

Find out more
on our
YouTube channel



Manufactured by SATELEC® (FRANCE) distributed by COMEG.

COMEG medical is a company of the ACTEON® Group, specializing in endoscopic medical technology and ultrasonic piezoelectric systems.

- Customer-oriented and dedicated to **continuous innovation**
- **Tailored offer** to meet the needs of all operating room staff
- **Intuitive techniques that guarantee performance, ergonomics and safety** for all the specialties (gynecology, urology, general surgery, ENT, arthroscopy, CMF, spinal surgery)
- **Partnership** with surgeons and teams for approximately **40 years**

COMEG medical creates intuitive and connected solutions for minimally invasive surgery.

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Safe and atraumatic ultrasonic piezo bone surgery



PIEZOTOME® Solo M+



PIEZOTOME® M+



IMPLANTCENTER™ M+

OPERATING ROOM
CERTIFIED



COMEG
medical technologies

● 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:

Intra-operative

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

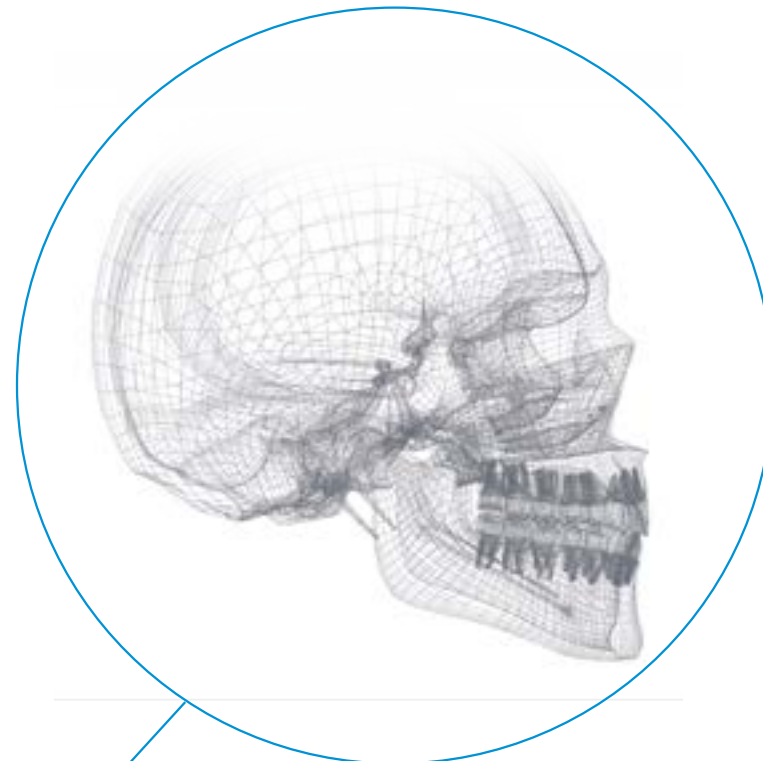
Post-operative

Smoothness

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

Healing

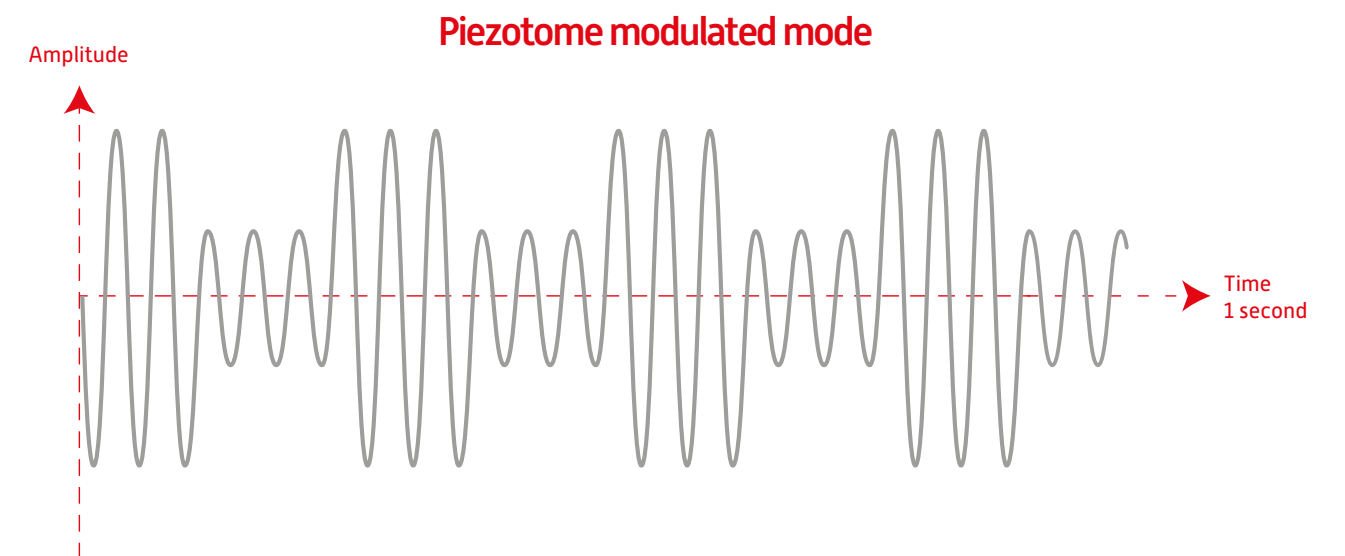
- Favors bone regeneration
- Fast recovery
- Stable and long term results



● 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.



References

- Gerbault O, Daniel RK, Kosins AM. **The role of Piezoelectric Instrumentation in Rhinoplasty Surgery.** Aesthetic Surgery Journal 2015;36(1):21-34.
- 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 Related Research 2015;17(2):384-94. Doi: 10.1111/cid.12094. Epub 2013 jun 13.
- Compendium [upon request]. **Ultrasonic Piezo Surgery.**

When Safety & Efficacy Matter

NEWTRON® TECHNOLOGY

The Perfect Match

Ultrasonic power generators are piloted by patented NEWTRON® technology electronics. The electronic module, the handpiece and the tips are perfectly tuned providing great efficacy and clinical benefits.

PRESERVATION

Soft tissue preservation

- Safety: preserve soft tissue [Piezo modulated mode]

Bone preservation

- Highly precise cut
- Linear tip vibrations
- Controlled and regular tip amplitude

EFFICACY

Frequency adjustment

- Maximum performance for each tip
- Optimal and continuous efficiency irrespective of the load applied

Power regulation

- Constant performance even in dense bone
- Effortless cutting without pressure

COMFORT

For both surgeon and patient

- Safe with effortless cutting
- Increased tactile sensation
- Reduced post-operative pain

MINIMALLY INVASIVE SURGERY

Efficacy

Electric current generates a deformation of the piezoceramic rings. The movement of these rings leads to vibrations, thus the tip vibrates in a very regular longitudinal movement.

- Patented electronic technology
- 6 ceramic rings for a boosted handpiece



Our powerful piezoelectric generators broaden the scope of surgical applications

When Safety & Efficacy Matter

THE CHOICE OF HIGH TECHNOLOGY

COMEG devices are **operating room certified**. Approved by independent notified body, each device fulfills the most demanding medical regulatory standards. The advanced electronics prevent any interfering emissions.

Find out more from your biomedical engineer.



CONCENTRATED
ULTRASONICS



THE ULTRASONIC
EXPERT



THE ALLIANCE
OF TECHNOLOGIES

OPERATING ROOM
CERTIFIED

- Class IIb
- Equipotential plug
- IEC 60601-1 – 3rd Edition
- Footswitch certified IPX6 & IPX8
- BVS Safety Marking (USA only)

Technology

CONCENTRATED ULTRASONICS

PIEZOTOME® Solo M+, compact and efficient, 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 safety and precision are essential.



Power mode
from d1
(most powerful)
to d4

d1

d2

d3

d4



OPERATING ROOM
CERTIFIED

CONNECTED ACCESSORIES

PIEZOTOME® M+ LED handpiece

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



Peristaltic pump for controlled irrigation

- Quick set-up
- Robust
- Precise and constant flow rate [avoids bone overheating]
- Silent running



Footswitch (operating room certified IPX6 guarantee against water-jet)

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

- Power mode
- Ultrasound ON/OFF

PIEZOTOME® Solo M+

ULTRASONICS EXPERT

PIEZOTOME® M+ is a versatile device. Its dual connection allows you to connect two handpieces thus enabling faster clinical procedures. Easy adjustment settings with its touch screen and multifunction footswitch for perfect control throughout the surgical procedure.

PIEZOTOME M+
Piezo • Ultrasonic • Surgery • Unit

The ultrasonic expert for fast and secure bone surgery



OPERATING ROOM
CERTIFIED

CONNECTED ACCESSORIES

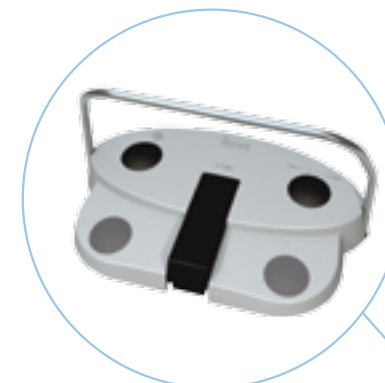
PIEZOTOME® M+ LED handpiece

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



Touch interface

- Large 5.7" operator-oriented screen
- Easy and intuitive settings
- Memory function



Footswitch (operating room certified IPX8 guarantee watertightness)

Easy to move due to its arch, offers optimal control of the main functions:

- Power settings
- Choice of the active handpiece
- PIEZOTOUCH™ mode: progressive power regulation

PIEZOTOME® M+

THE ALLIANCE OF TECHNOLOGIES

IMPLANTCENTER™ M+ is a unique concept combining the power of a rotary motor and the safety of piezoelectric instrumentations. It therefore ensures total independence for the surgeon and leads to a multitude of surgeries.

The alliance of technologies for safe and atraumatic bone surgery



OPERATING ROOM
CERTIFIED

DIVERSITY OF CONNECTED ACCESSORIES

The perfect alliance of rotating and ultrasonic technologies.

The rotating motor

Features

- Cranio-Maxillo-Facial certified
- Durable (brushless motor): robust, maintenance-free
- No vibration
- Sterilizable for perfect asepsis

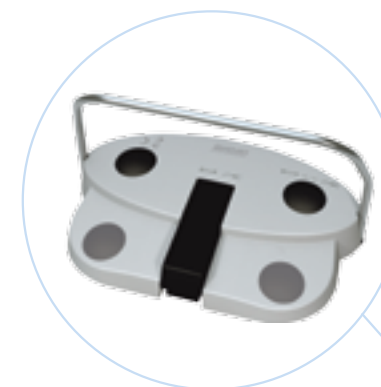
Performances

- Perfect balance between torque and speed for unmatched stability
- High torque: 6 Ncm
- Large speed rotation motor: 100 - 40.000 Rpm



PIEZOTOME® M+ LED handpiece

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



Footswitch (operating room certified IPX8 guarantee watertightness)

Easy to move due to its arch, offers optimal control of the main functions:

- Global unit control
- PIEZOTOUCH™ mode: progressive power regulation

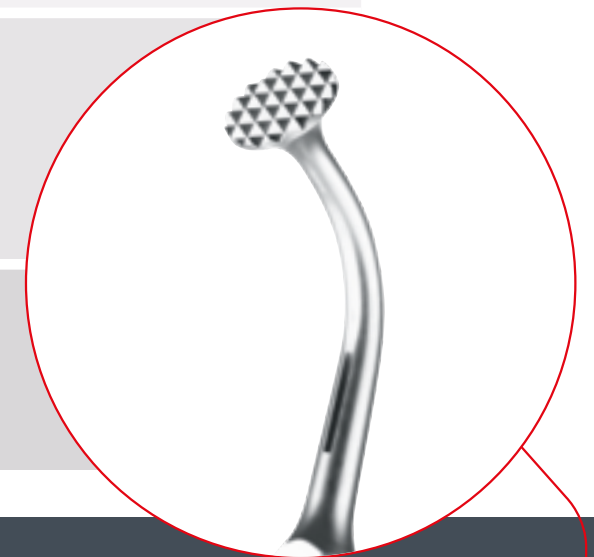
IMPLANTCENTER™ M+

A COMPLETE OFFER

Find the device that matches your needs.



	PIEZOTOME® SOLO M+	PIEZOTOME® M+	IMPLANTCENTER™ M+
DELIVERED WITH	<ul style="list-style-type: none"> 1x bracket 5x 3 m single use irrigation lines 5x single use perforators 1x handpiece holder 1x IPX6 M+ footswitch 1x M+ wrench 1x 3m mains cord 	<ul style="list-style-type: none"> 2x brackets 5x 3m single use irrigation lines 5x single use perforators 2x handpiece holders 1x IPX8 M+ multifunction footswitch 1x M+ wrench 1x 3m mains cord 	<ul style="list-style-type: none"> 1x I-SURGE™ LED micromotor 2x brackets 5x 3m single use irrigation lines 5x single use perforators 2x handpiece holders 1x IPX8 M+ multifunction footswitch 1x M+ wrench 1x 3m mains cord
AS AN OPTION		M+ Pack Ref. F57802 1x autoclavable metal case, 1x PIEZOTOME® M+ LED handpiece and its 3m long cord, 1x M+ wrench	
CONSUMABLES	Kits & tips Disposable, delivered sterile 5x re-usable, delivered non-sterile	Disposable irrigation line Ref. F57378 x1 Ref. F57379 set of 5	



Expertise

ACCESSORIES

Performance comes together with specifically designed long lasting durable components.



Handpiece – POWERFUL

- LED handpiece fully sterilizable
- Delivered in its autoclavable metal case
- Ready for sterilization

Ref. F57802



Tips – ROBUST

- Designed to respect the patients anatomy
- Fast assembly screwing system: saves time during surgery
- Medical grade stainless steel
- Strengthened by thermic and surface treatments
- Synthetic diamond-coated tip
- Sterile tips treatment: gamma-ray



Pump & Irrigation – SAFE

A perfect control of irrigation is necessary for:

- Removing bone debris
- Reducing the risk of bone necrosis
- Generating a hemostatic effect due to the cavitation [implosion of microbubbles releasing oxygen]

Connected

ULTRASONIC CRANIO-MAXILLO-FACIAL SURGERY

Piezoelectric surgery is a new bone cutting technique increasing safety especially in anatomically 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

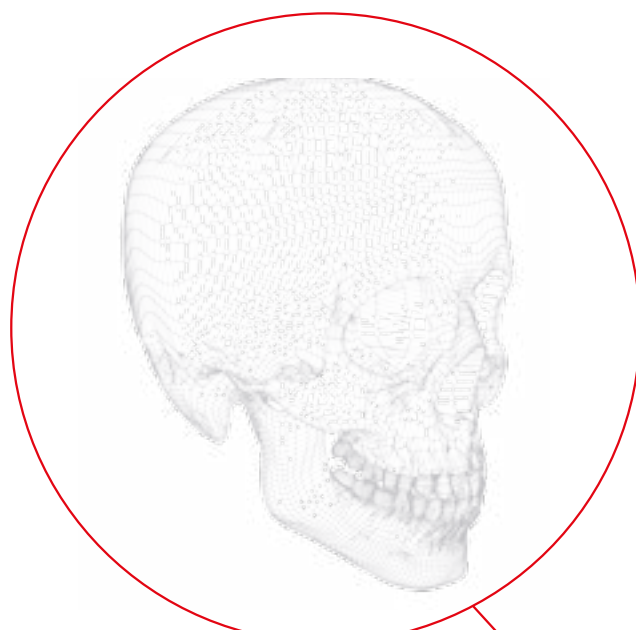
- Frontal sinus osteotomy
- Craniosynostosis
- Parietal graft

Maxillo

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

Facial

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



v.Prof.Dr.Dr. Troedhan, Vienna, Austria

"The M+ Piezosurgical device, for the first time in the history of Piezoelectric-Surgery provides sufficient power for a fast surgical procedure in all cases of large osteotomies in orthognathic surgery, reconstructive surgery needing large autologous bone-transplants from the skull and in cosmetic surgery on facial hard-tissues. With its unrivaled precision and atraumaticity in bone-cutting CMF surgical procedures can usually be completed in less time than with traditional rotary or oscillating instruments with substantially less blood loss. In facial cosmetic surgery the application of newly developed ultrasonic surgical protocols provide a significant reduction of postsurgical morbidity and enhanced patient satisfaction with the outcome."

FOR SAFER AND MORE ACCURATE SURGERY



CMF kit	BS1L	BS2L XL	BS2R XL	BS1RD	SL1	BS4
F57803	F87612	F87605	F87606	F87608	F87618	F87615
F57804	F87982	F87983	F87984	F87985	F87974	F87978

- 5x re-usable
- Single use

BS1L - Saw

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

- Deep osteotomy

BS2L XL & BS2R XL - Left & Right angled saws

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

- Osteotomy

BS1RD - Rounded saw

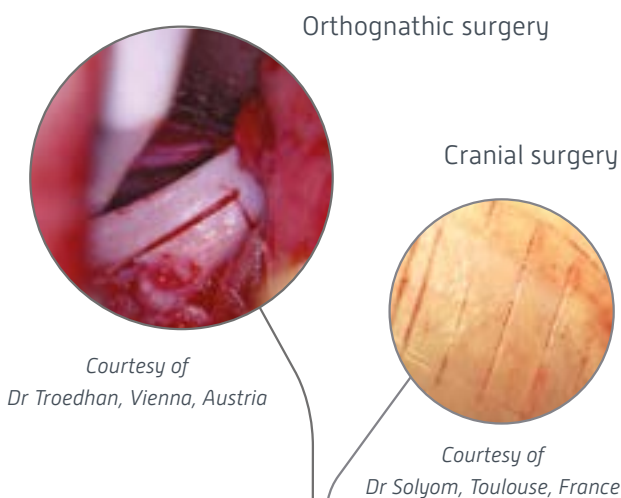
With its rounded shape the tip is active on a 280° surface and its length (40 mm) makes it possible to reach posterior areas easily

SL1 - Diamond-coated

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

BS4 - Circular scalpel

- Osteoplasty
- Bone harvesting



Courtesy of Dr Troedhan, Vienna, Austria

Courtesy of Dr Solyom, Toulouse, France

ULTRASONIC RHINOPLASTY

A smooth and less traumatic procedure offering precise bone reshaping and controllable long term results.

Precise bone treatment

- The new ultrasonic rhinoplasty protocol allows default corrections (nose too hard, too wide or bumpy) with no unwanted fracture even on brittle, thin or unstable bones.

Direct vision

- Surgery performed under direct vision for better precision.

Fast recovery

- Faster social-life re-integration: less ecchymosis and edema with more natural results.



Ultrasonic rhinosculpture

RHS2H and RHS2F tips allow to sculpt bones without any fracture

Rhinoplasty with precise osteotomies

- Low osteotomy – RHS5
- Lateral osteotomy – RHS3L or RHS3R
- Transverse osteotomy – RHS3L or RHS3R
- Median oblique osteotomy – RHS5



Dr Gerbault MD, Vincennes, France

"Piezoelectric surgery is a real disruptive technology in rhinoplasty, it allows a paradigm shift in the way of reshaping bones in rhinoplasty. It simplifies dramatically the way to perform hump reduction and osteotomies in rhinoplasty and adds a new dimension by allowing the possibility to sculpt and to polish nasal bones. Stable bones can be positioned with an unparalleled accuracy under direct vision and reshaped to achieve a perfect symmetry and smoothness of the bony vault. Moreover, this technique is easy, with a quick learning curve, simple to teach and the recovery is very fast as post-op ecchymosis is significantly reduced. For the first time in the history of rhinoplasty, a custom reshaping of the nasal bones is easily achievable."

DESIGNED FOR RHINOPLASTY

Developed in collaboration with Dr Gerbault, these tips are designed for a total respect of the anatomy (smoothness), they do not alter the skin nor the vessels for shorter post-surgical recovery.



Rhinoplasty Gerbault Kit	RHS2H	RHS2F	RHS3L	RHS3R	RHS5	RHS6
F87681	F87676	F87675	F87677	F87678	F87679	F87680

• 5x re-usable



RHS2H - Hard rasp
Use on thick skin or dense bone

RHS2F - Fine rasp
Use on thin skin or thin bone

- Fine reshaping of the nose pyramid
- Removal of the bony hump
- Smoothing of bone irregularities

RHS5 - Thin saw

- Straight thin saw
- Low osteotomy
 - Median oblique osteotomy
 - Rib graft

RHS3L & RHS3R - Rounded saws

- Left & Right angled saws
- Lateral and transversal osteotomies

RHS6 - Diamond-coated

- Diamond-coated tip dedicated to nasal bone drilling or nasal spine drilling
- Bone suture
 - Septal suture to bone

Bone removal



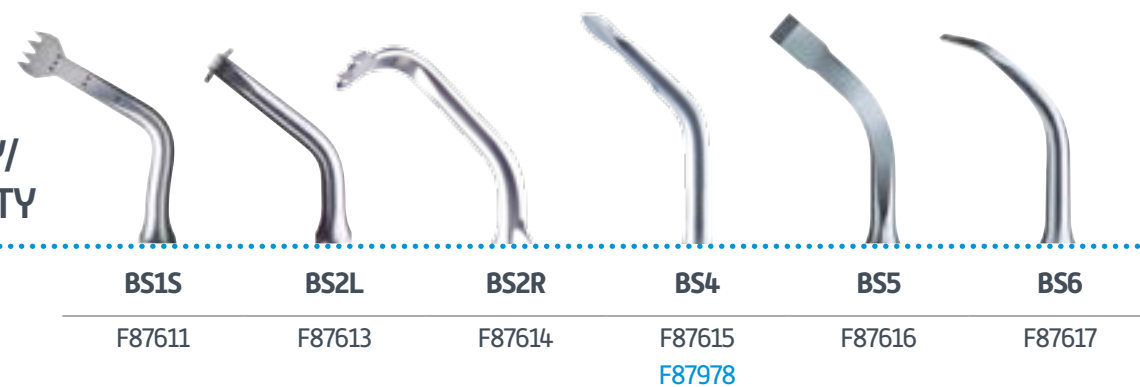
Courtesy of Dr Gerbault, Vincennes, France (RHS2H tip)

OTHER KITS AND TIPS TO COMPLETE THE RANGE

OSTEOTOMY/ OSTEOPLASTY

Clean and thin cut
for maximal
bone volume

Ref. F57805



LATERAL SINUS LIFT

Maximal comfort:
selective and hemostatic cut

Ref. F57806



SYNDESMOTOMY

For maximum
bone preservation

Ref. F57809



CROWN EXTENSION

Excellent precision and accessibility

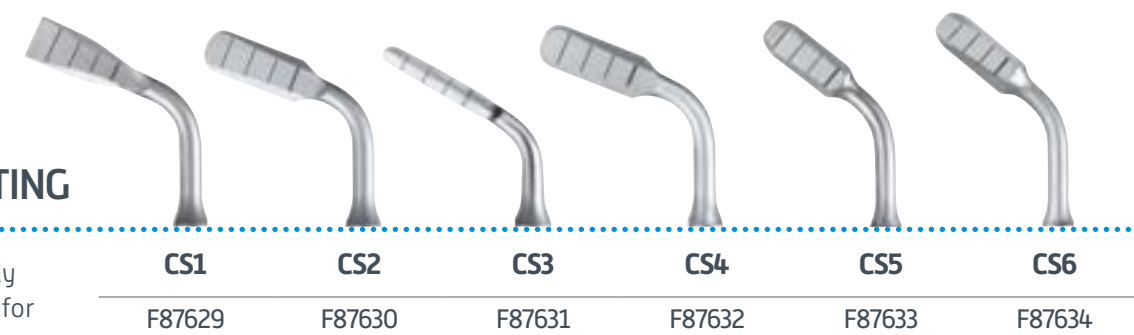
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CREST SPLITTING

Rapid and minimally
invasive technique for
controlled expansion

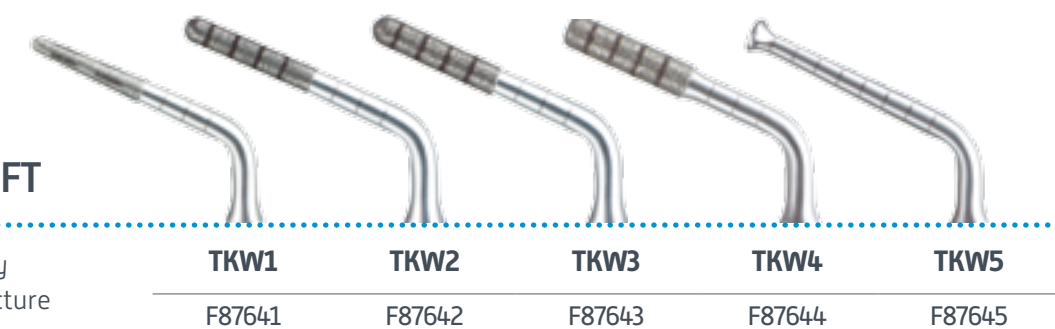
Ref. F57808



CRESTAL SINUS LIFT

Minimally invasive surgery
for smooth sinus floor fracture

Ref. F57807



Long length tips for minimally invasive techniques and easier access



● 5x re-usable
● Single use

Clinical Expertise