



IT'S TIME FOR  
ATRAUMATIC  
EXTRACTIONS

PIEZOTOME  
CUBE



-350 BC  
FORCEPS

Mentionned by Aristotle in approx -350 BC, forceps introduce the beginning of extraction.

Destruction of the socket

Can cause fracture

Force demanding

Requires crown access

1875

ROTARY INSTRUMENT

Dental rotating motors allowed a diminution of the force needed and an easier access compared to forceps.

Destruction of the alveolar bone

Mandatory flap

Delayed implant placement

Post-operative complications

2019

FOR THE FIRST TIME,  
PIEZOELECTRIC SURGERY IS  
POWERFUL ENOUGH  
TO CARRY OUT EXTRACTIONS  
AT THE SAME SPEED<sup>1</sup>  
AS ROTARY INSTRUMENTS!

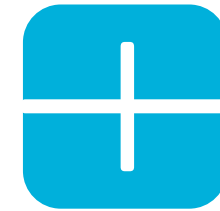


# ROTATIVE INSTRUMENT VS CUBE TECHNOLOGY

SAME DURATION<sup>(1)</sup>

Immediate destruction of bone

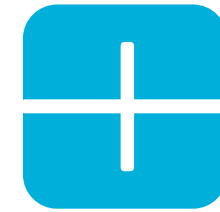
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Socket preservation<sup>9</sup>

Mandatory flap

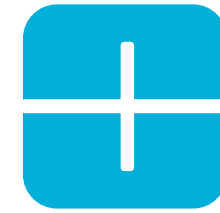
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Safe for soft tissues

Post-operative pain duration  
2 days<sup>1</sup>

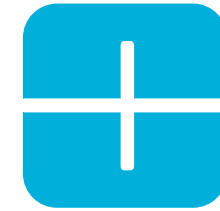
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Recommended for immediate  
implant placement

Risk of damaging soft tissues<sup>1</sup>

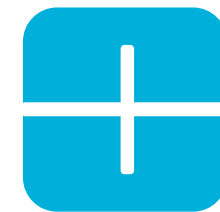
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No force needed

Physically taxing<sup>8</sup>

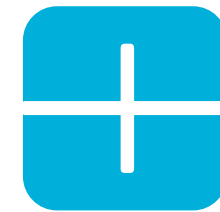
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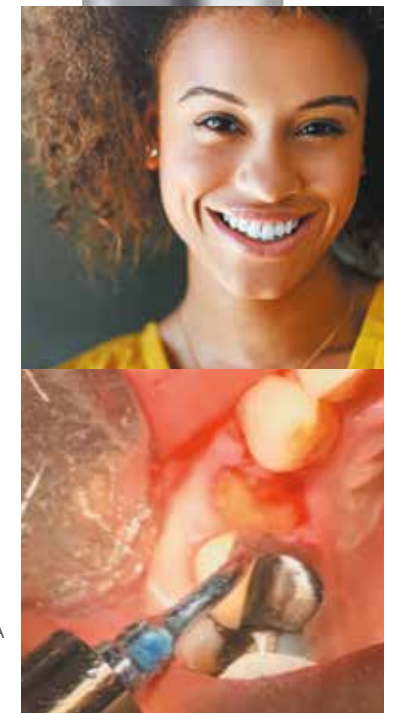
50% less pain & swelling<sup>2</sup>

Dreaded by patients

—



98% less analgesics intake<sup>1</sup>





# EXTRACTION BECOMES ATRAUMATIC WORLDWIDE



Maintain integrity of the extraction site and the 4 bony walls around followed by immediate implant placement  
*Dr. Jeffrey H. Brooks, D.M.D, USA*



No surgical flap was raised keeping the periosteum intact in line with atraumatic extraction protocol  
*Dr. Adam Kimowitz, DMD, USA*



100% flapless extraction with Piezo

“ I practice a 100% flapless extraction with the Piezo in all of my extractions! Root canals, curved roots, ankylosed teeth, implants...a scalpell you won't see on my surgical tray. That's only possible with Piezosurgery! ”

*Dr. med. dent. Marcel Wainwright*



Initial syndesmotomy of the impacted third molar  
*Dr. Federico Berton, Italy*



For me as an oral surgeon, the Cube has been an absolute game changer. In a world where gimmicks and promises often come first, this is a solution that has delivered above and beyond what I could have imagined. It now finds use in a growing number of cases where it saves time, improves patient experience and has expanded the complexity of treatment options we can provide.  
*Dr. Sami Stagnell, BDS MFDS(RCSEd) MSc MFGDP(UK) AKC MORaISurg(RCSEng | Ed) AFFMLM, England*



Root elevation after a root section (Ninja® tip) and root extraction (LC2 tip)  
*Pr. Francis Louise, France*



First time is best time , atraumatic extraction give us an opportunity to save the alveolar bone to place our implant in right 3D position



The site is ready to receive the implant saving buccal plate and soft tissue

“ Saving bone and soft tissue is the main factors for immediate implant placement after extraction, the implantology trend these days is to reduce post-operative pain, and improve pre implant tissue quality , Piezosurgery Cube is helping me to achieve that. ”

*Dr. Majed Abu Arqub Periodontist specialist, Jordan*

# DELIVER COMPASSIONATE CARE & EXPAND YOUR EXPERTISE

## CHOOSE THE REFERENCE<sup>3</sup>

“ The new gold standard in dentistry<sup>4</sup> ”  
v.Prof. Dr. Dr. A. Troedhan (Austria)

## GIVE VALUE TO YOUR TREATMENTS

“ Piezotome<sup>®</sup> has made my surgeries more predictable, easier, faster and significantly less traumatic which also helped increase the number of patients I have. Both surgeons and patients do benefit equally. ”

Pr. Dr. Marcel Wainwright (Sweden)

“ Piezotome<sup>®</sup> surgery is superior in atraumaticity and soft-tissue safety [...] No lesions of the mandible nerve were detected with Piezotome<sup>®</sup> surgery.<sup>1</sup> ”

## GIVE THE BEST TO YOUR PATIENTS

“ 86% of the patients were observed with no postsurgical swelling and 87% no postsurgical pain.<sup>6</sup> ”

“ My patients can get back to work the day after surgery! ”  
Pr. Dr. Marcel Wainwright (Sweden)

## INTRA-OPERATIVE



### SAFETY

- Cutting selectivity: soft tissues are preserved (nerves, membranes and arteries)
- Intraosseous temperature under control



### PRECISION

- Fine and consistent cut on all types of bone
- Minimal bone loss for less invasive procedure



### COMFORT

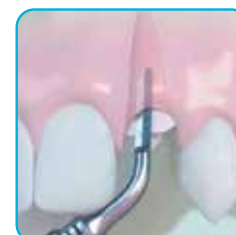
- New automatic power control for smooth and effortless cut
- Easy bone access thanks to exclusive tips designs



### VISIBILITY

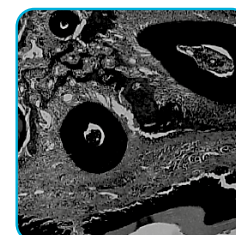
- Stable irrigation flow
- Cavitation spray: microbubbles releasing oxygen limiting the bleeding (hemostatic effect)

## POST-OPERATIVE



### SUPERIOR OUTCOMES

- Reduced pain
- Less analgesics
- Limited edema



### GREAT HEALING

- Predictable
- Fast recovery
- Bone densification

# GIVE POWER TO YOUR KNOW-HOW

## NEUTRON TECHNOLOGY

ACTEON® Piezotome® ultrasonic power generators are piloted by the patented **Newtron® technology**. The advanced electronics, the handpiece and the tips are perfectly tuned introducing maximal performance and unique clinical benefits, to tackle each surgery serenely.

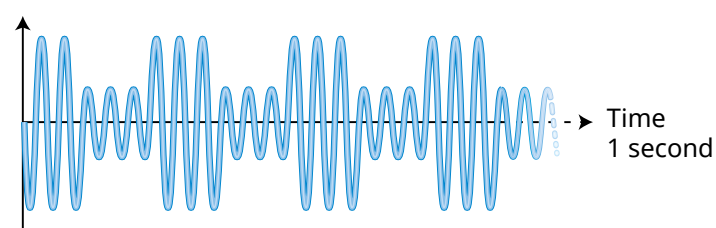
### PRESERVATION

#### MODULATION

Alternation between high and low amplitude

- ▶ Soft tissue preservation with better tissue recovering and cells regeneration

Amplitude Piezotome® modulation mode



### EFFICACY

#### FREQUENCY

Automatic frequency adjustment from 28 to 36kHz according to every tip shape and weight

- ▶ Maximal performance for each procedure

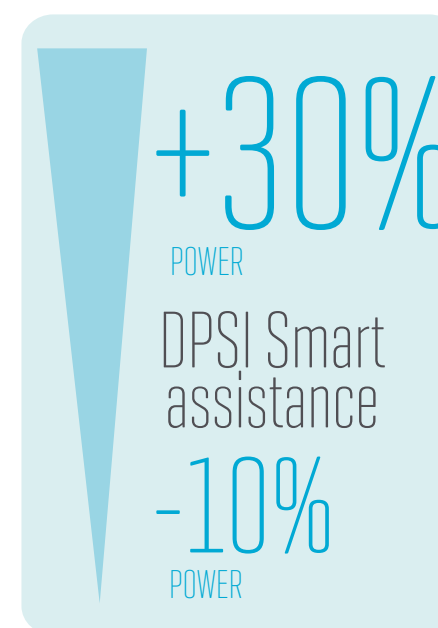
### COMFORT

#### POWER

Automatic power regulation depending on the resistance encountered

- ▶ Continuous vibration even in dense bone

## NATURALLY INTUITIVE



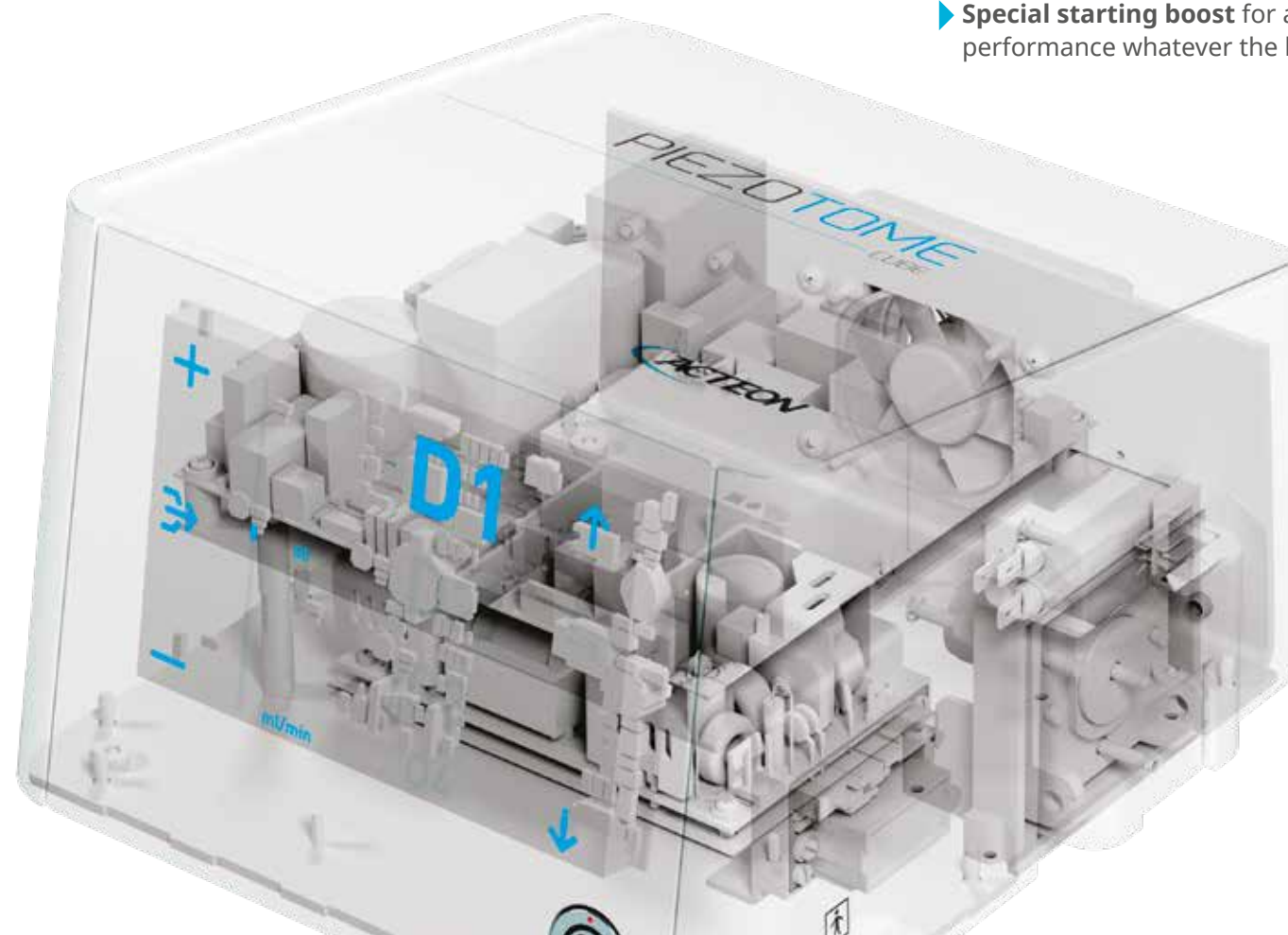
**Dynamic Power System Inside**  
**POWER INTUITIVELY ADAPTED**  
**FOR MAXIMUM EFFICIENCY & SAFETY**

According to the resistance encountered, the D.P.S.I. smart assistance will:

- ▶ Increase **+30%** the power, improving cutting performance
- ▶ Decrease **-10%** the power, to be even safer on soft tissues

#### WITH THE D.P.S.I., GET

- ▶ **The most advanced Newtron® technology** with continuous monitoring of major criteria (pressure applied, tips designs and bone density)
- ▶ **Immediate power responsiveness**
- ▶ **Special starting boost** for an effortless cutting performance whatever the load applied





# ACTEON® MAKES THE DIFFERENCE



## CUBE LED HANDPIECE

Upgraded conception based on ACTEON®  
6 ceramic rings

- ▶ More power than ever

Lighter with perfectly balanced design

- ▶ Natural gesture, rotation free for less hand fatigue

Full white color LED ring (100,000 Lux)

- ▶ Great tissue distinction and posterior areas visibility

## TIPS

Many exclusive designs

- ▶ Clinical versatility

Strengthened by surface treatment

- ▶ Excellent durability

## FAST ASSEMBLY TORQUE WRENCH

- Saves precious time
- Robust stainless steel dynamometric wrench



## TOTAL ADAPTABILITY

Autoclavable handpiece holder with 2 positions  
protecting from accidental fall:

- "Clip" table
- "On" table

## ABSOLUTE CONTROL

Weighted multifunctional  
footswitch



## MAKE IT EASY

### ▶ PERISTALTIC PUMP

- Fast and intuitive insertion of the irrigation line in the pump
- Small size and robust
- Precise adjustment (ml/min) and regular flow rate reaching the tip's end

### ▶ EXTERNAL IRRIGATION LINE

- Extend the handpiece lifetime
- Immediate visual control throughout the procedure
- Provide complete sterile work and ease maintenance
- Autoclavable or single use delivered sterile

## DURABILITY

Piezotome® Cube accessories are designed,  
with robust and durable materials like stainless  
steel, limiting the use of plastic.


A willingness of ACTEON® to offer you a clinical  
accompaniment over the years.



## STERILISATION CONSCIENTIOUSNESS

- Easy maintenance
- Direct access to all parts
- Meeting hygiene constraints

# SECURE & BROADEN YOUR SCOPE IN SURGERY



**Extraction**

**Syndesmotomy**  
For maximum bone preservation  
LC1, LC2 (x2),  
LC2L, LC2R, Ninja® tips  
Ref. F87546



*Widening the ligamentary space. LC tips separate the tooth from its attachment system for a rapid extraction, with less luxation, keeping intact the alveolar bone edge.*

F87540: EXTRACTION Pack (An Extraction II kit, a sterilization box, a Piezotome® LED handpiece and its autoclavable cord, a dynamometric wrench)




**BoneSurgery**

**Osteotomy/ Osteoplasty**  
Clean and thin cut for maximal bone volume  
BS1S, BS2L, BS2R, BS4, BS5, BS6 tips  
Ref. F87509



*Performing bone graft, allows cutting, excising and remodeling bone structures reducing the risk of soft tissue lesions.*

F87500: BONE SURGERY Pack (A Bone Surgery II kit, a sterilization box, a Piezotome® LED handpiece and its autoclavable cord, a dynamometric wrench)




**CrestSplitting**

Rapid and minimally invasive technique for controlled expansion  
CS1, CS2, CS3, CS4, CS5, CS6 tips  
Ref. F87567



*The increasing tips thickness allows a smooth crest expansion limiting the risk of bone fracture.*

F87560: CREST SPLITTING Pack (A CS kit, a sterilization box, a Piezotome® LED handpiece and its autoclavable cord, a dynamometric wrench)



**SinusLift**

**Lateral Sinus Lift**  
Unbeatable comfort: selective and hemostatic cut  
SL1, SL2, SL3, SL4, SL5 tips  
Ref. F87519



*A thin cut performed without effort, limiting any risk of sinus membrane perforation or antral artery damage.*

F87510: SINUS LIFT Pack (A SL II kit, a sterilization box, a Piezotome® LED handpiece and its autoclavable cord, a dynamometric wrench)



**IntraLift**

**Crestal Sinus Lift**  
Minimally invasive surgery for smooth sinus floor fracture  
TKW1, TKW2, TKW3, TKW4, TKW5 tips  
Ref. F87536



*Sinus lift by the crestal approach: the IntraLift Kit makes it possible to perform non invasive surgery in full safety.*

F87530: IntraLift™ Pack (A IntraLift™ II kit, a sterilization box, a Piezotome® LED handpiece and its autoclavable cord, a dynamometric wrench)



**PiezoCision**

**Accelerated Orthodontic Surgery**  
Minimal incisions, minimally invasive  
PZ1, PZ2L, PZ2R, PZ3 tips  
Ref. F87576



*Treatment of malocclusions by ultrasonic corticotomies for a quicker and minimally invasive surgery, flapless or sutureless. Bone stimulated by micro-incisions accelerates tooth movement, the treatment is 3 to 4 times faster\*.*

F87570: Piezocision™ Pack (A Piezocision™ kit, a sterilization box, a Piezotome® LED handpiece and its autoclavable cord, a dynamometric wrench)



**CrownExtension**

**Crown Lengthening**  
Incomparable precision and accessibility  
BS6, CE1, CE2, CE3 tips  
Ref. F87554



*Completely innocuous to the gingiva guaranteeing the integrity of bone and adjacent teeth.*

F87550: CROWN EXTENSION Pack (A CE II kit, a sterilization box, a Piezotome® LED handpiece and its autoclavable cord, a dynamometric wrench)



**Essential**

**The 6 fundamental ACTEON® tips**  
BS1S, BS4, SL1, SL2, SL3, LC2 tips  
Ref. F87528  
Kit delivered with the following references: F50510, F50100



*For osteotomy, osteoplasty, extraction and lateral sinus lift.*

F87529: ESSENTIAL Pack (An Essential kit, a sterilization box, a Piezotome® LED handpiece and its autoclavable cord, a dynamometric wrench)



# FOR GENTLE EXTRACTIONS

## Extraction



### SYNDESMOTOMY: ANTERIOR AREA

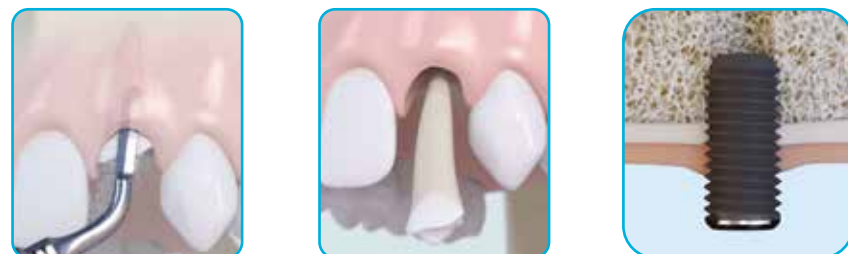
- ▶ **LC1**  
Ultrasonic periosteal elevator intended for syndesmotomy and periradicular osteotomy.
- ▶ **LC2**  
Tip, particularly slim, allows access to the tight spaces between the root and the alveolar bone.

### SYNDESMOTOMY: POSTERIOR AREA

- ▶ **LC2L**  
Left-oriented at 45° tip facilitates access to the posterior areas.
- ▶ **LC2R**  
Right-oriented at 45° tip facilitates access to the posterior areas.

### ODONTOTOMY - ROOT SECTION

- ▶ **Ninja®**  
Saw-tooth tip particularly efficient for hemisections and root amputations.



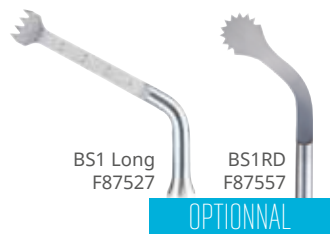
# THINNESS AND SECURITY

## BoneSurgery



### OSTEOTOMY - BONE HARVESTING

- ▶ **BS1S (Slim)**  
9mm saw intended for the in-depth cutting of very dense cortical bones.
- ▶ **BS2L**  
Left-oriented bone saw used for cutting the ramus cortical bone.
- ▶ **BS2R**  
Right-oriented bone saw used for cutting the ramus cortical bone.
- ▶ **BS1RD** (not included in the kit)  
Rounded saw, large 280° active surface
- ▶ **BS1L (Long)** (not included in the kit)  
15mm saw facilitating ramus bone grafting.



### OSTEOTOMY

- ▶ **BS5**  
Flat scalpel for fine osteotomies.

### OSTEOPLASTY

- ▶ **BS4**  
Circular scalpel for osteoplasty and harvesting of bone particles or chips.
- ▶ **BS6**  
Curved scalpel particularly recommended for osteoplasty.



# EASY & CONTROLLED TECHNIQUE

## CrestSplitting



### OSTEOTOMY

- ▶ **CS1**  
Fine tip dedicated to pilot osteotomy up to 8mm of depth.
- ▶ **CS2**  
Tip dedicated to the second osteotomy up to 8mm of depth.
- ▶ **CS3**  
Scalpel used for the discharges incisions in mesial and distal sides, up to 8mm of depth.

### EXPANSION

- ▶ **CS4**  
Conical tip for bone expansion. Tip thickness: 1.80mm at 8mm.
- ▶ **CS5**  
Conical tip for bone expansion. Tip thickness: 2.75mm at 8mm.
- ▶ **CS6**  
Conical tip for bone expansion. Tip thickness: 3.75mm at 8mm.



# MINIMAL INCISIONS

## PiezoCision



### OSTEOTOMY

- ▶ **PZ1**  
Anterior corticotomies.
- ▶ **PZ2L**  
Lateral corticotomies on patient's right vestibular arch. To be used with pendulum motion.
- ▶ **PZ2R**  
Lateral corticotomies on patient's left vestibular arch. To be used with pendulum motion.
- ▶ **PZ3**  
Anterior corticotomies for root proximity concerns.

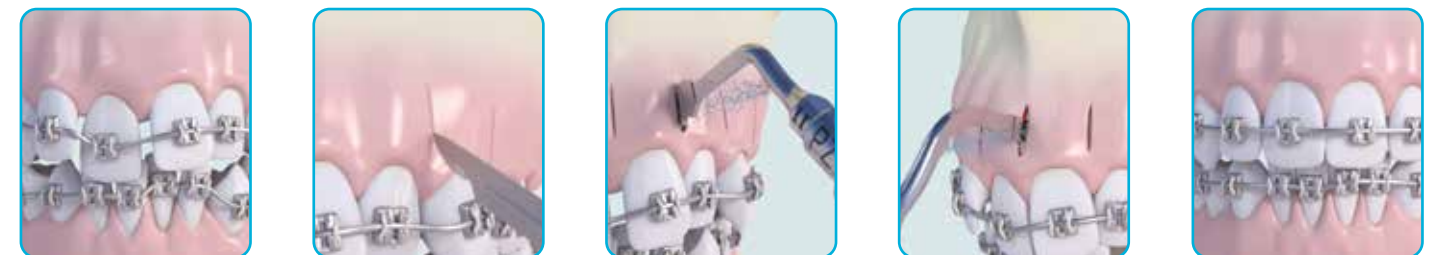
*The 3mm necessary decortication depth is visible on each tip by a laser marking.*

**Piezocision™ technique is the combination of:**

- micro-surgical incisions performed with Piezotome® powered ultrasonic generators, by ACTEON®,
- bone densification,
- orthodontic tooth movement.

### INDICATIONS

- Class I malocclusions with moderate to severe crowding (non-extraction)
- Correction of deep bite
- Selected class II malocclusions
- Rapid adult orthodontic treatment
- Rapid intrusion and extrusion of teeth

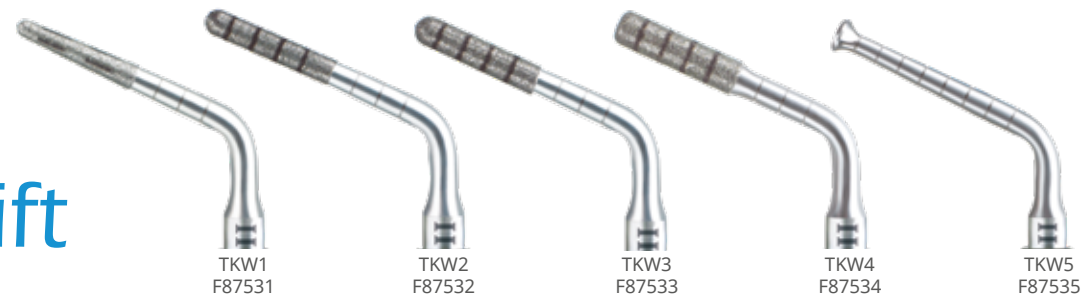




# FAST, SAFE AND MINIMALLY INVASIVE

# FOR AN UNMATCHED VISIBILITY

## IntraLift



### OSTEOTOMY - PILOT DRILLING

- ▶ **TKW1**  
Conical and diamond-coated tip for pilot drilling in very dense cortical bone (Ø 1.35mm).

### OSTEOTOMY - SECONDARY DRILLING

- ▶ **TKW2**  
Cylindrical and diamond-coated tip dedicated for drilling and fracturing the sinus floor (Ø 2.1mm).
- ▶ **TKW3**  
Cylindrical tip dedicated to drill and widen the access canal to sinus membrane (Ø 2.35mm).
- ▶ **TKW4**  
Cylindrical and diamond-coated tip intended for the receptacle preparation and widening the access canal to the sinus membrane (Ø 2.8mm).

### MEMBRANE DETACHMENT (ELEVATION)

- ▶ **TKW5**  
Tip Ø 3mm to be placed in the receptacle preparation for sinus membrane elevation by crestal approach.



## SinusLift



### VESTIBULAR BONE WINDOW CUT

#### OSTEOTOMY

- ▶ **SL1**  
Diamond-coated tip for vestibular bone window cut and for attenuation of sharp angles.

#### OSTEOPLASTY

- ▶ **SL2**  
Diamond-coated ball tip for smoothing the vestibular bone window and precise osteoplasty.

### MEMBRANE DETACHMENT

- ▶ **SL3**  
Plateau tip served for sinus membrane elevation on the window's edges.
- ▶ **SL4**  
Spatula served for sinus membrane elevation inside the sinus.
- ▶ **SL5**  
Spatula used for sinus membrane elevation inside the sinus and for disengagement of anatomical structures.



# PRECISION & ACCESSIBILITY

## CrownExtension

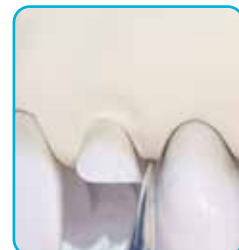
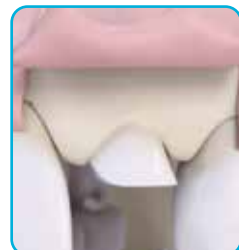


### OSTEOPLASTY

- ▶ **BS6**  
Curved scalpel particularly effective for substantial osseous reshaping.
- ▶ **CE1**  
Diamond-coated spherical tip (Ø 1.75mm) designed for osteoplasty in oral and palatal zones.
- ▶ **CE2**  
Diamond-coated spherical tip (Ø 1.20mm) designed for osteoplasty in interproximal zones.

### OSTEOECTOMY - OSTEOPLASTY

- ▶ **CE3**  
For a fast restoration of the biologic width (laser mark placed at 3mm).  
Used perpendicularly or parallel to the bone, this tip is designed for ostectomies of the tooth-supporting bone in interproximal and oral (vestibular) and palatal periradicular zones.



# SIMPLY INDISPENSABLE

## Essential



### OSTEOTOMY

- ▶ **BS1S (Slim)**  
9mm saw intended for the in-depth cutting of very dense cortical bones.

### OSTEOPLASTY

- ▶ **BS4**  
Circular scalpel for osteoplasty and harvesting of bone particles or chips.

### SYNDESMOTOMY

- ▶ **LC2**  
Tip, particularly slim, allows access to the tight spaces between the root and the alveolar bone.

### LATERAL SINUS LIFT

#### OSTEOTOMY

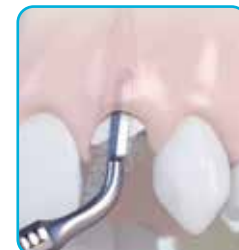
- ▶ **SL1**  
Diamond-coated tip for vestibular bone window cut and for attenuation of sharp angles.

#### OSTEOPLASTY

- ▶ **SL2**  
Diamond-coated ball tip for smoothing the vestibular bone window and precise osteoplasty.

#### MEMBRANE DETACHMENT

- ▶ **SL3**  
Plateau tip served for sinus membrane elevation on the window's edges.







Watch our Youtube channel:  
ACTEON®

[www.acteongroup.com](http://www.acteongroup.com)

## EQUIPMENT DELIVRED WITH

- 1 CUBE LED handpiece
- 1 Essential kit (BS1S, BS4, LC2, SL1, SL2, SL3)
- 1 dynamometric wrench
- 1 multifunction footswitch
- 1 irrigation bracket
- 1 handpiece holder
- 2 autoclavable irrigation lines
- 5 autoclave irrigation clips
- 15 sterile perforators

## UNIT DIMENSIONS & WEIGHT

- Length 251 x Height 160 x Depth 271mm
- Weight: 3.5kg

## FOOTSWITCH DIMENSIONS & WEIGHT

- Length 173 x Height 140 x Depth 176mm
- Weight: 1kg

1. Troedhan A, Kurrek A, Wainwright M. Ultrasonic Piezotome surgery: it is a benefit for our patients and does it extend surgery time? A retrospective comparative study on the removal of 100 impacted mandibular 3rd molars. *Open Journal of Stomatology*. 2011;1:179-184
2. Shanghai Kou Qiang Yi Xue. Comparative study of complications among routine method, high speed turbine handpiece and piezosurgery device after extraction of impacted wisdom teeth. *Shanghai Journal of Stomatology*. 2012 Apr;21(2):208-10.
3. The most sold device according to «Global and Chinese Dental Surgical Ultrasonic Generator Industry», 2010-2020 Market Research Report" published by Prof Research, 2015
4. Troedhan A, Tarek Mahmoud Z. Is piezoelectric surgery the new gold-standard in oral surgery and implantology. *Smile Dental Journal*. 2016;11(4)
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6. v. Prof. Dr. Dr. Troedhan. EAO congress, ACTEON® Symposium. The Piezotome enabled flapless vertical alveolar crest-split and horizontal distraction. 2016
7. Reside J, Everett E, Padilla R, Arce R, Miguez P, Brodala N, De Kok I, Nares S. In vivo assessment of bone healing following Piezotome ultrasonic instrumentation. *Clinical Implant Dentistry and Related Research*. 2013 June
8. Cicciù M, Bramanti E, Signorino F, Cicciù A, Sortino F. Experimental study on strength evaluation applied for teeth extraction: An in vivo study. *Open Dental J*. 2013;7:20-26. Published online 2013 Mar 8
9. Kleiber J. Immediate extraction placement and loading in the aesthetic zone. *Implant Dentistry Today*. 2013 Jan;7-13

Class IIa medical device - CE 0459 (GMED)

For professional dental use only

Manufacturer: SATELEC® - France

Read carefully the instructions for use available on [www.satelec.com/documents](http://www.satelec.com/documents)

Piezotome® Cube: Ultrasonic control console for intraoral surgery

Updated on: 02/2020