithoClast® Master/LithoClast® 2)

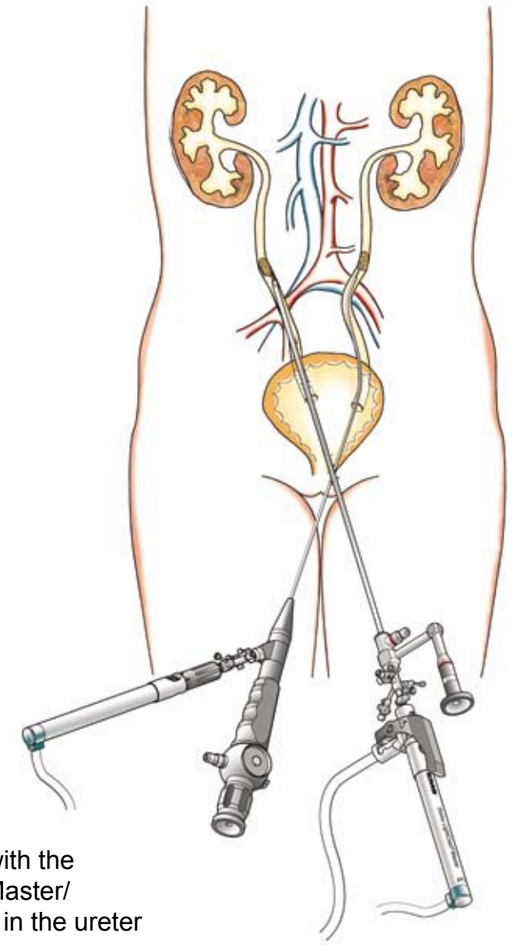
Percutaneous removal of calculi with the simultaneous use of pneumatic and ultrasound lithotripsy

Effective removal of **bladder stones** with the Swiss LithoClast® Master principle: Simultaneous pneumatic and ultrasound lithotripsy

THE INDICATIONS (II) - URETER

Ureteric stones are very effectively treated by means of pneumatic lithotripsy - with or without LithoVac® suction system. Both, the Swiss LithoClast® Master and the Swiss LithoClast® 2 offer this treatment modality.

Additionally, the LithoClast® Flexprobes allow stone treatment through flexible ureteroscopes (deflection approx. 40° allows to reach stones in the ureter, renal pelvic and upper calyx). There are also ureteral ultrasound lithotripsy probes available for the Swiss LithoClast® Master.



Flexible lithotripsy with the Swiss LithoClast® Master/ Swiss LithoClast® 2 in the ureter

Suction lithotripsy of ureteral calculi with Swiss LithoClast® Master/Swiss LithoClast® 2 and LithoVac®

THE SWISS LITHOCLAST® MASTER: SCIENTIFICALLY PROVEN EFFICACY (I)

Clinical experience with a new ultrasonic and LithoClast® combination for percutaneous litholapaxy

R. HOFMANN, P. OLBERT, J. WEBER, S. WILLE and Z. VARGA
Department of Urology and Paediatric Urology, Medical School, Philipps Universität Marburg, Germany

Objective: To assess a new lithotripter for intracorporal lithotripsy, which combines the mechanically driven pneumatic LithoClast® (Electro Medical Systems, Nyon, Switzerland) and a new ultrasonic device (Electro Medical Systems), for use in percutaneous nephrolitholapaxy (PNL).

Patients and methods: The new lithotripter consists of a LithoClast® Master with 12 Hz repetition rate and a new ultrasonic device. The 1.0 mm LithoClast® probe is advanced off-centre through the hollow 3.3 mm ultrasonic probe and pro-trudes about 1 mm. A new irrigation system with a pinch valve compressing the irrigation tube, a foot-switch for activating the ultrasound, the LithoClast® and both together, and a stone bucket at the outlet tube are new features. Between February 1999 and August 2001, 68 patients were treated by PNL with the new device; 35 had complete and 33 had partial staghorn calculi. PNL was administered under fluoroscopic control and with the patient prone.

Results: The mean (range) duration of surgery was 61 (42–119) minutes. The complete stone-free rate was 66% after the first PNL. Of the 68 patients, 16 received a second PNL, giving a final stone-free rate of 76% and 80%. The stone was composed of calcium oxalate monohydrate (COM) in 13%, COM with uric acid in 35%, apatite in 20% and cystine in 11%. Clinically the new lithotripter was very effective, producing smaller stone particles and thus fewer residual stone fragments after PNL than with the LithoClast® or ultrasonic fragmentation alone.

Conclusion: The new lithotripter provides easily managed and highly effective stone fragmentation of all stones, regardless of their composition.

Keywords: percutaneous litholapaxy, LithoClast®, mechanical lithotripsy, ultrasonic lithotripsy, renal stones

Source: BJU International (2002), 90, 16-19

THE SWISS LITHOCLAST® MASTER: SCIENTIFICALLY PROVEN EFFICACY (II)

Clinical efficacy of a combination pneumatic and ultrasonic lithotripter: The LithoClast® Ultra.

P. PIETROW, B. AUGE, P. ZHONG and G. PREMINGER
Duke University Medical Center, 1572D White Zone, DUMC 3167 Durham, NC, 27710, USA

Introduction: A new combination intracorporeal lithotriptor (LithoClast® Ultra, EMS, Nyon, Switzerland) has been developed for percutaneous applications. It combines the stone clearing efficiency of an ultrasonic device with the fragmentation strength of a pneumatic probe into a single handpiece. Herein we present our initial clinical experience with this device in a prospective comparison between the combination lithotrite and standard ultrasonic lithotripsy.

Methods: Twenty consecutive patients undergoing percutaneous nephrolithonomy (PNL) for stone extraction were enrolled in the study. PNL was performed using a standard ultrasonic device (Olympus, Melville, NY) in ten patients and the combination lithotrite was utilized in ten individuals. Stone location and burden were assessed prior to the operative procedure. Stone clearance rates (measured in mm2/minutes) were calculated for the two devices. Complications and stone-free rates were compared between the two groups.

Results: Stone location and composition were similar in the two groups of patients. Average time required for complete stone disintegration/extraction was considerably higher in the ultrasonic patients 43.7 minutes versus 21.1 minutes for those treated with the combination device, p = 0.036). The opposite as true for the average rates of stone clearance (expressed in mm2/minutes), where the standard ultrasonic device could clear 16.8 mm2/minutes versus 39.5 mm2/minutes for the combination lithotrite (p = 0.028). Complications between the two groups were comparable.

Conclusion: Combination ultrasonic/pneumatic lithotripsy is capable of disintegrating and extracting stone material at a more rapid rate than standard ultrasonic devices. Complication rates were comparable between the two devices. Stone-free rates are slightly superior with the combination lithotrite. This new device is efficacious and safe during the removal of large renal calculi.

Source: Oral presentation abstract at the World Congress of Urology (Genova, Oct. 2002)

THE BENEFITS OF THE EMS COMBINED LITHOTRIPTER ARE CLEARLY DOCUMENTED IN SCIENTIFIC COMPARISONS

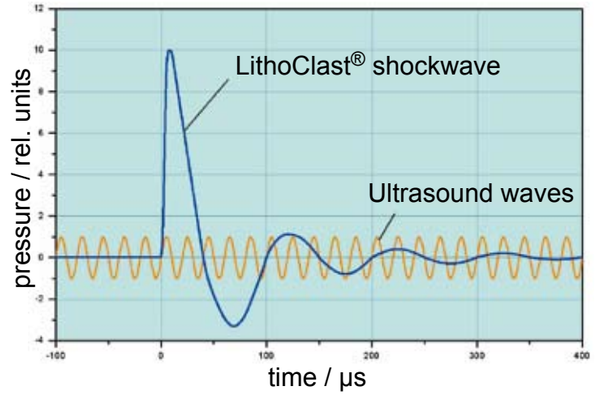
The Principle:

> Coarse stone fragmentation by proven ballistic lithotripsy - the LithoClast® principle.

> Fine fragmentation and pulverization by high-performance ultrasonic lithotripsy.

> Potentialization of the efficiency by simultaneous use of both technologies.

> Choice of the most effective method during treatment.



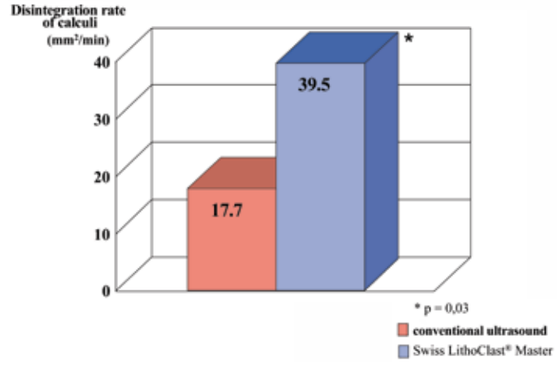
Comparing the Forces acting on the calculus: LithoClast® shock wave versus ultrasound waves

The Advantages:

> Most efficient method for the removal of large calculi.

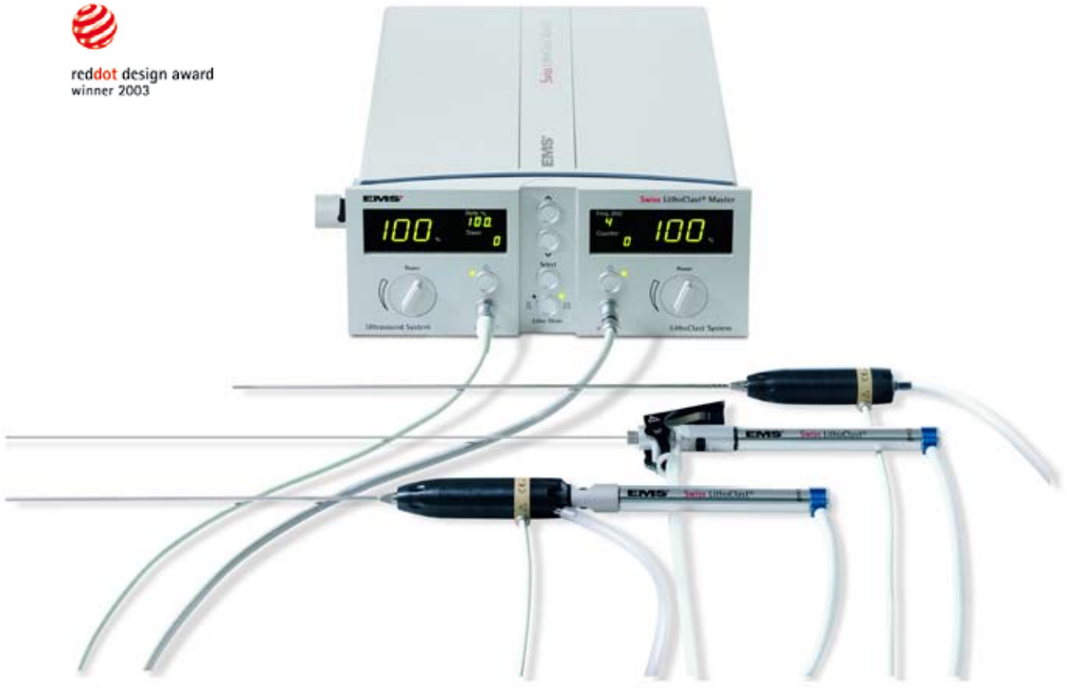
> Clinically proven faster stone removal: four times faster than Swiss LithoClast® Standard and more than twice as fast compared to standard ultrasound litho tripters.

> Prevention of stone fragment blockings in the ultrasound handpiece and the ultrasound probe.



In vivo comparison: conventional ultrasound versus Swiss LithoClast® Master principle

reddot design award
winner 2003

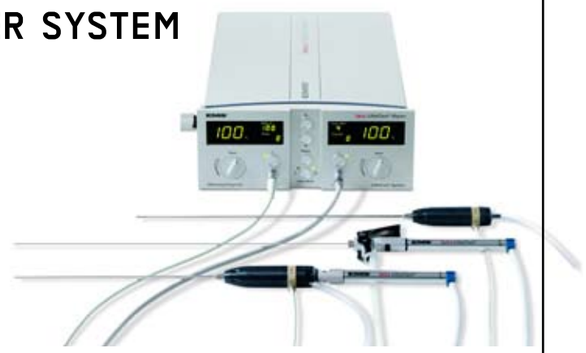


TECHNICAL DATA

Manufacturer	EMS SA, CH - 1260 Nyon		
Model	Swiss LithoClast® Master		
Power supply	100 - 240 VAC / 50 - 60 Hz		
Power consumption	500 VA		
Ultrasound frequency	24 - 26 kHz		
Classification	EN-60601-1 Class I Applied part BF European Medical Device Directive MDD 93 / 42 CEE Class IIb		
Compressed air supply	3.5 to 6.5 bar (3500 to 6500 hPa)		
Compressed air supply standard connection	Central compressed air supply - Type "Draeger" (Germany) - Type "Air Liquide" (France) Independent compressed air supply - Connection to EMS compressor		
Output energy	Ultrasonic: 78 W Pneumatic: approx. 85 mJ		
Connection for suction	Vacuum pump 0 to - 0.7 bar with suction tube adapter i.d. 5 - 8 mm Roller pump, adjustable from 0 to min. 250 ml/min with suction tube adapter i.d. 5 - 8 mm		
Housing	Weight		10.5 kg
	Dimensions	height	144 mm
		width	371 mm
		depth	442 mm
Operating conditions	Temperature		+10°C to +30°C
	Relative humidity		30 - 75 %
	Atmospheric pressure		700 - 1060 hPa
Storage and transport conditions	Temperature		-10°C to +40°C
	Relative humidity		10 - 95 %
	Atmospheric pressure		500 - 1060 hPa

THE SWISS LITHOCLAST® MASTER SYSTEM

Reference No. FT-128#



included in standard delivery:

Description	Ref. No.	Page
Control Unit Swiss LithoClast® Master including:	**FT-128**	
- Holder for stone fragment catcher	EL-225	31
- Electric foot pedal	EK-166	39
- Instruction manual Swiss LithoClast® Master	FB-411/3	39
- Instruction manual pneumatic handpiece pn3	FB-412/3	39
- EMC Swiss LithoClast® Master	FB-353/3	39
- Quicktable Preparation/Reprocessing for Vario Ultrasound and pn3 Handpiece	FB-418/3	39
- Stone catcher set, reusable	FR-125	31
- Roller clamp	FR-113	31
- Spare fuses	CE-059	
- Power supply cable	acc. to country standard	37
- Compressed air supply tube	acc. to country standard	38
Vario Ultrasound Handpiece Set including:	**FR-142**	**22**
- Vario Ultrasound handpiece	EN-055	22
- Lateral suction connector	EL-378A	22
- Straight suction connector	EL-379A	22
- Wrench 5.0 mm (2x)	DT-098A	22
- Wrench 8.0 mm (2x)	DT-100A	22
- Instruction Manual Vario Ultrasound Handpiece	FB-389/3	39
- Reprocessing Instructions Manual	FB-390/3	39
- Transportation Case	DP-358	23
Swiss LithoClast® pn3 Handpiece Set including:	**FR-089**	**26**
- Pneumatic handpiece pn3	EL-175	26
- Adjustment interface	EL-219	26

THE SWISS LITHOCLAST® MASTER SYSTEM

Reference No. FT-128#

Description	Ref. No.	Page
- Probe cap	AD-347	26
- Compressed air tube for handpiece	EH-096	26
- Two sets of silicone probe guides	EQ-062	26
- Silicone seal set	BE-028	26
- Transportation case	DP-201	26
LithoClast® Probes		
- Swiss LithoClast® probe Ø 2.0 x 425 mm (6.0 Fr.)	EL-044	28
- Swiss LithoClast® probe Ø 1.0 x 605 mm (3.0 Fr.)	EL-045	28
- Swiss LithoClast® probe Ø 0.8 x 605 mm (2.4 Fr.)	EL-046	28
For combination with the ultrasound probes Ø 3.8 mm and Ø 3.3 mm, length 403 or 330 mm:		
- Swiss LithoClast® probe Ø 1.0 x 570 mm (3.0 Fr.)	EL-220	25
- Swiss LithoClast® probe Ø 1.0 x 497 mm (3.0 Fr.)	EL-276	25
Ultrasound Probes (choose two probes from selection below)		
- Ultrasound probe Ø 3.8 x 403 mm (11.4 Fr.)	FR-083	24
- Ultrasound probe Ø 3.3 x 403 mm (9.9 Fr.)	FR-084	24
- Ultrasound probe Ø 3.3 x 330 mm (9.9 Fr.)	FR-105	24
- Ultrasound probe Ø 3.8 x 330 mm (11.4 Fr.)	FR-106	24
optionally available:		
LithoVac® lv3 Set including:	**FR-127**	**30**
- LithoVac® lv3 body	EL-182	30
- Suction set for LithoVac® lv3	EL-237	30
LithoVac® lv3 Suction probes and pneumatic probes		
- Suction probe Ø 1.6 x 595 mm (4.8 Fr.)	EL-213	30
- Suction probe Ø 3.5 x 380 mm (10.5 Fr.)	EL-212	30
- Suction probe Ø 4 x 355 mm (12 Fr.)	EL-211	30
- Length adapted Swiss LithoClast® probe Ø 0.8 x 668 mm (2.4 Fr.) for suction probe EL-213	EL-080	29
- Length adapted Swiss LithoClast® probe Ø 1.6 x 453 mm (4.8 Fr.) for suction probe EL-212	EL-081	29

VARIO ULTRASOUND HANDPIECE UPGRADE KIT

Reference No. FR-159#

included in standard delivery:

Description	Art. Nr.	Page
Vario Ultrasound Handpiece Upgrade Kit including:	**FR-159#**	
- Vario Ultrasound Handpiece	EN-055	22
- Lateral suction connector	EL-378A	22
- Straight suction connector	EL-379A	22
- Wrench 5.0 mm	DT-098A	22
- Wrench 8.0 mm	DT-100A	22
- Customer Information Letter	FA-290	
- Instruction Manual Vario Ultrasound Handpiece	FB-389/3	39
- Reprocessing Instruction medical	FB-390/3	39
- Quicktable Preparation/Reprocessing for Vario Ultrasound and pn3 Handpiece	FB-418/3	39
- Transportation Case	DP-358	23
- Software Processor Revision 3	CA-158B	
- Processor Extractor Kit	DT-101	
- Wrench for Torx screw 20	DT-075	
- „Void“ Label	DQ-316	
- Software installation instruction	FM-034/EN	
- Software installation DVD	FM-035/EN	

SWISS LITHOCLAST® MASTER 'ULTRASOUND ONLY'

Reference No. FT-190#

included in standard delivery:

Description	Art. Nr.	Page
Control Unit Swiss LithoClast® Master Ultrasound only including:	**FT-190**	
- Foot pedal	EK-243	39
- Holder for stone fragment catcher	EL-225	31
- Stone catcher set	FR-125	31
- Instruction manual Swiss LithoClast® Master	FB-411/3	39
- EMC Swiss LithoClast® Master	FB-353/3	39
- Quicktable Preparation/Reprocessing for Vario Ultrasound and pn3 Handpiece	FB-418/3	39
- Power cord	acc. to country standard	37
Vario Ultrasound Handpiece Set including:	**FR-142**	**22**
- Vario Ultrasound handpiece	EN-055	22
- Lateral suction connector	EL-378A	22
- Straight suction connector	EL-379A	22
- Wrench 5.0 mm (2x)	DT-098A	22
- Wrench 8.0 mm (2x)	DT-100A	22
- Instruction Manual Vario Ultrasound Handpiece	FB-389/3	39
- Reprocessing Instructions Manual	FB-390/3	39
- Transportation Case	DP-358	23
Ultrasound Probes (choose two probes from selection below)		
- Ultrasound probe Ø 3.8 x 403 mm (11.4 Fr.)	FR-083	24
- Ultrasound probe Ø 3.3 x 403 mm (9.9 Fr.)	FR-084	24
- Ultrasound probe Ø 3.3 x 330 mm (9.9 Fr.)	FR-105	24
- Ultrasound probe Ø 3.8 x 330 mm (11.4 Fr.)	FR-106	24

STAND-ALONE ULTRASOUND UNIT UPGRADEABLE TO THE SWISS LITHOCLAST® MASTER ALL-IN-ONE SOLUTION

SWISS LITHOCLAST® MASTER PNEUMATIC HANDPIECE PN3 UPDATE KIT

Reference No. FR-156#

included in standard delivery:

Description	Ref. No.	Page
Swiss LithoClast® pn3 Update Kit including:	**FR-156#**	
- Foot pedal	EK-166	39
- Spatula	AQ-195	
- Instruction manual pneumatic handpiece pn3	FB-412/3	39
- Installation Instruction	FB-413/3	
- Compressed air supply tube	acc. to country standard	38
Swiss LithoClast® pn3 Handpiece Set including:	**FR-089**	**26**
- Pneumatic handpiece pn3	EL-175	26
- Adjustment interface	EL-219	26
- Probe cap	AD-347	26
- Compressed air tube for handpiece	EH-096	26
- Two sets of silicone probe guides	EQ-062	26
- Silicone seal set	BE-028	26
- Transportation case	DP-201	26
LithoClast® Probes		
- Swiss LithoClast® probe Ø 2.0 x 425 mm (6.0 Fr.)	EL-044	28
- Swiss LithoClast® probe Ø 1.0 x 605 mm (3.0 Fr.)	EL-045	28
- Swiss LithoClast® probe Ø 0.8 x 605 mm (2.4 Fr.)	EL-046	28
- Swiss LithoClast® probe Ø 1.6 x 605 mm (4.8 Fr.)	EL-058	28
For combination with the ultrasound probes Ø 3.8 mm and Ø 3.3 mm, length 403 or 330 mm:		
- Swiss LithoClast® probe Ø 1.0 x 570 mm (3.0 Fr.)	EL-220	25
- Swiss LithoClast® probe Ø 1.0 x 497 mm (3.0 Fr.)	EL-276	25

SWISS LITHOPUMP®

Reference No. FT-184#

included in standard delivery:

Description	Ref. No.	Page
Control Unit Swiss LithoPump® including:	**FT-184**	
- Overflow protection filters (10 pcs.)	DT-096	32
- Instruction Manual Swiss LithoPump®	FB-350/3	39
- Connection Set	FR-144	32
- Compressed air connection	EH-120	32
- Exhaust connector kit	EQ-113	38
- Carton package	DP-317	

Accessories for Swiss LithoPump® by MEDELA **see page** **32**

TECHNICAL DATA

Manufacturer	EMS SA, CH-1260 Nyon, Switzerland		
Model:	Swiss LithoPump®		
Classification 93/42 EEC	Class IIa		
Aspiration pressure	from 0 to -0.8 bar (-80 kPA)		
Housing	Weight		4.8 kg
	Dimensions	height	77 mm
		width	280 mm
		depth	381 mm
Compressed air supply	5 to 6.5 bar (500 to 650 kPa)		
Operating conditions	Temperature		+10°C to +30°C
	Relative humidity		30 - 75 %
	Atmospheric pressure		700 - 1060 hPa
Storage and transport conditions	Temperature		-10°C to +40°C
	Relative humidity		10 - 95 %
	Atmospheric pressure		500 - 1060 hPa

> Improved fragmentation control

> Individually selectable impulse frequency through a frequency range switch and a double foot pedal

> Innovative, new LithoVac® suction system for effective treatment of mobile ureteric stones

> Reduced 'push-back' effect through improved impulse frequency control and LithoVac® suction system

TECHNICAL DATA

Manufacturer			EMS SA, CH - 1260 Nyon (Switzerland)
Model			Swiss LithoClast® 2
Power supply			100 - 240 VAC 50 - 60 Hz
Power consumption			40 VA
Classification			EN-60601-1 Class I European Medical Device Directive MDD 93 / 42 CEE Class IIb
Mode of operation			Continuous operation
Compressed air supply standard connection			Central compressed air supply 3.5 - 6.5 bar - Type “Draeger“ (Germany) - Type “Air Liquide“ (France) Independent compressed air supply - Connection to EMS compressor
Output energy			approx. 85 mJ
Housing	Weight		6.2 kg
	Dimensions	height width depth	136 mm 280 mm 365 mm
Handpiece	Weight		120 g
	Diameter		18 mm
Operating conditions	Temperature		+10 to +30°C
	Relative humidity		30 - 75 %
	Atmospheric pressure		700 - 1060 HPa
Storage and Transport conditions	Temperature		-10 to +40°C
	Relative humidity		10 - 95 %
	Atmospheric pressure		500 - 1060 HPa

THE SWISS LITHOCLAST® 2 SYSTEM

Reference No. FT-158#

included in standard delivery:

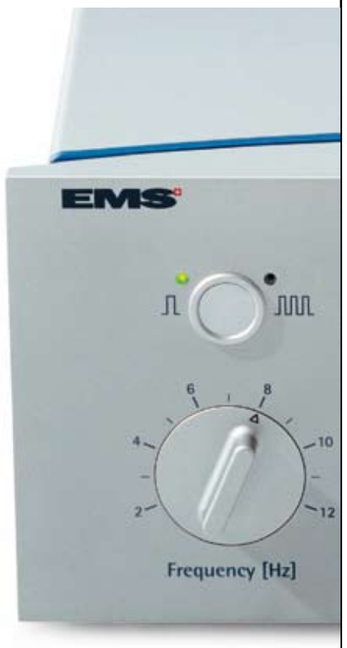
Description	Ref. No.	Page
Control Unit Swiss LithoClast® 2 including:	**FT-158**	
- Electric foot pedal	EK-216	38
- Instruction manual Swiss LithoClast® 2	FB-268/3	39
- EMC Swiss LithoClast® 2	FB-398/3	39
- Spare fuse	CE-068	
- Set of connectors for exhaust	EQ-113	38
- Power supply cable	acc. to country standard	37
- Compressed air supply tube	acc. to country standard	38
Swiss LithoClast® pn3 Handpiece Set including:	**FR-089**	**26**
- Pneumatic handpiece pn3	EL-175	26
- Adjustment interface	EL-219	26
- Probe cap	AD-347	26
- Compressed air tube for handpiece	EH-096	26
- Two sets of silicone probe guides	EQ-062	26
- Silicone seal set	BE-028	26
- Transportation case	DP-201	26
LithoClast® Probes		
- Swiss LithoClast® probe Ø 2.0 x 425 mm (6.0 Fr.)	EL-044	28
- Swiss LithoClast® probe Ø 1.0 x 605 mm (3.0 Fr.)	EL-045	28
- Swiss LithoClast® probe Ø 0.8 x 605 mm (2.4 Fr.)	EL-046	28
- Swiss LithoClast® probe Ø 1.6 x 605 mm (4.8 Fr.)	EL-058	28

THE SWISS LITHOCLAST® 2 SYSTEM

Reference No. FT-158#

Included or optional depending on delivery configuration:

LithoVac® lv3 Set including:	**FR-127**	**30**
- LithoVac® lv3 body	EL-182	30
- Suction set for LithoVac® lv3	EL-237	30
LithoVac® lv3 Suction probes and pneumatic probes		
- Suction probe Ø 1.6 x 595 mm (4.8 Fr.)	EL-213	30
- Suction probe Ø 3.5 x 380 mm (10.5 Fr.)	EL-212	30
- Suction probe Ø 4 x 355 mm (12 Fr.)	EL-211	30
- Length adapted Swiss LithoClast® probe Ø 0.8 x 668 mm (2.4 Fr.) for suction probe EL-213	EL-080	29
- Length adapted Swiss LithoClast® probe Ø 1.6 x 453 mm (4.8 Fr.) for suction probe EL-212	EL-081	29



VARIO ULTRASOUND HANDPIECE

	Ref. No.	Description
	**FR-142#**	**Vario Ultrasound Handpiece Set including:**
	EN-055	Vario ultrasound handpiece
	EL-378A	Lateral suction connector
	EL-379A	Straight suction connector
	DT-098A	Wrench 5.0 mm
	DT-100A	Wrench 8.0 mm
	FB-389/3	Instruction Manual Vario Ultrasound Handpiece
	FB-390/3	Reprocessing Instructions Manual
	DP-358	Transportation Case
	EN-055#	Vario Ultrasound Handpiece
	FB-389/3	Instruction Manual Vario Ultrasound Handpiece
	FB-390/3	Reprocessing Instructions Manual
	FR-150	Lateral suction connector
	FR-151	Straight suction connector
	DT-098A	Wrench 5.0 mm for tightening/untightening of the ultrasound probe
	DT-100A	Wrench 8.0 mm
	AD-584	Nose for Vario Ultrasound Handpiece

VARIO ULTRASOUND HANDPIECE

	BC-193 BC-188	O-Rings Ø 6 x 1.5 mm O-Rings Ø 19.1 x 1.6 mm
	DP-358	Transportation Case for the Vario Ultrasound Handpiece (EN-055#)
	**FR-090** EL-184 BE-028 DT-047 DP-202	**Ultrasound Handpiece us3 Set incl.** Ultrasound Handpiece us3 Silicone seals, single use Wrench 5.0 mm (2 pieces) Transportation Case

ULTRASOUND PROBES

	Ref. No.	Description
 Ø 3.8 mm	FR-083	Ultrasound probe with cleaning brush Ø 3.8 mm (11.4 Fr.), length 403 mm* Standard probe for cysto-/nephroscopes with a working channel of 12.0 Fr.
 Ø 3.3 mm	FR-084	Ultrasound probe with cleaning brush Ø 3.3 mm (9.9 Fr.), length 403 mm* Standard probe for cysto-/nephroscopes with a working channel of 10.5 Fr.
 Ø 3.3 mm	FR-105	Ultrasound probe with cleaning brush Ø 3.3 mm (9.9 Fr.), lenght 330 mm* for short cysto-/nephroscopes with a working channel of 10.5 Fr.
 Ø 3.8 mm	FR-106	Ultrasound probe with cleaning brush Ø 3.8 mm (11.4 Fr.), length 330 mm* for short cysto-/ nephroscopes with a working channel of 12 Fr.
 Ø 1.5 mm	FR-102	Ultrasound probe with cleaning rod Ø 1.5 mm (4.5 Fr.), length 573 mm* for ureteroscopes with a working channel of 5 Fr. Packing unit: 2 probes
 Ø 1.9 mm	FR-103	Ultrasound probe with cleaning brush Ø 1.9 mm (5.7 Fr.), length 360 mm* for the use with mini nephroscopes with a working channel of > 6 Fr. Packing unit: 2 probes

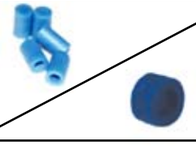
* Indicated is the nominal length. To calculate the effective ultrasound probe length (the introduction length into the endoscope), substract 12 mm of the indicated length of each probe.

PNEUMATIC COMBINATION PROBES

	Ref. No.	Description
 Ø 1.0 mm	EL-220	Swiss LithoClast® probe Ø 1.0 mm (3.0 Fr.), length 570 mm* for combination use with ultrasound probes Ø 3.3 mm and Ø 3.8 mm, length 403 mm (FR-084/FR-083)
 Ø 1.3 mm	EL-255	Swiss LithoClast® probe Ø 1.3 mm (3.9 Fr.), length 570 mm* for combination use with ultrasound probe Ø 3.8 mm, length 403 mm* (FR-083) or for the use with conventional cystoscopes with angled working channel
 Ø 1.0 mm	EL-276	Swiss LithoClast® probe Ø 1.0 mm (3.0 Fr.), length 497 mm* for combination use with ultrasound probes Ø 3.3 mm and Ø 3.8 mm, length 330 mm* (FR-105/FR-106)

* Indicated is the nominal length. To calculate the effective pneumatic probe length (the introduction length into the endoscope), substract 43 mm of the indicated length of each probe.

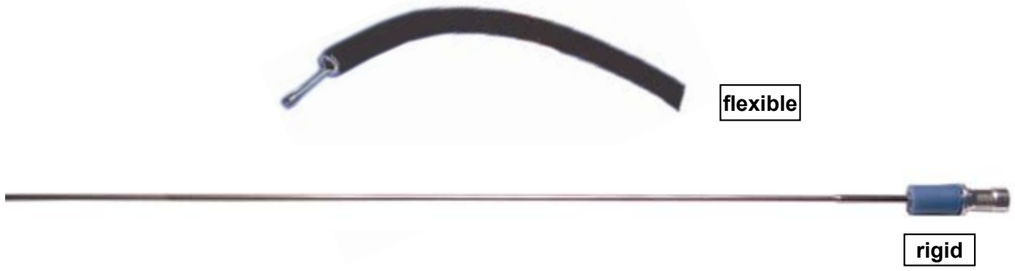
PNEUMATIC HANDPIECE pn3

	Ref. No.	Description
	**FR-089**	**Swiss LithoClast® pn3 Handpiece Set including:**
	EL-175	Pneumatic handpiece pn3
	EL-219	Adjustment interface
	AD-347	Probe cap for Ø 0.8-2.0 mm pneumatic probes
	EQ-062	Silicone probe guide set (two sets included)
	BE-028	Silicone seals (single use)
	DP-201	Transportation case
	EL-175	Pneumatic handpiece pn3 (only available within Set FR-089)
	EL-219	Adjustment Interface
	AD-347	Probe cap for connection of Ø 0.8 - Ø 2.0 mm probes with the pneumatic handpiece (EL-175)
	EH-096	Compressed air tube for handpiece with device connector
	EQ-062 BE-028	Set of silicone guides for the pneumatic handpiece (Packing unit: 12 pieces) Silicone seals, single use (packing unit: 20 pieces)
	DP-201	Transportation case for the pneumatic handpiece pn3 set

OPTIONAL HANDPIECE ACCESSORIES

	Ref. No.	Description
	BF-121	Spare closing cap for the connector of the compressed air tube (EH-096)
	BG-075	Compressed air spare tube for the Swiss LithoClast® handpiece (EL-175) without connector
	AD-425	Probe cap for connection of the probe EL-092 (Ø 3.2 mm) with the Swiss LithoClast® handpiece (EL-175)
	EQ-094	O-ring set for the adjustment interface (EL-219) (Packing unit: 6 pieces)

SWISS LITHOCLAST® PROBES



	Ref. No.	Description
 Ø 2.0 mm	EL-044	Swiss LithoClast® probe Ø 2.0 mm (6.0 Fr.), length 425 mm* also used in combination with the LithoVac® suction probe (EL-211) Indications: kidney, bladder
 Ø 1.0 mm	EL-045	Swiss LithoClast® probe Ø 1.0 mm (3.0 Fr.), length 605 mm* Indication: ureter
 Ø 0.8 mm	EL-046	Swiss LithoClast® probe Ø 0.8 mm (2.4 Fr.), length 605 mm* Indication: ureter
 Ø 1.6 mm	EL-058	Swiss LithoClast® probe Ø 1.6 mm (4.8 Fr.), length 605 mm* (for ureteroscopes with a working channel > 5.0 Fr.) Indication: ureter
 Ø 3.2 mm	EL-092	Swiss LithoClast® probe Ø 3.2 mm (9.6 Fr.), length 425 mm* **Note: Probe cap (AD-425) for the** **Swiss LithoClast® handpiece pn3 is also required** Indications: bladder, kidney

* Indicated is the nominal length. To calculate the effective pneumatic probe length (the introduction length into the endoscope), substract 43 mm of the indicated length of each probe.

SWISS LITHOCLAST® PROBES

 Ø 0.8 mm	EL-080	Length adapted Swiss LithoClast® probe Ø 0.8 (2.4 Fr.), length 668 mm* for use with LithoVac® suction probe EL-213 Indication: ureter
 Ø 1.6 mm	EL-081	Length adapted Swiss LithoClast® probe Ø 1.6 mm (4.8 Fr.), length 453 mm* for use with LithoVac® suction probe EL-212 Indications: bladder, kidney
 Ø 0.89 mm / 940 mm	EL-254B	flexible Swiss LithoClast® probe set (3 probes) Ø 0.89 mm, Länge 940 mm*, for flexible ureterorenoscopes to be used with the pneumatic handpiece pn3 EL-175
 Ø 0.89 mm / 600 mm	EL-304B	flexible Swiss LithoClast® probe set (3 probes) Ø 0.89 mm, length 600 mm*, for flexible nephroscopes to be used with the pneumatic handpiece pn3 EL-175
 Ø 0.89 mm / 940 mm	EL-298B	flexible Swiss LithoClast® probe set (3 probes) Ø 0.89 mm, length 940 mm*, for flexible ureterorenoscopes to be used with the Swiss LithoClast® handpiece EL-043
 Ø 0.89 mm / 940 mm	EL-299B	flexible Swiss LithoClast® probe set (3 pieces) Ø 0.89 mm, length 940 mm* for flexible ureterorenoscopes to be used with the Swiss LithoClast® Master handpiece EL-103

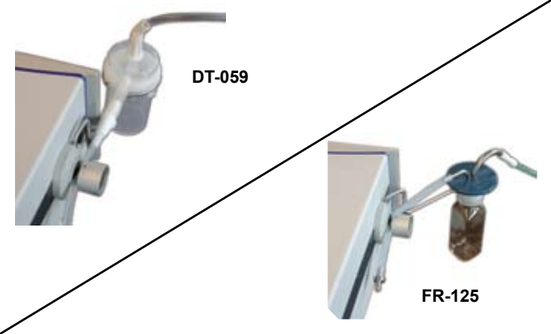
* Indicated is the nominal length. To calculate the effective pneumatic probe length (the introduction length into the endoscope), substract 43 mm of the indicated length of each probe.

LITHOVAC® lv3

	Ref. No.	Description
	**FR-127** EL-182 EL-237	**Lithovac lv3 Set including:** LithoVac® body (shown here with adjustment interface EL-219) Suction set
	EL-182	LithoVac® body (shown here with adjustment interface EL-219)
	EL-237	Suction set for LithoVac® (silicone tube for LithoVac® tube valve with connecting piece)
 **Ø 4.0 mm**	EL-211	Suction probe for LithoVac® Ø 4.0 mm (12.0 Fr.), sheath length 355 mm* for applications with nephroscopes with a working channel > 12.0 Fr.
 **Ø 3.5 mm**	EL-212	Suction probe for LithoVac® Ø 3.5 mm (10.5 Fr.), sheath length 380 mm* for applications with cysto-/nephroscopes with a working channel > 10.5 Fr.
 **Ø 1.6 mm**	EL-213	Suction probe for LithoVac® Ø 1.6 mm (4.8 Fr.), sheath length 595 mm* for applications with ureterorenoscopes with a working channel > 5 Fr.

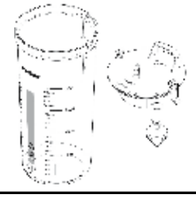
* Indicated is the nominal length of the LithoVac® suction probe. To calculate the effective probe length (introduction length into the endoscope), substract 18 mm of the indicated length of each probe.

STONE CATCHER

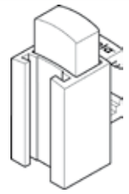
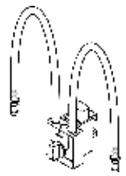
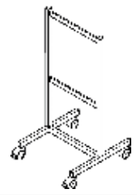
SWISS LITHOCLAST® MASTER	SWISS LITHOCLAST® 2
	

	Ref. No.	Description
	EL-225	Stone fragment catcher holder for Swiss LithoClast® Master
	FR-126	Stone fragment catcher holder for the Swiss LithoClast® 2 for the use with Stone fragment catcher set DT-059 (including mounting kit for Swiss LithoClast® 2)
	FR-125	Stone fragment catcher for the Swiss LithoClast® Master autoclavable, reuseable in combination with single use suction tubes, sterile, with conical fitting (such as FR-091/4)
	FR-091/4	Suction tube, sterile, length 3 m for the Stone catcher set (FR-125) Packing unit: 10 pieces
	DT-059	Stone fragment catcher set sterile, single use for the Swiss LithoClast® Master/Swiss LithoClast® 2 Packing unit: 10 pieces
	FR-113	Roller clamp (set of 2) for precise adjustment of suction flow in connection with FR-125 or DT-059

SWISS LITHOPUMP® ACCESSORIES

	Ref. No.	Description
	FR-144	Connection Set
	EH-120	Compressed air supply connection
medela®		
	DT-096	Disposable overflow protection/bacteria filter (10 pcs)
	DT-097	Disposable suction bags 2l (25 pcs)
	EP-035	Double reusable suction jar set 2l
	EP-036	Autoclavable suction jar

SWISS LITHOPUMP® ACCESSORIES

	EP-037	Reusable suction jar (to be used with DT-097)
	EP-038	Clamp holder
	EG-088	Change over valve
	DW-031	Cart for suction jar

EMS ENDOSCOPES


	Ref. No.	Description
	FR-107	Compact operating fibre ureterorenoscope 8 / 9.8 Fr. - viewing angle 12° - working length 430 mm - distal shaft tip size 8 Fr./ 9.8 Fr. - fibre optics 50.000 Pixel image resolution - straight working channel (oval) for instruments with 1 x 5 Fr. or 2 x 3 Fr. - autoclavable
	FR-108	Compact operating fibre ureterorenoscope 6 / 7.5 Fr. - viewing angle 5° - working length 430 mm - distal shaft tip size 6 Fr. - straight working channel (oval) 4 Fr. for instruments with max. 4 Fr. - autoclavable
	FR-082	Universal cysto- / nephroscope set Panoview Plus parallel view telescope - viewing angle 20° - working length 224 mm - operation shaft 24.0 Fr. - oval working channel for instruments of up to 3.5 mm (10.5 Fr.) - hollow obturator (for guide wire insertion) - autoclavable
	FR-132	Continuous flow compact operating ureterorenoscope 6.5 / 8.5 Fr. - viewing angle 5° - working lenght 430 mm - dual channel continuous irrigation system - distal shaft tip size 6.5 Fr. - straight working channel (oval) 4 Fr. for instruments up to 4 Fr. - 2nd channel for 2.2 Fr. auxiliary instruments

EMS ENDOSCOPE ACCESSORIES


	Ref. No.	Description
	FR-133	Handle with overload protection required for forceps inserts FR-134, FR-135, FR-136
	FR-134	Grasping forceps insert 5 Fr./ 550mm with mouse jaws for ureterorenoscope FR-107 (handle FR-133 required)
	FR-135	Grasping forceps insert 4 Fr./ 550 mm with mouse jaws for ureterorenoscope FR-108 and FR-132 (handle FR-133 required)
	FR-136	Grasping forceps insert 10.5 Fr./ 340mm with alligator jaws for nephroscope/ cystoscope FR-082 (handle FR-133 required)
	FR-109	Endoscope holder for FR-107 / FR-108 / FR-132
	FR-112	Sterilization container for LithoVac® / LithoClast® components

HANDPIECE ADAPTERS FOR ENDOSCOPES

	Ref. No.	Description
	FR-010	Handpiece adapter for LithoClast® / LithoVac® handpieces for Olympus ureterorenoscopes series A 24xx
	FR-024	Handpiece adapter for LithoClast® / LithoVac® handpieces for the EMS ureterorenoscope FR-023
	FR-075	Handpiece adapter for LithoClast® / LithoVac® handpieces for Olympus ureterorenoscopes series A 29xx
	FR-114	Handpiece adapter for LithoClast® / LithoVac® handpieces for EMS ureterorenoscopes FR-107 / FR-108 / FR-132
	FR-117	LithoClast® Master Ultrasound handpiece us3 adapter for EMS ureterorenoscope FR-107

SWISS LITHOCART

	Ref. No.	Description
	DW-030	Swiss LithoCart to be used for Swiss LithoClast® Master or Swiss LithoClast® 2. Allows storage of compressor, Swiss LithoPump® and suction containers.

COMPRESSOR

	DW-007	Compressor for compressed air (medical quality) 8 bar / 4 l, 220 V
	DW-010	Compressor for compressed air (medical quality) 8 bar / 4 l, 110 V

POWER SUPPLY CABLE

	CD-092 CD-093 CD-094 CD-095	Main cord for Swiss LithoClast® 2, length 3m Switzerland USA Europe Japan
	CD-010 CD-011 CD-012 CD-018	Main cord for Swiss LithoClast® Master, length 2m (max. 2m length due to specification) Switzerland USA Europe Japan

OTHER ACCESSORIES

	Ref. No.	Description
	EQ-113	Set of connectors for exhaust for Swiss LithoClast® 2 and Swiss LithoPump® air outlet
	DP-295	Demonstration hard case for Swiss LithoClast® 2
	DP-199	Demonstration hard case for Swiss LithoClast® Master
	EH-085	Compressed air tube, length 1.0 m for compressor (DW-007 and DW-008)
	EH-086	Compressed air tube, length 3.0 m for compressor (DW-007 and DW-008)
	EH-091	Compressed air tube Draeger, length 5m
	EH-092	Compressed air tube France, length 5m
	EK-216	Electric foot pedal for Swiss LithoClast® 2

OTHER ACCESSORIES

	EK-166	Electric foot pedal for Swiss LithoClast® Master
	EK-243	Electric foot pedal Swiss LithoClast® Master ‘Ultrasound only‘

USER MANUALS

	FB-279/3 FB-286/3 FB-350/3 FB-353/3 FB-389/3 FB-390/3 FB-398/3 FB-411/3 FB-412/3	Instruction Manual Stone Catcher ACL Instruction Manual Swiss LithoClast® 2 Instruction Manual Swiss LithoPump® EMC Swiss LithoClast® Master Instruction Manual Vario Ultrasound Handpiece Reprocessing Instructions Medical EMC Swiss LithoClast® 2 Instruction Manual Swiss LithoClast® Master Instruction Manual Pneumatic Handpiece pn3
	FB-376/3 FB-418/3	Quicktable preparation and reprocessing Ultrasound Handpiece us3 Quicktable preparation and reprocessing Vario Ultrasound Handpiece

EMS

ELECTRO MEDICAL SYSTEMS

EMS SA, Ch. de la Vuarpillière 31, CH - 1260 Nyon
Tel. +41 (0) 22 99 44 700, Fax +41 (0) 22 99 44 701
welcome@ems-ch.com

www.ems-medical.com

FA-175/EN Edition 03/08,