



the
art of
shock
wave

DUOLITH® SD1 »ultra«
Modular shock wave therapy
& ultrasound diagnosis



STORZ MEDICAL



STORZ MEDICAL – Combined Shock Wave Therapy

There is no talking about shock waves today without talking about STORZ MEDICAL, too. When Dr h.c. Karl Storz laid the foundations of the KARL STORZ Group back in 1945, it was hard to imagine what an enormous influence the products from this crucible of innovation would have not only on endoscopy but also on shock wave therapy. STORZ MEDICAL's presentation of the first worldwide prototype of a

urological shock wave device in 1988 was followed by a series of technological innovations in the field of extracorporeal shock wave therapy. Non-invasive solutions for urgent therapeutic problems consolidated the reputation of STORZ MEDICAL as the leading enterprise in shock wave technology in the world.

The DUOLITH® SD1 »ultra« stands out because of its technological innovations, reliability and precision down to the last detail. The extended energy range of radial shock waves and the operating elements integrated into the handpieces expand the lead in radial and focused shock wave therapies.

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DUOLITH® SD1 »ultra« – Diagnosis and Treatment

The DUOLITH® SD1 »ultra« shock wave system represents a clear modular concept that meets the growing demands of a medical practice regarding therapy and diagnosis. This is not only beneficial to newcomers to the field of extracorporeal shock wave treatment but also to experienced users.

The DUOLITH® SD1 »ultra« can be combined or extended individually and operated centrally via the 15.6" touch screen. All modular elements of the entire system are interconnected in the equipment trolley.

The DUOLITH® SD1 »ultra« combines radial and focused shock wave therapies, complementary vibration and vacuum therapies as well as the integrated ultrasound imaging in one system. The imaging system and the patient-specific shock wave treatment can be performed via one single control unit.

Highlights

- Combined radial and focused shock wave therapy
- Therapy, diagnosis, information and user guidance combined in one system (»Connected Technologies«)
- Individual modularity
- Integrated ultrasound imaging with colour Doppler (optional)

Control unit (15.6" touch screen) with optional diagnostic ultrasound



R-SW module with radial FALCON® handpiece



F-SW module with focused SEPIA® handpiece





DUOLITH® SD1 »ultra« – Intuitive Treatment Guidance via Touch Screen

All system modules can be operated via the generously dimensioned touch screen on the multifunctional control unit. Functions and indications can be selected and accepted by tapping on the screen. In addition to the control unit the system offers a patient management system as well as treatment parameters recommended by experienced users and supported by videos and images. The integrated Visible Body®

software allows not only detailed visualization of muscular structures but also a deep »dive« into the human body at different levels. Detailed definitions and anatomical information are offered to support the user. Rotatable and moving 3D models make it possible to visualize muscle movements and diseases. This facilitates a novel interaction between users and patients.

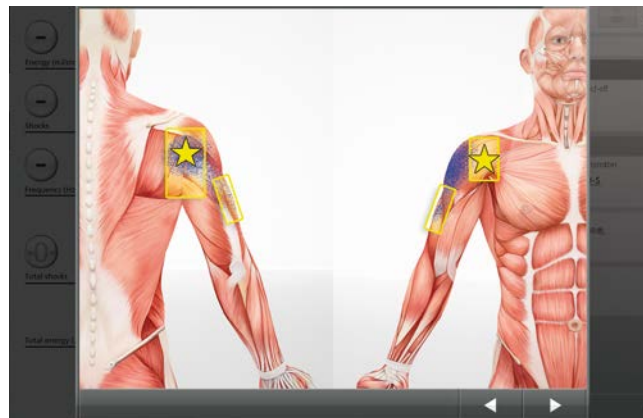
Highlights

- Large 15.6" touch screen
- Patient management system with treatment history
- Treatment parameters supported by videos and images
- Visible Body® digital anatomy atlas

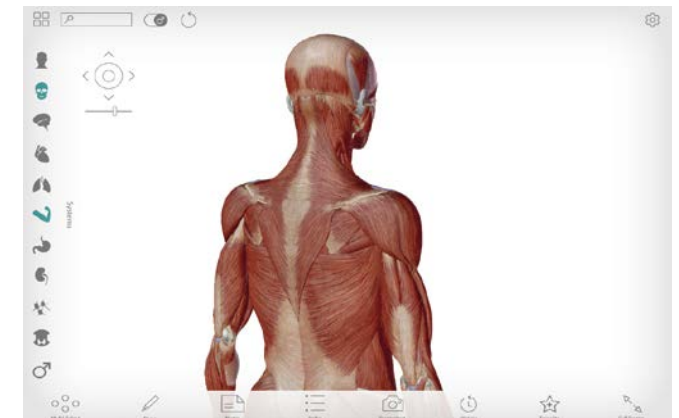
Treatment parameters with application videos



Overview of pain zones



Visible Body® digital anatomy atlas



R-SW

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R-SW ultra

DUOLITH® SP1

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R-SW

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R-SW ultra

STORZ MEDICAL

R-SW

STORZ MEDICAL

R-SW ultra

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R-SW

STORZ MEDICAL

R-SW ultra

DUOLITH® SP1

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DUOLITH® SD1 »ultra« – Radial Module with FALCON® Handpiece

The high-performance FALCON® handpiece allows the radial module to be operated also independently of the control unit. All treatment parameters such as pressure, frequency and number of shocks can be uniquely entered and retrieved via the operating panel of the handpiece display.

The optional vibration therapy with the V-ACTOR® »HF« handpiece as well as the optional vacuum therapy using VACU-ACTOR® technology are the ideal complements to shock wave therapy.

Highlights

- All control elements integrated into the handpiece
- Extended energy range: 0.3 – 5 bar_{eff}
- 4 connections: 2 x R-SW, 1 x V-ACTOR®, 1 x VACU-ACTOR®
- Vibration therapy with V-ACTOR® »HF« handpiece (optional)
- VACU-ACTOR® vacuum therapy (optional)

Treatment of knee with radial handpiece



Treatment of shoulder with radial handpiece



Handpiece display



F-SW

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F-SW

ultra



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DUOLITH® SD1 »ultra« – Focused Module with SEPIA® Handpiece

The focused shock wave serves for treating near-surface as well as deep target areas in the body.

The SEPIA® handpiece renders treatment directly at the patient easy and efficient. All the important control elements have been integrated into the handpiece.

The easy replacement of the cylindrical coil is another advantage for the user as it saves revision time and costs.

As an option, the C-ACTOR® handpiece with extended energy range can be connected to this module for use in dermatology and also for the treatment of pseudarthrosis near the surface.

Highlights

- Effective and comfortable work directly on the patient
- Reduced revision time and costs thanks to easy change of coil
- All control elements integrated into the handpiece
- Focal zone depth (with/without stand-off): 0 – 65 mm
- Penetration depth: up to 125 mm
- Energy transfer: 0.01 – 0.55 mJ/mm²
- Optional: C-ACTOR® handpiece with extended energy range for use in dermatology and pseudarthrosis near the surface: 0.03 – 1.24 mJ/mm²

Treatment of shoulder with focused handpiece



STORZ MEDICAL cylindrical coil



Focused handpiece with and without stand-off





DUOLITH® SD1 »ultra« – Diagnostic Ultrasound (optional)

Reliable diagnosis of indications is a prerequisite for successful treatment. Therefore, STORZ MEDICAL offers the option of an integrated diagnostic ultrasound imaging system with colour Doppler for the DUOLITH® SD1 »ultra«. This aids, for example, localization of tendon calcification or the detection of inflammation, thus combining diagnostics and therapy within a single system.

All possible adjustments for localizing the treatment area and its optimal representation by ultrasound images can be done on the screen. Ultrasound images can be saved directly in the integrated patient management system and retrieved in later sessions.

Highlights

- Diagnosis and therapy combined in one system
- Colour Doppler »High resolution«: 1.5 – 15 MHz
- Saving of ultrasound images directly in the patient management system
- DICOM interface (optional)
- GDT (German medical data exchange format) interface (optional)

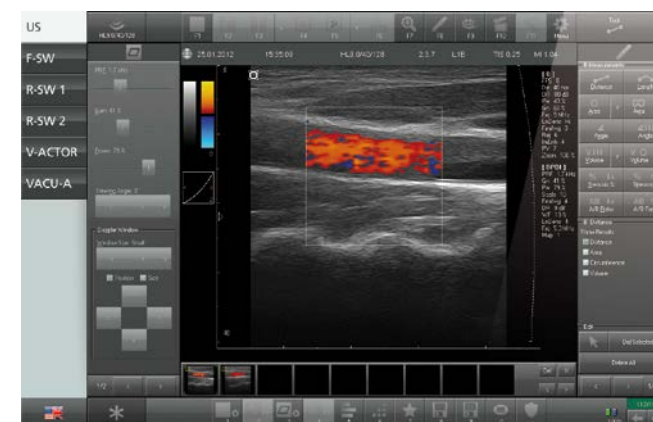
Ultrasound image, lateral shoulder scan



Ultrasound image, elbow



Blood flow imaging



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CONTROL ultra

DUOLITH® SD1

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CONTROL ultra

CONTROL ultra

CONTROL ultra

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R-SW ultra

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F-SW ultra

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F-SW ultra

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F-SW ultra

DUOLITH® SD1 »ultra« – Optional Accessories

As regards colour, the DUOLITH® SD1 »ultra« fits into every surgery and can be adapted individually to the surgery surroundings. The exchangeable coloured accessories are available in green, blue, orange and black.

The optional »Store Case« drawer module offers ample space for utensils needed in the daily treatment routine.

The focused C-ACTOR® handpiece with extended energy range is also suited for use in dermatology and the treatment of pseudarthrosis near the surface.

Shock wave therapy and V-ACTOR® vibration therapy are complemented by VACU-ACTOR® vacuum therapy.

Highlights

- Focused C-ACTOR® handpiece with extended energy range: 0.03 – 1.24 mJ/mm²
- Individual choice of colour (green, blue, orange, black)
- Drawer module »Store Case«
- V-ACTOR® vibration therapy: 1 – 50 Hz (optional)
- VACU-ACTOR® vacuum therapy (optional)
- VACU-Cups for vacuum therapy, available in 4 sizes (Ø 25 mm, Ø 33 mm, Ø 47 mm, Ø 62 mm)

Drawer module »Store Case«



Vibration therapy with V-ACTOR® »HF« handpiece



VACU-ACTOR® vacuum therapy



Radial



A6
»AkuSt«



F15
»White Soft«



T10
»Finger«



R15
»Basic Energy«



D115
»Deep Impact«



C15
»CERama-x«



D20-S
»Basic Oscillator«



D20-T
»Golden Oscillator«



D35-S
»Large Oscillator«

Fascia



PERI-ACTOR®
»scraper«



PERI-ACTOR®
»knuckle«



PERI-ACTOR®
»sphere«



PERI-ACTOR®
»scoop«

Spine



SPINE-ACTOR® 1
Span: 20 mm



SPINE-ACTOR® 2
Span: 27.5 mm



SPINE-ACTOR® 3
Span: 35 mm

Special



Ro40
»Beam«



B15
»White Tip«



ATLAS
»Soft Tip«

Transmitters

Radial transmitters

The radial transmitters have been used successfully for years and are suited for the treatment of all typical shock wave indications such as tendinopathies, heel and shoulder pain, and myofascial trigger points.

Fascia PERI-ACTOR® transmitters

The four PERI-ACTOR® transmitters developed in collaboration with Drs Swart and Di Maio have been specially created for the treatment of fascia. The »scraper«, »knuckle«, »sphere« and »scoop« versions allow adapting the treatment to the individual fascia structure. Thanks to the special shape of the transmitters, it is possible to treat fasciae trigger points for optimal pain relief.

SPINE-ACTOR® transmitters

The three SPINE-ACTOR® transmitters come in different sizes and make a special treatment in the paravertebral region possible. Owing to the forked »Double Tip« shape of the transmitters, the paravertebral muscles of the entire spine can be optimally reached.

Treatment of calcific tendinitis with R15 transmitter



Fascia treatment with PERI-ACTOR® »sphere« transmitter



Paravertebral treatment with SPINE-ACTOR® 2 transmitter





DUOLITH® SD1 TOWER »ultra«

Radial system

General data

- Dimensions (W x H x D):
590 x 1261 x 660 mm
- Weight (including trolley): 77 kg
- Compressor, integrated
- 15.6" touch screen
- Diagnostic ultrasound imaging (optional):
1.5 – 15 MHz
- Drawer module »Store Case« (optional)

Radial module

- Pressure: max. 5 bar, frequency: 1 – 21 Hz
- V-ACTOR® handpiece (optional): 1 – 50 Hz
- VACU-ACTOR® technology (optional)

Handpieces:

R-SW + V-ACTOR® »HF« + US + VACU-ACTOR®

**DUOLITH® SD1 TOWER »ultra«**

Focused system

General data

- Dimensions (W x H x D):
590 x 1261 x 660 mm
- Weight (including trolley): 80 kg
- 15.6" touch screen
- Diagnostic ultrasound imaging (optional):
1.5 – 15 MHz
- Drawer module »Store Case« (optional)

Focused module

- Standard energy range: 0.01 – 0.55 mJ/mm²
- Extended energy range (optional):
0.03 – 1.24 mJ/mm²

Handpieces:

F-SW + US

**DUOLITH® SD1 TOWER »ultra«**

Radial and focused system

General data

- Dimensions (W x H x D):
590 x 1261 x 660 mm
- Weight (including trolley): 118 kg
- Compressor, integrated
- 15.6" touch screen
- Diagnostic ultrasound imaging (optional):
1.5 – 15 MHz
- Drawer module »Store Case« (optional)

Radial & focused module

- See DUOLITH® SD1 TOWER »ultra« – radial system & DUOLITH® SD1 TOWER »ultra« – focused system

Handpieces:

R-SW + F-SW + V-ACTOR® »HF« + US + VACU-ACTOR®





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HUMANE TECHNOLOGY – TECHNOLOGY FOR PEOPLE



Urology



Orthopaedics



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Veterinary

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Subject to change without notice. The information in this document is only intended for medical and healthcare professionals. This document provides information on products/indications that may not be available/relevant in all countries. The following products referred to or shown in this document are provided by our technology partners to complete the DUOLITH® SD1 »ultra« system: ultrasound, Visible Body®.