

*Technology  
is the future*

**PiezoLith-3000** 

with F3 triple focus

# Die Richard Wolf GmbH



**RICHARD WOLF GmbH** can look back on a successful medical history spanning more than a century. Endoscopy, the basis for all minimally invasive therapy, was always the speciality of the house of **WOLF**.

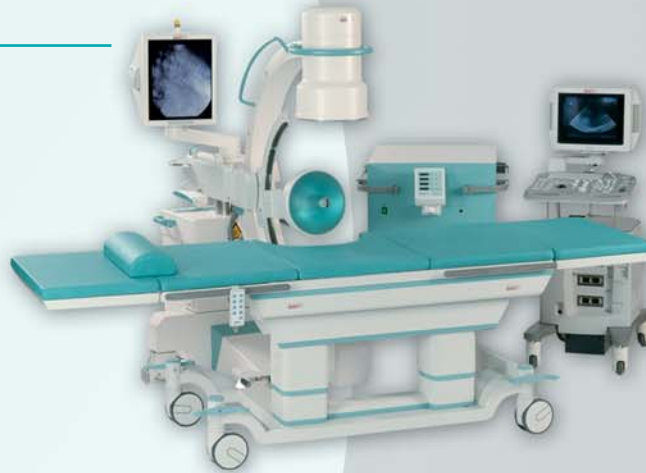
With the development of the extracorporeal lithotripter based on the principle of piezoelectric shock waves, the house of **WOLF** has made a further significant

contribution to non-invasive stone therapy. This underlines our leading position as a high-tech manufacturer in piezoelectric shock wave technology. The company's success is and always was based on the special relationship between engineering and medicine that developed due to close co-operation with doctors and friends of the house of **WOLF**.

The latest manufacturing technology and over 1,400 highly trained employees worldwide guarantee products and systems of exceptional quality ensuring maximum safety in their application. We were one of the first companies involved in medical engineering to be certified by an accredited test centre complying with EN ISO 9001. This provides our customers with the continued assurance of tested quality.

# More than 20 years of piezo technology More than 650 PiezoLiths worldwide

**PiezoLith 3000 triple focus**



**New**

Newly developed triple focus: The optimum therapy for stones of all types because no stone is quite like any other.

**PiezoLith 3000**



**2001**

Unique worldwide – the new piezoelectric shock wave source with two-layer technology. Maximum dynamic power range – smallest unit.

**PiezoLith 2501**



**1995**

Interdisciplinary therapy centre with a modular design. Location units can be used separately for diagnosis.

**PiezoLith 2500**



**1990**

The first extracorporeal lithotripter with X-ray and ultrasound location in situ.

**PiezoLith 2300**



**1986**

Worldwide the first ESWL device with inline ultrasound location without anaesthesia.

# Unique advantages of the PiezoLith 3000

- Worldwide, the only direct focusing lithotripter (DFL)
- Unique: Selectable triple focus for optimum stone fragmentation
- Low, medium and high energy treatment
- Dual simultaneous real-time location (DSR): The ultimate in precision location
- Inline ultrasound location for fast and safe kidney stone location
- Outline X-ray location for low-radiation urinary stone location
- Treatment possible without anaesthesia or sedation
- Guaranteed 5 million shock waves or 2 years
- Optional: PACS/HIS network interfacing via DICOM
- Remote diagnostics for fast and cost-saving service support

*perfection*



# Piezo technology – safe and fast, gentle and efficient

## Piezo two-layer source

The shock wave source of the PiezoLith 3000 works with the two-layer technology that is unique worldwide. This advance in technology provides the PiezoLith 3000 not only with twice the power but also extends the working life by up to five times compared with electromagnetic shock wave transducers and up to 200 times compared with traditional electrohydraulic spark gap systems. The large-area energy coupling reduces the energy density on the surface of the skin and therefore considerably reduces pain.

Depending on the indications, a low, medium or high energy treatment can be selected. Three selectable focal zones, each with 20 levels of intensity and a pulse frequency of 1 to 4 Hz mean that the energy can be dosed optimally and therefore allow treatment without sedation or anaesthesia. This means that even children can be treated with great care and without any increased risk.

The depth of penetration of the focus is decided by the arching of the coupling membrane and can be adjusted continuously from 0 to 165 mm.

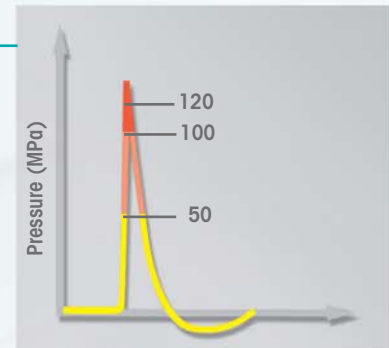
With the triple focus, the focusing of the shock waves can be adjusted to the ideal setting for the stone size and hardness as well as the pain sensitivity of the patient, because no stone and no patient is ever quite the same.

Focus F1 and F2 for small and for hard urinary stones.

Focus F2 and F3 for large and soft urinary stones.

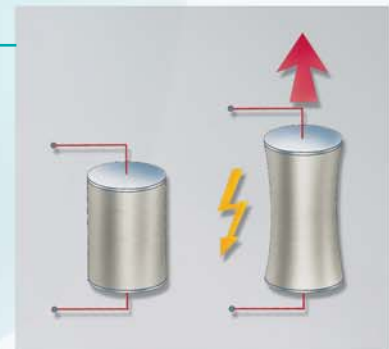
## Shock wave pressure

High dynamic range for low, medium and high energy treatments.



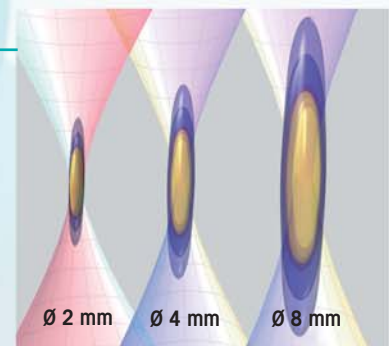
## Wolf piezo technology

5 x longer working life compared with electromagnetic and 200 x longer working life compared with electrohydraulic shock wave systems.



## Triple focus

Individual focus switchover, since no stone and no patient is ever quite the same.



# Modular ESWL system

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The modularity of the device concept allows individual system demands to be taken into account. This means that various location systems can be combined with the lithotripter module to create an ergonomically optimised workplace. A stationary arrangement of the devices allows direct access to the system without having to readjust the components. On the other hand, since the equipment requires no installation work, it can easily be set up in another room.

To allow use at different treatment locations, the system is so flexible that it can be transported quickly from one place to another. Only very limited measures are necessary to put the unit into operation and as a result, it can also be used as a fully mobile, transportable lithotripter.

*efficient*



# X-ray and ultrasound location

## DSR location:

- Two imaging systems
- Real-time display
- Simultaneous ultrasound and X-ray location
- Outline X-ray location  $\pm 30^\circ$  (AP/CC)
- Inline ultrasound location  $180^\circ$  swivel
- Minimum radiation exposure

## X-ray location

$\pm 30^\circ$  (AP/CC) isocentric lateral swivel



## Therapy position

$110^\circ$  can be set confocally for all stone indications



## Ultrasound location

Inline location adjustable along the axis and  $180^\circ$  isocentric swivel



# Treatment tables

The WOLF treatment tables make it possible to work ergonomically with extremely comfortable positioning for the patient.

Regardless of the indications, patients can be treated in a comfortable and stable dorsal position. Standard stainless steel rails allow standard accessories to be attached.

*comfort*





**Advantages of the WOLF treatment tables:**

- Low height to allow patients to mount the table
- Optimum working height
- Simple operation
- Stainless steel standard rails
- Radiolucent in therapy area

**Treatment table**

- For ESWL/ESWT
- For patients up to 135 kg
- Easy to manoeuvre
- Mobile



**Multi-function table "Comfort Stretcher"**

- For ESWL/ESWT and endourology
- For patients up to 180 kg
- Trendelenburg up to  $\pm 15^\circ$
- CFK radiolucent table top in the therapy areas
- Mobile



**Endourology accessories "Comfort Stretcher"**

- For auxiliary measures
- Irrigation bag holder with bag
- Leg holder with securing blocks
- Fourfold footswitch



**Uro table**

- Stainless steel sink
- Cantilever CFK table top
- Leg holder with securing blocks
- For patients up to 180 kg



# X-ray location with the WOLF LITHOARM

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With the patented WOLF LITHOARM, we have succeeded in adapting shock wave systems to X-ray units so that the mobility of the X-ray C arm and the modularity of the individual components of the lithotripsy system are retained. The outline location makes air bags unnecessary. The visible X-ray image is not restricted. Scattered radiation is reduced to a minimum. The radiation exposure for both physician and patient is as low as possible. This means an optimum image quality combined with the lowest radiation exposure.

*safe*



- Large selection of top quality X-ray systems
- Outstanding picture quality
- Low radiation exposure
- X-ray units can be used as standalone systems

### Ziehm

7000, 8000, Vista, Vision, Vario

- High-frequency generator
- 23 cm image intensifier
- 17" double monitor trolley possible



### Philips

Libra, Endura, Pulsera

- Microprocessor-controlled X-ray generator
- 23 cm image intensifier
- Double monitor trolley with 17" monitors



### GE OEC

Fluorostar

- Digital high-frequency generator
- 23 cm image intensifier
- Touchscreen interface
- 18" double monitor trolley possible



### Technix

TCA6

- High-frequency generator
- 23 cm image intensifier
- 17" LCD monitors
- 1 monitor possible on C arm



## Inline ultrasound location

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The ultrasound probe integrated in the shock wave source allows simple and precise localization of the area to be treated. The probe can be rotated and adjusted along its axis. Direct contact with axial adjustment of the ultrasound probe avoids multiple reflections and at the same time guarantees the highest resolution and best image quality.

The advantage of continuous inline ultrasound location during treatment is that obstacles such as ribs or the ala of the ilium can be avoided and kept clear of the shock wave area.

*gentle*



- Fully digital
- High resolution
- Special WOLF target cross software
- WOLF inline probe 3.5 MHz
- Ultrasound can be used as separate unit
- Large selection of optional probes

#### SONOACE X4

- Black and white
- 12" monitor
- USB port
- Inline probe can be switched from 2.5 to 6 MHz



#### ALOKA Prosound 6

- Black and white
- 12" monitor
- USB port
- Inline probe can be switched from 3.0 to 6 MHz



#### ALOKA 3500

- Colour doppler
- 15" colour monitor
- USB port
- Inline probe can be switched from 3.0 to 6 MHz



# Multi-function diagnosis and therapy centre

To allow auxiliary measures, the multifunction table can be extended to form a comfortable endourological table by adding urological accessories such as leg holders, irrigation dishes, infusion holders or shoulder supports.

Richard Wolf provides you with the system solution from the lithotripter to the endoscopic work centre. Minimally invasive techniques supplement modern extracorporeal stone therapy. The unique selection of endoscopes with extensive accessories in our range reflects our orientation to the needs of the customer.

*flexible*



# Further indications

The PiezoLith 3000 allows treatment of conditions in orthopaedics, gastroenterology and ENT.

## Orthopaedic indications

- **Tendinosis calcarea**  
Soft tissue treatment at the rotator cuff of the shoulder with and without calcification
- **Epicondylitis humeri radialis and ulnaris**  
Tennis elbow tendon attachment treatment
- **Patellar tip syndrome**  
Treatment of the patellar tendon attachment in the knee
- **Plantar faciitis with or without heel spurs**  
Treatment of the plantar fascia in the foot

## Gastroenterology

- Gall bladder stones
- Common bile duct stones
- Pancreatic stones

## HNO

- Salivary stones

## Knee

Treatment of the patellar tendon attachment "patellar tip syndrome"



## Elbow

Tennis and golf elbow "epicondylitis humeri radialis and ulnaris"



## Shoulder

Soft tissue treatment at the rotator cuff of the shoulder with and without calcification "tendinosis calcarea"



## Foot

Treatment of the Achilles tendon attachment in plantar fasciitis with heel spurs



## ENT

Salivary stones



# Image archiving and data management

Professional PACS system for archiving X-ray and ultrasound images in DICOM format. Whether as a standalone device or a networked component of the information system in the hospital: stored data is archived by patient and is immediately available.





# All the essential advantages of the PiezoLith 3000 – at a glance!

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- **Worldwide, the only direct focusing lithotripter (DFL)**
- **Unique: Selectable triple focus for optimum stone fragmentation**
- **Low, medium and high energy treatment**
- **Dual simultaneous real-time location (DSR): The ultimate in precision location**
- **Inline ultrasound location for fast and safe kidney stone location**
- **Outline X-ray location for low-radiation urinary stone location**
- **Treatment possible without anaesthesia or sedation**
- **Short treatment times due to double power**
- **Minimized pain reaction thanks to optimised focal zones**
- **Guaranteed 5 million shock waves or 2 years**
- **Optional: PACS/HIS network interfacing via DICOM**
- **Remote diagnostics for fast and cost-saving service support**

# Technical data / installation



- Simple and fast installation
- Small space required
- No fixed water connection necessary
- Low energy consumption
- Low water requirements
- Low operating and maintenance costs
- Low noise level

Power supply/frequency	100 - 240 V, 50/60 Hz
Power consumption	1000 VA
Energy density	0.03 to 1.6 mJ/mm <sup>2</sup>
Peak pressure	6 to 126 MPa
Focal zones	3
Energy dosing	3 x 20
Energy	0.9 to 153 mJ
Depth of penetration	0 to 165 mm
Aperture angle	74°
Noise level	72 dB(A)
Therapy area	110° confocal
Ultrasound location	inline 180 ° isocentric
X-ray location	outline ± 30° (AP/CC)
Electrical safety complying with	EN 60601-1
Directive on medical equipment 93/42/EEC	class IIb
Approvals	CE & FDA
Applied part	type B
Weight (lithotripter only)	220 kg
Dimensions (lithotripter only) L x W x H	1000 x 700 x 1000 mm
Water volume of system	10 litres
Space required	4 x 5 m

# Service / financing



## Service

- Room planning
- Installation
- Maintenance
- Repair
- Remote diagnostics
- Hotline + 49 (0) 70 43-35-223

## Training

- Medical application training
- Technical service training

## Sales/financing

- Financing
- Leasing
- Lease-purchase

Fully trained colleagues in our worldwide sales network guarantee excellent customer service and offer thorough and informative consultation.

M E D I C A L

V E T E R I N A R Y

I N D U S T R I A L