RICHARD WOLF
spirit of excellence

ELvation®
think in value

PiezoWave 2T

Piezo shockwave in all its diversity.

The 4th generation of focused piezo shockwave therapy.

MultiUse

ESWT in regenerative medicine

An innovative therapeutic approach to regenerate injured tissue.

Effective treatment – with few side-effects and non-invasive – is one of the fundamental goals of medical research, both for Richard Wolf GmbH and ELvation Medical GmbH, and worldwide. Study results in recent decades have shown that extracorporeal shockwave treatment (ESWT) fulfils these criteria for many disorders.

This unique medical technology transforms the mechanical energy of shockwaves into biochemical signals in diseased target tissue, triggering a cascade of cellular and molecular processes. This process is referred to as mechanotransduction. It stimulates microcirculation and the release of substance P and nitric oxide (NO), which contribute to vasodilation, a faster metabolic rate and angiogenesis, as well as having an anti-inflammatory effect. The process also releases growth factors (blood vessels, epithelium, bones, collagen, etc.) and stimulates lubricin production and stem cells.

Consequently, ESWT is able to repair pathologically damaged tissue and regenerate tissue, leading to complete self-healing.

PiezoWave^{2T} Advantages:

Its level of quality and exceptional output levels coupled with a new system of controls set the benchmark for extracorporeal shockwave therapy.

- The right therapeutic focus for every indication
- Direct focusing – the gentlest and most precise method of generating shockwaves
- Penetration depth can be incrementally adjusted
- Unique longevity
- Stable frequency/energy flux density ratio
- Exceptionally low maintenance
- Dual-View – support when selecting parameters
- The ELvation HUB – access to the latest information about settings and applications, available everywhere and at any time
- T-Mode. An innovative and unique treatment concept

Our 4th generation of focused piezo shockwave therapy. Made by experience.

The MultiUse series

Compatible with all single- and double-layer therapy sources

The ELvation HUB – parameter selection support. Access to the latest information about settings and applications, available everywhere and at any time*

Dual-View tablet holder means you can always keep an eye on your iPad when treating patients

T-Mode – a new treatment concept with different frequency modes, especially developed and patented by Richard Wolf

Integrated therapy source bracket

High-quality HV connector with plug-and-play recognition

Tilted screen allows the information displayed to be read when standing or sitting

Compatible therapy source bracket for the secure suspension of two more therapy sources

Rail to move the PW^{2T} easily and hang paper towels

Optimized high-voltage generator ensures a stable frequency/energy flux density ratio and can handle single- and double-layer therapy sources

Silent in standby mode

Tilted gel storage tray makes it easier to reach the gel bottle

2 storage shelfs with fixation for the range of different gel pads

Large, smooth-running castors with ESD protection

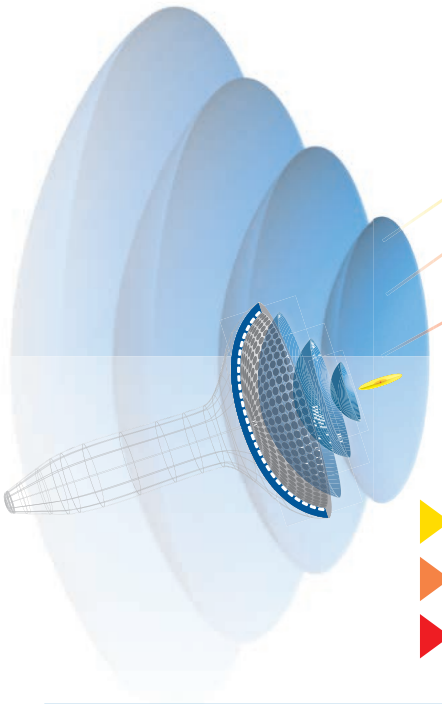
Foot switch optional to control intensity levels and trigger shockwaves

Medical Design.
Optimized to support you.

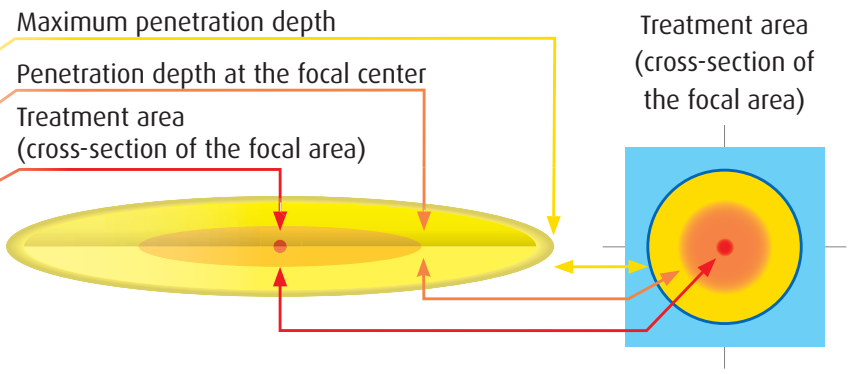
*optional

PiezoWave^{2T} Therapy Sources

High-energy and as versatile as your patients' needs.
All therapy sources can be freely selected.



Impact zones and penetration depths



- Yellow zone: 5MPa zone: acoustic pressure is at least 5 MPa
- Orange zone: -6dB zone: 50% of the maximum acoustic pressure
- Red dot: maximum acoustic pressure in MPa

Therapy source F7G3

Convenient therapy source with a small focal center

Focal characteristics and areas of application:

- small and precise focal zone to diagnose and locate pain points
- MSK: predominantly detects and treats near-surface myofascial structures (e.g., tendinopathies, trigger points in the shoulder-arm region)
- Urology: Peyronie's disease
- 30 mm penetration depth at the focal center
- Max. EFD: 0.4 mJ/mm^2

Therapy source F10G4

The „All-Rounder" with exceptional performance data

Focal characteristics and areas of application:

- precise focus to locate pain points, uniquely powerful to treat a wide range of standard ESWT indications
- MSK: pseudarthrosis, tendinopathies, etc.
- 40 mm penetration depth at the focal center
- Max. EFD: 0.82 mJ/mm^2

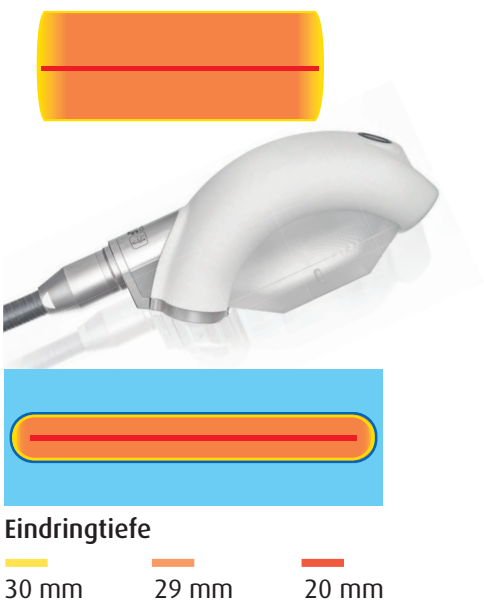
MSK: musculoskeletal
Penetration depth focal center: the point with the highest acoustic pressure
EFD: energy flux density

Therapy source F10G10

High penetration depth and elongated focal zone

Focal characteristics and areas of application:

- elongated focal zone capable of treating several tissue layers and large-volume areas
- MSK: predominantly deep myofascial structures (e.g., tendinopathies and trigger points in the hip and gluteal region)
- Urology: chronic pelvic pain syndrome (CPPS)
- 100 mm penetration depth at the focal center
- Max. EFD: 0.32 mJ/mm²



Therapy source FBL10x5G2

Linear focus with a large volume and the highest pulse energy

Focal characteristics and areas of application:

- linear shape of the focal zone ensures a homogenous transfer of energy across the surface, and a dynamic, efficient application along the length of extended structures
- MSK: for large myofascial structures which are close to the surface (e.g., Achilles' tendon, plantar fascia, etc.)
- Urology: erectile dysfunction (ED)
- Dermatology: chronic ulcers
- 20 mm penetration depth at the focal center
- Max. EFD: 0.16 mJ/mm²

Therapy source FB10G6

Powerful source with a high penetration depth

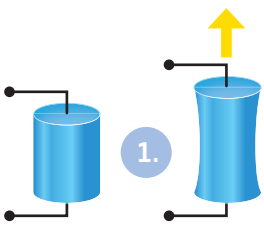
Focal characteristics and areas of application:

- large focal volume to treat large areas (e.g., large calcifications, broad tendon insertions, trigger points)
- remains powerful when treating deeper underlying structures which require higher intensities (e.g., pseudarthrosis)
- MSK: pseudarthrosis, tendinopathies, etc.
- 60 mm penetration depth at the focal center
- Max. EFD: 0.7 mJ/mm²

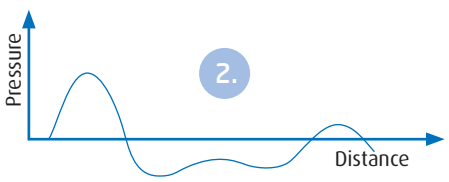
Direct focusing with multiple piezoceramic elements

The gentlest and most precise method of generating shockwaves.

The PiezoWave^{2T} makes use of one of the most advanced and powerful methods of creating shockwaves: direct focusing. This technology does not use acoustic lenses or reflectors which can disturb or diminish the generated pulses (s. p.7 below). The pressure pulse created by the piezo elements travels through tissue without damaging it and only builds up to a shockwave in the focal zone, i.e., in the target tissue. The surrounding healthy tissue is not affected. Direct focusing creates precise focal zones; it is quiet and can be used to create a range of different focal shapes adapted to different indications.



Pressure pulse
Created by an inverse piezo effect

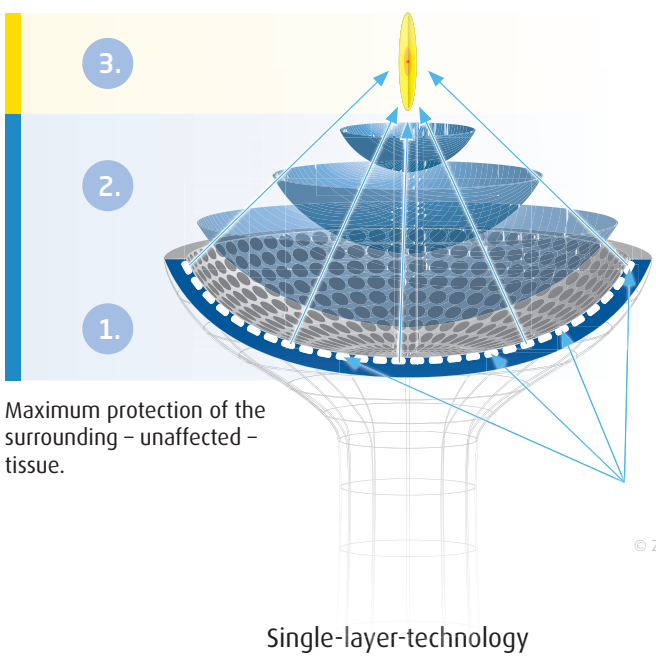


Building up a pressure wave

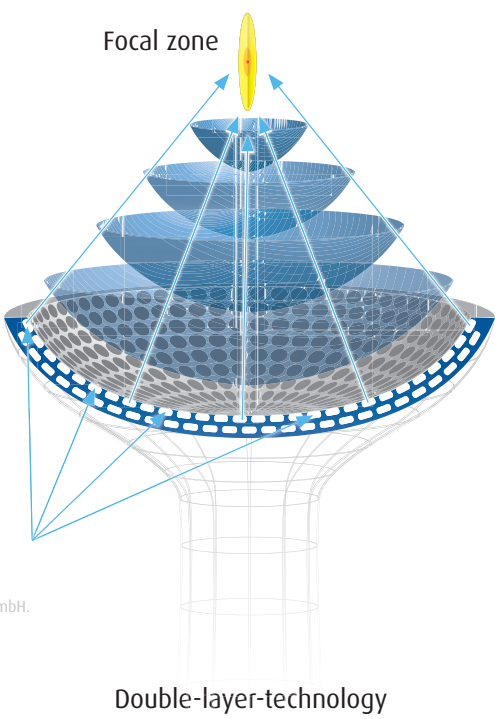
Building up a shockwave

Maximum energy in the focal treatment area.

Maximum protection of the surrounding – unaffected – tissue.



Single-layer-technology

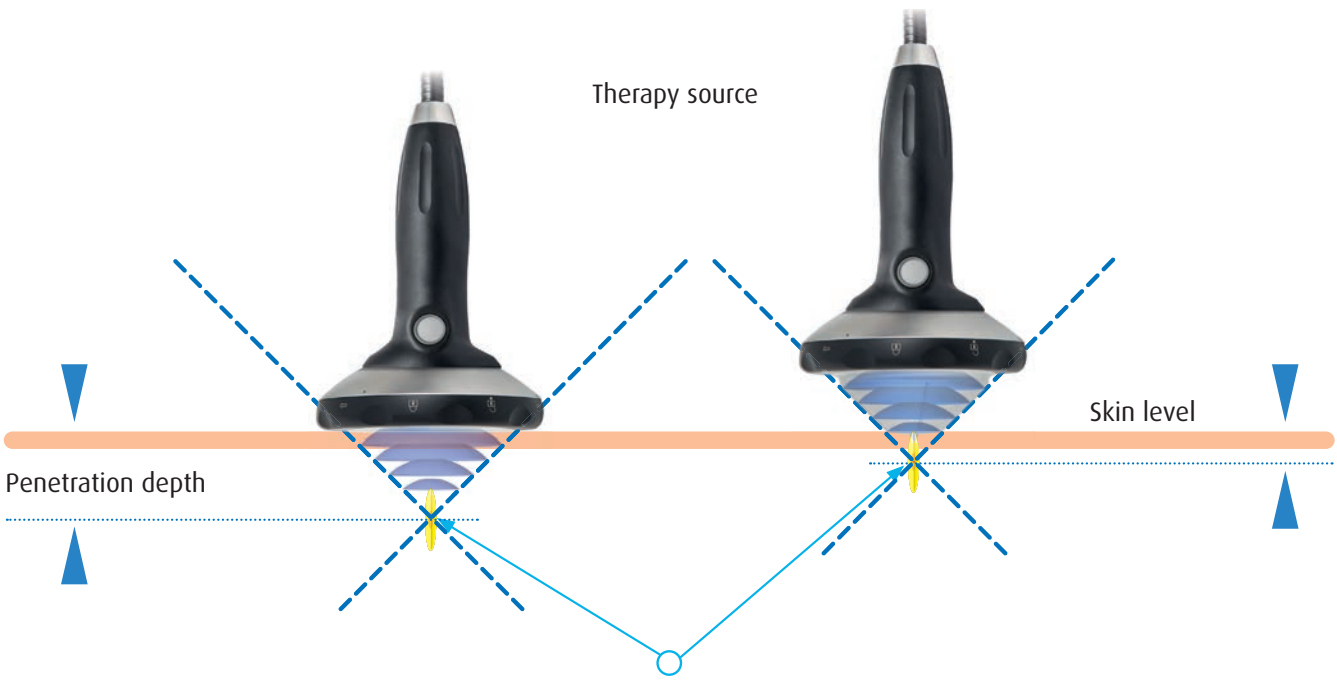


Double-layer-technology

Precise, incremental adjustment of the penetration depth

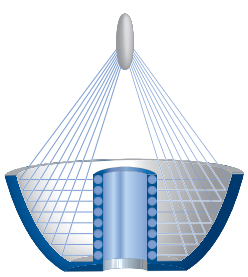
in 5 mm, 10 mm or 20 mm steps using gel pads.

Carefully gradated gel pads are used to precisely position the point of focus.
The shockwave pulses are triggered by a button integrated in the handle or an optional foot switch. The foot switch can also be used to control the intensity level.



Maximum energy density which can be applied to treatment areas at different depths.

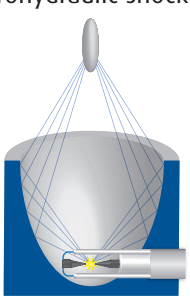
Electromagnetic shockwave



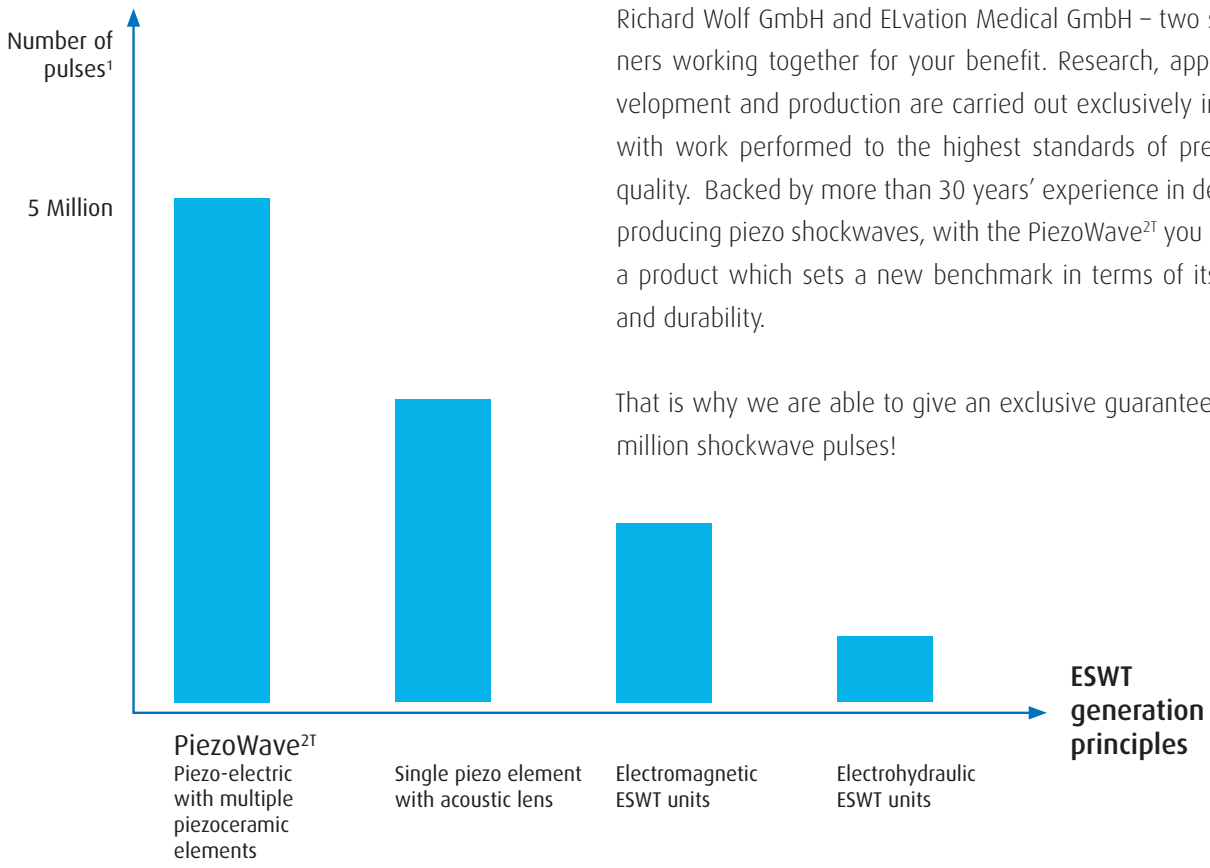
Conventional shockwave generation with indirect focusing

Other technologies use what is known as indirect focusing to generate shockwaves. Reflectors are used to redirect acoustic fields, which can potentially result in a decrease in energy.

Electrohydraulic shockwave



More than 30 years of experience with piezo shock-wave technology – we guarantee 5 million pulses!



Richard Wolf GmbH and ELvation Medical GmbH – two strong partners working together for your benefit. Research, application development and production are carried out exclusively in Germany with work performed to the highest standards of precision and quality. Backed by more than 30 years' experience in defining and producing piezo shockwaves, with the PiezoWave[2T] you are getting a product which sets a new benchmark in terms of its longevity and durability.

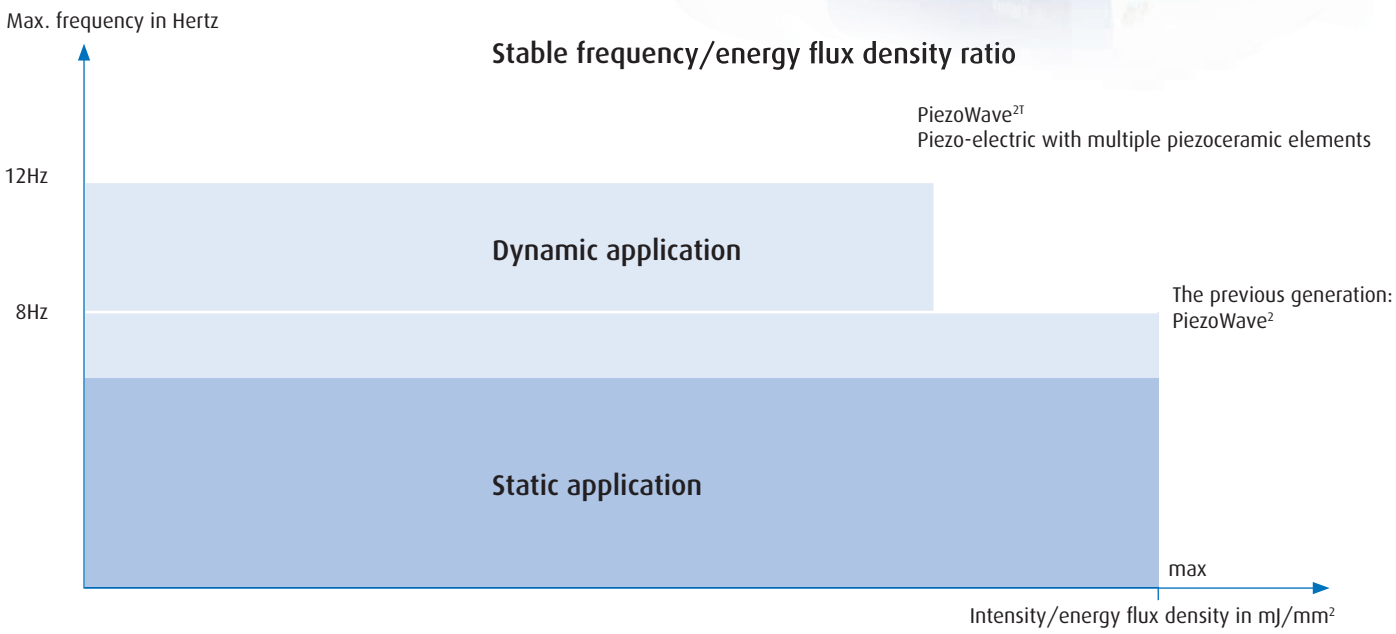
That is why we are able to give an exclusive guarantee of up to 5 million shockwave pulses!

Stable frequency/energy flux density ratio

Conventional and previous ESWT technologies inadvertently reduce the shockwave frequency when utilizing higher intensities as their technical capabilities are limited. In contrast, the new high-voltage generator of the PiezoWave^{2T} guarantees a stable frequency/intensity ratio across a wide area.

This expands the range of ESWT options for dynamic applications when the therapy source is moved across the target tissue. Shockwaves can be applied quickly and homogenously over extended anatomical structures at frequencies of up to 12 Hertz, even at high intensity levels.

For the highest intensity levels, we have reduced the frequency to max. 8 Hz following the ISMST/DIGEST guidelines.



The PiezoWave^{2T} gives you more time to spend on important things – it is exceptionally low maintenance

As it has no water circulation system, it does not require maintenance services such as regular emptying, de-aerating, etc.

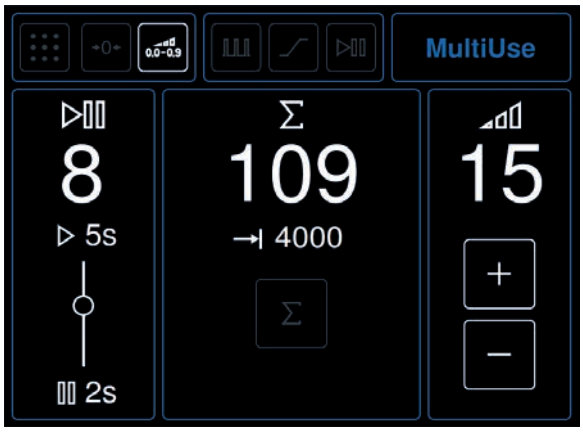
T-Mode

An innovative and unique treatment concept – especially developed and patented by Richard Wolf GmbH.

The scientific literature has found that the frequency of extracorporeal stimuli has a relevant impact on mechanotransduction, i.e., the transformation of mechanical stimuli into biochemical signals. Certain frequencies can be specifically used for therapeutic purposes.

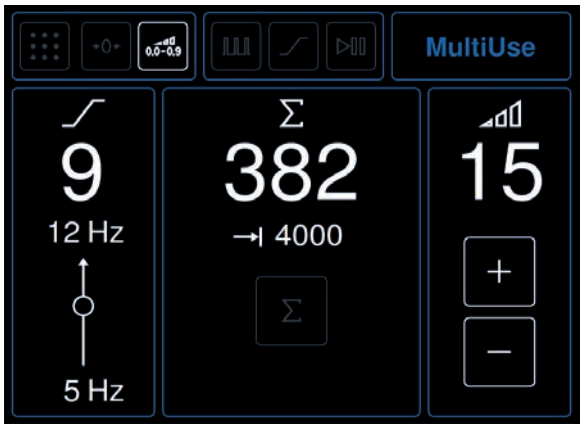
T-BURST

The T-BURST frequency mode refers to a series of successive pulse packages interrupted by a brief pause. The duration of pulses and pauses and the frequency are defined before starting treatment. The target tissue experiences a constant shift between the stimulus and respite from the stimulus.



T-RAMP

With the T-RAMP mode, there is a gradual increase in frequency over a defined period of time. The initial frequency and the ultimate frequency as well as the time period during which the frequency increases are defined before starting treatment. It is used for dynamic applications to treat tendons, the musculotendinous junction, and the muscle belly.



Expert view/mode

During the treatment, you can individually display the set total energy flux density (mJ/mm2), the set positive peak pressure (MPa) and the remaining treatment time.

Dual-View

We support your decision-making to find the parameters you need.

Start up quickly via the parameter interface

Uncomplicated and quick access to your treatment via the parameter interface on our integrated touch display. The parameters could be gradually adjusted in parameters of 20 + 9 intensity levels steps according to the requirements of the patient and the application.

Detailed induction using the application experience of the ELvation HUB – giving you the quintessence of our experience.

You also have the option to set parameters based on the latest user experiences. Our ELvation HUB is an online information platform which provides constantly updated information about the most recent data for applications and settings experiences and make them available to you as a digital library.

It gives you access to application videos, information on how to operate the unit and position the patient as well as appropriate settings for different applications. Our webinars recorded by experienced users provide you with new ideas to treat your patients. Additional background information, current and baseline studies, and more details about the technology from our latest brochures are also available online.

ESWT

Successfull across different medical specialties.

All over the world, ESWT is considered the method of choice to treat a range of musculoskeletal disorders. With the piezo shockwave, you can select the right therapy focus for every indication, which increases the chances of therapeutic success.

New ESWT approaches to treat erectile dysfunction (ED), chronic pelvic pain syndrome (CPPS) and Peyronie's disease are showing promising results. Based on sufficient evidence, low-energy focused shock wave therapy is one of the „first-line" therapies in the EAU Guidelines for the treatment of ED.

Scientific studies and publications, some of which also used focused piezo shockwaves, have described the how ESWT stimulates and accelerates wound healing.

ELvation® think in value

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ESWT/ESWL Team of
RICHARD WOLF
spirit of excellence

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[1]Average values are based on information available at the time of printing - all specifications relating to other technologies may vary from manufacturer to manufacturer.

ELVM-0163 PiezoWave[2] Piezo shockwave in all its diversity. MultiUse