

Power and Light



PIEZOTOME
Piezo • Ultrasonic • Surgery Unit

IMPLANTCENTER
Piezo • Ultrasonic • Surgery & Implantology Unit





Bone surgery...

Satelec®, inventor of piezoelectric ultrasonic generators for dental use, has already more than demonstrated the benefits of its devices in pre-implant surgery: precision, visibility, comfort and selective cutting.

The second generation takes full advantage of the technological and clinical strengths of Piezotome: Cruise Control® System, reliability, robustness, enhancing its performance with very high power and premiering the addition of autoclavable LED technology.

Piezotome 2 has two functioning modes: Piezotome mode for bone surgery and Newtron mode for conventional treatments (periodontics, endodontics, etc.). Equipped with a user-friendly touch-sensitive screen and two LED handpieces (Piezotome and Newtron), it meets all dental office and operating room needs.





from the world's number 1 in ultrasonics

Implant Center 2 symbolizes the perfect association of safety and speed. Its elegant design, its convex shape and its large touch-sensitive screen make it the ideal combined device dedicated to bone surgery. Its complete offer consists of three modes:

- **Piezotome** for ultrasonic pre-implant surgery,
- **i-Surge** implantology motor,
- **Newtron** for all conventional treatments.

This second generation unites the quintessence of the latest Satelec® technology, in particular the large footswitch that manages progressivity of the motor and the ultrasonics.





Ultrasonics in hyper version!



The perfect equation of I-Surge too!

Direct access to the three modes:

I-Surge, Newtron, Piezotome.

Simple and precise adjustment of:

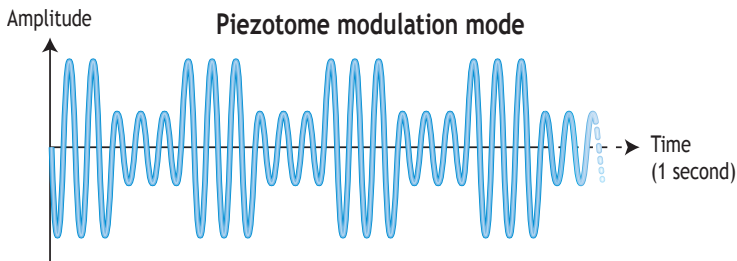
- ultrasonic power,
- speed and rotation,
- contra-angle,
- irrigation,
- torque.



User-friendly²

The best that technology can offer

PIEZOTOME

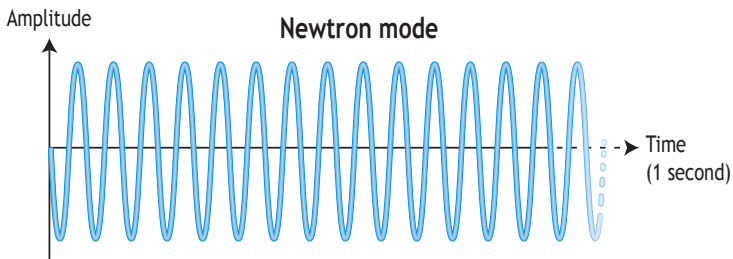


Piezotome mode:

Selectivity of the cut: The modulated piezo signal (alternation between high and low amplitudes of signal) is said to allow tissue relaxation and optimal cell repair for a clean cut and better healing.

Active only on hard tissues, the risk of damage to soft tissues is minimal.

NEWTRON



Newtron mode:

The piezo sinusoidal signal at constant amplitude allows a very high degree of precision for conventional treatments such as periodontics, endodontics, etc.

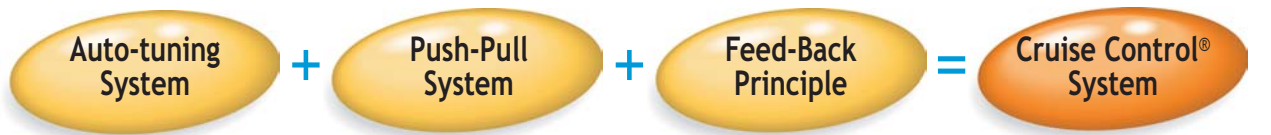
100 000 Lux

LED handpieces

- The light ring is composed of six ultra-powerful LEDs.
- The LEDs are very resistant and have a long lifetime.
- Cold light guarantees better recognition of the surrounding tissues.
- Really easy to clean, the LED handpieces are autoclavable at 134°C.



Newtron Technology



Speed

Automatic frequency adjustment:
28-36 kHz.

The tip is always tuned into the
right vibration frequency.

→ Guaranteed efficiency
whatever the environment
and/or treatment performed.

Gentleness

Controlled amplitude of the tip
vibrations.

Treatments performed with
smooth and painless vibrations.

→ For preservation of fragile
tissues and patient comfort.

Power

Real-time power adjustment.

Power (torque) is adjusted
intelligently according to the
resistance met by the tip.

→ With a minimum of pressure,
more precision, less hand fatigue.

Piloted by Cruise Control® System

Automatic regulation system of
frequency and power.

→ Stay in complete control and
confidence.

PiezoTouch™



Satelec invents **ultrasonic progressivity in bone surgery**.

The progressive footswitch allows the adjustment in real time of the ultrasonic power according to the anatomical constraints encountered.

This new feature provides total control of the power through the footswitch without touching the device screen.

In Piezotome mode, the power of the ultrasonics can be adapted very precisely to areas where nerves, arteries or membranes are present.

In Newtron mode, for example, the progressive option offers the capacity to increase the power sufficiently to treat particularly hard blocks of calculus.





PIEZOTOME

Power settings

The four modes refer to the bone density classification. The **D1** mode, for very dense cortical, is the most powerful.

Modes **D1**, **D2** and **D3** are intended for bone cutting.

The **D4** mode is dedicated to soft tissue detachment (sinus membrane elevation, etc.).

The **Piezotome™** mode facilitates and improves the safety of delicate pre-implant surgical procedures such as:

- fine osteotomy,
- osteoplasty,
- sinus elevation,
- ridge expansion,
- syndesmotomy.

Surgical tips designed for the first generation cannot be used with Piezotome 2/Implant Center 2 high power generators and vice versa.



LED
Light activation/deactivation

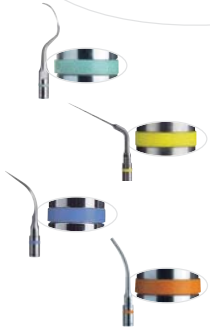
Progressive or ON/OFF
footswitch

Memorization

Irrigation

Modes

Power setting



SOFT

Low power; low amplitude. Delicate treatments: **Periodontics**.

MEDIUM

Medium power; medium amplitude. Precision treatments: **Endodontics**.

HIGH

High power; high amplitude. Routine prophylaxis: **Scaling**.

BOOST

Very high power; maximum amplitude. Special treatments: **Crown loosening**.

NEWTRON

The **Newtron® mode**, intended for conventional treatment, allows the use of the widest range of tips on the market: from periodontal treatment to implant maintenance.

Color Coding System

Each tip is identified by a colored ring to simplify selection of the power setting recommended for each procedure.



Fine adjustment

Each mode (**Piezotome** and **Newtron**) enables fine power adjustment.

Security:

In progressive mode, even maximum pressure on the footswitch will not exceed the predefined power mode and fine adjustment.



IMPLANTCENTER = PIEZOTOME +

Piezo • Ultrasonic • Surgery & Implantology Unit

I-Surge mode

For a complete offer, the Implant Center 2 has a micro-motor function.

Settings

Fast and simple saving of:

- contra-angle ratio,
- speed, and
- torque.



Modes

Four pre-set and customizable modes.

Direct access

to speed rotation (Rpm) in modes 1, 2, 3 and to torque in mode 4.

Rotation direction

Clockwise or counterclockwise.



P1

Marking
implant site
C/A: 20 :1
Rpm: 1200
Ncm*: 80
80ml/min



P2

Pilot
drill
C/A: 20 :1
Rpm: 800
Ncm*: 80
100ml/min



P3

Site preparation
Tapping
C/A: 20 :1
Rpm: 15
Ncm*: 40
100ml/min



P4

Screwing
C/A: 20 :1
Rpm: 30
Ncm*: 40
0ml/min



Maximum torque: 6N.cm up
to 24 000 rpm

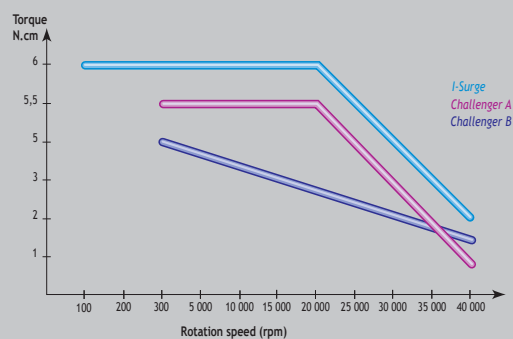
Maximum torque
at instrument end (20:1): 120 N.cm

Motor speed: 100 to 40 000 rpm



The ideal
torque/speed ratio

I-Surge has the highest and most
stable torque, even at low speed.



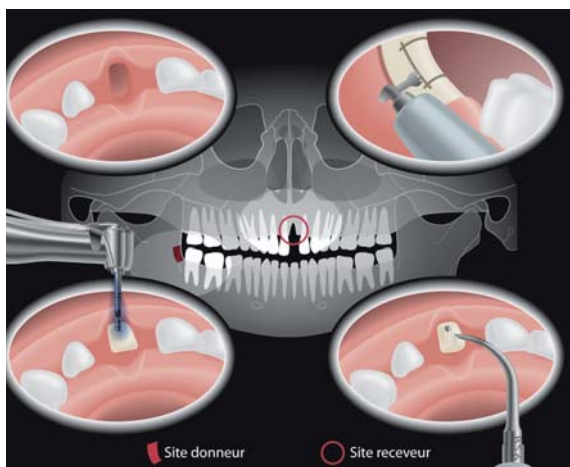
Menu

Contra-angle ratio, speed and torque
adjustment is particularly intelligent.



Clinical cases

Bone Surgery



Ramus bone harvesting and grafting

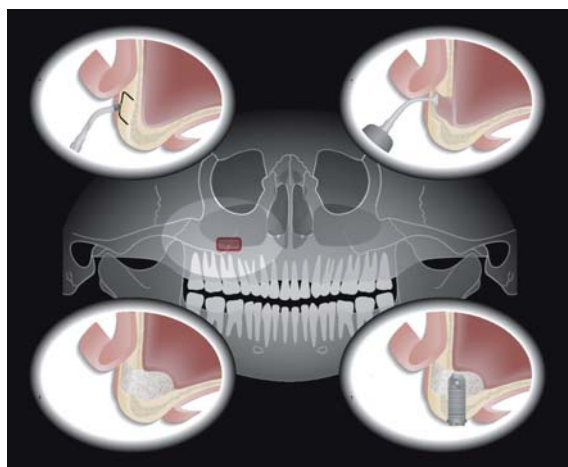
The BS tips allow bone cutting, exeresis and osteoplasty without any risk of damage to soft tissue.

Treatments: bone harvesting, bone remodeling, crest expansion, preparation of the implant site and accessing the lower alveolar nerve.



Bone Surgery II Kit:
Ref. F87509
BS1 II, BS2L II, BS2R II,
BS4 II, BS5 II, BS6 II

Sinus Lift



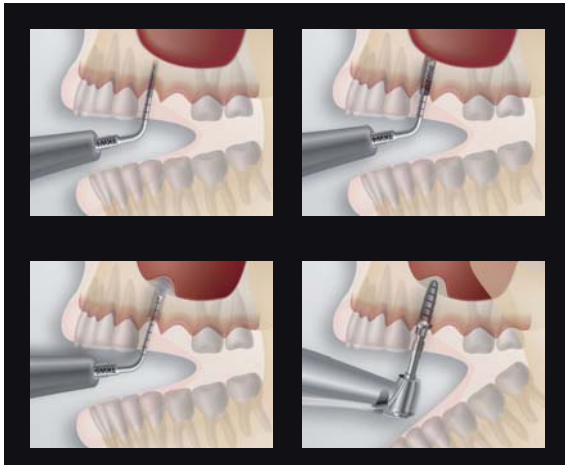
Lateral sinus lift

The diamond-coated tips are intended for the vestibular bone window cut. The membrane detachment is then realized with the three spatula tips. It is important during this operation to keep good contact with the edges of the vestibular bone window.



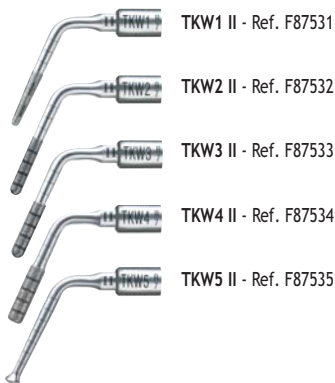
Sinus Lift II Kit:
Ref. F87519
SL1 II, SL2 II, SL3 II,
SL4 II, SL5 II

INTRALIFT™



Sinus lift by the crestal approach

The diamond-coated tips, of increasing diameters (from 1.35mm to 2.80mm), are designed to drill and widen gradually the access canal to the Schneider membrane. The membrane elevation is achieved using the TKW5 II by means of microcavitation.



TKW1 II - Ref. F87531

TKW2 II - Ref. F87532

TKW3 II - Ref. F87533

TKW4 II - Ref. F87534

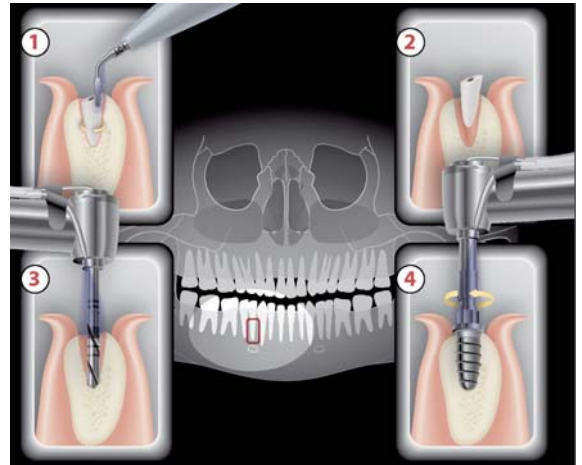
TKW5 II - Ref. F87535



IntraLift II Kit:
Ref. F87536
TKW1 II, TKW2 II, TKW3 II,
TKW4 II, TKW5 II



EXTRACTION



Extraction and immediate placement

The LC tips are intended for clinical acts such as extraction of wisdom teeth, fractured roots, impacted teeth and root section. Micro-ultrasonic oscillations cause detachment of the ligament without damaging the surrounding soft tissue.



LC1 II - Ref. F87507

LC1 90° II - Ref. F87541

LC2 II - Ref. F87542

LC2L II - Ref. F87543

LC2R II - Ref. F87544

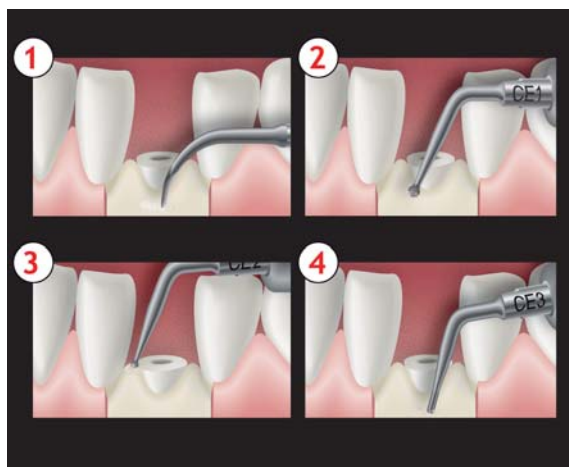
NINJA™ II - Ref. F87545



Extraction II Kit:
Ref. F87546
LC1 II, LC1 90° II, LC2 II,
LC2 L II, LC2 R II, NINJA II

Clinical cases

CROWN EXTENSION



Crown Extension

Bone remodeling to recreate the biological space.

This kit will be available in 2009.



Crown Extension II Kit:
BS6 II, CE1 II, CE2 II, CE3 II



BS II Pack: Ref. F87500

SL II Pack: Ref. F87510

IntraLift II Pack: Ref. F87530

Extraction II Pack: Ref. F87540

Bibliography

- 1- BERENGO M, BACCI C, SARTORI M, PERINI A, DELLA BARBERA M, VALENTE M. Histomorphometric evaluation of bone grafts harvested by different methods. *Minerva Stomatol.* 2006 ; 55 : 189-198.
- 2- CHAMOIX JM, SANCER A, LAURENCIN A, SOLYOM E, MARIN P. Chirurgie osseuse par les ultrasons : le Piezotome. Université Paul Sabatier - Toulouse 1, France (Etude scientifique préliminaire).
- 3- DAVARPANA M., SZMUKLER-MONCLER S. Manuel d'implantologie clinique. Concepts, protocoles et innovations récentes. 2e édition, CdP, 2008, 519-529.
- 4- DOUGE T, VERMEULEN J. Collaboration entre O.R.L et implantologie. *Revue implantologie.* Février 2008.
- 5- GARBARINI L, TUFFREAU E. Piezochirurgie : données actuelles - Etude comparative d'échauffement osseux par thermographie infra rouge. Université de Rennes 1, France. (Étude non-publiée).
- 6- GIRAUD J-Y, Etude et mise en oeuvre d'un ostéotome assisté par ultrasons. Thèse, Université Paul Sabatier de Toulouse (Sciences), 1991.
- 7- HORTON JE, TARPLEY TM Jr, JACOWAY JR. Clinical applications of ultrasonic instrumentation in the surgical removal of bone. *Oral Surg, Oral Med, Oral Pathol.* 1981 ; 51 : 236-242.
- 8- HORTON JE, TARPLEY TM Jr, WOOD LD. The healing of surgical defects in alveolar bone produced with ultrasonic instrumentation, chisel and rotary bur. *Oral Surg, Oral Med, Oral Pathol.* 1975 ; 39 : 536-546.
- 9- LE GAC O, ARMAND S, BOGHANIM P, CAMPAN P, GAYRARD L-P, GINESTE L. Les apports de la Chirurgie piézoélectrique en implantologie. *TITANE* vol.4. 2007 ; N° 4.
- 10- LOUISE F, MACIA Y. La Chirurgie piezo-électrique peut-elle changer l'exercice quotidien de l'odontologiste ?, *Dentoscope.* 2008 ; 32 : 4-8.
- 11- POBLETE-MICHEL M-G, MICHEL J-F. Les applications chirurgicales des Ultrasons. Réussir, Quintessence International, 2008. English version available in 2009.
- 12- SIERVO S, RUGGLI-MILLIC S, RADICI M, SIERVO P, JAGER K. Piezoelectric surgery. An alternative method of minimally invasive surgery. *Schweitzer Monatsschrift für Zahnmedizin.* 2004 ; 114 : 365-377.
- 13- SOLYOM E, ARMAND S. Les reconstructions osseuses en implantologie - Techniques de greffes en inlay et onlay. *Revue implantologie.* Mai 2008.
- 14- TORRELLA, PITARCH J, CABANES G, ANITUA E. Ultrasonic osteotomy for the surgical approach of the maxillary sinus: a technical note.



Surgical and non surgical conventional treatments

The widest tip range on the market.

More than 70 conventional tips available for: prophylaxis, periodontics, implant maintenance, endodontics, conservative dentistry.

Periodontics



H1
Ref. F00366

H2L
Ref. F00367

H2R
Ref. F00368



H3
Ref. F00369

H4L
Ref. F00114

H4R
Ref. F00115



Newtron Perio Kit:
Ref. F87321

Surgical endodontics



S12-70D
Ref. F00118

S12-90ND
Ref. F00125



S13-LD
Ref. F00104

S13-RD
Ref. F00105



P14D
Ref. F00106



P15-LD
Ref. F00107

P15-RD
Ref. F00108



Newtron Retro Kit:
Ref. F87326



Newtron Micro-Retro Kit:
Ref. F87325



Technical specifications

Supply voltage	100 V-230 V- 50/60 Hz	100 V-230 V- 50/60 Hz
Equipment classification	Class I, BF type	Class I, BF type
Ultrasonic frequency	28 kHz to 36 kHz	28 kHz to 36 kHz
Dimensions WxHxD (without bracket)	472.9 mm x 149.5 mm x 339.9 mm	472.9 mm x 149.5 mm x 339.9 mm
Weight (without accessories)	5 kg	5 kg
Peristaltic pump flow rate	Piezotome mode: 10 to 120 ml/min Newtron mode: 10 to 40 ml/min	I-Surge mode: 10 to 120 ml/min Piezotome mode: 10 to 120 ml/min Newtron mode: 10 to 40 ml/min
Multi-function footswitch (WxHxD)	311 mm x 181 mm x 209 mm	311 mm x 181 mm x 209 mm
Footswitch weight (weighted)	3.5 kg	3.5 kg
Handpiece cord	2 000 mm 2 900 mm (option)	2 000 mm 2 900 mm (option)

Sterilization of handpieces, tips, motors and accessories (wrenches, storage kits, etc.) in an autoclave according to ISO 17665-1 Standard:

Temperature: 134°C (273°F); Pressure: 2 Bars (29 P.S.I.);

Sterilization time: 18 minutes. See individual product instructions manuals for further information.

These medical devices are manufactured according to current regulations and standards (IEC 60601-1) and according to the EN ISO 13485 quality control certification system.

