Ultrasonic surgery

POWERFULLY RESPONSIVE, MINIMALLY INVASIVE

Enhancing your workflows through innovation

piezotome cube



acteon

History

360 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

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



Destruction of the alveolar bone

Mandatory flap

Delayed implant placement

Post-operative complications



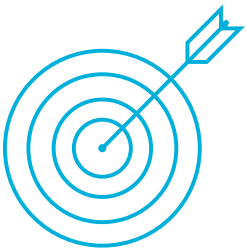


Today

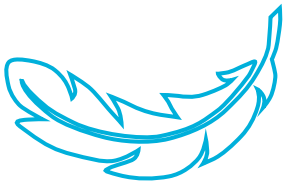
More safety



More precision



More comfort



Expand your surgical expertise

Highly powerful, reliable and versatile, Piezotome® Cube drastically improves the experience of implant and bone surgery procedures.

Give value to your treatments

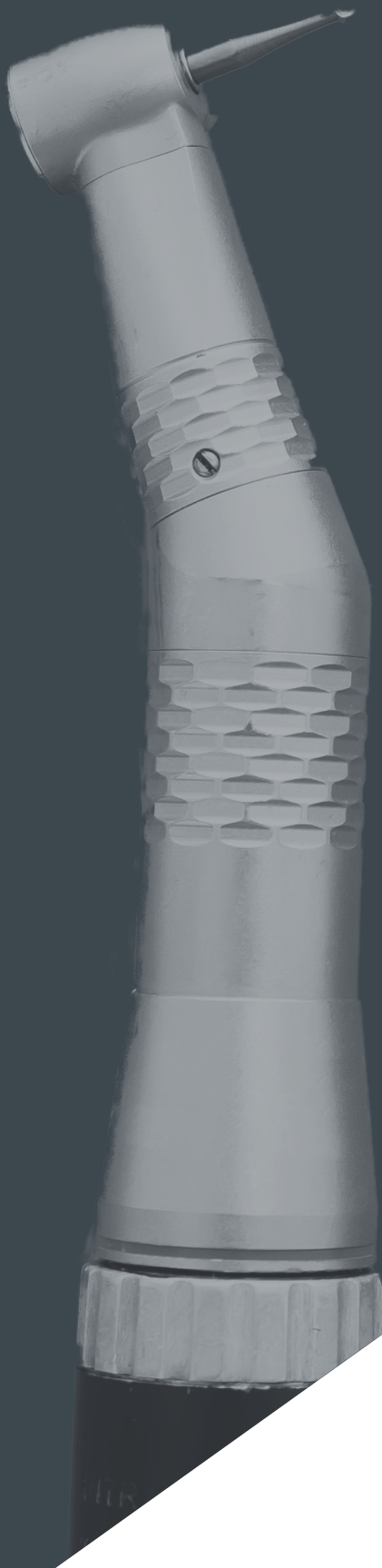
The Cube's unmatched performance combined with the practitioner's clinical expertise facilitates accurate, faster, atraumatic and more predictable bone treatments.

Give the best to your patients

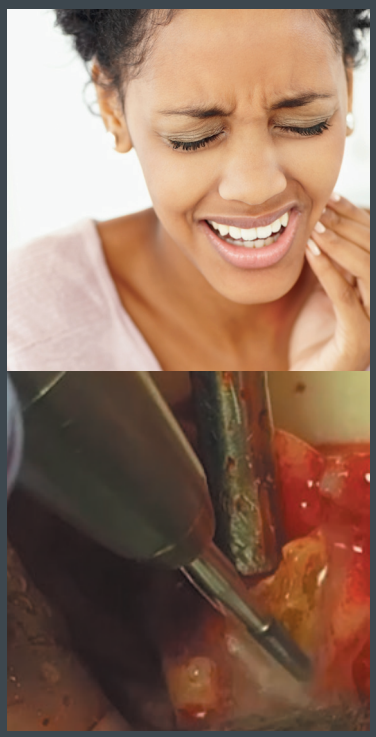
Provide compassionate clinical care with effective, predictable outcomes and enhanced healing with significantly less swelling, bleeding, pain and complications.



ROTATIVE INSTRUMENT



- Immediate destruction of bone
- Mandatory flap
- Post-operative pain duration 2 days[1]



Dr. Jeffrey Brooks, DMD, USA

- No force needed
- 50% less pain & swelling[3]
- 98% less analgesics intake[1]

- Risk of damaging soft tissues[1]
- Physically taxing[2]
- Dreaded by patients

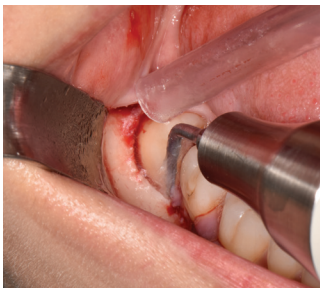


Dr. Jeffrey Brooks, DMD, USA

- Socket preservation[4]
- Safe for soft tissues
- Recommended for immediate implant placement

CUBE TECHNOLOGY

Give the best to your patients worldwide!



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





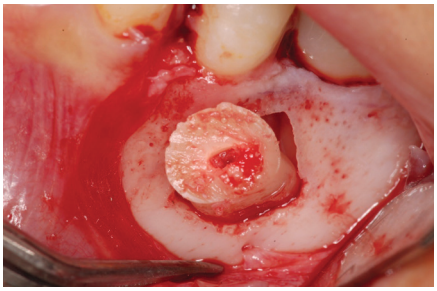
«Maintain integrity of the extraction site and the 4 bony walls around followed by immediate implant placement.»
Dr. Jeffrey H. Brooks, D.M.D, USA



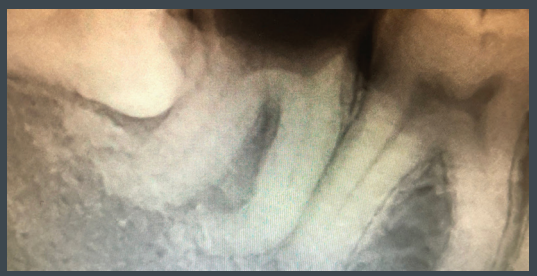








«Root elevation after a root section (Ninja® tip) and root extraction (LC2 tip).»
Pr. Francis Louise, France

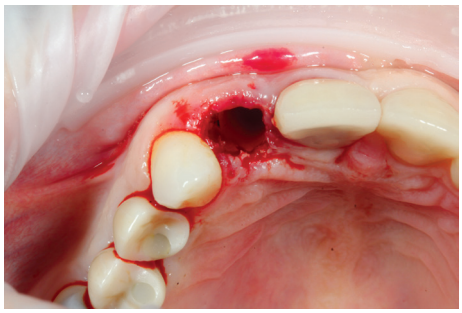




«For me as an oral surgeon, the Cube has been an absolute game changer. It finds use in a growing number of cases where it saves time, improves patient experience and has expanded the complexity of treatment options we can provide.»
Dr. Sami Stagnell, BDS MFDS (RCSED) MSC MFGDP(UK) AKC MORALSURG(RCSEng|Ed) AFFMLM, England



«I practice a 100% flapless extraction with the Piezo in all of my extractions! Root canals, curved roots, ankylosed teeth, implants...a scalpel you won´t see on my surgical tray. That´s only possible with Piezotome surgery!»
Dr. med. dent. Marcel Wainwright (Swiden)



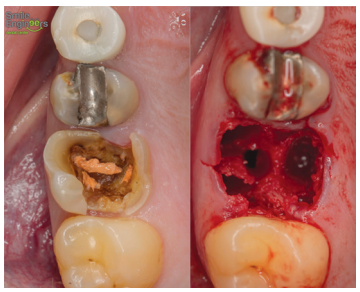
«No surgical flap was raised keeping the periosteum intact in line with atraumatic extraction protocol.»
Dr. Adam Kimowitz, DMD, USA











Atraumatic extraction give us an opportunity to save the alveolar bone to place our implant



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, Piezotome® Cube is helping me to achieve that.»
Dr. Majed Abu Arqub Periodontist specialist, Jordan

Deliver compassionate care & expand your expertise

CHOOSE THE REFERENCE[5]

“ **The new gold standard in dentistry**[6] ”

v.Prof. Dr. Dr. A. Troedhan (Austria)

GIVE VALUE TO YOUR TREATMENTS

“ **Piezotome® 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® surgery is superior in atraumaticity and soft-tissue safety (…) No lesions of the mandible nerve were detected with Piezotome® surgery.[1] ”

GIVE THE BEST TO YOUR PATIENTS

“ **86% of the patients were observed with no postsurgical swelling and 87% no postsurgical pain**[7]**.**

My patients can get back to work the day after surgery! ”

Pr. Dr. Marcel Wainwright (Sweden)

INTRA-OPERATIVE



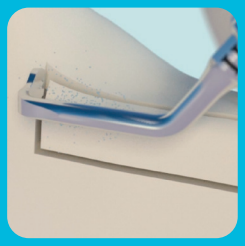
Safety

- 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

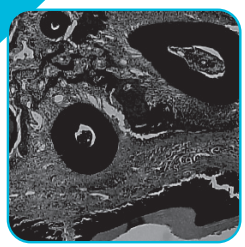
- Stable irrigation flow
- Cavitation spray: microbubbles releasing oxygen limiting the bleeding (hemostatic effect)

POST-OPERATIVE



Superior outcomes

- Reduced pain
- Less analgesics
- Limited edema



Great healing

- Predictable
- Fast recovery
- Bone densification

Give power to your know-how

newtron technology

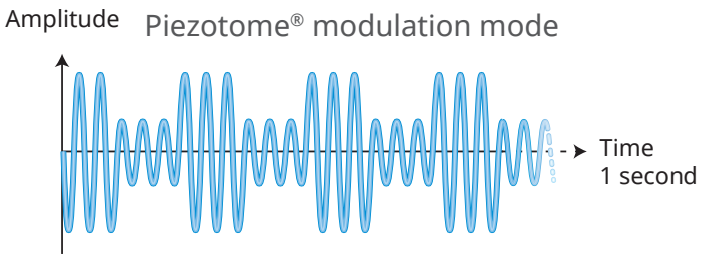
ACTEON® Piezotome® ultrasonic power generators are piloted by the patented **Newtron® technology**. The advanced electronics, the handpiece and the tips are perfectly tuned introducing maximal performance and unique clinical benefits, to tackle each surgery serenely.

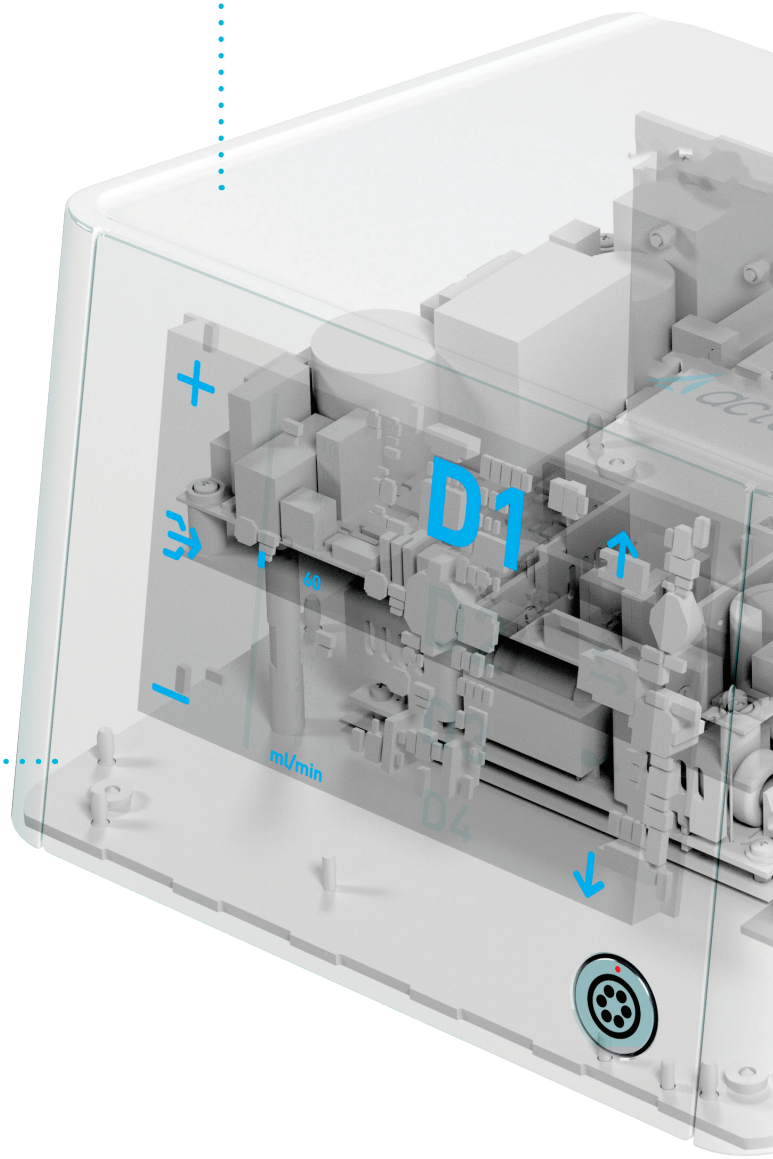
Preservation

Modulation

Alternation between high and low amplitude

- Soft tissue preservation with better tissue recovering and cells regeneration





Efficacy

Frequency

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

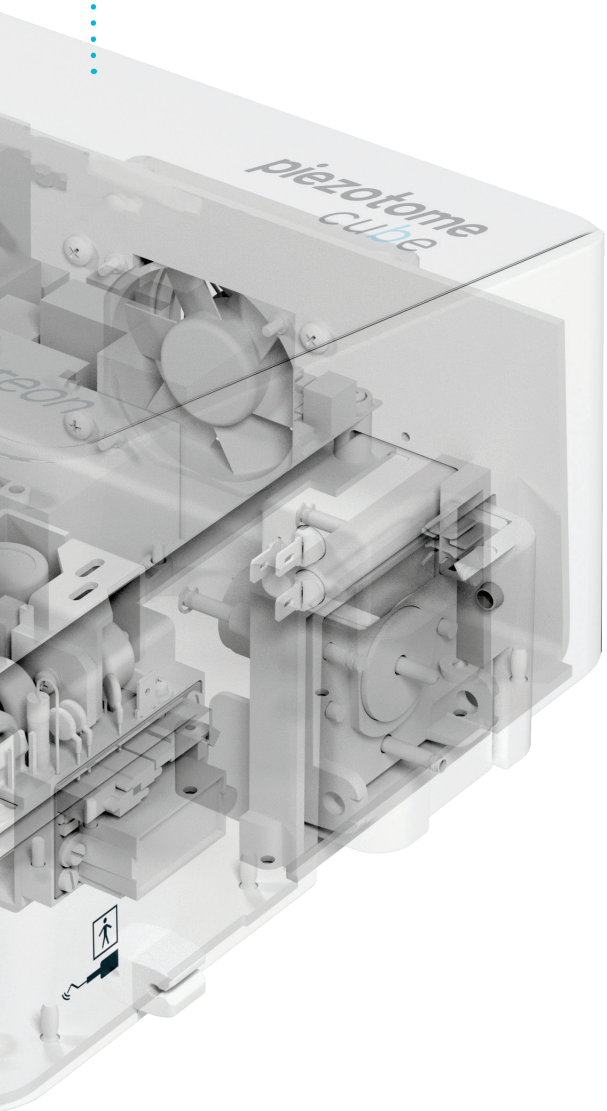
- Maximal performance for each procedure

Comfort

Power

Automatic power regulation depending on the resistance encountered

- Continuous vibration even in dense bone



Naturally intuitive

DPSI

Dynamic Power System Inside

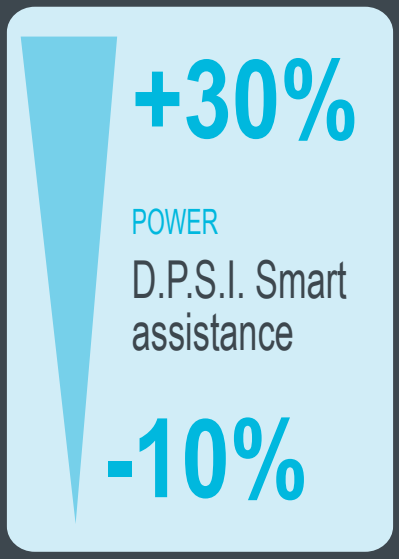
Power intuitively adapted for maximum efficiency & safety

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

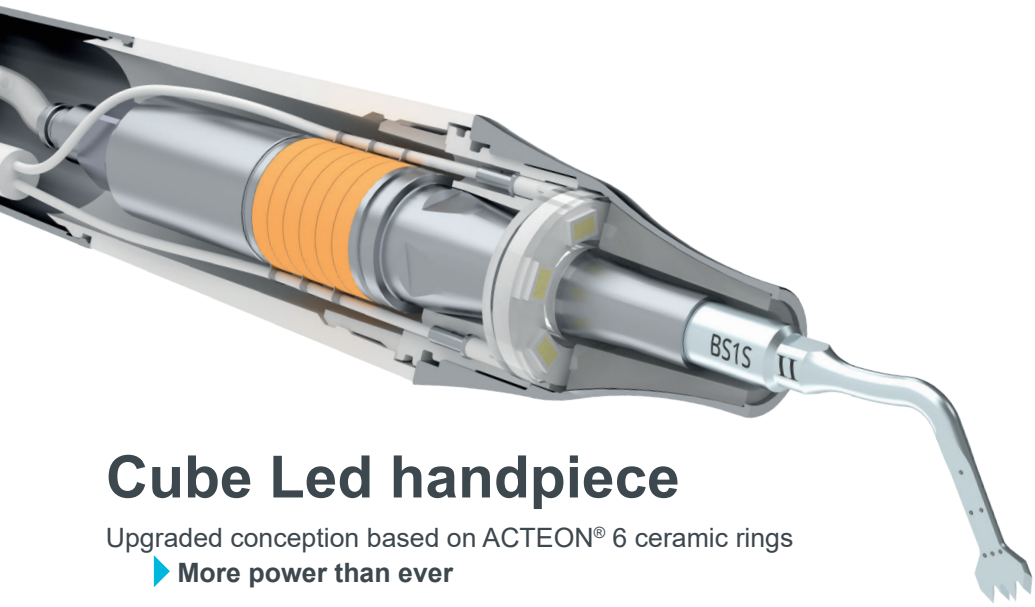
- Increase **+30%** the power, improving cutting performance
- Decrease **-10%** the power, to be even safer on soft tissues

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

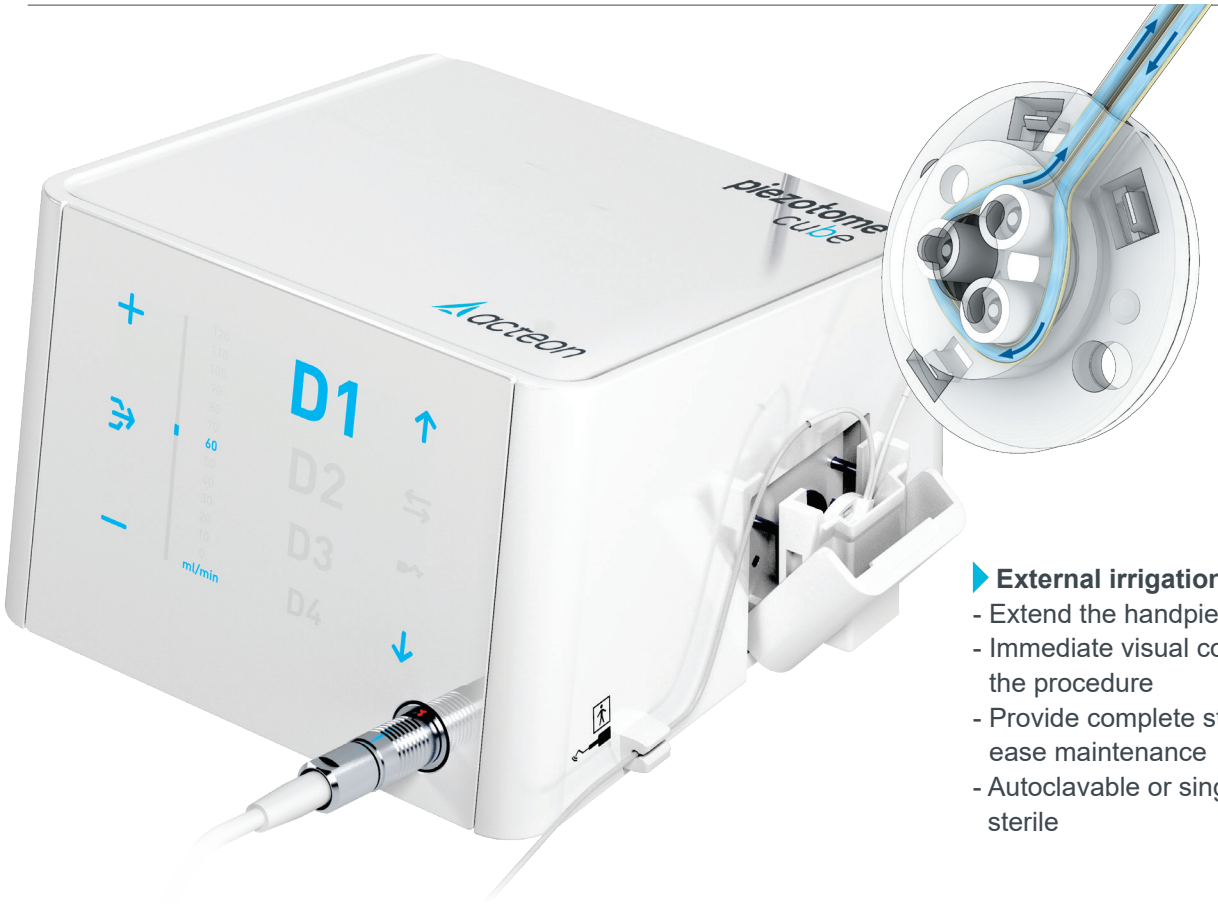
ABSOLUTE CONTROL

Weighted multifunctional



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 support over the years.



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

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



Sterilization conscientiousness

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



Total adaptability

Autoclavable handpiece holder with 2 positions protecting from accidental fall:
- "Clip" table
- "On" table.

For gentle extractions

extraction

Syndesmotomy: anterior area

LC1: Ultrasonic periotome 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

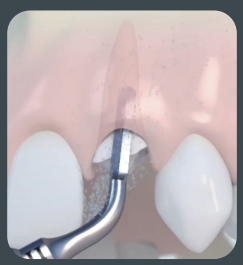
LC2L: Left-oriented at 45° tip facilitates access to the posterior areas.
LC2R: Right-oriented at 45° tip facilitates access to the posterior areas.

Odontotomy - Root section

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



LC1 F87507 | LC2 F87542 | LC2L F87543 | LC2R F87544 | NINJA® F87545







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)



Extraction II Kit
F87546

Thinness and security

bone surgery

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.

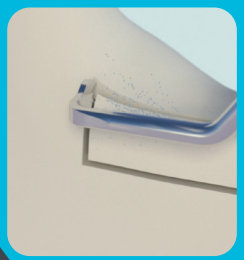


BS1S F87525 | BS2L F87502 | BS2R F87503 | BS4 F87504 | BS5 F87505 | BS6 F87506 | BS1 Long F87527 | BS1RD F87557

OPTIONNAL









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)



Bone surgery II Kit
F87509

Easy & controlled technique

crest splitting

Osteotomy

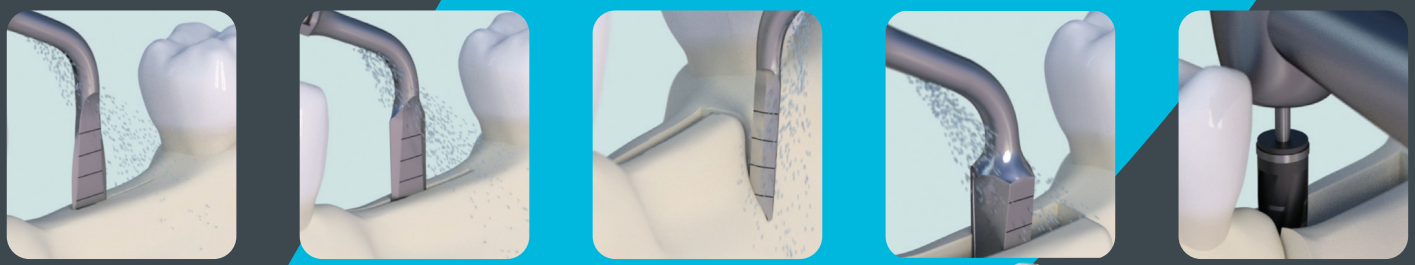
CS1: Fine tip dedicated to pilot osteotomy up to 8mm of depth.
CS2: Tip dedicated to the second osteotomy up to 8mm of depth.
CS3: Scalpel used for the discharges incisions in mesial and distal sides, up to 8mm of depth.

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.



CS1 F87561 | CS2 F87562 | CS3 F87563 | CS4 F87564 | CS5 F87565 | CS6 F87566



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)



Crest splitting II Kit
F87567

Minimal incisions

piezocision

Osteotomy

PZ1: Anterior corticotomies.
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.

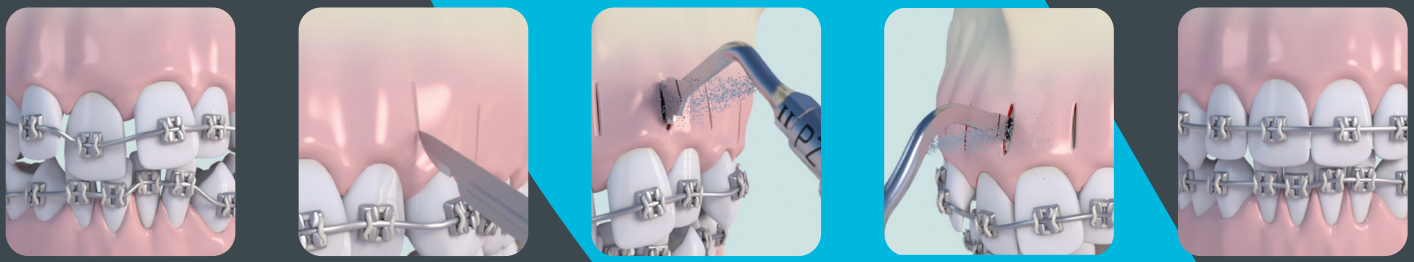
Indications

- 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



PZ1
F87571

PZ3
F87574



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[8].

Fast, safe and minimally invasive

intralift

Osteotomy - Pilot drilling

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

Osteotomy - Secondary drilling

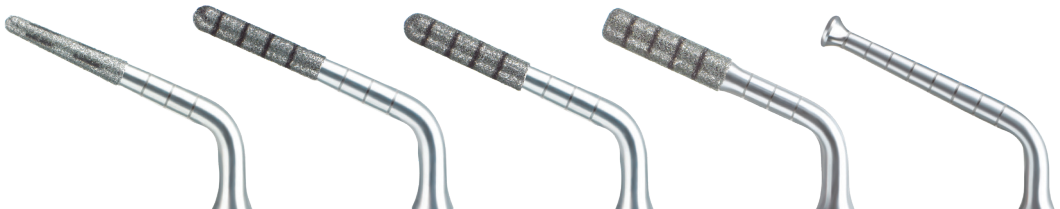
TKW2: Cylindrical and diamond-coated tip dedicated for drilling and fracturing the sinus floor (Ø 2.1mm).

TKW3: Cylindrical tip dedicated to drill and widen the access canal to sinus membrane (Ø 2.35mm).

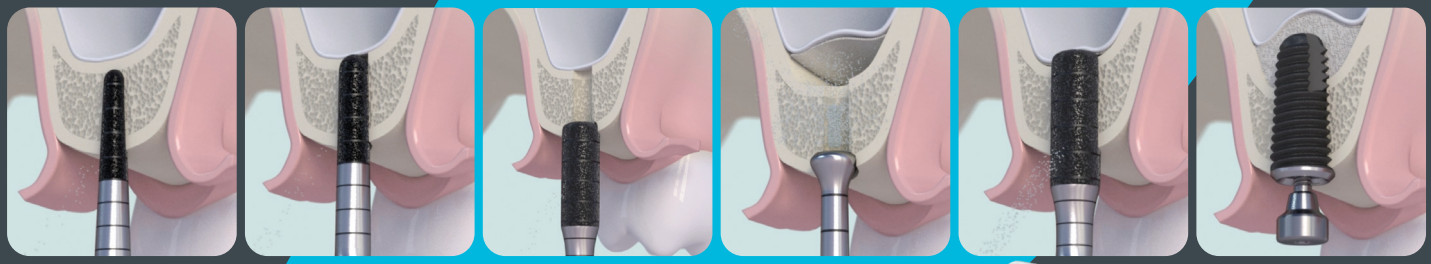
TKW4: Cylindrical and diamond-coated tip intended for the receptacle preparation and widening the access canal to the sinus membrane (Ø 2.8mm).

Membrane detachment (elevation)

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



TKW1 F87531 | TKW2 F87532 | TKW3 F87533 | TKW4 F87534 | TKW5 F87535



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

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



Intralift II Kit
F87536

For an unmatched visibility

sinus lift

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.



SL1 F87511 | SL2 F87512 | SL3 F87513 | SL4 F87514 | SL5 F87515



OR

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)



Sinus lift II Kit
F87519

Precision & accessibility

crown extension

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.

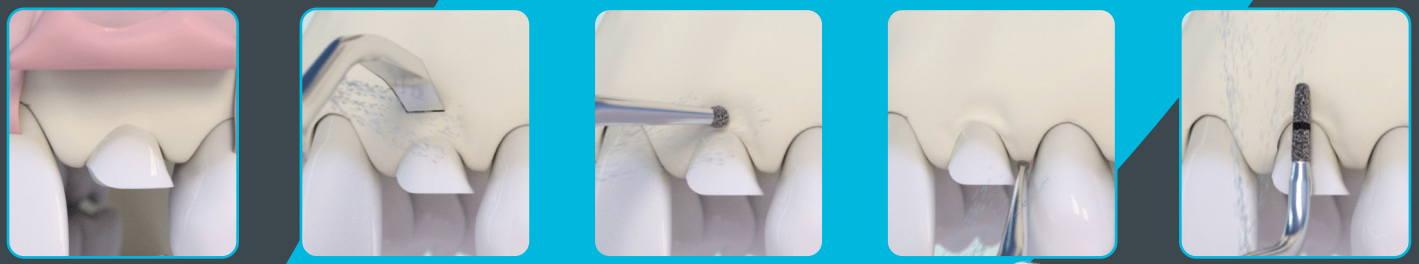
Osteoectomy - osteoplasty

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.



BS6 F87506 | CE1 F87551 | CE2 F87552 | CE3 F87553



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)



Crown extension Kit F87554

Simply indispensable

essential

Osteotomy - Osteoplasty

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



BS1S F87525 | BS4 II F87504 | LC2 II F87542 | SL1 II F87511 | SL2 II F87512 | SL3 II F87513



The 6 fundamental ACTEON® tips 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)



Essential Kit F87528

About Implantology workflow

ACTEON®'s implantology workflow leverages its expertise in different areas of the dental care pathway to help parctitioners address some of the challenges associated with implantology to facilitate treatment, reduce treatment costs, increase surgical success, reduce chair time and improve the patient experience.

Image Acquisition

I need to have access the high quality images to ensure my diagnosis is accurate

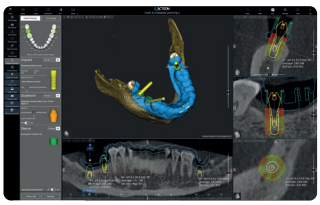


x-mind prime 2

X-MIND® prime makes your image acquisition and diagnosis as easy as possible. High definition imaging combined with exceptional ease of use and ergonomics make it a powerful asset to any dental practice.

Diagnosis

To succeed in my implant procedures, I need tools to properly assess my patient's morphology and perform effective surgical treatment planning



AIS

AIS 5 is a versatile software that includes many options to facilitate your procedures, such as bone density assessment, virtual planning tools and surgical guided design.

acteon

Treatment

I need to make my treatment as efficient and minimally invasive and as possible for my patients

piezotome cube



With Piezotome® Cube, you perform extractions with more safety and less trauma. You can ensure better socket preservation and minimize the need of bone grafting[1].

Follow-up

I need to be able to properly monitor my procesures while minimizing radiation exposure to my patients

x-mind unity

sopix plug-in



I can provide the most complete follow-up at the lowest dose to my patients thanks to my X-MIND® unity with Sopix® Plug-in and the ACE technology.

Recommended settings

TIPS	Maximum recommended mode*		Fine setting	Irrigation ml/mn
Bone Surgery				
BS1 Slim / BS1 Long / BS1RD	D1		1-3	60
BS2L / BS2R	D1		1-3	60
BS4	D1		1-3	60
BS5	D3		1-3	60
BS6	D1		1-3	60
Crest Splitting	*Mandible*	*Maxillary*		
CS1 / CS2 / CS3	D2	D3	1-3	80-100
CS4 / CS5 / CS6	D2	D3	1-3	80-100
Sinus Lift				
SL1 / SL2	D1		1-3	60
SL3	D4		1-3	50
SL4 / SL5	D4		1-3	30
Intralift™				
TKW1 / TKW2 / TKW3 / TKW4	D2		3	100
TKW5	D3		1	30-40
Piezocision™				
PZ1	D1		1-3	60
PZ3	D1		1-3	60
Extraction				
LC1	D1		1-3	60-80
LC2 / LC2L / LC2R	D1		1-3	60-80
NINJA™	D1		1-3	60-80
Crown Extension				
BS6	D1		1-3	60
CE1 / CE3	D1		1-3	60 - 80
CE2	D2		1-3	60 - 80

* These settings are suitable for Piezotome Cube and Implant Center™ 2

Characteristics

Equipment delivered with

- 1 Cube Led handpiece
- 1 Essential kit
- 1 dynamometric wrench
- 1 multifunction footswitch
- 1 irrigation bracket
- 1 handpiece holder
- 2 autoclavable irrigation lines
- 5 autoclavable irrigation clips
- 15 sterile perforators

Unit dimensions & weight

- 251x160x271mm (LxHxD)
- 3.5kg

Footswitch dimensions & weight

- 173x140x176mm (LxHxD)
- 1kg



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Bibliography

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 3rdmolars. Open Journal of Stomatology. 2011;1:179-184

2. 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

3. Shanghai Kou QiangYi 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.

4. Kleiber J. Immediate extraction placement and loading in the aesthetic zone. Implant Dentistry Today. 2013 Jan;7-13

5. The most sold device according to «Global and Chinese Dental Surgical Ultrasonic Generator Industry», 2010-2020 Market Research Report" published by Prof Research, 2015

6. Troedhan A, Tarek Mahmoud Z. Is piezoelectric surgery the new gold-standard in oral surgery and implantology. Smile Dental Journal. 2016;11(4)

7. v. Prof. Dr. Dr. Troedhan. EAO congress, ACTEON® Symposium. The Piezotome enabled flapless vertical alveolar crest-split and horizontal distraction. 2016

8. Sebaoun JD, Surmenian J, Ferguson DJ, Dibart S. Acceleration of orthodontic tooth movement following selective alveolar decortication: biological rationale and outcome of an innovative tissue engineering technique. International Orthodontics. 2008;6:235-249.





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Updated on: 02/2026 - Draft