Conservative and restorative dentistry

The Satelec range now includes two new kits of mini-tips, presented in autoclavable stainless steel containers, to offer an even wider choice of conservative dentistry care.

As a result of controlled and tightly monitored surface treatment, combined with the Newtron technology of Satelec piezoelectric generators, and their innovative design, these mini-tips can be used on high power (blue code).

- **Excavus™** is a kit of five ultrasonic tips for minimally invasive excavation that allows you to achieve small-volume proximal cavities while preserving the integrity of adjacent teeth and healthy structures.

- **The Perfect’Margin™** kit of four tips enables delicate penetration of the sulcus to finish the sub-gingival limits without harming the free gum margin and the biological width. The results obtained enable a better quality of impression-taking and an extremely precise cervical adjustment of the prosthetic restoration.

Ultrasonic condensation of glass ionomer and sealing inlays/onlays are possible with Satelec devices because they provide sufficient energy for accelerated hardening applications through the transmission of ultrasonic vibrations.

Piezocem tips are also available for inlay and onlay sealing. In this case, the ultrasonic energy is used to fluidify thixotropic cements, making it possible to seal prosthetic reconstitutions without excessive pressure.

Satelec generators feature very high power for loosening prostheses (orange code, power levels 8 to 10).

Retreatments are easier and quicker than with a manual crown/inlay remover alone. The technique is used for crowns, bridge posts, and root canal retention posts. Feed-back makes it possible to benefit fully from the vibrations, by means of the dual synchronous effect of the Reactor which redirects waves into the prosthesis’ mass.

**Advantages**

- Instruments designed for minimally invasive, but faster, treatment, mean adjacent teeth and healthy structures are preserved.

- Powerful ultrasonic energy for condensation of glass ionomer and inlay/onlay sealing procures longer-lasting, more regular results, with better resistance to acid etching.

- Prostheses and bridges are loosened more quickly.

- Root canal posts can be loosened during endodontic retreatment procedures.
This complete range of *Excavus* ultrasonic mini-tips is ideal for creating small-volume proximal cavities that take into account the demands of and performance expected from adhesive conservative dentistry.

The distinctive geometry of each tip guarantees its efficiency in even the most difficult operating situations, while preserving the integrity of adjacent teeth and healthy structures for improved patient comfort.

The diamond used for coating the tips features extremely regular particles with excellent impact resistance and highly homogeneous statistical distribution (± 5% of the median). These characteristics give the tips exceptional preparation qualities without clogging or temperature rise that could be detrimental to biological tissue.

The *Excavus* mini-tips are used at high power (blue code). We recommend storing them in their autoclavable stainless steel presentation container to facilitate the treatment sequence.
**EX1 tip:** ball diamond tip (46µm). Diameter 1.7mm. Preparation of the occlusal surface and cervical margins.

**EX2 tip:** half ball diamond tip (46µm). Diameter 1.7mm. Preparation of the proximal surface without damaging the adjacent tooth.

**EX3 tip:** half ball diamond tip (46µm). Diameter 1.7mm. Preparation of the distal surface without damaging the adjacent tooth.

**EXL tip:** half ball diamond tip (46µm). Set 45°to the left. Allows access to the lesion without damaging the adjacent tooth.

**EXR tip:** half ball diamond tip (46µm). Set 45°to the right. Allows access to the lesion without damaging the adjacent tooth.

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**Color Coding System - Newtron Technology**
Identification of power modes by color coding.
Ultrasonic condensation and polymerization tips

We recommend storing these tips in the clinical kit and identifying them with the orange code for very high power use.

The GI-1 tip is lightly placed on the glass ionomer and activated for 15 to 30 seconds for all materials and restorations. The ionomer is hardened when the vibration turns into a resonating sound. The tip must not be moved during the procedure. However, it is recommended to fill the cavity using successive layers.

Because it is used at very high power, the ultrasonic energy is transformed into heat. As such, care must be taken to avoid contact between soft tissues and the shaft or any other metal surface of the tip. Silicone tubes of the same diameter as the tips are available for enhanced safety (optional). (18)

Piezocem tips are delivered with spare sterilizable thermo-plastic heads. They must be replaced as soon as cracks appear, to avoid damaging the prosthesis.

**POWER SETTINGS**

<table>
<thead>
<tr>
<th></th>
<th>P-Max Newtron Prophy Max Newtron</th>
<th>P5 Newtron</th>
<th>SP Newtron</th>
<th>Suprasson P5 Booster</th>
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<tr>
<td>GI-1 tip</td>
<td>9 to 10</td>
<td>18 to 20</td>
<td>9 to 10</td>
<td>10 to 12</td>
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<tr>
<td>C19 tip</td>
<td>4 to 7</td>
<td>16 to 18</td>
<td>8 to 9</td>
<td>10 to 12</td>
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<tr>
<td>C20 tip</td>
<td>4 to 7</td>
<td>16 to 18</td>
<td>8 to 9</td>
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GI-1 tip: "Glass ionomer". The end of the tip and most of the working length may be put in contact with the glass ionomer. The tip must not be moved once activated. The emission of a characteristic sound by the tip is a sign that the material has hardened. Wet the tip with bonding agent or varnish to prevent unhardened material from adhering to it. (18)

C19 tip: "Piezocem, elbowed". Condensation tip for inlays and onlays sealed with thixotropic cements. Used for anterior teeth. The tips are activated in 10-second sequences until the prosthesis is perfectly fitted in the cavity. In general, two to three sequences are required. Excess cement should be removed from the margins after each sequence.

C20 tip: "Piezocem, contra-angle". Condensation tip for inlays and onlays. Complements the C19 tip. Used for posterior teeth. The tips are activated in 10-second sequences until the prosthesis is perfectly fitted in the cavity. In general, two to three sequences are required. Excess cement should be removed from the margins after each sequence.

Color Coding System - Newtron Technology
Identification of power modes by color coding.
This instrument kit, developed with the scientific collaboration of:

- Dr Marc Sous – former University Lecturer, Victor Segalen University, Bordeaux (France);
- Dr Jean-François Lasserre – Assistant Professor, Victor Segalen University, Bordeaux (France);
- Mr Yann Le Peticorps - Professor, University Bordeaux 1 - ICMC/CNRS (France),

is intended for tissue preparation and prosthetic finishing. The surfaces of the Perfect'Margin tips have been specially designed for each sequence of the procedure, so that the dentinal tissue can be quickly and safely prepared in areas where it would be delicate to use a diamond bur. Their fine, profiled shape enables delicate penetration of the sulcus to finish the sub-gingival limits without harming the free gum margin and the biological width.

The results obtained enable a better quality of impression-taking and an extremely precise cervical adjustment of the prosthetic restoration.

Despite the high power (blue code) of the Satelec piezoelectric generators, the Newtron handpiece retains a tactile sensation that is impossible to achieve with a bur.

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<th>P-Max Newton</th>
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<td>Prosthetic Finishing</td>
<td>Tissue preparation</td>
<td>Prosthetic Finishing</td>
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<tr>
<td>PM2 tip</td>
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<td>1 to 2</td>
<td>14 to 15</td>
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<td>PM4 tip</td>
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PM3 tip: quarter round-tipped, smooth insert. Finishing and improvement of the surface of the cervical limit before impression-taking.

Loosening tips

These two tips suit all loosening applications. The cylindrical, slight elbow shape was designed to transmit vibrations as efficiently as possible while, at the same time, offering a clear view of the operating field. This is why loosening tips are more effective in these situations than any other type of tip.

The tips are applied against the lingual and buccal surfaces first, ending with the occlusal surface. The flat end of the tip is held firmly against the tooth. The 5 and 5AE tips, in combination with endodontic retreatment tips, are also recommended for loosening root canal posts.

It may be necessary to use the generator at maximum power for limited periods. In such cases, care must be taken to prevent overheating and damage to underlying and surrounding tissues.

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<td>No. 5 tip</td>
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<td>No. 5AE tip</td>
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No. 5 tip: "Loosening without spray". Press the tip against the surface using successive contacts. **Begin at the sulcus margin and gradually move up.** The final contact, once the cement has been partially removed, is on the occlusal surface.

No. SAE tip: "Loosening with spray". This tip is used under the same conditions as the no. 5 tip, but has a spray orifice that makes it possible to cool the operating field and prevent heat from being transmitted to the prosthesis and the underlying tooth.