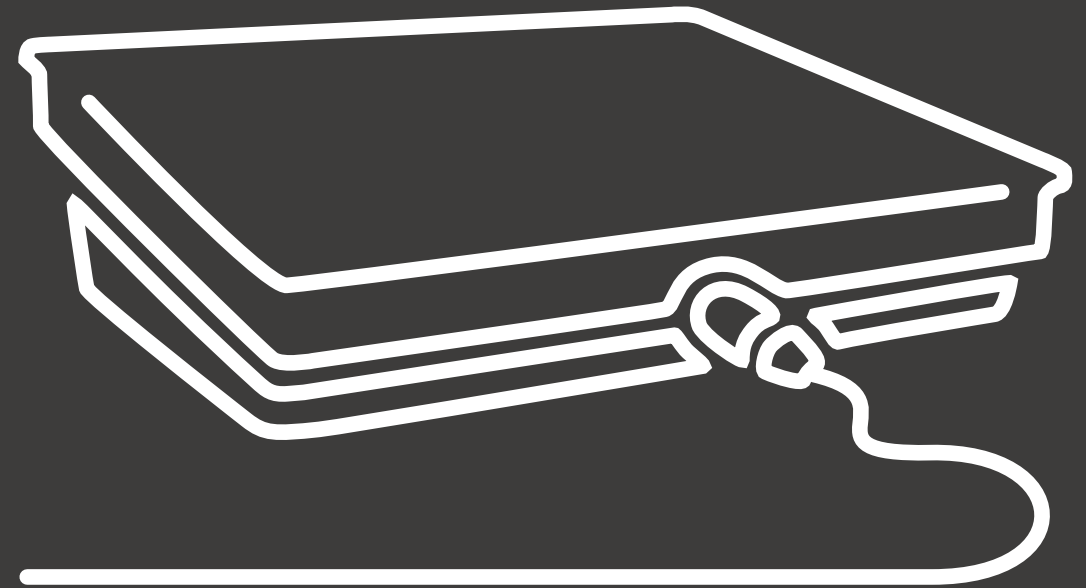


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PIEZOSURGERY® *flex*

# EXPERIENCE PIEZOSURGERY®

## → BONE SURGERY, REVOLUTIONIZED

A manifold list of benefits and advantages, which appear during and after surgery:

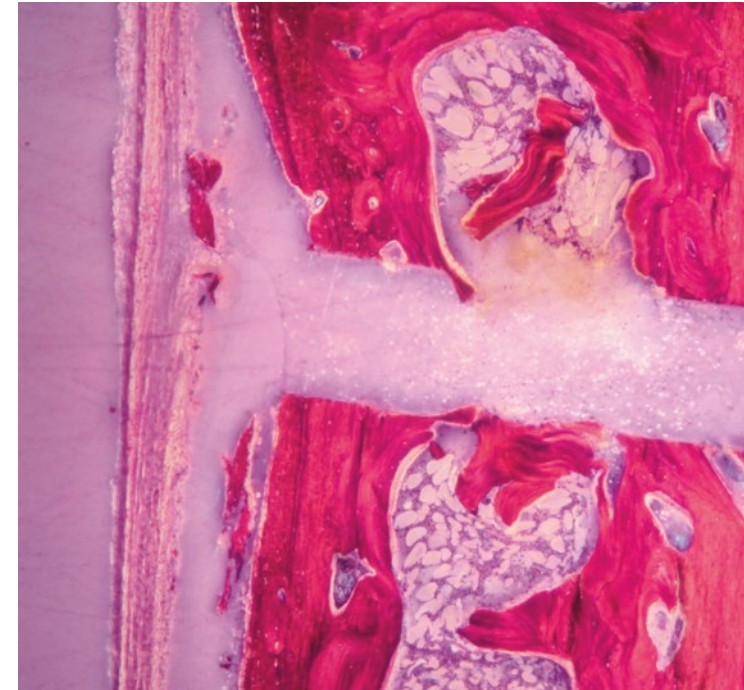
### → INTRAOPERATIVE ADVANTAGES

- **Selective Cut** Maximum safety for surgeons and patients. Reduced risk of damage to surrounding soft tissue (dura, nerves and vessels).
- **Micrometric Cut** Maximum surgical precision and intra-operative tactile sensation. Minimal bone loss through the cutting width.
- **Cavitation Effect** Maximum intra-operative visibility. Blood-free surgical site.

### → POSTOPERATIVE BENEFITS

- **Healing** Better and faster bone healing.
- **Edema** Reduced postoperative swelling and discomfort.

→ PIEZOSURGERY® INDUCES MICRO-VIBRATIONS



- Increased surgical control
- Enhanced precision and safety
- Proven clinical and histological advantages

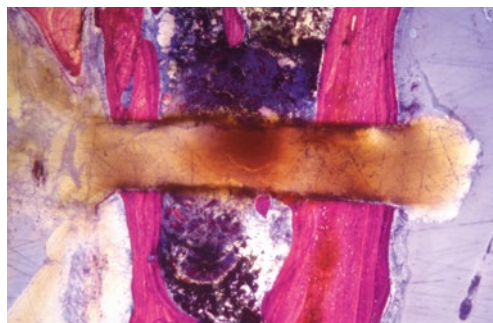
→ BONE BURS AND SAWS INDUCE  
MACRO-VIBRATIONS



PIEZOSURGERY®



Bone bur



Bone saw

- Limited surgical control
- Reduced precision

“ → EVIDENCE BASED

*PIEZOSURGERY® has been associated with a fewer number of postoperative complications, especially as regard intraoperative bleeding, nerve injuries (immediate and late), hematomas and seromas, and asymmetry (immediate and early). The mean time for completing the complete procedure of genioplasty with PIEZOSURGERY® was almost the same compared with the saw and drill.*

*Bertossi D., Albanese M., Mortellaro C., Malchiodi L., Kumar N., Nocini R., Nocini P. R. Osteotomy in Genioplasty by PIEZOSURGERY®. J Craniofac Surg., 2021 May 1. 32(3):e317-e321. doi: 10.1097/SCS.0000000000003150*

*In bone modelling procedures, such as hump removal, osteotomy and bony fixations, PEI [Piezoelectric instrumentation] was evaluated as being superior to conventional instruments. Intraoperative bleeding was reduced, which led to reduced facial swelling and/or bruising. Postoperative pain assessment showed no or only mild pain in two thirds of the patients.*

*San Nicolás M., Berghaus A. Advantages of piezoelectric technology in rhinoplasty. HNO., 2019 Nov; 67(11):836-842. doi: 10.1007/s00106-019-0675-x*

*The application of PIEZOSURGERY® in orbital decompression is more suitable than an oscillation saw due to superior cutting properties such as less damage to surrounding soft tissue or a thinner cutting groove.*

*Stähr K., Eckstein A., Holtmann L., Schlüter A., Dendy M., Lang S., Mattheis S. A comparative analysis of piezosurgery and oscillating saw for balanced orbital decompression. Orbit. 2019 Dec;38(6):433-439. doi: 10.1080/01676830.2018.1552709.*



# PIEZOSURGERY® *flex*

## → DESIGNED TO BE FLEXIBLE

PIEZOSURGERY® *flex* is an efficient, versatile and user-friendly device offering safety and precision in all situations.

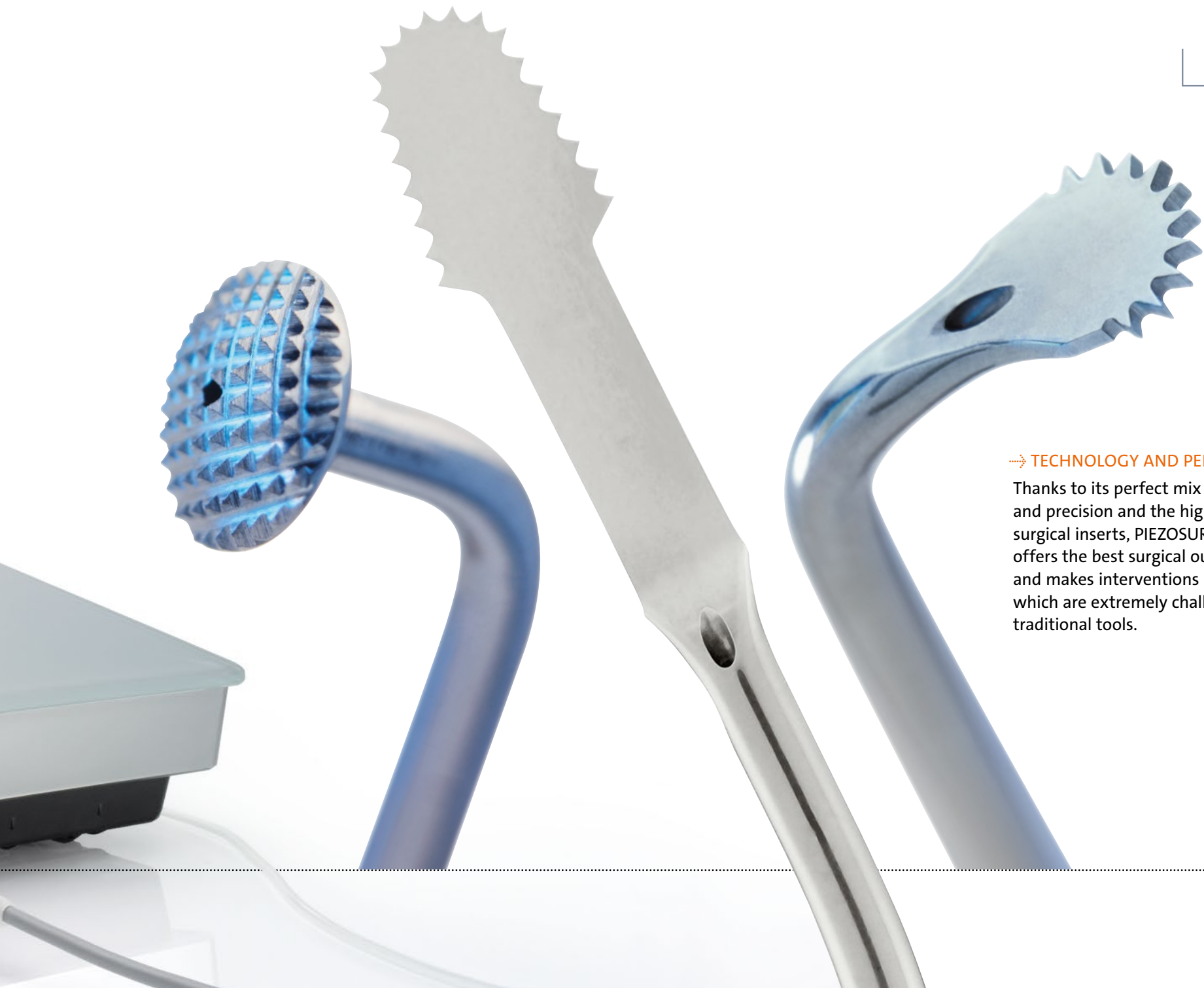
### → THE RIGHT MIX OF POWER AND PRECISION

- Quick and effective cutting action
- Soft tissue protection
- Improved intra-operative control and surgical sensitivity
- Maximum flexibility in designing osteotomic lines

### → HIGH-QUALITY SURGICAL INSERTS

- Thinner, more precise osteotomies
- Minimal bone sacrifice along the whole depth of cut





→ TECHNOLOGY AND PERFORMANCE

Thanks to its perfect mix of power and precision and the high-quality surgical inserts, PIEZOSURGERY® *flex* offers the best surgical outcome and makes interventions possible which are extremely challenging with traditional tools.





- EASY TO HANDLE IN THE OPERATING ROOM
- Touch screen display
- External irrigation system
- 3 m handpiece cord
- 5 m power cord



# SURGICAL INSERTS

## → EXCELLENCE IN VARIETY

Osteotomy, Osteoplasty, Drilling, Finishing – PIEZOSURGERY® medical inserts cover a vast variety of surgical needs. Whatever your choice is, there is one thing they all have in common: they offer the best performance you will find on the market.

### → OSTEOTOMY

Surgical inserts of different shapes and dimensions, curved and straight, designed to perform osteotomies with the utmost safety even in difficult to reach surgical sites.

- Saw thickness from 0.35 to 0.6 mm
- Osteotomy depth up 20 mm



### → OSTEOPLASTY

Surgical inserts curved and straight, designed to perform bone remodeling and harvesting with the utmost safety.

- Shank length up to 10 cm



### → DRILLING

Surgical inserts to drill holes with very tight tolerance, minimizing the risk of bone necrosis.

- Head diameters from 0.8 to 1.8 mm



### → FINISHING

Surgical inserts of different shapes and dimensions, curved and angled, with heads of different shapes and with different diamond coatings, to finish the osteotomies in very delicate anatomies.





## → EXCELLENCE IN QUALITY

Intraoperative advantages and postoperative benefits are dependant on the quality of the osteotomies performed. Passion, dedication and expertise are at the forefront of our insert production process.

We use only medical grade stainless steel in the production of Mectron inserts. Every single ultrasonic insert has to pass 12 working steps before it is ready to bear our name.

Surgical inserts are SINGLE USE. This way each insert is always sharp and effective, ensuring each osteotomy is precise and accurate.

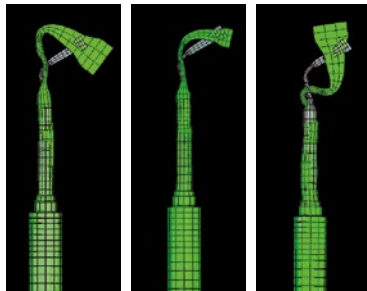


watch the inserts development process!

## → HOW ARE THE INSERTS DEVELOPED AND PRODUCED?

Our inserts are made in Italy, in our production site based in the Liguria Region.

### → INSERTS DEVELOPMENT



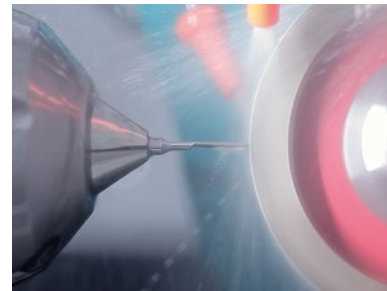
1. research and collaboration with renowned surgeons
2. computer simulation of shape and insert movement. The finite elements method allows precise prognoses of insert movements
3. thorough clinical tests to validate prototypes

### → THERMAL TREATMENTS



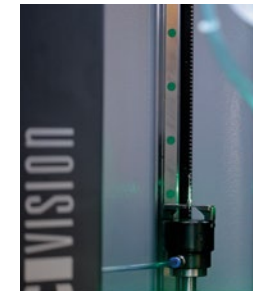
Provide raw surgical tips the necessary hardness, corrosion resistance and elastic response to vibration.

### → SHARPENING AND SURFACE COATING



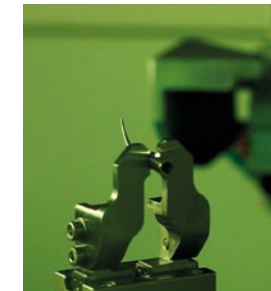
A proprietary CNC 5-dimensions sharpening machine cuts with an accuracy of up to 0.1  $\mu\text{m}$ . Depending on the surgical indication, specific surface treatments are made, which include diamond coating with diamonds of different granulometries.

### → QUALITY CONTROL



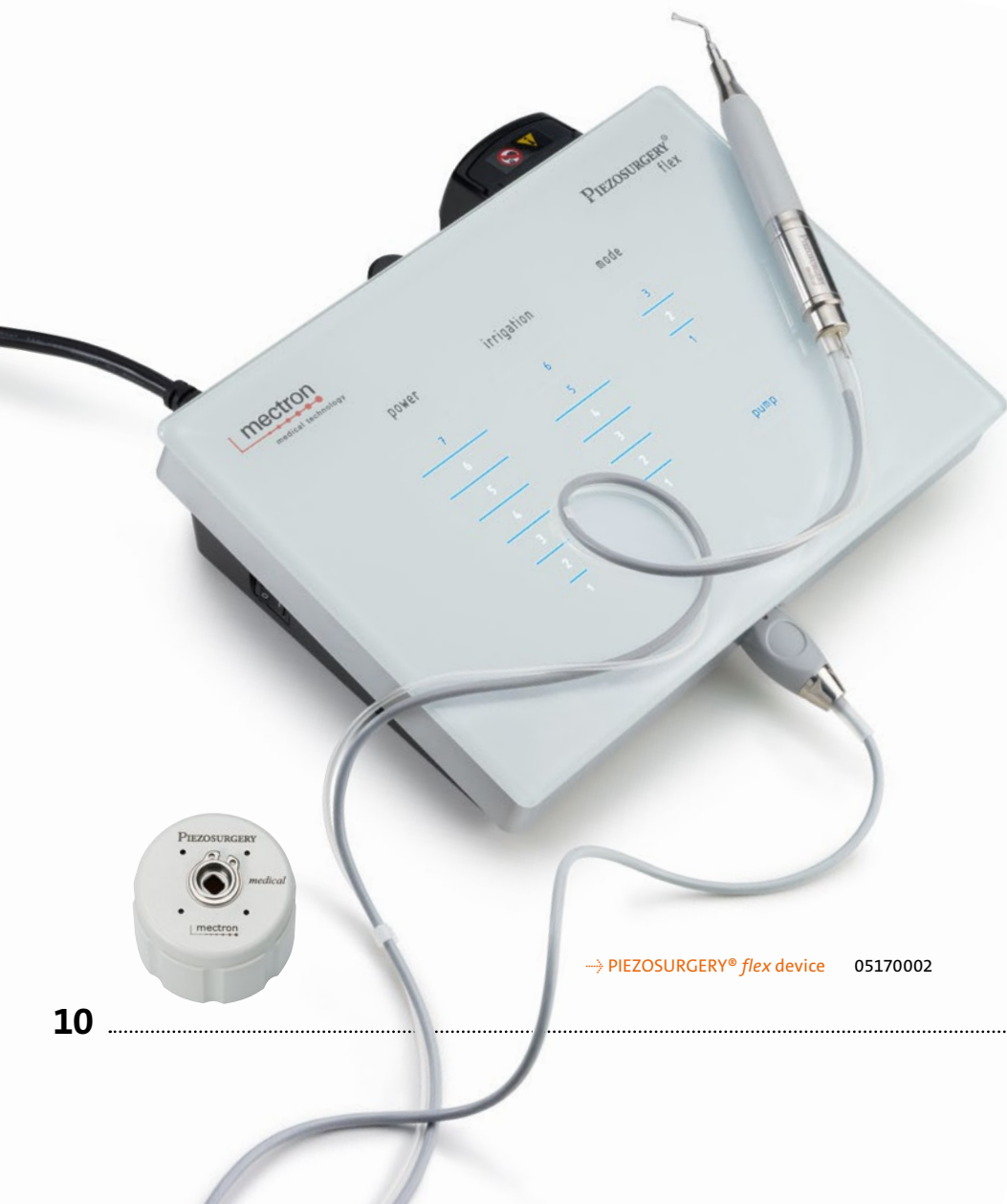
Surgical inserts are individually checked throughout the manufacturing process. Checks range from dimensional control of the rough insert to visual inspection of final package.

### → MARKING



Each surgical insert is laser marked. The code is engraved on the shaft of the surgical tips for superior safety.

# → PRODUCTS



→ PIEZOSURGERY® flex device 05170002

## → SURGICAL INSERTS

OSTEOTOMY	MT1-10	03600001	DRILLING	MD2-08	03620010
	MT1S-10	03600007		MD2-10	03620004
	MT1-20	03600002		MD3-14	03620006
	MT1204	03600019	MD3-18	03620008	
	MT2R-4	03600003	FINISHING	MF1	03630001
	MT2L-4	03600004		MF2	03630002
	UNIVR	03600008		MF3	03630003
	MT6S-10	03600011		MF4	03630004
	MT7-3	03600012		MF5	03630005
MT9-13	03600016	MF6		03630006	
OSTEOPLASTY	MP1	03610001			
	MP2	03610002			
	MP3-a30	03610003			
	MP0745	03610010			

## → ACCESSORIES

Handpiece for standard channel	03120127
Torque wrench for standard channel	02900080
Irrigation kit single use (box of 10 units)	03230008

## → CONTAINERS FOR STERILIZATION OF HANDPIECE AND TORQUE WRENCH

Container for sterilization completed with cover with valve	02900173
Tray for sterilization completed with cover	02900172
Thermodisinfection adaptor for handpiece	04610008
Filter for thermodisinfection adaptor	04590006

## → SPARE PARTS

Power-supply cable	00050020
Footswitch for PS flex	04620003
Drip stands for saline bag	01380002
Metal cone for standard handpiece	00710034
Protection for standard handpiece's connector	03150086

# PIEZOSURGERY® IN PRACTICE

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medical technology



YOUTUBE



FACEBOOK



LINKEDIN

Do you want to find out more about clinical protocols and experiences of surgeons who already collaborate with us? Discover the world of PIEZOSURGERY® and join the community on our social channels and website. You will have at your disposal:

- CLINICAL ANIMATIONS
- SURGICAL PROTOCOLS
- WEBINARS
- USERS TESTIMONIAL

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ADVANTAGES AND BENEFITS | PIEZO VS OLD INSTRUMENTS | APPLICATIONS | SCIENTIFIC EVIDENCE | ABOUT US | DEVICES | CONTACT US

## EXPERIENCE PIEZOSURGERY®

THE TECHNOLOGY THAT ALLOWS SELECTIVE OSTEOTOMIES WITH RESPECT FOR SOFT TISSUES

DISCOVER PIEZOSURGERY®

### WHY CHOOSE PIEZOSURGERY®

**INTRAOPERATIVE ADVANTAGES**

- ▶ SELECTIVE CUT**  
Increased safety for surgeons and patients, promoting reduced risk of damage to surrounding soft tissue.
- ▶ MICROMETRIC CUT**  
Maximum surgical precision and intra-operative tactile sensation. Minimal bone loss through the cutting width.
- ▶ CAVITATION EFFECT**  
Maximum intra-operative visibility. Blood-free surgical site.



DISCOVER MORE!

mectron s.p.a.,  
via Loreto 15/A, 16042 Carasco (Ge), Italy,  
tel +39 0185 35361, fax +39 0185 351374

→ [www.mectron.com](http://www.mectron.com) – [piezosurgery@mectron.com](mailto:piezosurgery@mectron.com)



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