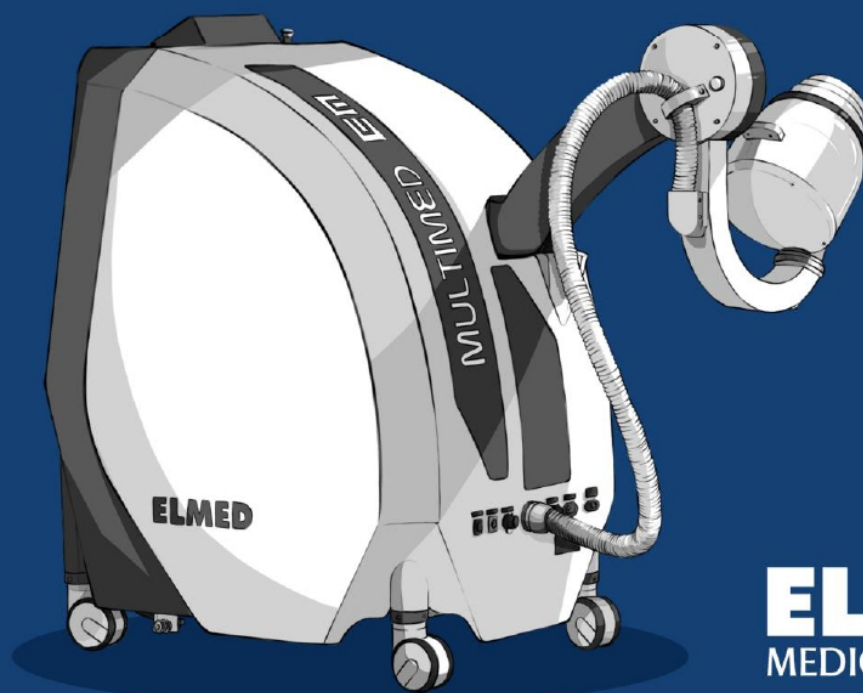


MULTIMED

Complete Solution to the Lithotripsy World



ELMEDTM
MEDICAL SYSTEMS



WHY ELMED?

Founded in 1991, ELMED is the first manufacturer of lithotripsy systems in Turkey and carries out production, domestic sales, and export activities in the field of urology and releases innovative, effective, and high-technology devices to the medical world. ELMED has installed more than 900 devices in more than 60 countries on 6 continents.

ELMED manufactures four lithotripsy products including Avicenna Roboflex, MULTIMED EM, VIBROLITH, and VIBROLITH Plus. VIBROLITH, VIBROLITH Plus, and Avicenna Roboflex apply intracorporeal lithotripsy procedure and MULTIMED EM uses extracorporeal shock wave lithotripsy (ESWL) system.

Elmed have been listed among elite brands in urology main reference book and has been successful in obtaining FDA approval for its products.



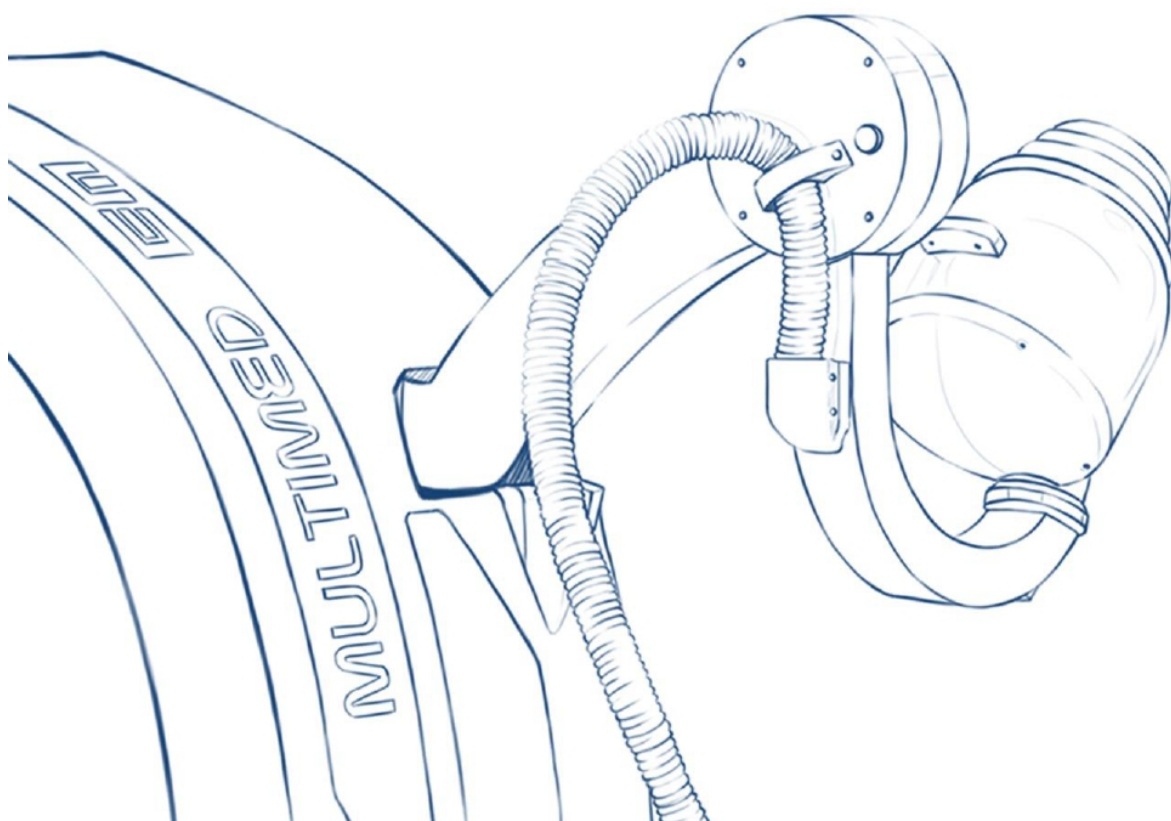


Multimed EM

Lithotripsy is a procedure that uses shock waves to break up stones in the kidney and parts of the ureter. Extracorporeal shock wave lithotripsy (ESWL) is the most common type of lithotripsy. ESWL has been around since the early 1980s.

It is a noninvasive procedure and quickly replaced surgery as the treatment of choice for kidney stones.

And here is the Multimed EM lithotripter with ESWL system.



- Flexible structure
- Extremely easy to use
- Precise focus on the stones
- Efficient and powerful generator
- The lowest pain and highest comfort for the patient
- The first Dynamic Patient Recording and Reporting System (DPRS) in the world

MULTIMED

OVERVIEW

Ultrasound systems





Lithoscope

Lithoscope can focus simultaneously and automatically with both X-Ray and Ultrasound.

Shock Head

Main Unit

ESWL Main Lithotripsy Unit with Electro-Magnetic Shock Wave Generator

treatment table

Three-dimensional motor-driven treatment table; Imaging of the stone through two systems of fluoroscopy and fully automatic robotic arm.

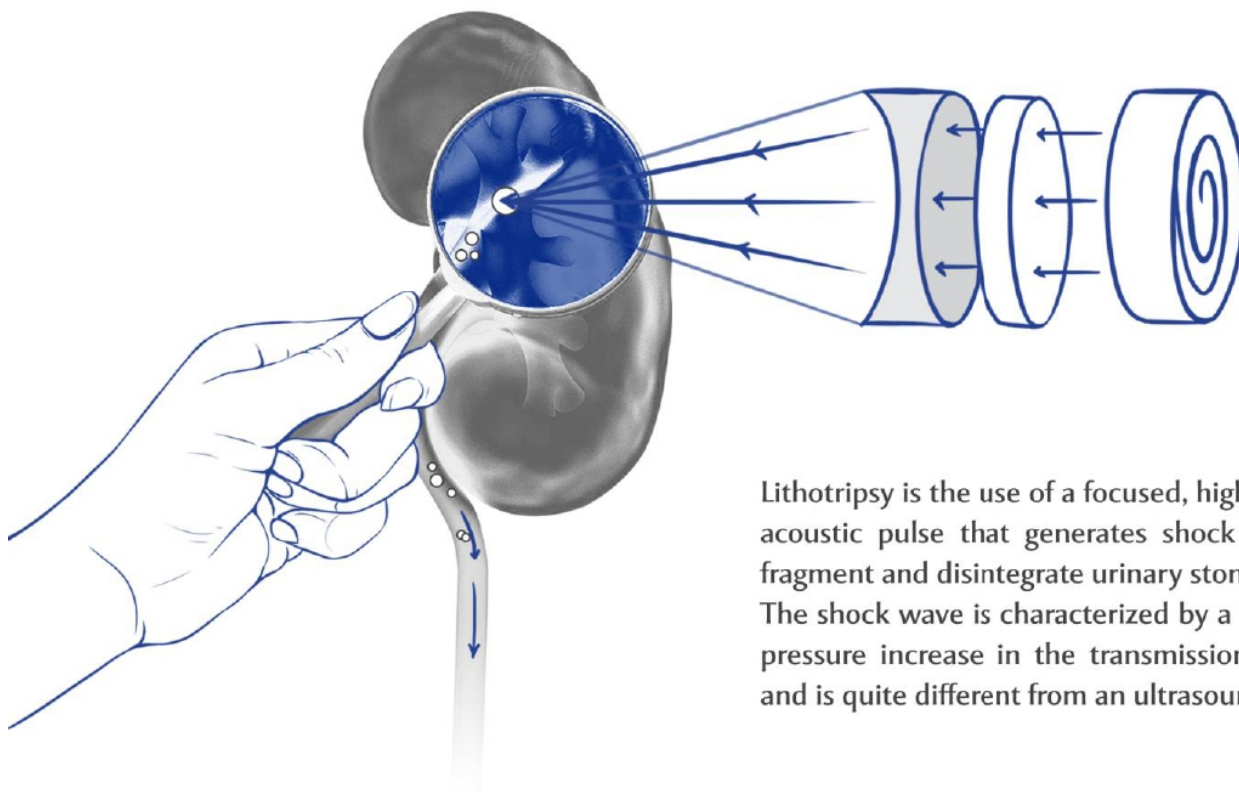
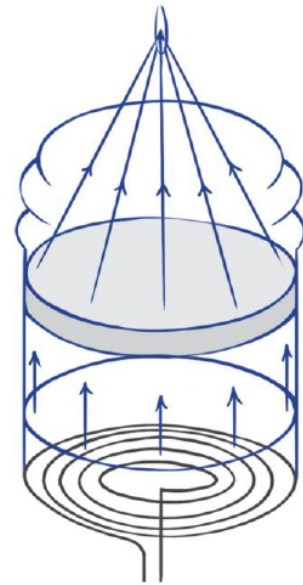
**Multimed EM
Electro-Magnetic ESWL
system includes 5 units**

ESWL MAIN UNIT

Electromagnetic flat coil

New technology Multimed EM has a new generation electro-magnetic flat coil which has a 1.000.000 shock wave warranty. Therefore, you will not change electrodes per three thousand shock waves like the electro-hydraulic systems. ELMED can increase this number of shock waves according to the customer's request.

- The electromagnetic system utilizes two types of focusing methods.
- Multimed EM has a flat coil system with a complete closed water system.
- The electromagnetic system is user-friendly, powerful and it has a high success rate.
- The energy level is less than Electro-Hydraulic.
- Shock Wave head should be replaced and its replacement is easy.
- The noise level is less than the devices with the same function.

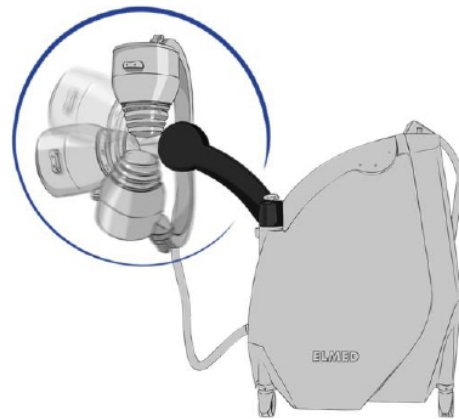


Lithotripsy is the use of a focused, high-intensity acoustic pulse that generates shock waves to fragment and disintegrate urinary stones. The shock wave is characterized by a very rapid pressure increase in the transmission medium and is quite different from an ultrasound.

Movable shock wave head

Movable shock wave head moves to four positions which are under the table and over the table and their oblique positions.

Under table position is very useful with ultrasound.



Water treatment

The closed-circuit water system of the Multimed EM is the best dry contact system ever developed.

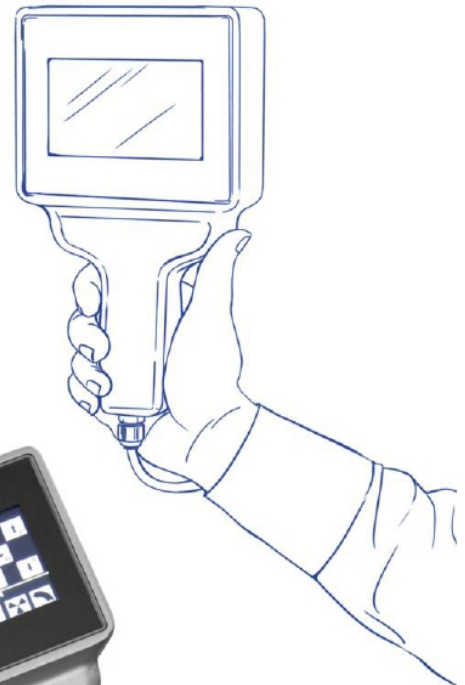
Closed circuit results in degassing. Water heating up to the temperature range of 35-36 °C provides the comfort of the patients, too.

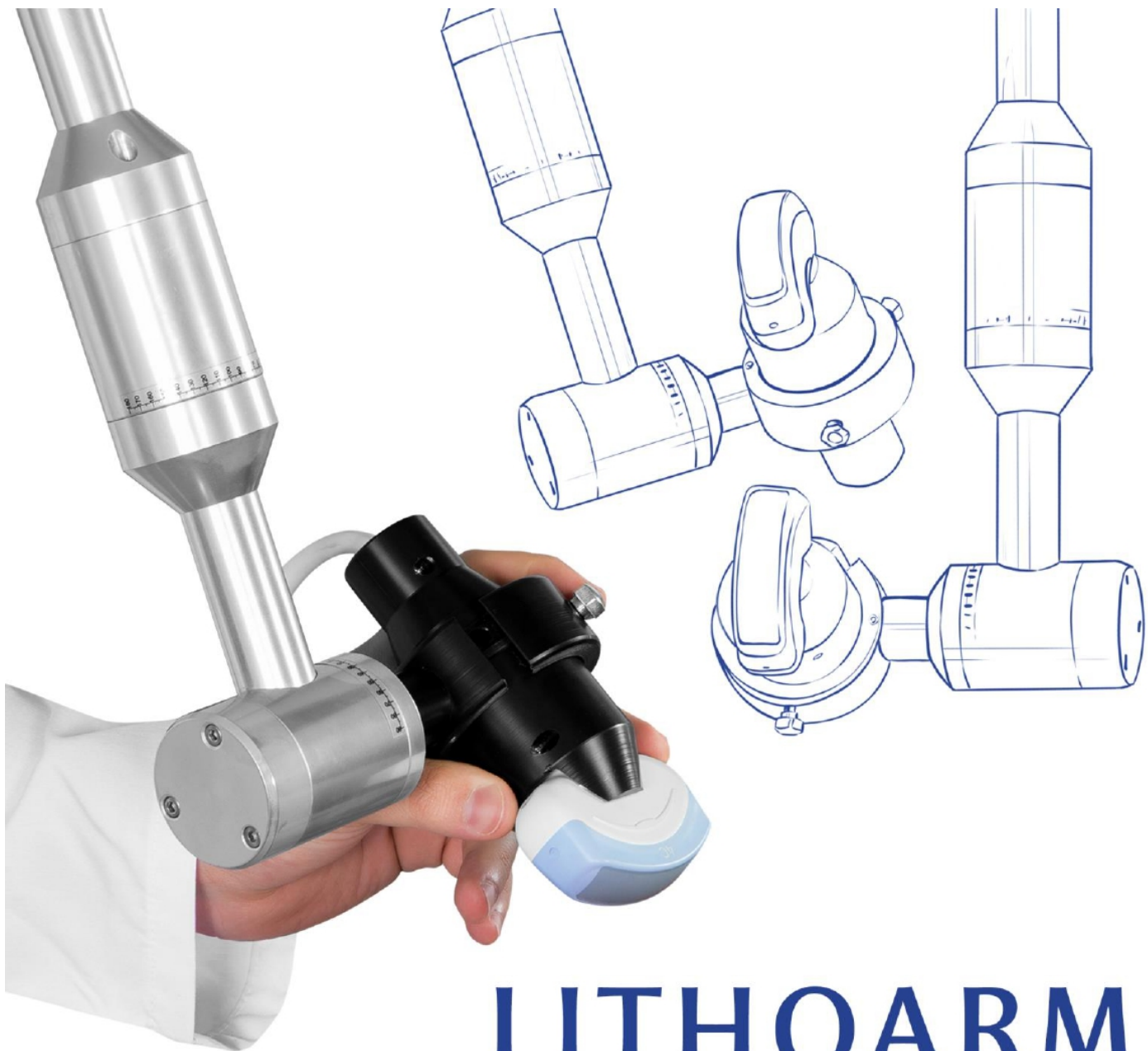
Remote Control

The main unit can be controlled remotely. The doctor can control all functions through remote control.

Multimed EM is equipped with the movable isocentric shockwave head enabling the user to move it in 4 different positions: over and under the table and their oblique positions, without changing the focal point.

This allows the user to choose an ideal shock wave coupling position to increase the effectiveness and success of the treatments.





LITHOARM

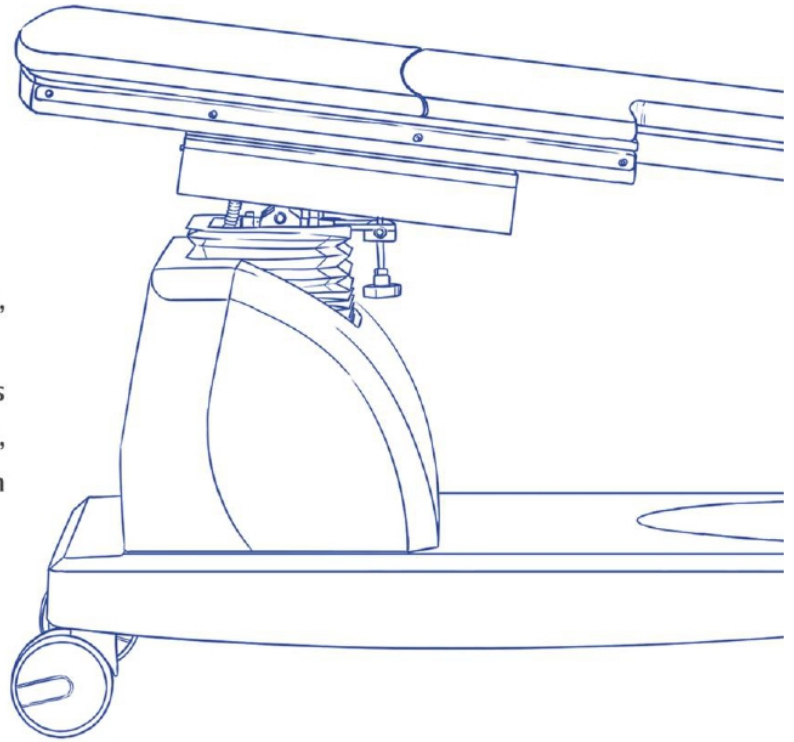
Ultrasound localization is performed with a fully automatic system and a fully advanced robotic arm.

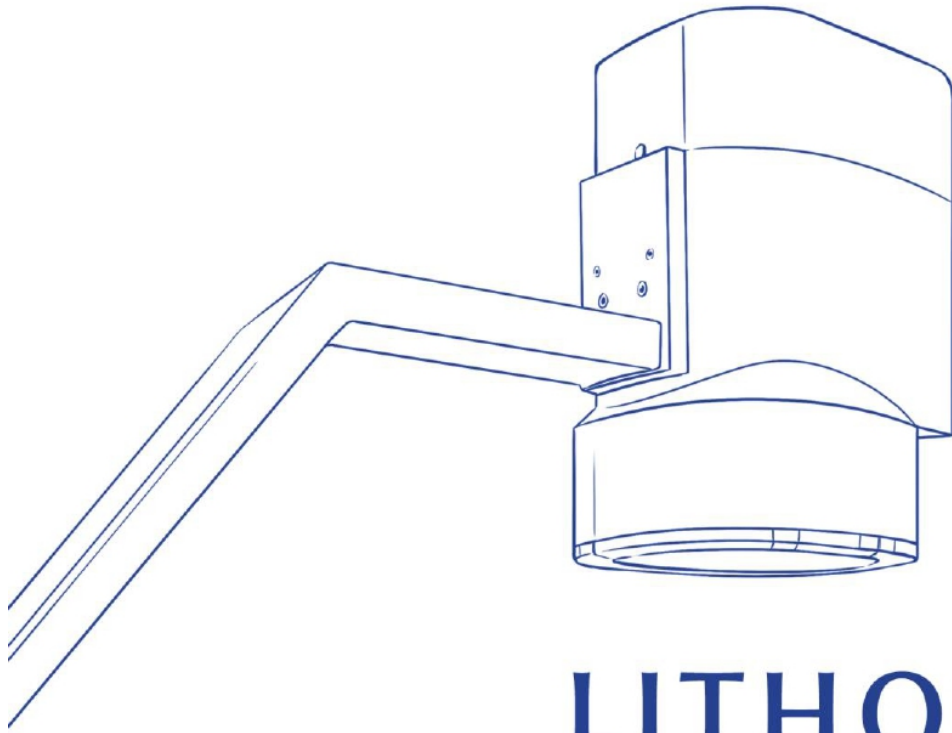
The user moves the ultrasound transducer carried by the robotic arm with his hand to find the stone.

After finding the stone, he presses the foot pedal. Then, the computer calculates the coordinates of the stone and the distance of the stone from the skin by robotic arm equations. After this procedure, the computer automatically brings the stone to the focal point by moving the treatment table in 3 axis. The process is extremely fast and easy. It takes just few seconds, since the user finds the stone by freely manipulating it like a usual ultrasound scan, there is no need to move the treatment table manually and it is a fully automated process by robotic technology.

TREATMENT TABLE

- Adaptable with fluoroscopy (radiolucent).
- With a modular design.
- Mobile and compact.
- Operate with remote control.
- With motorized movements in transverse, vertical, and longitudinal planes.
- Qualified for urological applications such as cystoscopy, ureteroscopy, catheterization, percutaneous nephrolithotomy, in addition to ESWL treatment.
- Moving in the trendelenburg position.





LITHOSCOPE FLUOROSCOPY DEVICE

Specially designed U-Arm

Lithoscope is an independent fluoroscopy device showing a continuous X-ray image on a monitor. It is controlled by the HMI control panel or the wired hand control unit.

During a fluoroscopy procedure, an X-ray beam is passed through the body. Then the image is transmitted to the monitor. Thus, it can display the location and movement of the stone in the kidney or urinary system in detail.

The device can be set to the lowest acceptable exposure due to the high quality image intensifier, in order to minimize the radiation risk.

In addition to ESWL treatment, the fluoroscopy device is extremely effective in endoscopic procedures that are operated with fluoroscopy methods, such as cystoscopy, ureteroscopy, catheterization, and percutaneous nephrolithotomy.

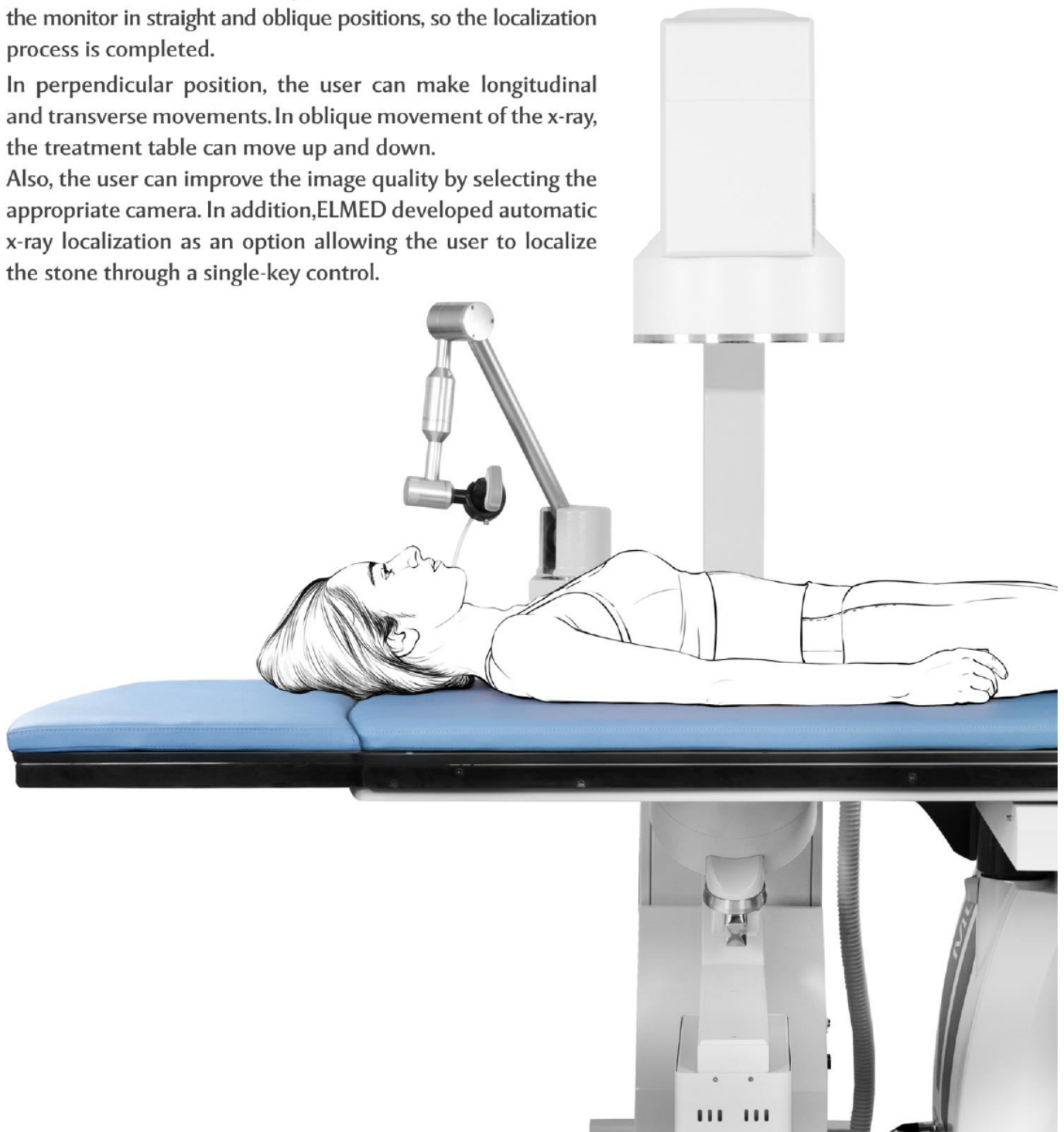
Focalization procedure by lithoscope

In order to bring the focal point with the help of the X-ray imaging device. Firstly, the user moves the fluoroscopy device to see the stone in the center of the monitor in the straight position.

Secondly, he/she rotates the U-arm to the oblique position. Then, the user makes the vertical movement to localize the stone in the center. In this step, if the stone is in the center of the monitor in straight and oblique positions, so the localization process is completed.

In perpendicular position, the user can make longitudinal and transverse movements. In oblique movement of the x-ray, the treatment table can move up and down.

Also, the user can improve the image quality by selecting the appropriate camera. In addition,ELMED developed automatic x-ray localization as an option allowing the user to localize the stone through a single-key control.



MULTIMED

SPECIFICATIONS:

MULTIMED EM	
Energy source	Electro-magnetic system (1.000.000 shock warranty)
Focusing	Acoustic lens
Patient coupling	Membrane (dry coupling)
Localization	Fluoroscopy and/or ultrasound
Focal distance	130 mm (up to 160 mm)
Focal dimension	7 mm*66 mm (50% isobar dim.)
Focal pressure	Up to 70 MPa
Operating voltage	Max. 12 level (max. 15 KV – 21 KV optional)
Frequency	Variable 40 – 150 shocks/min. (optional)
Energy density	6 – 60 mJ.
Triggering modes	Automatic and manual (EKG and respiration)
Water system	Closed loop circuit with water cushion pressure regulation and 8.5 lt. water capacity with degassing
Height	1200 mm
Length	930 mm
Width	70 mm
Weight	200 kg.

Treatment table	
Height	850 – 1150 mm
Surface width	600 * 2430 mm (different sizes optional)
Weight	155 kg.
Table adjustment limit	Electric motor movement in different directions (tilting and Trendelenburg optional)
Vertical movements	300 mm
Longitudinal movements	150 mm
Lateral movements	150 mm
Lifting capacity	200 kg.

LITHOARM Robotic Arm	
Manipulator type	Revolute type articulated arm
End effector	Ultrasound probe holder
Parameters	7 links, 6 joints, 5 angles
Angle sensors	Precision resistive angle sensors
Software	Windows
Application	Can be adapted to all lithotripters
Ultrasonography device	Can be used with 3.5 mHz convex probe of any ultrasound device

LITHOSCOPE U-Arm Floroscopy	
Power	3.5 KW (5 K, 15 KW – HF generator optional)
Fluoroscopy voltage (KV)	40 – 110 KV automatic brightness control (ops. 40 – 110 KV)
Fluoroscopy current (mA)	0.5 – 3.5 Ma (ABC) two main options
Image intensifier	9" (12" optional)
x-ray tube	Monobock, fixed anode, dual focus, standard 0.6 – 1.8 mm focal spot (rotating anode optional)
Anode heating capacity	40 kHu (optional 0.5 – 1.5 mm or 0.3 – 0.6 mm rotating anode, 200kHu anode heating capacity)
TV camera	High resolution CCD camera (1024*1024 optional)
Monitor	19" BW, 625/50 Hz or 650/60 Hz for medical purposes (optional 19", 21", TFT, LCD, color)
Contrast	35:01
Memory system	Last image hold (LIH), optional 4-128 image memory, DICOM 3.0 compatible recording system
Height	2010 mm
Length	1380 mm
Width	500 mm
Weight	225 kg

General	
Main supply	230 VAC \pm 10, 50 – 60 Hz, single phase (115 VAC optional)
Compliance	Compile with IEC 60601-1; Class 1, Type B 93/42/EEC, Class IIb

HEADQUARTERS

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