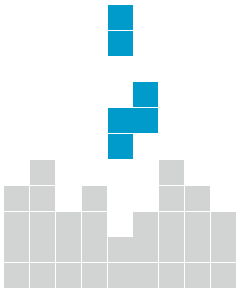
EASY GRIP® Implants

# TECHNICAL OPERATIVE MANUAL

## HEX CONNECTION

ITALDENT



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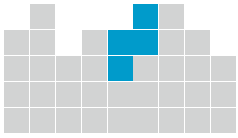

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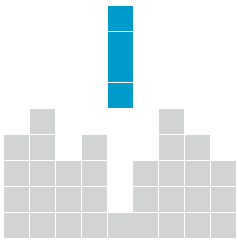

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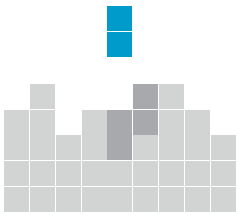

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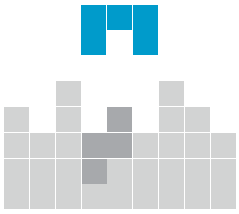

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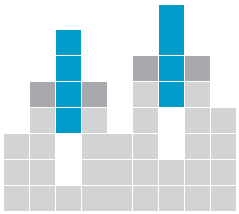

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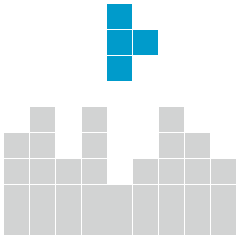

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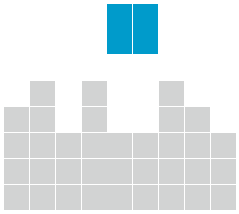

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EASY GRIP® Implants

easy system
as always

ITALDENT

For the whole line
Single connection
In Platform
Switching

## EASY GRIP® IMPLANT SYSTEM

The Easy Grip® implant system offers a simple product and a comprehensive range, consisting in threaded implants of cylindrical, anatomical and conical type constructed in titanium grade 5 ELI with diameters 3.30, 3.75, 4.50, 5.00 and 6.00 mm, and lengths varying from 5 to 15 mm which, with the different prosthetic solutions, satisfy the most common implant needs.

The implant system also includes a mini-implant for overdenture (series MBO).

## MORPHOLOGY

The morphological features of the outer threading may be outlined in two aspects:

• **Cortical microgrooves**
The presence of microgrooves at cortical level means the fixture is snugly seated in the most critical area of the implant/bone interface, preventing the natural postoperative resorption.

The result obtained is:
- optimisation of load distribution,
- reduction of stress levels,
- decreased bacterial proliferation.

• **Inverted sawtooth threading with double tapping start (for cylindrical and anatomical implants)**
It is a type of square threading which provides an optimised surface for transmission of intrusive loads as well as compressive; these loads are about 10 times lower than those occurring on standard (V-threaded) or spur threads.

• **Progressive threading**
It is a type of square threading that is significantly load bearing on the cervical part of the implant and more pronounced in the apex zone, for targeted bone condensation in the case of D3/D4 type bone insertion

## Cylindrical
## Series 10

DN 3.30 - Mini Short Neck
DN 3.75 - Short Neck
DN 4.50 - Large
DN 5.00 - Extra Large

## Cylindrical
## Series 50

DN 4.50 - Large
DN 5.00 - Extra Large
DN 6.00 - Extra Extra Large

## Conical
## Series 20

DN 3.75 - Short Neck
DN 4.50 - Large
DN 5.00 - Extra Large

## Conical
## Series 60

DN 3.75 - Short Neck
DN 4.50 - Large
DN 5.00 - Extra Large

## Anatomical
## Series 30

DN 3.75 - Short Neck
DN 4.50 - Large
DN 5.00 - Extra Large

*(DN = nominal diameter)*

CE 0425

## EASY GRIP® HEX CONNECTION

The connection of the Easy Grip® implant line features a hexagon socket with rounded angles and an internal 45° bevel which increases stability and contributes to assuring correct distribution of forces by discharging the masticatory load evenly across the whole implant diameter.

These conclusions stem from the voluminous research carried out with the Polytechnic University of Marche, entitled "Study and development of fixture/abutment systems in dental implant prosthesis".

This implant connection entails a range of prosthetic solutions, all made with a single standard connection (series3), applicable to all implants in the Easy Grip® line, with integrated **platform switching**.

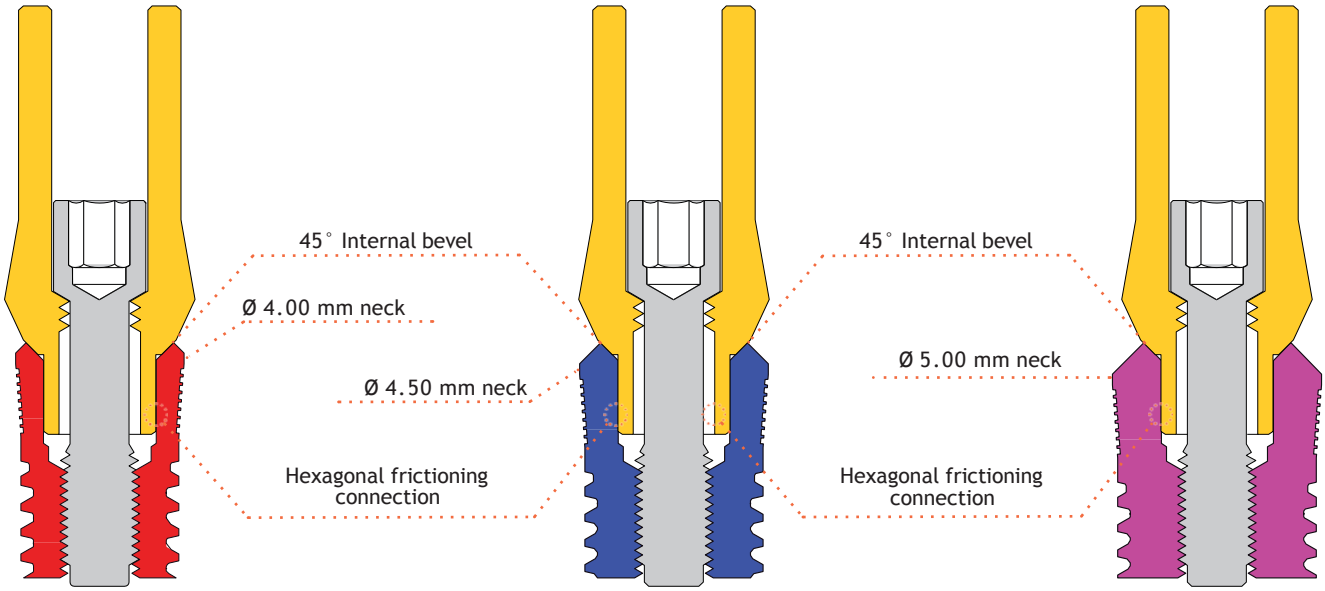
Designated prosthetic solution without integrated platform switching are available (series 4 connection) for Large, Extra Large and Extra Extra Large implants (see page 92).

Since the connection has just 5 µm tolerance (friction fit) the fixture abutment coupling obtained is very steadfast, hence a suitable, easy to use abutment extracting screw (EM) or extracting key (EM2) has been designed and produced. In fact, just screw it in place of the tightening screw to obtain detachment of the prosthetic item from the implant (see page 20).

For details on connection of implant systems we recommend reading the ISTISAN 07/7 report by the National Institute of Health.

### Single connection in Platform Switching

**Connection tolerance 5 µm**




Series SN implants | Series L implants | Series XL implants

The Easy Grip® connection system provides locking the fixture/abutment coupling by activating a tightening screw. With this standard method, the tightness of the tightening screw is an essential feature for proper reliability of the implant over time.

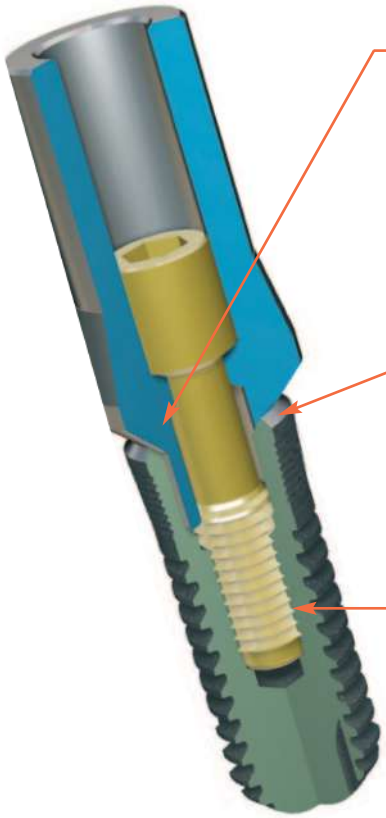
Establishing the optimal tightening value of the fixture/abutment connection has always been a critical issue for every implant line.

This value is affected by a range of variables, such as:

- the optimal torque at which to tighten the screw; in the case of the Easy Grip® line this torque has been identified in 35Ncm (see research of the Polytechnic University of Milan)
- the physical-mechanical features of the material which the screw is made of
- the manner and speed at which the screw threading is made
- the screw and connection morphology

The fixture/abutment coupling generates corrosion from titanium friction (fretting) leading to screw settling.

We has tackled these issues with cutting edge techniques by using an anodic electrolysis treatment on contact areas in the fixture/abutment coupling which increases resistance to fretting corrosion and raising the deformation limit of its screws to 60 Ncm compared to standard production values which are around 40 Ncm, increasing by 50% the screw's breaking resistance (see page 20).



## Simplicity

- Single connection for all implant diameters
- Platform switching method

## Reliability

- Reinforced neck
- Electrolytic treatment
- Conical internal support
- Internal hexagon with bevelled corners

## Precision

- Frictioning connection
- Tolerance within 5 µm
- No bending and settling

## PACKAGING AND STERILISATION

**Easy Grip® implants are packaged:**

- protected in a titanium tube
- inserted in a plastic vial contained inside a sealed blister pack
- conditioned for sterilisation in an ISO 8 class protected environment
- gamma ray sterilised

Mini Short Neck
Short Neck
Large
Extra Large
Extra Extra Large


**The packaging includes:**

- a titanium grade 5 ELI implant
- a grade 4 titanium closing screw
- user instructions are available in electronic format on the website pursuant to EC regulation no. 207/2012 (see page 123)
- inside the package there are two convenient adhesive labels bearing the identification codes of the implant, one of which may be inserted in the doctor's medical file and the other on the patient's implant card.
- the package is equipped with a red anti-tampering seal which, if visible, demonstrates that it has been opened.
- for correct implant insertion see from page 60 to 62.

Implant

Titanium tube

Closing screw

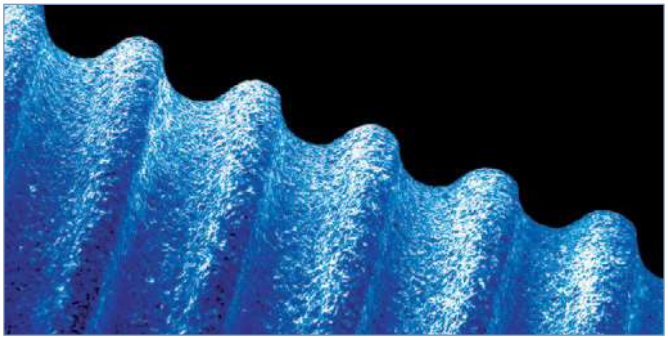
## SURFACE TREATMENTS

The exclusive OsteoGrip® surface, featured by the Easy Grip® implant line, is the result of specific surface treatments such as Sandblasting, Etching, Anodic Colouring and Plasma Glow Discharge, specifically designed to support rapid bone regeneration.

Treatments such as anodic colouring are then performed on prosthetic components.

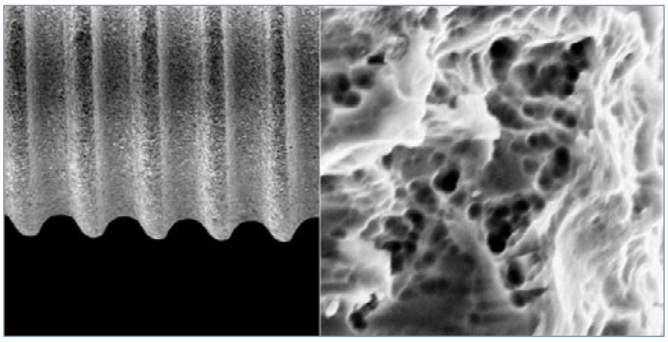
### SLA (Sanding and Acid Etching)

Following the excellent results, confirmed by the clinical literature, of the two subtractive sanding and acid etching techniques, it was decided to join the benefits in a single treatment, in order to achieve an SLA surface (Sandblasted with Long grit corundum followed by Acid etching with Sulfuric and Hydrochloric acid).
This was introduced in 1998 and is one of the most documented rough surfaces in dental implantology.



### Etching

Acid based with hydrofluoric acid for better osteointegration, to achieve optimal microtexture.



### Plasma Glow Discharge

Surface decontamination through atomic bombardment with inert gas (Argon).
This treatment makes it possible to achieve surface decontamination results that cannot be achieved with other methods, at the same time as supporting the alkaline phosphatase (ALP) process, a critical stage in correct activation of osteointegration.

### Anodic colouring

This technique is applied on both artificial teeth and implants in the neck zone and internal connection; it is used on scientific grounds to form a crystalline titanium oxide surface (Anatase) capable of reducing bacterial growth in the trasmucosal portion of the implant; it has the added functional advantage of helping the user identify the prosthetic components.
The yellow anodic colouring of Easy Grip® necks has been implemented since September 2021 when the series 60 conical implant was placed on the market.

# TITANIUM GRADE 5 ELI (GRADE 23)

## The best material for long lasting implant prosthetic results

Titanium grade 23, generally known as titanium grade 5 ELI (Extra Low Interstitial), is the titanium alloy (Ti6Al4V) currently used in the production of "Easy Grip®" implants and abutments.
For many years we adopted this alloy in place of titanium grade 4 CP (Commercially Pure) for its characteristic properties that we briefly list below:

**Hardness**
The 6% aluminium presence increases hardness, reduces specific weight and improves the elasticity modulus "E". Furthermore, association with aluminium and vanadium reduces thermal conductivity by about 50%, but above all increases wear resistance by the same percentage.

**Surface resistance**
The Ti6Al4V ELI titanium alloy is an alpha-beta alloy, i.e. it contains both alpha stabilising (aluminium and oxygen) and beta stabilising elements (vanadium); this type of alloy may be surface treated in order to increase friction corrosion resistance.

**Friction wear resistance**
Here is an excerpt from the "titanium" page in Wikipedia: "it has the property of being biocompatible, with surface porosity similar to human tissue, so that it is physiologically inert. For this reason, the Ti6Al4V ELI titanium alloy is used in hip and knee prosthetic components. However, due to the high ***friction coefficient*** it is never used as a component for articular joints."
Unfortunately, titanium surfaces obtained from turning commercially available bars have a relatively low friction wear resistance. In particular, titanium surfaces in mutual contact between them or with other metals are damaged quickly due to rubbing or friction (the so-called ***fretting corrosion***). Surfaces may therefore completely seize up even with a light load and small relative movement.
This situation is due to adhesive wear, in which microscopic asperities on the metal surfaces come into contact with each other as a result of relative sliding and tend to weld together, forming a bond that may have greater tensile strength than the underlying metal; the fracture, then, occurs at one of the asperities, causing a transfer of metal from one surface to another; the residues thus formed give rise to the accelerated wear that occurs in titanium.
In view of this, it is essential to adopt appropriate solutions in order to use titanium in conditions in which wear might be a problem.

**Fatigue resistance**
The complex manner in which the microstructure and morphology contribute to changing the properties of the material, call for the fatigue behaviour to be generally assessed experimentally on a case by case basis, depending on requirements. In general it can be stated that all changes which result in an increase of the yield strength also lead to an improvement in fatigue resistance. Another key factor is the state of surfaces, whose poor finish is conducive to the onset of cracks, which may then propagate by fatigue even at very low loads. That is why we pay special attention to surface treatments.

**Fracture toughness**
The Ti6Al4V ELI alloy (titanium grade 5 ELI), is used for those applications requiring very high fracture toughness (for example hip prosthesis). This titanium alloy is treated with a particular process to reduce interstitial elements (ELI process), which significantly improves K values (effort which the material is able to withstand in the event of cracks), making it possible to reach values even twice as high as those of the simple Ti6Al4V alloy with normal levels of oxygen.

**Breaking strength**
Grade 5 ELI titanium has a value of 830 MPa, compared to 550 MPa for titanium grade 4.

**Yield strength**
Grade 5 ELI titanium has a value of 760 MPa, compared to 480 MPa for titanium grade 4.

**Resistance to crack propagation**
The natural formation of some surface defects is often originated by lathe methods, operation to be deemed necessary to achieve the desired processing result (thread start, grooves, etc.). Such surface defects are often the cause of cracks, generated following fatigue strain of the piece.
The "Friction Fit" and "Surface Treatments" sections deal in depth with the development of methods that lead to considerably increase this type of resistance for the products of our "Easy Grip®" implant line.
Here we will just say that to reduce this phenomenon, We uses CNC (numerical control) lathes equipped with expensive additional items such as internal and external tourbillonage, indispensable to perform internal and external threads, reducing to a minimum the surface defects in question.

For further details on titanium we recommend reading the second part of the ISTISAN 09/39 Report of the National Institute of Health.

# FRICTION FIT

## An example of the "Easy Grip®" team's history, made of research and passion

In the previous "Titanium grade 23" section we have seen how titanium is especially vulnerable to both fretting and friction corrosion.
Consequently, the "fretting" phenomenon occurs, wear due to stress of the abutment/fixture connection surfaces, caused by the chewing activity, which restricts its reliability (a dental implant system is considered "reliable" when its properties do not change over time during use).

A solution adopted on the Easy Grip® implant to reduce fretting has been to increase the adherence between contact surfaces of the connection, decreasing tolerances as much as possible: the so-called "Friction Fit".

We embarked on this path of machining with CNC (computer numerical control) lathe in 2004, aiming for total tolerance of 5µ. We initially managed to reach 8µ tolerance.

This first result was encouraging, because as a company we had set a goal towards which no other biomechanics company had ever ventured, but we wanted to further improve this Friction Fit method. We then managed to achieve a rather refined production method to obtain the goal we had initially set of reaching 5µ.

The novelty of this system is that the abutment has a very slight frusto-conical shape, such as to generate friction on contact surfaces and at the same time ease the initial insertion of the abutment into the implant.

In practice, a technical-industrial method has been designed and standardised to achieve a Friction Fit leading to a perfect abutment/fixture coupling. All the abutments are produced with this new Friction Fit concept on the whole line. This does not include temporary abutments and for multiple connections (PTP series), which specifically require a reduced, friction-less hex, as well as for the mounter/abutment (PDT).

The obtained fixture/abutment coupling is very tough, therefore, should it be required to remove the abutment seated in the implant, the suitable abutment key extractor (EM or EM2, see page 20) must be used.

Abutments also undergo anodic colouring that modifies and improves the abutment's titanium surface: in fact the final result is the formation of a crystalline titanium oxide surface (Anatase) with various degrees of natural colouring, which performs bactericidal activity and significantly reduces the bacterial colonisation of the surface.
(See Oral Implantology 2006 no.5 page 22-33).

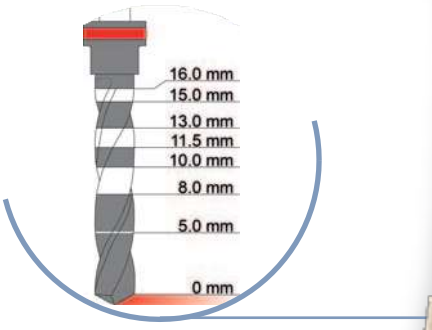
The anodic colouring performed by us is also used in orthopaedics for hip prostheses, where it has been shown that this electrochemical surface treatment leads to an improvement to friction corrosion resistance, which is a crucial feature on the connection surface of the abutment, particularly subject to chewing wear.

For further information on the importance of a mechanical fixture/abutment coupling as safe and accurate as possible we recommend reading the ISTISAN 07/7 Report of the National Institute of Health.

# EASY GRIP® SURGICAL KITS

## Surgical Tray Kit

Autoclavable and made with Radel, it contains all the burs and surgical instruments required for placing all Easy Grip® implants with hexagonal connection, either with two-phase surgical protocol, or immediate loading surgical protocol (KITTRAY).




The Kit shows the picture of a bur with the various sizes of the depth markings, calculated excluding the tip.

## Mini Surgical Tray

A mini introductory kit to the Easy Grip® implant line is available.

The user will find the essential elements to implement standard surgical procedures referring to all cylindrical and anatomical implants with screw connection.

## Intermediate Surgical Kit

Reduced version of the Surgical Kit Tray made with Radel, autoclavable in three versions:

- the first containing the essential instruments for positioning cylindrical and anatomical implants;
- the second containing the essential instruments for conical implants;
- the third containing the essential instruments for Easy Grip® implants with hexagonal connection.

The kit may be sterilised in steam autoclave at 121°C for 20 minutes.

Fitted with a handy removable stainless steel pan, it is ready for inserting the depth stops.

## THE IMPLANT-PROSTHETIC TREATMENT

**INDICATIONS:**
The Easy Grip® implant line may be used in fully edentulous maxillary or mandibular cases to anchor total prostheses or, in the fixed prosthesis, to make terminal or intermediate abutments of bridges and individual teeth.

**CONTRAINDICATIONS:**
Implant therapy is recommended against in the following cases:

**1) general patient conditions:** cachexia, diabetes, hyperthyroidism, anaemia, vitiligo, haemorrhagic diathesis, osteomalacia, osteitis deformans, osteogenesis imperfecta, immune system disorders, and any systemic disease or drug therapies that may impair the tissue repair ability, such as immunosuppressants and corticosteroids. Patients with neurotic or psychotic disorders or mental instability, and patients with smoking, alcohol and/or drugs abuse are to be excluded.

Heart disease and circulatory disease represent a general surgery contraindication and therefore even to implant therapy. Similarly, surgery should be avoided during pregnancy.

**2) local conditions of the patient:** inadequate bone quantity, presence of lesions in the soft tissues (such as leukoplakia, lichen, stomatitis, epulis, etc...), lesions in the hard tissues (such as cysts, granulomas, root residue, inflammatory changes, etc...). Inadequate oral hygiene. Past or current radiation therapy. Xerostomia. Bruxism and inadequate occlusal conditions.

**3) the patient's age:** in adolescents, implants should only be considered after bone growth is complete.

**RECOMMENDATIONS:**
Dental implants should only be reserved for patients who are sufficiently motivated and collaborative with a good level of oral hygiene. Each implant site must have undergone adequate diagnostic, clinical and radiological assessment. Incorrect procedures may result in the loss of the implant and biological damage. Adequate antibiotic coverage is recommended during and following surgery.

Easy Grip® must be used as specifically designed instrumentation for oral implantology and only fitted with prosthetic components.

The patient should be adequately informed on the use and maintenance of the prosthesis, and the attending dentist must perform six-monthly checks and maintenance.
The life span of the entire implant prosthetic reconstruction is the longer the slower bone support resorption is.

It has been proven that a certain amount of bone resorption is physiological (Albrektsson, 1987), however, poor oral hygiene may lead to infectious complications that increase this loss. That is why it is important for the patient to be made aware of the need to maintain good oral hygiene and attend the routine checks.

Mobility of the implant, sensitivity to percussion, bone loss and infection are indicators of implant failure, which must then be removed.

**WARNINGS:**
Some complications may follow the surgical insertion of dental implants: bruising, bleeding, hematoma, soft tissue dehiscence, delayed healing, inflammation, infection, paresthesia, hyperesthesia, anesthesia, chronic pain due to the implant, perforation of the maxillary sinus, anatomical structure lesions (nerve bundles and blood vessels), alveolar atrophy in the maxilla or mandible, oronasal or oroantral fistulas, damage to adjacent teeth, bone fractures and rupture of the implant or instruments.

Delayed complications may occur in the event of prosthesis overload, such as fracture in the prosthetic superstructure, implant fracture, loosening of screws that connect the prosthesis and loss of integration. Imperfections and peri-implantitis are possible complications.

The surgical procedure to use the products of the Easy Grip® Implant System is highly specialised: hence use of these products is solely limited to professionals and experts in the dental sector. If the operator deems they do not have the appropriate knowledge, they should attend appropriate training courses before using these products.

The surgical and prosthetic procedures described are to be considered a set of standard guidelines that may be applied to the particular requirements and circumstances that arise in practice, depending also on the manual skills, experience and diagnosis made by the legally qualified doctor.

The manufacturer cannot be held liable for the use of the product and the procedure followed.
The responsibility for the correct and proper use of the instruments and products is therefore borne by the user.

The Easy Grip® range is continuously enhanced.
We therefore reserves the right to alter the design and production.

**IMPLANT CHOICE:**
The number, type and dimensions (diameter and length) of the implant to be inserted depend on a number of factors such as:

- quantity and quality of available bone
- the characteristics of the implant site
- masticatory load

all these aspects should be properly assessed in order to select the implant correctly.

A series of tracings is available (see template on page 56) showing the Easy Grip® range implants in various scales to be used as support for correct implant choice, in fact all you need to do is superimpose the template to the X-ray tracing to establish unambiguously the correct implant to be inserted based on bone availability found.

| | |
|---|---|
| Mini Short Neck | Upper and lower lateral incisors |
| Short Neck | All |
| Large | Premolars and molars |
| Extra Large | Molars |
| Extra Extra Large | Molars |

## Cylindrical

## Conical

### Series 10

### Series 50

### Series 20

**MINI SHORT NECK**

**M**


**SHORT NECK**

**SN**



**LARG E**

**L**




**EXTRA LARGE**

**XL**




**EXTRA EXTRA LARGE**

**XX**


*The pictures are purely for illustrative purposes*

## Conical

### Series 60




## Anatomical

### Series 30




DN 3.30

DN 3.75

DN 4.50

DN 5.00

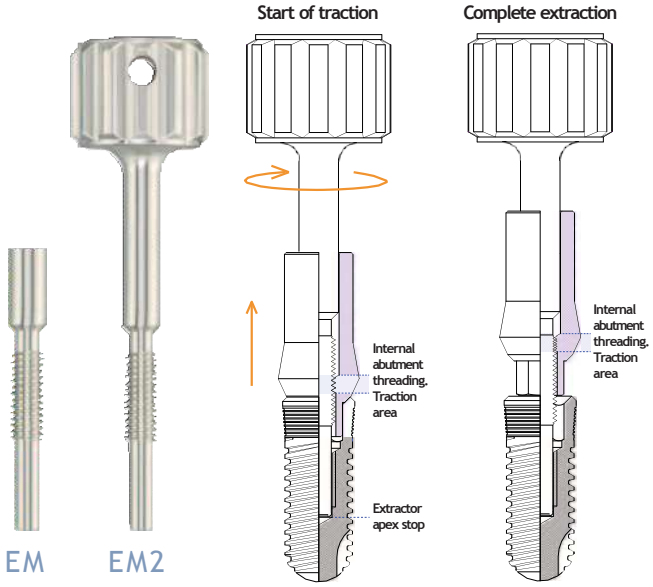
DN 6.00

** Height 8 is without rounded apex*

## ABUTMENT EXTRACTING KEY

The friction-fit type fixture/abutment coupling in the Easy Grip® range is normally very steadfast, hence abutment detachment from the implant or from the laboratory analogue while making the prosthetic item might not be easy: that is why a suitable extracting key EM2 has been developed for easy removal.
In case of limited operating space, use the extracting screw EM.

The extractor works by using the internal abutment threading which, working opposed to the groove end of the implant during the screwing action, lifts it and removes until it is completely detached.

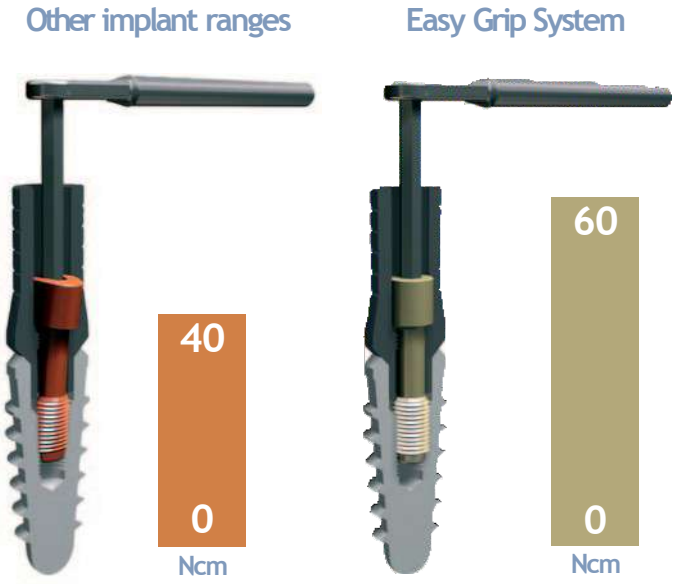



## TIGHTENING SCREW

The tightness of the tightening screw is an essential feature for proper reliability of the implant over time. We makes use of production techniques used in aeronautics.

As a matter of fact, the standard production process results in a breaking limit on the screw body at around 40 Ncm, while with the new method values around 60 Ncm can be reached, increasing the breaking strength of the screw by as much as 50%.

For more information on the importance of the screw in the implant connection, reading the first part of the ISTISAN 07/7 report of the National Health Institute is recommended.



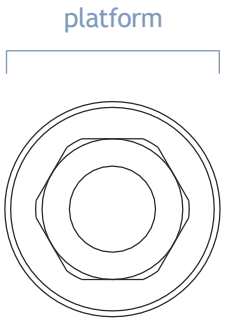
ITALDENT

# IMPLANTS

# MINI SHORT NECK - 19M

## Morphology

- Straight self-tapping double helix thread
- Connection: hexagon and internal bevel
- Cortical microgrooves
- 45° Conical coupling
- Smooth neck Ø 3.70 mm height 0.75 mm
- Body Ø 3.30 mm
- Lengths: 10 - 11.5 and 13 mm
- Material: titanium grade 5 ELI
- Surface Osteogrip (SLA)
- Plug screw Ø 3.50 mm




VT3

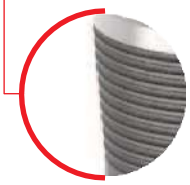
## Related products

**Prosthetic**

All components (single connection)

**Instrumentation** (common for all lengths)

- Burs: RMB20 - RMB24 - RMB27 - RMB30
- Countersink: AS2
- Taps: MAS2



The Easy Grip® implant is frusto-conical at microgroove level.
The countersink should always be used for obtaining the correct profile for seating the implant.


CE 0425

## Milling speed

- Hard bone (D1-D2): 500-800 RPM
- Soft bone (D3-D4): 200-300 RPM

M
DN 3.30
**CILINDRICO**
*HEX CONNECTION*
19M10

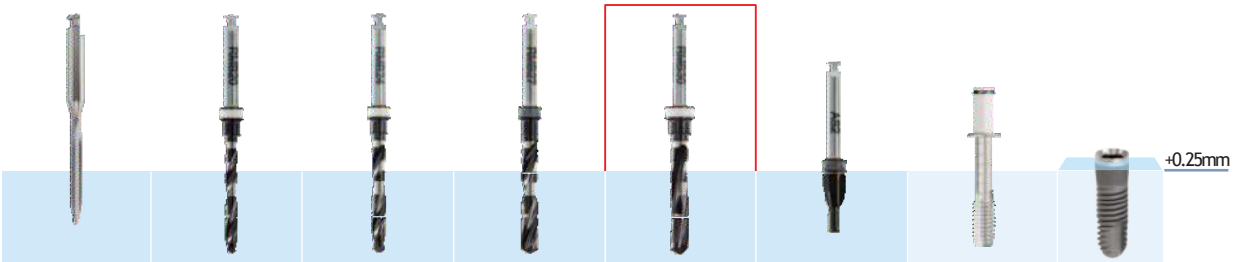
| Code | Platform Ø | h. Neck | Body Ø | Length |
|---|---|---|---|---|
| 19M10 | 3.70 | 0.75 | 3.30 | 10 |
| 19M11 | 3.70 | 0.75 | 3.30 | 11.5 |
| 19M13 | 3.70 | 0.75 | 3.30 | 13 |

*All measurements are in mm.*

## **Standard** surgical protocol for bone density **D1 D2 D3 D4**

| | recommended |
|---|---|
| | optional |
| ▪ | optional only in D1 |

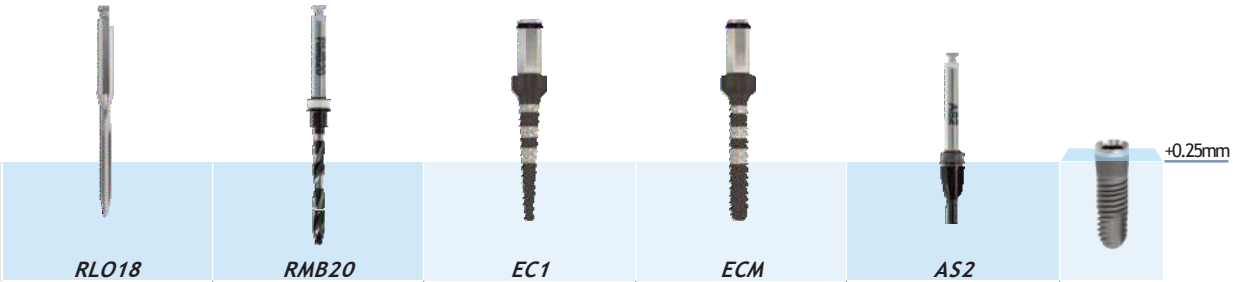
**19M**
Mini Short Neck
Ø 3.30



| | RLO18 | RMB20 | RMB24 | RMB27 | RMB30 | AS2 | MAS2 | +0.25mm |
|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 2.4 | 2.7 | 3.0 | 3.3 | 3.3 | 3.30 |
| rpm max | 850 | | | 750 | | 350 | 15 | |
| Bone D1 very hard bone | ● | ● | - | ● | | ● | ● | D1 |
| Bone D2 hard bone | ● | ● | - | ● | | ● | ☾ | D2 |
| Bone D3 soft bone | ● | ● | - | ● | | ' | ☾ | D3 |
| Bone D4 very soft bone | ● | ● | - | ● | | ' | | D4 |

## Surgical protocol with **bone expanders** for bone density **D4**

**19M**
Mini Short Neck
Ø 3.30



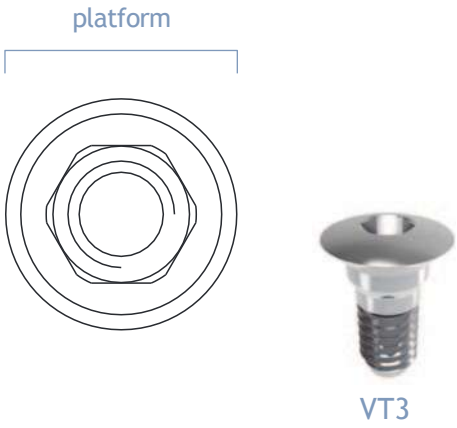
| | RLO18 | RMB20 | EC1 | ECM | AS2 | +0.25mm |
|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 3.2 | 2.7 | 3.3 | 3.30 |
| rpm max | 850 | | 15 | | 350 | 15 |
| D4 very soft bone | ● | ● | ● | ● | - | D4 |

This surgical protocol simply indicates the methods and intended use of the various surgical accessories and instruments suited for the case, since the professional operator is responsible for correct interpretation of the instrument application to the individual clinical case.

# SHORT NECK - 19SN

## Morphology

- Straight self-tapping double helix thread
- Connection: hexagon and internal bevel
- Cortical microgrooves
- 45° Conical coupling
- Smooth neck Ø 4.00 mm height 0.50 mm
- Body Ø 3.75 mm
- Lengths: 8 - 10 - 11.5 - 13 and 15 mm
- Material: titanium grade 5 ELI
- Surface Osteogrip (SLA)
- Plug screw Ø 3.50 mm




## Related products

**Prosthetic**
All components (single connection)

**Instrumentation** (common for all lengths)
- Burs: RMB20 - RMB24 - RMB27 - RMB30 - RMB33
- Countersink: AS3
- Taps: MAS3

The Easy Grip® implant is frusto-conical at microgroove level.
The countersink should always be used for obtaining the correct profile for seating the implant.

## Milling speed

- Hard bone (D1-D2): 500-800 RPM
- Soft bone (D3-D4): 200-300 RPM

CE 0425

SN
DN 3.75
CILINDRICO
19SN10 HEX CONNECTION

| Code | Platform Ø | h. Neck | Body Ø | Length |
|---|---|---|---|---|
| 19SN08 | 4.00 | 0.50 | 3.75 | 8 |
| 19SN10 | 4.00 | 0.50 | 3.75 | 10 |
| 19SN11 | 4.00 | 0.50 | 3.75 | 11.5 |
| 19SN13 | 4.00 | 0.50 | 3.75 | 13 |
| 19SN15 | 4.00 | 0.50 | 3.75 | 15 |

*All measurements are in mm.*

## Standard surgical protocol for bone density D1 D2 D3 D4

● recommended
- optional
- optional only in D1

**19SN Short Neck Ø 3.75**

| | RLO18 | RMB20 | RMB24 | RMB27 | RMB30 | RMB33 | RMB36 | AS3 | MAS3 | +0.25mm |
|---|---|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 2.4 | 2.7 | 3.0 | 3.3 | 3.6 | 3.75 | 3.75 | 3.75 |
| rpm max | 850 | | | 750 | | 650 | | 350 | 15 | |
| Bone D1 very hard bone | ● | ● | - | ● | ● | ● | - | ● | ● | D1 |
| Bone D2 hard bone | ● | ● | - | ● | ● | ● | | ● | - | D2 |
| Bone D3 soft bone | ● | ● | - | ● | ● | - | | - | - | D3 |
| Bone D4 very soft bone | ● | ● | - | ● | ● | - | | | | D4 |

## Simplified surgical protocol for bone density D2 D3 D4

**19SN Short Neck Ø 3.75**

| | RLO18 | RMB20 | RCS00 | RMB30 | AS3 | MAS3 | +0.25mm |
|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 3.75 | 3.0 | 3.75 | 3.75 | 3.75 |
| rpm max | 850 | | | 750 | 350 | 15 | |
| Bone D2 hard bone | ● | ● | ● | ● | ● | ● | D2 |
| Bone D3 soft bone | ● | ● | ● | ● | - | - | D3 |
| Bone D4 very soft bone | ● | ● | ● | ● | - | | D4 |

## Surgical protocol with bone expanders for bone density D4

**19SN Short Neck Ø 3.75**

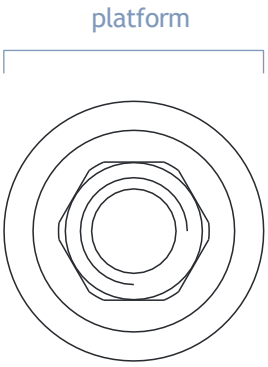
| | RLO18 | RMB20 | EC1 | EC2 | ECSN | AS3 | +0.25mm |
|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 3.2 | 4.0 | 3.15 | 3.75 | 3.75 |
| rpm max | 850 | | | 15 | | 350 | 15 |
| D4 very soft bone | ● | ● | ● | ● | ● | - | D4 |

This surgical protocol simply indicates the methods and intended use of the various surgical accessories and instruments suited for the case, since the professional operator is responsible for correct interpretation of the instrument application to the individual clinical case.

# LARGE - 19L

## Morphology

- Straight self-tapping double helix thread
- Connection: internal hex and outer bevel
- Cortical microgrooves
- 45° Conical coupling
- Smooth neck Ø 4.50 mm height 0.75 mm
- Body Ø 4.30 mm
- Lengths: 8 - 10 - 11.5 and 13 mm
- Material: titanium grade 5 ELI
- Surface Osteogrip (SLA)
- Plug screw Ø 3.50 mm

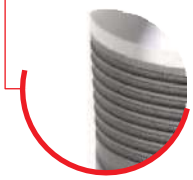




## Related products

**Prosthetic**
All components (single connection)

**Instrumentation** (common for all lengths)
- Burs: RMB20 - RMB24 - RMB27 - RMB30 - RMB33 RMB36
- Countersink: AS4
- Taps: MAS4



The Easy Grip® implant is frusto-conical at microgroove level.
The countersink should always be used for obtaining the correct profile for seating the implant.


CE 0425

## Milling speed

- Hard bone (D1-D2): 500-800 RPM
- Soft bone (D3-D4): 200-300 RPM

L
DN 4.50
**CILINDRICO**
*HEX CONNECTION*
19L10

| Code | Platform Ø | h. Neck | Body Ø | Length |
|---|---|---|---|---|
| 19L08 | 4.50 | 0.75 | 4.30 | 8 |
| 19L10 | 4.50 | 0.75 | 4.30 | 10 |
| 19L11 | 4.50 | 0.75 | 4.30 | 11.5 |
| 19L13 | 4.50 | 0.75 | 4.30 | 13 |

*All measurements are in mm.*

## Standard surgical protocol for bone density D1 D2 D3 D4

● recommended
◔ optional
▪ optional only in D1

**19L Large Ø 4.50**

| | RLO18 | RMB20 | RMB24 | RMB27 | RMB30 | RMB33 | RMB36 | RMB42 | AS4 | MAS4 | +0.25mm |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 2.4 | 2.7 | 3.0 | 3.3 | 3.6 | 4.2 | 4.5 | 4.5 | 4.50 |
| rpm max | 850 | | | 750 | | 650 | | | 350 | 15 | |
| Bone D1 very hard bone | ● | ● | ◔ | ● | ● | ● | ● | ◔ | ● | ● | D1 |
| Bone D2 hard bone | ● | ● | ◔ | ● | ● | ● | ● | | ● | ◑ | D2 |
| Bone D3 soft bone | ● | ● | ◔ | ● | ◔ | ● | ◔ | | ● | ◑ | D3 |
| Bone D4 very soft bone | ● | ● | ◔ | ● | ◔ | ● | ◔ | | ◔ | | D4 |

## Simplified surgical protocol for bone density D2 D3 D4

**19L Large Ø 4.50**

| | RLO18 | RMB20 | RCS00 | RCL00 | RMB36 | AS4 | MAS4 | +0.25mm |
|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 3.75 | 4.5 | 3.6 | 4.5 | 4.5 | 4.50 |
| rpm max | 850 | | 650 | 550 | 650 | 350 | 15 | |
| Bone D2 hard bone | ● | ● | ● | ● | ● | ● | ● | D2 |
| Bone D3 soft bone | ● | ● | ◔ | ● | ● | ◔ | ◑ | D3 |
| Bone D4 very soft bone | ● | ● | ◔ | ● | ● | ◔ | | D4 |

## Surgical protocol with bone expanders for bone density D4

**19L Large Ø 4.50**

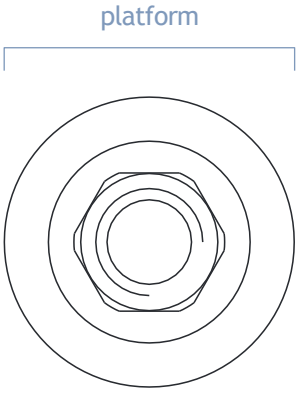
| | RLO18 | RMB20 | EC1 | EC2 | EC3 | ECL | AS4 | +0.25mm |
|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 3.2 | 4.0 | 4.8 | 3.9 | 4.5 | 4.50 |
| rpm max | 850 | | 15 | | | | 350 | 15 |
| Bone D4 very soft bone | ● | ● | ● | ● | ● | ● | ◑ | D4 |

This surgical protocol simply indicates the methods and intended use of the various surgical accessories and instruments suited for the case, since the professional operator is responsible for correct interpretation of the instrument application to the individual clinical case.

# EXTRA LARGE - 19XL

## Morphology

- Straight self-tapping double helix thread
- Connection: internal hex and outer bevel
- Cortical microgrooves
- 45° Conical coupling
- Smooth neck Ø 5.00 mm height 1.00 mm
- Body Ø 4.80 mm
- Lengths: 8 - 10 - 11.5 and 13 mm
- Material: titanium grade 5 ELI
- Surface Osteogrip (SLA)
- Plug screw Ø 3.50 mm




VT3

## Related products

**Prosthetic**

All components (single connection)

**Instrumentation** (common for all lengths)

- Burs: RMB20 - RMB24 - RMB27 - RMB30 - RMB33 RMB36 - RMB42
- Countersink: AS5
- Taps: MAS5

The Easy Grip® implant is frusto-conical at microgroove level.
The countersink should always be used for obtaining the correct profile for seating the implant.


CE 0425

## Milling speed

- Hard bone (D1-D2): 500-800 RPM
- Soft bone (D3-D4): 200-300 RPM

XL
DN 5.00
**CILINDRICO**
*HEX CONNECTION*
19 XL10

| Code | Platform Ø | h. Neck | Body Ø | Length |
|---|---|---|---|---|
| 19XL08 | 5.00 | 1.00 | 4.80 | 8 |
| 19XL10 | 5.00 | 1.00 | 4.80 | 10 |
| 19XL11 | 5.00 | 1.00 | 4.80 | 11.5 |
| 19XL13 | 5.00 | 1.00 | 4.80 | 13 |

*All measurements are in mm.*

## Standard surgical protocol for bone density D1 D2 D3 D4

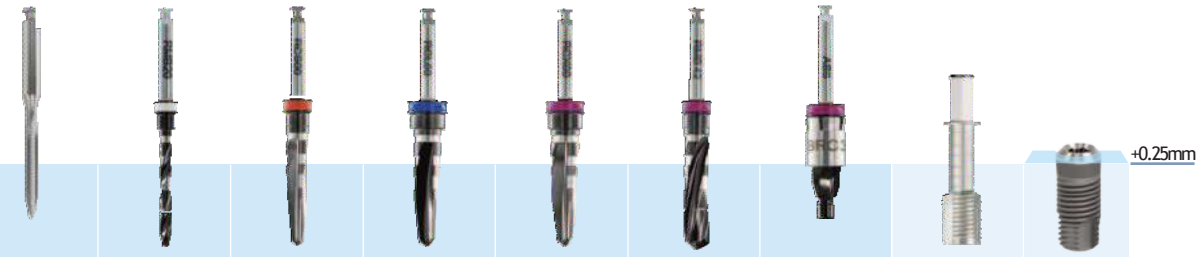
● recommended
optional

**19XL**
**Extra Large**
**Ø 5.00**


| | RLO18 | RMB20 | RMB24 | RMB27 | RMB30 | RMB33 | RMB36 | RMB42 | AS5 | MAS5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 2.4 | 2.7 | 3.0 | 3.3 | 3.6 | 4.2 | 5.0 | 5.0 | 5.00 |
| rpm max | 850 | | | 750 | | 650 | | | 350 | 15 | |
| Bone quality – D1 very hard bone | ● | ● | ◦ | ● | ● | ● | ● | ● | ● | ● | D1 |
| D2 hard bone | ● | ● | ◦ | ● | ◦ | ● | ◦ | ● | ● | ◦ | D2 |
| D3 soft bone | ● | ● | ◦ | ● | ◦ | ● | ◦ | ● | ◦ | ◦ | D3 |
| D4 very soft bone | ● | ● | ◦ | ● | ◦ | ● | ● | ◦ | ◦ | | D4 |

## Simplified surgical protocol for bone density D2 D3 D4

**19XL**
**Extra Large**
**Ø 5.00**



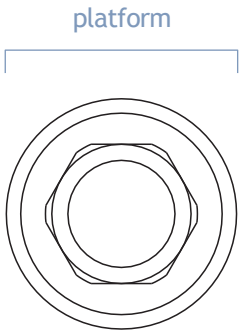

| | RLO18 | RMB20 | RCS00 | RCL00 | RCX00 | RMB42 | AS5 | MAS5 | |
|---|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 3.75 | 4.5 | 5.0 | 4.2 | 5.0 | 5.0 | 5.00 |
| rpm max | 850 | | 650 | 550 | 650 | | 350 | 15 | |
| Bone quality – D2 hard bone | ● | ● | ● | ● | ● | ● | ● | ● | D2 |
| D3 soft bone | ● | ● | ● | ◦ | ● | ● | ◦ | ◦ | D3 |
| D4 very soft bone | ● | ● | ● | ◦ | ● | ● | ◦ | | D4 |

This surgical protocol simply indicates the methods and intended use of the various surgical accessories and instruments suited for the case, since the professional operator is responsible for correct interpretation of the instrument application to the individual clinical case.

# SHORT NECK - 29SN

## Morphology

- Self-tapping conical thread
- Connection: hexagon and internal bevel
- Cortical microgrooves
- 45° Conical coupling
- Smooth neck Ø 4.00 mm height 0.50 mm
- Apex/Body Ø 2.00/4.00 mm
- Lengths: 10 - 11.5 - 13 and 15 mm
- Material: titanium grade 5 ELI
- Surface Osteogrip (SLA)
- Plug screw Ø 3.50 mm

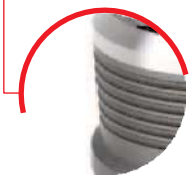



VT3

## Related products

**Prosthetic**
All components (single connection)

**Instrumentation** (common for all lengths)
- Burs: RMB20 - RCS00
- Countersink: AS3
- Tap: MS00



The Easy Grip® implant is frusto-conical at microgroove level.
The countersink should always be used for obtaining the correct profile for seating the implant.


CE 0425

## Milling speed

- Hard bone (D1-D2): 500-800 RPM
- Soft bone (D3-D4): 200-300 RPM

**SN**
DN 3.75
**CONICO**
*HEX CONNECTION*
**29SN10**

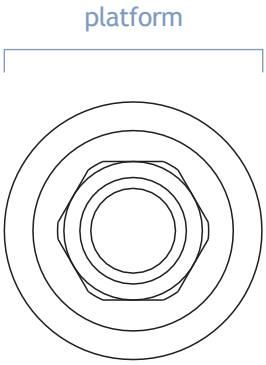
| Code | Platform Ø | h. Neck | Apex/Body Ø | Length |
|---|---|---|---|---|
| 29SN10 | 4.00 | 0.50 | 2.00/4.00 | 10 |
| 29SN11 | 4.00 | 0.50 | 2.00/4.00 | 11.5 |
| 29SN13 | 4.00 | 0.50 | 2.00/4.00 | 13 |
| 29SN15 | 4.00 | 0.50 | 2.00/4.00 | 15 |

*All measurements are in mm.*

# LARGE - 29L

## Morphology

- Self-tapping conical thread
- Connection: internal hex and outer bevel
- Cortical microgrooves
- 45° Conical coupling
- Smooth neck Ø 4.50 mm height 0.75 mm
- Apex/Body Ø 2.70/4.70 mm
- Lengths: 10 - 11.5 -13 e 15 mm
- Material: titanium grade 5 ELI
- Surface Osteogrip (SLA)
- Plug screw Ø 3.50 mm




VT3


## Related products

**Prosthetic**

All components (single connection)

**Instrumentation** (common for all lengths)

- Burs: RMB20 - RMB27 - RCS00 - RCL00
- Countersink: AS4
- Tap: ML00

The Easy Grip® implant is frusto-conical at microgroove level.
The countersink should always be used for obtaining the correct profile for seating the implant.

## Milling speed

- Hard bone (D1-D2): 500-800 RPM
- Soft bone (D3-D4): 200-300 RPM

CE 0425

L
29L10
DN 4.50
CONICO
*HEX CONNECTION*

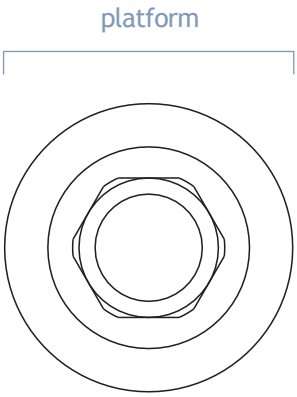
| Code | Platform Ø | h. Neck | Apex/Body Ø | Length |
|---|---|---|---|---|
| 29L10 | 4.50 | 0.75 | 2.70/4.70 | 10 |
| 29L11 | 4.50 | 0.75 | 2.70/4.70 | 11.5 |
| 29L13 | 4.50 | 0.75 | 2.70/4.70 | 13 |
| 29L15 | 4.50 | 0.75 | 2.70/4.70 | 15 |

*All measurements are in mm.*

# EXTRA LARGE - 29XL

## Morphology

- Self-tapping conical thread
- Connection: internal hex and outer bevel
- Cortical microgrooves
- 45° Conical coupling
- Smooth neck Ø 5.00 mm height 1.00 mm
- Apex/Body Ø 2.70/5.40 mm
- Lengths: 10 - 11.5 - 13 and 15 mm
- Material: titanium grade 5 ELI
- Surface Osteogrip (SLA)
- Plug screw Ø 3.50 mm




VT3

## Related products

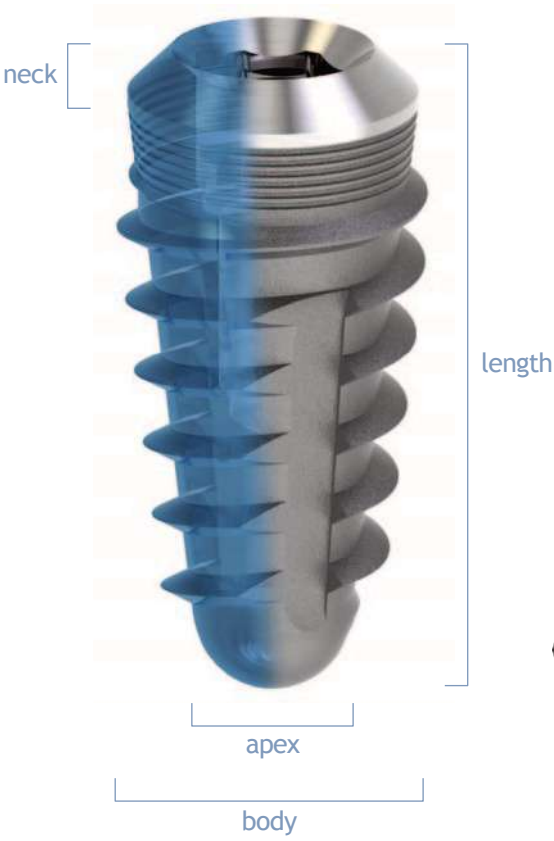
**Prosthetic**

All components (single connection)

**Instrumentation** (common for all lengths)

- Burs: RMB20 - RMB27 - RCS00 - RCL00 - RCX00
- Countersink: AS5
- Tap: MX00

The Easy Grip® implant is frusto-conical at microgroove level.
The countersink should always be used for obtaining the correct profile for seating the implant.




CE 0425

## Milling speed

- Hard bone (D1-D2): 500-800 RPM
- Soft bone (D3-D4): 200-300 RPM

**XL** DN 5.00
**CONICO**
**29 XL10** *HEX CONNECTION*

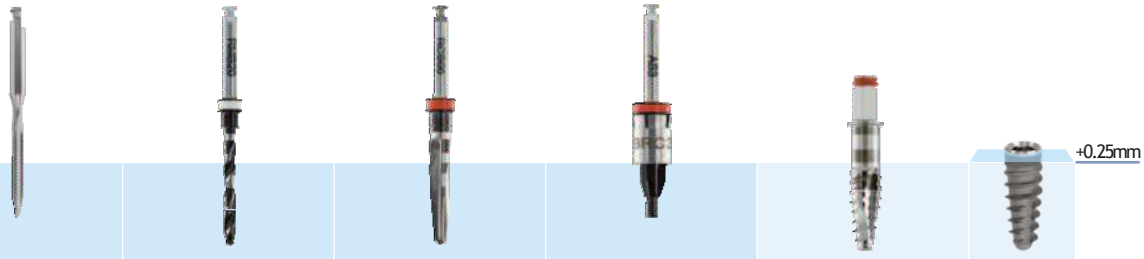
| Code | Platform Ø | h. Neck | Apex/Body Ø | Length |
|---|---|---|---|---|
| 29XL10 | 5.00 | 1.00 | 2.70/5.40 | 10 |
| 29XL11 | 5.00 | 1.00 | 2.70/5.40 | 11.5 |
| 29XL13 | 5.00 | 1.00 | 2.70/5.40 | 13 |

*All measurements are in mm.*

## Standard surgical protocol for bone density D2 D3 D4

● recommended
- optional

### 29SN Short Neck Ø 3.75

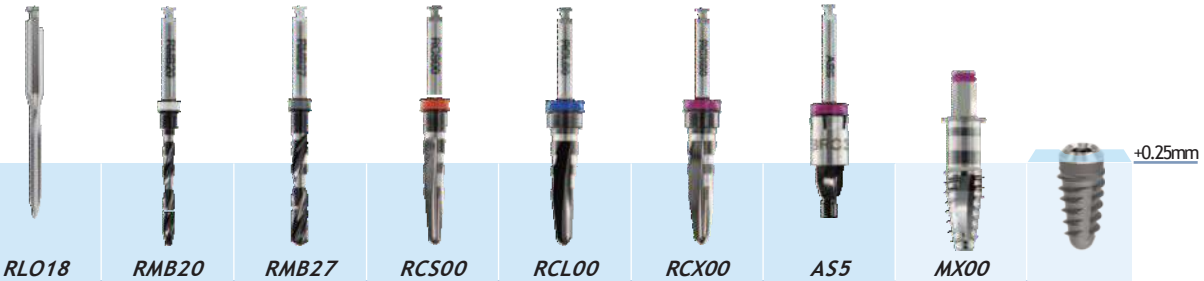



| | RLO18 | RMB20 | RCS00 | AS3 | MS00 | |
|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 3.75 | 3.75 | 3.75 | 3.75 |
| rpm max | 850 | | 650 | 350 | 15 | |
| D2 hard bone | ● | ● | ● | ● | ● | D2 |
| D3 soft bone | ● | ● | ● | ● | - | D3 |
| D4 very soft bone | ● | ● | ● | - | | D4 |

### 29L Large Ø 4.50


| | RLO18 | RMB20 | RMB27 | RCS00 | RCL00 | AS4 | ML00 | |
|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 2.70 | 3.75 | 4.5 | 4.5 | 4.50 | 4.50 |
| rpm max | 850 | | 750 | 650 | 550 | 350 | 15 | |
| Bone D2 hard bone | ● | ● | ● | ● | ● | ● | ● | D2 |
| Bone D3 soft bone | ● | ● | ● | ● | ● | ● | - | D3 |
| Bone D4 very soft bone | ● | ● | ● | ● | ● | - | | D4 |

### 29XL Extra Large Ø 5.00




| | RLO18 | RMB20 | RMB27 | RCS00 | RCL00 | RCX00 | AS5 | MX00 | |
|---|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 2.70 | 3.75 | 4.5 | 5.00 | 5.00 | 5.0 | 5.00 |
| rpm max | 850 | | 750 | 650 | 550 | | 350 | 15 | |
| Bone D2 hard bone | ● | ● | ● | ● | ● | ● | ● | ● | D2 |
| Bone D3 soft bone | ● | ● | ● | ● | - | ● | ● | - | D3 |
| Bone D4 very soft bone | ● | ● | ● | ● | - | ● | - | | D4 |

This surgical protocol simply indicates the methods and intended use of the various surgical accessories and instruments suited for the case, since the professional operator is responsible for correct interpretation of the instrument application to the individual clinical case.

# SHORT NECK - 39SN

## Morphology

- Cylindrical/conical self-tapping double helix thread
- Connection: hexagon and internal bevel
- Cortical microgrooves
- 45° Conical coupling
- Smooth neck ø 4.00 mm height 0.50 mm
- Lengths: 8 - 10 - 11.5 - 13 and 15 mm
- Apex/Body ø 1.60/3.75 mm
- Material: titanium grade 5 ELI
- Surface Osteogrip (SLA)
- Plug screw ø 3.50 mm


## Related products

**Prosthetic**
All components (single connection)

**Instrumentation** (common for all lengths)
- Burs: RMB20 - RMB24 - RMB27 - RMB30 - RMB33 RMB36
- Countersink: AS3
- Taps: MA3

The Easy Grip® implant is frusto-conical at microgroove level.
The countersink should always be used for obtaining the correct profile for seating the implant.

## Milling speed

- Hard bone (D1-D2): 500-800 RPM
- Soft bone (D3-D4): 200-300 RPM

CE 0425

**SN** DN 3.75
**ANATOMICO**
**39SN10** *HEX CONNECTION*

| Code | Platform Ø | h. Neck | Apex/Body Ø | Length |
|---|---|---|---|---|
| 39SN08 | 4.00 | 0.50 | 1.60/3.75 | 8* |
| 39SN10 | 4.00 | 0.50 | 1.60/3.75 | 10 |
| 39SN11 | 4.00 | 0.50 | 1.60/3.75 | 11.5 |
| 39SN13 | 4.00 | 0.50 | 1.60/3.75 | 13 |
| 39SN15 | 4.00 | 0.50 | 1.60/3.75 | 15 |

*All measurements are in mm.*
**Height 8 is without rounded apex*

## Standard surgical protocol for bone density D1 D2 D3 D4

● recommended
- optional
▪ optional only in D1

**39SN**
**Short Neck**
**Ø 3.75**

| | RLO18 | RMB20 | RMB24 | RMB27 | RMB30 | RMB33 | RMB36 | AS3 | MA3 | +0.25mm |
|---|---|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 2.4 | 2.7 | 3.0 | 3.3 | 3.6 | 3.75 | 3.75 | 3.75 |
| rpm max | 850 | | | 750 | | 650 | | 350 | 15 | |
| Bone: D1 very hard bone | ● | ● | - | ● | ● | ● | ▪ | ● | ● | D1 |
| Bone: D2 hard bone | ● | ● | - | ● | ● | ● | | ● | - | D2 |
| Bone: D3 soft bone | ● | ● | - | ● | ● | - | | - | - | D3 |
| Bone: D4 very soft bone | ● | ● | - | ● | ● | - | | | | D4 |

## Simplified surgical protocol for bone density D2 D3 D4

**39SN**
**Short Neck**
**Ø 3.75**

| | RLO18 | RMB20 | RCS00 | RMB30 | AS3 | MA3 | +0.25mm |
|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 3.75 | 3.0 | 3.75 | 3.75 | 3.75 |
| rpm max | 850 | | 750 | | 350 | 15 | |
| Bone: D2 hard bone | ● | ● | ● | ● | ● | ● | D2 |
| Bone: D3 soft bone | ● | ● | ● | ● | - | - | D3 |
| Bone: D4 very soft bone | ● | ● | ● | ● | - | | D4 |

## Surgical protocol with bone expanders for bone density D4

**39SN**
**Short Neck**
**Ø 3.75**

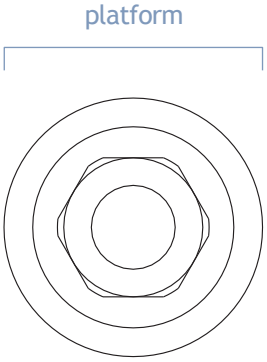
| | RLO18 | RMB20 | EC1 | EC2 | EC3 | EC4 | AS3 | +0.25mm |
|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 3.2 | 4.0 | 4.8 | 5.0 | 3.75 | 3.75 |
| rpm max | 850 | | 15 | | | | 350 | 15 |
| Leng: 39SN 08 | ● | ● | ● | ● | ● | ● | - | 8,0 |
| Leng: 39SN 10 39SN 11 | ● | ● | ● | ● | ● | | - | 10,0 11,5 |
| Leng: 39SN 13 39SN 15 | ● | ● | ● | ● | | | - | 13,0 15,0 |

This surgical protocol simply indicates the methods and intended use of the various surgical accessories and instruments suited for the case, since the professional operator is responsible for correct interpretation of the instrument application to the individual clinical case.

# LARGE - 39L

## Morphology

- Cylindrical/conical self-tapping double helix thread
- Connection: internal hex and outer bevel
- Cortical microgrooves
- 45° Conical coupling
- Smooth neck Ø 4.50 mm height 0.75 mm
- Apex/Body Ø 2.00/4.30 mm
- Lengths: 8 - 10 - 11.5 - 13 and 15 mm
- Material: titanium grade 5 ELI
- Surface Osteogrip (SLA)
- Plug screw Ø 3.50 mm




VT3

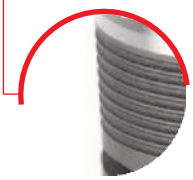
## Related products

**Prosthetic**

All components (single connection)

**Instrumentation** (common for all lengths)

- Burs: RMB20 - RMB24 - RMB27 - RMB30 - RMB33 RMB36 - RMB42
- Countersink: AS4
- Taps: MA4



The Easy Grip® implant is frusto-conical at microgroove level.
The countersink should always be used for obtaining the correct profile for seating the implant.


CE 0425

## Milling speed

- Hard bone (D1-D2): 500-800 RPM
- Soft bone (D3-D4): 200-300 RPM

L
DN 4.50
**ANATOMICO**
*HEX CONNECTION*
**39L10**

| Code | Platform Ø | h. Neck | Apex/Body Ø | Length |
|---|---|---|---|---|
| 39L08 | 4.50 | 0.75 | 2.00/4.30 | 8* |
| 39L10 | 4.50 | 0.75 | 2.00/4.30 | 10 |
| 39L11 | 4.50 | 0.75 | 2.00/4.30 | 11.5 |
| 39L13 | 4.50 | 0.75 | 2.00/4.30 | 13 |
| 39L15 | 4.50 | 0.75 | 2.00/4.30 | 15 |

*All measurements are in mm.*
**Height 8 is without rounded apex*

## Standard surgical protocol for bone density D1 D2 D3 D4

● recommended
◔ optional
▪ optional only in D1

**39L Large Ø 4.50**

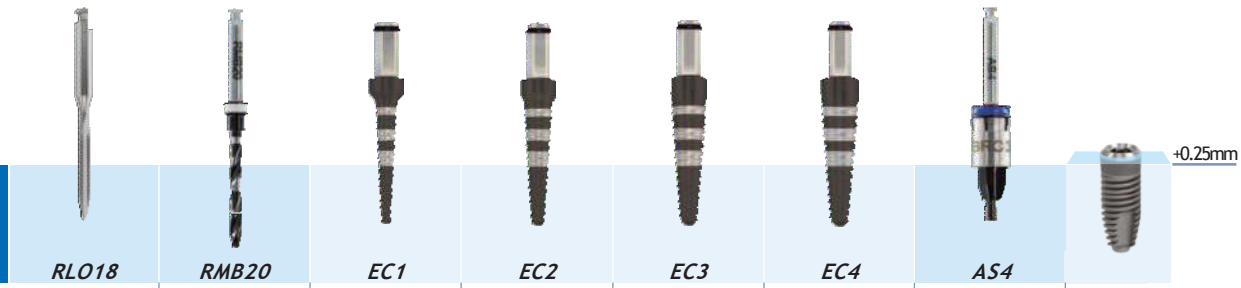

| | RLO18 | RMB20 | RMB24 | RMB27 | RMB30 | RMB33 | RMB36 | RMB42 | AS4 | MA4 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 2.4 | 2.7 | 3.0 | 3.3 | 3.6 | 4.2 | 4.5 | 4.5 | 4.50 |
| rpm max | 850 | | | 750 | | 650 | | | 350 | 15 | |
| Bone: D1 very hard bone | ● | ● | ◔ | ● | ● | ● | ● | ◔ | ● | ● | D1 |
| Bone: D2 hard bone | ● | ● | ◔ | ● | ● | ● | ● | | ● | ◗ | D2 |
| Bone: D3 soft bone | ● | ● | ◔ | ● | ◔ | ● | ◔ | | ● | ◗ | D3 |
| Bone: D4 very soft bone | ● | ● | ◔ | ● | ◔ | ● | ◔ | | ◔ | | D4 |

## Simplified surgical protocol for bone density D2 D3 D4

**39L Large Ø 4**


| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 3.75 | 4.5 | 3.6 | 4.5 | 4.5 | 4.50 |
| rpm max | 850 | | 650 | 550 | 650 | 350 | 15 | |
| Bone: D2 hard bone | ● | ● | ● | ● | ● | ● | ● | D2 |
| Bone: D3 soft bone | ● | ● | ◔ | ● | ● | ◔ | ◗ | D3 |
| Bone: D4 very soft bone | ● | ● | ◔ | ● | ● | ◔ | | D4 |

**39L Large Ø 4.50**



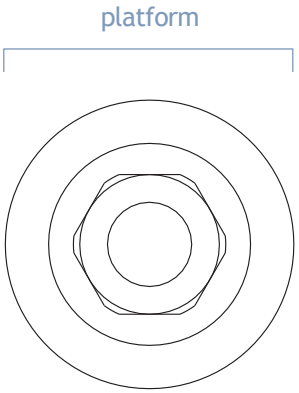

| | RLO18 | RMB20 | EC1 | EC2 | EC3 | EC4 | AS4 | |
|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 3.2 | 4.0 | 4.8 | 5.0 | 4.5 | 4.50 |
| rpm max | 850 | | 15 | | | | 350 | 15 |
| 39L08 39L10 | ● | ● | ● | ● | ● | ● | ◗ | 8.0 10.0 |
| 39L11 39L13 39L15 | ● | ● | ● | ● | ● | | ◗ | 11.5 13.0 15.0 |

This surgical protocol simply indicates the methods and intended use of the various surgical accessories and instruments suited for the case, since the professional operator is responsible for correct interpretation of the instrument application to the individual clinical case.

# EXTRA LARGE - 39XL

## Morphology

- Cylindrical/conical self-tapping double helix thread
- Connection: internal hex and outer bevel
- Cortical microgrooves
- 45° Conical coupling
- Smooth neck Ø 5.00 mm height 1.00 mm
- Apex/Body Ø 2.50/4.80 mm
- Lengths: 8 - 10 - 11.5 and 13 mm
- Material: titanium grade 5 ELI
- Surface Osteogrip (SLA)
- Plug screw Ø 3.50 mm




VT3

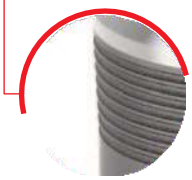
## Related products

**Prosthetic**

All components (single connection)

**Instrumentation** (common for all lengths)

- Burs: RMB20 - RMB24 - RMB27 - RMB30 - RMB33 RMB36 - RMB42
- Countersink: AS5
- Taps: MA5



The Easy Grip® implant is frusto-conical at microgroove level.
The countersink should always be used for obtaining the correct profile for seating the implant.


CE 0425

## Milling speed

- Hard bone (D1-D2): 500-800 RPM
- Soft bone (D3-D4): 200-300 RPM

XL DN 5.00
**ANATOMICO**
39 XL10 *HEX CONNECTION*

| Code | Platform Ø | h. Neck | Apex/Body Ø | Length |
|---|---|---|---|---|
| 39XL08 | 5.00 | 1.00 | 2.50/4.80 | 8* |
| 39XL10 | 5.00 | 1.00 | 2.50/4.80 | 10 |
| 39XL11 | 5.00 | 1.00 | 2.50/4.80 | 11.5 |
| 39XL13 | 5.00 | 1.00 | 2.50/4.80 | 13 |

*All measurements are in mm.*
**Height 8 is without rounded apex*

## Standard surgical protocol for bone density D1 D2 D3 D4

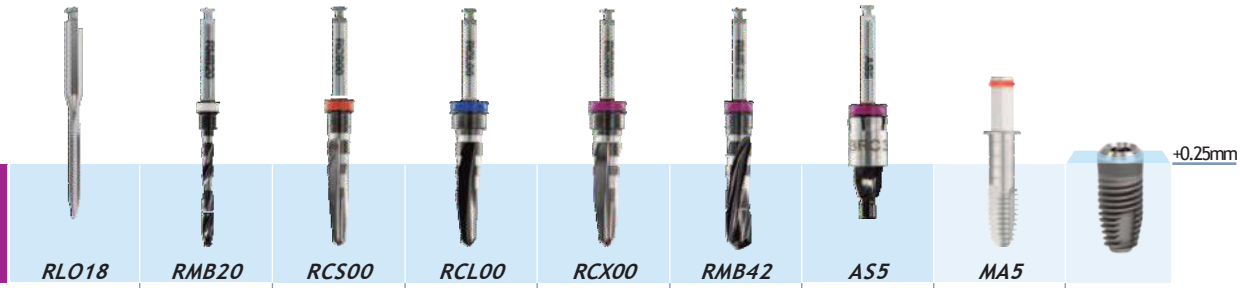
● recommended
▪ optional

**39XL**
**Extra Large**
**Ø 5.00**


| | RLO18 | RMB20 | RMB24 | RMB27 | RMB30 | RMB33 | RMB36 | RMB42 | AS5 | MA5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 2.4 | 2.7 | 3.0 | 3.3 | 3.6 | 4.2 | 5.0 | 5.0 | 5.00 |
| rpm max | 850 | | | 750 | | 650 | | | 350 | 15 | |
| Bone quality – D1 very hard bone | ● | ● | ▪ | ● | ● | ● | ● | ● | ● | ● | D1 |
| D2 hard bone | ● | ● | ▪ | ● | ▪ | ● | ▪ | ● | ● | ▪ | D2 |
| D3 soft bone | ● | ● | ▪ | ● | ▪ | ● | ▪ | ● | ▪ | ▪ | D3 |
| D4 very soft bone | ● | ● | ▪ | ● | ▪ | ● | ● | ▪ | ▪ | | D4 |

## Simplified surgical protocol for bone density D2 D3 D4

**39XL**
**Extra Large**
**Ø 5.00**




| | RLO18 | RMB20 | RCS00 | RCL00 | RCX00 | RMB42 | AS5 | MA5 | |
|---|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 3.75 | 4.5 | 5.5 | 4.2 | 5.0 | 5.0 | 5.00 |
| rpm max | 850 | | 650 | 550 | 650 | | 350 | 15 | |
| Bone – D2 hard bone | ● | ● | ● | ● | ● | ● | ● | ● | D2 |
| D3 soft bone | ● | ● | ● | ▪ | ● | ● | ▪ | ▪ | D3 |
| D4 very soft bone | ● | ● | ● | ▪ | ● | ● | ▪ | | D4 |

This surgical protocol simply indicates the methods and intended use of the various surgical accessories and instruments suited for the case, since the professional operator is responsible for correct interpretation of the instrument application to the individual clinical case.

# SHORT - 59L - 59XL - 59XX

## Morphology

- Straight self-tapping double helix thread
- Connection: hexagon and internal bevel
- 45° Conical coupling
- Smooth neck Ø 4.00 - 4.50 mm, height 2.00 mm
- Body Ø 4.30 - 4.80 - 5.80 mm
- Length: 5 mm
- Material: titanium grade 5 ELI
- Surface Osteogrip (SLA)
- Plug screw Ø 3.50 mm


## Related products

**Prosthetic**

All components (single connection)

**Instrumentation** (common for all diameters)

- Burs: RMB20 - RMB24 - RMB27 - RMB30 - RMB33

**Instrumentation** (specific)

| • Final burs | Implants |
|---|---|
| RMX36 | 59L05 |
| RMB36 - RMX42 | 59XL05 |
| RMB36 - RMB42 - RMX52 | 59XX05 |

## Milling speed

- Hard bone (D1-D2): 500-800 RPM
- Soft bone (D3-D4): 200-300 RPM

**L** DN 4.50 **SHORT** *HEX CONNECTION*
**59L05**

**XL** DN 5.00 **SHORT** *HEX CONNECTION*
**59XL05**

**XX** DN 6.00 **SHORT** *HEX CONNECTION*
**59XX05**

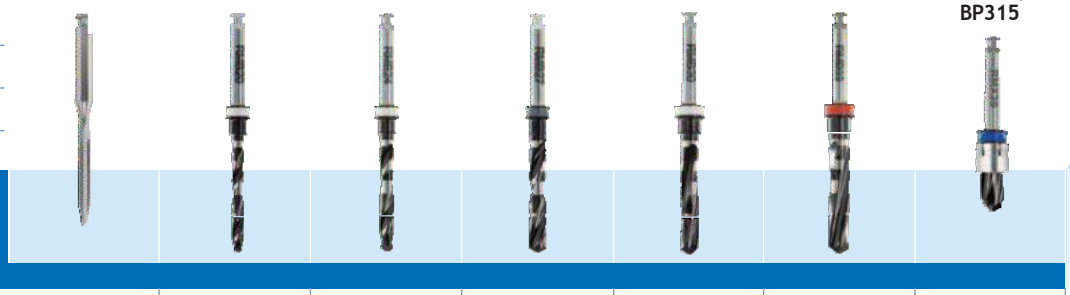
| Code | Platform Ø | h. Neck | Body Ø | Length |
|---|---|---|---|---|
| 59L05 | 4.00 | 2.00 | 4.30 | 5 |
| 59XL05 | 4.00 | 2.00 | 4.80 | 5 |
| 59XX05 | 4.50 | 2.00 | 5.80 | 5 |

*All measurements are in mm.*

## Standard H5 surgical protocol for all bone densities

● recommended
- optional

with stop BP315



**59L Large Ø 4.50**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 2.4 | 2.7 | 3.0 | 3.3 | 3.6 | 4.50 |
| rpm max | 850 | | | 750 | | 650 | | 15 |
| Bone quality | ● | ● | - | ● | - | ● | ● | All |

+2.25mm

with stop BP415

**59XL Extra Large Ø 5.00**

| | RLO18 | RMB20 | RMB24 | RMB27 | RMB30 | RMB33 | RMB36 | RMX42 | |
|---|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 2.4 | 2.7 | 3.0 | 3.3 | 3.6 | 4.2 | 5.00 |
| rpm max | 850 | | | 750 | | 650 | | | 15 |
| Bone quality | ● | ● | ◖ | ● | ◖ | ● | ◖ | ● | All |

+2.25mm

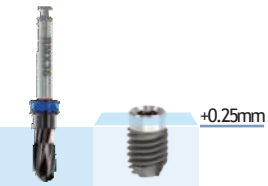
with stop BP415

**59XX Extra Extra Large Ø 6.00**

| | RLO18 | RMB20 | RMB24 | RMB27 | RMB30 | RMB33 | RMB36 | RMB42 | RMX52 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Ø max | 1.8 | 2.0 | 2.4 | 2.7 | 3.0 | 3.3 | 3.6 | 4.2 | 5.2 | 6.00 |
| rpm max | 850 | | | 750 | | 650 | | | | 15 |
| Bone quality | ● | ● | - | ● | - | ● | - | ● | ● | All |

+2.25mm

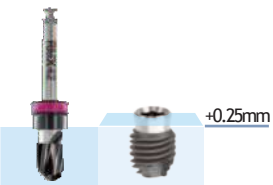
## Optional H7 surgical protocol (submerged collar)



**59L Large Ø 4.50**

| | RMX36 | |
|---|---|---|
| Ø max | 3.6 | 4.50 |
| rpm max | 650 | 15 |
| Bone quality | ● | All |

+0.25mm



**59XL Extra Large Ø 5.00**

| | RMX42 | |
|---|---|---|
| Ø max | 4.2 | 5.00 |
| rpm max | 650 | 15 |
| Bone quality | ● | All |

+0.25mm

**59XX Extra Extra Large Ø 6.00**

| | RMX52 | |
|---|---|---|
| Ø max | 5.2 | 6.00 |
| rpm max | 650 | 15 |
| Bone quality | ● | All |

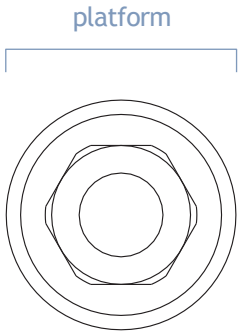
+0.25mm

This surgical protocol simply indicates the methods and intended use of the various surgical accessories and instruments suited for the case, since the professional operator is responsible for correct interpretation of the instrument application to the individual clinical case.

# SHORT NECK - 69SN

## Morphology

- Self-tapping conical thread
- Connection: hexagon and internal bevel
- 45° Conical coupling
- Smooth anodised neck Ø 4.00 mm height 0.80 mm
- Lengths: 8 - 10 - 11.5 - 13 and 15 mm
- Apex/Body Ø 1.50/4.00 mm
- Material: titanium grade 5 ELI
- Surface Osteogrip (SLA)
- Plug screw Ø 3.50 mm




VT3

## Related products

**Prosthetic**

All components (single connection)

**Instrumentation** (common for all lengths)

- Pilot burs: RMB20 - RMB27 - RMB30
- Conical burs: RCS70
- Finishing bur: ASS
- Tap: MA63

69SN implants require the use of the ASS countersink.
The depth of the work is indicated by a laser mark.


CE 0425

## Milling speed

- Hard bone (D1-D2): 500-800 RPM
- Soft bone (D3-D4): 200-300 RPM

SN
DN 3.75
**CONICO BL**
69SN10 *HEX CONNECTION*

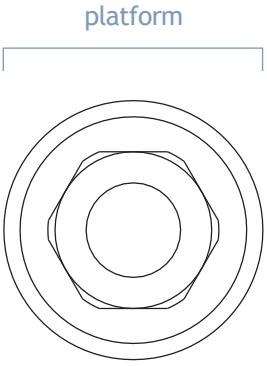
| Code | Platform Ø | h. Neck | Apex/Body Ø | Length |
|---|---|---|---|---|
| 69SN08 | 4.00 | 0.80 | 1.50/4.00 | 8 |
| 69SN10 | 4.00 | 0.80 | 1.50/4.00 | 10 |
| 69SN11 | 4.00 | 0.80 | 1.50/4.00 | 11.5 |
| 69SN13 | 4.00 | 0.80 | 1.50/4.00 | 13 |
| 69SN15 | 4.00 | 0.80 | 1.50/4.00 | 15 |

*All measurements are in mm.*

# LARGE - 69L

## Morphology

- Self-tapping conical thread
- Connection: hexagon and internal bevel
- 45° Conical coupling
- Smooth anodised neck Ø 4.50 mm height 0.75 mm
- Lengths: 8 - 10 - 11.5 - 13 and 15 mm
- Apex/Body Ø 2.00/4.50 mm
- Material: titanium grade 5 ELI
- Surface Osteogrip (SLA)
- Plug screw Ø 3.50 mm




VT3


## Related products

**Prosthetic**

All components (single connection)

**Instrumentation** (common for all lengths)

- Pilot burs: RMB20 - RMB27 - RMB36
- Conical burs: RCS70 - RCL70
- Finishing bur: ASL
- Tap: MA64

69L implants require the use of the ASL countersink.
The depth of the work is indicated by a laser mark.

## Milling speed

- Hard bone (D1-D2): 500-800 RPM
- Soft bone (D3-D4): 200-300 RPM

CE 0425

| Code | Platform Ø | h. Neck | Apex/Body Ø | Length |
|---|---|---|---|---|
| 69L08 | 4.50 | 0.75 | 2.00/4.50 | 8 |
| 69L10 | 4.50 | 0.75 | 2.00/4.50 | 10 |
| 69L11 | 4.50 | 0.75 | 2.00/4.50 | 11.5 |
| 69L13 | 4.50 | 0.75 | 2.00/4.50 | 13 |
| 69L15 | 4.50 | 0.75 | 2.00/4.50 | 15 |

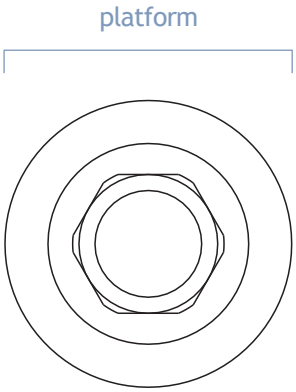
*All measurements are in mm.*

L
DN 4.50
**CONICO BL**
69L10
*HEX CONNECTION*

# EXTRA LARGE - 69XL

## Morphology

- Self-tapping conical thread
- Connection: internal hex and outer bevel
- 45° Conical coupling
- Smooth anodised neck Ø 5.00 mm height 1.00 mm
- Lengths: 8 - 10 - 11.5 and 13 mm
- Apex/Body Ø 2.00/5.00 mm
- Material: titanium grade 5 ELI
- Surface Osteogrip (SLA)
- Plug screw Ø 3.50 mm




VT3

## Related products

**Prosthetic**

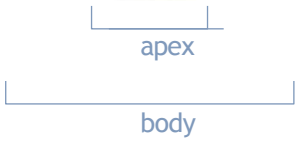
All components (single connection)

**Instrumentation** (common for all lengths)

- Pilot burs: RMB20 - RMB27 - RMB42
- Conical burs: RCS70 - RCL70 - RCX70
- Finishing bur: ASX
- Tap: MA65

69XL implants require the use of the ASX countersink.
The depth of the work is indicated by a laser mark.


CE 0425




## Milling speed

- Hard bone (D1-D2): 500-800 RPM
- Soft bone (D3-D4): 200-300 RPM

XL DN 5.00
69 XL10 **CONICO BL** *HEX CONNECTION*

| Code | Platform Ø | h. Neck | Apex/Body Ø | Length |
|---|---|---|---|---|
| 69XL08 | 5.00 | 1.00 | 2.00/5.00 | 8 |
| 69XL10 | 5.00 | 1.00 | 2.00/5.00 | 10 |
| 69XL11 | 5.00 | 1.00 | 2.00/5.00 | 11.5 |
| 69XL13 | 5.00 | 1.00 | 2.00/5.00 | 13 |

*All measurements are in mm.*

## Standard surgical protocol for bone density

**D1** **D1-D2** **D3-D4**

● recommended
- optional

### 69SN Short Neck Ø 3.75

| Bone | | RLO18 | RMB20 | RMB27 | RMB30 | RCS70 | ASS | MA63 | +0.25mm |
|---|---|---|---|---|---|---|---|---|---|
| | Ø max | 1.8 | 2.0 | 2.7 | 3.0 | 3.75 | 4.0 | 4.0 | 3.75 |
| | rpm max | | 850 | | 650 | | 350 | 15 | |
| Bone | D1 very hard bone | ● | ● | ● | ● | ● | ● | ● | D1 |
| Bone | D1 - D2 very hard and hard bone | ● | ● | - | - | ● | ● | - | D1 - D2 |
| Bone | D3 - D4 soft and very soft bone | ● | ● | | - | ● | - | | D3 - D4 |

### 69L Large Ø 4.50

| Bone | | RLO18 | RMB20 | RMB27 | RCS70 | RMB36 | RCL70 | ASL | MA64 | +0.25mm |
|---|---|---|---|---|---|---|---|---|---|---|
| | Ø max | 1.8 | 2.0 | 2.7 | 3.75 | 3.6 | 4.5 | 4.5 | 4.5 | 4.50 |
| | rpm max | | 850 | | 650 | | 550 | 350 | 15 | |
| Bone | D1 very hard bone | ● | ● | ● | RMB33(*) | ● | ● | ● | ● | D1 |
| Bone | D1 - D2 very hard and hard bone | ● | ● | - | ● | - | ● | ● | - | D1 - D2 |
| Bone | D3 - D4 soft and very soft bone | ● | ● | | ● | - | ● | - | | D3 - D4 |

### 69XL Extra Large Ø 5.00

| Bone | | RLO18 | RMB20 | RMB27 | RCS70 | RCL70 | RMB42 | RCX70 | ASX | MA65 | +0.25mm |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ø max | 1.8 | 2.0 | 2.7 | 3.75 | 4.5 | 4.2 | 5.0 | 5.0 | 5.0 | 5.00 |
| | rpm max | | 850 | | 650 | | | 550 | 350 | 15 | |
| Bone | D1 very hard bone | ● | ● | ● | RMB33(*) | RMB36(*) | ● | ● | ● | ● | D1 |
| Bone | D1 - D2 very hard and hard bone | ● | ● | - | ● | ● | ) | ● | ● | - | D1 - D2 |
| Bone | D3 - D4 soft and very soft bone | ● | ● | | ● | ▪ | ) | ● | - | | D3 - D4 |

*(*) With Type D1 bone with well represented cortical, replace conical bur passes with the indicated cylindrical burs.*
*Manage the depth of the Finishing bur based on the thickness of the cortical, even past the depth mark.*

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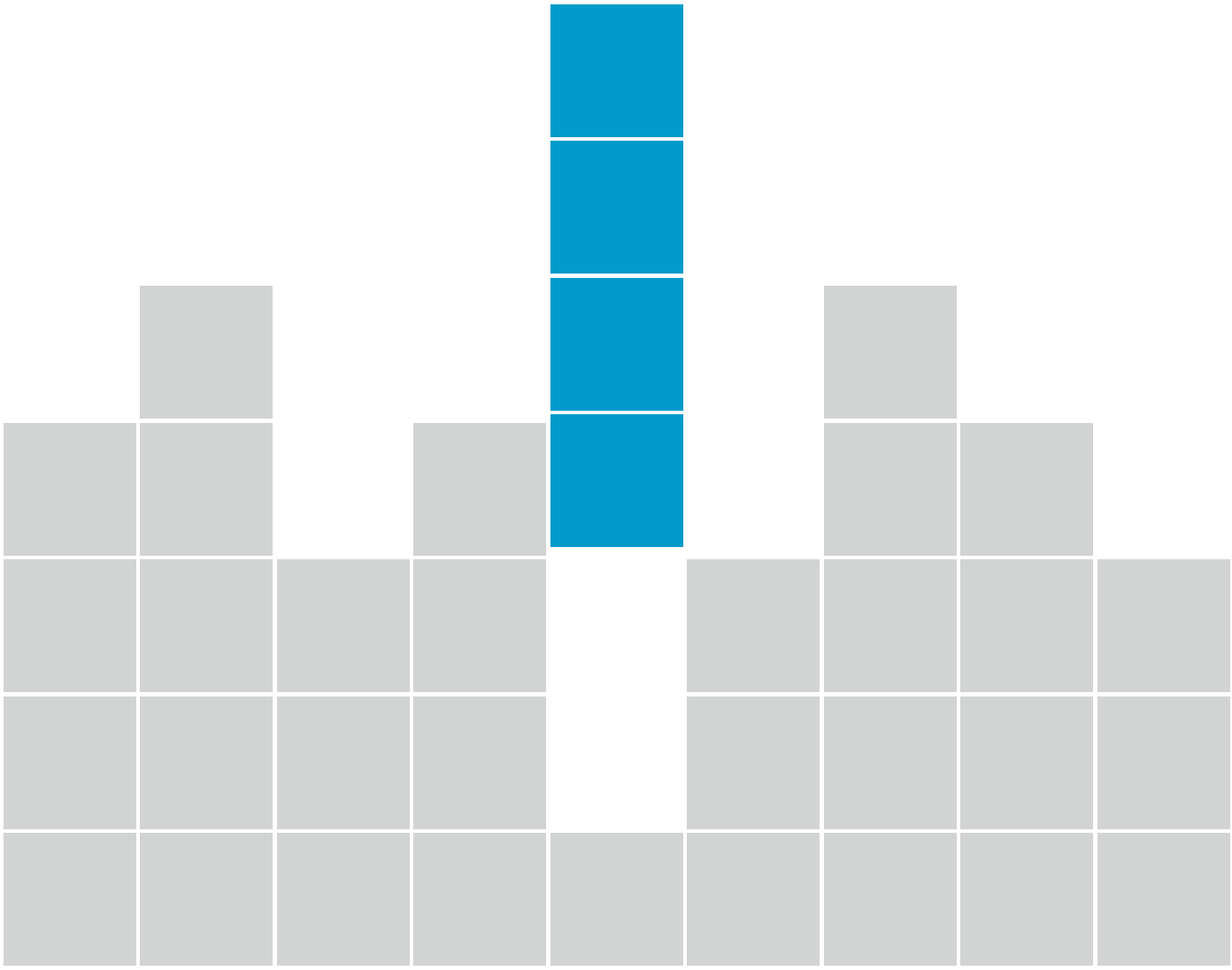
# SURGICAL ACCESSORIES



## Pilot Burs

series BP2

RMB20 RMB24 RMB27

## Initial Burs

RA018 RLO18

## Accessory burs

RLO35

## Cylindrical burs

series BP3

RMB30 RMB33 RMB36 RMX36

series BP4

RMB42 RMX42 RMX52

## Conical burs

RCS00 RCS70

RCL00 RCX00 RCL70 RCX70

## Depth Stops

BP205 BP208 BP210 BP211 BP213 BP215

BP308 BP310 BP311 BP313 BP315

BP408 BP410 BP411 BP413 BP415

## Countersinks

AS2 AS3 AS4 AS5 BRC3

ASS ASL ASX

## Cylindrical Taps

MAS2 MAS3 MAS4 MAS5

## Anatomical Taps

MA3 MA4 MA5

## Conical Taps

MS00 ML00 MX00 MA63 MA64 MA65

## Bone expanders


## Instruments and Accessories


## Hexes


## Keys


*The pictures are purely for illustrative purposes*

## CYLINDRICAL SURGICAL BURS

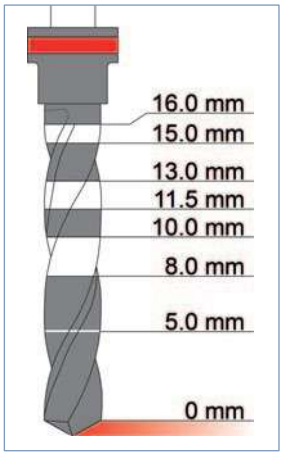
Spiral, with external irrigation, used in progression to create the implant site.

The RA018 round initial bur or the RLO18 cutter create the site on the bone ridge for subsequent burs.

Cylindrical burs are in medical grade steel and have depth markings and stops at fixed heights.

The burs are treated in DLC (Diamond Like Carbon), this black facing increases the hardness of the bur and improves its resistance to abrasion and chemical aggression.

**Attention:** while cutting near vital anatomical structures, one must take into account the greater length, variable according to the bur (see picture below and diagram on page 130).





| Code | Colour ID | Diameter (mm) | Depth markings (mm) | Description |
|---|---|---|---|---|
| RA018 | | 1.80 | | Round initial bur |
| RLO18 | | 1.80 | | Hard metal cutter |
| RMB20 | | 2.00 | 8-10-11.5-13-15 | Initial bur |
| RMB24 | | 2.40 | 8-10-11.5-13-15 | Initial bur |
| RMB27 | | 2.70 | 8-10-11.5-13-15 | Intermediate bur |
| RMB30 | | 3.00 | 8-10-11.5-13-15 | Intermediate bur |
| | | | | |
| RMB36 | | 3.60 | 8-10-11.5-13-15 | Final bur for L |
| | | | | |
| RMX36 | | 3.60 | 5-7 | Final bur for 59L |
| | | | | |
| RMX52 | | 5.20 | 5-7 | Final bur for 59XX |
| PRF | | | | Bur extension |
| Series BP2 | | | 5-8-10-11.5-13-15 | Stops for RMB2 burs |
| Series BP3 | | | 8-10-11.5-13-15 | Stops for RMB3 burs |
| Series BP4 | | | 8-10-11.5-13-15 | Stops for RMB4 burs |
| Kit BP | | | Autoclavable box with complete set of stops | |

## CONICAL SURGICAL BURS

Conical burs, in medical grade steel, externally irrigated, fixed length, to obtain the individual implant profile at the surgical site, fitted with stroke end stops.
The burs are treated in DLC (Diamond Like Carbon), this black facing increases the hardness of the bur and improves its resistance to abrasion and chemical aggression.

Conical burs with straight edge (code RCS00, RCL00, RCX00) and relative new helical conical burs (codes RCS70, RCL70, RCX70) are available, particularly suited for series 60 implants, especially with type D1 bone.

The most suitable type of bur (straight edge or helical) can be assessed and chosen by the clinician based on the following characteristics:
- straight edge burs maintain cutting centring more easily.
- helical burs cut more aggressively.

RCS00

RCS70

RCL00

RCL70

RCX00

RCX70

*Bone crest bur*

***RLO35:*** the bur specifically designed for evening the bone crest in one single pass.

RLO35

| Code | Colour ID | Diameter (mm) | Length (mm) | Description |
|---|---|---|---|---|
| | | | | |
| RCL00 | | 2.70/4.70 | 8-10-11.5-13-15 | Final conical bur for 29L |
| | | | | |
| RCS70 | | 1.50/4.00 | 8-10-11.5-13-15 | Final conical bur for 69SN |
| | | | | |
| RCX70 | | 2.00/5.00 | 8-10-11.5-13-15 | Final conical bur for 69XL |
| RLO35 | | 3.50 | | Bur for evening the bone crest |

## COUNTERSINKS

The countersinks (series AS) create the correct housing for the conical neck of implants.
They are always equipped with the dedicated depth stop (BRC3).

Specifically:
- Series ASS - ASL - ASX can be used for all types of implants.
- Series AS2 - AS3 - AS4 - AS5 can be used for all types of implants, except for series 60 conical implant.

Countersinks are Diamond Like Carbon treated.
This black facing increases the hardness of the tool and improves its resistance to abrasion and chemical aggression.

ASS

ASL

ASX


AS2


AS3


AS4


AS5

| Code | Colour ID | Diameter (mm) | Description |
|---|---|---|---|
| | | | |
| AS3 | | 4.00 | Countersink for SN |
| | | | |
| AS5 | | 5.00 | Countersink for XL |
| | | | |
| ASL | | 4.50 | Countersink for 69L |
| ASX | | 5.00 | Countersink for 69XL |
| BRC3 | | | Stop bush for countersinks |

## TAPS

In medical grade steel, used either manually (with the digital key, the ratchet or the screwdriver handle for hexagonal inserts) or with contra-angle handpiece via the AMF0 adapter, they are especially used with compact bone to avoid forcing the implant in, causing compressive bone stress and thus jeopardising healing.

They are fitted with an O-ring to assure retention (replace the O-rings after 15-20 sterilisation cycles).

Conical taps MS00, ML00, MX00 are specific to series 20 implants while taps MA63, MA64, MA65 are specific to series 60 implants.


MS00


ML00


MX00


MA63


MA64


MA65


MAS2


MAS3


MAS4


MAS5


MA3


MA4


MA5

| Code | Diameter (mm) | Length (mm) | Description |
|---|---|---|---|
| MS00 | 2.00/4.00 | 8-10-11.5-13-15 | Tap for 29SN |
| ML00 | 2.70/4.70 | 8-10-11.5-13-15 | Tap for 29L |
| MX00 | 2.70/5.40 | 8-10-11.5-13-15 | Tap for 29XL |
| MA63 | 1.50/4.00 | 8-10-11.5-13-15 | Tap for 69SN |
| MA64 | 2.00/4.50 | 8-10-11.5-13-15 | Tap for 69L |
| MA65 | 2.00/5.00 | 8-10-11.5-13-15 | Tap for 69XL |
| MAS2 | 3.30 | 8-10-11.5-13-15 | Tap for 19M |
| MAS3 | 3.75 | 8-10-11.5-13-15 | Tap for 19SN |
| MAS4 | 4.30 | 8-10-11.5-13-15 | Tap for 19L |
| MAS5 | 4.80 | 8-10-11.5-13-15 | Tap for 19XL |
| MA3 | 3.75 | 8-10-11.5-13-15 | Tap for 39SN |
| MA4 | 4.30 | 8-10-11.5-13-15 | Tap for 39L |
| MA5 | 4.80 | 8-10-11.5-13 | Tap for 39XL |

## BONE EXPANDERS

In medical grade steel, used either manually (with the digital key, the ratchet or the screwdriver handle) or with contra-angle handpiece through the AMF0 adapter.

The bone expanders are treated in DLC (Diamond Like Carbon), this black facing increases the hardness of the tool and improves its resistance to abrasion and chemical aggression.

They are used to prepare the implant site in place of burs in case of poor density bone (D3-D4) or for site expansion in thin ridges.

They are fitted with an O-ring to assure retention (replace the O-rings after 15-20 sterilisation cycles).

The RLO18 pilot cutter creates the site for using expanders.



| Code | Diameter (mm) | Depth markings (mm) | Description |
|---|---|---|---|
| EC1 | 1.60/3.20 | 8-10-11.5-13-15 | Conical expander |
| EC2 | 2.00/4.00 | 8-10-11.5-13-15 | Conical expander |
| EC3 | 2.40/4.80 | 8-10-11.5-13-15 | Conical expander |
| EC4 | 2.70/5.00 | 8-10-11.5-13-15 | Conical expander |
| ECM | 2.70 | 8-10-11.5-13-15 | Final cylindrical expander for series M |
| ECSN | 3.15 | 8-10-11.5-13-15 | Final cylindrical expander for series SN |
| ECL | 3.90 | 8-10-11.5-13-15 | Final cylindrical expander for series L |
| KITEC | | | Package with 7 expanders and cutter |

| Type | Code | Mark diameter H 8 | Mark diameter H10 | Mark diameter H11,5 | Mark diameter H13 | Mark diameter H15 |
|---|---|---|---|---|---|---|
| Conical | EC1 | 2.30 | 2.50 | 2.65 | 2.80 | 3.00 |
| | EC2 | 2.90 | 3.15 | 3.35 | 3.50 | 3.80 |
| | EC3 | 3.45 | 3.75 | 3.95 | 4.20 | 4.50 |
| | EC4 | 4.00 | 4.40 | 4.70 | 4.95 | 5.00 |
| Cylindrical | ECM | | | 2.70 | | |
| | ECSN | | | 3.15 | | |
| | ECL | | | 3.90 | | |

## KEYS AND INSERTS

Wide range of surgical and prosthetic accessories common to all products in the Easy Grip® line.

Due to their small sizes, several accessories are fitted with a thread hole to prevent the risk they might be ingested by the patient.

The hexagonal keys of drivers for implant (inserts, mechanical aids, hexes) are available in two different versions:
- with silicone retentive insert (o-ring);
- with peek retentive insert.

AM22 AM25 AM40 AM42 AMK0 AMK2

IC1 IC2 IC3 IC4 ICK1 ICK2

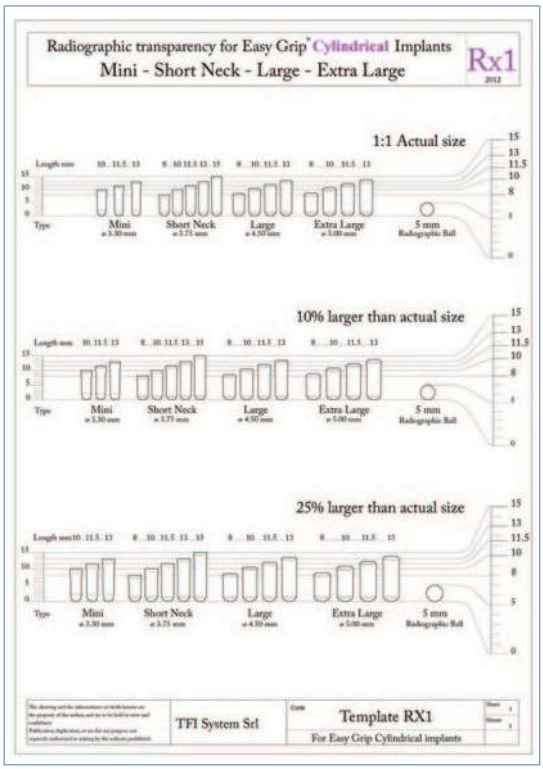
AMF0 B1R B2R B3R BKR MPS CDM

| Code | Material | Description |
|---|---|---|
| AM22 | steel | Short 1.25 mm contra-angle key insert for screw tightening |
| AM25 | steel | 1.25 mm contra-angle key insert for screw tightening |
| AM40 | steel | 2.40 mm contra-angle key insert for screw tightening |
| AM42 | steel | Short 2.40 mm contra-angle key insert for implants |
| AMK0 | steel | Mechanical aid for 2.42 key with peek insert |
| AMK2 | steel | Mechanical aid for short 2.42 key with peek insert |
| AMF0 | steel | 3.00 contra-angle hex key for expanders and inserts |
| B1R | steel | 1.25 mm key manual hex for screws and abutments |
| B2R | steel | Short 1.25 mm key manual hex for screws and abutments |
| B3R | steel | 2.40 mm. key manual hex for implants |
| BKR | steel | 2.42 key manual hex with peek insert |
| CDM | titanium | Manual key for mini-inserts and taps |
| CL | steel | Long manual key for mini-inserts and taps |
| CU20 | steel | Fixed hex key connection ratchet |
| CUD80 | steel | Torque hex key connection ratchet |
| IC1 | steel | Mini-insert length 8 mm, 2.40 mm key for implants |
| IC2 | steel | Mini-insert length 15 mm, 2.40 mm key for implants |
| IC3 | steel | Mini-insert length 8 mm, 1.25 mm key for screws and abutments |
| IC4 | steel | Mini-insert length 15 mm, 1.25 mm key for screws and abutments |
| ICK1 | steel | Ratchet insert height 8 mm 2.42 key with peek insert |
| ICK2 | steel | Ratchet insert height 15 mm 2.42 key with peek insert |
| MPS | steel | Mounter for straight shoulder abutments |


CL CUD80 CU20

*The morphology of handles and hexes may change with respect to what is shown here.*

## INSTRUMENTS AND ACCESSORIES




Series RX

MASCH1

MC3

MC4

EM

EM2

MP

PAR

PUN

DIS

| Code | Material | Description |
|---|---|---|
| EM | titanium | Abutment extractor screw |
| EM2 | titanium | Abutment extractor key |
| MASCH1 | 1-72 UNF 2A | Laboratory tap |
| MC3 | titanium | Tissue punch Ø 3.50 mm for SN implants |
| MC4 | titanium | MTissue punch Ø 4.50 mm for L and XL implants |
| MP | titanium | Depth gauge |
| PAR | titanium | Paralleliser |
| PUN | titanium | Extension for mini-inserts and taps |
| DIS | titanium | Spacer |
| RX1 | | X-ray template for cylindrical implants series 10 |
| RX3 | | X-ray template for conical implants series 20 |
| RX4 | | X-ray template for anatomical implants series 30 |
| RX6 | | X-ray template for mini implants for overdentures MBO |
| RX7 | | X-ray template for short implants series 50 |
| RX8 | | X-ray template for Bone Level conical implants series 60 |
| OR | | Spare O-rings for inserts IC, PUN and MPS |
| ORING | | Spare O-rings for B3R, AM40 and AM42 |

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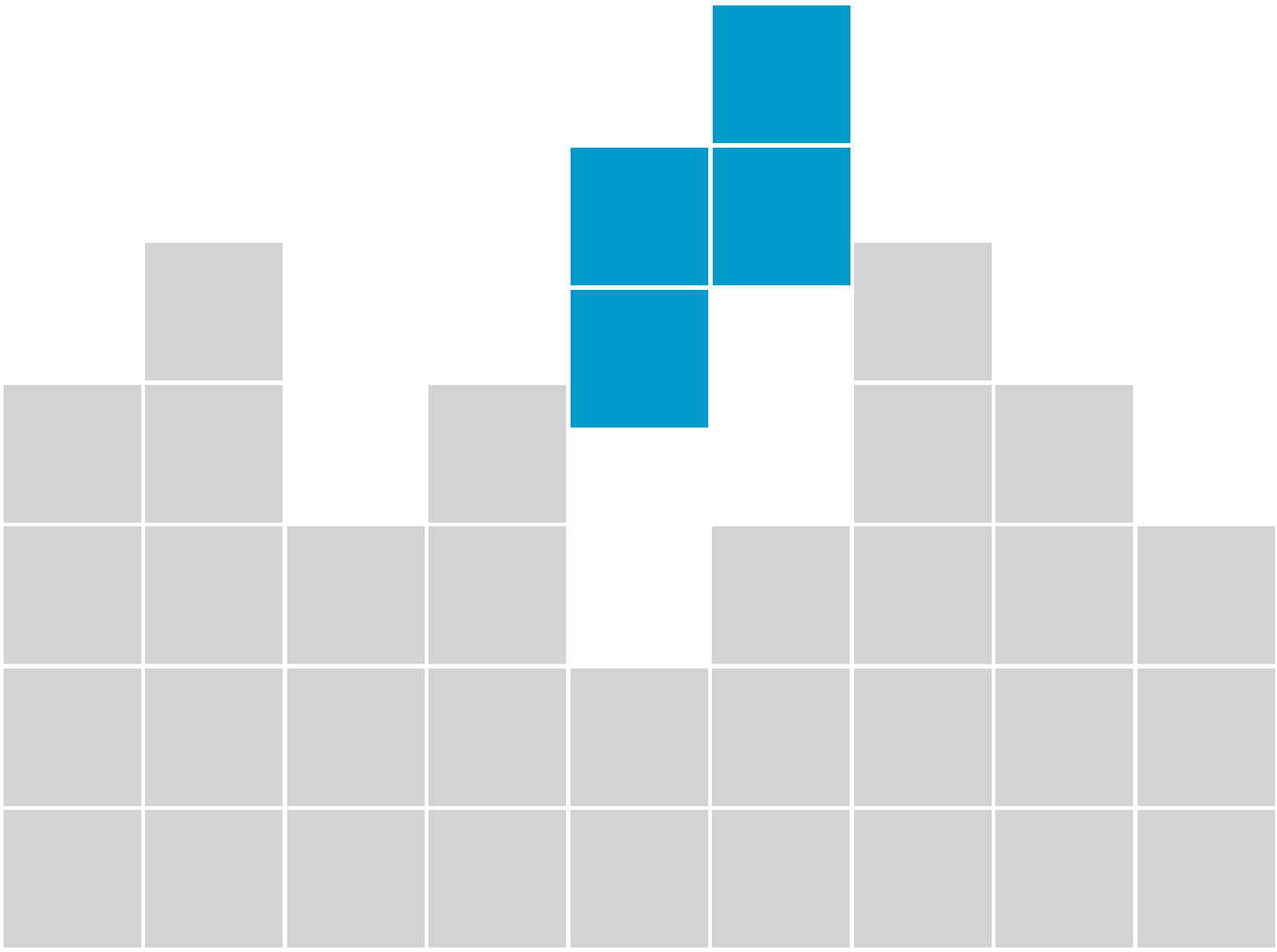
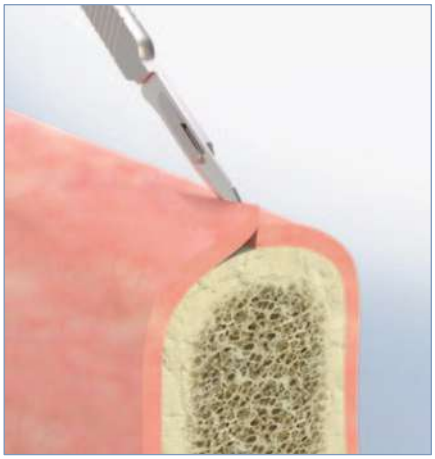
# SURGICAL PROTOCOL



*This surgical protocol simply indicates the methods and intended use of the various surgical accessories and instruments suited for the case, since the professional operator is responsible for correct interpretation of instrument application to the individual clinical case.*

## PREPARATION OF THE IMPLANT SITE

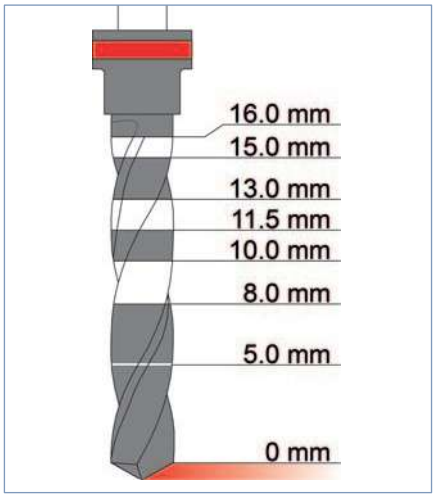


•Incision of the soft tissue and blunt dissection of the gingival flaps for access to the bone crest.

•Use in sequence of surgical burs starting from the RA018 round initial bur, to perforate the cortex and create the guide for subsequent use of the cylindrical burs. The RLO18 cutter may be used alternatively.

In the event of bone crests with cross thickness at the limit or in the presence of poor bone density (type D4) it is recommended to replace the surgical burs with bone expanders, as appropriate, to achieve the proper depth of preparation without removing bone.

In the event of especially thin ridge bone it is recommended to use the bur kit for bone crest regularisation (RLO35), removing the crest-most section of the bone and creating an adequate bone platform.




Bear in mind that cylindrical burs are slightly longer than implants, since it exceeds the tip length.

Therefore, while cutting near vital anatomical structures, one must take into account the greater length, variable according to the bur (see picture here and user instructions).

• **Final pass with externally irrigated cylindrical burs,** the exact sequence of burs is described in the pictures in individual implant sections.
Some bur steps may be omitted, at the dentist's discretion, depending on the bone density encountered.

•In the case of anatomical implants, because of their tapered morphology towards the apex, the final bur should be used by drilling approximately 2-3- mm. less than the length of the implant to be inserted (one or two depth notches less, depending on bone density).

•**Final pass with conical burs,** they give to the surgical site the conformation of the implant core and neck.

Should it be required to go deeper down with the conical bur, just remove the stroke end stop and proceed with due caution.
The exact sequence of burs is described in the pictures within the individual implant sections.

• Proper preparation of the socket with the **countersink** increases the bone retention phenomenon at cortical level.

•For high bone densities, after completing surgical site preparation with the burs, it is recommended to tap the hole with the suitable **tap**, to reduce compressive stress and make implant insertion easier.

**Warnings:**
It should be remembered that burs must have maximum cutting efficiency in order to avoid, while establishing the implant site, bone necrosis that would affect the subsequent osseointegration stage; for this reason, disposal is called for after creating 15-20 sites and in any case when bur cutting is impaired.

Do not carry out prying action in case of zirconium burs.
A further suggestion is to use saline solution cooled at 4° C for irrigation to achieve the maximum cooling capacity.
Bone cutting must then be carried out with an intermittent pumping action to allow for maximum cooling and remove bone detritus.

# PROCEDURE FOR IMPLANT PICKING AND INSERTION


•Check the type of implant, its length and sterilisation expiry date on the label.

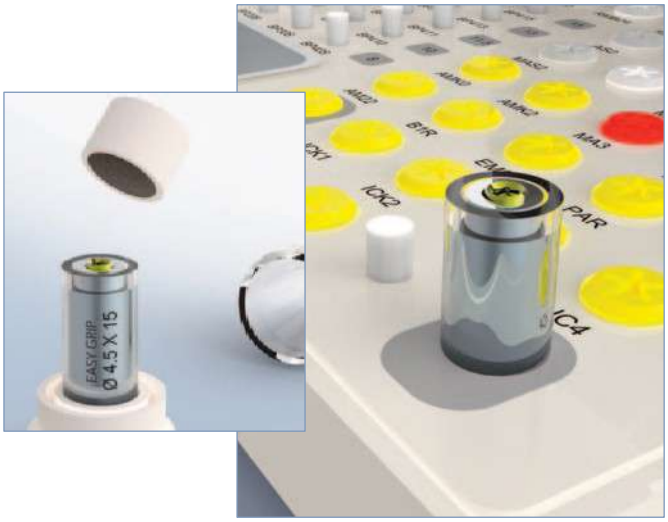
If the packaging is damaged, its contents may have lost sterility and therefore should not be used.
The package is equipped with a red anti-tampering seal which, if visible, demonstrates that it has been opened.

Open the package and take out the blister and adhesive labels bearing the implant identification batch and code, one of which can be placed in the doctor's medical file and the other on the patient's implant card.


• Opening the blister:
the non-sterile assistant removes the protective sheet by taking the tear corner between two fingers and pulling upwards.

This exposes the jar containing the tube with the implant, which must be set on a sterile cloth so that from then on it will solely be handled by the operator wearing sterile gloves.


• Opening the jar:
open the cap that the ampoule containing the implant is attached to, and pull it out.




• Opening the ampoule:
remove the cap of the ampoule and expose the head of the implant housed inside the titanium tube.

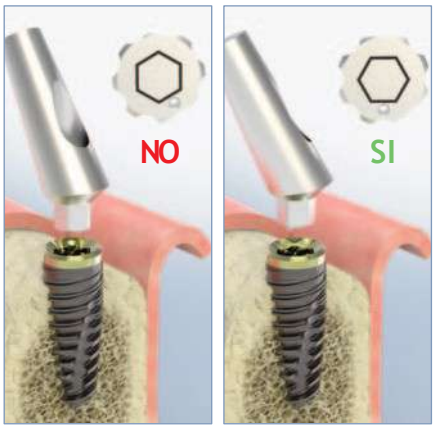
• Inserting the tube in the kit Tray.

•Take the implant with the most suitable driver for the case (mechanical aid or ratchet insert) and carry it to the implant site, screwing it all the way into position.


•The closing screw is housed at the bottom of the ampoule. To access it, remove the cap and unscrew it.

## DIRECT IMPLANT INSERTION

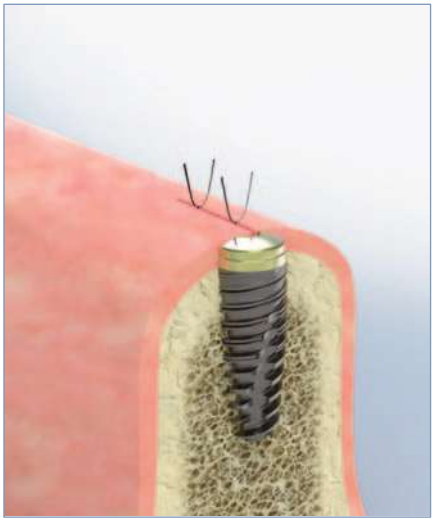
•In the event a pre-angled abutment of the Easy Grip® range is used, it must be considered that these abutments have an inclination angle in axis with the corner of the hex. Therefore, the hex of the implant must be rotated into the proper position while being tightened for appropriate implant/abutment alignment to be achieved.



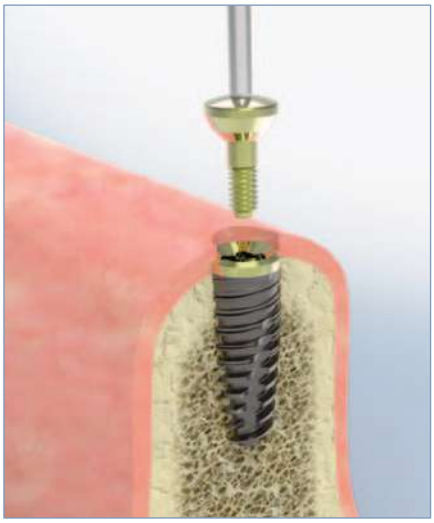

•In order to aid this operation, the head of the manual tightening hex key for the implants (B3R) bears the image of the corresponding position of the hex of the implants.

## SINGLE SURGICAL STAGE TECHNIQUE

•Close the implant by choosing a suitable healing screw (VGxx-x); the screw must be selected:
- according to the type of implant
- according to the thickness of the soft tissue.

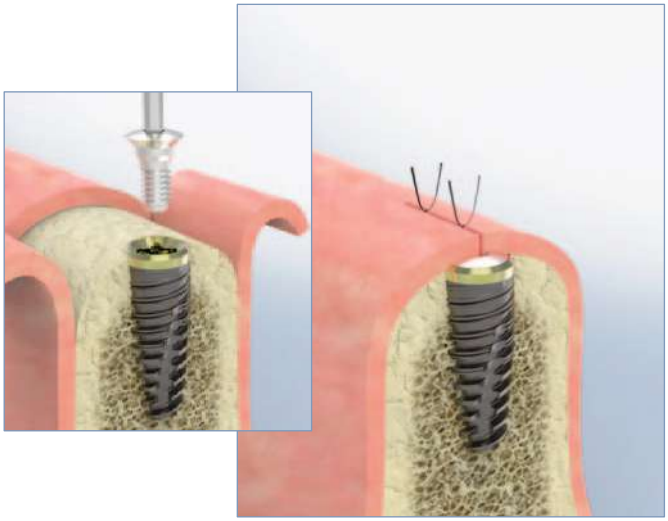


• Suture the gingival flaps around the screw.



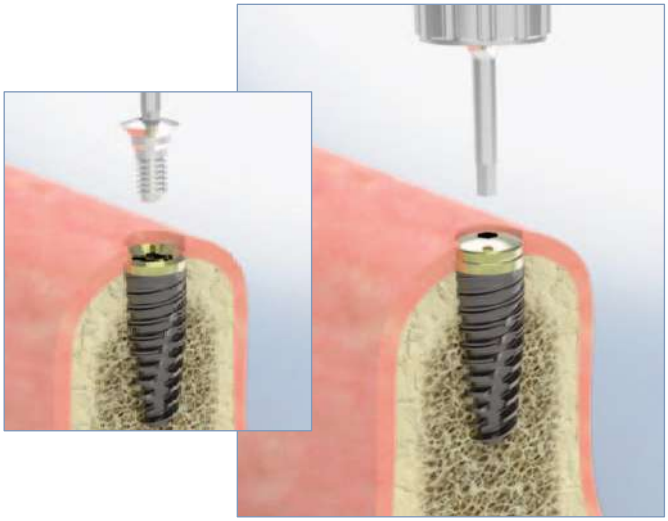
•At the end of the implant osseointegration stage, which may vary from 3 to 6 months depending on bone quality, type of procedure performed and the patient's clinical parameters, remove the healing screw from the implant and proceed with the prosthetic protocol.

## DUAL SURGICAL STAGE TECHNIQUE



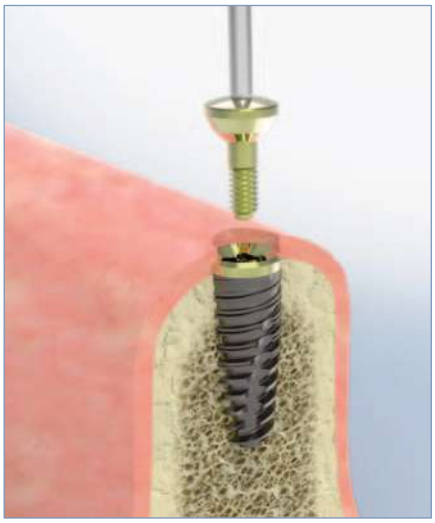
•Close the implant by means of the suitable plug screw picking it with the B1R or B2R hex from the base of the transport system.

• Suture the gingival flaps to totally cover the screw.



•At the end of the implant osseointegration stage, which may range between 3 and 6 months depending on bone quality, type of procedure performed and the patient's clinical parameters, remove the plug screw from the implant after incision of the overlying gingival tissue or by means of the circular tissue punch (MC).

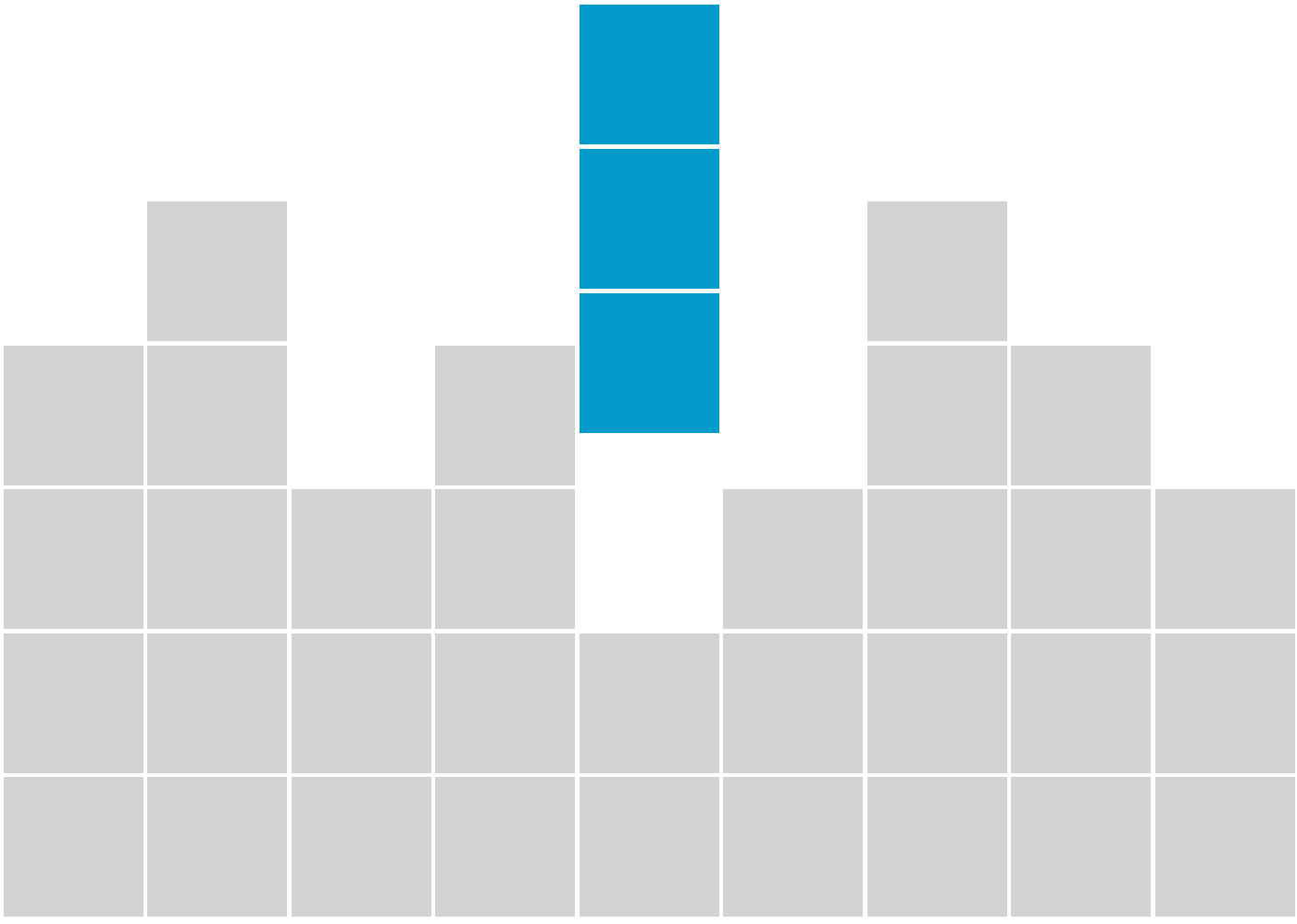
• Position the appropriate healing screw on the implant.



•Upon successful healing of the gingival tissues, remove the healing screw and proceed with the prosthetic stage.

ITALDENT

# MINI IMPLANTS FOR OVERDENTURES AND SURGICAL PROTOCOL



# MINI IMPLANTS FOR OVERDENTURES

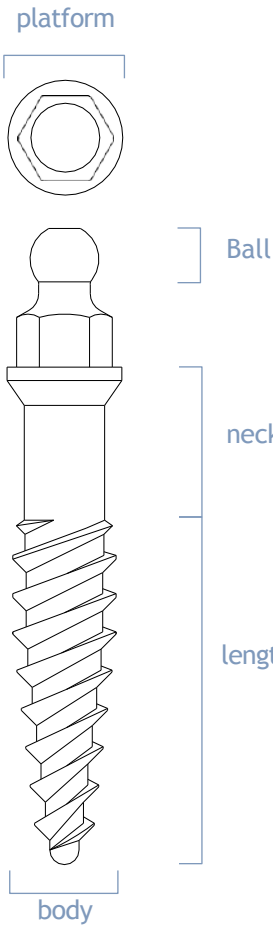
The Easy Grip® system of mini implants for overdentures is suitable for anchoring and primary stabilisation of total mobile prostheses, especially in cases of thin or atrophic ridges.

Surface treatment is performed with sandblasting process, acid etching and plasma decontamination (Plasma Glow Discharge) identical to that performed on all other implants of the Easy Grip® range.

In addition to the sterile implant, the package contains a retentive polyamide coping (CMB).


## Morphology

- Cylindrical self-tapping double helix thread pitch 2.0 mm.
- External hexagon 2.20 mm
- Ball connection Ø 1.80 mm.
- Transmucosal route 0-4 mm.
- Body Ø 2.70 mm, collar Ø 3.00 mm.
- Lengths: 7 - 9 - 11 and 13 mm.
- Material: titanium grade 5 ELI
- Surface: Osteogrip (SLA)




## Related products

**Prosthetic**

Products on page 67

**Instrumentation** (common for all lengths)

- Burs: RMB20

## Milling speed

- Hard bone: 500-800 RPM
- Soft bone: 200-300 RPM

CE 0425

| Code | Platform Ø | Ball Ø | h. Neck | Body Ø | Length |
|---|---|---|---|---|---|
| MBO407 | 3.00 | 1.80 | 4.00 | 2.70 | 7 |
| MBO409 | 3.00 | 1.80 | 4.00 | 2.70 | 9 |
| MBO411 | 3.00 | 1.80 | 4.00 | 2.70 | 11 |
| MBO413 | 3.00 | 1.80 | 4.00 | 2.70 | 13 |

*All measurements are in mm.*

**MB** DN 2.70
**MINI IMPIANTO**
**MBO409** *MINI IMPLANT*

## SURGICAL BURS

RMB20

RA018

RLO18

| Code | Diameter (mm) | Depth markings (mm) | Description |
|---|---|---|---|
| RA018 | 1.80 | | Round initial bur |
| RLO18 | 1.80 | | Hard metal cutter |
| RMB20 | 2.00 | 8-10-11.5-13-15 | Initial bur |

## ACCESSORIES AND COMPLEMENTS


CUD80

CMB

CMBO

CDM

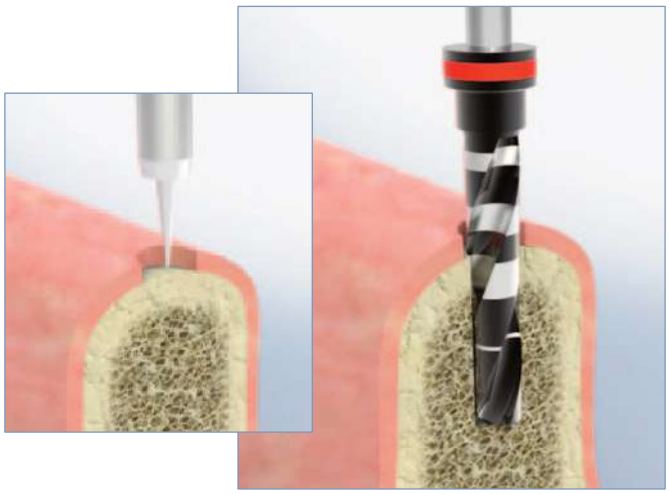
| Code | Material | Description |
|---|---|---|
| CMBO | titanium | Mounter for mini implants series MBO |
| CDM | titanium | Manual key for mini-inserts and taps |
| CUD80 | steel | Torque hex key connection ratchet |
| CMB | polyamide | Micro coping - standard (white) |
| CMR | polyamide | Micro coping - soft (pink) |
| CMG | pebax | Micro coping - extra soft (yellow) |
| CMV | pebax | Micro coping - very elastic (green) |
| CMO | pebax | Micro coping - slightly elastic (gold) |
| CMA | pebax | Micro coping - elastic - rubber (silver) |
| CMT | polyamide | Micro Titan Coping (white + TI) |
| CMN | polyamide | Micro laboratory coping (black) |
| CSA | pebax | Micro coping, undersized hole Ø 1.6 - very elastic (orange) |
| CSV | polyamide | Micro coping, undersized hole Ø 1.6 - strong (aqua green) |
| BTCM | titanium | Titanium box for micro coping |
| BACM | steel | Stainless box for micro coping |
| BCCM | polystyrene | Castable container for micro coping |
| PPCM | polystyrene | Micro positioner in plastic |
| LACM | steel | Micro analogue pin |
| T1CM | steel | Transfer for pull-off impression |
| ICT | steel | Micro Coping inserter/extractor |
| ECT | steel | Micro Coping extractor |

*This surgical protocol simply indicates the methods and intended use of the various surgical accessories and instruments suited for the case, since the professional operator is responsible for correct interpretation of instrument application to the individual clinical case.*

*During surgical planning one must provide for inserting at least 4 or even better 6 mini implants positioned as parallel and equidistant as possible.*

*For implant site preparation care should be taken in ensuring burs have the maximum cutting efficiency and the site is cooled with 4° saline solution to prevent possible bone necrosis which might impair the subsequent implant osseointegration stage.*

## PREPARATION OF THE IMPLANT SITE



•Use of the tissue punch or alternatively incision of the soft tissue and blunt dissection of the gingival flaps for access to the bone crest

•Use of the RA018 round initial bur to perforate the cortical bone and create the guide site for the subsequent bur

•Use of the RMB20 bur or RLO18 cutter (Ø 1.8 mm.) to make the socket.

The surgical site must initially be 'sub-prepared' proportionally to the bone density found.

Initial sub-preparation between 30 and 50% with respect to the length of the implant to be positioned is recommended.


•Check the type of implant, its length and sterilisation expiry date on the label.

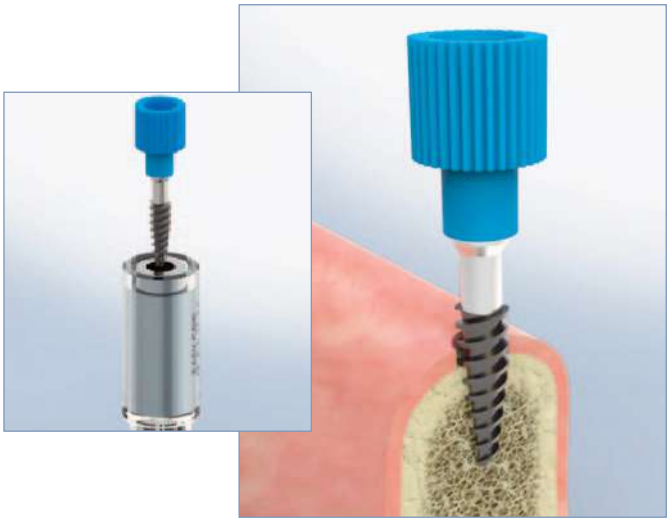
If the packaging is damaged, its contents may have lost sterility and therefore should not be used. The package containing the implant is equipped with a red anti-tampering seal which demonstrates that it has been opened.

Open the package and take out the blister and adhesive labels bearing the implant identification batch and code, one of which can be placed in the doctor's medical file and the other on the patient's implant card.

•Opening the blister: the non-sterile assistant removes the external protective sheet by taking the tear corner between two fingers and pulling upwards.

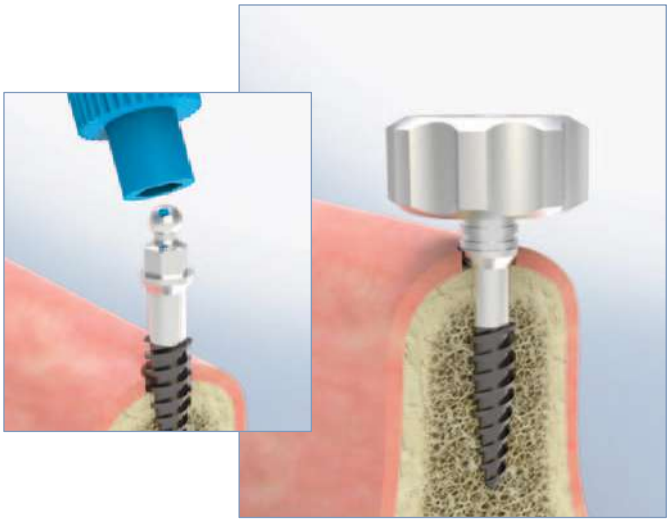
This exposes the jar containing the tube with the implant, which must be set on a sterile cloth so that from then on it will solely be handled by the operator wearing sterile gloves.

## PROCEDURE FOR IMPLANT PICKING AND INSERTION



•Picking the implant: by removing the cap (blue) from the tube, the implant that is attached to it is removed from the package and is ready for direct insertion on the implant site.

•Position the mini implant on the implant site by screwing it on by a few turns, with the aid of the blue cap.



•Release the blue cap and finish screwing on using the appropriate CMBO titanium insert, together with the manual CDM key or torque ratchet.

If the effort is excessive (> 45 Ncm), it is preferable not to force the mini-implant. Remove it from the site and repeat the site drilling operation to increase depth.

•If the drilling depth matches the length of the mini-implant without being able to insert it (this might happen especially in cases of particularly hard bone D1), drilling may be repeated with the bur of the next diameter RMB24 (Ø 2.4 mm).

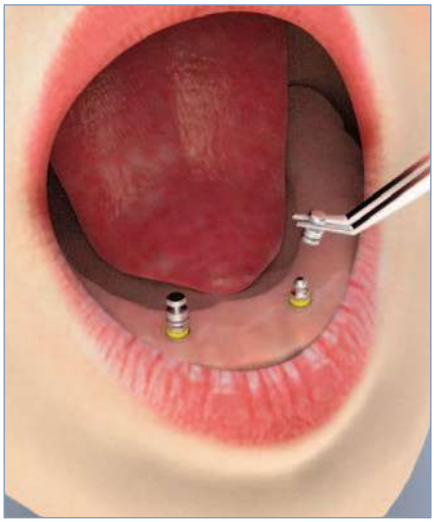
•For correct positioning, all the turns must be completely covered in the bone crest while the base of the ball of the mini-implant should protrude from the gingival profile to prevent subsequent compression of the soft tissues by the retention copings.

If a resistance of at least 35 Ncm is not reached during insertion, immediate loading is not recommended.

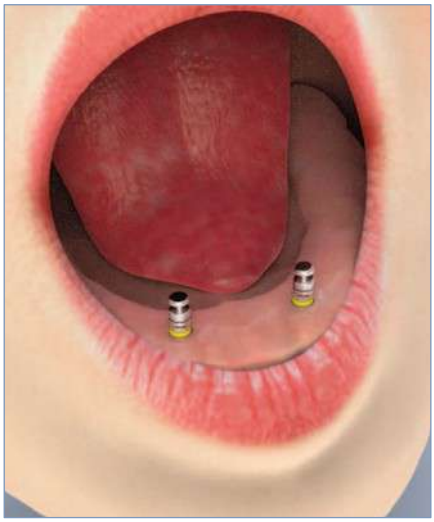
• Close the gingival flaps again with suitable suture.

Make the mobile prosthesis providing for wide gingival-prosthetic support so as to distribute the masticatory load on the entire prosthesis.

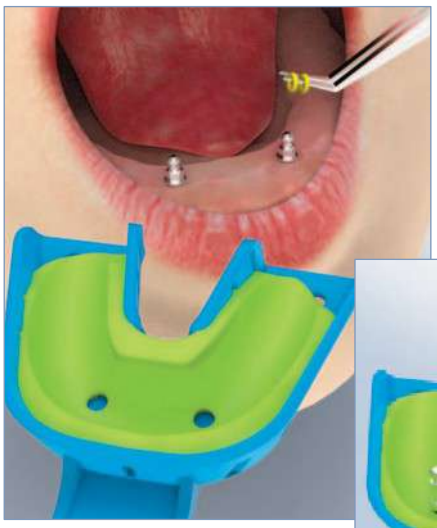
## IMPRESSION TAKING



•Position the directional o-rings under the head of the mini implant and insert the transfers (T1CM).



•Check the exact positioning of the transfers and make the impression.



•Once the impression has been made, remove the directional O-rings from the implants.

•Insert analogues (LACM) on the transfers and cast the model.

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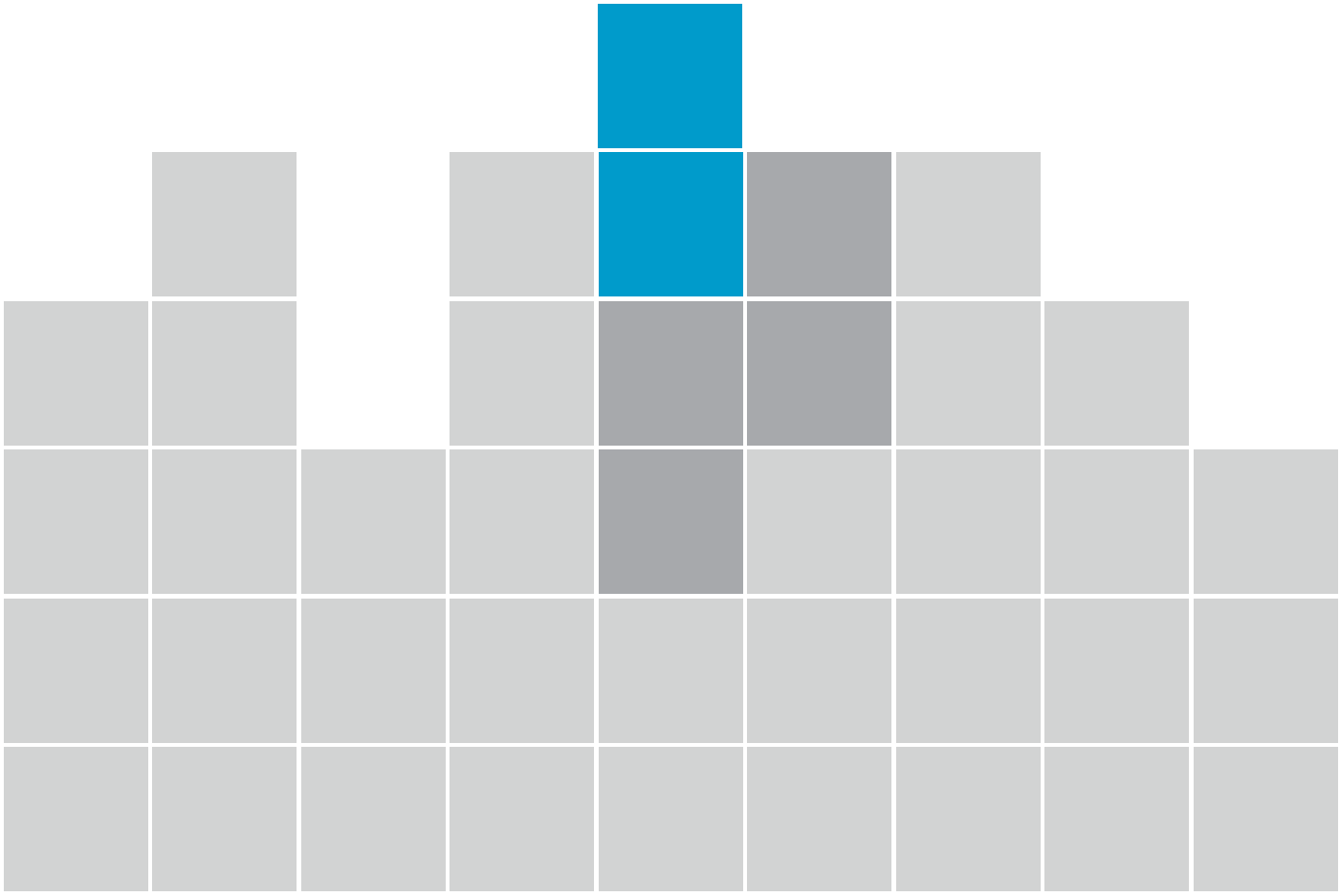
# PROSTHETIC COMPONENTS



# PROSTHETIC COMPONENTS

The prosthetic solutions shown in the diagram are all made with a single standard connection (series 3), applicable on all implants of the Easy Grip® line, applying prostheses with the platform switching method.

Should you not wish to apply the prostheses with the platform switching method, specific prosthetic solutions are available (series 4 connection) for Large and Extra Large implants (see page 92).


*The images refer to products with connection 3 and are purely for illustrative purposes*

## Abutments

### Pre-angled

Gingiva height: 0 1 2 3 | Gingiva height: 0 1 2 3

PT15 PT151 PT152 PT153 PT25 PT251 PT252 PT253

### PP - Standard

Gingiva height: 1 2 3 4 5 6

PP3-1 PP3-2 PP3-3 PP3-4 PP3-5 PP3-6

### PP3E - Equator

Gingiva height: 0 1 2 3 4 5 6 7

PP3E-0 PP3E-1 PP3E-2 PP3E-3 PP3E-4 PP3E-5 PP3E-6 PP3E-7

### PP3S - Sferoflex

Gingiva height: 1 2 3 4 5 6 7

KPP3S-1 KPP3S-2 KPP3S-3 KPP3S-4 KPP3S-5 KPP3S-6 KPP3S-7

### PS All on Screw

Gingiva height: 0 1 2 3 4 5

PS34-0 PS34-1 PS34-2 PS34-3 PS34-4 PS34-5

### Aesthetic

Gingiva height: 1 2 3

PTE351 PTE352 PTE353

### Temporary

PTP15 PTP25 PTP34

PTP00 PU00

### Castable

PUT34 PC3

### PTS CAD/CAM

PTS00 PTS14 CPTS PTR34 PTS34

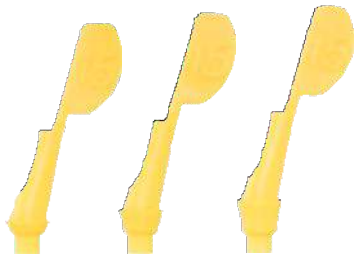
Codes included in the CAD/CAM Easy Grip® library

## Test abutments

### PR15

Gingiva height

1 2 3



PR151 PR152 PR153

### PR25

Gingiva height

1 2 3

PR251 PR252 PR253

### PR35

Gingiva height

1 2 3

PR351 PR352 PR353

## Castable abutments

### PU15

Gingiva height

1 2 3

PU151 PU152 PU153

### PU25

Gingiva height

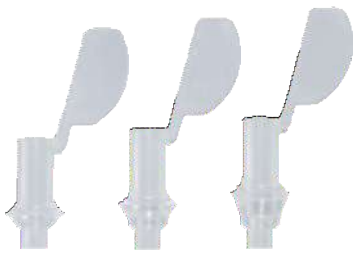
1 2 3

PU251 PU252 PU253

### PU35

Gingiva height

1 2 3



PU351 PU352 PU353

### PUR35

Gingiva height

1 2 3

PUR351 PUR352 PUR353

## Temporary abutments

### PK15

Gingiva height

1 2 3

PK151 PK152 PK153

### PK25

Gingiva height

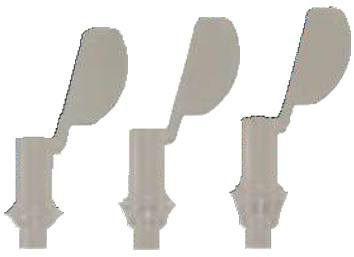
1 2 3

PK251 PK252 PK253

### PK35

Gingiva height

1 2 3



PK351 PK352 PK353

### PKR35

Gingiva height

1 2 3

PKR351 PKR352 PKR353

*The pictures are purely for illustrative purposes*

## Screw

**VU**

Universal connection screw: it is the connecting screw to be used for fastening the abutments to the implants. With the exception of angled abutments which are fitted with specific VS or VUF screws. The optimal torque for tightening the VU screw is 35 Ncm

**VS**

Connection screw for 15° and 25° pre-angled abutments: it is a slightly shorter screw with respect to VU in order to prevent the screw head from protruding out of the tilted abutment's profile. The optimal torque for tightening the VS screw is 35 Ncm

**VUF**

Connection screw for 22° and 30° angled abutments (all-on-screw): it is a slightly shorter screw and with smaller head with respect to VU; specifically designed to be inserted on all-on-screw angled abutments without interfering with the subsequent positioning of the VOP occlusal screw. The optimal torque for tightening the VUF screw is 35 Ncm

*The VU, VS and VUF connection screws are made with rolling process in order to markedly improve their physical-mechanical performance (see page 20). The optimal torque for these screws and Shoulder and Ball screwed Abutments (codes PS and PP) has been established as 35Ncm after research conducted by the Polytechnic University of Milan.*

**VOP**

Occlusal screw for all-on-screw abutments: this is the screw to be used for tightening sleeves on straight and angled shoulder abutments series PS. The optimal torque for tightening the VOP screw is 15 Ncm

**VT3**

Plug screw included in the package of the Easy Grip® implants. Used to seal the implant during bone healing. The optimal torque for tightening must not exceed 20 Ncm.

**VG**

Healing screw for reconditioning the mucosal tissue. The optimal torque for tightening must not exceed 20 Ncm.

**VLC3**

UNF1/72 pitch long screw for waxing PU castable abutments and for T2 transfer pins in case of direct impression taking (open spoon)

**VLC5**

M1.4 pitch long screw for all-on-screw system: used either for waxing castable sleeves CPS4 and CPS5 or for transfer pins TPS4 and TPS5

## HEALING SCREWS

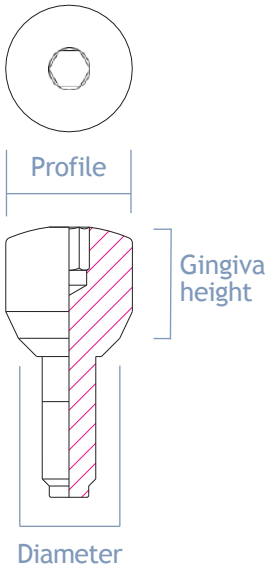
In titanium grade 5 Eli, they are used to recondition the gingiva after the second surgical stage; they are available in the three different emergence profiles and three heights.

The screw head features a hexagonal socket to insert the hex 1.25 mm keys.

VG34

VG35

VG36




| Code | Diameter (mm) | Profile (mm) | Gingiva h. (mm) |
|---|---|---|---|
| VG34-2 | 3.50 | 4.50 | 2.00 |
| VG34-4 | 3.50 | 4.50 | 4.00 |
| VG34-6 | 3.50 | 4.50 | 6.00 |
| | | | |
| VG35-2 | 3.50 | 5.00 | 2.00 |
| VG35-4 | 3.50 | 5.00 | 4.00 |
| VG35-6 | 3.50 | 5.00 | 6.00 |
| | | | |
| VG36-2 | 3.50 | 6.00 | 2.00 |
| VG36-4 | 3.50 | 6.00 | 4.00 |
| VG36-6 | 3.50 | 6.00 | 6.00 |

## TRANSFERS

Constructed in titanium grade 5 ELI. They are used to take the impression.

It is available in two versions: with short screw, plus Teflon coping, for indirect impression, or through screw for direct impression.

CTU

T1

T2

| Code | Diameter (mm) | Profile | Description |
|---|---|---|---|
| T1 | 3.50 | 4.50 | Indirect impression technique - short screw |
| T2 | 3.50 | 4.50 | Direct impression technique - long screw |
| CTU | | | coping for transfer T1 |

## ANALOGUES

Constructed in titanium grade 4, they are used in the laboratory inside the plaster model to replicate the inside and prosthetic connection of implants. Available in external diameters: 3.30, 3.75, 4.50.

The analogues with handle, LLA3 and LLA4, help the dental technician in processing the abutment outside the model.

The LA and LC series feature an hexagonal socket suitable for using castable or pre-formed non friction prosthesis. The purple LC3 analogue, faithfully replicates also the aesthetic shape of the Short Neck cylindrical implant height 11.5 mm.

The LB series (ochre yellow) features a more ample hexagonal socket to aid in placing the pre-formed prosthesis with friction fit.

The **LB3** analogue is the digital Easy Grip® analogue to be used in models made by using the CAD/CAM Easy Grip® library.


LA2


LA3


LA4


LB2


LB3


LB4


LC3


LLA3 - LLA4

| Code | Diameter (mm) | Description |
|---|---|---|
| LA2 | 3.30 | Analogue for castable abutments for type M implants |
| LA3 | 3.75 | Analogue for castable abutments for type SN implants |
| LA4 | 4.50 | Analogue for castable abutments for type L, XL implants |
| | | |
| LB2 | 3.30 | Analogue for pre-formed abutments in friction fit for type M implants |
| LB3 | 3.75 | Analogue for pre-formed abutments in friction fit for type SN implants |
| LB4 | 4.50 | Analogue for pre-formed abutments in friction fit for type L, XL implants |
| | | |
| LLA3 | 3.75 | Analogue with handle for type SN implants |
| LLA4 | 4.50 | Analogue with handle for type L, XL implants |
| LC3 | 3.75 | Laboratory implant replicating analogue |

## TEST ABUTMENTS

In POM they allow the dentist and dental technician to select the most appropriate abutment in the prosthesis planning stage.

They are colour coded in three different colours: red for straight, yellow for 15° angled and green for 25°, with three different transmucosal heights.
They are all fitted with fin for better handling.

They are marketed in 9 or 45-piece packages (respectively 1 or 5 pieces per code).




PR151


PR251

PR351




PR152


PR252

PR352




PR153


PR253

PR353

### Matching table

| Preformed *Titanium* | Temporary *PEEK* | Castable *PS Cristal* |
|---|---|---|
| PT151 | PK151 | PU151 |
| PT152 | PK152 | PU152 |
| PT153 | PK153 | PU153 |
| PT251 | PK251 | PU251 |
| PT252 | PK252 | PU252 |
| PT253 | PK253 | PU253 |
| PTE351 | PK351 | PU351 |
| PTE352 | PK352 | PU352 |
| PTE353 | PK353 | PU353 |

| Code | Diameter (mm) | Gingiva h. (mm) | Description |
|---|---|---|---|
| PR151 | 3.50 | 1.00 | 15° angled test abutment |
| PR152 | 3.50 | 2.00 | 15° angled test abutment |
| PR153 | 3.50 | 3.00 | 15° angled test abutment |
| PR251 | 3.50 | 1.00 | 25° angled test abutment |
| PR252 | 3.50 | 2.00 | 25° angled test abutment |
| PR253 | 3.50 | 3.00 | 25° angled test abutment |
| PR351 | 3.50 | 1.00 | Straight test abutment |
| PR352 | 3.50 | 2.00 | Straight test abutment |
| PR353 | 3.50 | 3.00 | Straight test abutment |
| KITPR9 | | | Package with 9 test abutments (1pc. per code) |
| KITPR45 | | | Package with 45 test abutments (5pcs. per code) |

## PREFORMED TITANIUM ABUTMENTS

In titanium grade 5 Eli, they are available in three different types.

The PT series offers standard abutments with various gingiva height and profile solutions.

A specific millable abutment is provided (PT38).

The PTE series offers aesthetic abutments.

The PTP series is fitted with a short non friction hexagon which may be used as definitive in cases of multiple connections or as temporary in other cases.

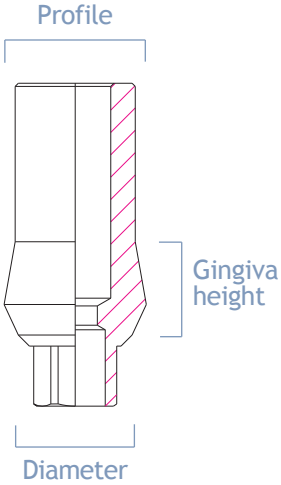
The PDT comes with a non frictioning hexagon.

### PDT use as abutment

In case of use as abutment, temporary or permanent, remove the hexagonal portion by cutting it at groove height, through 0.2/0.3 mm thick cutting discs or abrasive 3/4mm thick wheels.

### PDT use as transfer

The PDT may be used as transfer in the event of indirect impression with the aid of the tightening screw supplied. In this case it does not require to perform mounter apex cut, since the head improves the anti-rotational effect.





PT151


PT251


VS


PT34


VU

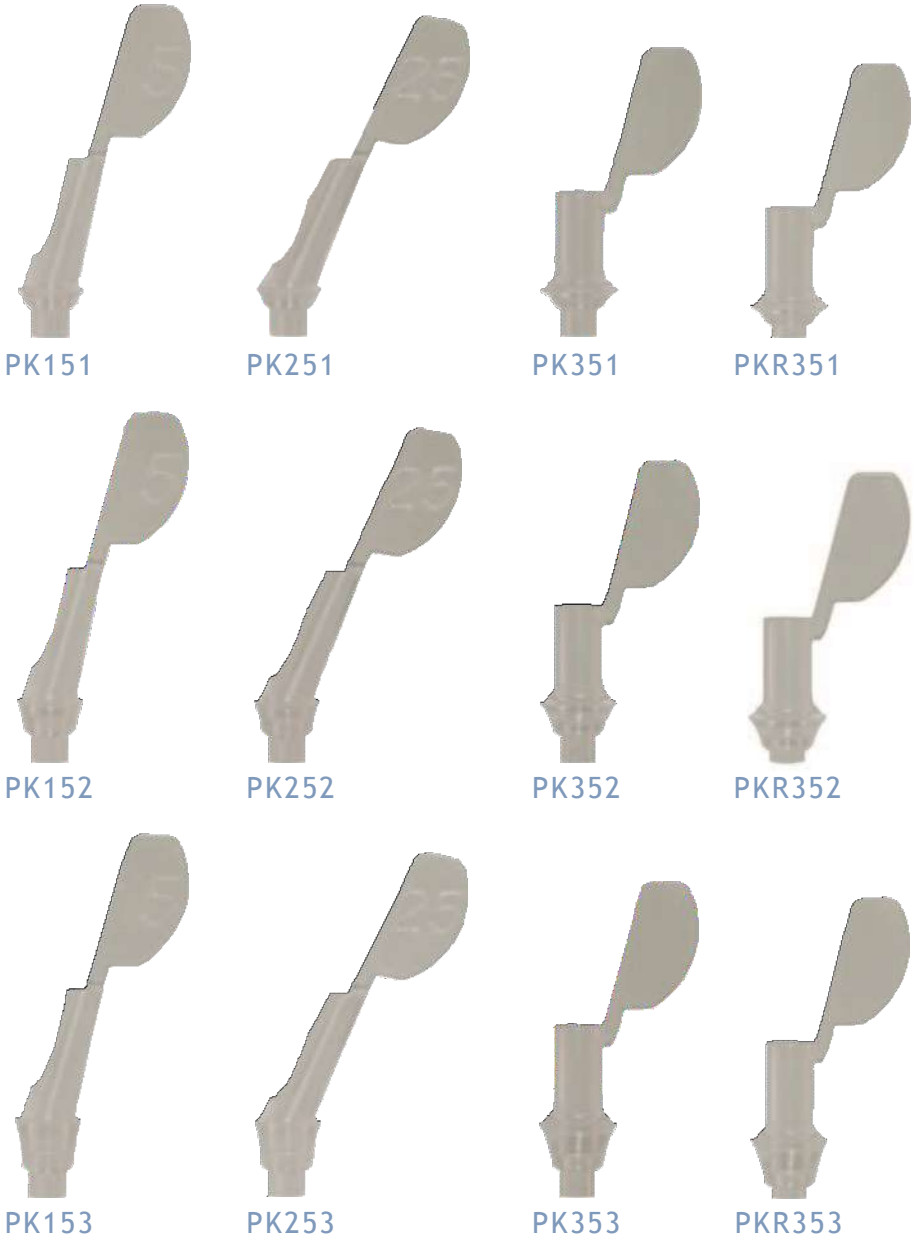
| Code | Diameter (mm) | Profile (mm) | Gingiva h. (mm) | Description |
|---|---|---|---|---|
| PTP00 | 3.50 | | | Non engaging temporary abutment |
| PTP15 | 3.50 | 4.50 | | 15° angle temporary abutment |
| PTP25 | 3.50 | 4.50 | | 25° angle temporary abutment |
| PTP34 | 3.50 | | | Straight temporary abutment |
| PT15 | 3.50 | 4.50 | | Preformed 15° angle abutment |
| PT151 | 3.50 | 4.50 | 1.00 | Preformed 15° angle abutment |
| PT152 | 3.50 | 4.50 | 2.00 | Preformed 15° angle abutment |
| PT153 | 3.50 | 4.50 | 3.00 | Preformed 15° angle abutment |
| PT25 | 3.50 | 4.50 | | Preformed 25° angle abutment |
| PT251 | 3.50 | 4.50 | 1.00 | Preformed 25° angle abutment |
| PT252 | 3.50 | 4.50 | 2.00 | Preformed 25° angle abutment |
| PT253 | 3.50 | 4.50 | 3.00 | Preformed 25° angle abutment |
| PT30 | 3.50 | 4.50 | | Preformed abutment |
| PT33 | 3.30 | 3.80 | | Preformed abutment for type M implants |
| PT34 | 3.50 | 4.50 | | Preformed abutment |
| PT35 | 3.50 | 5.00 | | Preformed abutment |
| PT36 | 3.50 | 6.00 | | Preformed abutment |
| PT38 | 3.50 | 8.00 | | Millable preformed abutment |
| PTE351 | 3.50 | 5.00 | 1.00 | Aesthetic abutment |
| PTE352 | 3.50 | 5.00 | 2.00 | Aesthetic abutment |
| PTE353 | 3.50 | 5.00 | 3.00 | Aesthetic abutment |
| PDT | | | | Mounter/abutment with screw |
| VU | | | | Screw for straight abutments |
| VS | | | | Screw for pre-angled abutments |

## TEMPORARY ABUTMENTS

In PEEK, designed to be easily worked either by the dentist directly on the patient or by the dental technician in the laboratory to create a temporary prosthesis, with six months maximum utilisation.

They are available either straight or angled, with 3 different transmucosal heights and all supplied with connection screw (VU).

The straight abutment is also available in the rotary version.

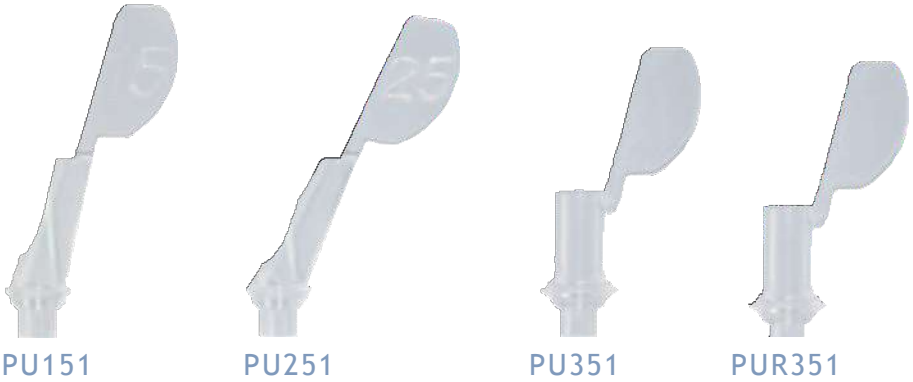



| Code | Diameter (mm) | Gingiva h. (mm) | Description |
|---|---|---|---|
| PK151 | 3.50 | 1.00 | 15° angle temporary abutment |
| PK152 | 3.50 | 2.00 | 15° angle temporary abutment |
| PK153 | 3.50 | 3.00 | 15° angle temporary abutment |
| PK251 | 3.50 | 1.00 | 25° angle temporary abutment |
| PK252 | 3.50 | 2.00 | 25° angle temporary abutment |
| PK253 | 3.50 | 3.00 | 25° angle temporary abutment |
| PK351 | 3.50 | 1.00 | Straight temporary abutment |
| PK352 | 3.50 | 2.00 | Straight temporary abutment |
| PK353 | 3.50 | 3.00 | Straight temporary abutment |
| PKR351 | 3.50 | 1.00 | Rotary straight temporary abutment |
| PKR352 | 3.50 | 2.00 | Rotary straight temporary abutment |
| PKR353 | 3.50 | 3.00 | Rotary straight temporary abutment |

## CASTABLE ABUTMENTS

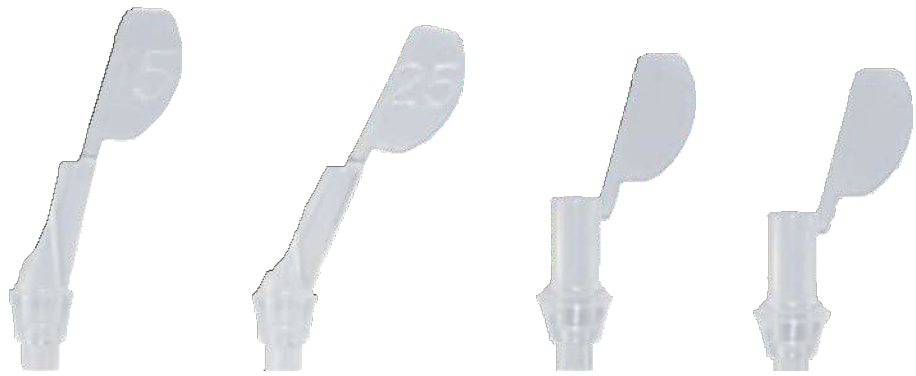
In PS Crystal, available either straight or angled, with 3 different transmucosal heights and all supplied with connection screw.

The straight abutment is also available in the rotary version.



PU151 PU251 PU351 PUR351

PU152 PU252 PU352 PUR352



PU153 PU253 PU353 PUR353

| Code | Diameter (mm) | Gingiva h. (mm) | Description |
|---|---|---|---|
| PU151 | 3.50 | 1.00 | 15° angle castable abutment |
| PU152 | 3.50 | 2.00 | 15° angle castable abutment |
| PU153 | 3.50 | 3.00 | 15° angle castable abutment |
| PU251 | 3.50 | 1.00 | 25° angle castable abutment |
| PU252 | 3.50 | 2.00 | 25° angle castable abutment |
| PU253 | 3.50 | 3.00 | 25° angle castable abutment |
| PU351 | 3.50 | 1.00 | Straight castable abutment |
| PU352 | 3.50 | 2.00 | Straight castable abutment |
| PU353 | 3.50 | 3.00 | Straight castable abutment |
| PUR351 | 3.50 | 1.00 | Rotary straight castable abutment |
| PUR352 | 3.50 | 2.00 | Rotary straight castable abutment |
| PUR353 | 3.50 | 3.00 | Rotary straight castable abutment |

## CASTABLE ABUTMENTS

In PMMA (polymethylmethacrylate), to obtain by waxing and moulding a customised abutment in height, shape, tilt and emergence, ideal for any type of implant adopted.

Used to make prostheses in the event of disparallelism between several implants or to make single crowns in the event the angle between implant axis and abutment should not be solvable with pre-formed abutments.

They are supplied in two versions: with screw (PU) in three different emergence profiles and castable (PC), to be used especially in situations of poor or non-existent transmucosal route where aesthetics would be impaired by the use of screw-on abutments.

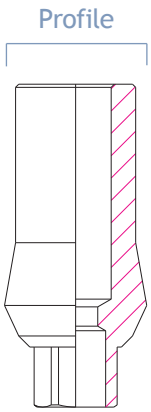
PU36

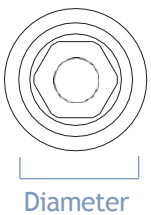
PUT34

PU00

PC3

VU




| Code | Diameter (mm) | Profile (mm) | Description |
|---|---|---|---|
| PU00 | 3.50 | | Non engaging castable abutment |
| PU33 | 3.30 | 3.80 | Castable abutment with screw |
| PU34 | 3.50 | 4.50 | Castable abutment with screw |
| PU35 | 3.50 | 5.00 | Castable abutment with screw |
| PU36 | 3.50 | 6.00 | Castable abutment with screw |
| PUT34 | 3.50 | 4.50 | Castable/transfert abutment with screw |
| PC3 | 3.50 | 3.50 | Castable abutment cementable |
| VU | | | Tightening screw |

## ABUTMENTS IN CHROME-COBALT

For castable prosthetics, they allow casting-on with non-precious metal alloys for restorations.

They come in two versions:
• PCR34, non rotary
• PCR34R, rotary.

The main characteristics of Cr. Co. are:
• high melting point (1350° C),
•corrosion resistance and high biocompatibility.

The abutment comes with a Plexiglass CPCR castable sleeve and VU tightening screw.

CPCR

PCR34

PCR34R

| Code | Diameter (mm) | Description |
|---|---|---|
| PCR34 | 3.50 | Cast-on Cr.Co. abutment |
| PCR34R | 3.50 | Cast-on rotary Cr.Co. abutment |
| CPCR | | Castable sleeve for PCR abutments |
| VU | | Tightening screw |

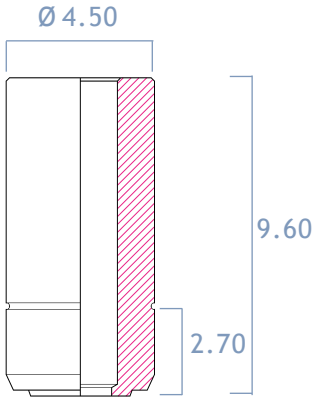
## TITANIUM ABUTMENTS FOR BAR

Designed for creating bars, it consists of an abutment with pre-formed titanium base with Friction fit.

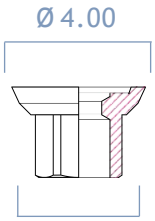
The castable sleeve, rotating to promote multiple parallelising, is connected to the base via the VS closing through screw.

The PTS00 abutment uses the Scan Body SBFX (not included).

Prosthetic solution included in the digital Easy Grip® libraries, available for the most common CAD/CAM systems on the market.




CPS0




PTS00

VU

SBFX

| Code | Diameter (mm) | Description |
|---|---|---|
| PTS00 | 3.50 | Titanium abutment for bar height 0 |
| CPS0 | | Castable sleeve for PTS00 |
| HPTS | | Holder for PTS00 |
| SBFX | | Scan Body for PTS00 with tightening screw included |

## TITANIUM ABUTMENTS FOR CAD/CAM

These represent the ideal solution for creating bridges and/or bars with gluing technique through the use of the most common CAD/CAM systems.

They are available in non rotary PTS34 and rotary PTR34 version and supplied with VU tightening screw.

The welding between the milled prosthetic device, whether it is zirconium, lithium disilicate or another material, and the abutment can be bench-processed with anaerobic cement.

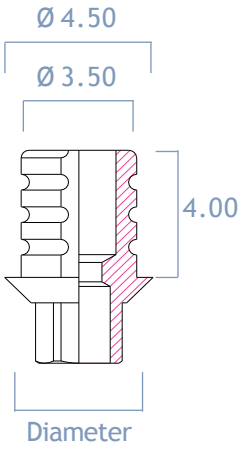
For conventional techniques there is a CPTS castable sleeve, specific for wax-up of prosthetic restorations.

PTS34 and PTR34 abutments use the SBPTS scan body (not included).

Prosthetic solution included in the digital Easy Grip® libraries, available for the most common CAD/CAM systems on the market.

SBPTS

CPTS




PTR34

PTS34

| Code | Diameter (mm) | Description |
|---|---|---|
| PTS34 | 3.50 | Titanium abutment for Easy Grip® CAD/CAM |
| PTR34 | 3.50 | Rotary titanium abutment for Easy Grip® CAD/CAM |
| SBPTS | 3.50 | Scan Body for PTS34 |
| CPTS | | Universal castable sleeve for PTS34 abutments |
| VU | | Screw for straight abutments |

## SCAN BODY

Made in Peek, they assure excellent scanning results without using anti-glare spray products.

They may be used for intra-oral scanning and on model, they assure identification of the relevant positions and angles with the utmost precision.

The SBPS and SBFX Scan Bodies are supplied with the relevant occlusal screw.

Available in three types for as many prosthetic solutions:
- **SBPS**: multiple screwed prostheses for series PS abutments.
- **SBFX**: prosthesis for PTS00 abutment bar, it makes it possible to take the impression directly from the implants for creating models with 3D printers.
- **SBPTS**: individual cemented prostheses for PTS34 abutments.

Products included in the Easy Grip® library available for the following CAD/CAM systems:
- **3 Shape**
- **Dental Wings**
- **Exocad**

SBPS

VOP

SBFX

VU

SBPTS

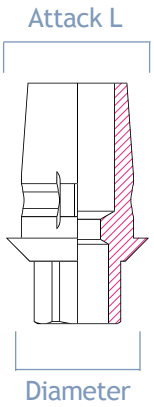
| Code | Library | Solution | Associated codes |
|---|---|---|---|
| SBPS | All on Screw | Multiple screwed prostheses | Series PS |
| SBFX | Bars | Prostheses for Bar | PTS00 |
| SBPTS | Cad Cam | Single cemented prostheses | PTS34 |

## GLUING ABUTMENTS (SIRONA)

The PTS14 gluing abutments are cylindrical indexed titanium abutments supplied with VU universal screw and Scan Body.

The Scan Post SPS14 are pins for intraoral impression, manufactured in titanium and supplied with VU universal screw.
They cannot be used for final restoration.

The gluing abutments and the Scan Posts are designed to be used with the TiBase solutions within the Sirona Dental CAD/CAM system and with millable SironaTM and Ivoclar Vivadent® blocks




PTS14

SPS14

| Code | Diameter (mm) | Description |
|---|---|---|
| PTS14 | 3.50 | Titanium abutment for Sirona CAD/CAM with Scan Body |
| SPS14 | | Impression pin for Sirona CAD/CAM |
| VU | | Screw for straight abutments |

## STANDARD BALL ABUTMENTS

In titanium grade 5 ELI, used for retention of total removable prostheses; they are available in 6 different transmucosal heights, all supplied with “standard” type polyamide retentive coping.

Under the ball is a 3 mm. hexagon to be used for tightening the abutment with the aid of one of the hexagonal 3mm. keys supplied: CDM, PUN, AMF0 and CUD70.

The abutment is also fitted with an O-ring that acts both as seal for tightening keys and directional ring for the retentive coping during impression taking.

PP3-2

PP3-5

CNB

| Code | Diameter (mm) | Transmucosal height (mm) | Description |
|---|---|---|---|
| PP3-1 | 3.50 | 1.0 | Ball abutment |
| PP3-2 | 3.50 | 2.0 | Ball abutment |
| PP3-3 | 3.50 | 3.0 | Ball abutment |
| PP3-4 | 3.50 | 4.0 | Ball abutment |
| PP3-5 | 3.50 | 5.0 | Ball abutment |
| PP3-6 | 3.50 | 6.0 | Ball abutment |

## SFEROFLEX BALL ABUTMENTS

In titanium grade 5 ELI, used to retain total removable prostheses in the event of marked disparallelism; they are fitted with a movable ball that tilts in all directions by 7.5° to correct disparallelism up to 43°.

They are available in 7 different heights of the transmucosal section, all supplied with directional rings, “soft” type retentive Coping, and stainless steel box.

Under the ball is a 2.30 mm. hexagon to be used for tightening the abutment with the aid of the suitable MPP3S hexagonal keys.

KPP3S-2

KPP3S-5

KPP3S-7

AD-0°

AD-7°

AD-14°

| Code | Diameter (mm) | Transmucosal height (mm) | Description |
|---|---|---|---|
| KPP3S-1 | 3.50 | 1.0 | SferoFlex Ball abutment package |
| KPP3S-2 | 3.50 | 2.0 | SferoFlex Ball abutment package |
| KPP3S-3 | 3.50 | 3.0 | SferoFlex Ball abutment package |
| KPP3S-4 | 3.50 | 4.0 | SferoFlex Ball abutment package |
| KPP3S-5 | 3.50 | 5.0 | SferoFlex Ball abutment package |
| KPP3S-6 | 3.50 | 6.0 | SferoFlex Ball abutment package |
| KPP3S-7 | 3.50 | 7.0 | SferoFlex Ball abutment package |
| MPP3S | | | Hexagonal key for SferoFlex |
| AMS | | | Mechanical aid for SferoFlex |
| AD | | | Directional rings 0° - 7° - 14° |

# ACCESSORIES AND INSTRUMENTS FOR STANDARD AND SFEROFLEX BALL ABUTMENTS


CNB


CNG


CNV


CNO


CRA


MUI


BACN


LACN


ECT

| Code | Material | Description |
|---|---|---|
| **Accessories** | | |
| CNB | polyamide | Normo coping - standard (white) |
| CNR | polyamide | Normo coping - soft (pink) |
| CNG | pebax | Normo coping - extra soft (yellow) |
| CNV | pebax | Normo coping - very elastic (green) |
| CNO | pebax | Normo coping - slightly elastic (gold) |
| CNA | pebax | Normo coping - elastic - rubber (silver) |
| CNT | polyamide | Normo Titan Coping (white + TI) |
| CNN | polyamide | Normo laboratory coping (black) |
| CRA | pebax | Normo coping, undersized hole Ø 2.2 - very elastic (orange) |
| CRG | pebax | Normo coping, undersized hole Ø 2.2 - extra soft (yellow) |
| CRR | polyamide | Normo coping, undersized hole Ø 2.2 - soft (pink) |
| CRV | polyamide | Normo coping, undersized hole Ø 2.2 - strong (aqua green) |
| BTCN | titanium | Normo titanium box |
| BACN | steel | Normo stainless box |
| BCCN | polystyrene | Castable box for normo coping |
| PPCN | polystyrene | Normo positioner in plastic |
| LACN | steel | Normo analogue pin |
| T1CN | steel | Transfer for pull-off impression |
| **Instruments** | | |
| ICT | steel | Coping inserter/extractor |
| ECT | steel | Coping extractor |
| MUI | polyamide | Universal handle for coping inserter |

## EQUATOR BALL ABUTMENTS

In titanium grade 5 ELI, used for retaining total removable prostheses, should reduced ball connection size be required; the total vertical dimension is 2.1 mm and 4.4 mm in width and makes it possible to correct divergence up to 43°.

They are available in 8 different transmucosal heights, all supplied with assorted retentive copings and stainless steel box. The copings must be used with the titanium or steel box.

The abutment is tightened with the aid of the suitable CHE square key.

PP3E-0

PP3E-1

PP3E-2

PP3E-3

PP3E-4

PP3E-5

PP3E-6

PP3E-7

| Code | Diameter (mm) | Transmucosal height (mm) | Description |
|---|---|---|---|
| PP3E-0 | 3.50 | 0.5 | Equator ball abutment |
| PP3E-1 | 3.50 | 1.0 | Equator ball abutment |
| PP3E-2 | 3.50 | 2.0 | Equator ball abutment |
| PP3E-3 | 3.50 | 3.0 | Equator ball abutment |
| PP3E-4 | 3.50 | 4.0 | Equator ball abutment |
| PP3E-5 | 3.50 | 5.0 | Equator ball abutment |
| PP3E-6 | 3.50 | 6.0 | Equator ball abutment |
| PP3E-7 | 3.50 | 7.0 | Equator ball abutment |

# ACCESSORIES AND INSTRUMENTS FOR EQUATOR BALL ABUTMENTS


T1CE


T1CN


CET


BACE


LAE


CHE


AME


ICMU


MCE

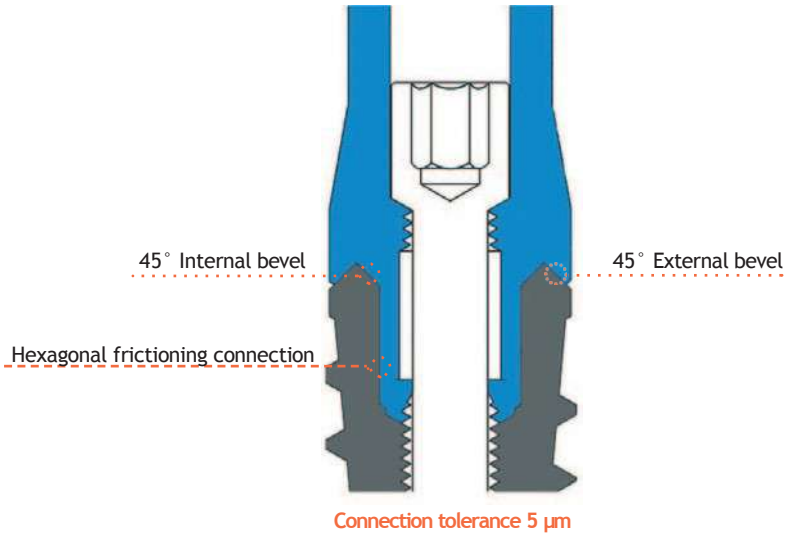

SET

| Code | Material | Description |
|---|---|---|
| **Castable** | | |
| MCE | polystyrene | Castable Equator tap |
| *Elastic Seeger* | | |
| SET | titanium | Threaded closing screw |
| | | |
| **Accessories** | | |
| CEV | POM | Retentive coping for Equator - strong (purple) |
| CET | polyamide | Retentive coping for Equator - standard (white) |
| CER | polyamide | Retentive coping for Equator - soft (pink) |
| CEG | pebax | Retentive coping for Equator - extra soft (yellow) |
| CEN | polyamide | Laboratory Equator coping (black) |
| BACE | steel | Stainless steel coping container for Equator |
| T1CE | POM | Transfer for individual impression |
| T1CN | steel | Transfer for pull-off impression |
| LAE | steel | Equator laboratory analogue |
| KSB | | Smartbox Kit |
| BASB | | Smartbox stainless container + laboratory coping |
| CSB | | Smartbox laboratory coping (black) |
| | | |
| **Instruments** | | |
| CHE | steel | Square section key (1.25) for Equator + holder |
| HCHE | POM | Interchangeable holder |
| AME | steel | Square section mechanical aid (1.25) |
| ISMU | steel | Coping inserting stem (for use with universal handle) |
| ICMU | steel | Bent stem to insert circlips (for use with universal handle) |
| MUI | polyamide | Universal handle for stem and coping inserter |

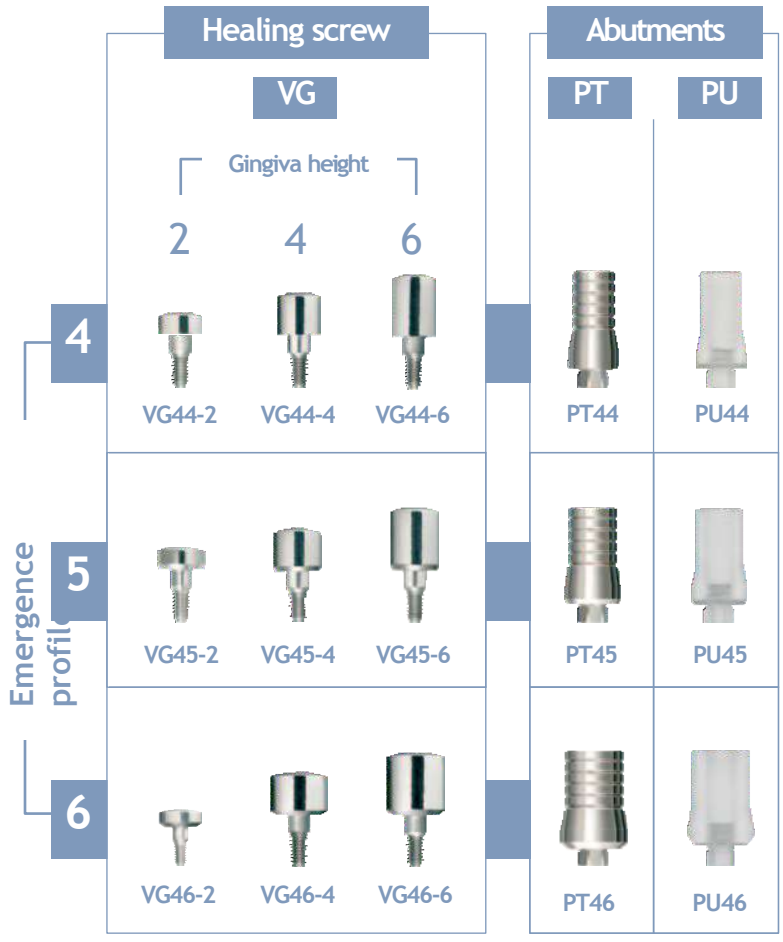
## SERIES 4 CONNECTION

Should you not wish to apply the prostheses in platform switching, specific prosthetic solutions are available for Large and Extra Large implants (series 4 connection).

The prosthetic components with this type of connection feature the presence of an external 45° bevel that rests onto the implant platform thus maintaining its diameter.




### Series L and XL implants

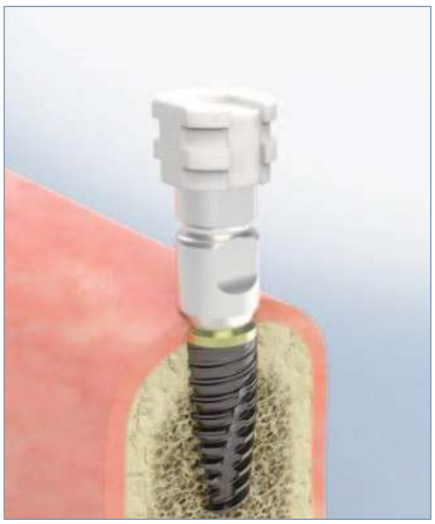



*The images refer to products with connection 4 and are purely for illustrative purposes*

ITALDENT

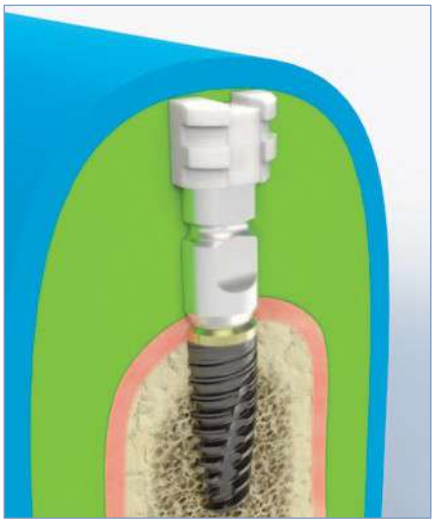
# PROSTHETIC PROTOCOL

## IMPRESSION TAKING: INDIRECT TECHNIQUE (SNAP-ON)

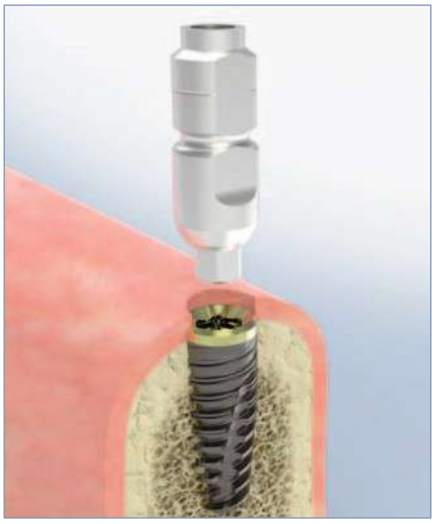


•Remove the surgical screw from the implant and introduce the transfer with short screw (T1) then tighten it to the implant with the B1R hex key.

To make impression taking easier, it is possible to use the transfer with the CTU coping.



•Place the tray with the impression material on the transfer and wait for the material to harden.

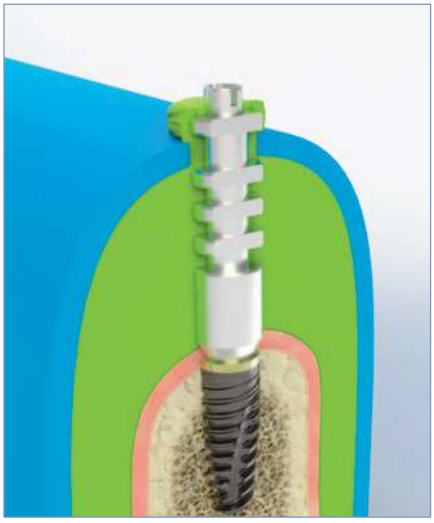


•Remove the tray from the oral cavity: the transfer will remain joined to the implant.

Remove the transfer from the oral cavity and reposition it on the impression checking correct positioning.

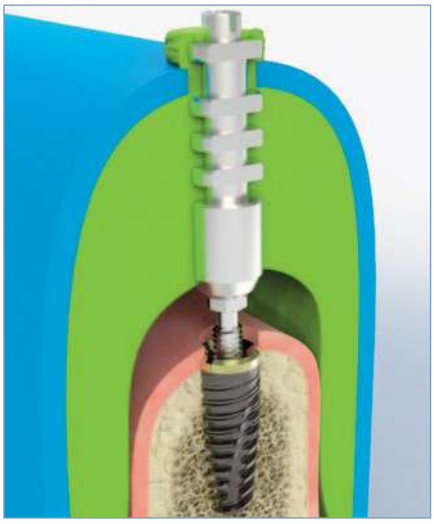
## IMPRESSION TAKING: DIRECT TECHNIQUE (PICK-UP)

•Remove the surgical screw from the implant and introduce the transfer with long screw (T2) and tighten it to the implant with the B1R or B2R hex key.



•Position the individual tray or standard perforated tray on the transfer so that the long screw of the transfer protrudes through the tray hole and is accessible for unscrewing.

Wait for the time required for the impression material to harden.



•Remove the transfer screw (VLC3) and remove the tray: the transfer will remain in the impression thanks to its retainers.

## PREPARATION OF THE PLASTER MODEL

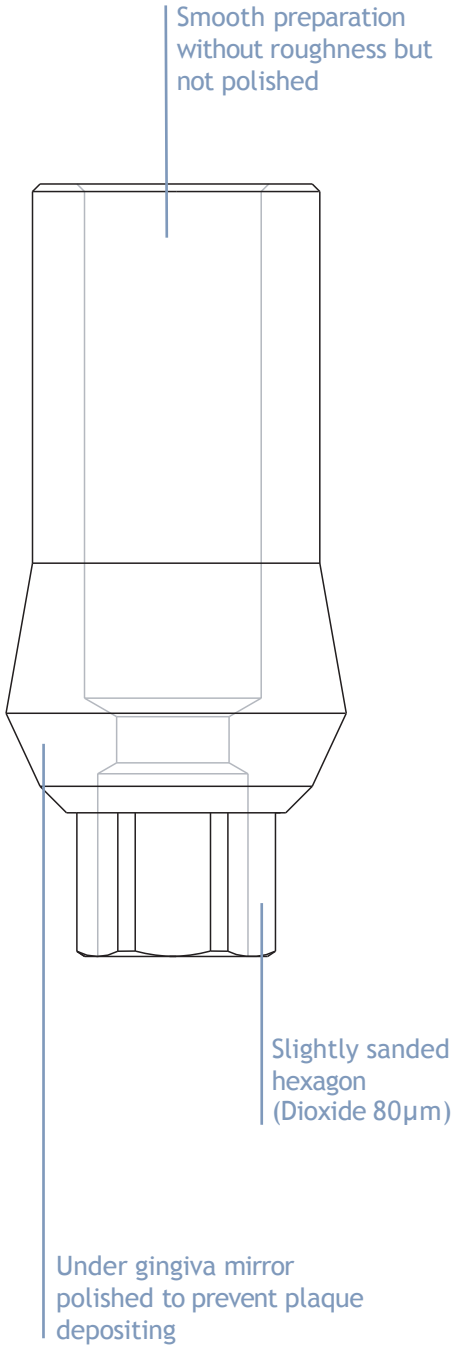
•Connect the transfer to the analogue choosing between two possible types:

- series LA: analogues with hexagon tolerance identical to that of implants, suitable for use with castable abutments
- series LB: analogues with widened hexagon tolerance, suitable for use with preformed friction-fit abutments in order to prevent wear.

•Cast the plaster onto the impression, after positioning resinous material around the analogue for gingiva simulation.

•Remove the model from the impression: the analogue will be retained on the model bearing the exact position of the implant in the patient's mouth.

## PREPARATION OF CASTABLE ABUTMENTS




It is important to use extra fine grain coatings to obtain proper casting of the castable abutment.
It is recommended to mix the coatings under vacuum and then cast them under pressure to prevent formation of micro-porosity that may form on the hex and the thread of the castable abutment.

It is also important for the coating mixing cups to be only used for that purpose because the plaster materials may pollute the coatings giving rise to cracks and fissures, damaging the faithfulness of the castable abutment.

For single crowns on castable abutment it is recommended to obtain a friction abutment in order to prevent through screw loosening: tight coupling between implant and abutment reduces the risk of abutment loosening.

To achieve better abutment friction one acts by increasing the amount of liquid with respect to distilled water when mixing the coating. All alloys have their own contraction in the cooling stage: this must be offset.

It is essential to comply with the thermal cycle of the coating provided by the coating manufacturers.
For alloy casting it is not advisable to overheat the alloy otherwise the thermal shock it undergoes will alter its features.

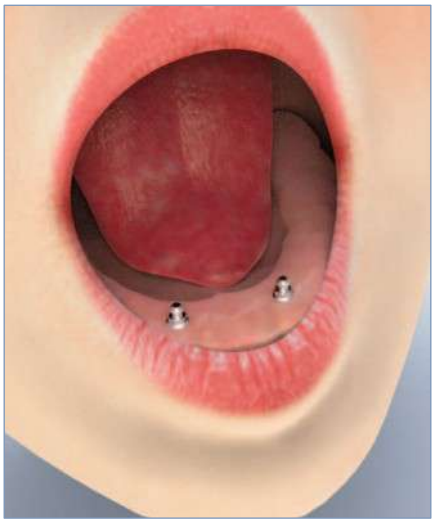
After performing casting, the cast piece is removed from the refractory material, to be cleaned with aluminium dioxide with particle size not exceeding 80µm and pressure less than 2.2 bar. The casting will be finished after cleaning and sanding.

The part to be coupled to the implant will be finished possibly under the microscope in order to remove all the roughness that cannot be removed under the naked eye. After finishing the abutment hexagon, the abutment will also be finished.

A friction abutment must only be removed with the extractor screw (EM2 abutment extractor) from the laboratory analogue and from the implant.

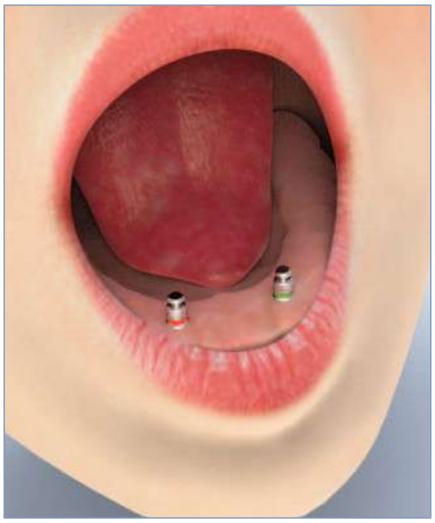
All the structures to be constructed on more than one implant must be lowered passively in order to avoid tension areas that might cause possible fracture of the implant neck.

# PROSTHETIC PROTOCOL FOR STANDARD AND SFEROFLEX BALL ABUTMENTS



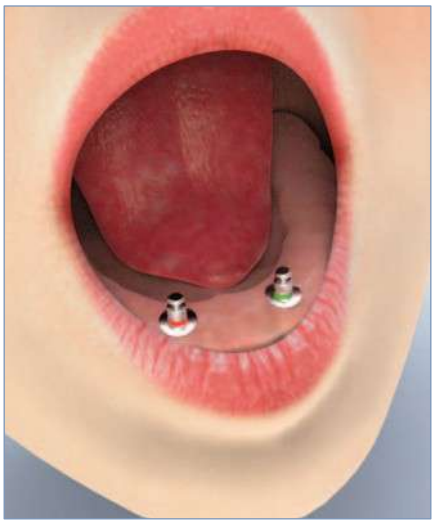
•Choose the standard or Sferoflex ball abutment of adequate height for the gingiva rim height and tighten it onto the fixture with the suitable PUN key with standard ball abutments and MPP3S with Sferoflex abutments.

Unscrew the connection and repeat tightening 4-5 times in order for the abutment thread to best micro-adapt to the fixture one.



•To fasten the retention copings to the ball abutments it is recommended to use directional rings (AD) to establish more securely a parallel insertion line of the mobile prosthesis.

Select the directional ring based on the implant direction: when they are parallel to view use the 0° ring, in other cases apply the 7° or 14° ring based on disparallelism and rotate it until the copings appear parallel to one another.



•It is safer to remove the retentive copings, place the protective discs and place the retentive copings on top again.

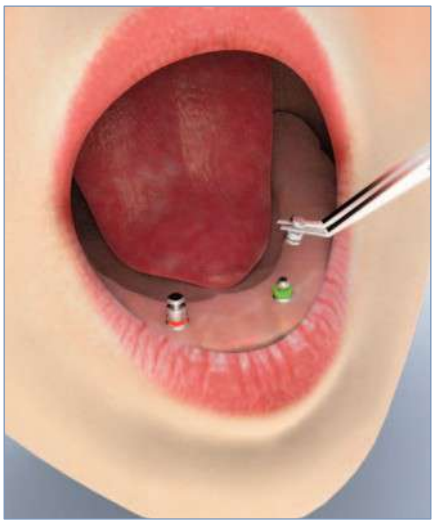
•Try the prosthesis and ensure the spaces for the copings in the resin are sufficiently wide.

Fill with self-curing resin and place the implant in the mouth.

•When the resin has hardened remove the prosthesis and discard the protective discs, touching up any excess resin.

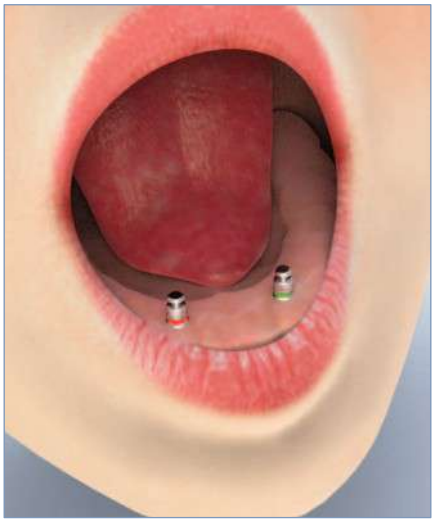
• Finished prosthesis.

## IMPRESSION TAKING FOR STANDARD AND SFEROFLEX BALL ABUTMENTS



•Choose the standard or Sferoflex ball abutment of adequate height for the gingiva rim height and tighten it onto the fixture with the suitable PUN key with standard ball abutments and MPP3S with Sferoflex abutments.

•Place the directional rings (AD) of the right angle under the abutment head and insert the transfers (T1CN)



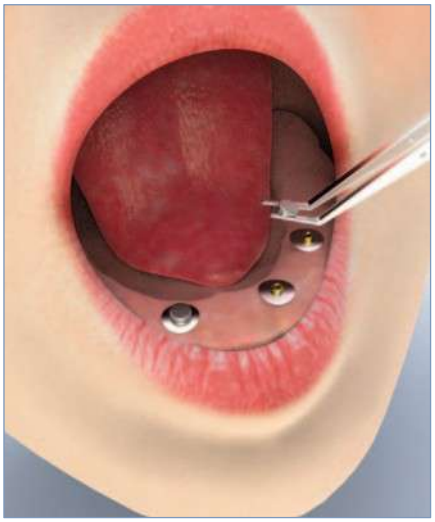
•Rotate the directional rings until reaching a common axis parallel to the occlusal plane and take the impression.

•After taking the impression, remove the directional rings, whether they have remained on the impression or in the abutment.

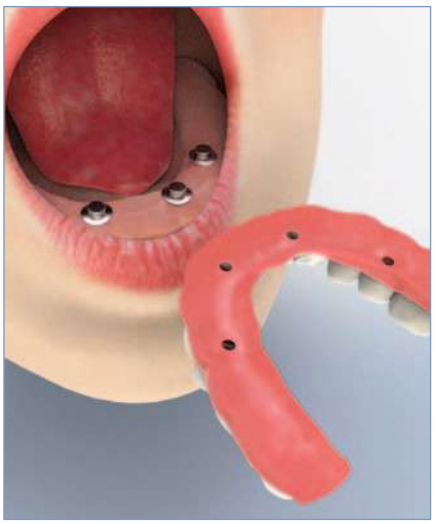
•Insert analogues (LACN) on the transfers and cast the model.

## PROSTHETIC PROTOCOL FOR EQUATOR ABUTMENTS

•Choose the Equator abutment of suitable height for the gingival rim height and tighten it onto the fixture through the suitable manual square section key (CHE) or the mechanical aid (AME).

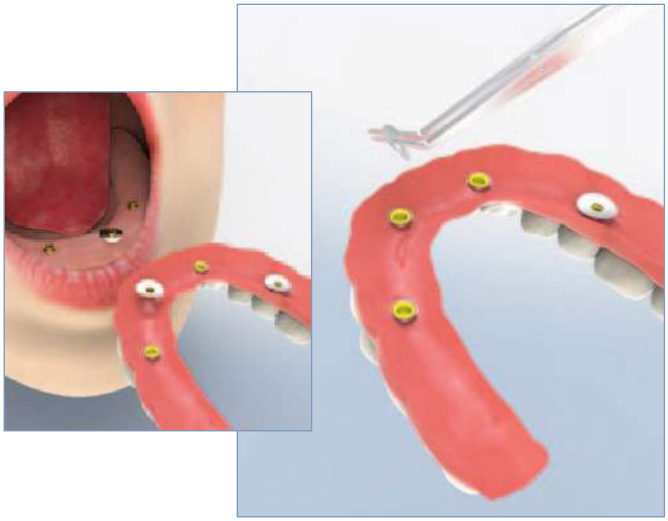


•Position the protective discs and insert the coping-container component in position.

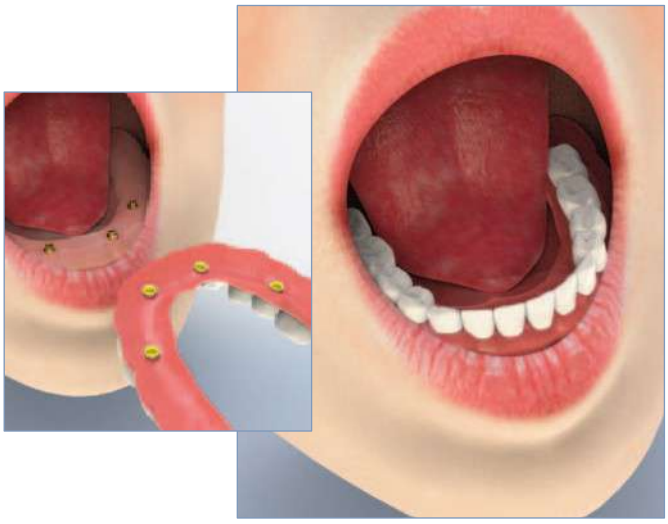


•Check correct positioning of the prosthesis before locking the connections.

•Fill the prosthesis holes with self-curing resin and place it in the mouth.

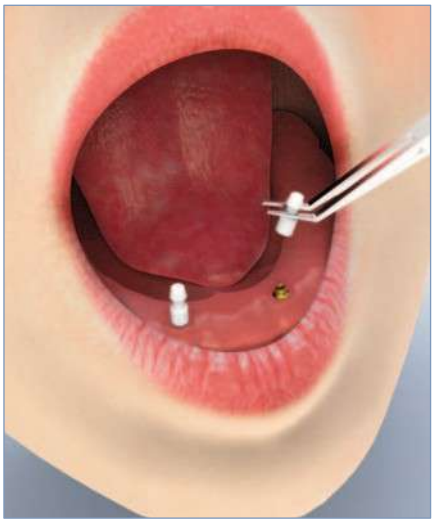


•When the resin has hardened remove the prosthesis, ascertain correct connection positioning and remove the protective discs.

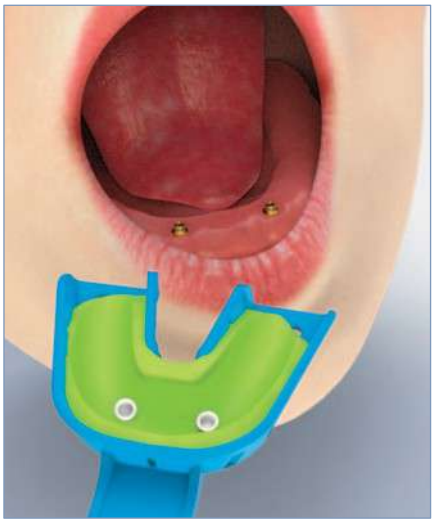


• Carefully touch up to remove excess resin.

## IMPRESSION TAKING FOR EQUATOR ABUTMENTS



•Position the transfer for individual impression (T1CE) on the Equator abutment.

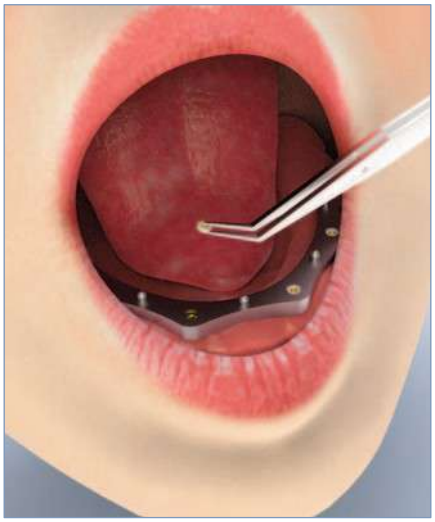


• Take the impression.

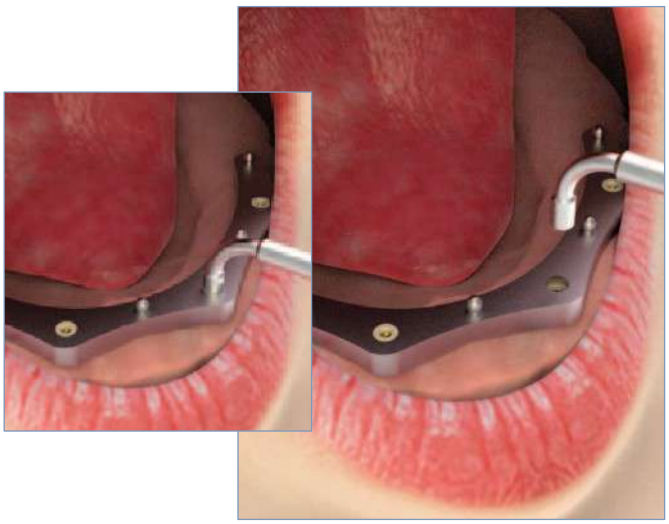
•After taking the impression, insert analogues (LAE) on the transfers and cast the plaster model.

## PROSTHETIC PROTOCOL FOR BAR WITH EQUATOR-CIRCLIP SYSTEM

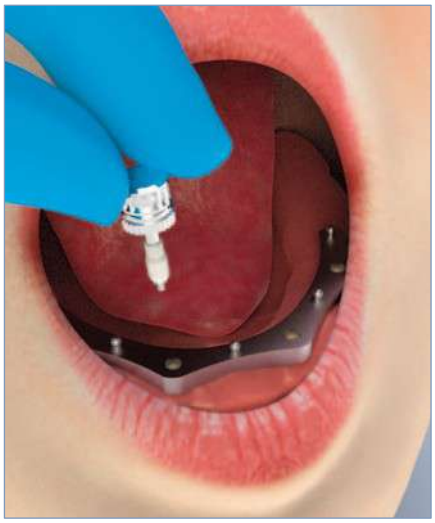
•Equator abutments screwed onto the implants on which the joint bar will be fitted with the Circlip method.



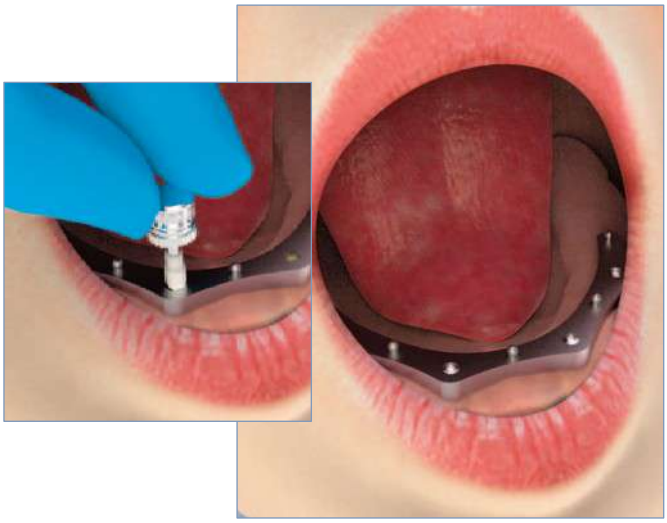
•Metal joint bar, the peek circlip is inserted into the container cylinder.



•Use the Circlip inserter (ICMU) to compress the peek elastic ring.
When it is pressed it snaps beyond the Equator head, and lodges between the walls of the bar and the undercut of the Equator ball, thus locking the bar.



•After inserting the circlips that lock the bar in a solid and passive manner, take the titanium closing screws with the suitable square head key (CHE).



•Tighten the screws onto the head of the Equator abutments:
the contact between the screw and the Circlips creates a compression preventing unscrewing.

•Upon completing the work it is always recommended to construct a reinforcement structure in the prosthesis.

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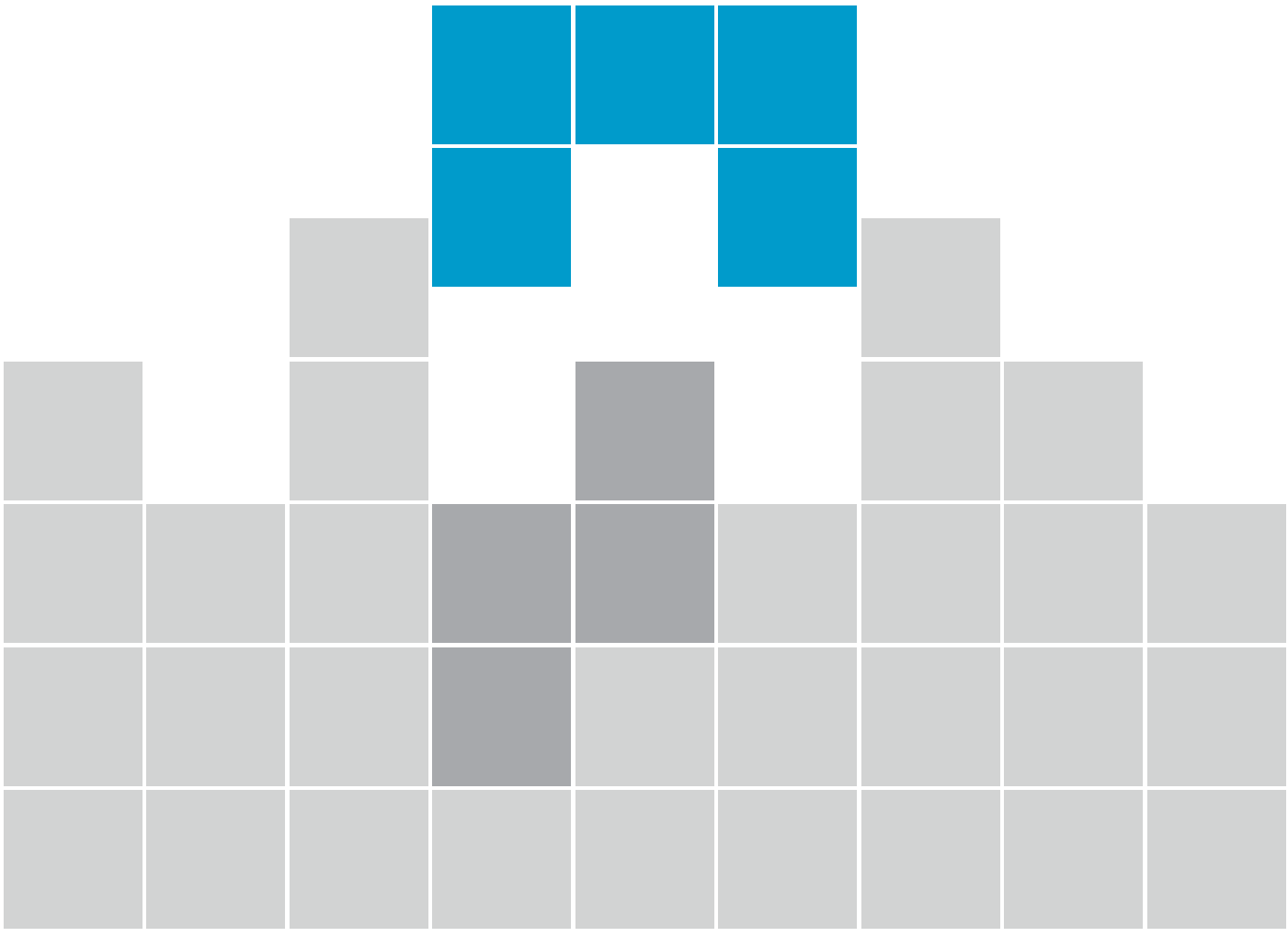
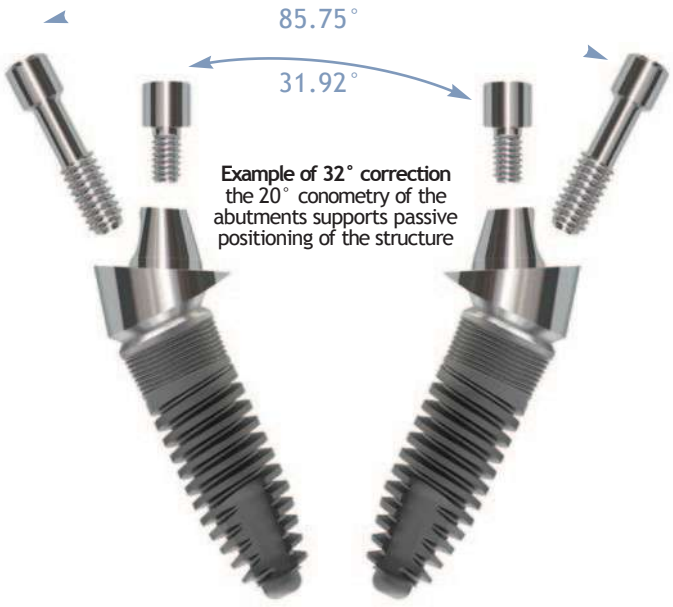
# ALL ON SCREW



## STRAIGHT AND ANGLED CONICAL ABUTMENTS

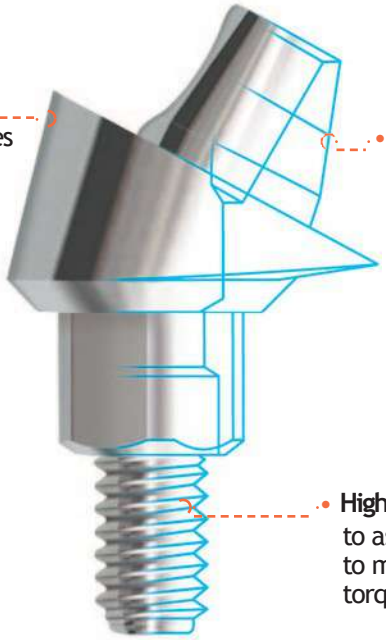
•The range of Easy Grip® All-on-screw abutments with the **special conical 20° engagement** is designed for total and/or partial prostheses screwed onto multiple elements.

They make it possible to widen prosthetic solutions available to the odontologist, affording greater freedom of choice in the implant protocol.




**Example of 32° correction**
the 20° conometry of the abutments supports passive positioning of the structure

## FEATURES



- **22° or 30° conical abutment** to correct implant divergences up to 60°
- **20° conical engagement** to correct further divergence and correctly position the prosthetic bar even with marked angles
- **High performance rolled screw** to assure mechanical resistance to masticatory strain and tightening torque (35Ncm)

## Angled abutments

**PS322**
22° Angled shoulder abutment 0 mm gingiva.

**PS324**
22° Angled shoulder abutment 4 mm gingiva.

**PS330**
30° Angled shoulder abutment 0 mm gingiva.

**PS334**
30° Angled shoulder abutment 4 mm gingiva.

## Straight abutments

**PS34-0**
Straight shoulder abutment 0 mm gingiva.

**PS34-3**
Straight shoulder abutment 3 mm gingiva.

**PS34-1**
Straight shoulder abutment 1 mm gingiva.

**PS34-4**
Straight shoulder abutment 4 mm gingiva.

**PS34-2**
Straight shoulder abutment 2 mm gingiva.

**PS34-5**
Straight shoulder abutment 5 mm gingiva.

## Sleeves

**CPS4**
Castable sleeve for straight shoulder abutments

**CPS5**
Castable sleeve for angled shoulder abutments

**TPS4**
Titanium sleeve for straight shoulder abutments

**TPS5**
Titanium sleeve for angled shoulder abutments

**CRPS4**
Cobalt chrome sleeve for straight shoulder abutments

**CRPS5**
Cobalt chrome sleeve for angled shoulder abutments

## Link

**LPS4**
Gluing link for straight shoulder abutments

**LPS5**
Gluing link for angled shoulder abutments

## Transfer

**TUS4**
Transfer for straight shoulder abutments

**TUS5**
Transfer for angled shoulder abutments

**SBPS**
ScanBody for shoulder abutments

## Analogues

**LAS4**
Analogue for straight shoulder abutments

**LAS5**
Analogue for angled shoulder abutments

## Screws

**VGS4-4**
Healing screw for straight shoulder abutments gingiva 4.5 mm.

**VGS5-4**
Healing screw for angled shoulder abutments gingiva 4.5 mm.

**VOP**
Occlusal screw for shoulder abutments

**VUF**
Universal rolled screw for angled shoulder abutments

## Mounter

**MPS**
Mounter for straight shoulder abutments

**HPS**
Mounter for angled shoulder abutments

## Accessories

**APS**
Finishing bur

**VLC5**
Long screw for direct impression

*The pictures are purely for illustrative purposes*

## CONICAL 20° ABUTMENTS

In titanium grade 5 ELI, designed for total and/or partial prostheses screwed onto multiple elements, they transfer the working plane from the implant to the abutment.

The abutments and relevant accessories feature a frusto-conical 20° engagement which lets them be used even with marked angles, always ensuring correct passivation.

The new shoulder abutments, available straight with 0 and 5 mm gingiva, and angled at 22° and 30°, are complemented with a range of accessories: transfers, analogues, work cylinders, healing screws and scanbody (open dental scanners) allowing the operator to make the most of the available bone, avoiding anatomical structures at risk and to reduce the length of the extension prosthetic end to the minimum.

Product included in the Easy Grip® libraries available for the following CAD/CAM systems:
- 3 Shape
- Dental Wings
- Exocad

TPS4

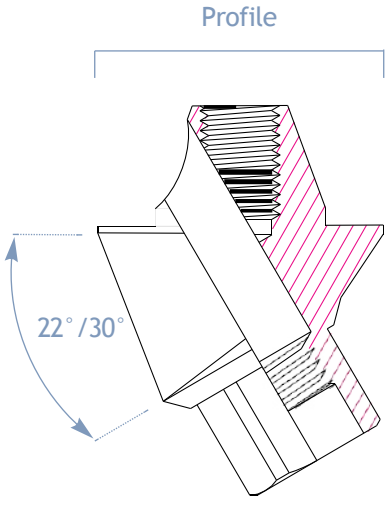
SBPS

VOP

PS34-0

PS330

VUF




| Code | Profile (mm) | Description |
|---|---|---|
| PS34-0 | 4.5 | Straight shoulder abutment, 0 mm gingiva. |
| PS34-1 | 4.5 | Straight shoulder abutment, 1 mm gingiva. |
| PS34-2 | 4.5 | Straight shoulder abutment, 2 mm gingiva. |
| PS34-3 | 4.5 | Straight shoulder abutment, 3 mm gingiva. |
| PS34-4 | 4.5 | Straight shoulder abutment, 4 mm gingiva. |
| PS34-5 | 4.5 | Straight shoulder abutment, 5 mm gingiva. |
| PS322 | 5.0 | 22° angled shoulder abutment, 0 mm gingiva. |
| PS324 | 5.0 | 22° angled shoulder abutment, 4 mm gingiva. |
| PS330 | 5.0 | 30° angled shoulder abutment, 0 mm gingiva. |
| PS334 | 5.0 | 30° angled shoulder abutment, 4 mm gingiva. |
| CPS4 | 4.5 | Castable sleeve for straight PS |
| CPS5 | 5.0 | Castable sleeve for angled PS |
| TPS4 | 4.5 | Titanium sleeve for straight PS |
| TPS5 | 5.0 | Titanium sleeve for angled PS |
| CRPS4 | | Cobalt chrome sleeve for straight shoulder abutments |
| CRPS5 | | Cobalt chrome sleeve for angled shoulder abutments |
| CTPS | | Castable sleeve for TPS |
| SBPS | 4.5 | ScanBody |
| VOP | | Universal occlusal screw M1.4 |
| VUF | | Universal screw for angled PS |
| LPS4 | 4.5 | Gluing link for straight shoulder abutments |
| LPS5 | 5.0 | Gluing link for angled shoulder abutments |

# ANALOGUES, TRANSFERS AND ACCESSORIES

TUS4

VGS5-4

HPS

MPS

LAS4

| Code | Profile (mm) | Description |
|---|---|---|
| LAS4 | 4.5 | Laboratory analogue for straight PS |
| LAS5 | 5.0 | Laboratory analogue for angled PS |
| TUS4 | 4.5 | Transfer for straight PS |
| TUS5 | 5.0 | Transfer for angled PS |
| VGS4-4 | 4.5 | Healing screw gingiva 4.5 mm for straight PS |
| VGS5-4 | 5.0 | Healing screw gingiva 4.5 mm for pre-angled PS |
| HPS | | Mounter for angled shoulder abutments |
| MPS | | Mounter for straight PS |
| VLC5 | | Long universal screw for direct impression |
| APS | | Cortical bone countersink for angled PS abutments |

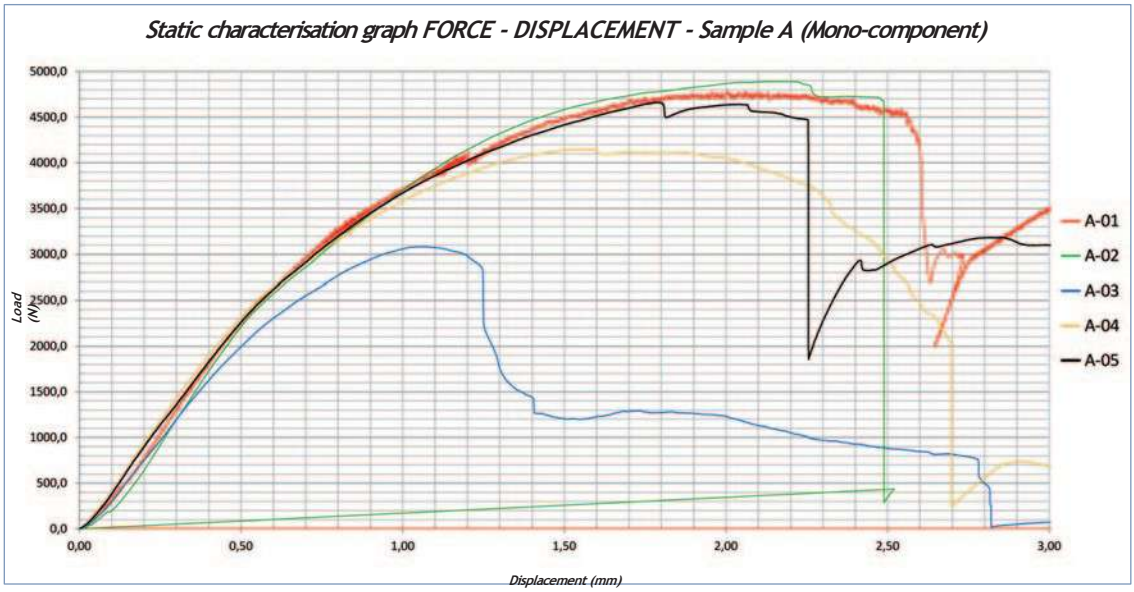
## MECHANICAL TESTS

The static and dynamic tests have been carried out in compliance with standard UNI ISO 14801:2008 with test report no. 1300192BRT, issued by the Cermet laboratory.

• **Static tests**
The tests were performed in order to ascertain the static strength and dynamic stress that ensure high component reliability.

| Test samples | $F_{Max}$ (N) |
|---|---|
| A-01 | 4 782.5 |
| A-02 | 4 891.5 |
| A-03 | 3 083.8 |
| A-04 | 4 151.0 |
| A-05 | 4 662.6 |

**Test parameters**
Test speed: 0.2 mm/min
Pre-load: 2 N




• **Dynamic tests**
The components withstood maximum strain for 5,000,000 cycles of:

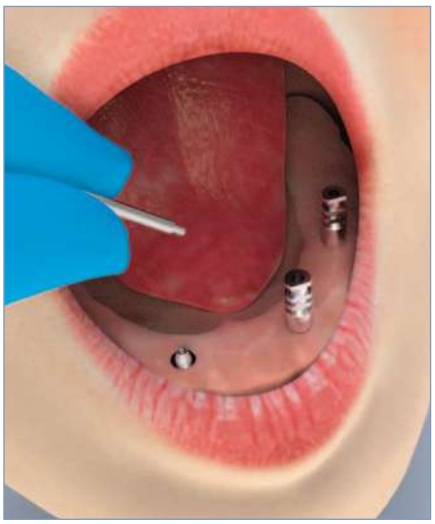
**(302,5 ± 247,5) N**
$F_{max}$: 550.0 N e $F_{min}$: 55.0N

The bending moment applied during the tests may be established by using the dimensional parameters measured on the components that have passed the test, obtaining the figures shown in the following table.

| *Bending moment / $N_{mm}$* | Test samples | | |
|---|---|---|---|
| | A-06 | A-07 | A-08 |
| $M_{med}$ | 1089.8 | 1106.3 | 1028.0 |
| $M_{din}$ +/- | 891.7 | 905.2 | 841.1 |
| $M_{max}$ | 1981.5 | 2011.5 | 1869.0 |
| $M_{min}$ | 198.2 | 201.1 | 186.9 |

$M_{med}$: average bending moment in $N_{mm}$
$M_{din}$: semi-amplitude of the dynamic bending moment in $N_{mm}$

## IMPRESSION TAKING WITH DIRECT TECHNIQUE (OPEN TRAY)



• **Transfer positioning**
Position the transfers (TUS4 for straight abutments and TUS5 for angled ones) on the head of ALL-ON-SCREW abutments and tighten them with the suitable long screw VLC5 supplied with the transfers.

• **Impression taking**
Place the individual tray or the standard perforated tray with the impression material on the transfers and wait the time required for it to harden.

Remove the excess material on the head of the transfers to aid in the subsequent removal of the tightening screw upon completing the impression taking stage.

• **Transfer procedure**
Unscrew and remove the tightening screws VLC5 from the transfers with the manual key (B1R or B2R) or the screw inserts (IC3 or IC4).

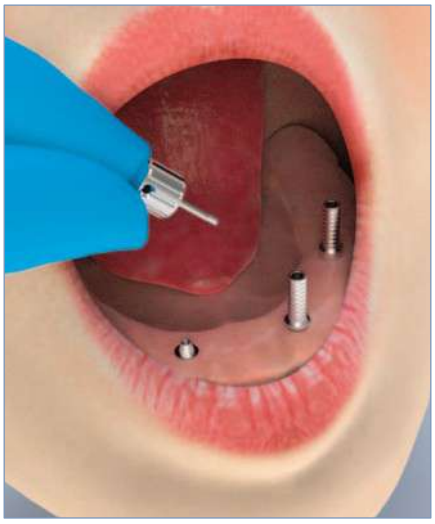
The transfers will remain in the impression thanks to the retainers.

• **Insertion of the analogues**
Insert the analogues of ALL-ON-SCREW abutments (LAS4 for straight abutments and LAS5 for angled ones) in the base of the transfers that have remained encased in the impression material.

Then insert the VLC5 screws back onto the transfers and tighten them onto the analogues.

• **Preparation of the plaster model**
Cast the plaster onto the impression to create the model.

Remove the model from the impression after the plaster has hardened: the analogue will be retained in the plaster reproducing the exact position of the ALL-ON-SCREW abutments in the patient's oral cavity.



• **Making the prosthesis**
Use the titanium or castable sleeves (respectively TPS4 and CPS4 for straight abutments, TPS5 and CPS5 for angled ones) to make the prosthesis.

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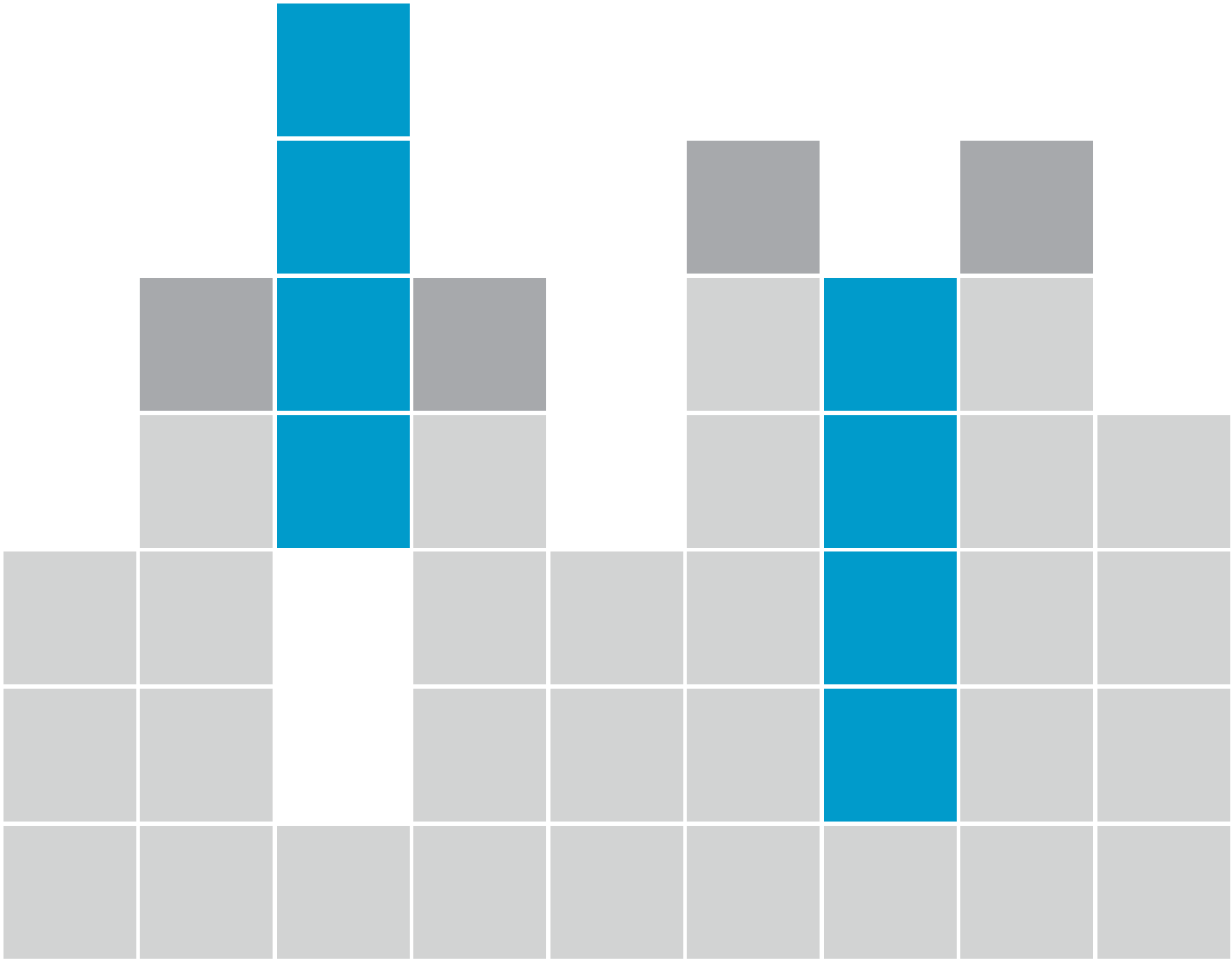
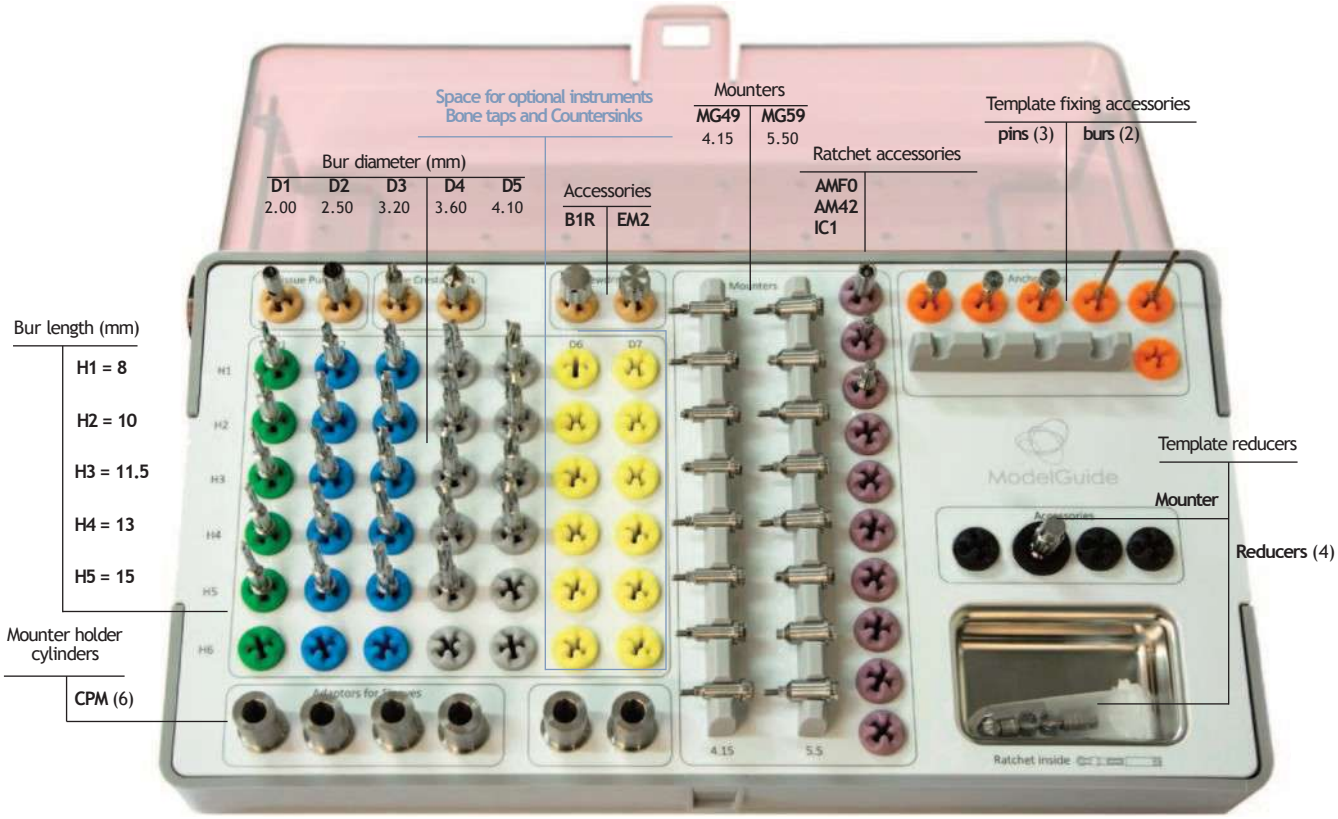
# GUIDED SURGERY



## SURGICAL KIT

The Easy Grip® 3D guided surgery kit, in combination with the surgical guides generated with the Easy Grip® 3D software, makes it possible to perform the osteotomic preparation stage and positioning of the implants in the Easy Grip® range in a safe manner.




## SURGICAL COMPONENTS AND ACCESSORIES:

- 2 burs for side pins
- 3 side pins for template fixing
- 2 tissue punches
- 2 crest countersinks
- 24 surgical burs of varying diameter and length for osteotomic preparation
- 16 mounters with tightening screw: MG49, MG59
- 6 mounter holder cylinders: CPM
- 1 driver for reducers
- 4 template reducers
- 1 torque ratchet: CUD 70
- 1 insert with hex connection for torque key: IC1
- 1 mechanical aid: AM42
- 1 contra-angle handpiece/hexagonal key adapter: AMF0
- 1 manual key for tightening the mounter onto the fixture: B1R
- 1 manual extractor key: EM2

| Code | Description |
|---|---|
| KITEG3D | Autoclavable kit for guided surgery |
| TRAYCG | Empty autoclavable tray for guided surgery |

## MOUNTERS AND TAPS

MBC

MBA

AB3

AB4

AB5

MG49

MG59

| Code | Diameter (mm) | Height (mm) | Description |
|---|---|---|---|
| AB2 | | | Countersink for M implants |
| AB3 | | | Countersink for SN implants |
| AB4 | | | Countersink for L implants |
| AB5 | | | Countersink for XL implants |
| MG49 | 4.10 | 9.00 | Mounter with screw |
| MG59 | 5.50 | 9.00 | Mounter with screw |
| MBA3 | | | Bone tap for SN anatomical implants |
| MBA4 | | | Bone tap for L anatomical implants |
| MBA5 | | | Bone tap for XL anatomical implants |
| MBC2 | | | Bone tap for M cylindrical implants |
| MBC3 | | | Bone tap for SN cylindrical implants |
| MBC4 | | | Bone tap for L cylindrical implants |
| MBC5 | | | Bone tap for XL cylindrical implants |
| MB63 | | | Bone tap for 69SN conical implants |
| MB64 | | | Bone tap for 69L conical implants |
| MB65 | | | Bone tap for 69XL conical implants |

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# SERVICES AND RESEARCH

## SERVICES

**Implant replacement service**
This service has been designed to allow the clinician to replace an implant that might have been mistakenly contaminated in any situation, e.g. an implant that fell on the floor or no longer sterile due to accidentally opening the package.

**Implant card**
Intended for the patient to store the identification data of the inserted implants and as a reminder for check-ups.
It is available free of charge on the doctor's request.


## COURSES

**Course of surgical anatomy on cadaver**
Structured in one didactic part in multimedia classroom and a practical one in the dissecting room, it is aimed at the following goals:

- recognise and identify the anatomical structures defined "at risk" in surgical and implantology practice in particular
- describe the main regenerative and reconstructive techniques achievable under outpatient local anaesthesia
- to perform on cadaver the various bone reconstruction techniques presented under the tutor's supervision.

**Course on computer assisted implant surgery**
Aimed at dental practitioners who wish to learn the correct computer assisted implantology techniques aimed at the treatment of simple and complex edentulous cases.

**Theoretical and practical implantology course on patients**
The aim of the Course is to allow participants to handle implant-prosthetic cases independently, from planning to surgery, according to the most current guidelines dictated by the literature.

**Workshop**
Introductory course on the use of the Easy Grip® implant range delving on the following issues:

- 20 years of clinical use worldwide and long-term follow up - Surgical advantages
- Prosthetic advantages
- Simplicity and ergonomics of the Easy Grip® system
- Maintenance and stability of bone and mucosal tissues through time.

## POLYTECHNIC UNIVERSITY OF MILAN

**Dynamic fatigue strength test for endosseous dental implants**
Breaking tests (with "almost statically" applied load and different tightening values of the implant/abutment coupling screw) as well as fatigue resistance tests (load applied cyclically) have been carried out in compliance with standard UNI EN ISO 14801 for validating the implant/abutment system.

## UNIVERSITY OF L'AQUILA

**Study into the mineralisation process of osteoblasts on differently treated titanium surfaces**
This research highlights the peculiarities of the osseointegration process called “OSTEOGRIP”.
Specifically, aluminium oxide is identified as more suitable for sandblasting than zirconium oxide, and the validity of the Glow Discharge treatment for activating the osteointegrative process is confirmed.

## POLYTECHNIC UNIVERSITY OF THE MARCHE

**Research and development of implant/abutment fixing systems in implant dental prosthesis**
Pivotal research to establish the morphological features of the Easy Grip® range.
Through a comparative study of various connections, the bevelled angle hexagonal connection was identified as ideal performance for better distribution of the strain due to the masticatory load.

## CERMET

**Mechanical characterisation under dynamic fatigue of intraosseous implants**
A series of mechanical tests were performed on the entire Easy Grip® implant line in compliance with standard UNI EN ISO 14801 in order to validate the implant/abutment system and establish the maximum stress.

ITALDENT

# INSTRUCTION FOR USE

# DENTAL IMPLANTS AND MINI-IMPLANTS FOR OVERDENTURES

## Product

**Dental implants and Mini-implants for overdentures** of the Easy Grip® range.

**Features of the dental implant:**
- material: titanium grade 5 ELI
- self-tapping screw
- connection: Hexagon and internal bevel
- 45° conical coupling
- morphology: cylindrical, conical, anatomical
- diameter: 3.30 – 3.75 – 4.50 – 5.00 – 6.00 mm.
- length 5.0 - 8.0 - 10.0 - 11.5 - 13.0 - 15.0 mm.
- surface: osteogrip.

**Features of the mini-implant for overdentures:**
- material: titanium grade 5 ELI
- threaded cylindrical double-helix self-tapping screw
- connection: ball
- external hex for 2.20 mm screw.
- transmucosal route from 0 to 4 mm.
- body Ø 2.70 mm, collar Ø 3.00 mm.
- length 7.0 - 9.0 - 11.0 - 13.0 mm.
- surface: osteogrip.

•The operator identifies the most suitable dental implant or mini-implant for overdentures depending on several factors, in particular:

a) the quantity and quality of available bone
b) the characteristics of the implant site
c) masticatory load

all these aspects should be properly assessed in order to select the implant correctly.

•Dental implants and mini-implants for overdentures are supplied sterile and are disposable.

•All the devices of the Easy Grip® range in the package are identified by a product code and can be traced through a production lot number.

•Inside the implant package there are two adhesive labels bearing the identification batch codes of the implant, one of which may be inserted in the doctor's medical file and the other on the patient's implant card.

• The Easy Grip® implant range is continuously enhanced. We reserves the right to alter the design and production.

## Intended Use

•Intended only for qualified surgeons or dentists who have specialised knowledge and experience in dental implantology, and therefore are fully responsible for deciding on the actual use of the products in each individual case.

If the operator deems they do not have the appropriate knowledge, they should attend appropriate training courses before using these products.

Regular implantology refresher sessions are recommended.

•The Easy Grip® implant system is designed to be surgically inserted in the maxillary and/or mandibular bone structure, thereby replacing missing teeth.

• The device is indicated as therapy in cases of:

a) complete maxillary or mandibular edentulism to anchor full prostheses
b) single and multiple distal and/or intercalated edentulism, in fixed prosthesis, to make terminal or intermediate abutments, final or temporary, of bridges and individual teeth.

•The Easy Grip® implant range makes use of the following procedures:

a) Two-stage (submerged implants)
b) Single-stage (non-submerged implants)
c) Immediate load
d) Deferred load.

•The device is disposable and its re-use, in addition to being unsuitable for the intended use, may cause serious infections with the possible loss of the implant and bone necrosis.

## Contraindications

•All medical conditions that contraindicate oral surgery are to be considered valid contraindications also in the case of dental implants and mini-implants for overdentures.

•By way of example and without prejudice to the need for a specific clinical evaluation of each individual case, the Easy Grip® dental implants and mini-implants for overdentures cannot be used in the following cases:

1) **general patient conditions:** cachexia, diabetes, hyperthyroidism, anaemia, vitiligo, haemorrhagic diathesis, osteomalacia, osteitis deformans, osteogenesis imperfecta, allergy to titanium, immune

system disorders, and any systemic disease or drug therapies that may affect the tissue repair ability, such as immunosuppressants and corticosteroids and bisphosphonates. Patients with neurotic or psychotic disorders or mental instability, and patients with smoking, alcohol and/or drugs abuse are also to be excluded. Heart disease and circulatory disease represent a general surgery contraindication and therefore even to implant therapy.
Similarly, surgery should be avoided during pregnancy.

2) **local conditions of the patient:** inadequate bone quantity, presence of lesions in the soft tissues (such as leukoplakia, lichen, stomatitis, epulis, etc.), lesions in the hard tissues (such as cysts, granulomas, root residue, inflammatory changes, etc). Inadequate oral hygiene and/or poor periodontal status. Past or current radiation therapy. Xerostomia. Bruxism and inadequate occlusal conditions.

3) **the patient's age:** in adolescents, implants should only be considered after bone growth is complete.

Notwithstanding that the decision whether to proceed or not is solely taken by the qualified surgeon or dentist.

## Side effects and precautions

•Inform the patient that the surgical placement of the implant may cause swelling, pain, bruising, inflammation, altered oral sensitivity and function and allergic reactions.
These effects are usually temporary and the patient should immediately report them to the attending dentist.

•Instruct the patient about the precautions to be taken during and after the implant is inserted and once the treatment is completed, in order to prevent complications and changes in the performance of the prosthesis (example: avoid strenuous physical activity and mechanical loads in the implant area immediately after surgery, avoid occlusal trauma, maintain good oral hygiene, perform routine checks).

•The patient should be adequately informed on the use and maintenance of the prosthesis. The attending dentist must perform six-monthly checks and maintenance.
It has been proven that a certain amount of bone resorption is physiological (Albrektsson 1987), however, poor oral hygiene may lead to infectious complications that increase this loss. That is why it is important for the patient to be made aware of the need to maintain good oral hygiene and attend the routine checks.

## Recommendations

•Dental implants and mini-implants for overdentures should only be reserved for patients who are sufficiently motivated and collaborative, with a good level of oral hygiene.

•Each implant site must have had an adequate diagnostic evaluation, clinical and radiological.

•Incorrect procedures may result in the loss of the implant and biological damage.

•Adequate antibiotic coverage is recommended during and following surgery.

•For positioning Easy Grip® dental implants and mini-implants for overdentures, use instruments that are specifically designed for oral implantology and in any case, surgical accessories and prosthetic components belonging to the Easy Grip® range.
The manufacturer will not be held liable in case of use of non-original components.

•Mobility of the implant, sensitivity to percussion and bone loss and infection are indicators of implant failure, which must then be removed.

•Dental implants and mini-implants for overdentures placed in the upper maxilla should not perforate the maxillary sinus; dental implants and mini-implants for overdentures placed in the lower maxilla must not touch, compress or sever the mandibular nerve.

•The life span of the entire implant prosthetic reconstruction is longer the slower bone support resorption is.

## Handling precautions

•Some complications may follow the surgical insertion of dental implants and mini-implants for overdentures: bruising, bleeding, hematoma, soft tissue dehiscence, delayed healing, inflammation, infection, paraesthesia, hyperaesthesia, anaesthesia, chronic pain due to the implant, perforation of the maxillary sinus, anatomical structure lesions (bundles of nerves and blood vessels), atrophy of the alveolar bone in the maxilla or mandible, oroantral or oronasal fistulas, damage to adjacent teeth, bone fractures and rupture of the implant or instruments.

•Delayed complications may occur in the event of prosthesis overload, such as fracture in the prosthetic superstructure, implant fracture, loosening of screws that connect the prosthesis and loss of integration.
Imperfections and peri-implantitis are possible complications.

•If the dental implant or mini-implant for overdentures fails, it must be disposed of as biological waste and treated in accordance with local regulations.

## Instructions for use

•The operating procedures of the device are found in the Operating Technical Manual (MTO) and the specific instructions provided in electronic format.

•The surgical and prosthetic procedures described are to be considered a standard set of guidelines that can be applied to the particular requirements and circumstances that arise in practice, depending also on the manual skills, the experience and diagnosis made by the legally qualified doctor.

•The manufacturer cannot be held liable for the use of the medical device and the procedure followed. The responsibility for the correct and proper use of the instruments and products is therefore borne by the user.

•It is recommended not to use the sterile dental implant and mini-implant for overdentures beyond the indicated expiry date.

## Pre-operative planning

The preparation for surgery includes:

- a consultation with the family doctor
- general medical and dental history
- clinical and radiological tests
- informed consent of the patient
- hygiene plan and any periodontal treatment
- adoption of the necessary drug prescriptions
- selection of the number, type, morphology and size of the implant or mini-implant that is most appropriate
- selection of the most suitable anaesthetic and sedative methods
- assessment of the risks of inadequate treatment of both soft and hard tissues
- identification and verification of the availability of both the prosthetic components and surgical instruments required for the implant surgery.

## Surgical technique

The surgical techniques for dental implants and mini-implants for overdentures are taught at university or in specific training courses. However, the following factors must always be considered:

- procedures should be carried out in suitable premises with appropriate aseptic conditions
- both hard and soft tissues should be treated with care using all necessary precautions
- the biological principles of osseointegration must be respected
- thermal trauma, which may cause bone necrosis, leading to possible impairment of the osteointegrative process, should be avoided in all cases. For this purpose, adequate milling speed must be used with burs that have excellent sharpness and with specific diameters that increase progressively. Furthermore, drilling must be carried out with an intermittent pumping action to assure maximum cooling and removal of bone debris, to be achieved with adequate irrigation with sterile saline solution, preferably cooled to 4°C.
- appropriate clinical and radiological documentation should be created and filed
- it is essential to comply with the recommended healing times in implant surgery in order to use the masticatory load with fixed prosthesis (2-3 months for the mandible, 4-6 months for the maxilla), monitoring the progress of the osteointegrative process by means of radiographic checks.

The surgical technique that allows immediate loading is only applicable in a few cases that are assessed and decided upon by the operator, who will also consider the following criteria:

a) the presence of adequate bone quantity
b) primary stability of the implants or mini-implants for overdentures, once inserted
c) good periodontal support
d) the absence of severe malocclusion or bruxism
e) the presence of adequate occlusal balance.

## Packaging of the dental implant and mini-implant for overdentures

The packaging of the dental implant and mini-implant for overdentures of the Easy Grip® range consists of (from the outside inwards):

- packaging (cardboard box with product identification label)
- two adhesive labels bearing the implant production code and batch, one to place in the patient's medical file and the other on the patient's implant card
- external blister (rigid plastic container closed at the back by a product identification label)
- sterile jar containing the implant and the titanium closing screw.

• The packaging of the dental implant includes:

- a titanium grade 5 ELI implant;
- a screw cap made of titanium grade 4;

•The packaging of the mini-implant for overdentures includes:

- a titanium grade 5 ELI mini-implant.

## Instructions to open the package and draw the dental implant and mini-implant for overdentures

Fig. 1

•Check the type of implant, its length and sterilisation expiry date on the label.
If the packaging is damaged, its contents may have lost sterility and therefore should not be used.
The package is equipped with a red anti-tampering seal which, if visible, demonstrates that it has been opened. Open the package and take out the blister and adhesive labels bearing the implant identification batch and code, one of which can be placed in the doctor's medical file and the other on the patient's implant card **(fig. 1)**.


Fig. 2

•Opening the blister: the non-sterile assistant removes the external protective sheet by taking the tear corner between two fingers and pulling upwards. This exposes the jar containing the tube with the implant, which must be set on a sterile cloth so that from then on it will solely be handled by the operator wearing sterile gloves **(fig. 2)**.

Fig. 3

•Opening the jar: open the cap that the ampoule containing the implant is attached to, and pull it out **(fig. 3)**.

Fig. 4

•Opening the ampoule: remove the cap of the ampoule and expose the head of the implant housed inside the titanium tube **(fig. 4)**.

## Instructions to insert the implant

•Take the implant with the most suitable driver for the case (mechanical aid or ratchet insert) and carry it to the implant site, screwing it all the way into position **(fig. 5 and 6)**.

Fig. 5

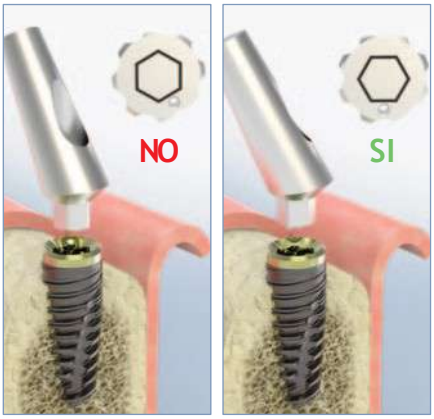
Fig. 6

Fig. 7

•The closing screw is housed at the bottom of the ampoule.
To access it, remove the cap and unscrew it. **(fig. 7)**.


Fig. 8

•In the event a pre-angled abutment of the Easy Grip® range is used, it must be considered that these abutments have an inclination angle in axis with the corner of the hex. Therefore, the hex of the implant must be rotated into the proper position while being tightened for appropriate implant/abutment alignment to be achieved **(fig. 8)**.




•In order to aid this operation, the head of the manual tightening hex key for the implants (B3R) bears the image of the corresponding position of the hex of the implants.

## Instructions to insert the mini-implant for overdentures

•Picking the implant: by removing the cap (blue) from the tube, the implant that is attached to it is removed from the package and is ready for insertion on the implant site **(fig. 1 and 2)**.

Fig. 1

Fig. 2

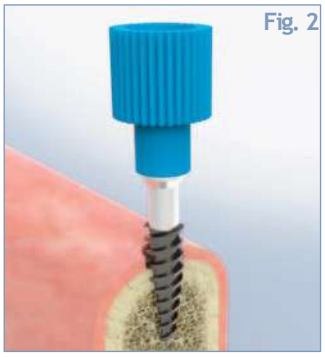


Fig. 3

•Release the blue cap and finish screwing on the mini implant using the appropriate CMBO titanium insert, together with the manual CDM key or torque ratchet.

If the effort is excessive (> 45 Ncm), it is preferable not to force the mini-implant: remove it from the site and repeat the site drilling operation to increase depth.

Fig. 4

•If the drilling depth matches the length of the mini-implant without being able to insert it (this might happen especially in cases of particularly hard bone D1), drilling may be repeated with the bur of the next diameter RMB24 (Ø 2.4 mm), **(fig. 3 and 4)**.

Fig. 5

•For correct positioning, all the turns must be completely covered in the bone crest while the base of the ball of the mini-implant should protrude from the gingival profile to prevent subsequent compression of the soft tissues by the retention copings.

Fig. 6

If a resistance of at least 35 Ncm is not reached during insertion, immediate loading is not recommended **(fig. 5 and 6)**.

## Warnings for USA

Caution: Federal law restricts these products to being sold only on prescription of an orthodontist.

### Key to symbols

| | |
|---|---|
| REF | Product code |
| LOT | Production lot |
| UDI | Unique Device Identifier |
| | Disposable |
| | Do not re-sterilise |
| | Sterilisation expiry date |
| IT | Production data |
| | Manufacturer |
| STERILE R | Ray sterilised |
| | Protect from moisture |
| | Do not use if packaging is damaged |
| NON STERILE | Not sterile |
| | Consult the instructions for use |
| | Warning |
| Rx ONLY | On medical prescription only |

# ROTARY DEVICES

## Product

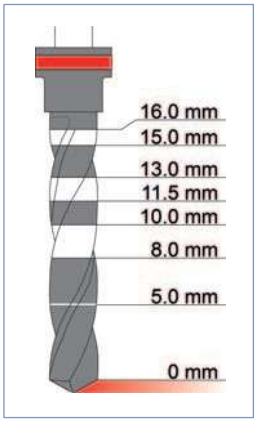
**Handpiece/hex key adapter, Mechanical clamping aid, Depth stop, Corer, Bone expander, Bur, Surgical bur, Bone tap, Countersink, Bur extension.**

**Material:** medical steel, zirconium, tungsten or diamond.

**Type of connection:** for the contra-angle handpiece (bur, surgical bur, countersink, bur extension, adapter) or hex key fitted with O-ring to assure retention (bone tap, bone expander).
All rotating devices are supplied non-sterile and are reusable.

•The **surgical bur** and the **countersink** are externally irrigated and designed for possible use with fixed height depth stops. Both can be used together with the PRF **bur extension**.

•The **depth stops**, should they be used for cylindrical surgical burs, must be selected based on bur diameter and depth required by the operator. The depth is indicated with laser coding on the outer diameter of the stop, expressed in millimetres.




•The **cylindrical surgical burs** in surgical steel have laser depth markings indicating the five heights of the Easy Grip® implants (see picture).

•The **bone tap** and the **bone expander** can be used both manually (with the digital key, the ratchet or the screwdriver handle for hexagonal inserts) and with the countersink handle by means of the AMF0 **adapter**.
They have an O-ring to assure retention (replace the O-ring after 15-20 sterilisation cycles).

•The mechanical aid is used by connecting it to the torque handpiece, using the suitable optimal values.

•All the devices of the Easy Grip® implant range are identified in the package with a product code and can be traced through a production lot number.

•Rotary devices may be fitted with colour O-rings and/or laser coding, for better identification of the devices found in the surgical kit.

• The Easy Grip® implant range is continuously enhanced. We reserves the right to alter the design and production.

## Intended Use

•Intended only for qualified surgeons or dentists who have specialised knowledge and experience in dental implantology, and therefore are fully responsible for deciding on the actual use of the products in each individual case.

•The device is intended for the preparation of the maxillary or mandibular implant site where the dental implants will be inserted.

•Bur kits are available for specific purposes (bone crest regularization kits, abutment milling kits).

## Contraindications

•The device is contraindicated in cases where it is not technically possible to create an implant site (inadequate amount of bone, hard tissue lesions and lesions in anatomical structures).

•It is contraindicated to use rotating devices that do not belong to the Easy Grip® range to position Easy Grip® implants.

## Handling precautions

•Assure plenty of cooling by means of irrigation with sterile saline solution, preferably cooled to 4°C in order to prevent irreversible damage to the bone and/or adjacent tissue. The cooling liquid should be distributed over the entire active surface of the surgical bur. Stop drilling if there is no irrigation, for any reason.

•The bone is drilled with an intermittent pumping action and an appropriate number of revs (as indicated in the table below) to assure maximum cooling and removal of bone debris.

•Before using the burs, the operator should always ascertain their optimal cutting efficiency. Devices with deteriorated cutting efficiency due to the thread being worn, those that are bent or with an eccentric rotation should be immediately removed and not reused as they are unsuitable (they may cause overheating, which in turn will result in bone necrosis and/or the operator and the patient being injured).

•Since the instrument's cutting ability decreases with use, it is **recommended to dispose of it after creating 15-20 sites** and in any case, when the cut of the bur is inadequate and/or impaired.

•The working pressure must be between 0.3 and 2 N/mm2. Strictly avoid excessive pressure as it generates bone overheating and damages the working part.

•Insert the rotating device only in a suitable micromotor drill with a contra-angle fitting in perfect condition, carefully and without force. Incorrect insertion may cause the instrument to vibrate and rotate eccentrically.

•Do not wrap or lean on the device during the processing as it risks breaking.

•With regards to **burs** and **countersinks** comply with the maximum rotation speed of 500-1000 RPM and the recommended speeds (indicated in **diagram 1**), while taking care to use the bur only after it has reached the speed of use before applying it to the part to be treated.
The recommended speed for all **bone taps** and **bone expanders** is 15 RPM.
For the crest bur (RLO35) the recommended speed is 1000-1200 RPM.

Diagram 1

Rotation speed

| Code | Speed rpm |
|---|---|
| RLO18<br>RA018<br>RMB20<br>RMB24 | 850 |
| RMB27<br>RMB30 | 750 |
| RMB33<br>RMB36<br>RMX36 | 650 |
| RMB42<br>RMX42<br>RMX52 | 550 |
| AS2<br>AS3 - ASS<br>AS4 - ASL<br>AS5 - ASX | 350 |

•If use of the suitable **extension** is opted for, ensure the **surgical drill** is properly inserted and locked inside the extension.
Proper housing of the drill on the extension is marked by a slight "click" when coupled.

•Due to the small size of the burs and instruments particular attention should be paid to make sure they are not swallowed by the patient.

•Take into account that measurement of the depth markings of the **surgical cylindrical burs** does not include the length of the tip, which varies depending on the bur (see **diagram 2**). Therefore, when drilling near vital anatomical structures, the extra length of the bur must be considered.

•If forced, depth stops may lose elasticity of the fins. In this case the position must be restored by tightening them slightly with a pair of tongs.

•Before tightening the prosthetic components, ensure the hex of the **mechanical aid** is inserted properly in the hex head of the screws or the implant, in order to prevent hex deformation. If the hex is worn, it is recommended to replace the surgical device.

•If the rotating device is used, it must be disposed of as biological waste to all intents and purposes and handled in accordance with local regulations.

## Instructions for use

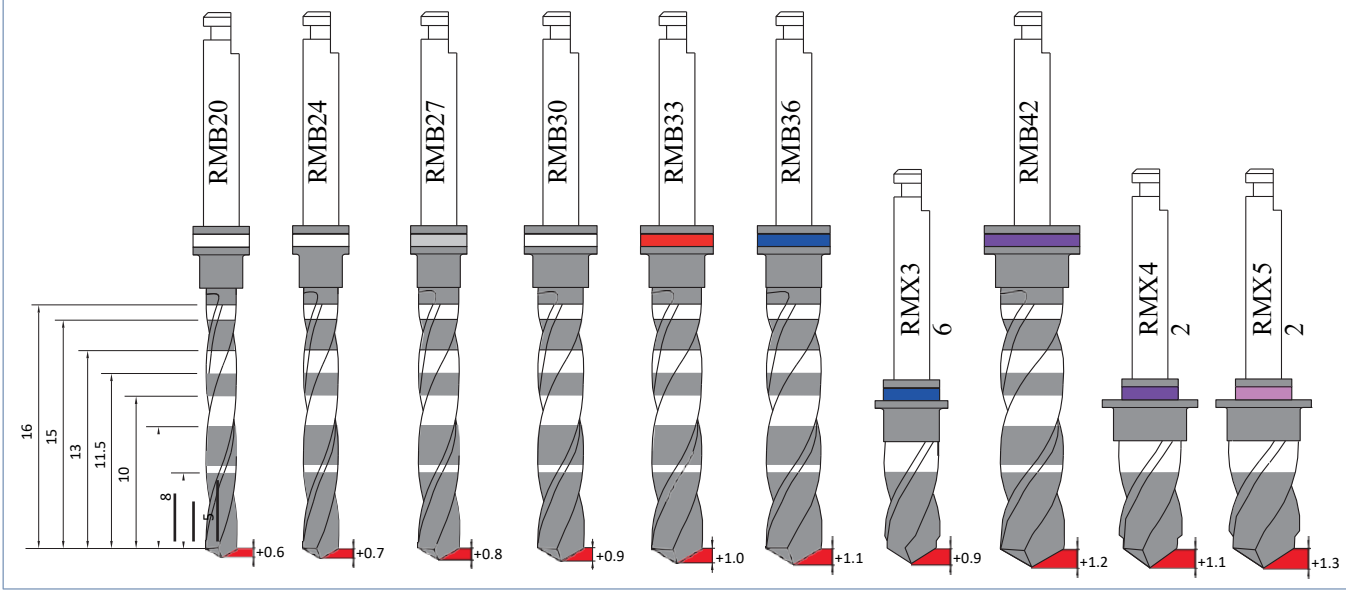
•For the product's operating procedures refer to the Operating Technical Manual (MTO) and the specific instructions provided in electronic format.

•The surgical and prosthetic procedures described are to be considered a standard set of guidelines that can be applied to the particular requirements and circumstances that arise in practice, depending also on the manual skills, the experience and diagnosis made by the legally qualified doctor.

•The manufacturer cannot be held liable for the use of the medical device and the procedure followed. The responsibility

Diagram 2

Unit of measure: mm



for the correct and proper use of the instruments and products is therefore borne by the user.

•The surgical procedure decided by the implant dentist may range from being minimally invasive (using the mucotome) to lifting the total thickness of the sides and expose the bone.

• The positions of the implant sites are established using the **round bur** or the **cutter**.

•To create appropriate osteotomy for the position of the selected implant, a set of **burs** of increasing diameter are used.

•The implant dentist may also decide to use adequate **bone taps** or **bone expanders**, depending on the bone density found.

•The **countersink** is required to create the proper housing for the tapered neck of the Easy Grip® implants, thereby increasing the bone retention phenomenon at cortical level and preventing excessive compression of the microgrooves on the bone, which results in tissue necrosis.

## Maintenance and storage

•Prior to being used on the patient the rotating device must always undergo validated processes of cleansing, disinfection and/or sterilisation, taking care to disconnect any depth stops from the burs.

•Before cleaning the instruments, manually remove the impurities using only specifically designed nylon brushes.

•**To clean:** place the used instruments in a cleaning solution, specific for reusable medical devices, with the relative dilution and contact time, making sure that they remain sufficiently immersed.
Pay particular attention that the cutting parts of the burs do not touch each other (use specific bur holder supports).
Clean the instruments in an ultrasonic bath, where applicable.
It is recommended to use enzymatic/neutral products (see "products that are incompatible with the instruments").
Immediately dry the instruments, otherwise there lies the risk of corrosion.

•**To disinfect:** place the used instruments in a special disinfectant solution, specific for reusable medical devices, with the relative dilution and contact time, making sure that they remain sufficiently immersed. Pay particular attention that the cutting parts of the burs do not touch each other (use specific bur holder supports). It is recommended to use products containing anti-corrosive additives (see "products that are incompatible with the instruments").
Immediately dry the instruments, otherwise there lies the risk of corrosion.

•**For sterilisation:** sterilise in steam autoclave for approx. 20 minutes at standard temperature of 121°C. Pay particular attention that the cutting parts of the burs do not touch each other (use specific bur holder supports). Once sterilisation is completed, store the sterile instruments in closed containers.

•Always keep the product clean and store in a dry place, avoiding impacts that might damage it.

• Do not use the device if the packaging is damaged.

## Products that are incompatible with the instruments

When choosing the products for cleaning and disinfecting ensure they do not contain the following chemical components, as they may corrode and/or oxidise the instruments, in particular in the area with laser marking:

- organic, mineral and oxidising acids (pH 5.5 is the minimum value allowed)
- strong alkaline solutions (pH 8.5 is the maximum value allowed; it is recommended to use a neutral/enzymatic cleaning agent)
- organic solvents (for example alcohols, ethers, ketones, gasoline)
- oxidants (e.g. hydrogen peroxides)
- halogens (chlorine, iodine, bromine)
- halogenated / aromatic hydrocarbons

Never use harsh chemicals or ammonium-salt based chemicals.

# COMPONENTI PROTESICHE

## PROSTHETIC COMPONENTS

**Prosthetic components (Seal ring, Box for coping, Retention coping, Ball abutment, Abutment with shoulder, Aesthetic abutment, Abutment for CAD/CAM, Abutment for screwed prosthesis, Provisional abutment, Healing screw, Clamping screw, Occlusal screw, etc.).**

**Material:** titanium, surgical steel, cobalt chrome, PMMA, PEEK, POM, PS Crystal, PC.

•All prosthetic components are supplied non-sterile and are disposable, except for the healing screw which can be reused.

•All the devices of the Easy Grip® implant range are identified in the package with a product code and can be traced through a production lot number.

• The Easy Grip® implant range is continuously enhanced. We reserves the right to alter the design and production.

## Intended Use

•Intended only for qualified surgeons or dentists who have specialised knowledge and experience in dental implantology, and therefore are fully responsible for deciding on the actual use of the products in each individual case.
The prosthetic components can also be used by dental technicians who have attended relevant training courses.

•The device is intended to be used for the reconstruction of partial or full, permanent or temporary prostheses or as an anchor for removable prostheses (tooth replacement with cemented and/or screwed fixed prostheses or anchoring of removable prostheses by means of ball couplings) for Easy Grip® dental implants.

•Dental implants are designed to restore the aesthetic, phonetic, and masticatory functions in patients.

## Contraindications

Making prosthetic devices with components that do not belong to the Easy Grip® range is contraindicated as it would affect reliability, especially the tightness of the fixture/abutment connection.

## Side effects

Besides very rare cases of allergic reactions to titanium, there are no pharmacological side effects as the raw materials used for the devices are historically inert.

## Handling precautions

•The lifetime of the prosthetic devices depends on their maintenance carried out by the patient, who must be thoroughly informed of the procedures to be followed.
The doctor must perform check-ups and maintenance agreed with the patient.

•To assure reliable tightness of the fixture/abutment connection, it is recommended not to alter the friction generated by the hexagon of the pre-formed "friction-fit" abutment.

•Due to the small size of the surgical accessories particular attention should be paid to make sure they are not swallowed by the patient.

•Before tightening the prosthetic components, make sure the hex of the key, insert or mechanical aid is inserted properly in the hex head of the screws, in order to prevent hex deformation. If the hex is worn, it is recommended to replace the surgical device.

•If the prosthetic device is used, it must be disposed of as biological waste to all intents and purposes and handled in accordance with local regulations.

## Instructions for use

•The operating procedures of the device are found in the Operating Technical Manual (MTO) and the specific instructions provided in electronic format.

•The surgical and prosthetic procedures described are to be considered a standard set of guidelines that can be applied to the particular requirements and circumstances that arise in practice, depending also on the manual skills, the experience and diagnosis made by the legally qualified doctor.

•The manufacturer cannot be held liable for the use of the medical device and the procedure followed. The responsibility for the correct and proper use of the instruments and products is therefore borne by the user.

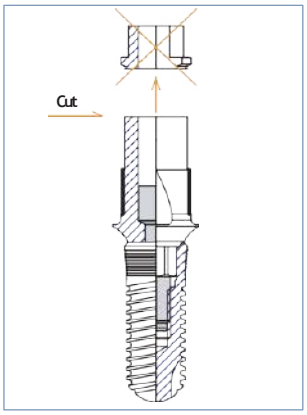
• **Ball abutments** are divided into three types:
- **standard**: with normo ball;
- **sfero-flex**: with mobile ball that assures tilting up to 7.5°;
- **equator**: with lowered ball.

•The **abutments** and **healing screws** are available in various sizes to best meet individual anatomical requirements.

•The **preformed abutments** and **healing screws** are in anodized coloured titanium; those intended for Short Neck

implants (series 3) are yellow and those with an enhanced platform intended for Large, Extra-Large and Extra-Extra-Large implants (series 4) are light blue.
Always use pre-formed abutments with a series 3 connection for the Platform switching technique.

•In cases of **abutments for multiple connections** or **provisional abutments** the PTP series pre-formed abutment, fitted with a short and non frictioning hex is to be used (PTP00 is with no hex).
The temporary abutments in PEEK have maximum six months' utilisation.
Castable abutments may be in PMMA material (plexiglass) or in PS Crystal (polystyrene crystal).




•The **PDT** may be used as a pre-formed abutment with non-frictioning hex, in which case, cut the part indicated in the diagram.

•Before connecting the prosthetic device verify that the implant has osseointegrated by carefully assessing:

a) no pain on percussion;
b) no device movement;
c) no radiological signs of peri-implant bone destruction.

## Maintenance and storage

•Prior to being used on the patient the prosthetic components must always undergo validated processes of cleansing, disinfection and/or sterilisation.

•Before cleaning the instruments, manually remove the impurities using only specifically designed nylon brushes.

•**To clean:** place the prosthetic components used in a cleaning solution, specifically formulated for treating medical devices, with the prescribed dilution and contact time, ensuring they remain immersed for a sufficient amount of time.
Clean the instruments in an ultrasonic bath, where applicable.

•**To disinfect:** place the prosthetic components used in a special disinfectant solution, specifically formulated for treating medical devices, with the prescribed dilution and contact time, ensuring they remain immersed for a sufficient amount of time.

•**For sterilisation:** sterilise in steam autoclave for approx. 20 minutes at standard temperature of 121°C. Once sterilisation is completed, store the sterile prosthetic components in closed containers.

•Always keep the product clean and store in a dry place, avoiding impacts that might damage it.

• Do not use the device if the packaging is damaged.

# SURGICAL ACCESSORIES

## Product

**Surgical accessories (Laboratory analogue, Positioning ring, Castable Box for coping, Allen key, Retentive coping for laboratory, Manual key, Ratchet, Abutment puller, Coping puller, PS Holder, PTS Holder, Insert, Handle with coping inserter, Laboratory tap, Depth Gauge, Tissue punch, Paralleling device, Pin-analogue, Transfer pin, Castable abutment, Test abutment, Extension for hex key, Surgical tray, Laboratory screw, Screw for waxing, Screw for manual key, etc.).**

**Material**: titanium, medical steel, radel, PMMA, POM, PEEK.

• The surgical accessories are supplied non-sterile and are reusable.

•The torque-adjustment ratchet is not a measuring device but a precision instrument with a range of ± 10% and a safety interval of 95% and can be dismantled.

•All the devices of the Easy Grip® implant range are identified in the package with a product code and can be traced through a production lot number.

• The Easy Grip® implant range is continuously enhanced. We reserves the right to alter the design and production.

## Intended Use

•Intended only for qualified surgeons or dentists who have specialised knowledge and experience in dental implantology, and therefore are fully responsible for deciding on the actual use of the products in each individual case. Some specific devices are also intended to be used by adequately trained dental technicians.

•The device is intended to be used for the preparation of the maxillary or mandibular implant site and insertion of Easy Grip® dental implants.

## Contraindications

It is contraindicated to use surgical accessories that do not belong to the Easy Grip® range to position Easy Grip® implants.

## Handling precautions

•Before tightening the prosthetic components with screw, ensure the hex (or square) of the key or insert is inserted properly in the hex head of the screw, in order to prevent hex deformation. In the event of wear of the hexagonal (or square) section, it is recommended to replace the device.

•The delrin gasket of the **CHE** hex loses functionality after 20-25 sterilisation cycles, it must therefore be replaced. This gasket must be inserted on the key until it snaps.

•To use the manual Sferoflex **ICMU** abutment key, press the piston ensuring the tongs are properly open, then insert the connection of the Sferoflex abutment in the tongs, release the piston ensuring the tongs close and completely enclose the hexagon; in this way the manual key is ready for the torsion action.

•Do not pace the radel **surgical tray** to the walls of the autoclave during sterilisation cycles, as prolonged contact may cause permanent deformation.

•Before using the surgical accessory, the operator should always ascertain its mechanical integrity. If the device is not efficient, it must be immediately discarded and not reused as it is unsuitable.

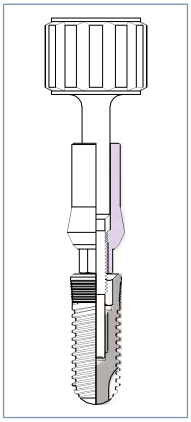
•In order to assure correct operation, the torque wrench must be removed, disinfected, cleaned, lubricated and sterilised after each use.

•Due to the small size of the surgical accessories particular attention should be paid to make sure they are not swallowed by the patient. For this purpose, various accessories have a grommet hole for them to be secured to an adequate safety thread during surgery.

•The **implant analogues** are differentiated by two separate purposes:

a) those intended for the friction-fit pre-formed abutments are in ochre-yellow titanium
b) those intended for castable or non-frictioning pre-formed prostheses are in natural titanium.

•The **PDT mounter** can be used as a **transfer** for indirect impression, using the **VU** connection screw supplied; the **VLC3** long screw must be used for direct impression.



•The **VCDM screw** must always be used with the manual CDM key.

•The friction-fit fixture/abutment coupling of the Easy Grip® range is very persistent, therefore, when it must be separated, it is recommended to use the **EM2** extracting key for abutments. In case of limited operating space, use the extracting screw **EM**.

•If the surgical accessory is used, it must be disposed of as biological waste to all intents and purposes and handled in accordance with local regulations.

## Instructions for use

•The operating procedures of the device are found in the Operating Technical Manual (MTO) and the specific instructions provided in electronic format.

•The surgical and prosthetic procedures described are to be considered a standard set of guidelines that can be applied to the particular requirements and circumstances that arise in practice, depending also on the manual skills, the experience and diagnosis made by the legally qualified doctor.

•The manufacturer cannot be held liable for the use of the medical device and the procedure followed. The responsibility for the correct and proper use of the instruments and products is therefore borne by the user. The test abutments allow the most appropriate abutment to be selected in the prosthetic planning stage.

•The optimal tightening torque for screwed Easy Grip® prosthetic components (codes PS and PP) and connection screws (codes VU, VS and VUF) has been identified after appropriate study as 35 Ncm.

• The optimal torque with which to tighten the **occlusal screw** is 15 Ncm for the VOP screw.

• The optimal torque with which to tighten the **cap screws** and the **healing screws** is 20 Ncm.

•Do not use the torque ratchet with torque values above 70 Ncm for the **CUD80** model. Upon delivery the indicated torque values have a precision range of ± 10%.

## Maintenance and storage

•Prior to being used on the patient the surgical accessory must always be subjected to validated processes of cleansing, disinfection and/or sterilisation, taking care to disconnect the two components of the mucotome. The torque ratchet must undergo cleaning processes fully disassembled without using hot water.

•Immediately after use (within two hours at most) and always before cleaning the instruments, manually remove the impurities using only nylon brushes intended for the purpose, rinsing the products under cold running water (<40° C.).

•**To clean**: place the used surgical accessories in a cleaning solution, specific for reusable medical devices, with the relative dilution and contact time, making sure that they remain sufficiently immersed.
Clean the instruments in an ultrasonic bath, where applicable. It is recommended to use enzymatic/neutral products (see "products that are incompatible with the instruments"). Dry the instruments immediately. Never exceed the maximum temperature of 40° C.

•**To disinfect**: place the used surgical accessories in a special disinfectant solution, specific for reusable medical devices, with the relative dilution and contact time, making sure that they remain sufficiently immersed. It is recommended to use products containing anti-corrosive additives (see "products that are incompatible with the instruments"). Dry the instruments immediately.

•**For sterilisation**: sterilise in steam autoclave for approx. 20 minutes at standard temperature of 121°C. Once sterilisation is completed, store the sterile surgical accessories in closed containers.

•The surgical kit cannot exceed the following usage limitations: maximum time 20 minutes, maximum temperature 135° C., pressure 2.2 bar.

•Always keep the product clean and store in a dry place, avoiding impacts that might damage it.

• Do not use the device if the packaging is damaged.

## Products that are incompatible with the instruments

When choosing the cleansing and disinfecting products, make sure they do not contain the following chemicals as they may damage the instruments:

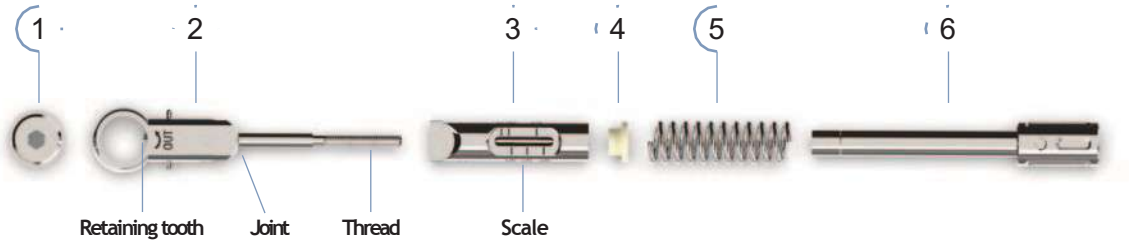
- organic, mineral and oxidising acids (pH 5.5 is the minimum value allowed)
- strong alkaline solutions (pH 8.5 is the maximum value allowed; it is recommended to use a neutral/enzymatic cleaning agent)
- organic solvents (for example alcohols, ethers, ketones, gasoline)
- oxidants (e.g. hydrogen peroxides)
- halogens (chlorine, iodine, bromine)
- halogenated/aromatic hydrocarbons

Never use harsh chemicals or ammonium-salt based chemicals.

## CUD80 TORQUE RATCHET KEY

The CUD80 torque ratchet is composed of the following elements:

1. Toothed wheel
2. Key head
3. Graduated bush
4. Washer
5. Spring
6. Adjustment nut




**Possible preliminary adjustments**

•Prosthetic adjustment - torque function: by actuating the relative nut it is possible to continuously adjust the torque range by the spring. The adjustment is visible on the scale of the graduated bush.

• Surgical adjustment - blocked function:
turn the adjustment nut to the ∞ (infinite) reference mark. Do not tighten too much.

Warning: do not loosen both screws (X) on the adjustment nut (see figure) to avoid losing the factory setting.


**Use**

By rotating the tightening torque adjustment screw (6), the torque ratchet may be adjusted according to the torque selected by the operator, ensure the reference value on the graduated bush (3) is aligned to the reading slot of the adjustment nut (6).

**Correct use of the torque applicator**

•To apply the torque precisely, it is necessary to press only on the grip of the adjustment nut (see arrow in the figure).

• Apply the torque, pressing with one finger only.

•Do not grasp the grip with thumb and index finger to apply the torque.

•When the set torque is achieved, the graduated bush bends in relation to the axis on the head of the key. The application of the torque is perceived by sound and touch.

When the torque has been applied, do not press any more, otherwise the ratchet key or the dentistry components could get damaged.

When you release the grip, the ratchet key goes back to its initial position.

**Disassembly**

•Before cleaning (regardless of the selected cleaning method), take apart the various components of the torque ratchet key. Disassembly does not require the use of tools, simply completely unscrew the adjustment nut (6) and take it out.

•Take care not to lose the plastic washer (4), as this would jeopardise the precision of the instrument. (The plastic washer only needs to be removed if visibly soiled. If necessary, the washer can be taken out. After cleaning, put it back in).

**Maintenance**

Slightly lubricate the marked points (see the initial Figure) with suitable lubricating oil.
Be sure to only use oils that are suitable for the instruments (white paraffin oil without corrosion inhibitors or other additives), approved for steam sterilisation (taking into consideration the maximum steam sterilisation temperature (taking into consideration the maximum applied sterilisation temperature) and with confirmed biocompatibility. Always use the minimum necessary amount.

Assemble the ratchet key and run a function test. After assembly and before sterilisation, the ratchet key must be in a loosened position of max 10 Ncm.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