mectron

→ MECTRON PIEZOSURGERY® 3
PIEZOSURGERY® 3 – THE EVOLUTION OF A REVOLUTION

The innovative qualities of the original mectron PIEZOSURGERY®

- Micrometric cutting action for maximum surgical precision and intra-operative sensitivity
- Selective cutting action for minimal damage to soft tissue, maximum safety for you and your patients
- Cavitation effect for maximum intra-operative visibility and a blood-free surgical site

are further improved in PIEZOSURGERY® 3

The most effective device in the market becomes even more powerful, and at the same time it becomes even simpler to use.
3

piezosurgery® – the evolution of a revolution

more than 30 scientific studies about piezosurgery® are published
the first competitive units are launched
first implant site preparation treatments using piezosurgery®

2005

2007

mectron presents the innovative inserts for implant site preparation, at the same time the first study about the inserts is published

PIEZOSURGERY® 3 – the third generation is presented

2009

* You will find a selection of clinical and scientific studies about mectron PIEZOSURGERY® in the two volumes of the brochure „Scientific Abstracts – 10 years of clinical research“. A downloadable version is available at the mectron website www.mectron.com.
Choose a basic mode (BONE, IMPLANT, ROOT), select the type of surgery, adjust irrigation with the “-” or “+” buttons and the surgery can start. The necessary fine tuning for each insert and indication is achieved automatically by the electronic feedback-system.
PIEZOSURGERY® 3 – THE INTELLIGENT WAY OF SHOWING STRENGTH!

PIEZOSURGERY® 3’s electronics provides maximal power. Thanks to its intelligent software the original PIEZOSURGERY® achieves its unique cutting efficacy. Additionally, all of the electronics work automatically without time consuming settings.

- Controls
  - only 4 buttons
  - simple and ergonomic

- Irrigation
  - adjusted by "-" and "+" buttons
  - internal safety control ensures constant irrigation flow during surgery

- Clean Function
  - controlled by the foot pedal
  - cleaning cycle for the device’s main tubes
PIEZOSURGERY® 3 – THE PERFECT TOOL FOR DAILY USE!

→ The ergonomics of PIEZOSURGERY® 3 are ideal for daily use. With its simple handling it offers utmost treatment security. Materials and surfaces are selected for easy cleaning, disinfection and sterilization. As part of its commitment to customer satisfaction, whenever possible, mectron avoids the use of expensive single use parts, such as disposable liquid lines.

→ FLEXIBILITY
→ flexible choice of several irrigation options
→ 360° function of the foot control
→ digital transformer allows voltage from 100 - 240 V

→ HYGIENE
→ handpiece and handpiece cord (including the liquid line) are fully sterilizable together
→ easy-to-clean keyboard
→ tube of peristaltic pump tubing and connections of the liquid line are sterilizable
→ sterilizable torque wrench

→ ECONOMY
→ the irrigation system works with cost-effective standard parts
→ tube of peristaltic pump is reusable
→ standard connections for tubing
→ liquid line integrated in handpiece cord

→ SAFETY
→ reliable peristaltic pump for irrigation
→ handpiece cord coupling protected against mishandling
→ unique all-in-one handpiece and handpiece cord system
→ once positioned the foot pedal is stable due to its weight
→ transformer stable against variation in voltage (avoid insert breakage)
Piezosurgery® – the perfect tool for Daily use!

- controlled by only 4 buttons
- unique all-in-one handpiece and handpiece cord system
- handpiece cord is extremely flexible
- slim design of the handpiece
- easy-to-read, illuminated display
- high-grade handpiece connectors
- torque wrench ensures optimal energy transmission
- simple peristaltic pump
PIEZOSURGERY® 3 – EXTREMELY VERSATILE ... FROM IMPLANTOLOGY TO ORTHODONTIC SURGERY
Cystectomy
Implant explantation
Root planing
Root debridement
Crown lengthening
Osteoplasty
Bone block harvesting
Peri-apical access
Retrograde preparation of the root canal
diamond surfaces for precise and controlled operation on bone structures
preparation of difficult and delicate structures (ex: sinus augmentation, nerve lateralization)
preparation of the final bone shape

SMOOTHING INSERTS
- diamond surfaces for precise and controlled operation on bone structures
- preparation of difficult and delicate structures (ex: sinus augmentation, nerve lateralization)
- preparation of the final bone shape

SHARP INSERTS
- gentle and effective bone cutting action
- fine and well-defined cutting line
- used for implant site preparation, osteoplasty techniques and bone chip harvesting

IM3A
- highly complex insert for the implant site preparation. New and exclusive patented technology by mectron.

BLUNT INSERTS
- soft tissue preparation (ex: Schneiderian’s membrane)
- root planing in periodontology
PIEZOSURGERY® 3 INSERTS – FROM CLINICIANS FOR CLINICIANS!

→ Over 50 inserts – mectron offers the widest range of inserts for piezoelectric bone surgery – thanks to more than 12 years of experience in insert development. This experience makes mectron the inventor and innovator in the field of piezoelectric bone surgery, e.g. the new inserts for the implant site preparation.

INSERT KITS

→ set of inserts for specific application
→ stainless steel tray with depth markings
→ for sterilization and storage
A CNC controlled 5-dimensional sharpening machine cuts with an accuracy of up to 0.1 μm. The whole cutting process for a single insert last up to 12 min.

→ Insert Development
- 1. close collaboration with universities for the development of inserts
- 2. computer simulation of shape and insert movement. The finite elements method allows precise prognoses of insert movements
- 3. extensive clinical testing – feedback from experienced practitioners
Ultrasound inserts oscillate up to 36,000 times per second. An enormous stress for the material. Therefore mectron uses only medical grade, high quality, stainless steel for insert production. Each mectron ultrasound insert will pass through 12 working steps.

The basis of the original method’s efficiency is the controlled insert vibration. Therefore inserts and device have to be matched perfectly – a complex procedure as you have to control a multitude of different parameters.

→ **PIEZOSURGERY® 3 INSERTS – BECAUSE QUALITY MATTERS!**

- **DIAMOND COATING**: Depending on the indication, the inserts are coated with specially selected diamonds. The granulometry of the diamond coating is adapted to the respective treatment.

- **TITANIUM NITRID COATING**: A coating of titanium nitride, applied to inserts, increases the hardness of the surface, avoids corrosion and therefore increases working life.

- **LABELING**: Each insert is labeled gently by a laser.

- **QUALITY CHECK**: Each insert is checked in detail before getting an OK for sales.
PIEZOSURGERY® 3 – 12 YEARS OF SUCCESSFUL SCIENTIFIC RESEARCH

Comparative studies have demonstrated both the clinical and histological advantages of the PIEZOSURGERY® device.

METHOD PIEZOSURGERY®: EVIDENCED-BASED
With over 12 years of successful clinical research, the original PIEZOSURGERY® method is the only one supported by more than 100 clinical and scientific studies. An updated list of publications can be found at www.mectron.com. An abstract collection is also available for download.
WWW.PIEZOSURGERYACADEMY.COM – THE SCIENTIFIC INFO PLATFORM

The website of the PIEZOSURGERY® academy, an independent institute for the advancement of the original PIEZOSURGERY® method. To find out about the possibilities of PIEZOSURGERY®, join one of the many seminars which are held in different languages.

TECHNICAL SPECIFICATIONS

- **Dimensions (L x W x H)**: 340 x 210 x 150 mm
- **Weight**: 3.2 kg
- **Working frequency**: 24,000 – 36,000 Hz
- **Working power of handpiece**: max. 25 W adjustable to 6 output levels:
  - BONE Mode
  - CORTICAL
  - Spongious
  - SPECIAL
  - IMPLANT Mode
  - IMPLANT
  - ENDO
  - PERIO
- **Delivery rate of the peristaltic pump**: BONE outputs 8-90 ml per min.
  - IMPLANT outputs 8-90 ml per min.
  - ROOT outputs 0-90 ml per min.
- **Power supply**: connection to the power supply is sufficient fully digital 100-240 Vac 50/60 Hz
- **Max. power absorbed**: 120 W
- **Warranty**: device 2 years; handpiece and handpiece cord 1 year
WHEN YOU CAN HAVE THE ORIGINAL?

WHY WOULD YOU BUY AN IMITATE?