

BioSpectrum



BioSpectrum Piezotome

Creating a difference in healthcare



For More Information
www.bio-spectrum.com

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Ultrasonic Piezo Clinical Benefits

Ultrasonic piezo bone surgery was initially used by CMF surgeons and then extended to many other specialties, due to its great clinical benefits in oral and extra-oral surgeries:

Intraoperative

Safety

- Selective cut: soft tissues are preserved (nerve, arteries, dura mater)
- Avoid bone overheating

Precision

- Thin & precise osteotomies
- Maximize bone volume

Comfort

- No handpiece vibration
- Low pressure

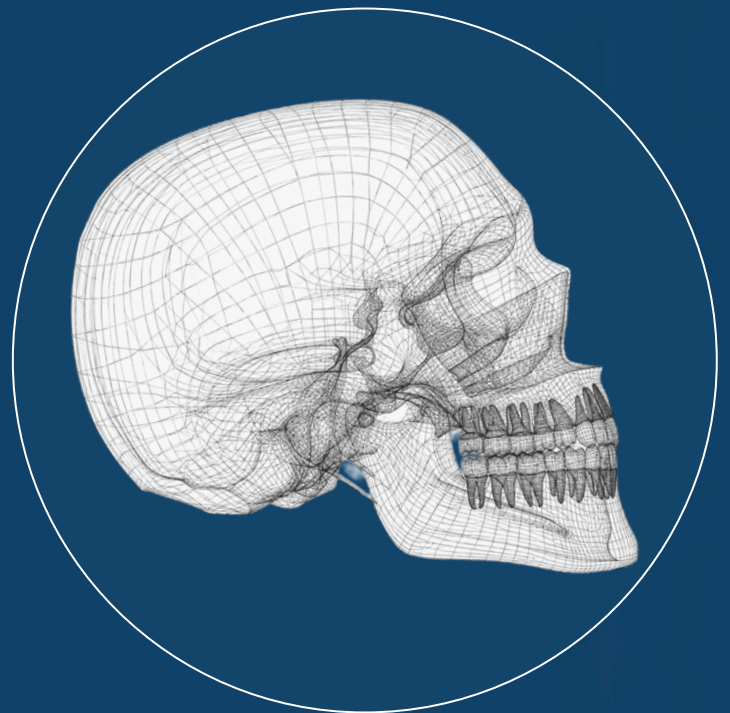
Post-operative

Smoothness

- Reduced pain
- Less swelling and bruising
- More natural results

Healing

- Favors bone regeneration
- Fast recovery
- Stable and longterm results



Minimally Invasive Surgery

Safety

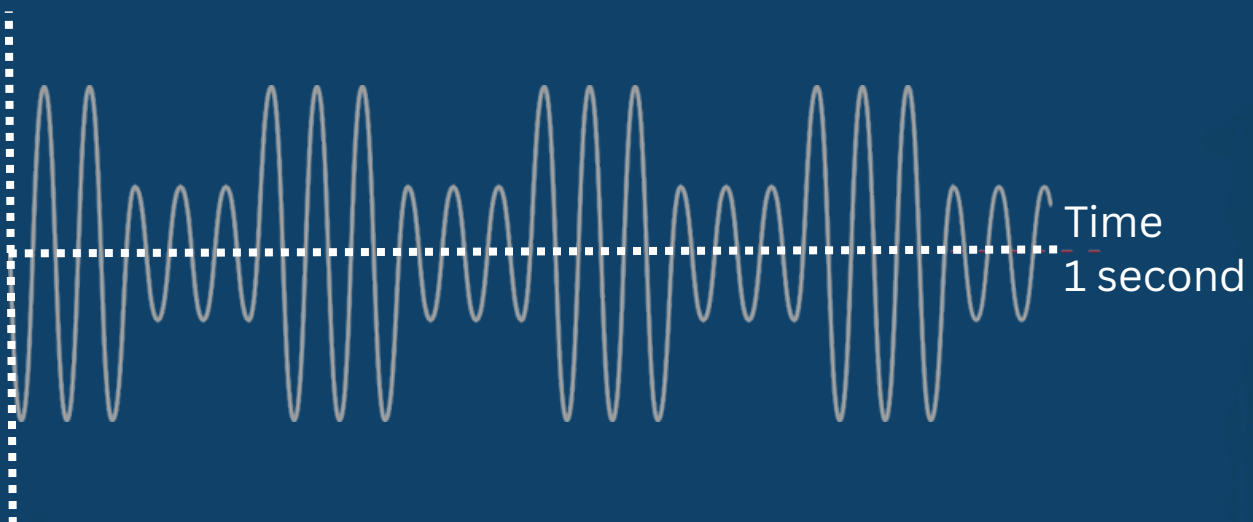
The generator produces a modulated frequency ranging from 28 to 36 kHz. This signal alternates between high and low amplitude, known as the PIEZOTOME modulated mode.

The bone is cut at a frequency close to its relaxation frequency, limiting the risk of injury to fragile anatomical structures [nerves, arteries]. Bone cutting is precise, cell regeneration is optimized and the healing is of high quality.

The ultrasonic piezoelectric technology is suitable for any type of oral or extra-oral surgery where precision and safety is a must.

Piezotome modulated mode

Amplitude



Concentrated Ultrasonics

PIEZOTOME Solo M+, compact and effective, brings together all of the powerful, reliable and safe components of the M+ range for maximum performance and safety.

Clinical indications

Active on hard tissue while preserving soft tissue.
Small bones osteotomies, osteoplasties, drilling, smoothing where safely and precision are essential.

Power mode from
d1 (most powerful
to d4)

d1

d2

d3

d4



Piezotome Solo m+

Device



Specification of the device

- Dimensions (W x H x D): 378 x 136 x 306mm
- Weight: 3700g
- Screen dimensions (W x H): 115 x 86mm
- LCD black and white screen
- 4 power modes
- 4 programmable buttons
- Irrigation flow rate: 0 to 120 ml/min
- Reset to manufacturer settings
- Supply voltage: 100-230 VAC
- Power supply frequency: 50Hz / 60Hz
- Power consumption: 150 VA to 230 VAC
- No-load voltage: 250 V
- Minimum output frequency: 28 kHz
- Amplitude: 20 to 200 μ m
- Internal fuse not accessible to the user: 1 fuse - F1: 5mm x 20mm - 10 AT /250 VAC
- Fuse (mains connector): 2 fuses - 5mm x 20mm - 2 AT for 100 to 230 VA

Connected Accessories



PIEZOTOME M+ LED Handpiece

- Boosted handpiece: 6 ceramic rings
- Cold LED light for high visibility and low heat generation
- 3m long cord adapted to the operating room environment

Peristaltic pump for controlled irrigation

- Quick set-up
- Robust
- Precise and constant flow rate
- Silent running



Footswitch

Makes it possible to control the principal actions to respond to the sterile environment

- Power mode
- Ultrasound ON/OFF

Piezotome Solo m+

Handpiece



Specification of the handpiece

- Dimensions (L): 130mm
- Weight: 100g - with cord: 265 g
- Cord length: 2900mm
- 6 ceramic rings
- Cold LED light (power): 100,000 LUX

Footswitch



Specification of footswitch

- Cord length: 2900mm
- Dimensions (W x H x D): 173 x 140 x 176
- Weight: 1000g
- Light: remains active approx. 9 secs after the footswitch is released
- Multifunction footswitch: Power modes and ON/OFF ultrasound
- Protection rating: IPX6

m+ rhinoplasty Tips

We offer a wide range of tips specially designed for rhinoplasty surgery. We first launched two kits of short tips aimed for the open approach:

- the **‘Essential’ kit** composed of the main tips necessary for an efficient ultrasonic rhinoplasty
- the **‘Expert’ kit** composed of the six tips from the ‘essential’ kit and three additional tips allowing a more thorough and precise surgery.



RHS2Hb
Hard rasp

For thick skin or dense bone



RHS2Fb
Fine rasp

For thin skin or thin bone



RHS6
Diamond coated drill

Nasal bone or nasal spine drilling



RHS5
Straight thin saw

Median oblique osteotomy



RHS3L/RHS3R
Left and Right angled saws

Lateral and transverse osteotomies



RHS4L/RHS4R
Left and Right angled saws

Transverse osteotomies



RHS1
Scraper

Remover important bone excess

“ESSENTIAL”
Kit

“EXPERT”
Kit

Ultrasonic Cranio-Maxillo Facial Sugery

Piezoelectric surgery is a new bone cutting technique increasing safety especially in automatically difficult to reach areas.

Micrometric vibrations ensure very **thin and precise osteotomies** with stable and long term results for a broad range of clinical applications:

Cranio

- Frontal sinus osteotomy
- Craniosynostosis
- Parietal graft

Maxillo

- LeFort I osteotomy
- Bilateral Sagittal Split Osteotomy (B.S.S.O)
- Genioplasty

Facial

- LeFort II & III osteotomy
- Zygomatic bone osteotomy
- Reconstruction



For safer and more accurate surgery

CMF
Kit



BS1L



BS2L XL



BS2R XL



BS1RD



SL1



BS4

BS1L - Saw

Saw (0.6mm) with laser marking at 3,6,9,12 and 15mm

- Deep osteotomy

BS2L XL & BS2R XL - Left & Right Angled Saws

Long lateral saws (39.5mm length) for easier access adapted to patients anatomy

- Osteotomy

BS1RD - Rounded Saw

With its rounded shape the tip is active on a 280° surface and its length (40mm) makes it possible to reach posterior areas easily

SL1 - Diamond-coated

- Vestibular bone window cut
- Smoothing of sharp angles
- Bone incisions close to delicate structures

BS4 - Circular scalpel

- Osteoplasty
- Bone harvesting