

# PiezoWave<sup>2</sup>

The Next Piezo Shockwave Generation



# The PiezoWave<sup>2</sup>

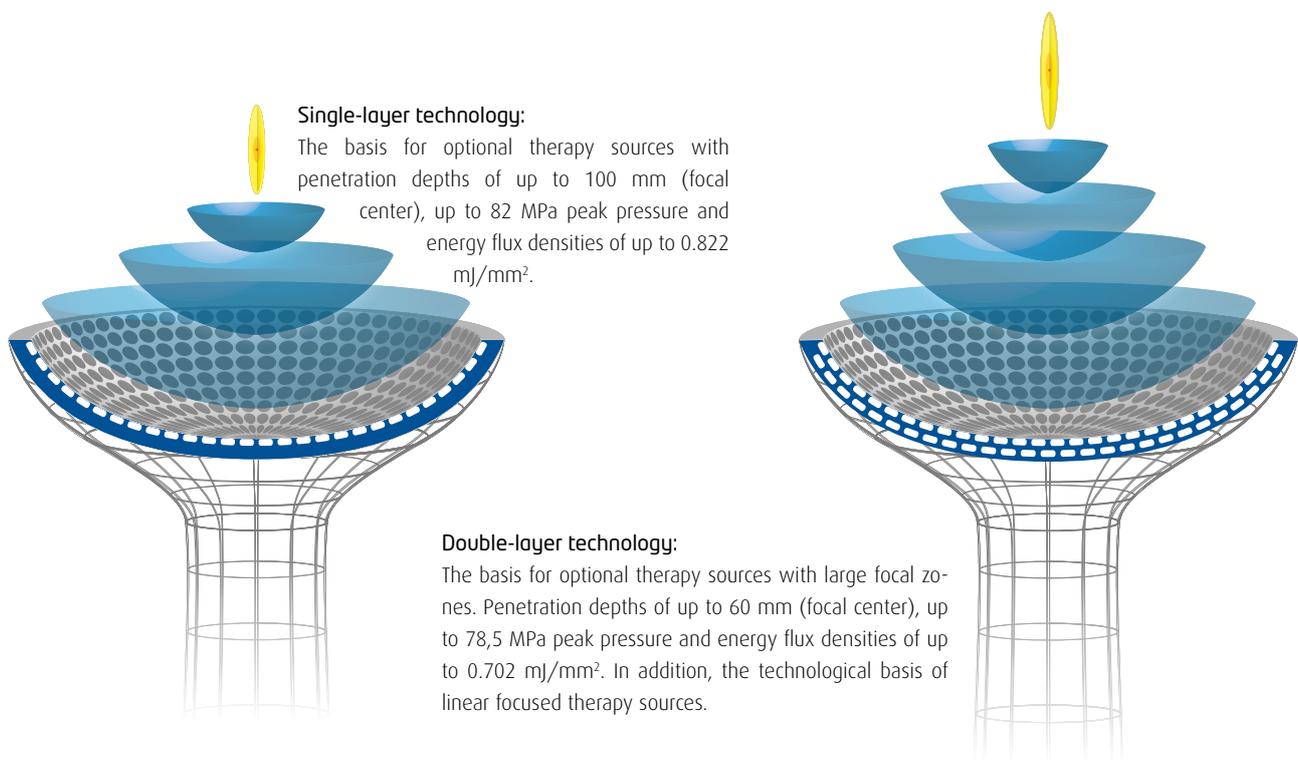
## The piezoelectric principle / focused

Piezo-ceramic elements are geometrically arranged on a concave surface so that when they are excited simultaneously by a brief, high-voltage pulse, they expand by a few micrometers to generate a pressure pulse. The piezo elements are precisely aligned so that each pressure pulse generated focuses in a specific area. This precise focusing of the pulse creates a shockwave at the point of focus.

The piezo shockwave's "direct focusing" technology eliminates the need for additional reflectors, resulting

in a compact therapy source design and a precise and well defined focal zone. The virtually painless therapy is quiet and energy levels can be freely adjusted with almost no adverse effect on the size of the focal zone. The piezo shockwave technology is extremely durable.

Piezo shockwave therapy sources are available with single-layer or double-layer technology, depending on the required energy levels, with peak pressures of up to 82 MPa.



## Efficacy of focused ESWT

Extracorporeal shockwaves are mechanical stressors capable of inducing biochemical changes in living tissue; at a molecular level these changes can influence gene expression in cells and, if used selectively, can produce specific reactions in tissue. This process is referred to as mechanotransduction.

Mechanical stimuli can affect almost all cellular functions in living tissue, including growth, cell differentiation, cell migration, protein synthesis, physiological apoptosis and tissue necrosis. New studies have shown that ESWT is

able to stimulate the endogenous production of lubricin in tendons and septa.

Scientific studies and publications which have used the highly accurate piezo shockwave technology have confirmed the effectiveness of focused shockwaves to treat various common musculoskeletal conditions as well as for the diagnosis and treatment of trigger points. ESWT is one of the few medical technologies which can treat chronic pain syndromes of the musculoskeletal system effectively by jump-starting self-healing processes.



## Shockwave therapy breaks new ground

- Focused, linear or planar – the best shockwave for every indication
- Excellent performance with single-layer and double-layer technology
- Piezoelectric “direct focusing” technology – minimal pain during applications
- Well defined, precise focus – perfect for diagnosis and therapy
- Uniquely durable therapy source
- Finely adjustable penetration depth of up to 100 mm (Piezo Wave2 FB10 G10 therapy source) using interchangeable gel pads
- Independently adjustable penetration depths and energy levels
- Wide range of energy settings with a pulse rate of up to 8 Hz
- Simple operation with App support and iPad holder
- Plug&Play – therapy source recognition

# The PiezoWave<sup>2</sup>

## Focused, linear, and planar shockwave therapy

The piezoelectric shockwave principle offers an extensive range of shockwave configurations. The only one of its kind in the world, the PiezoWave<sup>2</sup> allows users to choose between

a classic focused shockwave, a linear focused shockwave, and a planar pressure wave. The right shockwave mode is available for every indication.

### Focused shockwave

The focused therapy source of the PiezoWave<sup>2</sup> is characterized by its well defined and precise focal zone and a penetration depth of up to 100 mm (PiezoWave<sup>2</sup> FB10 G10 therapy source).

**Its guaranteed life span of 5 million pulses is unsurpassed.**



### Linear focused shockwave

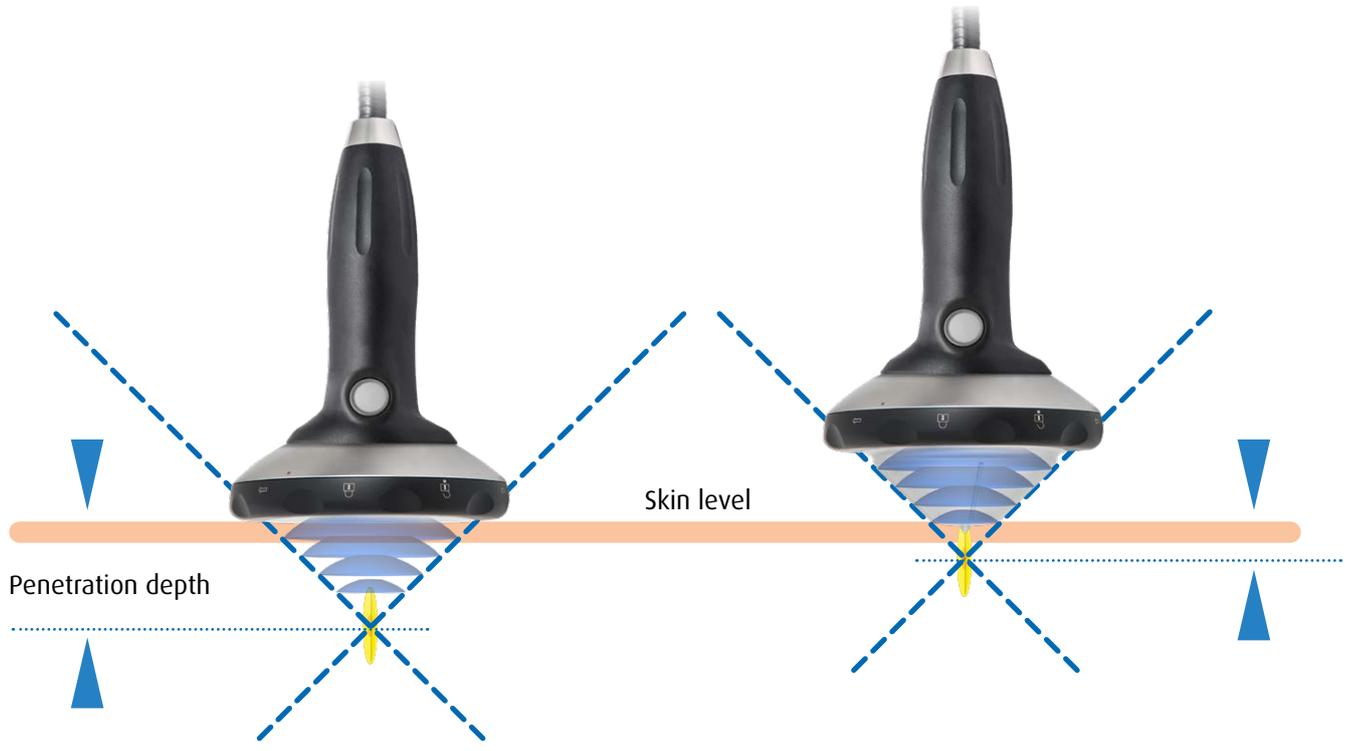
Breaking new ground in shockwave therapy, the linear focused therapy source is a double-layer piezoelectric source with a unique geometry and new features. The focal zone is of a 3-dimensional area with an outstanding size of 46 mm x 20 mm x 4 mm. The energy output achieved with this therapy source has not been previously achieved and sets a new standard: called Volume ESWT.

### Planar pressure wave

The piezo elements of the planar therapy source are not aligned toward a specific focal area; instead, a non-focused pressure wave is created which is particularly suitable for increasing local blood flow and improving metabolic processes.



The PiezoWave<sup>2</sup>  
F10 G4 therapy source



## Penetration depth

The piezo shockwave technology uses interchangeable gel pads which are placed on the patient to ensure that the shockwave penetrates precisely to the desired depth with as little scattering as possible. These gel pads are used as spacers and change the penetration depth in increments of a few millimeters. The gel pads change

the static focal area of the therapy source by altering the distance between the therapy source and the surface of the skin. Maximum penetration depths of between 20 mm and 100 mm (measured to the focal center) are possible, depending on the therapy source.

# The PiezoWave<sup>2</sup>

## An operational concept ensuring you will always be up-to-date

The PiezoWave<sup>2</sup> has an improved user interface that makes it easier to use. Therapy source recognition through Plug & Play ensures that your PiezoWave<sup>2</sup> will provide the appropriate energy spectrum when you plug in the therapy source. Individual settings can be adjusted with just a few keystrokes.

You are supported by our optional ESWT App for your iPad. With this new form of user support we want to ensure that you will continue to receive the latest information on settings and the newest recommendations for PiezoWave<sup>2</sup> clinical applications. Quickly and online.



Available on the iPad  
[App Store](#)

- Therapy source recognition with Plug & Play
- Easy to use – uncomplicated operation
- Quick therapy start
- Supported by our ESWT iPad App
- Use of external supporting Apps
- Always up-to-date

# Range of indications

## ESWT - Musculoskeletal system

Chronic pain of the musculoskeletal system is one of the most common debilitating conditions affecting people in epidemic numbers. The majority of these painful conditions are the result of enthesiopathies such as tennis elbow, calcaneal heel spurs, or calcifications of the shoulder joint. Myofascial trigger points have also increasingly been diagnosed as major causes of chronic pain. Focused ESWT

has now become established as a useful method for the diagnosis and treatment of many acute and chronic pain syndromes of the musculoskeletal system.

- 1 Lateral epicondylopathy of the elbow (tennis elbow)
- 2 Calcifying tendinopathy of the shoulder
- 3 Medial epicondylopathy of the elbow
- 4 Myofascial syndrome / Trigger point treatment
- 5 Pseudarthroses / Stress fractures
- 6 Greater trochanteric pain syndrome
- 7 Patellar tendinopathy
- 8 Medial tibial stress syndrome
- 9 Plantar fasciitis, with or without heel spur
- 10 Achilles tendinopathy

and much more...



## ESWT - ED, Peyronie disease's and CPPS

Linear focused shockwaves have been shown to provide good, scientifically proven results in the treatment of vascular-related ED. The treatment is called LSTC-ED (Linear Shockwave Tissue Coverage - Erectile Dysfunction). What is new with this form of treatment itself is the direction of the energy application and the treatment which covers across the entire cavernous body. Energy is applied at

right angles to the cavernous bodies by moving the therapy source longitudinally across the penis (corpora cavernosa) and perineum (crura penis), ensuring that energy is delivered across the entire target tissue. Excellent results have also been reported for the treatment of the chronic pelvic pain syndrome with therapy sources delivering penetration depths of up to 100mm.

## ESWT - Wound healing

Extracorporeal shockwave therapy (ESWT) for the wound management of diabetic foot ulcer is a non-invasive procedure to stimulate wound healing. The linear volume focus of the PiezoWave<sup>2</sup> creates a shockwave that can be applied more uniformly and more effectively compared to

point focused conventional shockwaves. Gel pads are used to adjust the penetration depth to between 0 and 20 mm and to ensure that the acoustic field is optimally adapted to dermatological applications.



Sales and Service  
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spirit of excellence

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