PiezoWave 2T

Manufactured by Richard Wolf,
distributed by Elvation.

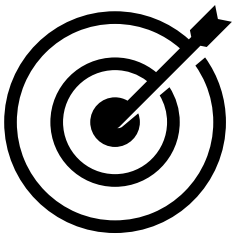
Piezo Shockwaves
The full range

Successful therapy
starts with the
right technology.

Elvation®

RICHARD WOLF

PiezoWave^{2T}



More flexibility. More options.

Your system.

The PiezoWave^{2T} with individually selectable therapy sources allows you to adjust your shockwave therapy and customize it like your workplace. You can choose the standard range or focus on specific treatment areas – the right system configuration ensures precise applications for every indication.

This brochure shows the available options – allowing you to decide which one is suitable for your needs

Contents.

ESWT in regenerative medicine

Treatment – preferably with no side effects and non-invasive.

This has always been a fundamental goal in medicine and has long been the aim of Richard Wolf GmbH and ELvation Medical GmbH. Studies in recent decades have confirmed that focused extracorporeal shockwave therapy (ESWT) meets these treatment criteria for a range of different syndromes.

Shockwaves are brief, energy-dense mechanical-acoustic waves which are transformed into biochemical signals in diseased target tissue to initiate a complex cascade of cellular and molecular reactions (also known as mechanotransduction). Reactions include stimulation of the microcirculation and release of “substance P” and nitrogen monoxide (NO), which leads to vasodilation, increased cellular metabolic activity, angiogenesis, and inflammation-modulating effects. A number of different growth factors are also released, and lubricin and mesenchymal stem cells are activated. ESWT promotes the repair of damaged tissue, supports regeneration, and assists in complete tissue healing.

Rely on the pioneer.

With more than 40 years’ experience with piezo shockwaves, Richard Wolf GmbH and ELvation Medical GmbH have developed high-quality solutions for sustainable and successful therapeutic outcomes.

Your benefits from the PiezoWave^{2T}

Practical technology – uncompromising quality and handling.

- The right therapeutic focus for every indication
- Direct Focusing – the most gentle and precise method to generate shockwaves
- Penetration depth can be incrementally adjusted
- Unique longevity
- Stable frequency/energy flux density ratio
- Exceptionally low maintenance
- Elvation Hub – access to the latest information on settings and application experiences, available everywhere and at any time
- T-Mode – a patented treatment concept

The BASIC range

For all single-layer therapy sources

1 Elvation Hub – supports your decision-making to find the parameters you need. Allows you to access settings and user experiences everywhere and at any time

2 Integrated therapy source holder

3 The tablet holder keeps your iPad always in view during treatment sessions.
The iPad is optional

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

5 High-quality high voltage connector with plug-and-play therapy source recognition

6 High voltage generator for all single-layer therapy sources.
Whisper-quiet in standby

7 Storage tray with fixation for different gel pad types

8 Tilted screen allows content to be read while sitting or standing

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

10 Tilted gel storage compartment ensures gel bottle is easily accessible

11 Large smooth-running casters with ESD protection

Standard BASIC models include a high-quality equipment trolley. A simple version is optionally available which can be viewed using this QR code.

The MULTIUSE range

Ready for all single- and double-layer therapy sources

The UNLIMITED range

The system for every option

The UNLIMITED range was developed for use in large surgeries and hospitals for all specialties providing ESWT treatment.

The control unit and equipment trolley are the same as for the MULTIUSE range. The UNLIMITED range includes the single-layer therapy sources F10G4 and F10G10 and the double-layer therapy sources FBL10x5G2 and FB10G6

12 Compatible therapy source holder for two more therapy sources.

13 High-performance high voltage generator for all single- and double-layer therapy sources Whisper-quiet in standby mode

14 2 storage shelves with fixation for different gel pad types

15 Optional foot switch to control intensity levels and trigger the shockwave

Overview of features

Feature	Basic	MultiUse	Unlimited
Integrated therapy source holder	✓	✓	✓
High-quality HV connector with plug-and-play recognition	✓	✓	✓
High voltage generator for all single-layer therapy sources	✓	✓	✓
Shelf for gel pads	✓	✓	✓
Tablet holder	✓	✓	✓
T-Mode	✓	✓	✓
Tilted screen	✓	✓	✓
Rail to move the PiezoWave^{2T}	✓	✓	✓
Tilted gel storage compartment	✓	✓	✓
Large casters with ESD protection	✓	✓	✓
Compatible therapy source holder for two more therapy sources		✓	✓
High-performance high voltage generator for all single- and double-layer therapy sources		✓	✓
Additional tray for gel pads (2 shelves)		✓	✓
Foot switch		✓	✓
F10G4 therapy source			✓
F10G10 therapy source			✓
FB10G6 therapy source			✓
FBL10x5G2 therapy source			✓
Tablet	optional	optional	optional
Handheld ultrasound	optional	optional	optional

Ask for a free consultation

Find out which solution is best for you.

Personal consultation:
+49 (0) 7231 – 56 36 56

Use our contact form or live-chat:
www.elvation.de/kontakt/

PiezoWave^{2T} therapy sources

High energy and as varied as the needs of your patients. All therapy sources freely selectable.

As the number of indications for shockwave therapy has increased, the required physical properties of focal zones have also expanded – especially in terms of their penetration depth, intensity, shape, and volume.

Richard Wolf GmbH and ELvation Medical GmbH have made it their mission to develop optimal indication-specific therapy sources with adjustable focal zones which provide individually customized, effective treatment.

Single-layer therapy sources: The precise allrounders

F7G3 therapy source

Light and handy

EFD MAX **0,403 mJ/mm²**

Penetration depth / central focal zone

central	0 - 30 mm
5 MPa*	20 - 40 mm

Suitable for:

Musculoskeletal disorders:
- small superficial structures (e.g., hand, shoulder, foot, ankle)
- pointed structures with limited contact surfaces (e.g., epicondyle of the humerus, tuberosity of the tibia)

Urology:
- superficial, clearly delineated structures (Peyronie's disease)

F10G4 therapy source

The allrounder with an exceptional performance

EFD MAX **0,822 mJ/mm²**

Penetration depth / central focal zone

central	5 - 40 mm
5 MPa*	14 - 66 mm

Suitable for:

Musculoskeletal disorders:
- versatile, for all pathologies requiring a penetration depth between 5 and 40 mm in the central focal zone

Urology:
- clearly delineated structures which require high intensity (Peyronie's disease)

F10G10 therapy source

Deep penetration depth with elongated focal zone

EFD MAX **0,323 mJ/mm²**

Penetration depth / central focal zone

central	10 - 100 mm
5 MPa*	28 - 172 mm

Suitable for:

Musculoskeletal disorders:
- deep trigger points in the hip and buttock areas, e.g., the piriform muscle, quadratus lumborum
- obese patients

Urology:
- deep underlying structures, e.g., trigger points in the pelvic floor musculature affected by CPPS

*Max. intensity level

Double-layer therapy sources: The powerful specialists

FB10G6 therapy source

High performance due to patented double-layer technology

EFD MAX **0,702 mJ/mm²**

Penetration depth / central focal zone

central	0 - 60 mm
5 MPa*	21 - 99 mm

Suitable for:

Musculoskeletal disorders:
- large areas, e.g., extensive calcium deposits, broad tendon insertions and to cover the fracture gap during pseudarthrosis treatment
- deep underlying structures, e.g., trigger points in the hip and buttock areas

Urology:
- deep underlying structures, e.g., trigger points in the pelvic floor musculature affected by CPPS

FBL10x5G2 therapy source

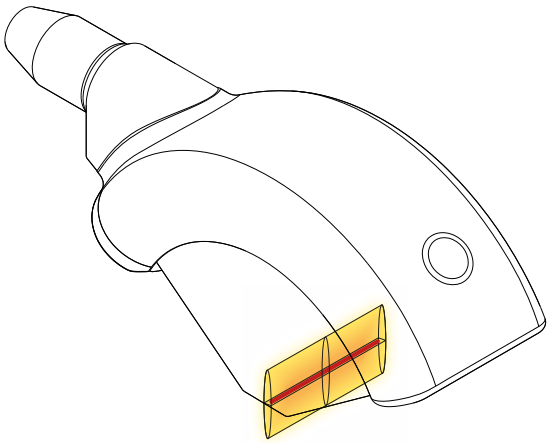
Linear focus with a large treatment volume

EFD MAX **0,160 mJ/mm²**

Penetration depth / central focal zone

central	0 - 20 mm
5 MPa*	10 - 30 mm

Linear focus is perpendicular to the therapy source



Suitable for:

Musculoskeletal disorders:
- superficial broad myofascial structures, e.g., the iliotibial band, the thoracolumbar fascia

Urology:
- extended coverage of the corpora cavernosa when treating erectile dysfunction

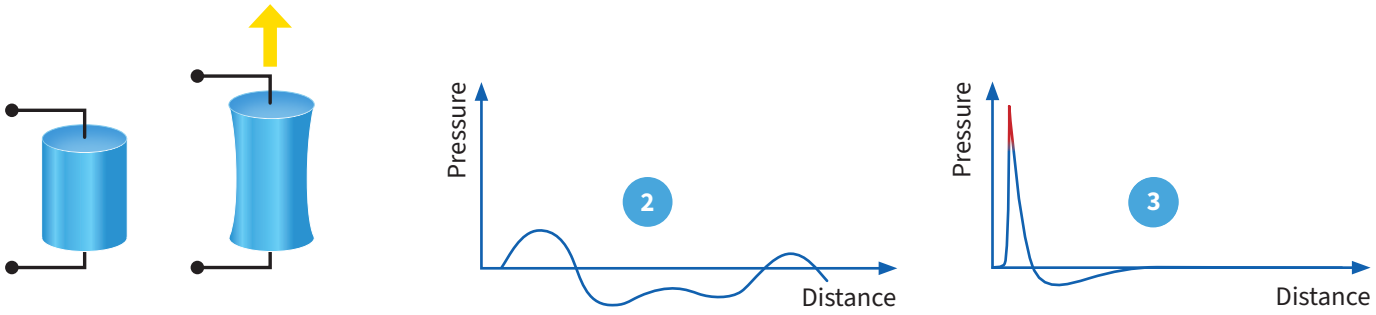
Dermatology:
- diabetic foot syndrome
- pressure ulcers
- cellulite

*Max. intensity level

“Direct Focusing” with multiple piezo-ceramic elements

A gentle precise method to generate shockwaves

The PiezoWave^{2T} uses efficient high-performance technology to generate shockwaves with Direct Focusing. The PiezoWave^{2T} does not require acoustic lenses or reflectors which limit or dull the pulses (s. Fig. below). The pressure pulse generated by piezo-ceramic elements passes gently through tissue and only forms a shockwave in the focal zone, i.e. in the target tissue. The surrounding healthy tissue is unaffected. Direct Focusing creates precise focal zones; the technology is quiet and generates different focal shapes adapted to individual indications.



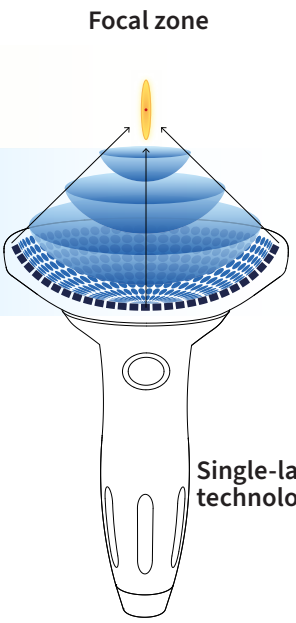
1 — **Pressure pulse** created by the inverse piezo effect

2 — **Generation of a pressure wave**

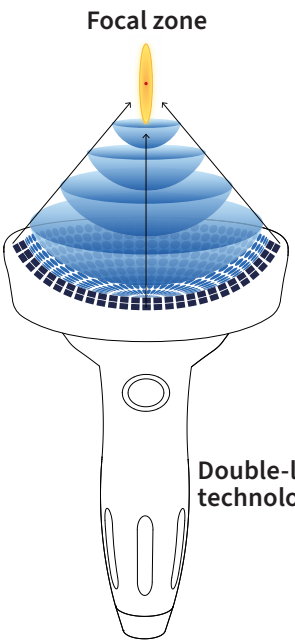
3 — **Formation of a shockwave**

Maximum penetration depth in the central focal point (3).

Surrounding tissue is unaffected (1, 2).



Single-layer technology

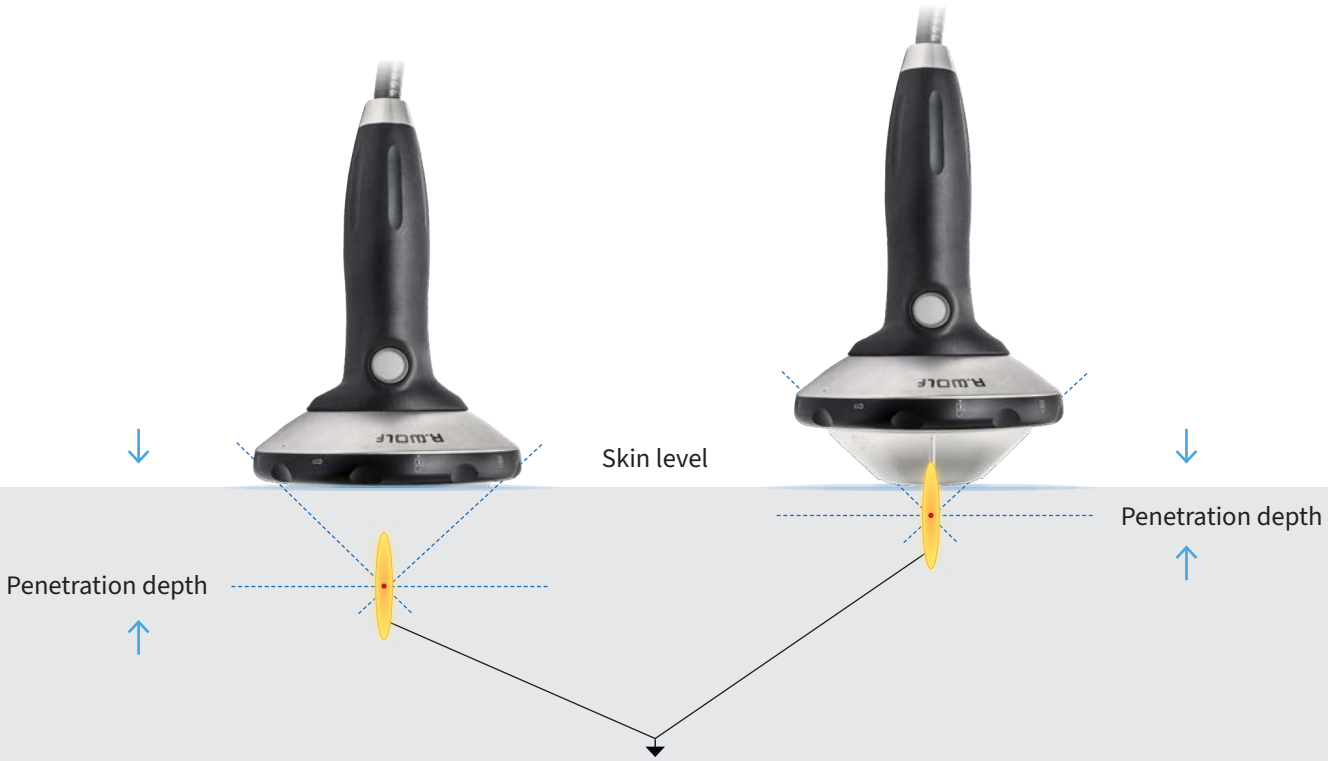


Double-layer technology

Gel pads are used to achieve a delicate, precise gradation of the penetration depth

5 mm, 10 mm or 20 mm increments.

Carefully gradated gel pads are used to precisely position the focal point. The shockwave pulse is triggered by the integrated switch in the handle or the optional foot switch. The foot switch can also be used to control the intensity.

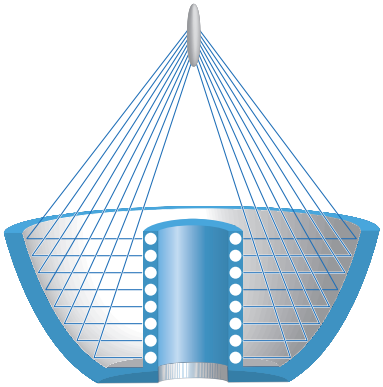


Maximum energy density which can be applied to the targeted treatment area at different depths.

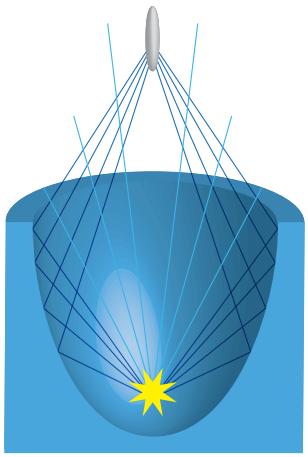
11

Conventional shockwave generation uses “Indirect Focusing”

Other technologies use indirect focusing to generate shockwaves. Reflectors redirect the acoustic fields which can lead to a possible loss of performance.



Electromagnetic shockwave

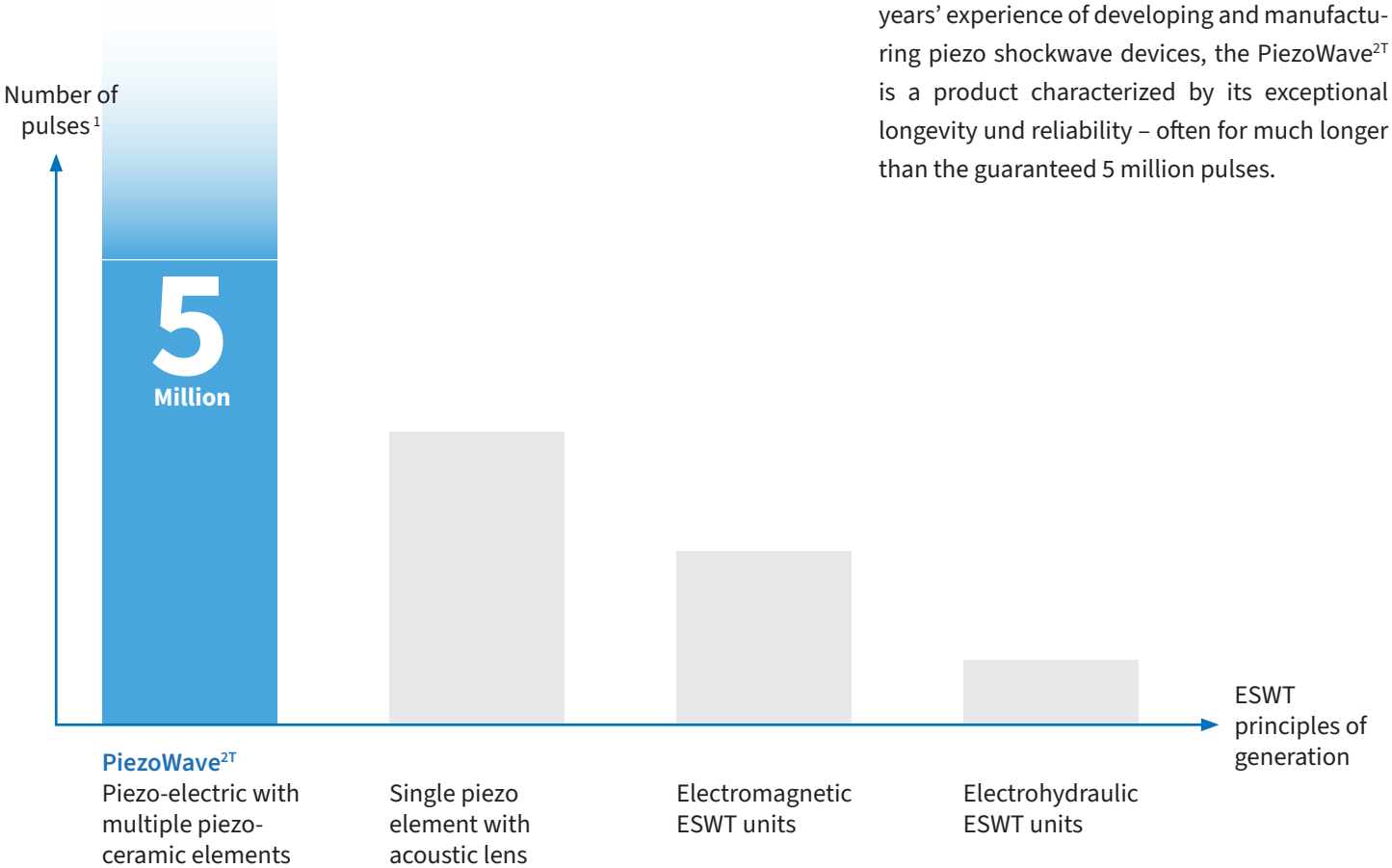


Electrohydraulic shockwave

PiezoWave^{2T}: More than 40 years’ piezo experience, guaranteed 5 million pulses

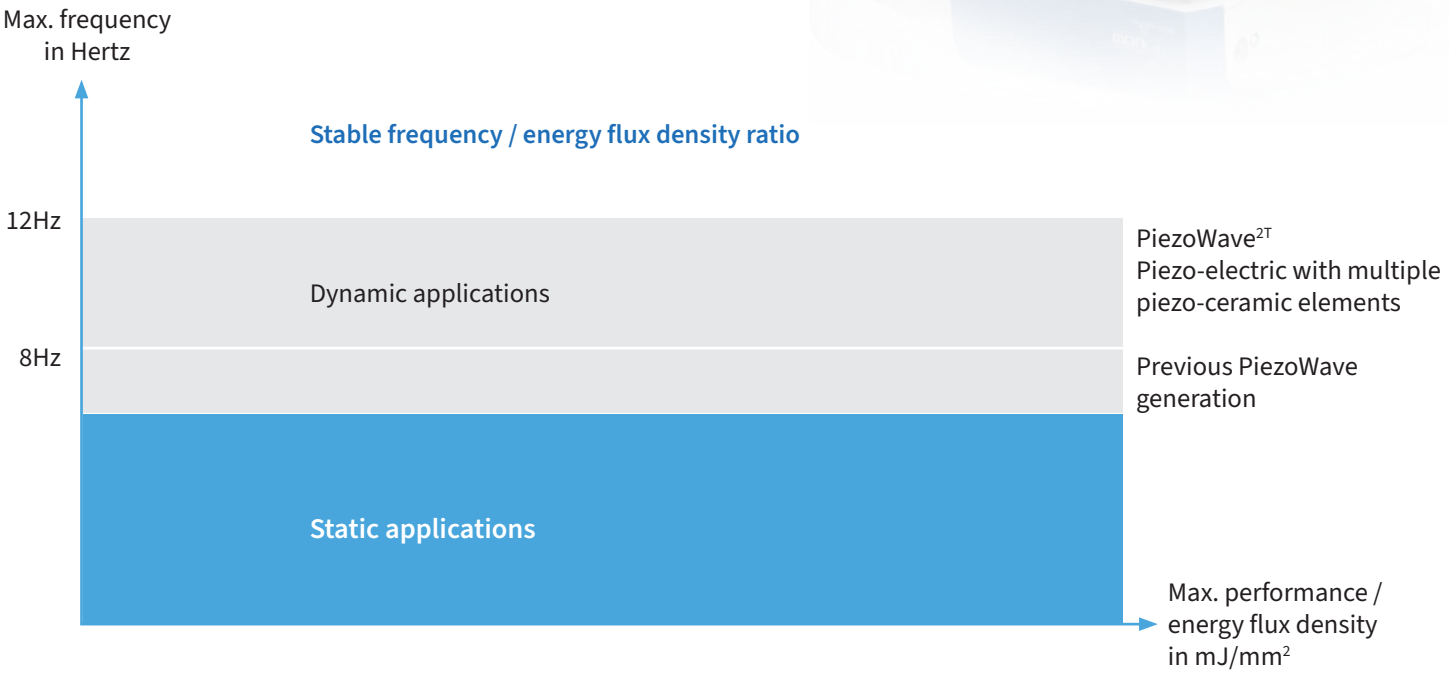
Developed for the highest level of precision – built for a life span which goes beyond the specifications in the warranty.

Richard Wolf GmbH and ELvation Medical GmbH – two strong partners working together for your benefit. Research, application development, and production are carried out only in Germany, using maximum precision and based on the highest commitment to quality. With more than 40 years’ experience of developing and manufacturing piezo shockwave devices, the PiezoWave^{2T} is a product characterized by its exceptional longevity und reliability – often for much longer than the guaranteed 5 million pulses.



Stable frequency / energy flux density ratio

Conventional and previous ESWT technologies inadvertently reduce shockwave frequencies when higher intensities are utilized, as their technical capabilities are limited. In contrast, the high-performance high voltage generator of the PiezoWave^{2T} guarantees a stable frequency / intensity ratio across a wide area. This has expanded the range of options using ESWT in dynamic applications, i.e., when the therapy source is moved across target tissue. Patients can be treated with frequencies up to 12 Hertz, even at high intensities, with the therapy source moved quickly and homogeneously across extended anatomical structures. Following the guidelines of the ISMST/DIGEST we have reduced the frequency at the highest intensity levels to a maximum of 8 Hz.



Exceptionally low maintenance

The PiezoWave^{2T} leaves you more time to focus on the essentials. The lack of a water circulation system means that none of the associated maintenance jobs such as regular emptying and venting, etc. are needed.

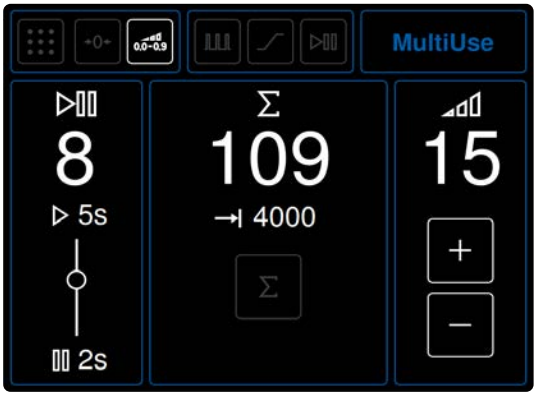
T-Mode

An exceptional treatment concept – developed and patented by Richard Wolf GmbH.

In the scientific literature, the frequency of extracorporeal stimuli is considered relevant for mechanotransduction, i.e., the conversion of mechanical stimuli into biochemical signals. Targeted use of certain frequencies allows them to be used for therapeutic purposes.

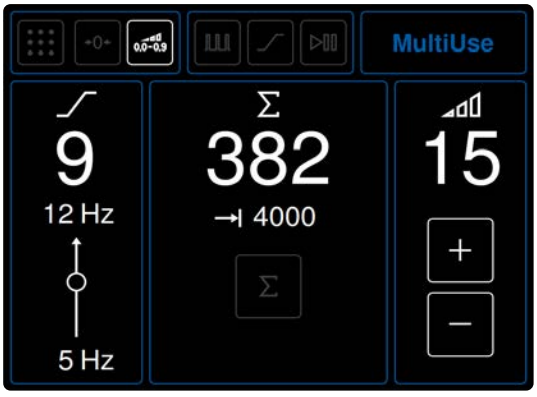
T-BURST

The T-BURST frequency mode consists of successively activated pulse packets interrupted by a brief pause. The duration of the pulses and pauses and the frequency are predetermined. The target tissue undergoes a constant alternation between stimuli and respite from stimuli.



T-RAMP

The T-RAMP mode consists of a gradual ramping up of the frequency over a defined period of time. The initial frequency and ultimate frequency and the time during in the frequency is increased are predefined. Dynamic applications are used to treat tendons, myotendinous junctions, and the muscle belly.



EXPERT OPINION/MODE

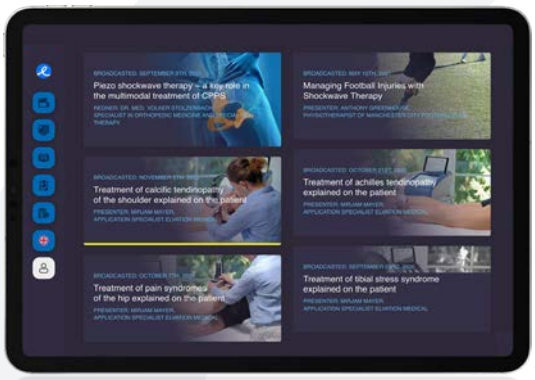
This mode allows you to individually display the preset total energy flux density (mJ/mm²), the preset positive peak pressure (MPa), and the remaining treatment time.

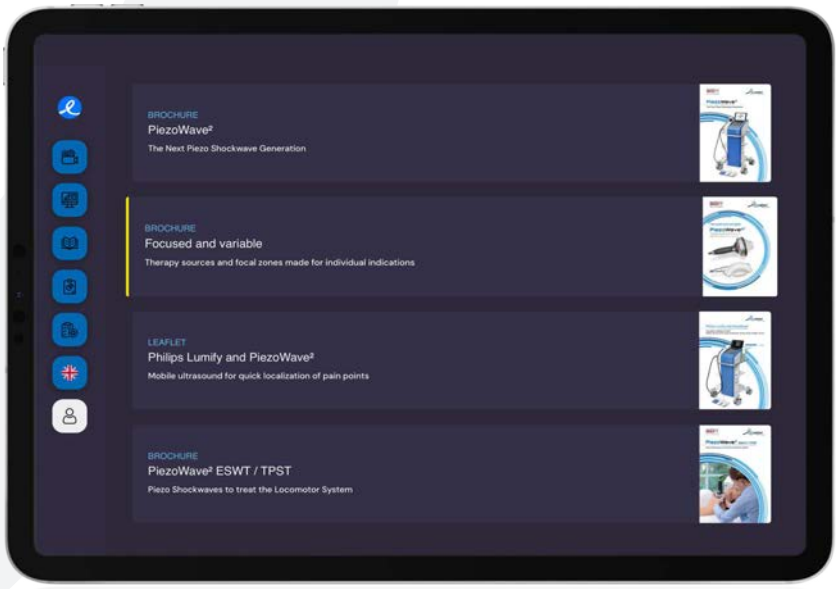
Elvation Hub

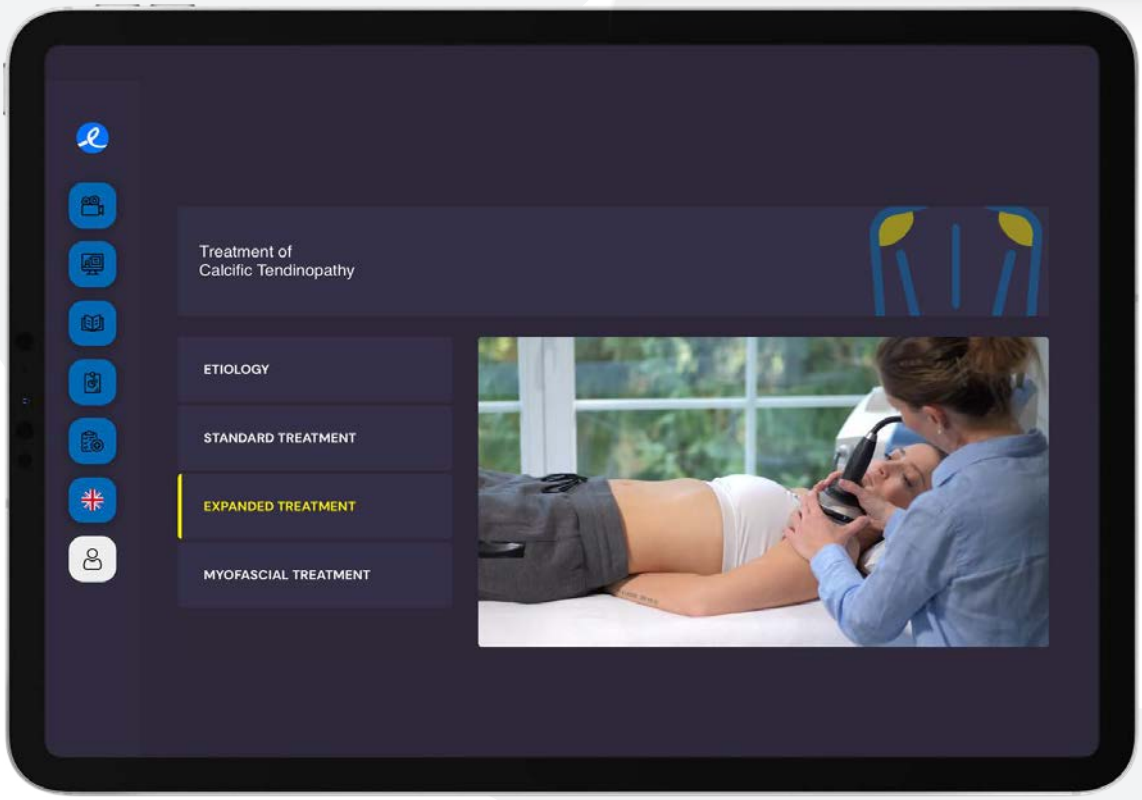
The central information platform for your shockwave therapy.

Our Elvation Hub is an online information platform where we have collated all the information about current applications and user experiences and provided it to you in the form of a digital library.

You have access to treatment videos, information on how to use the device, patient positioning, and user experiences. Our webinar library with data by experienced users provides you with new ideas for your treatments. You can also read up on background information, current scientific studies, baseline studies and details about the technology in our brochures.







Treatment videos show treatment parameters, appropriate therapy sources, and typical trigger points.

ESWT in different medical specialties

Discover configuration solutions which have been found to be effective in routine medical practice.

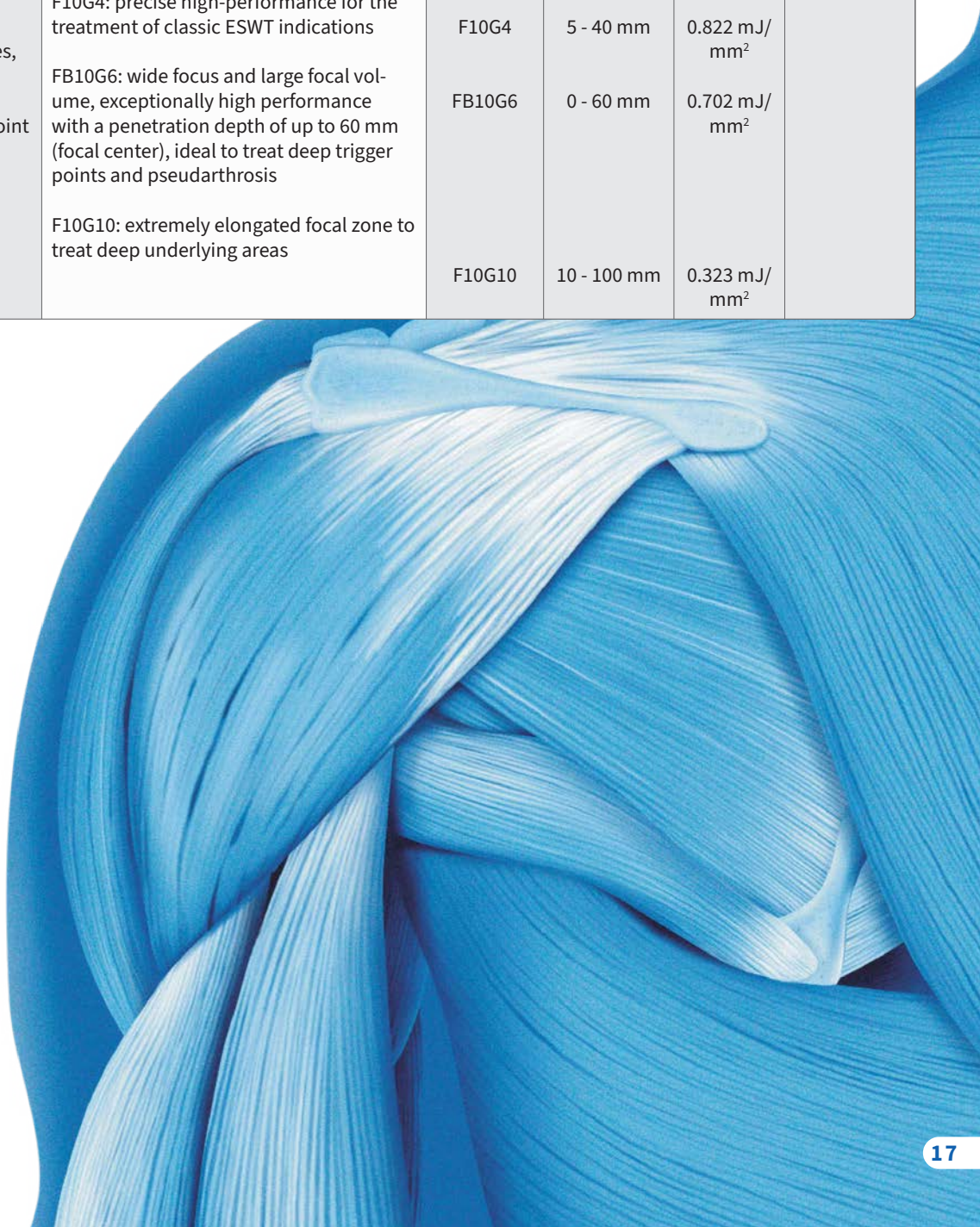
Musculoskeletal disorders

From calcific tendonitis of the shoulder to pseudarthrosis and myofascial trigger points: with the piezo shockwave you can select the right therapy focus for every indication, increasing the chances of therapeutic success.

				EFD MAX	
Core areas: Hand/shoulder, foot/ankle, Superficial tendinopathies and myofascial trigger points	Handy and light therapy source with precise focus, ideal for locating pain points	F7G3	0 - 30 mm	0.403 mJ/mm²	Basic 3
Allrounder for orthopedics Tendinopathies, pseudarthrosis, trigger points	Precision combined with high-performance to treat classic ESWT indications	F10G4	05 - 40 mm	0.822 mJ/mm²	Basic 4
Core areas: Hips, gluteal and pelvic area, deep trigger points, and tendinopathies	Extremely elongated focal zone to treat deep underlying areas	F10G10	10 - 100 mm	0.323 mJ/mm²	Basic 10
Core areas: Extended myofascial structures close to the skin surface, e.g., Achilles tendon, plantar fascia, forearm extensors/flexors, superficial shoulder and neck muscles	Linear focus with a focal width of up to 50 mm (5 MPa zone) for dynamic applications along the kinetic chain/tendon or muscle fibers	FBL10x5G2	0 - 20 mm	0.160 mJ/mm²	MultiUse 2
Core areas: Sports injuries, treatment of superficial myofascial structures, tendinopathies, trigger points	FBL10x5G2: linear focus with a focal width of up to 50 mm (5 MPa zone) for dynamic applications along the kinetic chain/tendon or muscle fibers F10G4: precise high-performance treatment of conventional ESWT indications	FBL10x5G2 F10G4	0 - 20 mm 05 - 40 mm	0.160 mJ/mm² 0.822 mJ/mm²	MultiUse 2 / 4
Core areas: Treatment of pain related to degenerative joint diseases, conservative treatment of fractures Deep trigger points	Wide focus and large focal volume, exceptionally high performance with a penetration depth of up to 60 mm (focal center), ideal to treat deep trigger points and pseudarthrosis	FB10G6	0 - 60 mm	0.702 mJ/mm²	MultiUse 6

Areas of application · (Required) focal features · Therapy source · Penetration depth (focal center) · EFD MAX Max. EFD · Model series

				EFD MAX	
Core areas: Sports injuries and degenerative diseases, superficial and deep myofascial structures, conservative treatment of fractures	FBL10x5G2: linear focus with a focal width of up to 50 mm (5 MPa zone) for dynamic applications along the kinetic chain/tendon or muscle fibers FB10G6: wide focus and large focal volume, exceptionally high performance with a penetration depth of up to 60 mm (focal center), ideal to treat deep trigger points and pseudarthrosis	FBL10x5G2 FB10G6	0 - 20 mm 0 - 60 mm	0.160 mJ/mm² 0.702 mJ/mm²	MultiUse 2 / 6
Large surgeries, university hospitals with numerous departments treating the musculoskeletal and locomotor systems Superficial and deep myofascial treatment, degenerative diseases of the joints and tendons, sports injuries, treatment of pain syndromes, conservative treatment of fractures, myofascial pain syndrome, trigger point treatment	FBL10x5G2: linear focus with a focal width of up to 50 mm (5 MPa zone) for dynamic applications along the kinetic chain/tendon and muscle fibers F10G4: precise high-performance for the treatment of classic ESWT indications FB10G6: wide focus and large focal volume, exceptionally high performance with a penetration depth of up to 60 mm (focal center), ideal to treat deep trigger points and pseudarthrosis F10G10: extremely elongated focal zone to treat deep underlying areas	FBL10x5G2 F10G4 FB10G6 F10G10	0 - 20 mm 5 - 40 mm 0 - 60 mm 10 - 100 mm	0.160 mJ/mm² 0.822 mJ/mm² 0.702 mJ/mm² 0.323 mJ/mm²	Unlimited



Urology

Therapeutic approaches using ESWT to treat vascular erectile dysfunction (ED), chronic pelvic pain syndrome (CPPS) and Peyronie's disease (PD) have shown promising results. Based on sufficient evidence, low-intensity focused shockwave therapy is one of the first-line therapies cited in EAU Guidelines for the treatment of vascular ED.

				EFD MAX	
Vasculogenic erectile dysfunction	Linear focus for dynamic applications along the corpora cavernosa	FBL10x5G2	0 - 20 mm	0.160 mJ/mm²	MultiUse 2
Vasculogenic erectile dysfunction	FBL10x5G2: linear focus for dynamic applications along the corpora cavernosa	FBL10x5G2	0 - 20 mm	0.160 mJ/mm²	MultiUse 2 / 3
Peyronie's disease	F7G3: precisely defined focus for static applications to treat calcified plaques	F7G3	0 - 30 mm	0.403 mJ / mm2	
Vasculogenic erectile dysfunction	FBL10x5G2: linear focus for dynamic application along the corpora cavernosa	FBL10x5G2	0 - 20 mm	0.160 mJ/mm²	MultiUse 2 / 3 / 10
Peyronie's disease	F7G3: precisely defined focus for static applications to treat calcified plaques	F7G3	0 - 30 mm	0.403 mJ/mm²	
Chronic pelvic pain syndrome	F10G10: extended focal zone is ideal to treat myogelosis and trigger points in the multi-layered structure of the pelvic floor including the prostate	F10G10	10 - 100 mm	0.323 mJ/mm²	

Dermatology

ESWT is a promising method to initiate wound healing, especially healing of chronic wounds such as diabetic foot ulcers. Studies have shown that ESWT can promote wound healing and speed up the healing process.

Chronic wound care: diabetic foot syndrome, pressure ulcers	Linear focus with a focal width of up to 50 mm (5 MPa zone) for dynamic applications across the treatment area	FBL10x5G2	0 - 20 mm	0.160 mJ/mm²	MultiUse 2
Cosmetic treatment: Cellulite	Linear focus with a focal width of up to 50 mm (5 MPa zone) for dynamic applications across the treatment area	FBL10x5G2	0 - 20 mm	0.160 mJ/mm²	MultiUse 2

Areas of application | (Required) focal features | Therapy source | Penetration depth (focal center) | Max. EFD | Model series

Benefit from our expertise

Do you have any questions about specific configuration examples:
We are happy to share our knowledge with you

Personal advice:
+49 (0) 7231 – 56 36 56

Use our contact form or live chat:
www.elvation.de/kontakt/

PiezoWave2T

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1 Average values at the time of printing – all information relating to other technologies may vary from manufacturer to manufacturer.

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