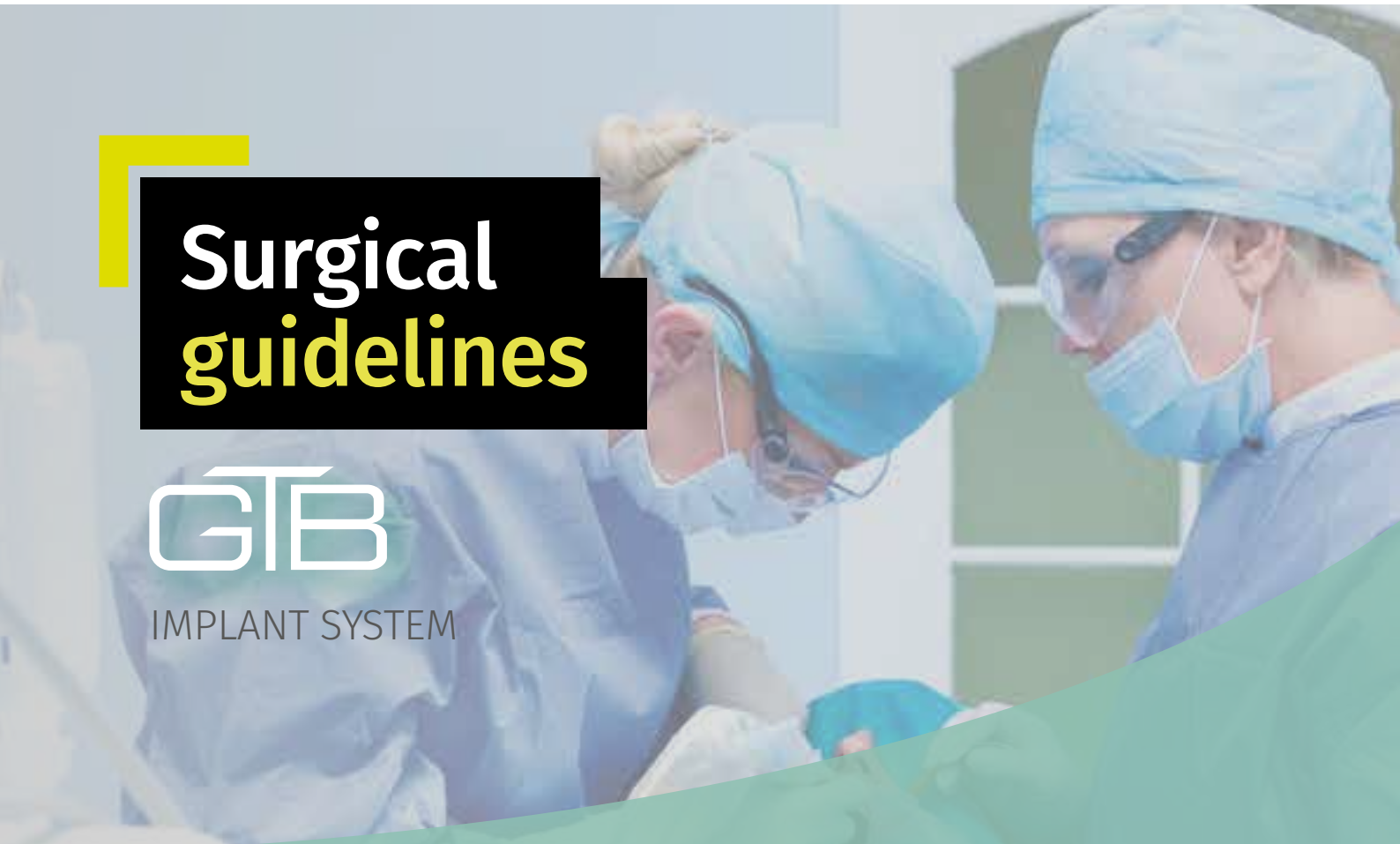
ADVAN

Implantology Reinvented

Surgical guidelines

GTB

IMPLANT SYSTEM



Index

GTB Implants

GTB NARROW IMPLANT SCREW

3.3 mm diameter

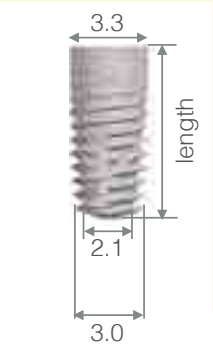
Indicated for anterior sector or as auxiliary implant in multiple rehabilitations. It is ideal for restoring elements of reduced volume or in cases of narrow ridges.

length 7.5 | length 9.0 | length 10.5 | length 12.0

implant neck diameter

implant apical core diameter

implant apical thread diameter



GTB NARROW
3.3 mm diameter
7.5 mm length
code G3307

GTB NARROW
3.3 mm diameter
9.0 mm length
code G3309

GTB NARROW
3.3 mm diameter
10.5 mm length
code G3310

GTB NARROW
3.3 mm diameter
12.0 mm length
code G3312

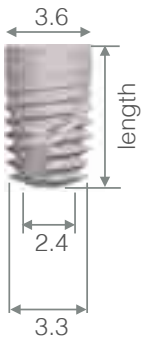
Surgical cover screws are included in the implant screw packaging

GTB REGULAR IMPLANT SCREW

3.6 mm diameter

Standard diameter ideal for single and multiple implant-prosthetic restorations. This endosseous screw is suitable for post-extraction protocol and immediate loading. The option of a reduced length endosseous screw makes it possible to always choose ideal position and axis for the screw to confront protocols of multiple rehabilitations with maximum mechanical and biological safety.

length 6.0



GTB REGULAR
3.6 mm diameter
7.5 mm length
code G3307

length 7.5

GTB REGULAR
3.6 mm diameter
7.5 mm length
code G3307

length 9.0

GTB REGULAR
3.6 mm diameter
9.0 mm length
code G3309

length 10.5

GTB REGULAR
3.6 mm diameter
10.5 mm length
code G3310

length 12.0

GTB REGULAR
3.6 mm diameter
12.0 mm length
code G3312

Surgical cover screws are included in the implant screw packaging

GTB Implants

GTB WIDE IMPLANT SCREW

4.3 mm diameter

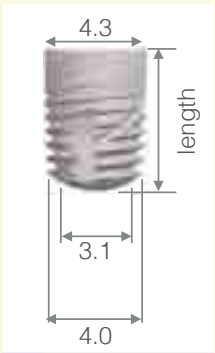
Large diameter implant is indicated for single and multiple implant-prosthetic rehabilitations of larger dental elements and gaps in the distal regions of the maxilla. This endosseous screw is suitable for post-extraction protocol and immediate loading. The option of a reduced length endosseous screw makes it possible to always choose ideal position and axis for the screw to confront protocols of multiple rehabilitations with maximum mechanical and biological safety.

length 6.0 | length 7.5 | length 9.0 | length 10.5 | length 12.0

implant neck diameter

implant apical core diameter

implant apical thread diameter



GTB WIDE
4.3 mm diameter
6.0 mm length
code G4306

GTB WIDE
4.3 mm diameter
7.5 mm length
code G4307

GTB WIDE
4.3 mm diameter
9.0 mm length
code G4309

GTB WIDE
4.3 mm diameter
10.5 mm length
code G4310

GTB WIDE
4.3 mm diameter
12.0 mm length
code G4312

Surgical cover screws are included in the implant screw packaging

GTB Rescue Implants

GTB-RESCUE Implants should always be positioned subcrestal to avoid marginal bone resorption

GTB-RESCUE REGULAR IMPLANT SCREW

4.4 mm diameter

Standard diameter ideal for single and multiple implant-prosthetic restorations. This endosseous screw is suitable for post-extraction protocol and immediate loading. The option of a reduced length endosseous screw makes it possible to always choose ideal position and axis for the screw to confront protocols of multiple rehabilitations with maximum mechanical and biological safety.

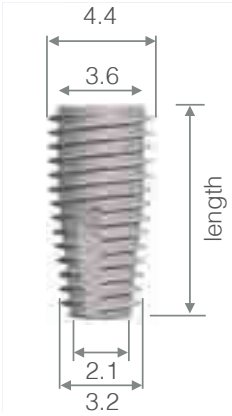
length 6.0

RESCUE REGULAR
3.6 mm diameter
6.0 mm length
code R4406

length 7.5

RESCUE REGULAR
3.6 mm diameter
7.5 mm length
code R4407

length 9.0



RESCUE REGULAR
3.6 mm diameter
9.0 mm length
code R4409

length 10.5

RESCUE REGULAR
3.6 mm diameter
10.5 mm length
code R4410

length 12.0

RESCUE REGULAR
3.6 mm diameter
12.0 mm length
code R4412

Surgical cover screws are included in the implant screw packaging

GTB Rescue Implants

GTB-RESCUE Implants should always be positioned subcrestal to avoid marginal bone resorption

GTB-RESCUE WIDE IMPLANT SCREW

5.1 mm diameter

Large diameter implant is indicated for single and multiple implant-prosthetic rehabilitations of larger dental elements and gaps in the distal regions of the maxilla. This endosseous screw is suitable for post-extraction protocol and immediate loading. The option of a reduced length endosseous screw makes it possible to always choose ideal position and axis for the screw to confront protocols of multiple rehabilitations with maximum mechanical and biological safety.

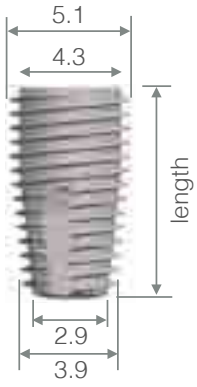
implant neck diameter

implant apical core diameter

implant apical thread diameter

RESCUE WIDE
4.3 mm diameter
6.0 mm length
code R5106

RESCUE WIDE
4.3 mm diameter
7.5 mm length
code R5107



RESCUE WIDE
4.3 mm diameter
9.0 mm length
code R5109

RESCUE WIDE
4.3 mm diameter
10.5 mm length
code R5110

RESCUE WIDE
4.3 mm diameter
12.0 mm length
code R5112

Surgical cover screws are included in the implant screw packaging

Indications

GTB dental implants are indicated for oral endosseous placement in the upper and lower jaw and for functional and aesthetic rehabilitation of edentulous and partially dentate patients (provided there are no particular contraindications or limitations, as shown below).
GTB dental implants can also be used for immediate or early implantation following extraction or loss of natural teeth. Within the scope of these indications, **GTB implants** are approved for immediate restoration in cases of single tooth gaps, edentulous or partially dentate jaw.

Good primary stability and adequate occlusal load are essential requirements. In case of immediate restoration, two or more adjacent implants should be prosthetically connected together. In case of immediate restoration in edentulous patients, at least 4 implants must be connected together.
Approximate duration of the healing phase for delayed restorations is given below.

The prosthetic restorations used are single crowns, bridges and partial or full dentures, which are connected to the implants by the corresponding elements (abutments).

In the following pages, detailed information is given about the indications, the necessary bone volume and the spacing between implants and adjacent teeth.
The innovative feature of **GTB implants** is that these endosseous screws have high biological performance and can therefore ensure adequate occlusal load even when implants of reduced diameter and length are used that would not be recommended by competitive implant systems.
This characteristic allows the surgical procedures to be carried out with ample safety without having to come close to the anatomical limits of utmost importance. In addition, implants can be positioned in bone tissue of greater volume (and greater vitality) in comparison to the recommendations of competitive implant systems.
For this reason, the objective to pursue, while choosing the **GTB implant** diameter and length, is to keep most of the available bone tissue and perform least invasive and simple surgical procedure.
The **GTB REGULAR** Ø 3.6 mm implant can easily be used in rehabilitations of single missing tooth with a crown of 10-12 mm, therefore in position VI in the maxilla, even when the available vertical bone requires the use of a short **GTB implant** of 6.0mm length.

Indications

INDICATION TABLE FOR GTB IMPLANTS

IMPLANT		INDICATION	MINIMAL VESTIBULAR-PALATAL SPACE	MINIMAL MESIO-DISTAL SPACE
GTB NARROW Ø 3.3 mm		Narrow ridges and interdental spaces placement in the molar region is not recommended	5.3 mm	6.3 mm
GTB REGULAR Ø 3.6 mm		Rehabilitation of partially or completely edentulous maxilla	5.6 mm	6.6 mm
GTB WIDE Ø 4.3 mm		Rehabilitation of partially or completely edentulous molar regions of the maxilla	6.3 mm	7.3 mm

INDICATION TABLE FOR GTB-RESCUE IMPLANTS

IMPLANT		INDICATION	MINIMAL VESTIBULAR-PALATAL SPACE	MINIMAL MESIO-DISTAL SPACE
GTB-RESCUE REGULAR Ø 4.4 mm		Rehabilitation of partially or completely edentulous maxilla	6.4 mm	7.4 mm
GTB_RESCUE WIDE Ø 5.1 mm		Rehabilitation of partially or completely edentulous molar regions of the maxilla	7.1 mm	8.1 mm

Indications

Specific indications for small diameter implants GTB NARROW Ø 3.3 mm

The **GTB implant** does not follow the general rule of the competitive implant systems to use the largest possible implant diameter. With the **GTB implant** system it is possible to use **GTB REGULAR** Ø 3.6 mm diameter both in the incisal and the distal regions of the maxilla. However, the use of **GTB implant** system is further facilitated by offering a reduced implant diameter - **GTB NARROW** Ø 3.3 mm - allowing easy placing of the implant in regions with scarce bone volumes, provided the loading conditions are adequate.

GTB NARROW Ø 3.3 mm implant is ideal for the rehabilitation of incisors in the mandible and lateral incisors in the maxilla. In case of application in regions with high occlusal load, it is always better to choose the **GTB REGULAR** Ø 3.6 mm implant. If determined to use the **GTB NARROW** Ø 3.3 mm implant, this will have to be an auxiliary implant, used together with the **GTB REGULAR** Ø 3.6 mm implants or **GTB WIDE** Ø 4.3 mm implants to support prosthetic rehabilitations on multiple implants.

It is recommended to place **GTB NARROW** Ø 3.3 mm implants in the molar regions of the maxilla.

Specific indications for short GTB implants of 6.0 mm length

Thanks to their feature of high biological performance, the short **GTB implants** of 6.0 mm length have no particular contraindications. They can also be used to replace a single missing tooth. However, due to the limited available surface their use in post-extraction protocols with immediate or early loading demands great caution because the achieved mechanical primary stability is lower than in implants of greater length.

Contraindications

Serious internal medical problems, bone metabolism disturbances, uncontrolled bleeding disorders, inadequate wound healing capacity, poor oral hygiene, maxillary and mandibular growth not completed, poor general state of health, uncooperative, unmotivated patient, drug or alcohol abuse, psychoses, prolonged therapy-resistant functional disorders, xerostomia, weakened immune system, illnesses requiring periodic use of steroids, titanium allergy, uncontrollable endocrine disorders.

Relative contraindications

Previously irradiated bone, diabetes mellitus, anticoagulation drugs/ haemorrhagic diathesis, bruxism, parafunctional habits, unfavourable anatomic bone conditions, tobacco abuse, uncontrolled periodontitis, temporomandibular joint disorders, treatable pathologic diseases of the jaw and changes in the oral mucosa, pregnancy, inadequate oral hygiene.

Local contraindications

Inadequate bone volume and/or quality, local root remnants.

Preoperative planning

IMPLANT POSITION

The implant is the most important point of the restoration. It provides the basis for planning the surgical procedure.
Close communication between patient, dentist, surgeon and dental technician is imperative for achieving the desired prosthetic result.
In order to establish the topographical situation, the axial orientation and the choice of implants, we recommend the following procedures:

- Make a dental wax-up/set-up on the previously prepared study cast.
- Define the type of superstructure.

The wax-up/set-up can later be used as the basis for a custom-made X-ray or drill template and for a temporary restoration.

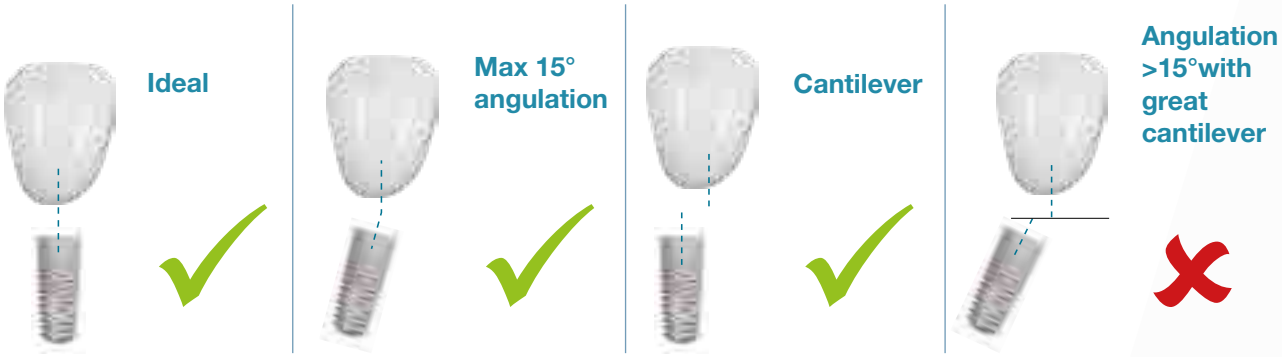
Select the implant diameter, type, position and number of implants individually for each case, considering the singular anatomy and spatial circumstances (e.g. malpositioned or inclined teeth). The measurements indicated here should be regarded as minimum guidelines. The minimum distances must be observed to achieve adequate restoration planning which will also allow the necessary oral hygiene measures to be carried out.

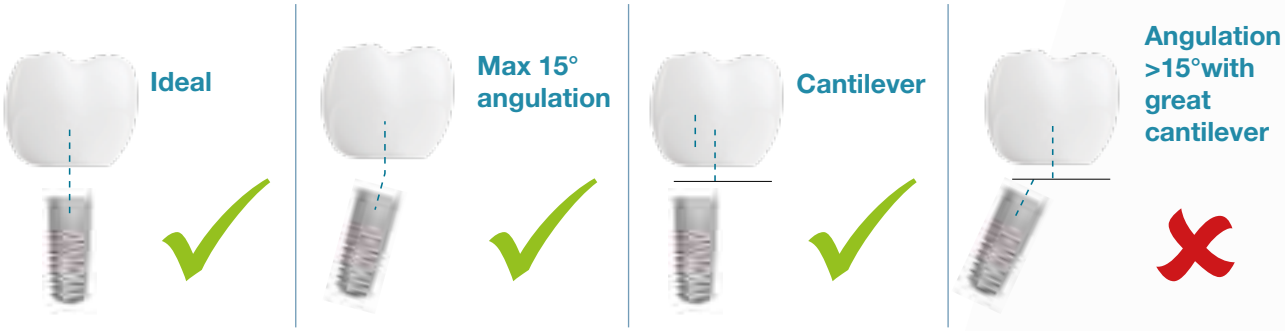
The final response of hard and soft tissues is influenced by the position between the implant and the proposed restoration that should therefore be based on the position of the implant-abutment connection.

The following three dimensions determine the implant position:

- **Mesio-distal**
- **Vestibulo-palatal & bucco-lingual**
- **Corono-apical**

The prosthetic components should always be loaded axially. Ideally, the long axis of the implant is aligned with the cusps of the opposing tooth. It is recommended to avoid extreme cusp formation since this could lead to unphysiological loading. Dental implants with vertical internal connections, such as the **GTB implant**, can guarantee significantly better biomechanical performance in comparison to horizontal connection implants of flat-to-flat type only if the disparallelism between the implant axis and the prosthetic axis is equal or inferior to 15 degrees. The advantage of the **GTB dental implant** lies in the possibility of using shorter implants with reduced diameter in comparison to competitive implant systems, which in turn facilitates the correct positioning of the implant.





Mesio-distal implant position

The mesiodistal bone availability is an important factor for choosing the implant type and diameter as well as the interimplant distances in the case of multiple implants.

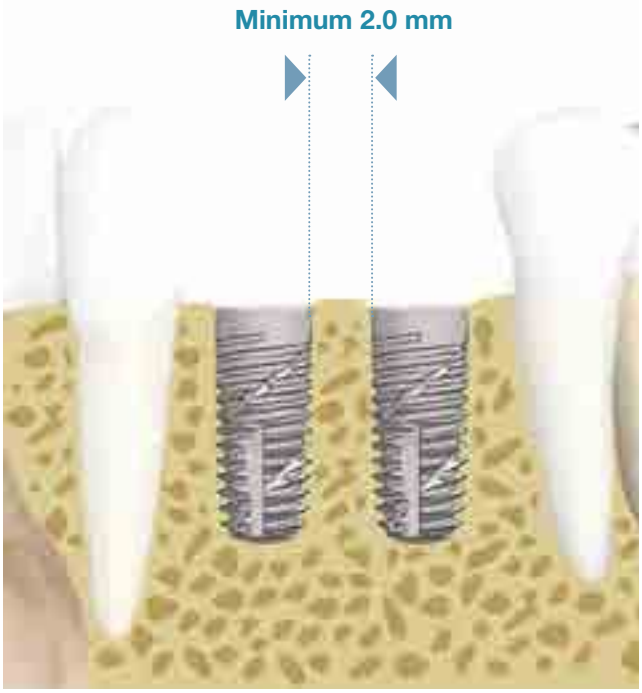
The basic rules to apply:

Rule No. 1

Distance to adjacent tooth at bone level: a minimal distance of 1.5 mm is required between the implant emergence and the adjacent tooth at bone ridge level (mesial and distal) is required.

Rule No. 2

Distance to adjacent implants at bone level: a minimal distance of 3 mm between two adjacent implant emergences (mesiodistal) is required.



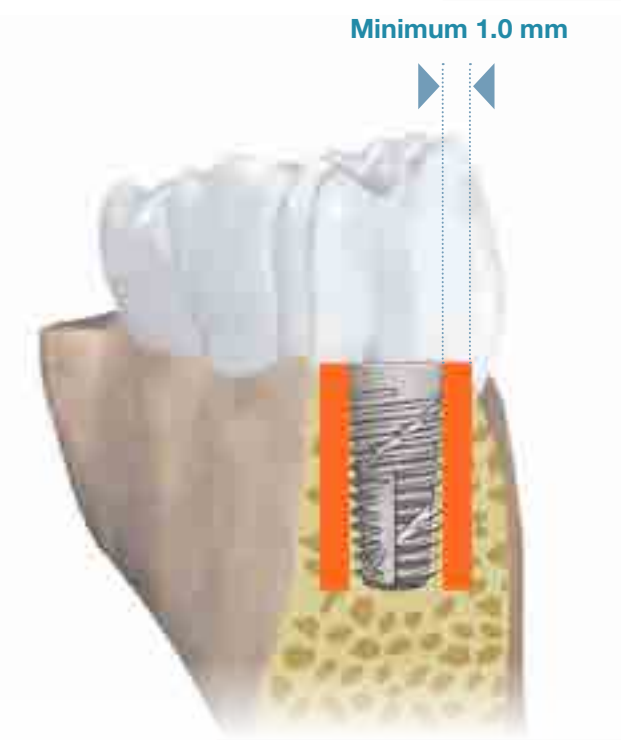
Vestibulo-palatal implant position

The palatal bone must be at least 1 mm thick in order to ensure stable conditions of hard and soft tissue. The minimal width of orofacial ridges is given in the **GTB implant** indication table. Choose the implant position and its orofacial axis in such a way that the retaining screw channel of the prosthetic abutment is situated behind the incisal edge.

Thanks to the subcrestal positioning option of **GTB implants**, it is possible to sink the prosthetic platform until an adequate orofacial dimension for placing the chosen implant is found. Once again, the biomechanical advantage of the **GTB implant** system must be mentioned since it allows to choose smaller diameter implants (safeguarding the palatal bone) of reduced lengths (making it possible to position the prosthetic platform subcrestally without having to perform particularly deep osteotomy).

Attention:

Bone augmentation procedure is indicated where the orofacial bone wall is less than 1 mm thick or a bone layer is missing on one or more sides. Only dentists who have adequate experience in performing bone augmentation procedures should employ this technique.



Corono-apical implant position

GTB dental implants allow for flexible coronoapical implant positioning, adjusted to the individual anatomy, implant site, the type of restoration planned and preferences.

For aesthetic reasons, it is advisable to position the implant's prosthetic platform subcrestally in the anterior area. In this case, the use of **GTB NARROW** Ø 3.3 mm or **GTB REGULAR** Ø 3.6 mm implants is recommended to maximize peri-implant bone volume. Ideally, the implant abutment interface should always be placed at least 2.0 mm from bone ridge to maintain the biologic width. In case of thin mucosal tissues, it is recommended to place the implant subcrestally for at least 1.5 mm to allow bone regrowth above the **GTB implant** platform and subsequent increase of the biomechanical capacity of the bone-implant system while respecting the biologic width (in this case, the prosthetic abutment's pathway is partly transosteal and partly transmucosal). In a scalloped situation, position the prosthetic platform of the implant epicrestally in the lowest point of the bone ridge (anyway, it is possible to place the implant's prosthetic platform subcrestally at any point, keeping in mind that the pre-finished prosthetic components have a transosteal/transmucosal pathway of 5.5 mm maximum).

The difference between the osteotomy depth and the selected **GTB implant's** length is 0.4 mm at most, allowing for maximum use of the available bone tissue also in corono-apical direction. This minimum difference is the result of different shapes of the drill tip (conical) and the **GTB implant** apex (convex).

Corono-apical implant position

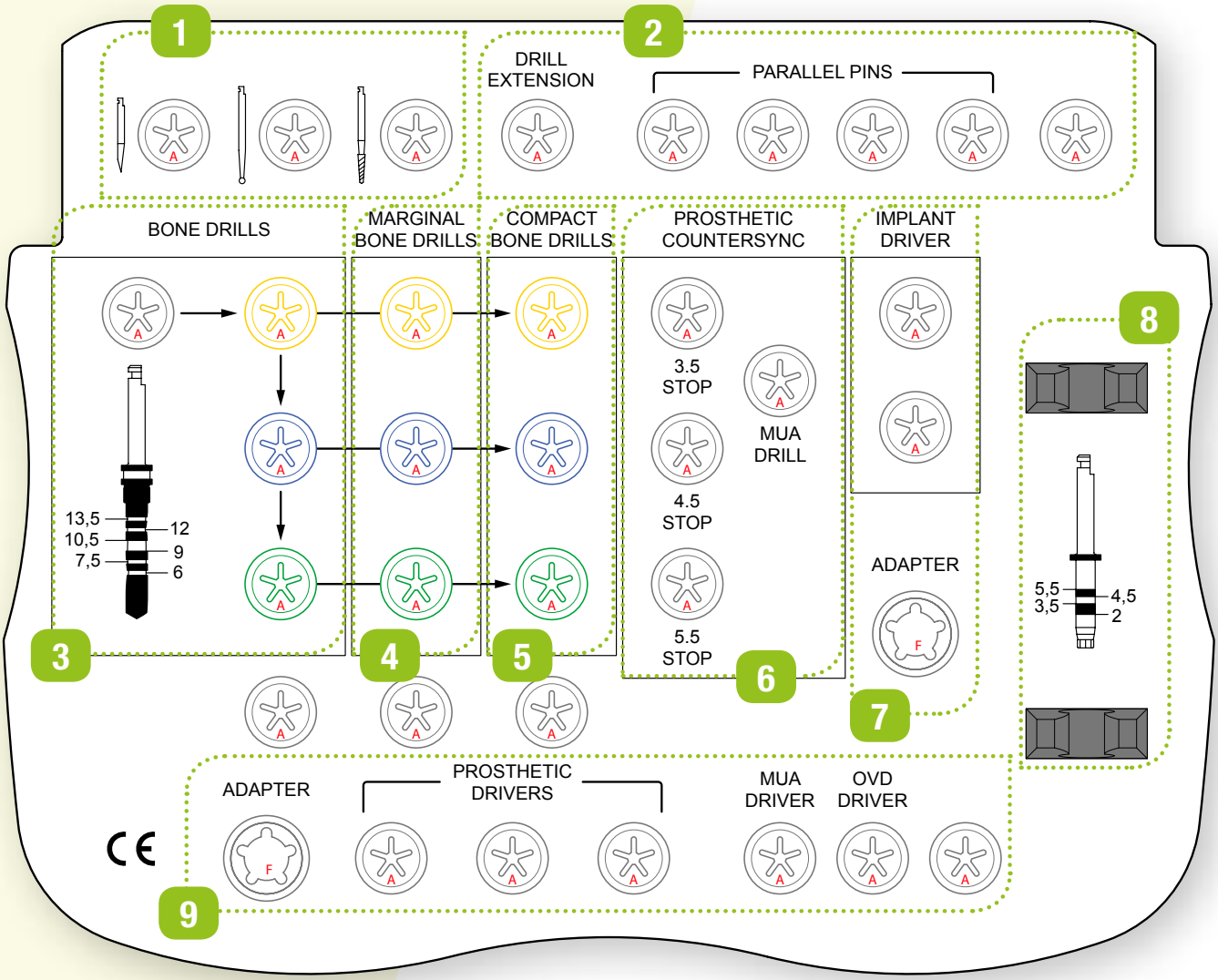
IMPLANT POSITIONING TABLE

Prosthetic platform positioning of GTB Implant	Minimum transmucosal height
EPICRESTAL	2.0 mm
SUBCRESTAL 1.5 mm	3.5 mm
SUBCRESTAL 2.5 mm	4.5 mm
SUBCRESTAL 3.5 mm	5.5 mm

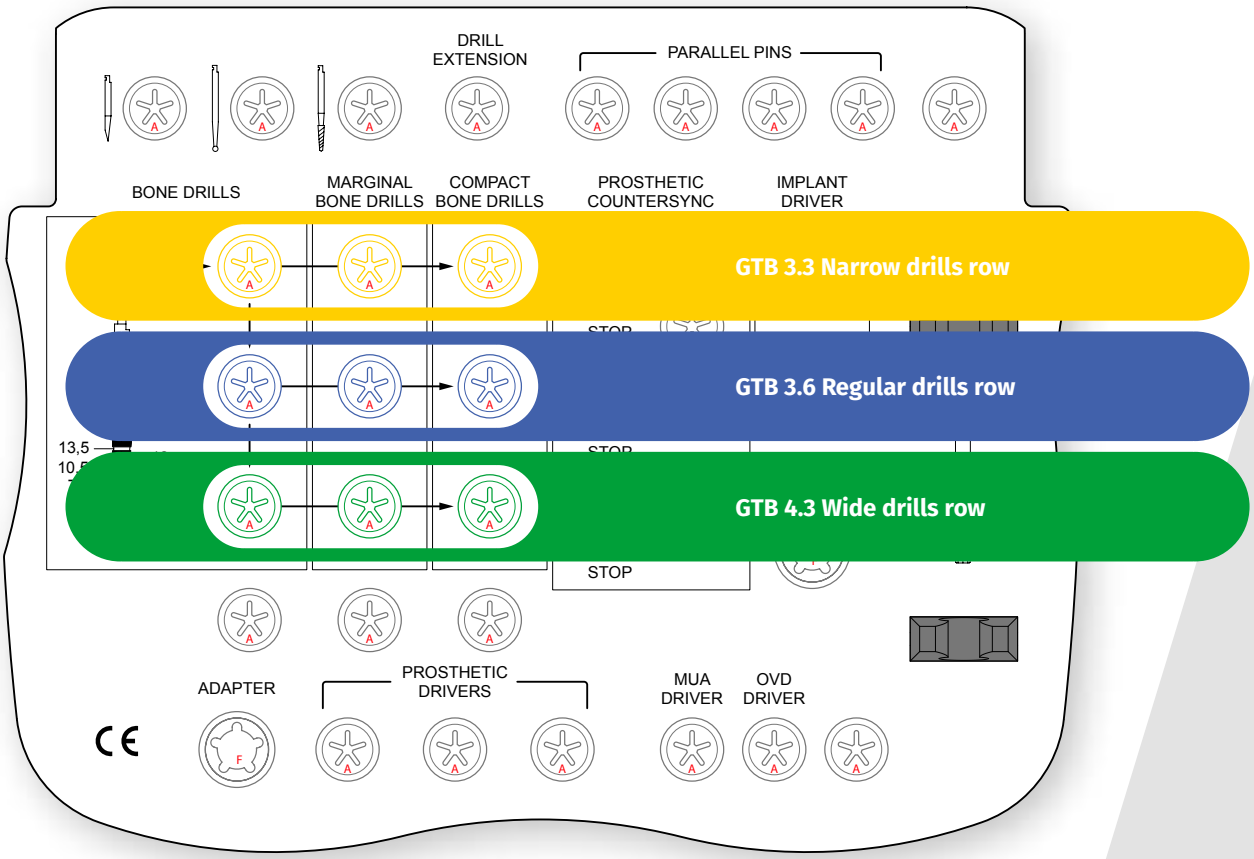
Reference table for biological width respect. The table reports the minimum height related with platform positioning. The height can be greater but non smaller than the one indicated.

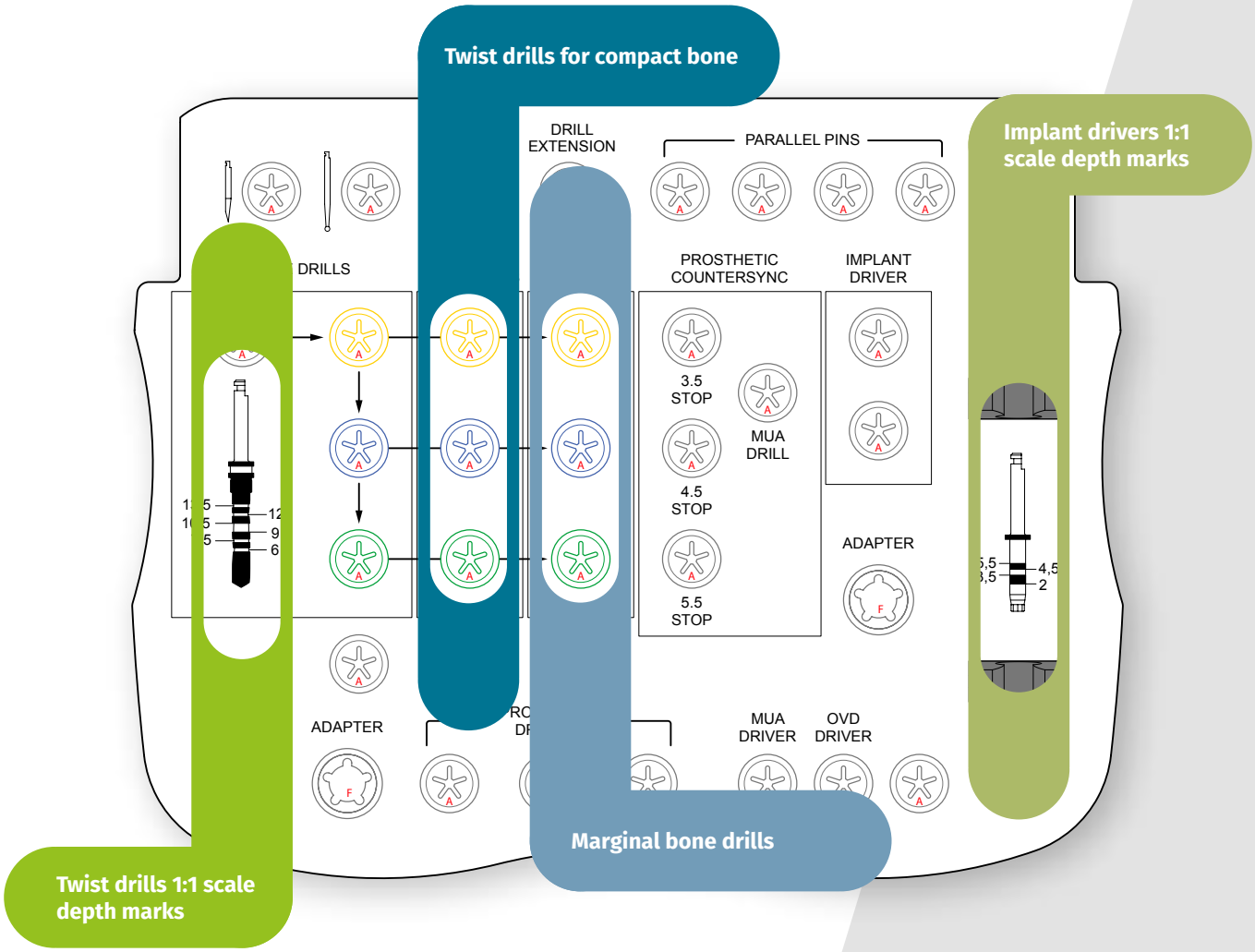
If a shorter transmucosal height is needed during prosthetic phase it means there is a wrong coronal-apical implant position or, anyway, it will not be possible to respect the biological width.

Surgical tray description



1	Starting drills	2	Drill extension / Parallel pins	3	Alveolar bone drills
4	Marginal bone drills	5	Compact bone drills	6	MUA/GFA countersink / Pins stop
7	Implant direct drivers	8	Torque wrench 10-70 Ncm	9	Prosthetic drivers


DRILL EXTENSION
PARALLEL PINS
BONE DRILLS
MARGINAL BONE DRILLS
COMPACT BONE DRILLS
PROSTHETIC COUNTERSYNC
IMPLANT DRIVER
GTB 3.3 Narrow drills row
GTB 3.6 Regular drills row
GTB 4.3 Wide drills row
13,5
STOP
ADAPTER
PROSTHETIC DRIVERS
MUA DRIVER
OVD DRIVER


Twist drills for compact bone
Implant drivers 1:1 scale depth marks
DRILL EXTENSION
PARALLEL PINS
DRILLS
PROSTHETIC COUNTERSYNC
IMPLANT DRIVER
3.5 STOP
4.5 STOP
5.5 STOP
MUA DRILL
ADAPTER
MUA DRIVER
OVD DRIVER
Marginal bone drills
Twist drills 1:1 scale depth marks

Milling tools description

The final drill diameter has to be selected based on the bone quality and, of course, based on the GTB implant diameter.

The working depth of the drill has to be selected based on the GTB implant length and in consideration of the epicrestal or 1.5 mm subcrestal positioning.

Drilling speed: below 300 rpm (MAX. TORQUE 45 Ncm)

Indicative duration[1]: 50 work cycles

[1] INDICATIVE DURATION OF CUTTING INSTRUMENTS:

The number of work cycles for each cutting instrument is only an indication and is referred to the use in medium density bone. In case of drilling thick and compact cortical bones, it is advisable not to exceed 10 working cycles with a single instrument since impaired cutting performance can lead to bone overheating.

This is particularly important for the first three drill diameters used usually and for the finishing instruments used in cortical bone, such as conical reamers.

The standard twist drill (∅2.5 - ∅2.8 - ∅3.6) present a double diameter design with a reduced apex (the first 3.0 mm of the drill) that allows to obtain a better implant grip with soft trabecular bone and make easier to center the larger drills. Single ring color code.

COLOR CODE YELLOW: NOMINAL ∅2.5 → APEX ∅2.2

COLOR CODE BLUE: NOMINAL ∅2.8 → APEX ∅2.5

COLOR CODE GREEN: NOMINAL ∅3.6 → APEX ∅3.3

The compact bone twist drills (∅3.0 - ∅3.3 - ∅4.0) present a one diameter designs to allow a low torque implant position and not to compress the blood clot during the implant positioning. Double ring color code.

COLOR CODE YELLOW: NOMINAL ∅3.0

COLOR CODE BLUE: NOMINAL ∅3.3

COLOR CODE GREEN: NOMINAL ∅4.0

Milling tools description

The marginal bone drill has to be used when the bone is composed by thick and hard marginal bone.

In cases where the use of marginal bone drill is indicated, its diameter must correspond to the diameter of the GTB implant to be inserted (the marginal bone drill is lightly under dimensioned to prevent overpreparation).

The use of the conical reamer is very important when the treatment plan requires a 1.5 mm or more subcrestal positioning, since the implant neck must be able to go under the marginal bone level without applying tension to the cortical bone.

COLOR CODE YELLOW: NOMINAL ∅3.2
COLOR CODE BLU: NOMINAL ∅3.5
COLOR CODE GREEN: NOMINAL ∅4.2

Drilling speed: below 50 rpm (MAX. TORQUE 45 Ncm)

Indicative duration[1]: 20 work cycles

[1] INDICATIVE DURATION OF CUTTING INSTRUMENTS:

The number of work cycles for each cutting instrument is only an indication and is referred to the use in medium density bone. In case of drilling thick and compact cortical bones, it is advisable not to exceed 10 working cycles with a single instrument since impaired cutting performance can lead to bone overheating.

This is particularly important for the first three drill diameters used usually and for the finishing instruments used in cortical bone, such as conical reamers.

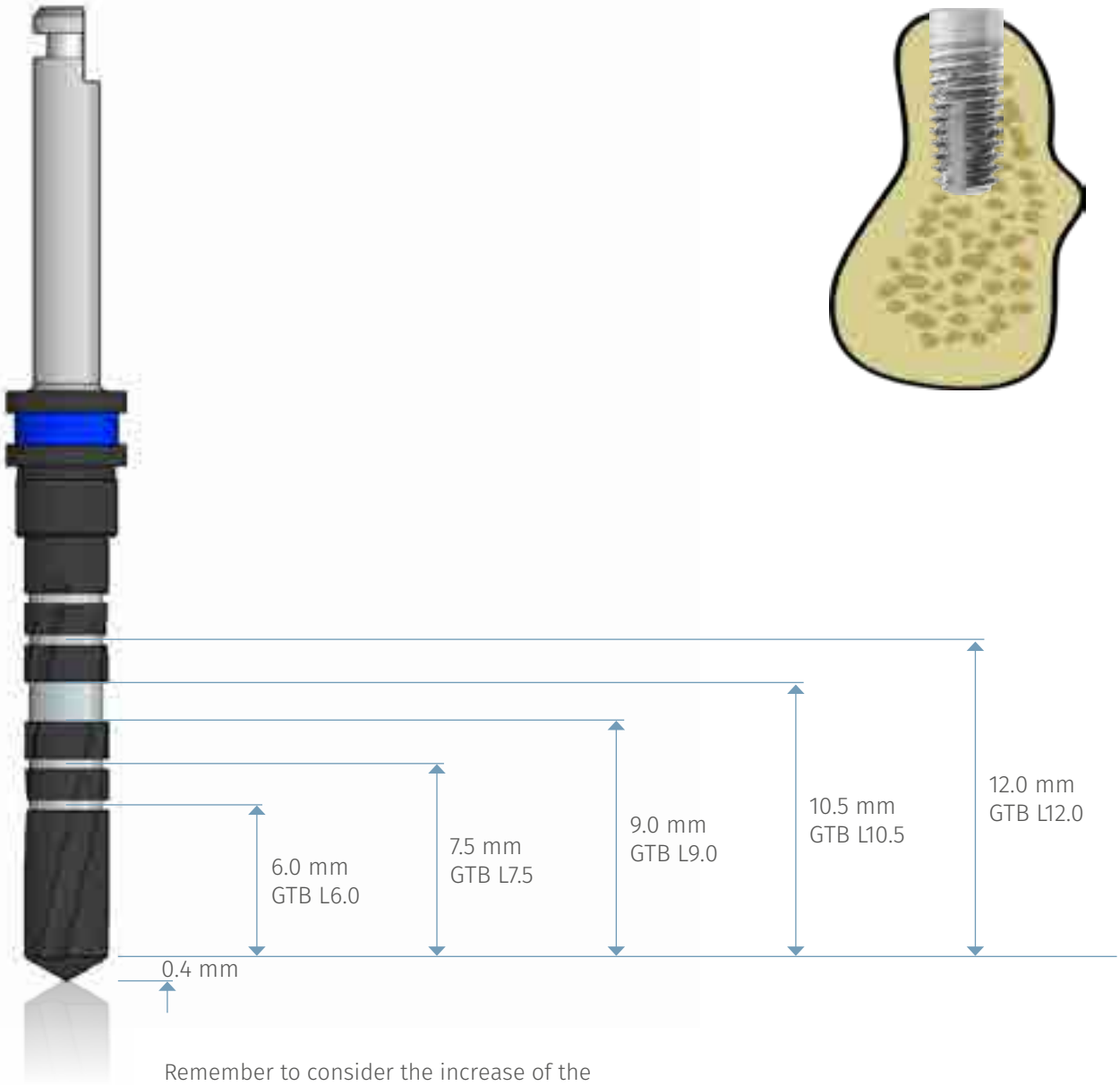
Milling tools description

Example for GTB-TZERO implant diameter 3.6 mm length 9.0 mm*

Compact bone	Medium bone	Soft bone
		
∅ 3.3	∅ 2.8	∅ 2.8

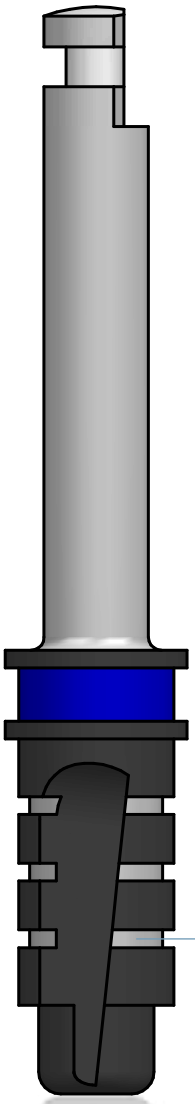
* Read the following drills sequences

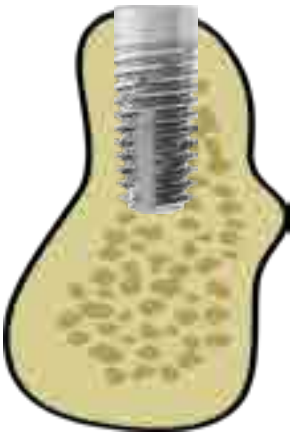
Depth references for epicrestal positioning*



Remember to consider the increase of the apex equal to 0.4 mm

* read the following drills sequences for the appropriate drills deepening in soft or medium bone quality

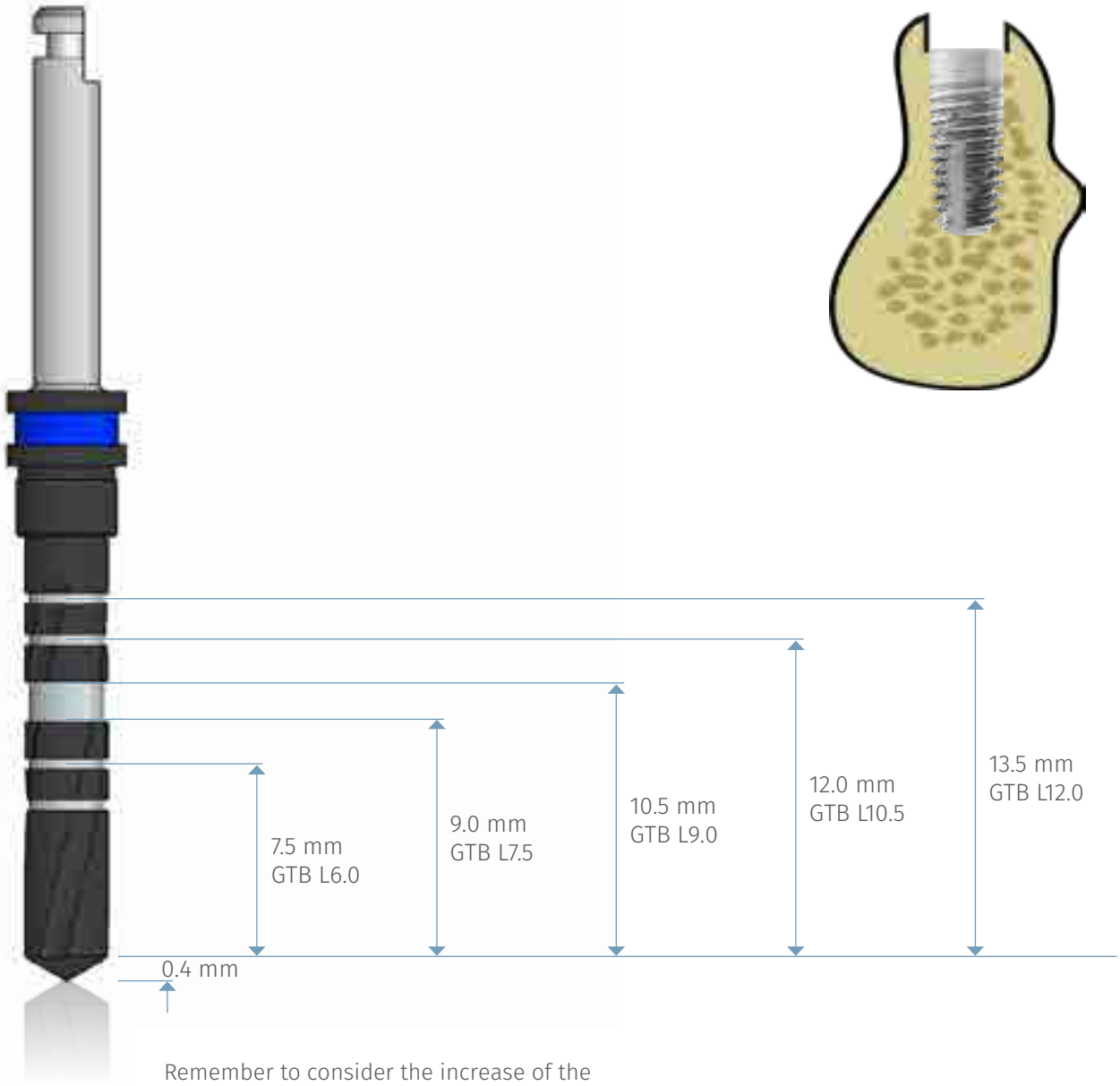




Marginal bone level

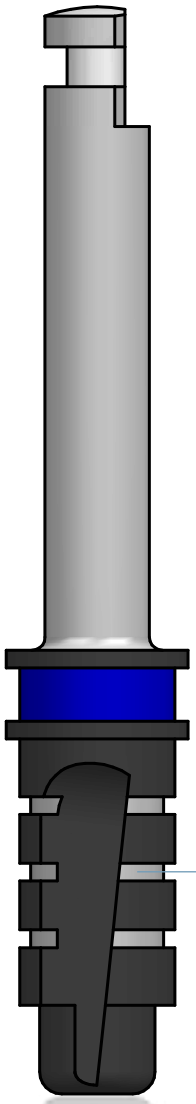
* With very compact bone quality or for a low torque implant positioning it's possible to sink the marginal bone drill until the next reference mark

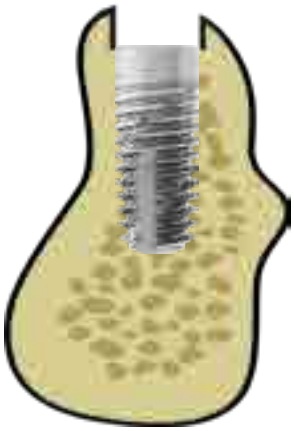
Depth references for 1.5 mm subcrestal positioning*



Remember to consider the increase of the apex equal to 0.4 mm

* read the following drills sequences for the appropriate drills deepening in soft or medium bone quality





Marginal bone level

* With very compact bone quality or for a low torque implant positioning it's possible to sink the marginal bone drill until the next reference mark

Drill stops description

The twist drill stop ensures accurate control of the drilling depth during the implant bed preparation for GTB implant positioning. The drilling depth indicated on the stop does not include the 0.4 mm difference, which is the result of the drill's conical tip. Always keep this feature in mind when planning the procedure. The drill stops are available in 2 series: one is suitable for drills compatible with GTB NARROW and GTB REGULAR implants and the second is suitable for drills compatible with GTB WIDE implants. In this way, the mesio-distal overall measure of the smallest diameter drills is not increased excessively and allows easy preparation of the implant bed with stop mounted even when small implants are being positioned or when the gap is not wider than 4,5 mm. The stops are mounted on the drill with the help of mounting collars. Check the stop tightness regularly and replace the worn out stops.

DRILL STOP 36STP series

Made of surgical grade stainless steel and used for stopping the drill at a precise depth.

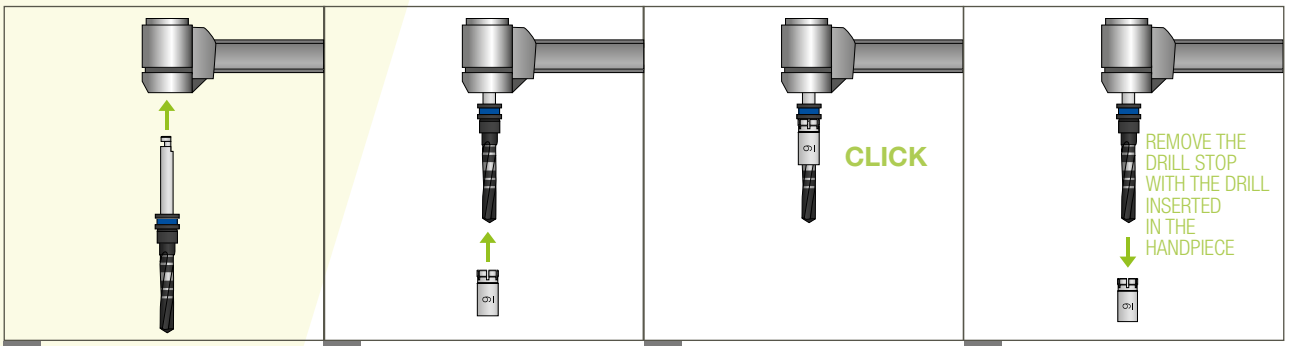
Available for the following drilling depths:
6.0 - 7.5 - 9.0 - 10.5 mm.

Adaptable to twist drills of following diameters:
2.0 - 2.5 - 2.8 - 3.0 - 3.3 mm.

Attention

Position and remove the stop with the drill correctly inserted in the contra-angle handpiece.

Length indication on the stop refers to the marking depth at which the drill will be stopped. The working depth must always be increased by 0.4 mm corresponding to the drill's conical apex.



1 INSERT THE DRILL IN THE HANDPIECE
2 INSERT THE STOP
3 STOP IN POSITION
4 REMOVE THE DRILL STOP

NOTE: both series are delivered in autoclavable boxes.

DRILL STOP 48STP series

Made of surgical grade stainless steel and used for stopping the drill at a precise depth.

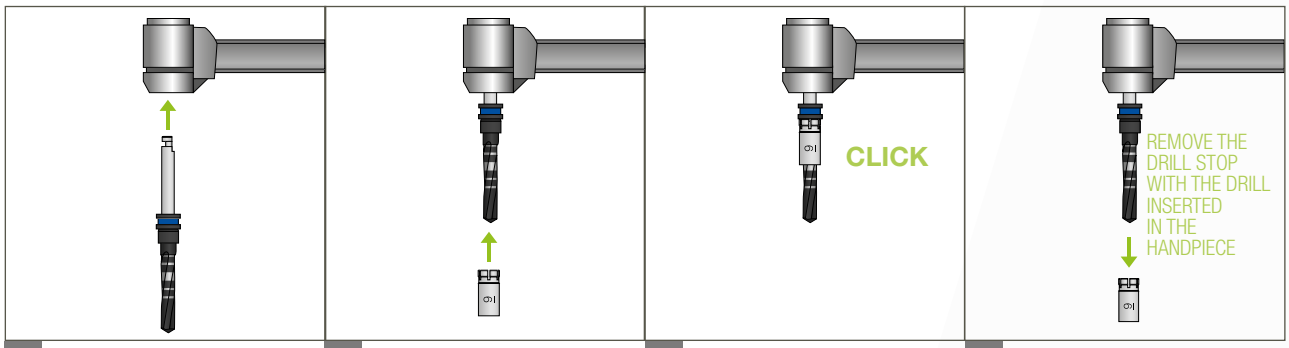
Available for the following drilling depths:
6.0 - 7.5 - 9.0 - 10.5 mm.

Adaptable to twist drills of following diameters:
3.6 - 4.0 mm.

Attention

Position and remove the stop with the drill correctly inserted in the contra-angle handpiece.

Length indication on the stop refers to the marking depth at which the drill will be stopped. The working depth must always be increased by 0.4 mm corresponding to the drill's conical apex.



1 INSERT THE DRILL IN THE HANDPIECE
2 INSERT THE STOP
3 STOP IN POSITION
4 REMOVE THE DRILL STOP

Drivers description

The **Direct Drivers** engage the implant directly and make it possible to pick up, carry and position the **GTB implant**. This allows to insert the implant with a greater torque in comparison to what is achievable with a mounting device, and it also simplifies the surgical procedure since there is no mounting device to be removed after finalizing the placement.
Direct Drivers are available in manual version and mechanical version suitable for contra-angle, both are provided in short or long option.

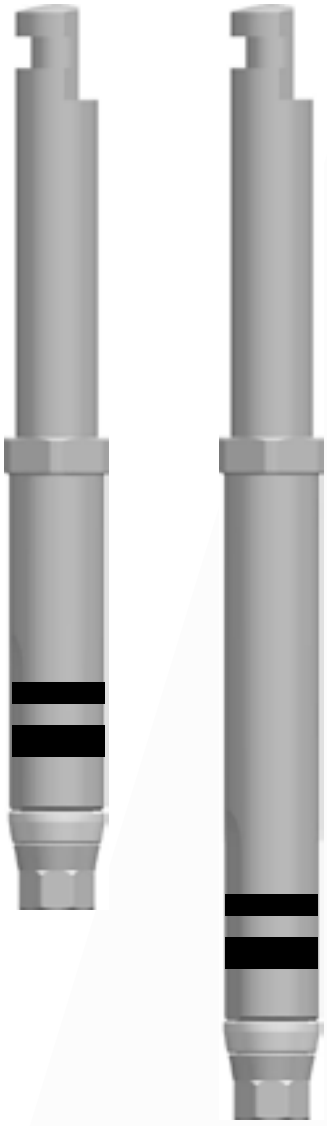
All prosthetic components are screwed on the implant with the help of Prosthetic Drivers available in mechanical version (for contra-angle) and manual version with three different lengths (suitable for torque wrench).

For further information, refer to the implant's instructions for use included in the packaging.
All the manual instruments have a hole for attaching a safety thread.

Implant driver description

Used for picking up, carrying and positioning of the implant. The reference mark on the driver serves to phase the octagonal index of the implant in the desired and appropriate way. The phasing reference is always in correspondence to the vertex of the implant's octagonal index. In addition, the driver has reference marks at 2.0 – 3.5 – 4.5 – 5.5 mm to rapidly evaluate the soft tissue thickness and the adequate prosthetic components.

Available in SHORT and LONG version compatible with W&H Hexagon system. The maximum recommended tightening torque is 50 Ncm.



Attention

When cleaning the instruments do not use the brush on the retention system of the Direct Driver.

Prosthetic drivers description

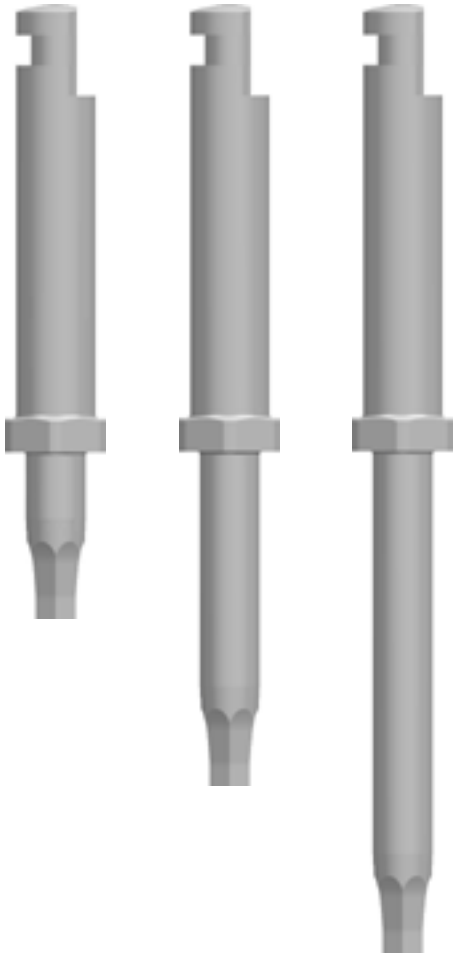
Designed to engage and tighten all of the prosthetic components of the GTB implant system, including the surgical cover screw placed inside the cap of the sterile vial.

Available in EXTRA-SHORT, SHORT and LONG version compatible with W&H Hexagon system.

The tightening torque for surgical cover screws and healing abutments must not exceed 7 Ncm.

The tightening torque for temporary prosthetic components is 10-15 Ncm.

The tightening torque for final prosthetic components is 10-15 Ncm.



Torque wrench description

Surgical and prosthetic ratchet with adjustable torque control

Check periodically the condition of the torque wrench and verify the correct functioning of all mobile parts.

All the components of the torque wrench must be disassembled prior to cleaning and reassembled only before sterilization.

The above-mentioned operations are described in detail in the use and maintenance instructions of the torque wrench.

Adjustable torque range from 10 Ncm to 70 Ncm.

General indications

1. Check that all necessary instruments are available and in perfect working condition. It is advisable to keep an adequate stock of implants and sterile spare instruments available.

2. Do not use cutting instruments more than 10 times on compact bones and always change drills after 50 uses.

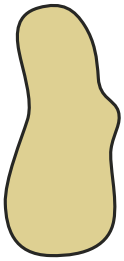
3. Ensure proper cooling of drills with pre-cooled (5°c/41°f) physiological sterile saline solution (nacl) or ringer's solution.

4. Do not exceed the speed indications for drills 200-300 rpm.

5. Use drills in ascending order of their diameter and avoid considerable diameter changes when drilling compact bone (always use drills of intermediate diameter in compact bone)

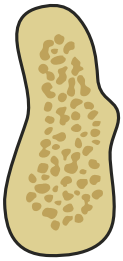
6. Always apply only light pressure and an intermittent drilling technique (alternate up and down movements).

Bone quality classification



D1

Maxillary bone composed almost exclusively of dense cortical bone



D2

Thick and dense cortical bone surrounding spongious bone

D3

Thin layer of cortical bone surrounding spongious bone with dense trabecular structure

D4

Very thin layer of cortical bone surrounding spongious bone with trabecular structure

Typical anatomical distribution based on bone density (Misch, 1990)

BONE QUALITY	D1	D2	D3	D4
Anterior maxilla	0	25	65	10
Posterior maxilla	0	10	50	40
Anterior mandible	6	66	25	3
Posterior mandible	3	50	46	1

Compact bone	Medium bone	Soft bone
D1 and D2 verging to D1	D2 and D3	D4 and D3 verging to D4

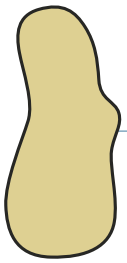
Compact bone

D1 and D2 verging to D1

BONE TYPE D1

HOMOGENEOUS COMPACT CORTICAL BONE

FRONT REGION OF AN ATROPHIC EDENTULOUS MANDIBLE



Advantages

- Good primary implant stability
- High bone-implant contact surface

Disadvantages

- Poor vascularisation
- Risk of overheating

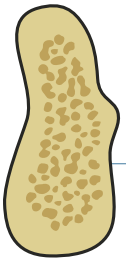
Medium bone

D2 and D3

BONE TYPE D2

THICK POROUS COMPACT CORTICAL BONE, DENSE TRABECULAR BONE

MANDIBULAR ARCH, CENTRAL AND LATERAL REGIONS
CENTRAL MAXILLARY ARCH (INCISAL REGION)



Advantages

- Good primary stability
- Excellent vascularisation
- Simple implant site preparation

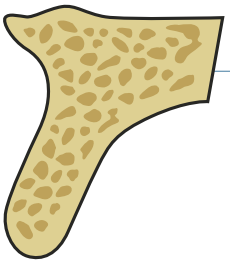
Disadvantages

- None

BONE TYPE D3

THIN POROUS COMPACT CORTICAL BONE, LOW-DENSITY TRABECULAR BONE

CENTRAL REGION (LATERO-CANINE) OF THE MAXILLA LATERAL REGION (MOLAR) OF THE MANDIBLE



Advantages

- Good vascularisation

Disadvantages

- Risk of over-preparation of the implant site
- Reduced surface of bone-implant contact

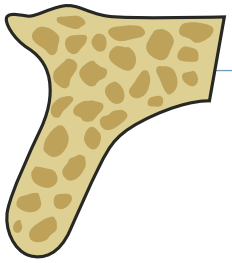
Soft bone

D3 and D4 verging to D4

BONE TYPE D4

LOW-DENSITY TRABECULAR BONE

REGION OF TUBER MAXILLARE



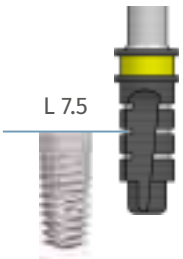
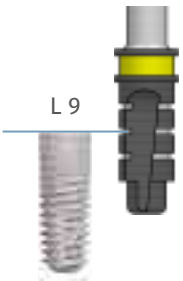
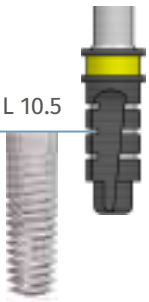
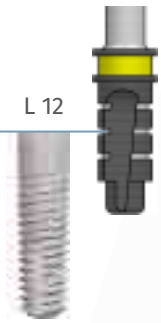
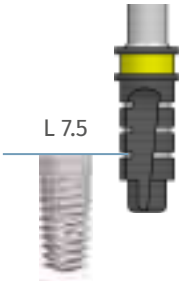
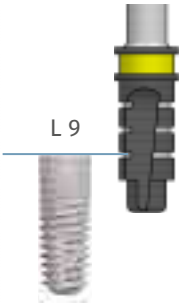
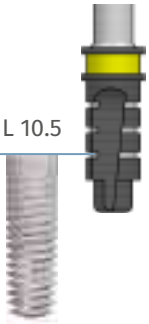
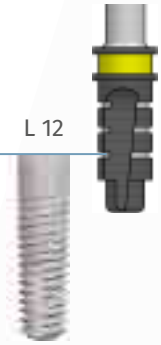
Advantages

- None

Disadvantages

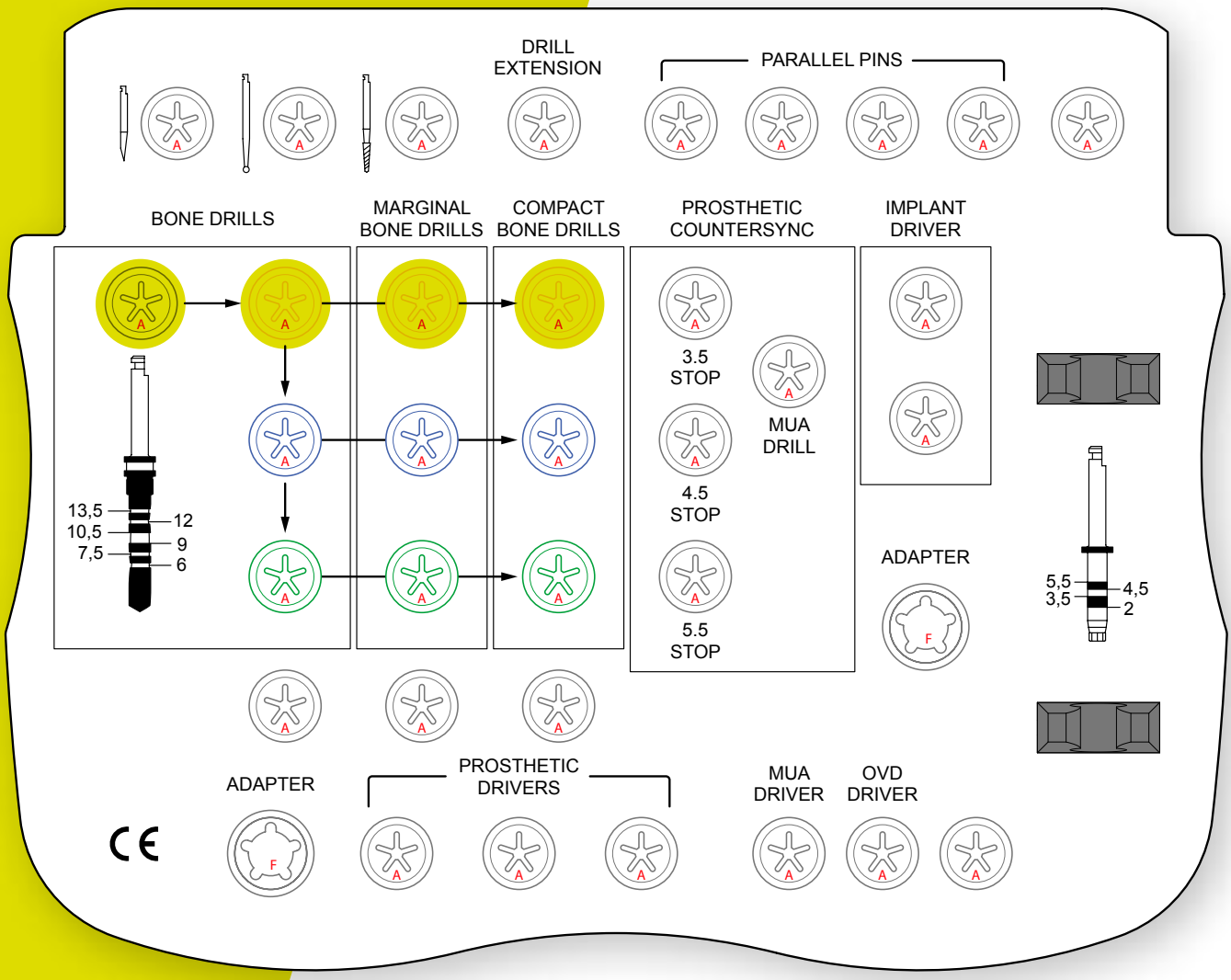
- Risk of implant site over-preparation
- Reduced bone-implant contact surface
- Scarce primary implant stability

Final drills
GTB Narrow ∅ 3.3 mm

		Implant lenght			
		L 7.5	L 9	L 10.5	L 12
Compact bone	 Final drill ∅ 3.0 mm	 Marginal bone drill ∅ 3.2 mm	 Marginal bone drill ∅ 3.2 mm	 Marginal bone drill ∅ 3.2 mm	 Marginal bone drill ∅ 3.2 mm
Medium bone	 Final drill ∅ 2.5 mm	 Marginal bone drill ∅ 3.2 mm	 Marginal bone drill ∅ 3.2 mm	 Marginal bone drill ∅ 3.2 mm	 Marginal bone drill ∅ 3.2 mm
Soft bone	 Final drill ∅ 2.5 mm				

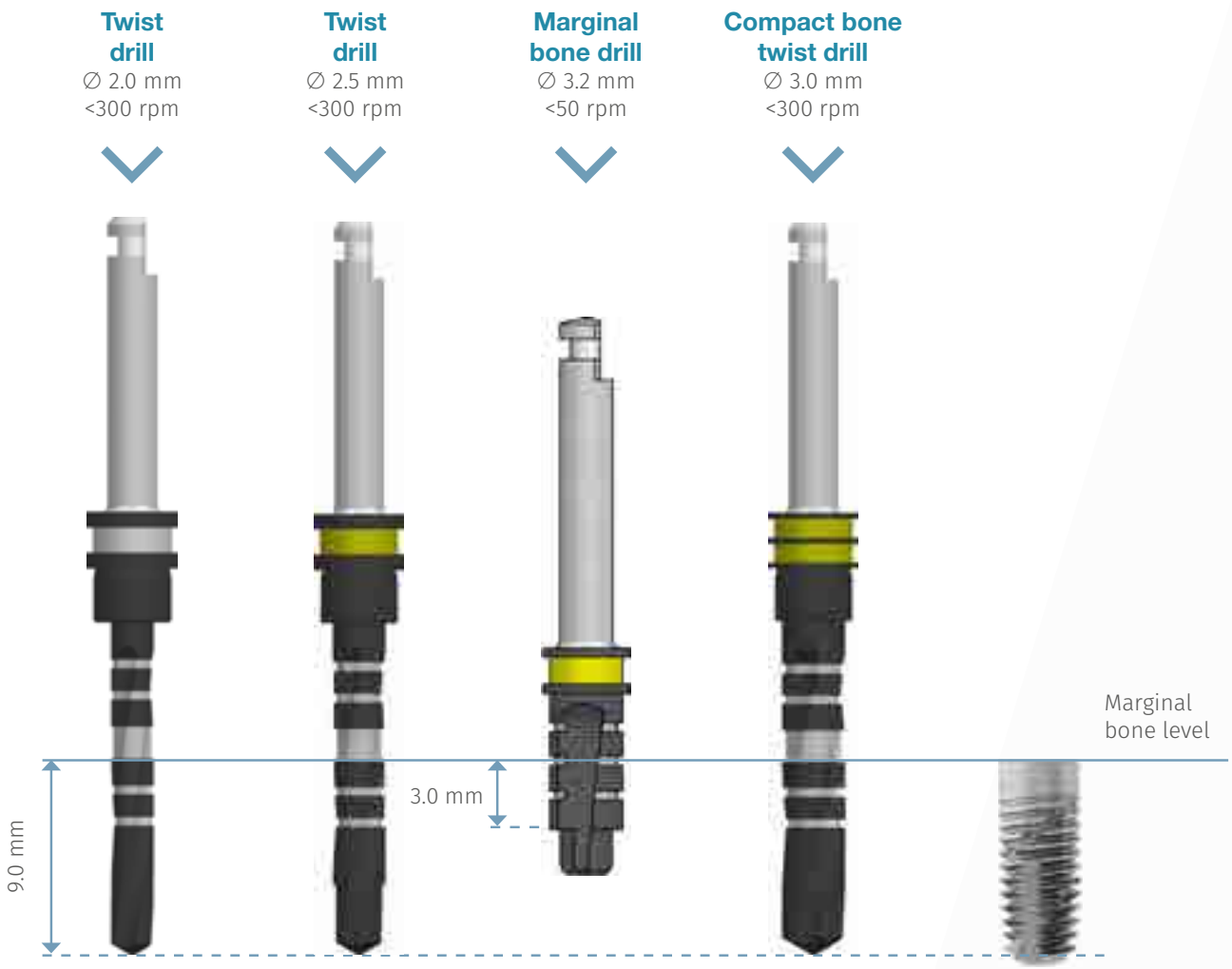
Drills sequence GTB Narrow ∅ 3.3 mm

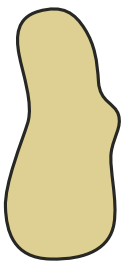
Compact bone



Drills sequence GTB Narrow ∅ 3.3 mm

Example for L 9.0 mm implant lenght and epicrestal positioning

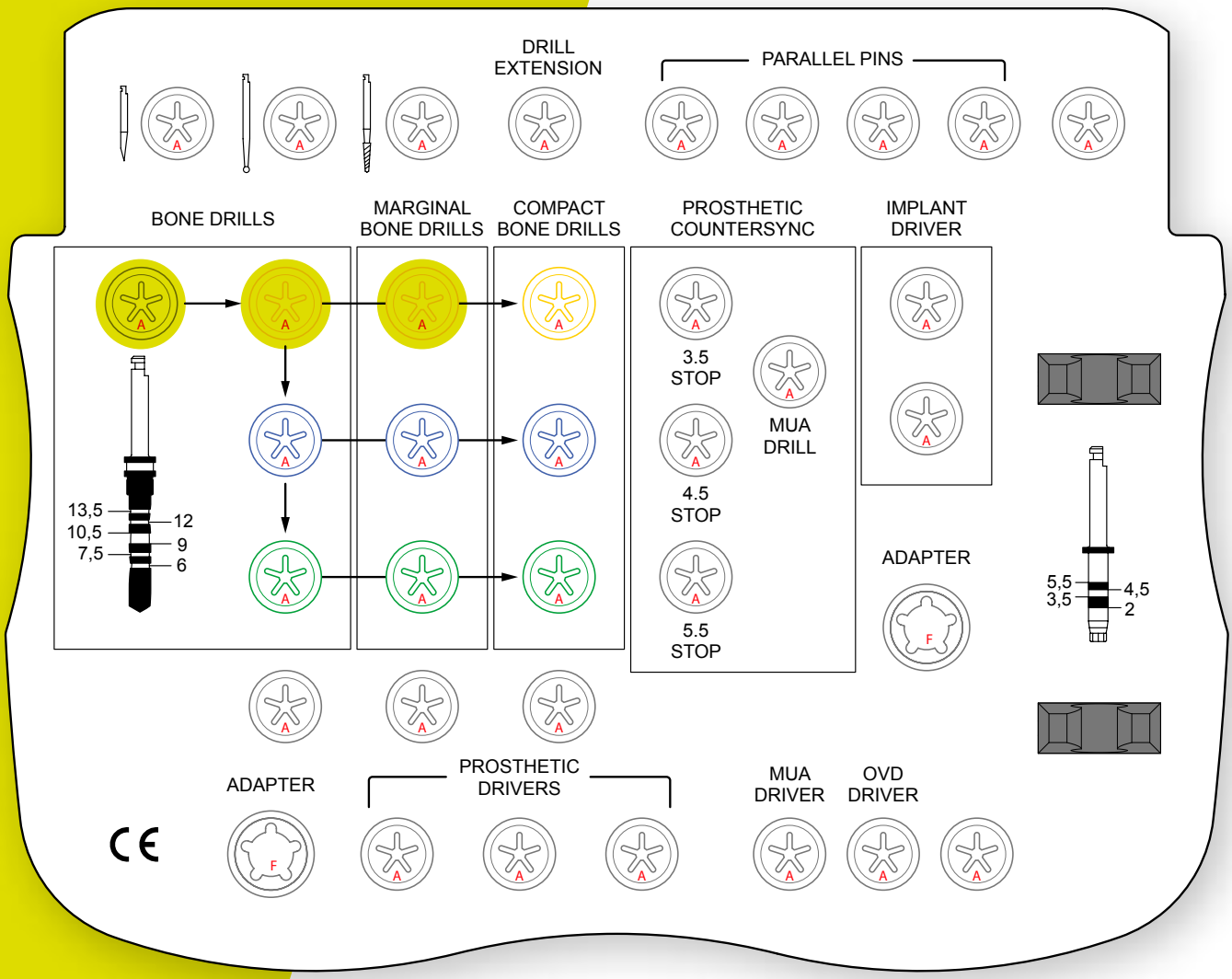




Compact bone

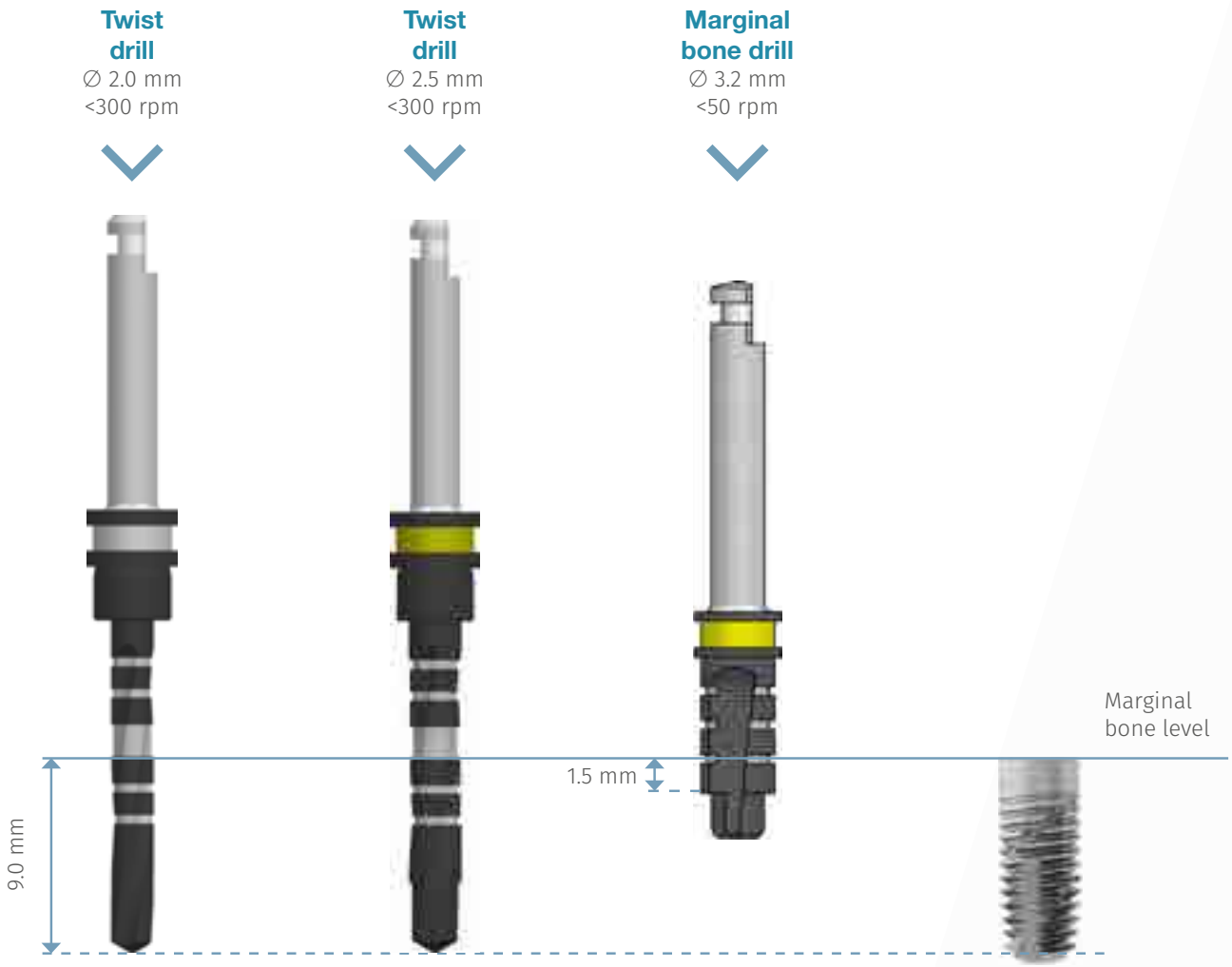
Drills sequence GTB Narrow ∅ 3.3 mm

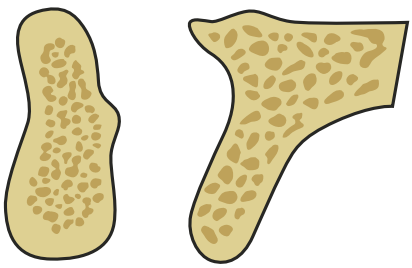
Medium bone



Drills sequence GTB Narrow ⌀ 3.3 mm

Example for L 9.0 mm implant lenght and epicrestal positioning

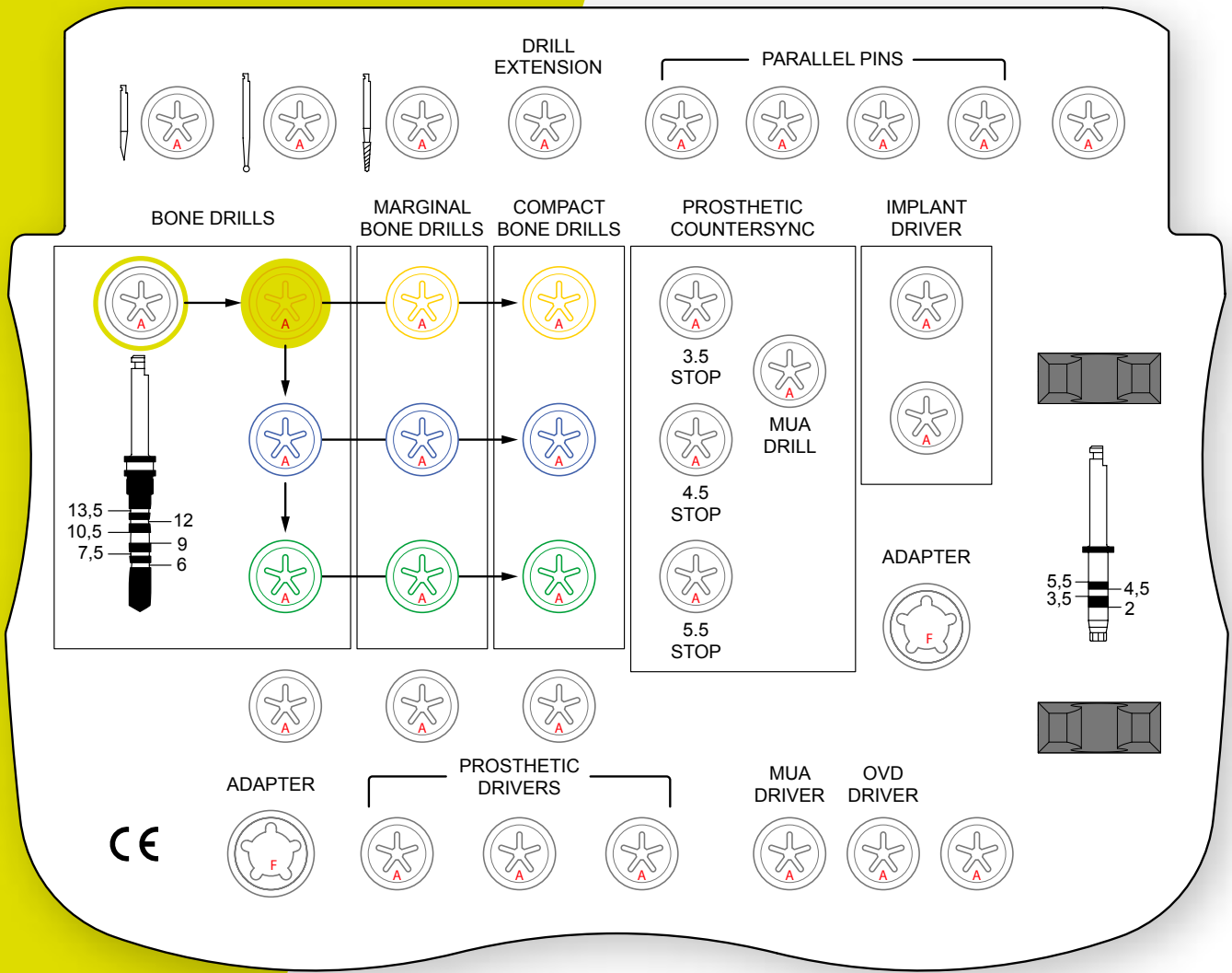




Medium bone

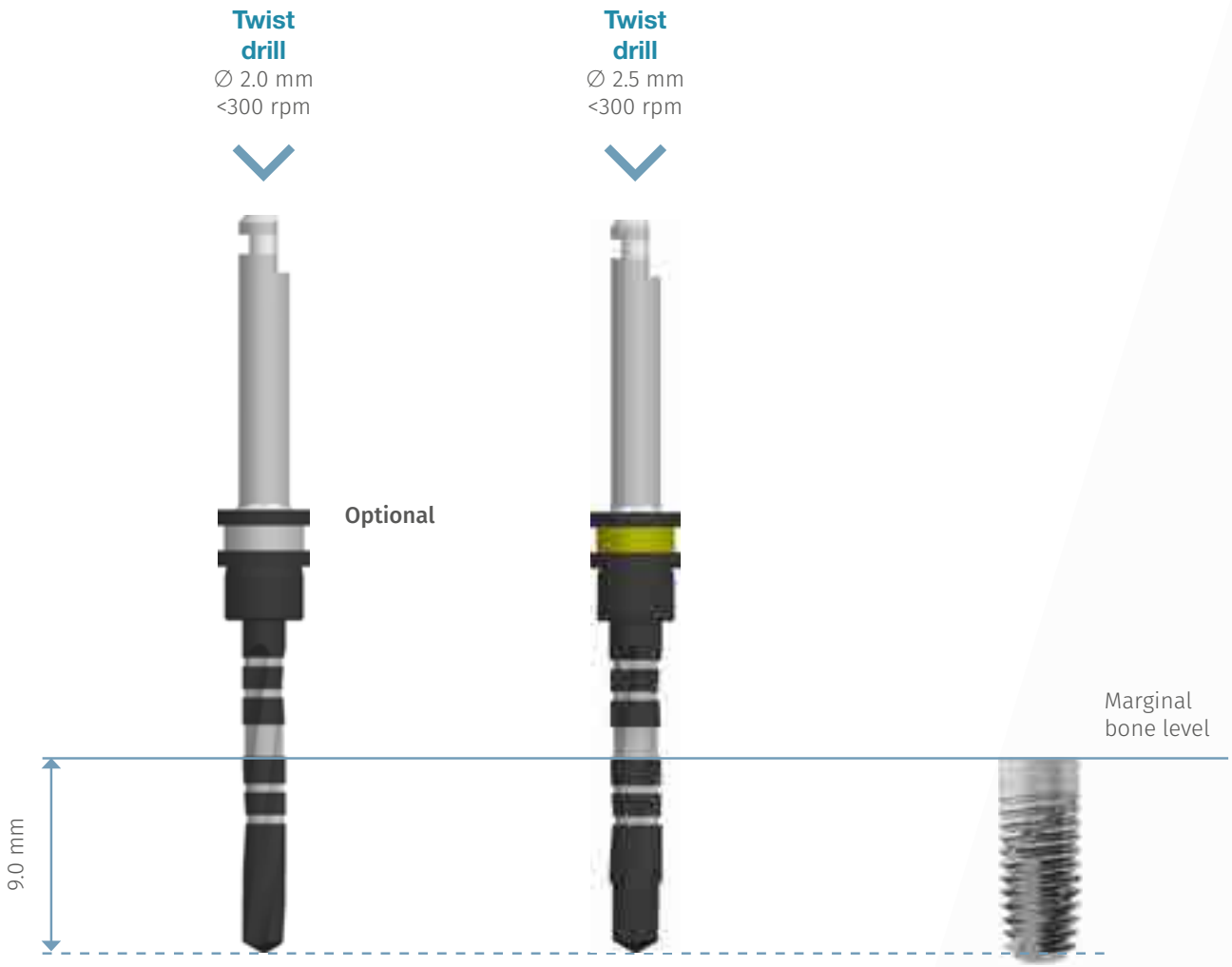
Drills sequence GTB Narrow ∅ 3.3 mm

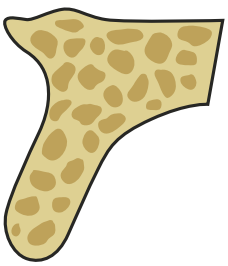
Soft bone



Drills sequence GTB Narrow ∅ 3.3 mm

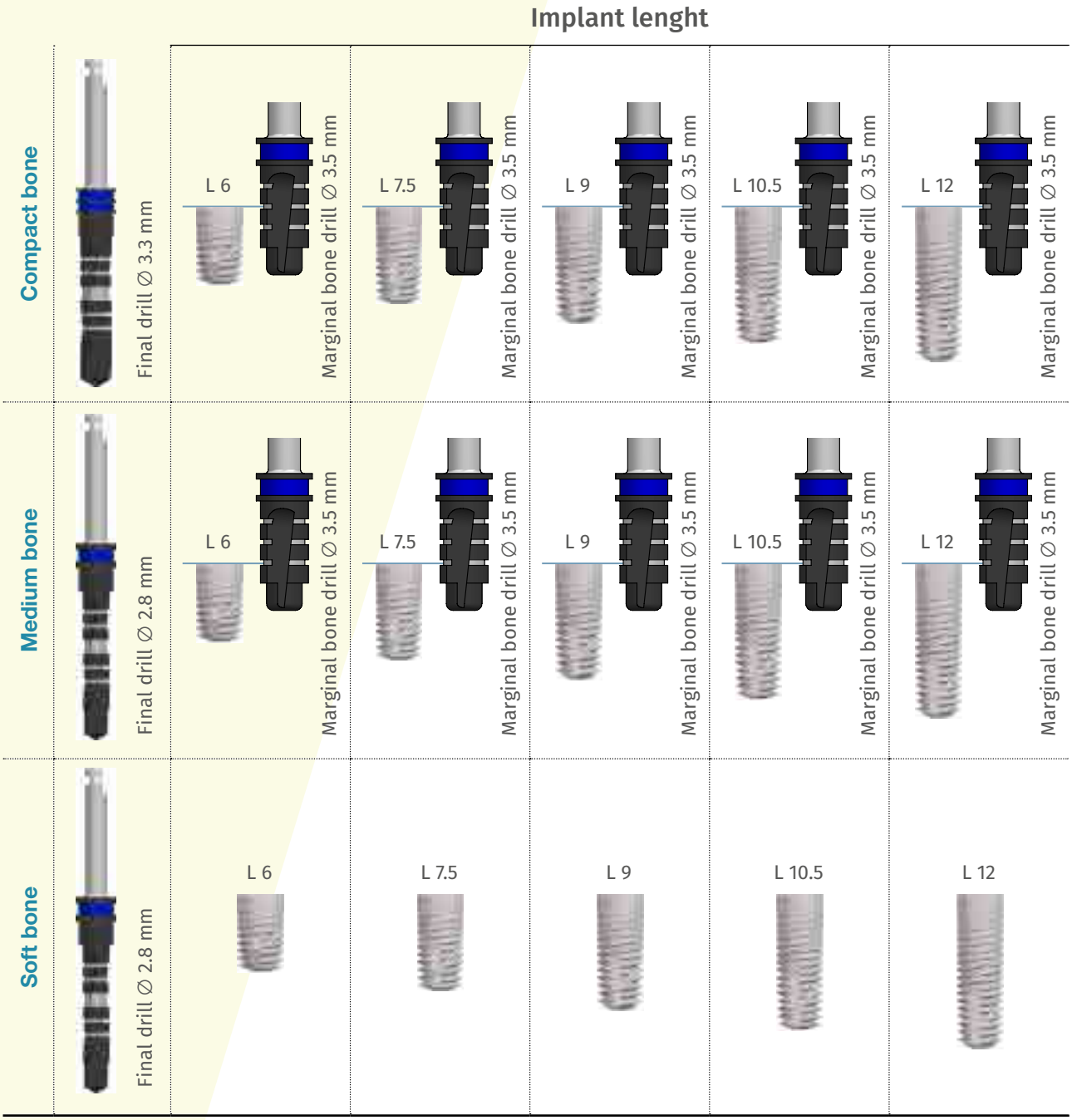
Example for L 9.0 mm implant lenght and epicrestal positioning





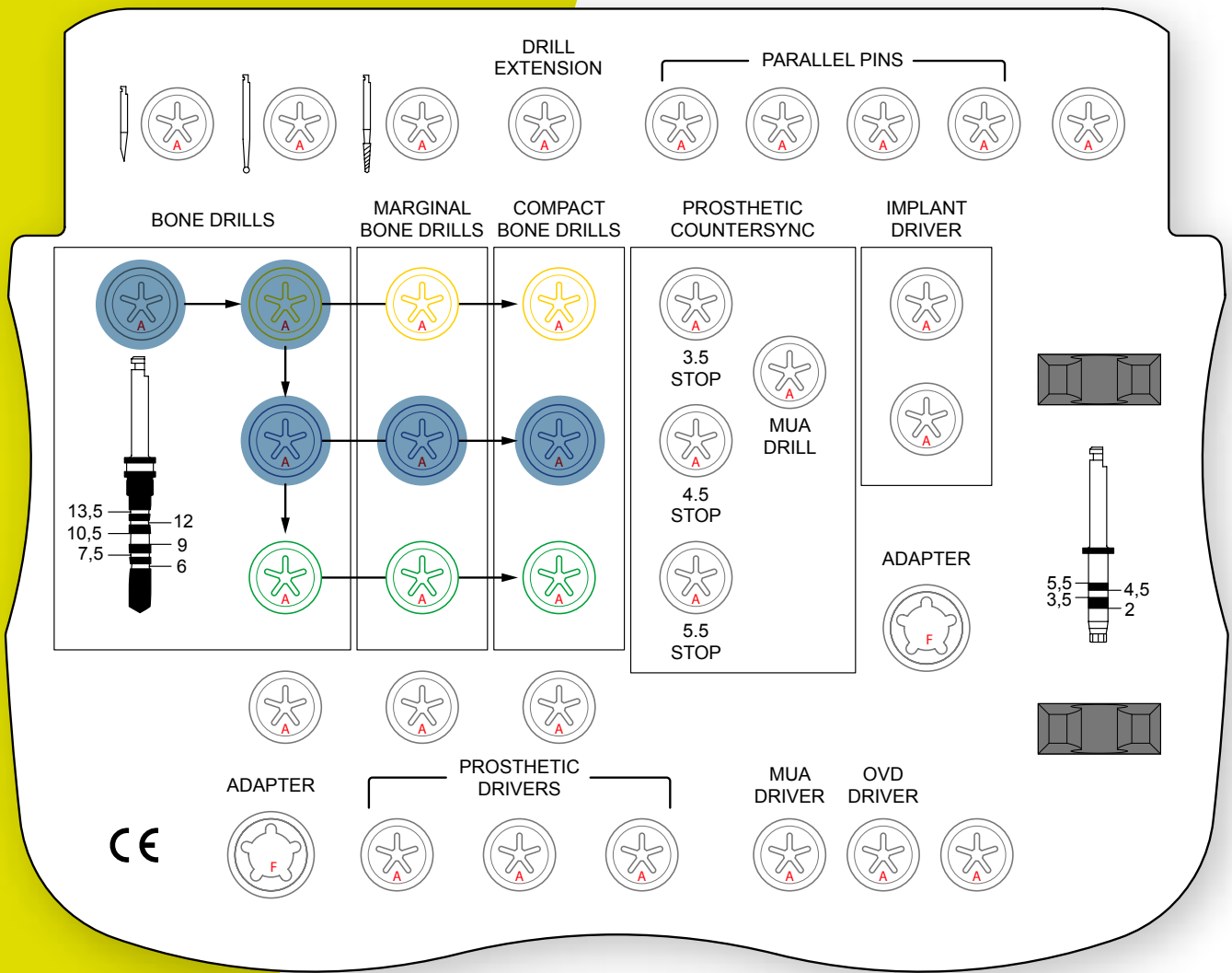
Soft bone

Final drills GTB Regular ⌀ 3.6 mm

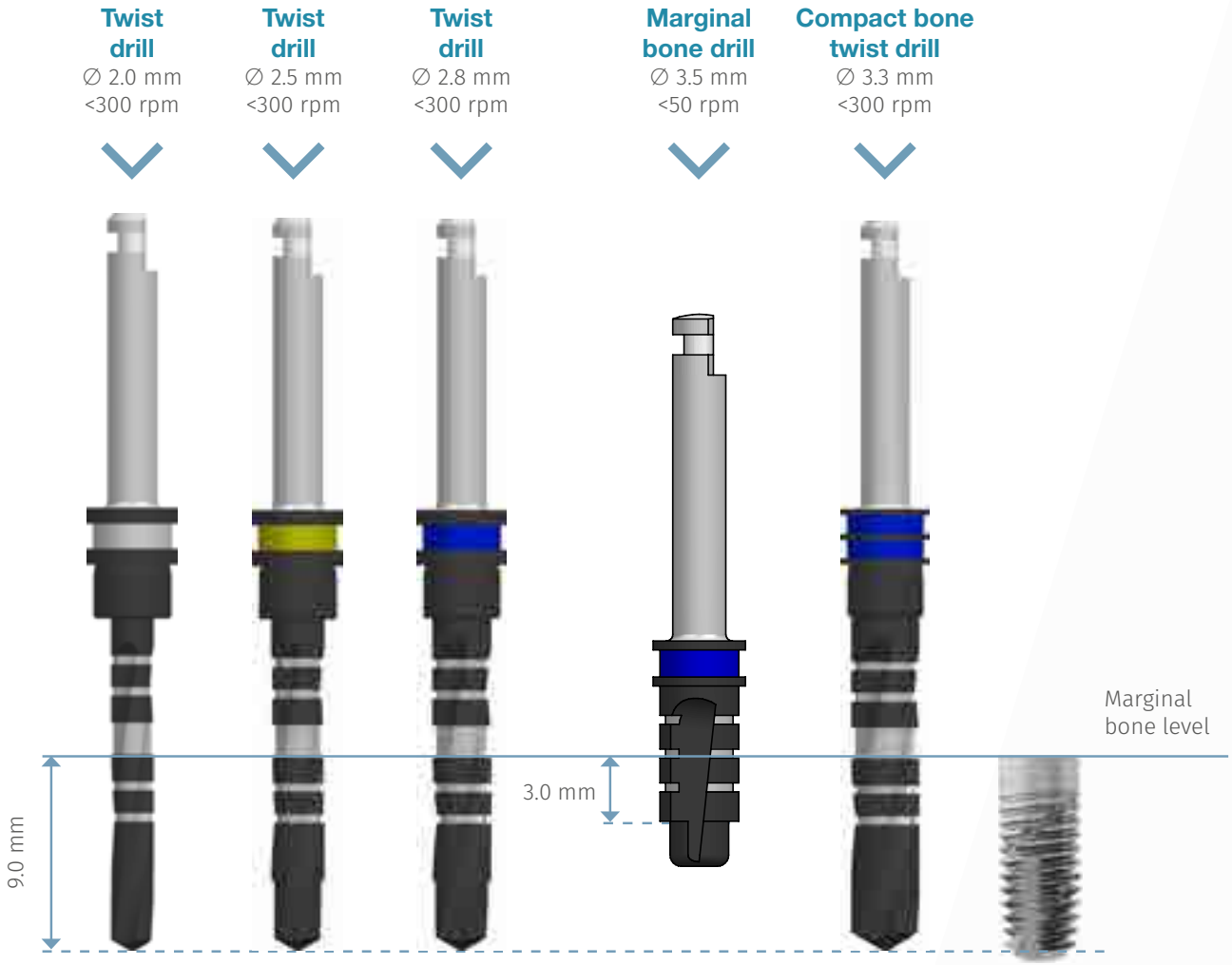


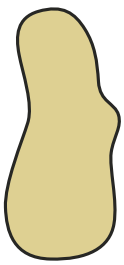
Final drills GTB Regular ⌀ 3.6 mm

Compact bone



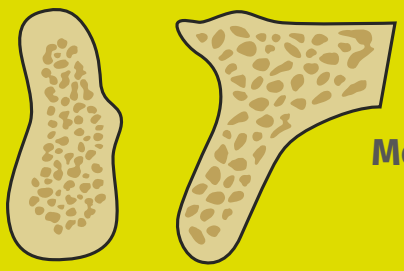
Drills sequence GTB Regular ⌀ 3.6 mm



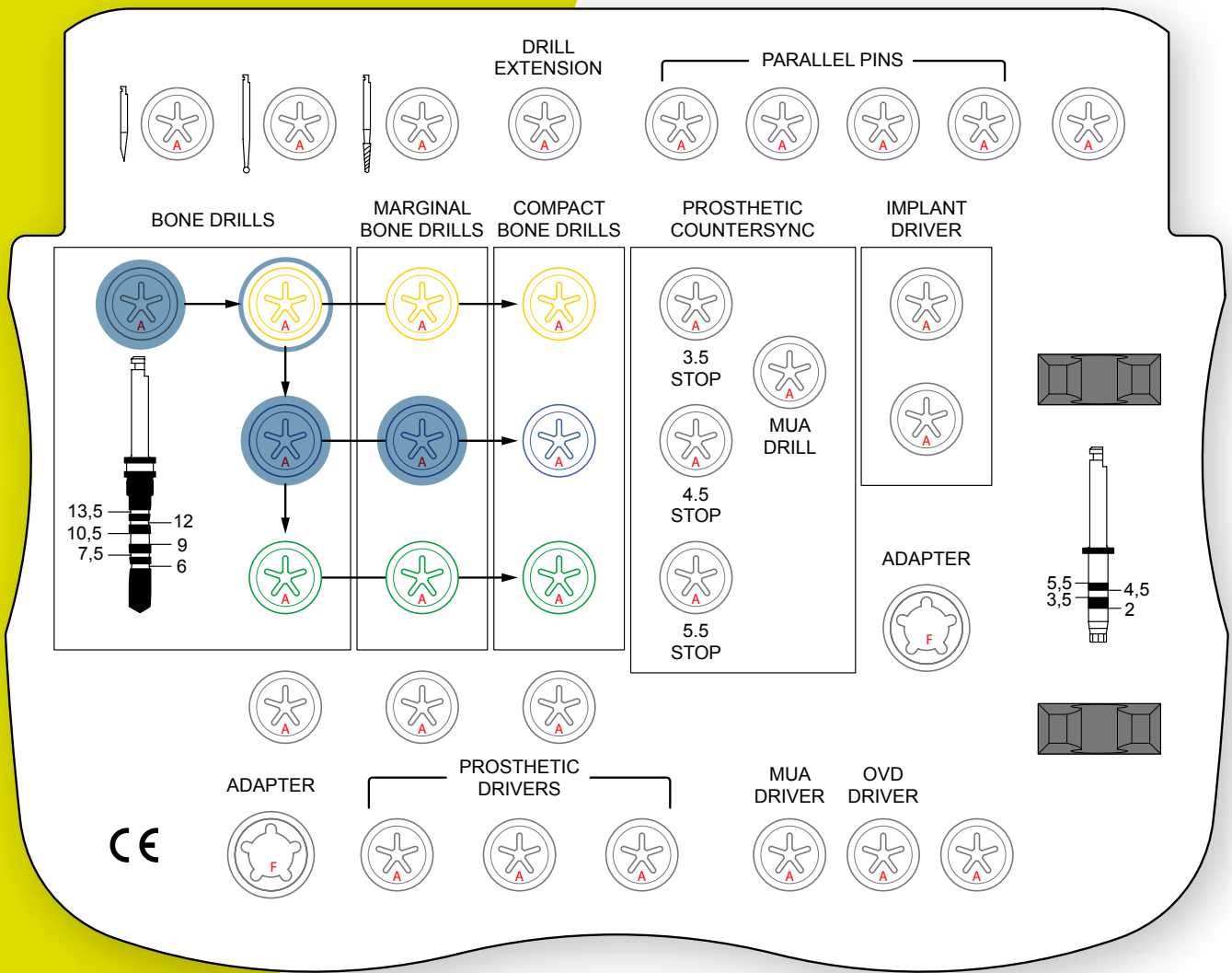


Compact bone

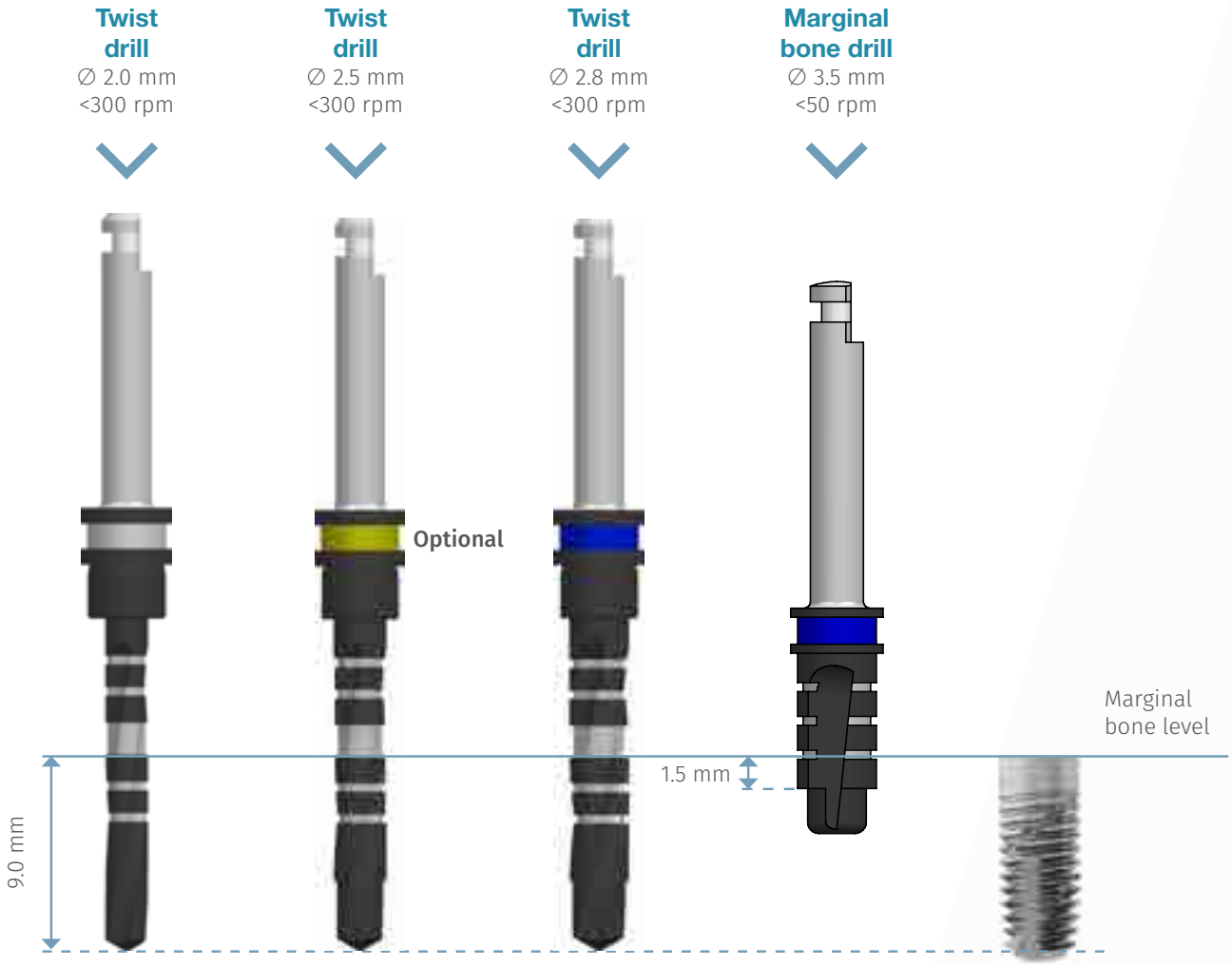
Final drills GTB Regular ⌀ 3.6 mm

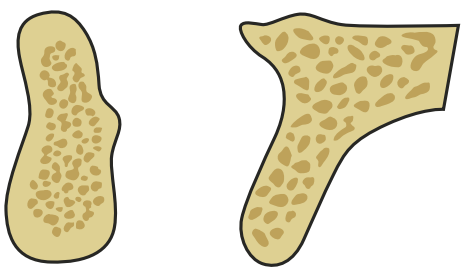


Medium bone



Drills sequence GTB Regular ⌀ 3.6 mm

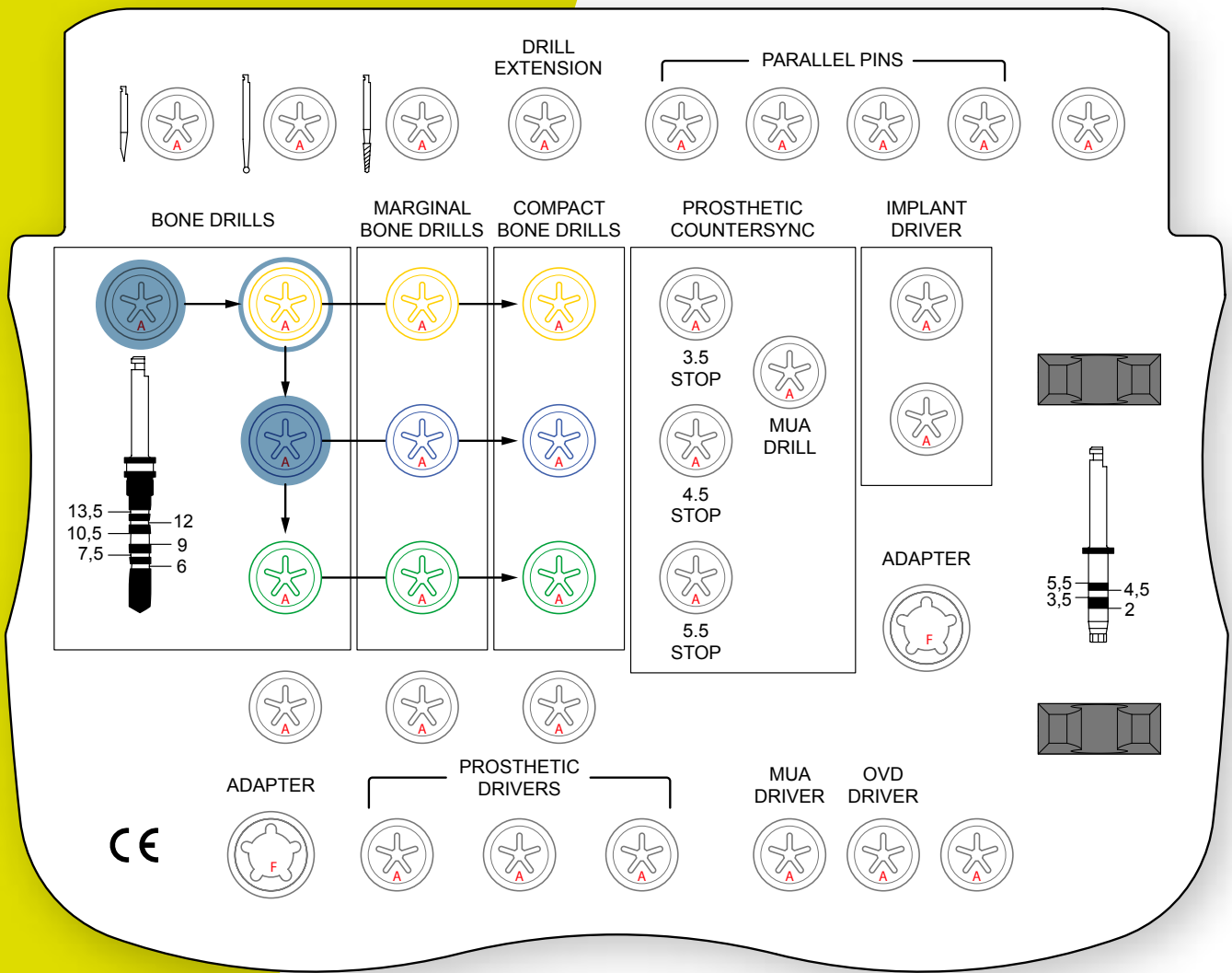




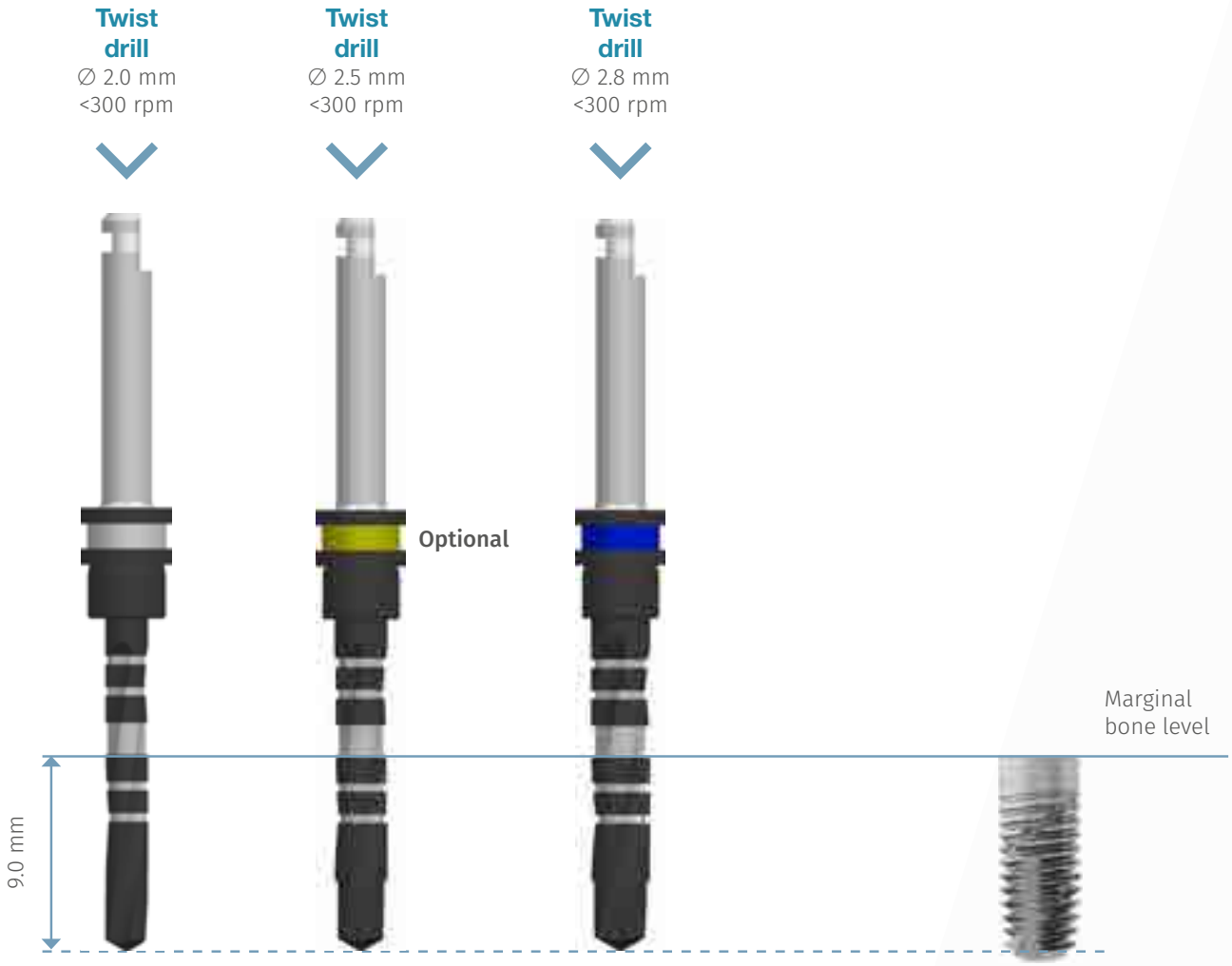
Medium bone

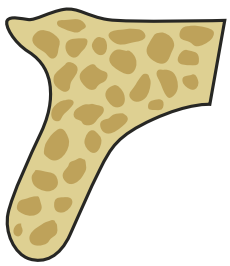
Final drills GTB Regular ⌀ 3.6 mm

Soft bone



Drills sequence GTB Regular ⌀ 3.6 mm





Soft bone

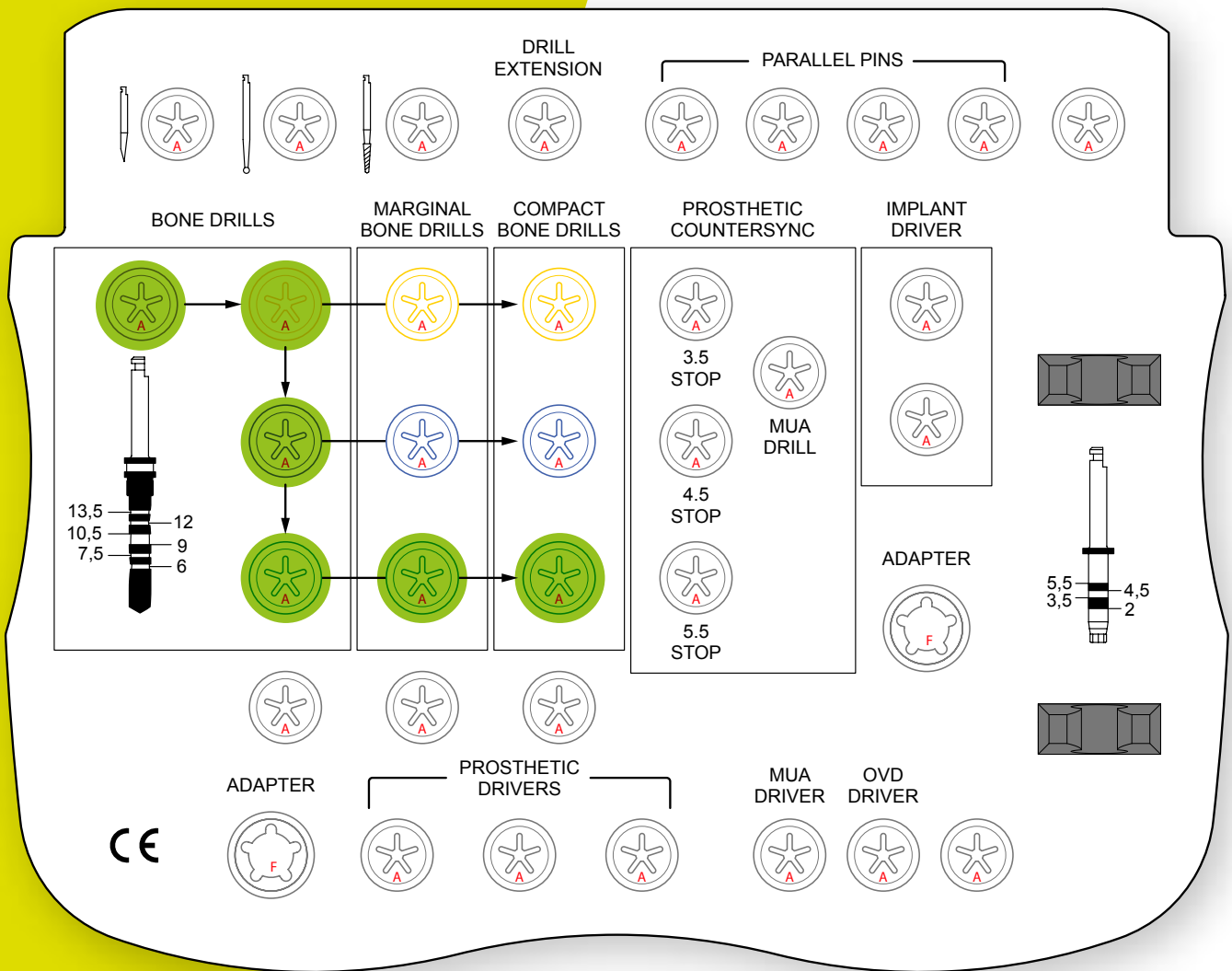
Final drills
GTB Wide ∅ 4.3 mm

Implant lenght

		L 6	L 7.5	L 9	L 10.5	L 12
Compact bone	Final drill ∅ 4.0 mm	Marginal bone drill ∅ 4.2 mm	Marginal bone drill ∅ 4.2 mm	Marginal bone drill ∅ 4.2 mm	Marginal bone drill ∅ 4.2 mm	Marginal bone drill ∅ 4.2 mm
Medium bone	Final drill ∅ 3.6 mm	Marginal bone drill ∅ 4.2 mm	Marginal bone drill ∅ 4.2 mm	Marginal bone drill ∅ 4.2 mm	Marginal bone drill ∅ 4.2 mm	Marginal bone drill ∅ 4.2 mm
Soft bone	Final drill ∅ 3.6 mm					

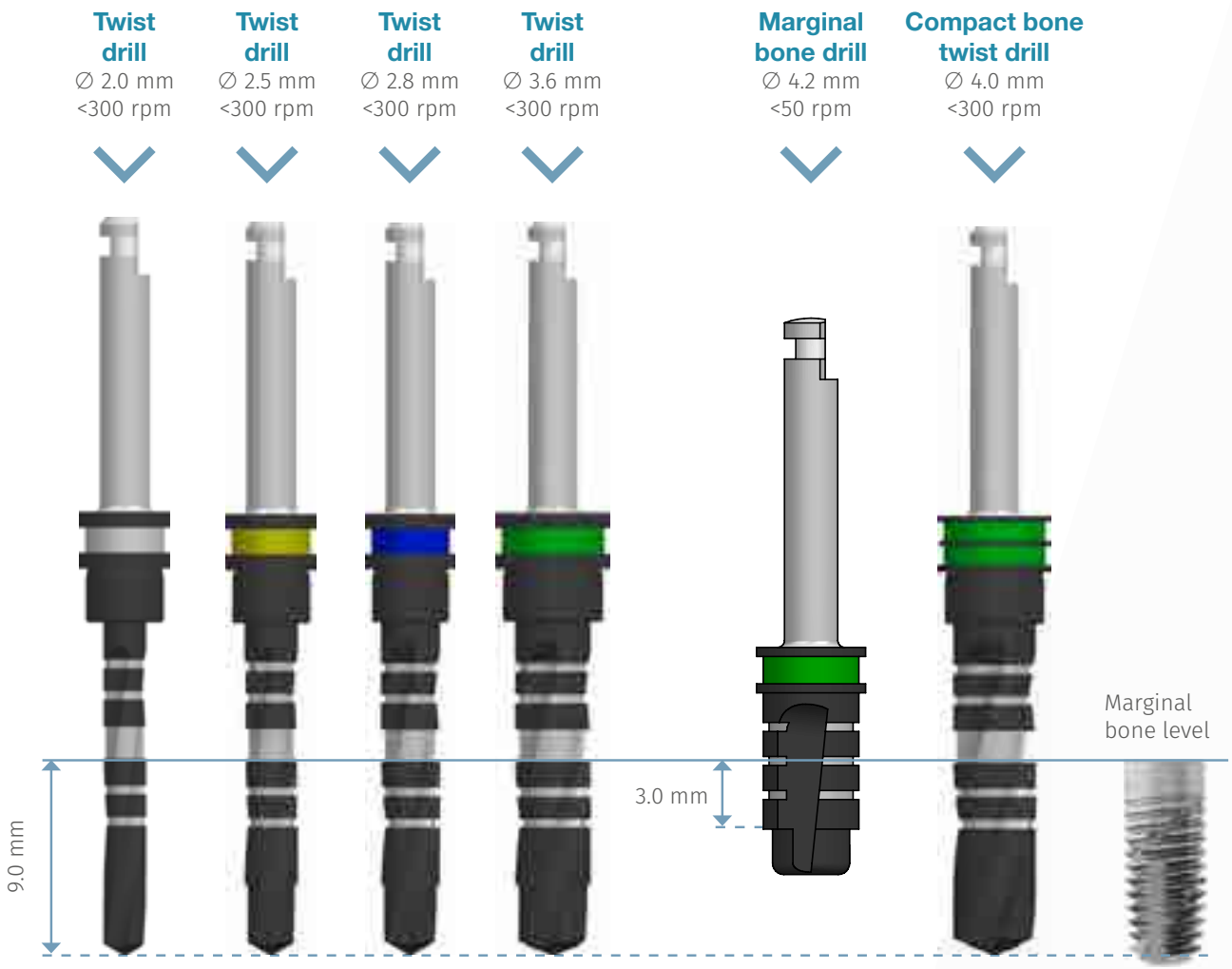
Drills sequence GTB Wide ⌀ 4.3 mm

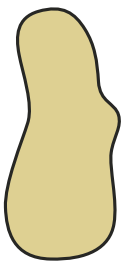
Compact bone



Drills sequence GTB Wide ⌀ 4.3 mm

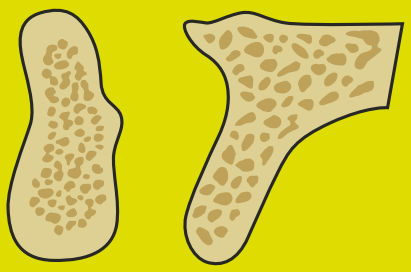
Example for L 9.0 mm implant lenght and epicrestal positioning



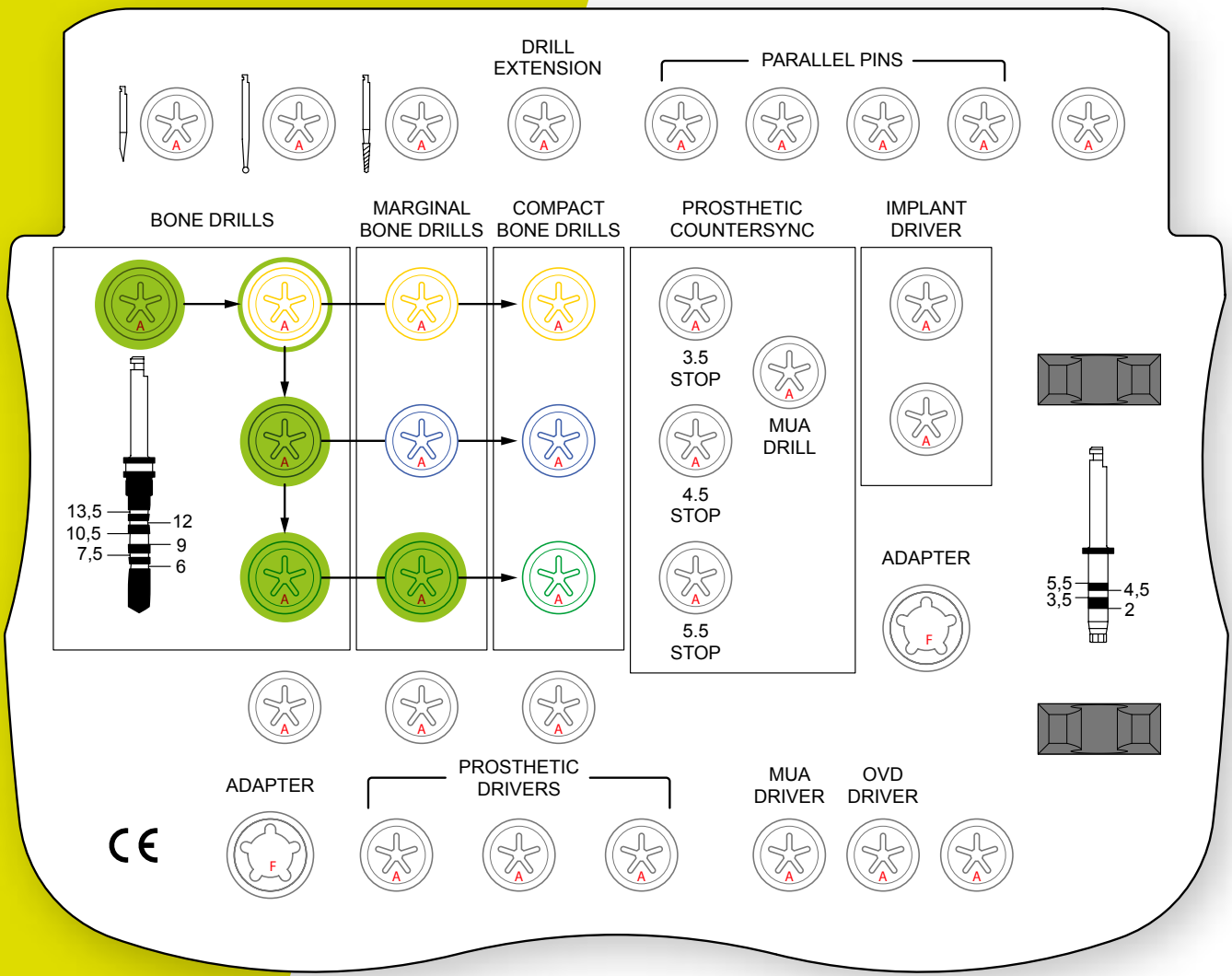


Compact bone

Drills sequence GTB Wide ⌀ 4.3 mm

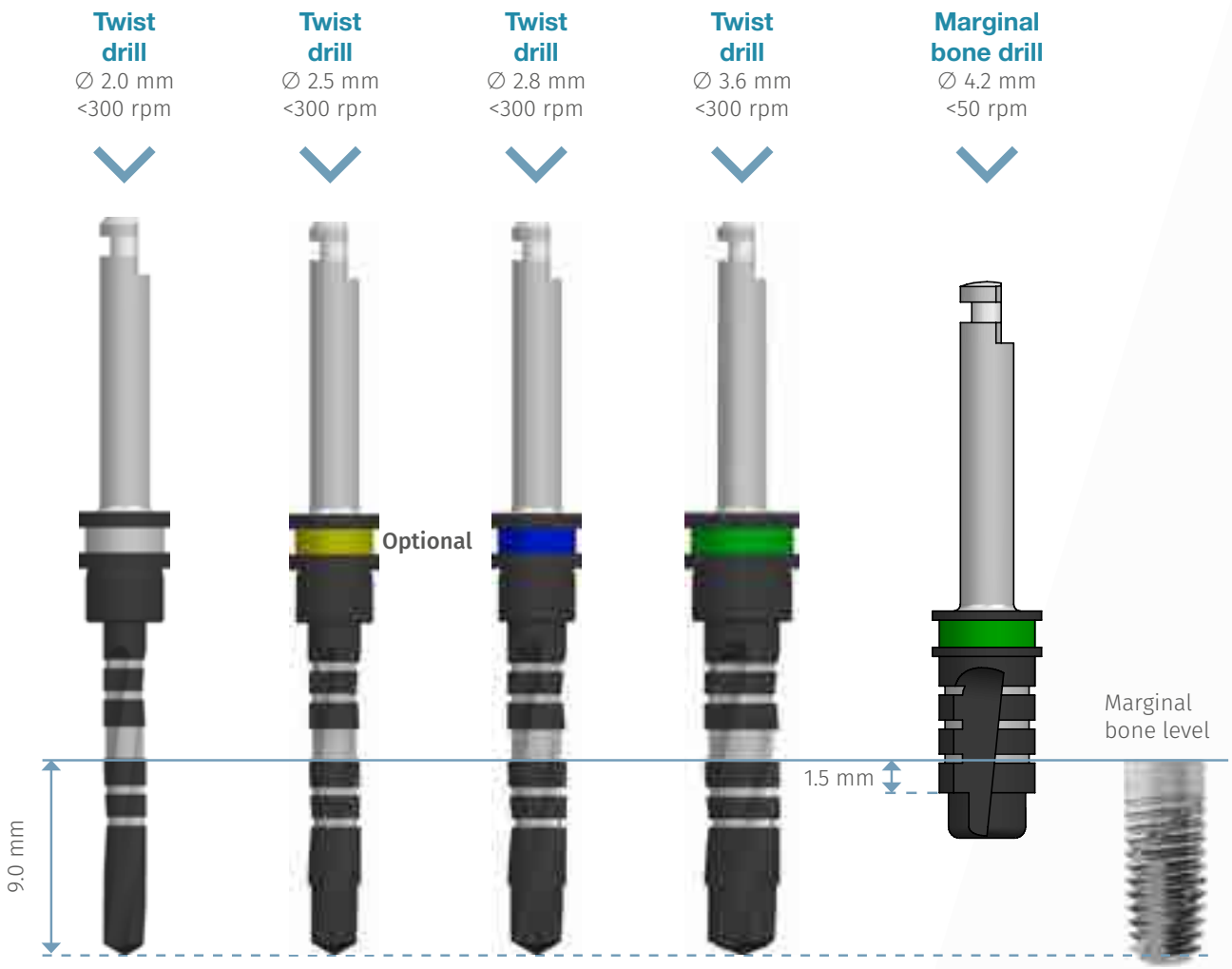


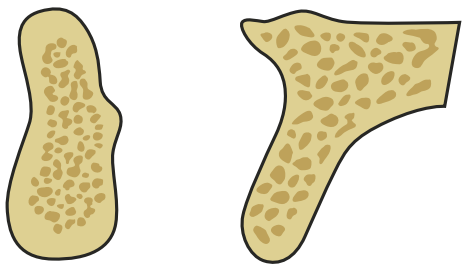
Medium bone



Drills sequence GTB Wide ⌀ 4.3 mm

Example for L 9.0 mm implant lenght and epicrestal positioning

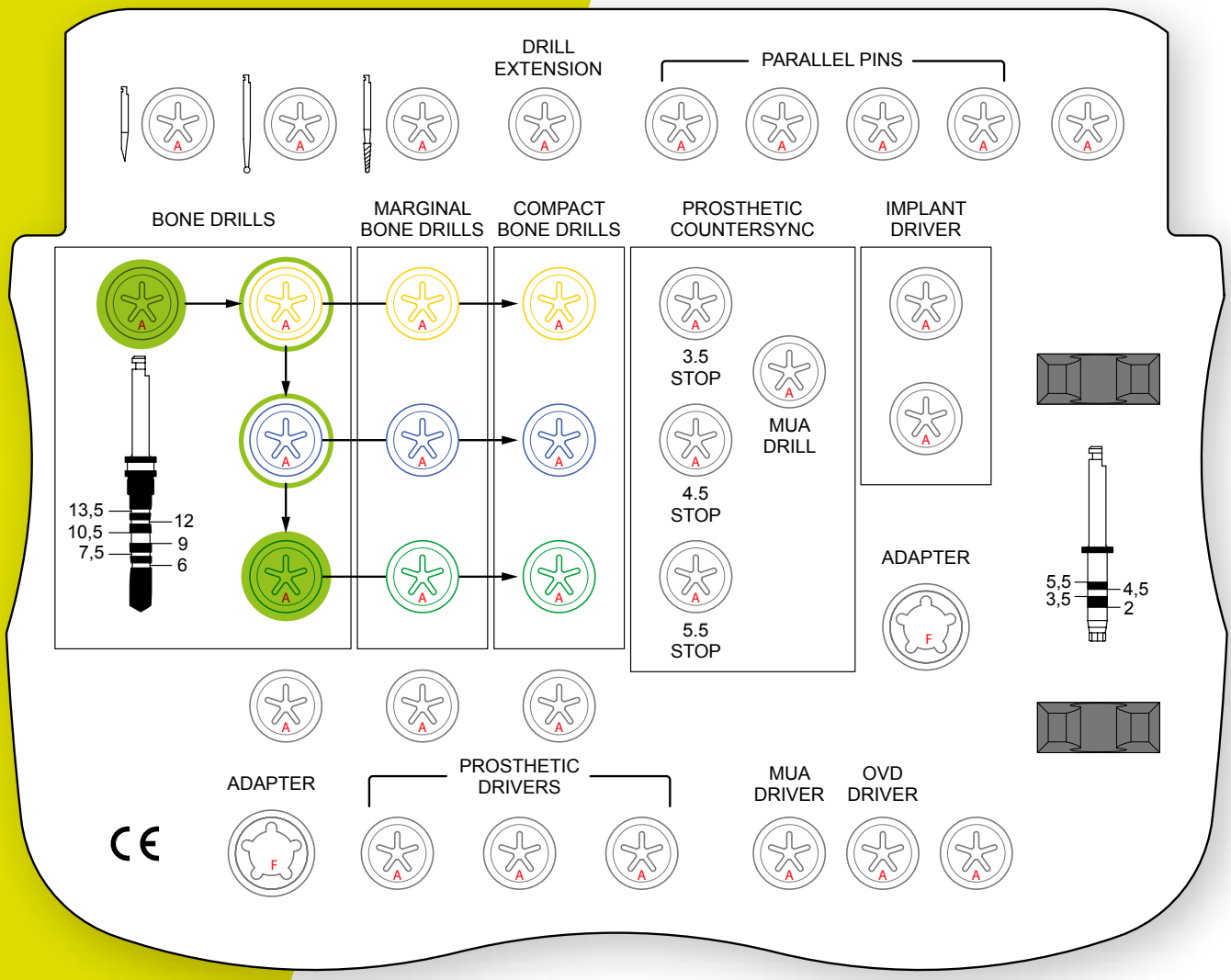




Medium bone

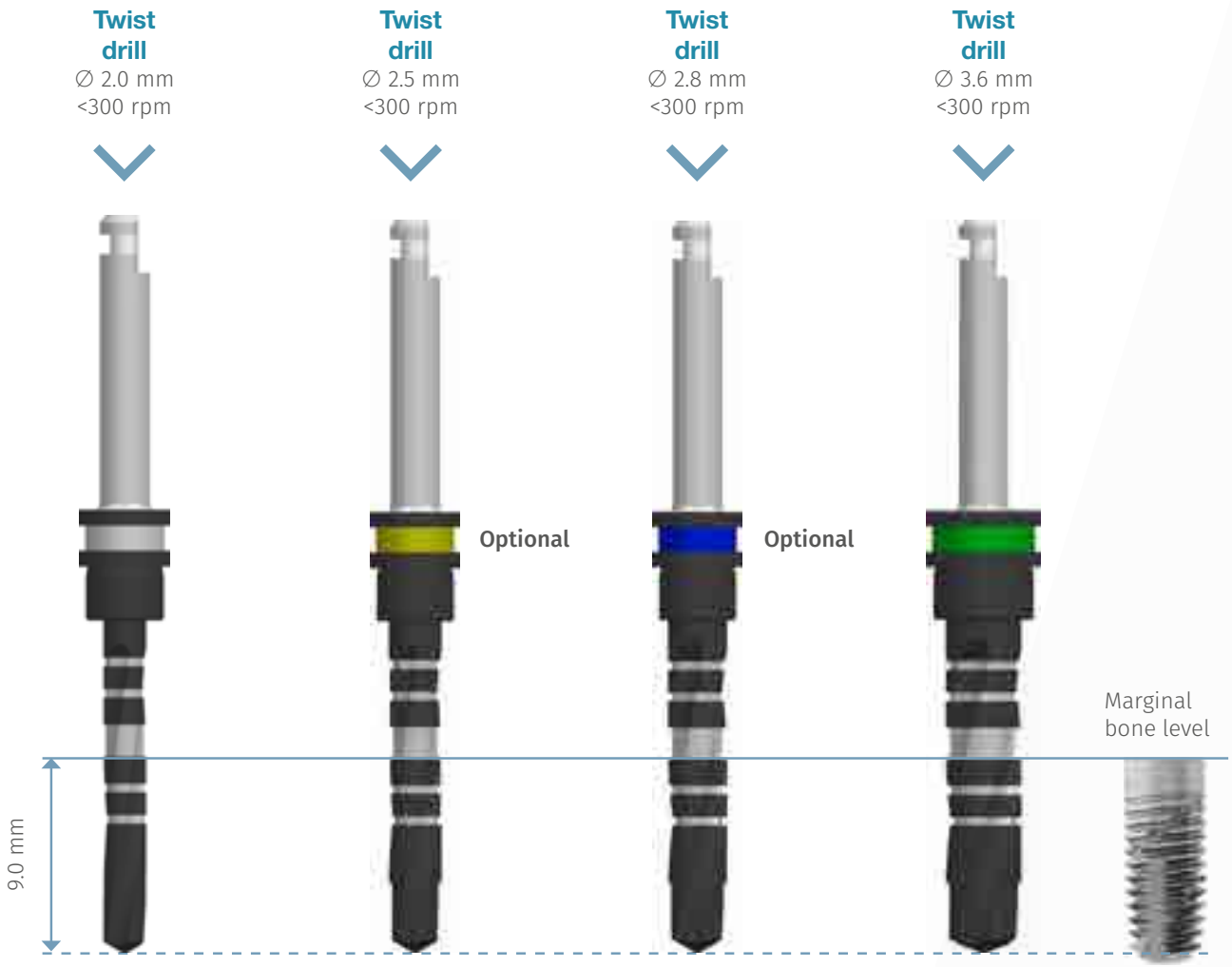
Drills sequence GTB Wide ⌀ 4.3 mm

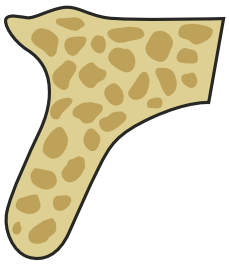
Soft bone



Drills sequence GTB Wide ⌀ 4.3 mm

Example for L 9.0 mm implant lenght and epicrestal positioning





Soft bone

GTB-TZERO Implants

GTB-TZERO NARROW IMPLANT SCREW

3.3 mm diameter

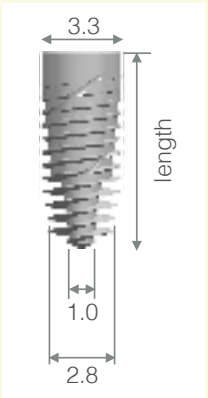
Standard diameter ideal for single and multiple implant-prosthetic restorations. This endosseous screw is suitable for post-extraction protocol and immediate

length 9.0 | length 10.5 | length 12.0 | length 13.5 | length 15.0

implant neck diameter

implant apical core diameter

implant apical thread diameter



TZERO REGULAR
3.3 mm diameter
9.0 mm length
code T3309

TZERO REGULAR
3.3 mm diameter
10.5 mm length
code T3310

TZERO REGULAR
3.3 mm diameter
12.0 mm length
code T3312

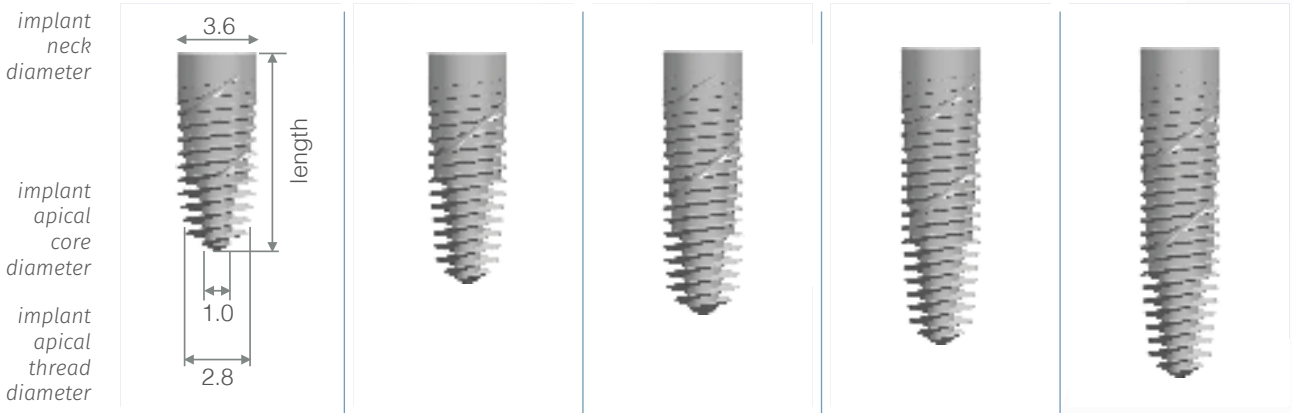
TZERO REGULAR
3.3 mm diameter
13.5 mm length
code T3313

TZERO REGULAR
3.3 mm diameter
15.0 mm length
code T3315

GTB-TZERO REGULAR IMPLANT SCREW

3.6 mm diameter

Standard diameter ideal for single and multiple implant-prosthetic restorations. This endosseous screw is suitable for post-extraction protocol and immediate loading. The option of a reduced length endosseous screw makes it possible to always choose ideal position and axis for the screw to confront protocols of multiple rehabilitations with maximum mechanical and biological safety.



TZERO REGULAR
3.6 mm diameter
9.0 mm length
code T3609

TZERO REGULAR
3.6 mm diameter
10.5 mm length
code T3610

TZERO REGULAR
3.6 mm diameter
12.0 mm length
code T3612

TZERO REGULAR
3.6 mm diameter
13.5 mm length
code T3613

TZERO REGULAR
3.6 mm diameter
15.0 mm length
code T3615

GTB-TZERO Implants

GTB-TZERO WIDE IMPLANT SCREW

4.3 mm diameter

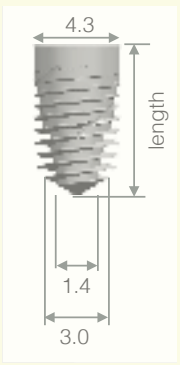
Large diameter implant is indicated for single and multiple implant-prosthetic rehabilitations of larger dental elements and gaps in the distal region of the maxilla. This endossesous screw is suitable for post-extraction protocol and immediate loading. The option of a reduced lengthendosseous screw makes it possible to always choose ideal position and axis for the screw to confort protocols of multiple rehabilitations with maximum machanical and biological safety.

length 7.5 | length 9.0 | length 10.5 | length 12.0 | length 13.5 | length 15.0

implant neck diameter

implant apical core diameter

implant apical thread diameter



TZERO WIDE
4.3 mm diameter
7.5 mm length
code T4307

TZERO WIDE
4.3 mm diameter
9.0 mm length
code T4309

TZERO WIDE
4.3 mm diameter
10.5 mm length
code T4310

TZERO WIDE
4.3 mm diameter
12.0 mm length
code T4312

TZERO WIDE
4.3 mm diameter
13.5 mm length
code T4313

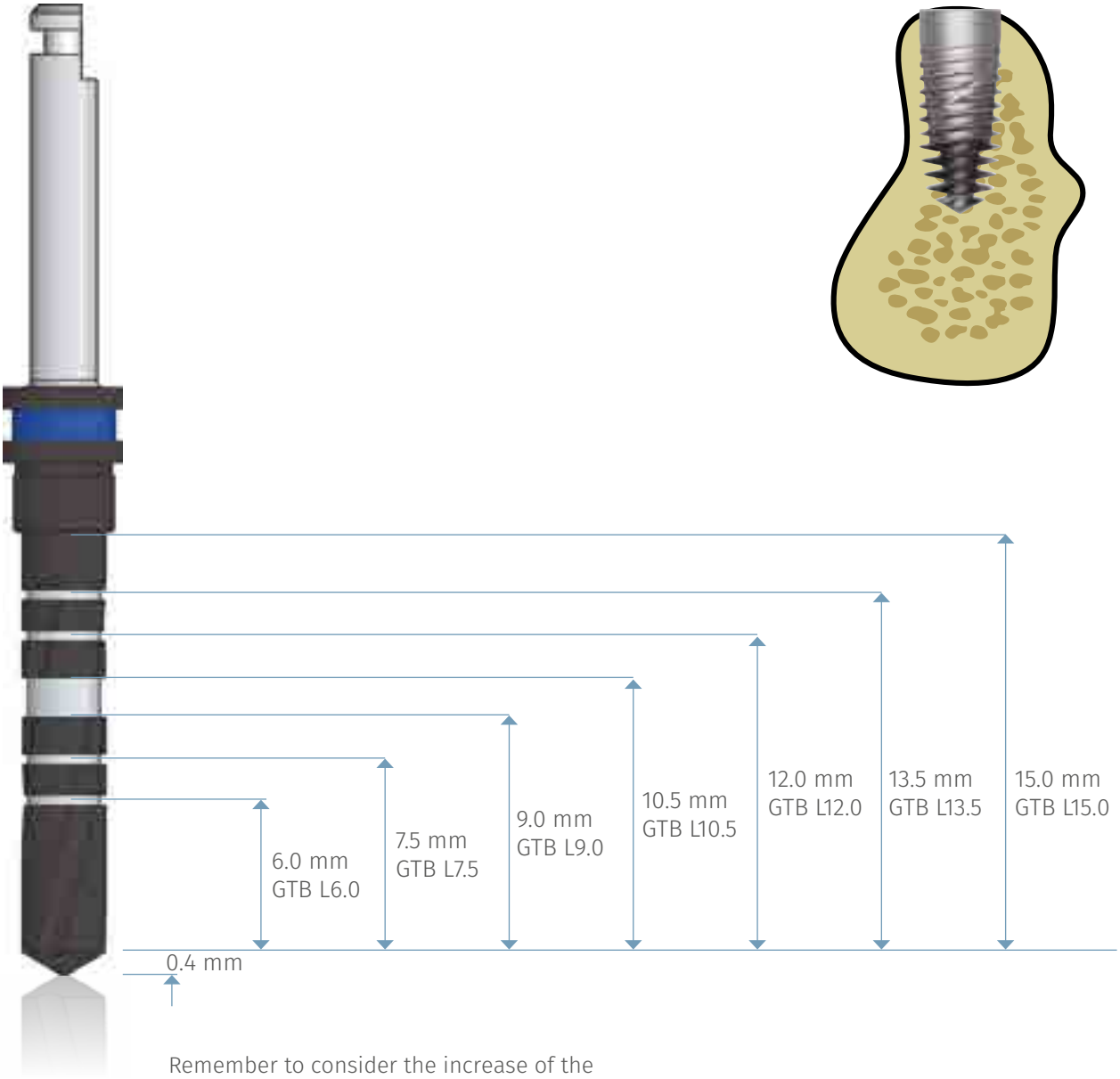
TZERO WIDE
4.3 mm diameter
15.0 mm length
code T4315

Indications

INDICATION TABLE FOR GTB IMPLANTS

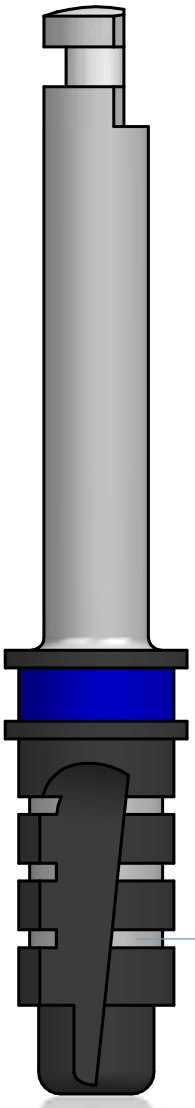
IMPLANT		INDICATION	MINIMAL VESTIBULAR-PALATAL SPACE	MINIMAL MESIO-DISTAL SPACE
GTB-TZERO NARROW Ø 3.3 mm		Narrow ridges and interdental spaces placement in the molar region is not recommended	5.3 mm	6.3 mm
GTB-TZERO REGULAR Ø 3.6 mm		Rehabilitation of partially or completely edentulous maxilla	5.6 mm	6.6 mm
GTB-TZERO WIDE Ø 4.3 mm		Rehabilitation of partially or completely edentulous molar regions of the maxilla	6.3 mm	7.3 mm

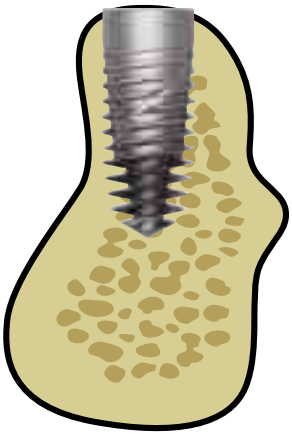
Depth references for epicrestal positioning*



Remember to consider the increase of the apex equal to 0.4 mm

* read the following drills sequences for the appropriate drills deepening in soft or medium bone quality

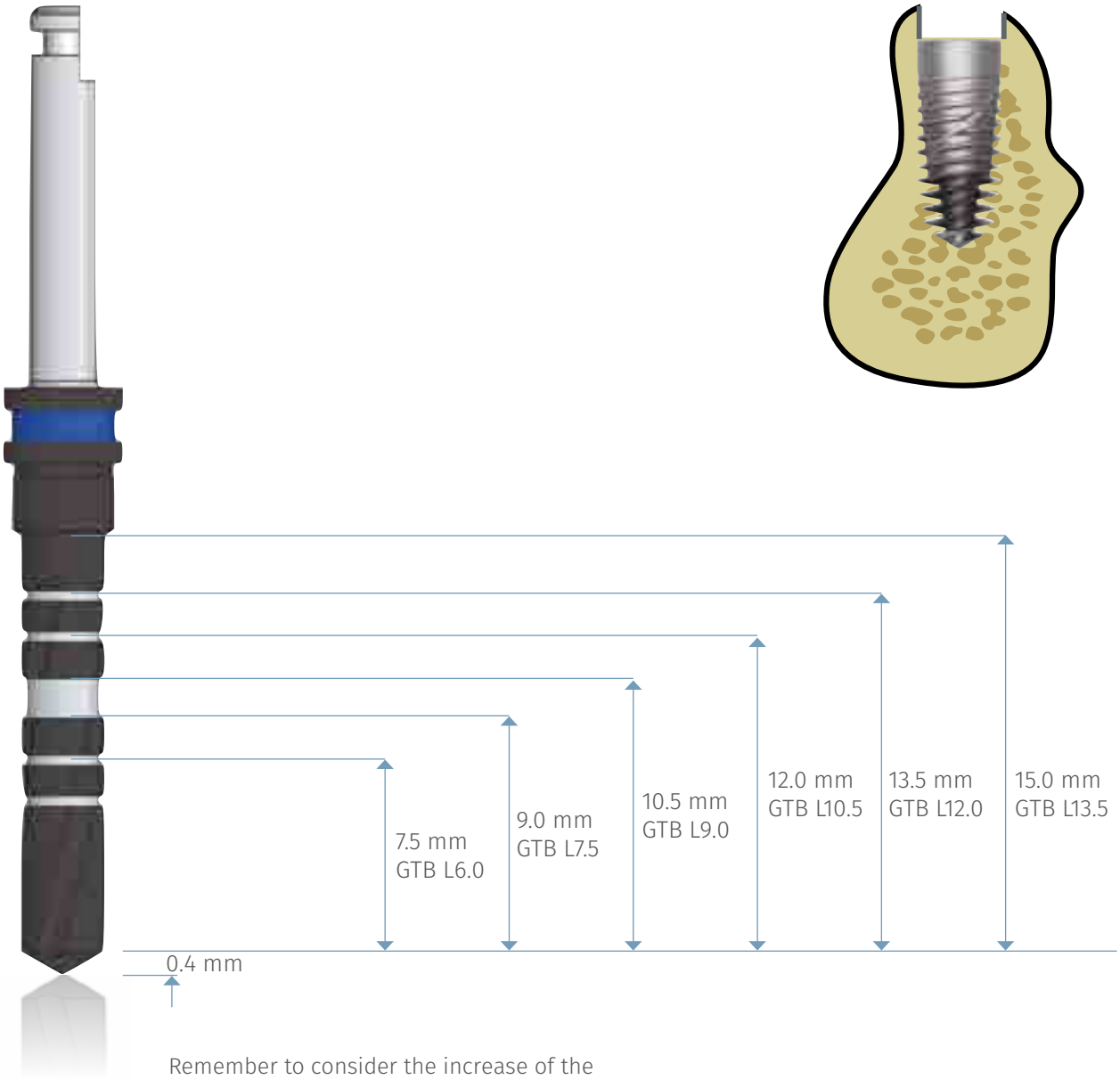




Marginal bone level

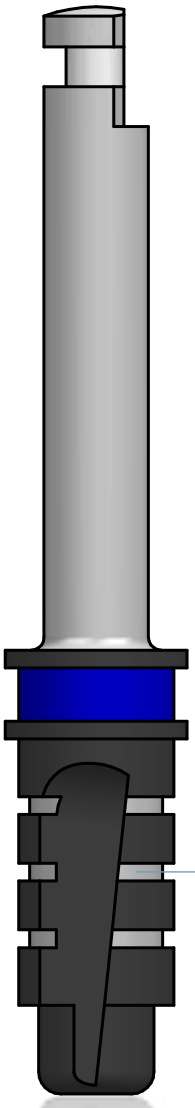
* With very compact bone quality or for a low torque implant positioning it's possible to sink the marginal bone drill until the next reference mark

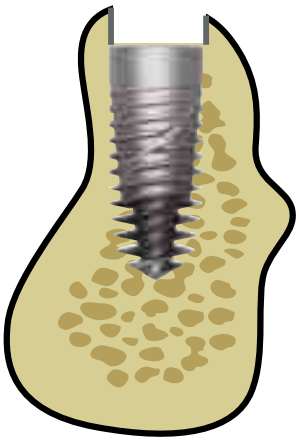
Depth references for 1.5mm subcrestal positioning*



Remember to consider the increase of the apex equal to 0.4 mm

* read the following drills sequences for the appropriate drills deepening in soft or medium bone quality

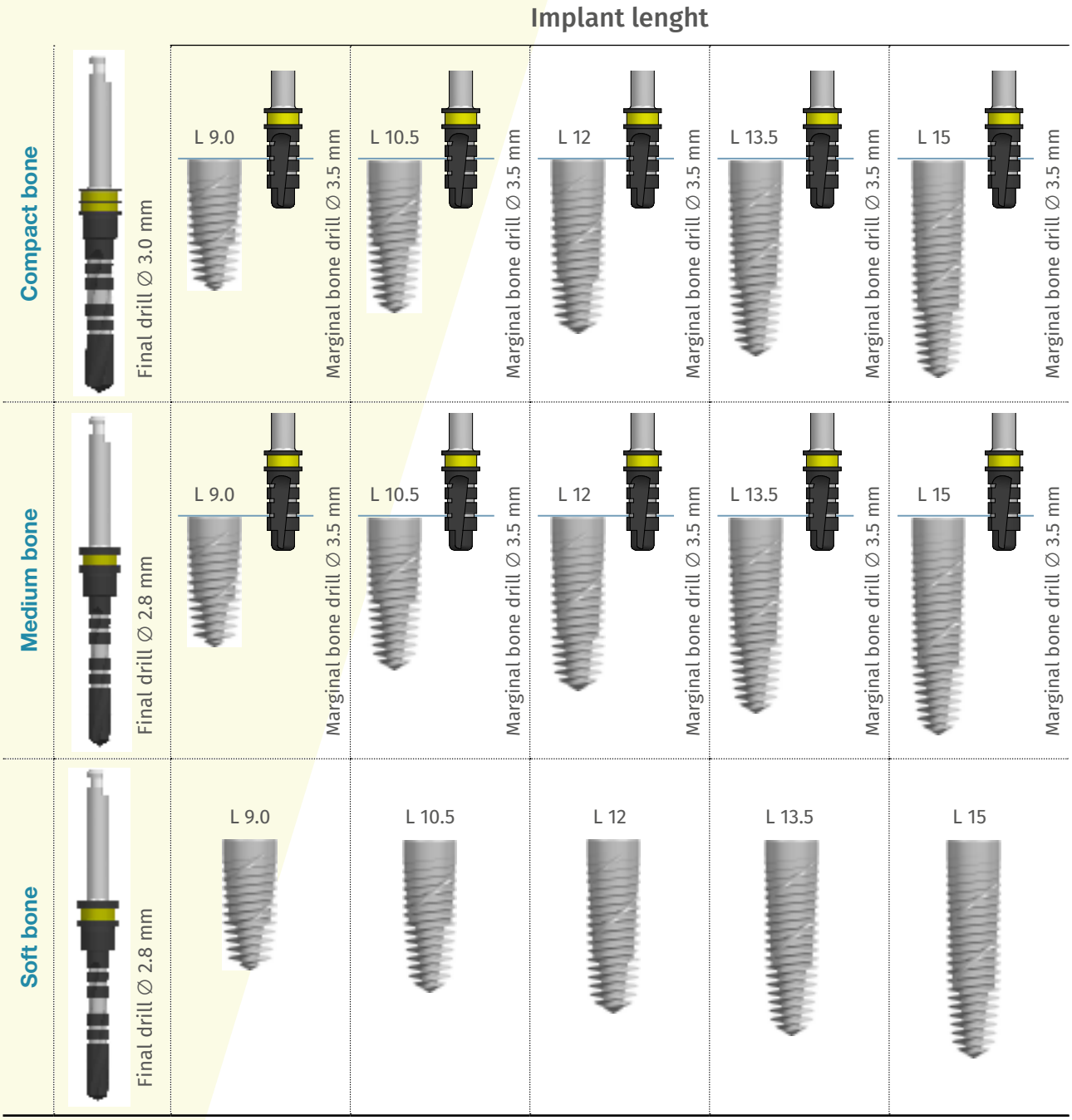




Marginal bone level

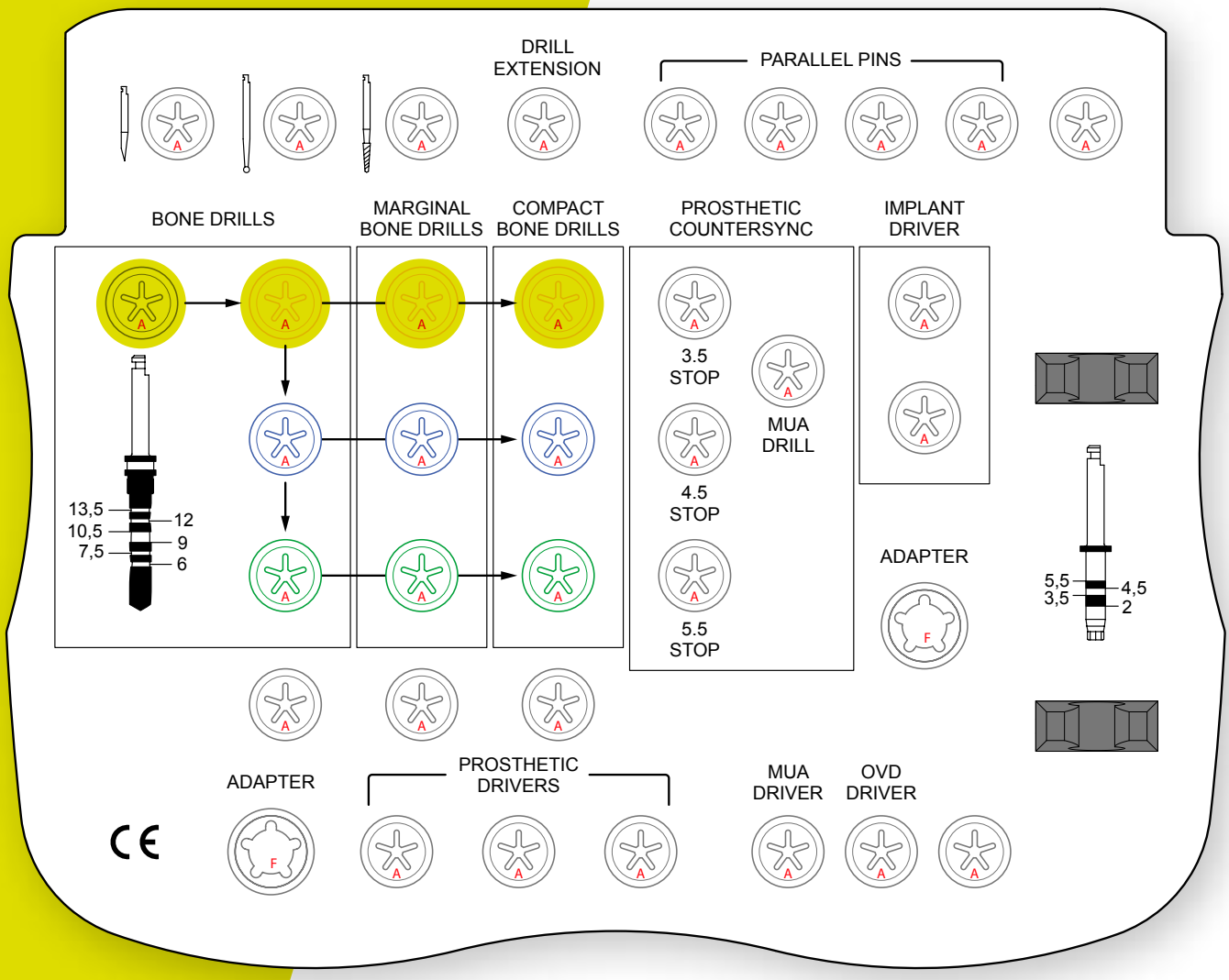
* With very compact bone quality or for a low torque implant positioning it's possible to sink the marginal bone drill until the next reference mark

Final drills GTB T-ZERO Narrow ⌀ 3.3 mm



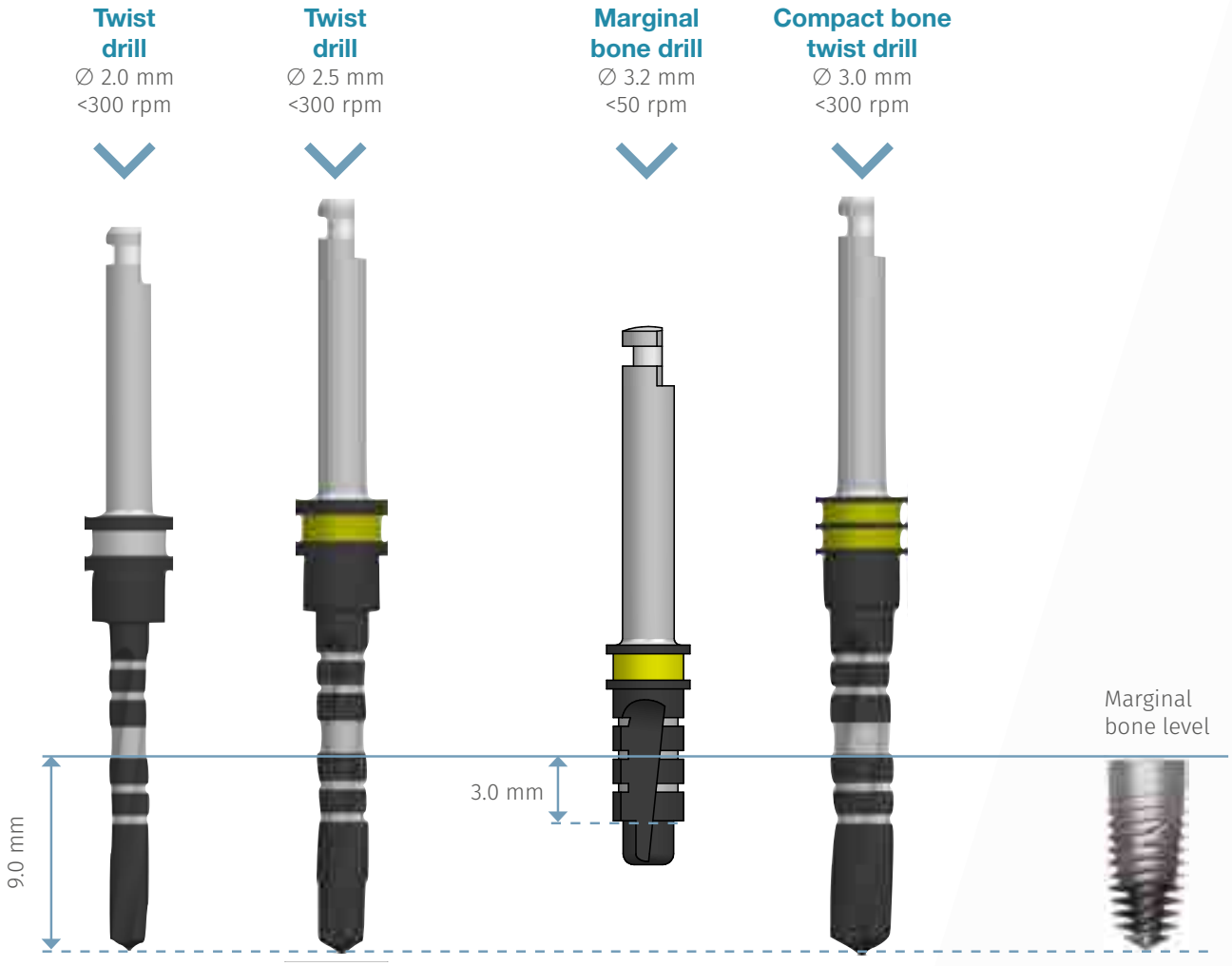
Drills sequence GTB T-ZERO Narrow ⌀ 3.3 mm

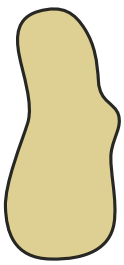
Compact bone



Drills sequence GTB T-ZERO Narrow ⌀ 3.3 mm

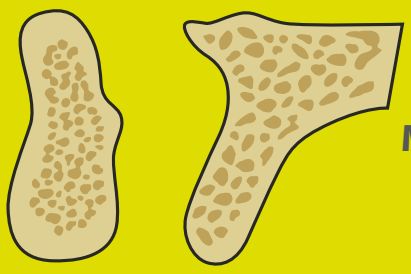
Example for L 9.0 mm implant lenght and epicrestal positioning



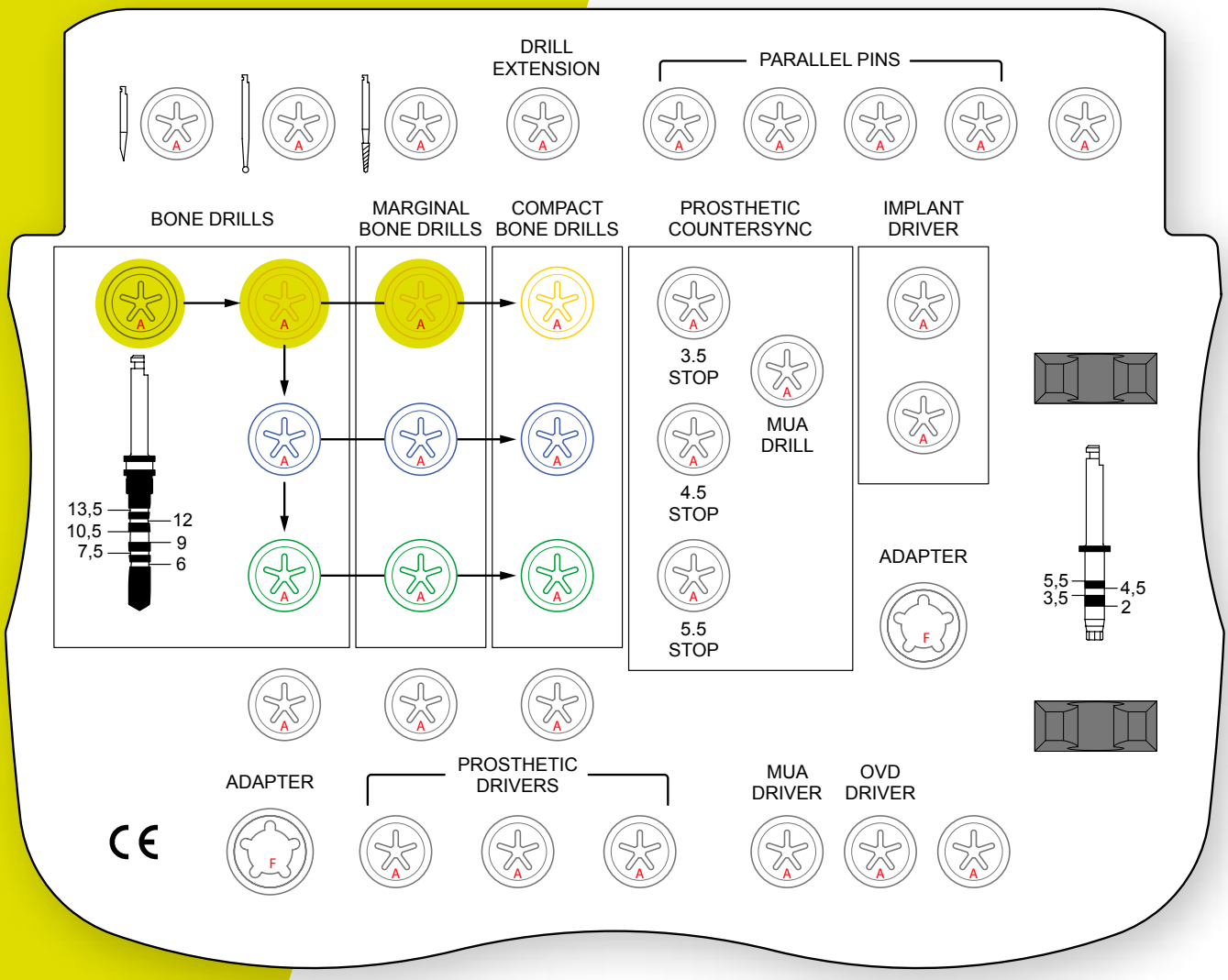


Compact bone

Drills sequence GTB T-ZERO Narrow ⌀ 3.3 mm

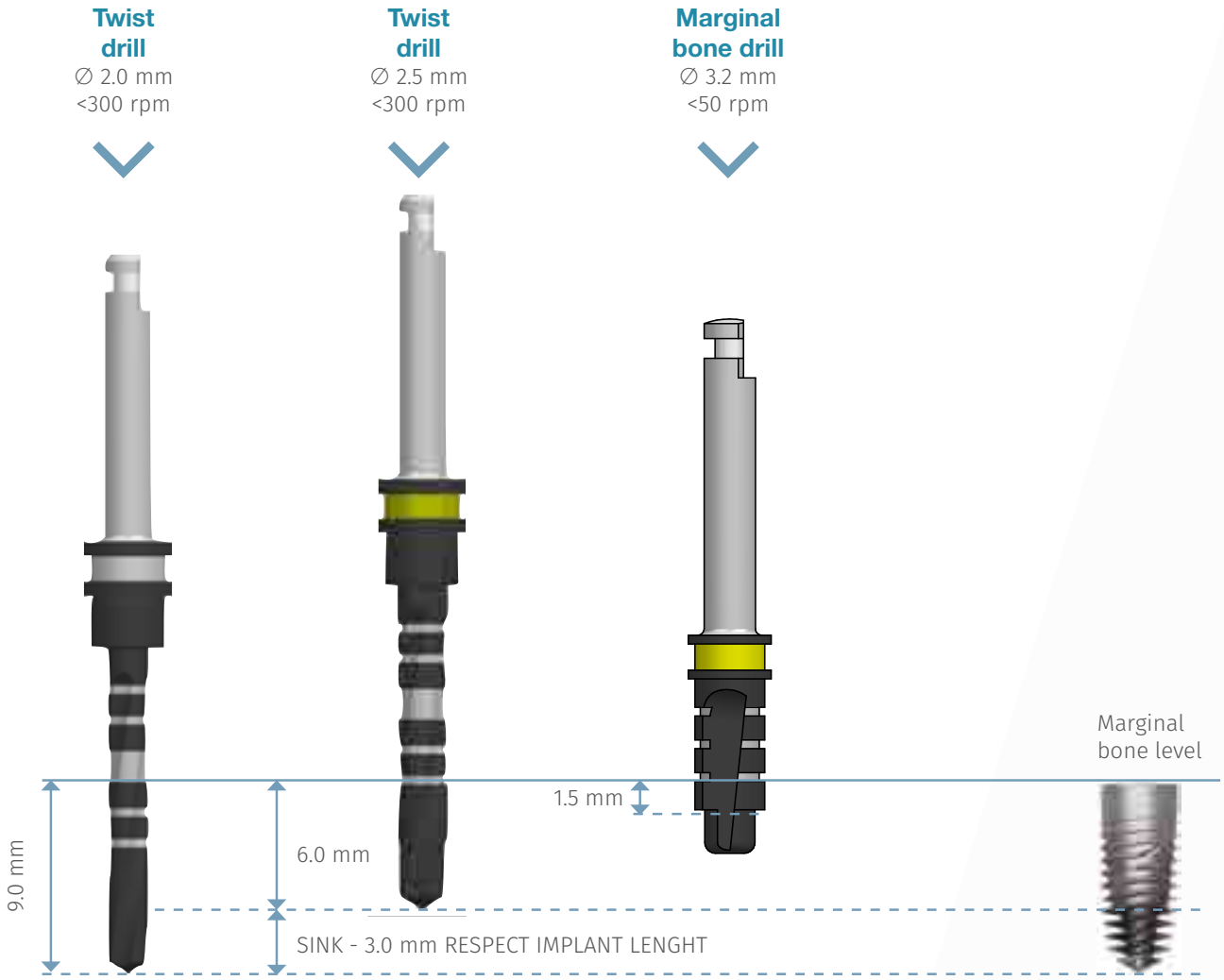


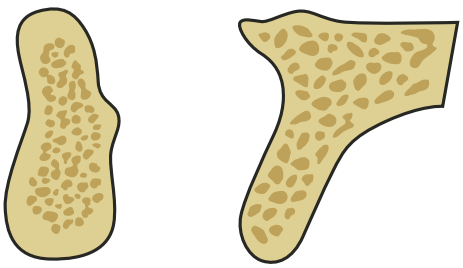
Medium bone



Drills sequence GTB T-ZERO Narrow ⌀ 3.3 mm

Example for L 9.0 mm implant lenght and epicrestal positioning

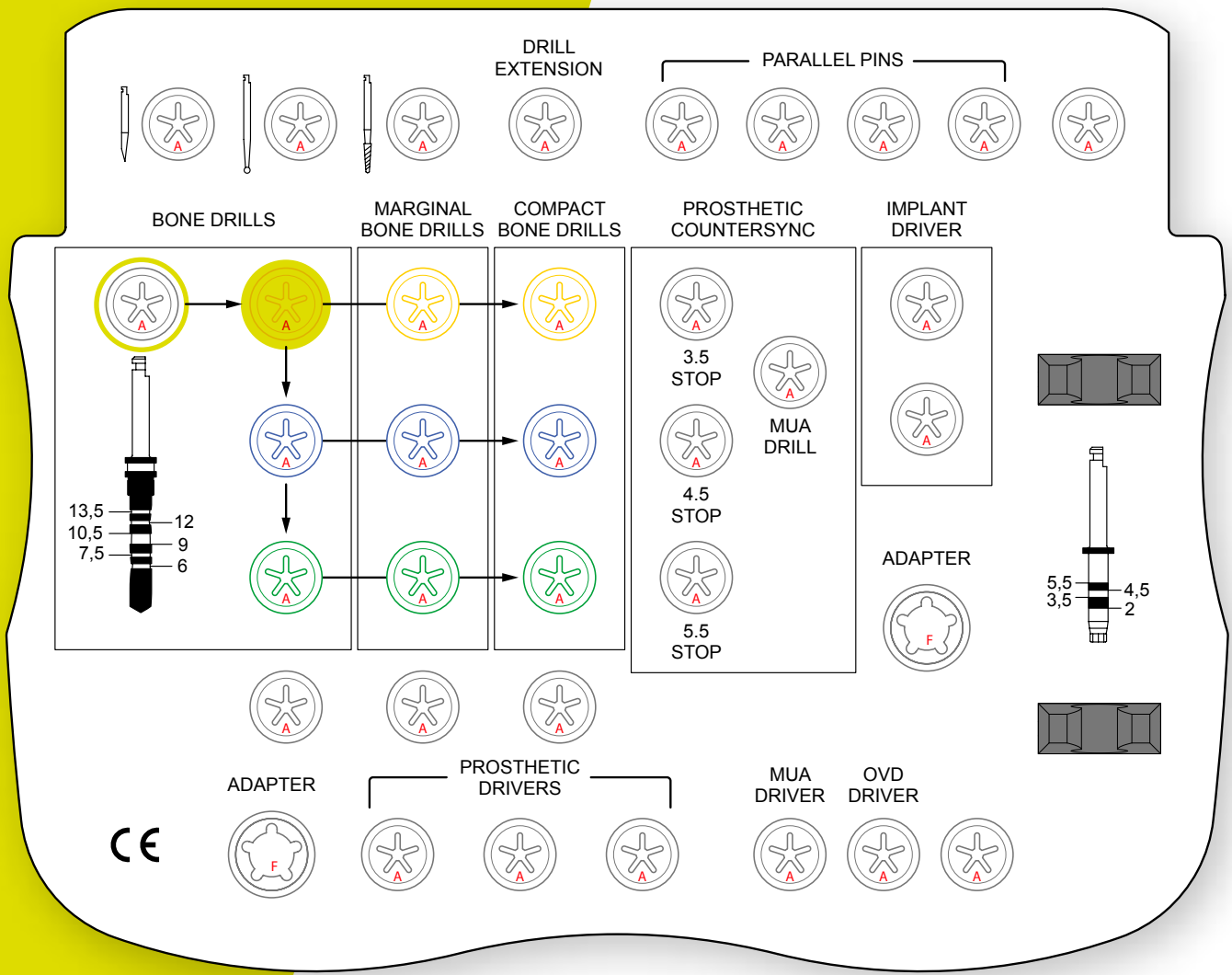




Medium bone

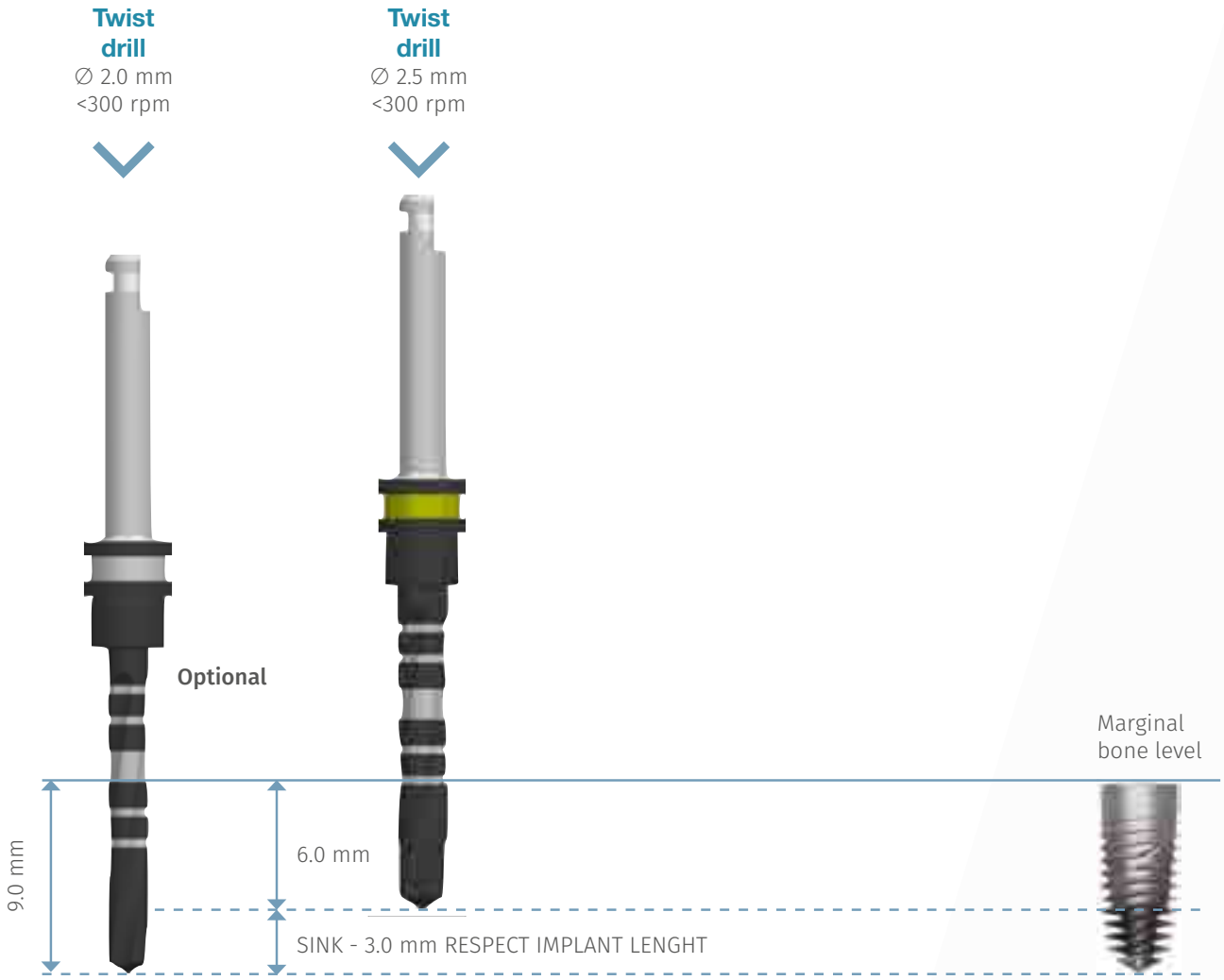
Drills sequence GTB T-ZERO Narrow ⌀ 3.3 mm

Soft bone



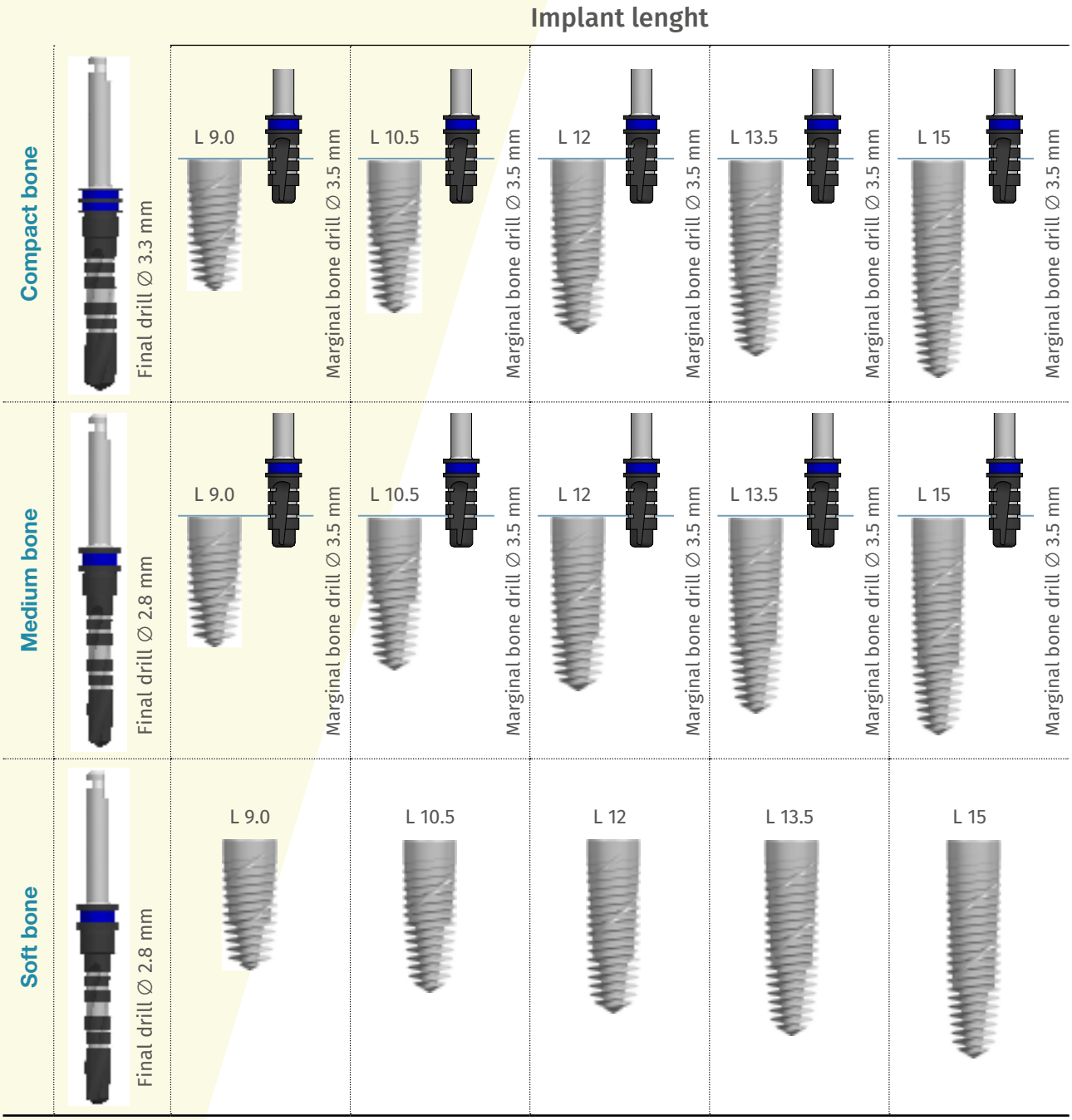
Drills sequence GTB T-ZERO Narrow ∅ 3.3 mm

Example for L 9.0 mm implant lenght and epicrestal positioning



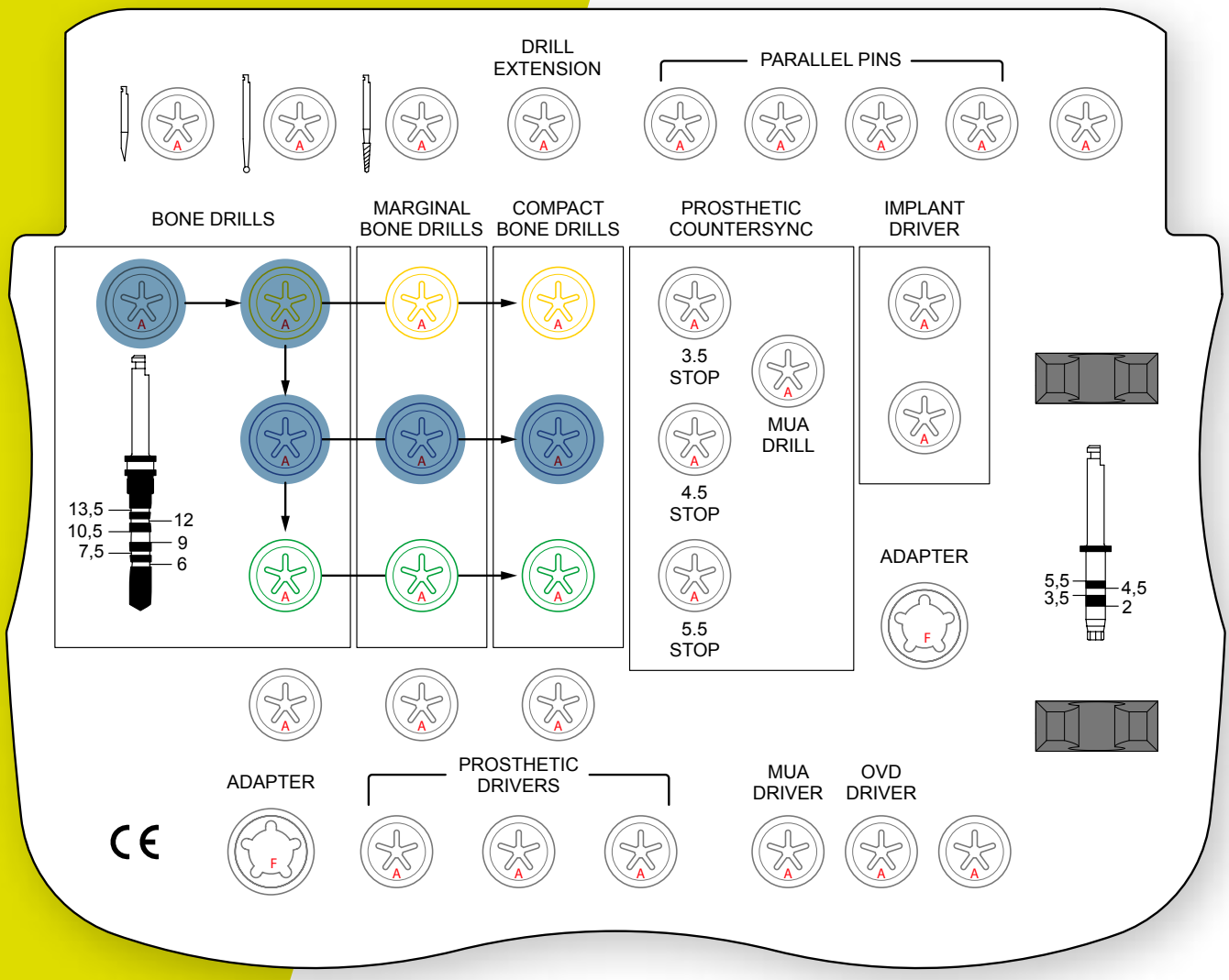
Soft bone

Final drills GTB T-ZERO Regular ⌀ 3.6 mm



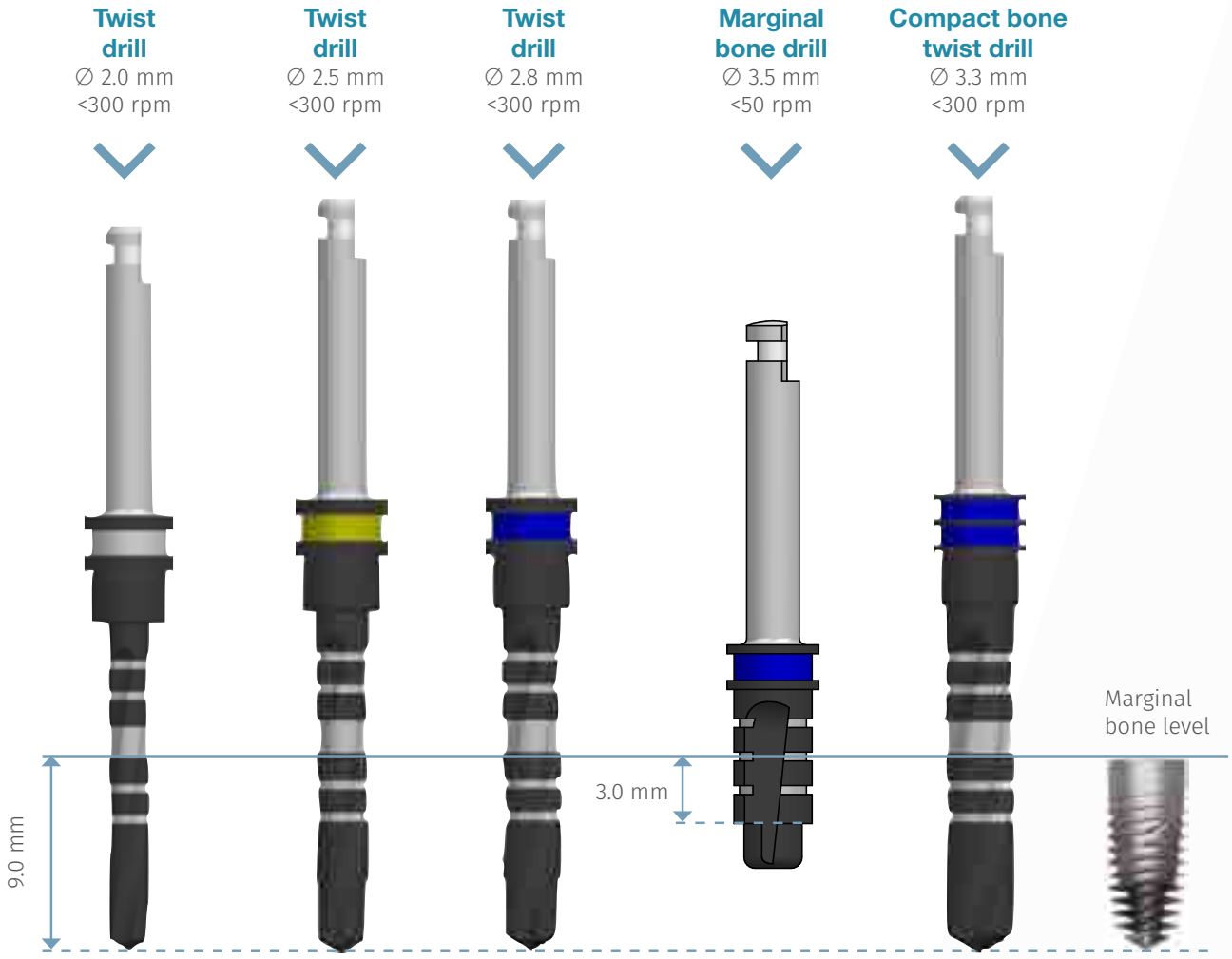
Drills sequence GTB T-ZERO Regular ⌀ 3.6 mm

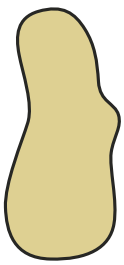
Compact bone



Drills sequence GTB T-ZERO Regular ∅ 3.6 mm

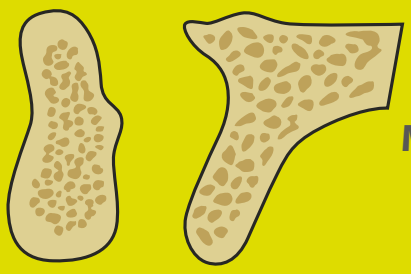
Example for L 9.0 mm implant lenght and epicrestal positioning



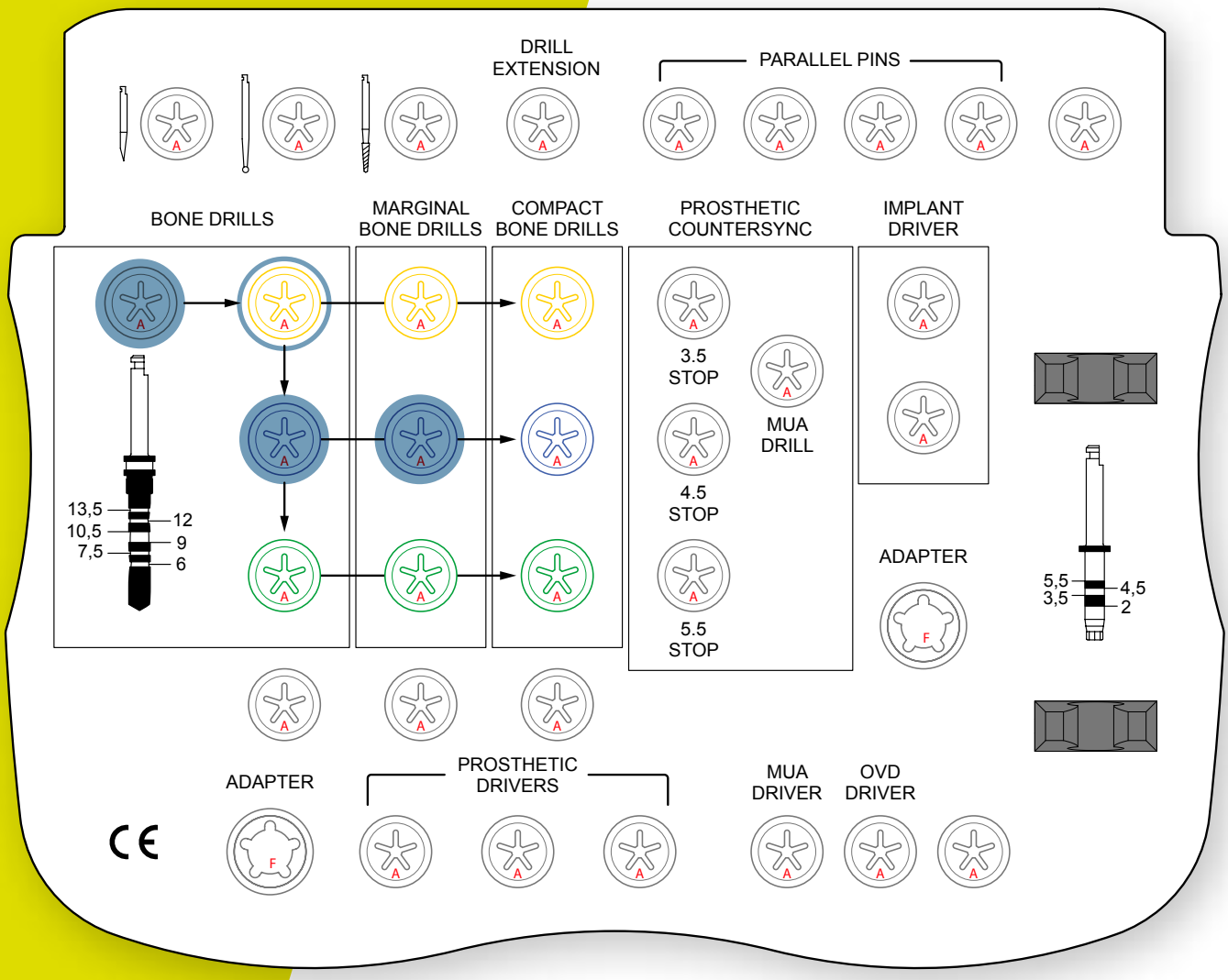


Compact bone

Drills sequence GTB T-ZERO Regular ⌀ 3.6 mm

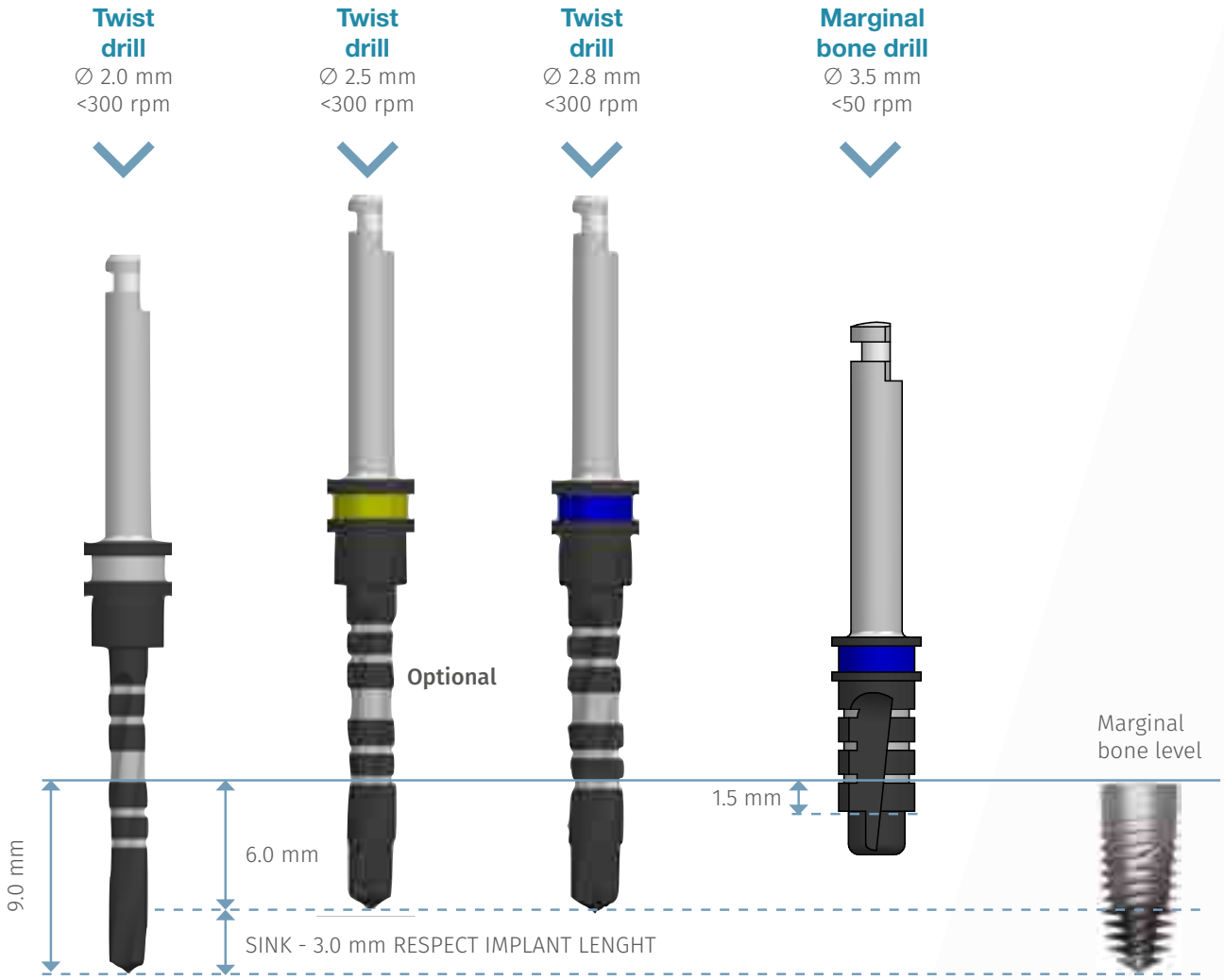


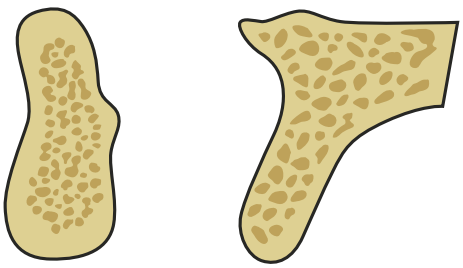
Medium bone



Drills sequence GTB T-ZERO Regular ⌀ 3.6 mm

Example for L 9.0 mm implant lenght and epicrestal positioning

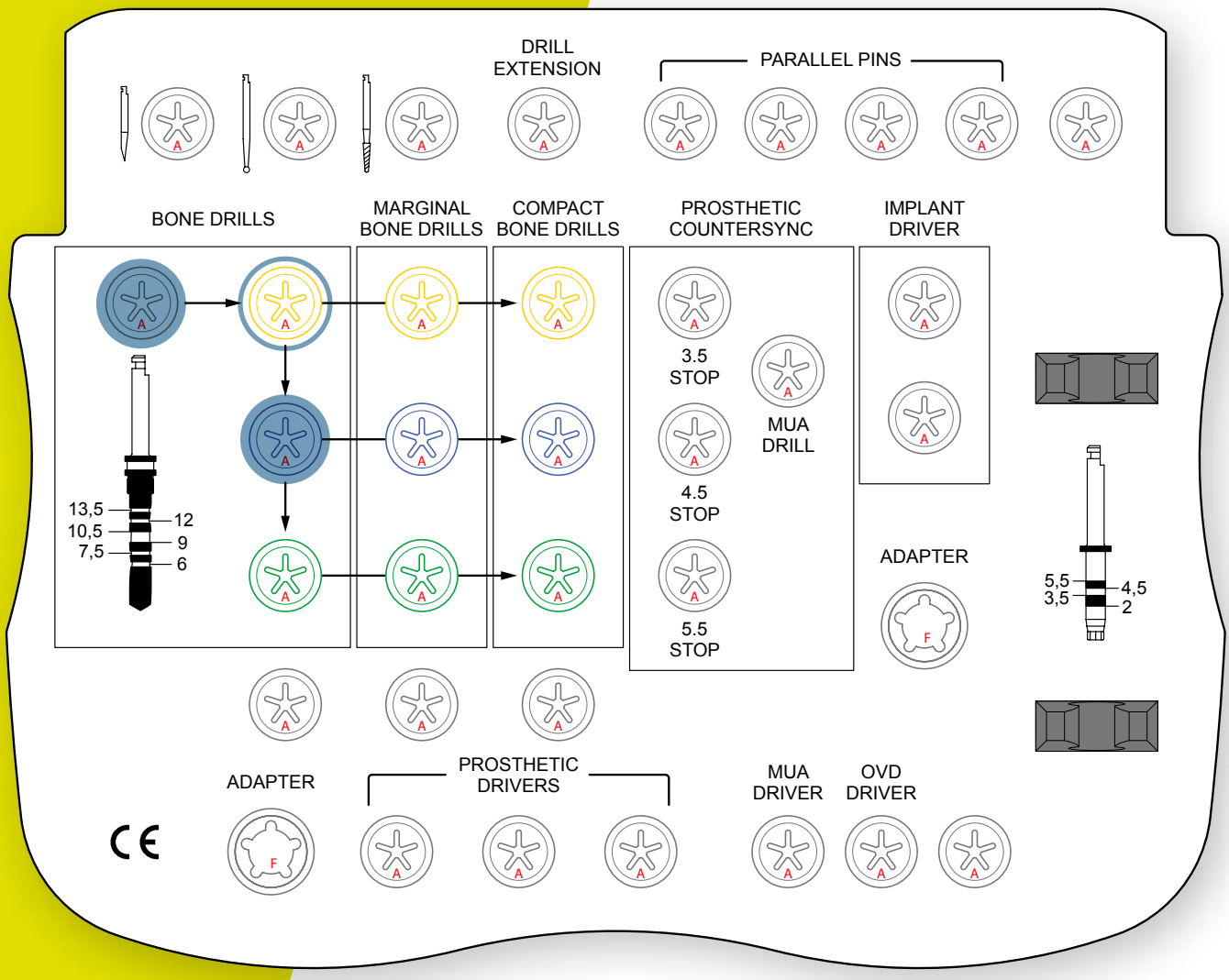




Medium bone

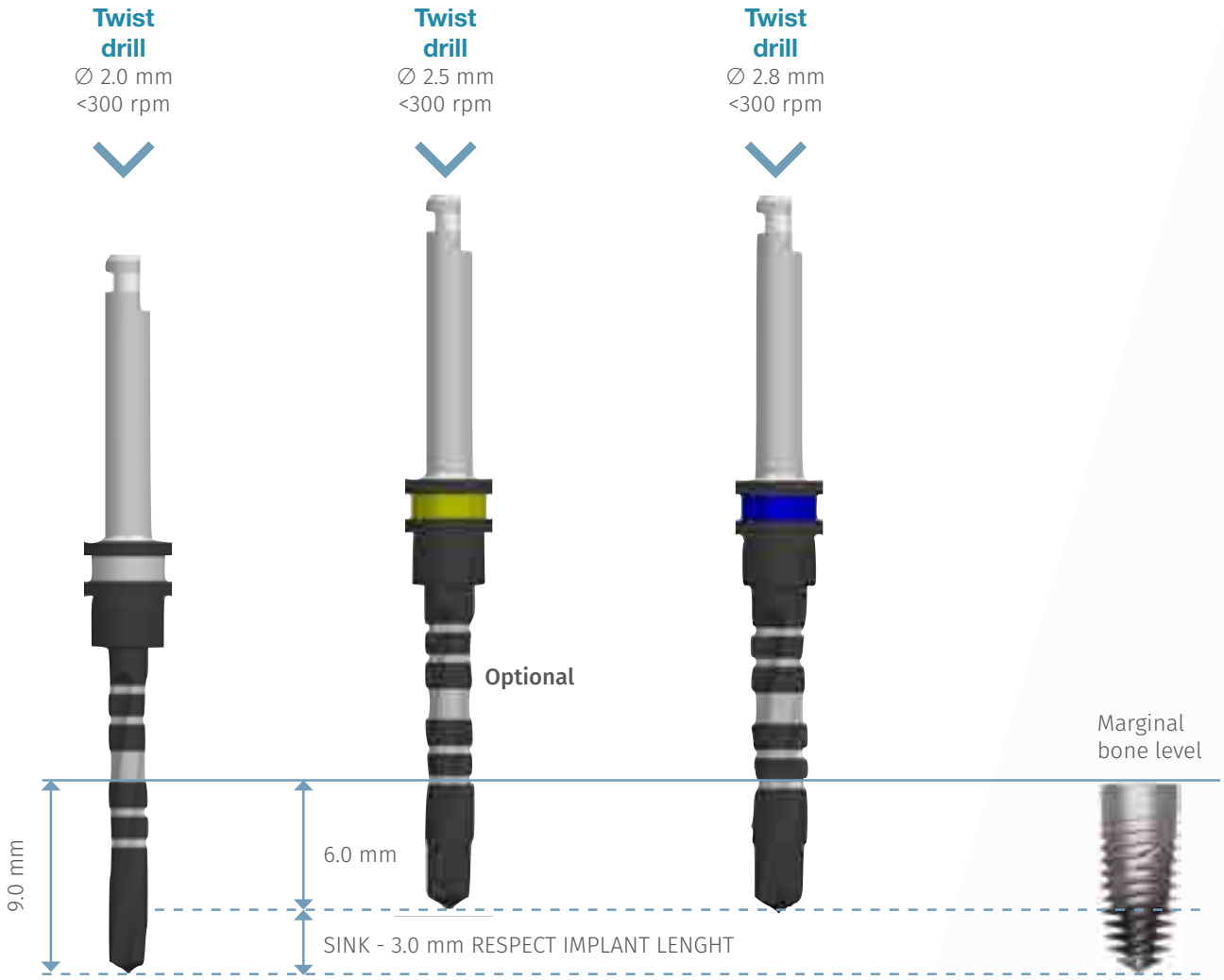
Drills sequence GTB T-ZERO Regular ⌀ 3.6 mm

Soft bone



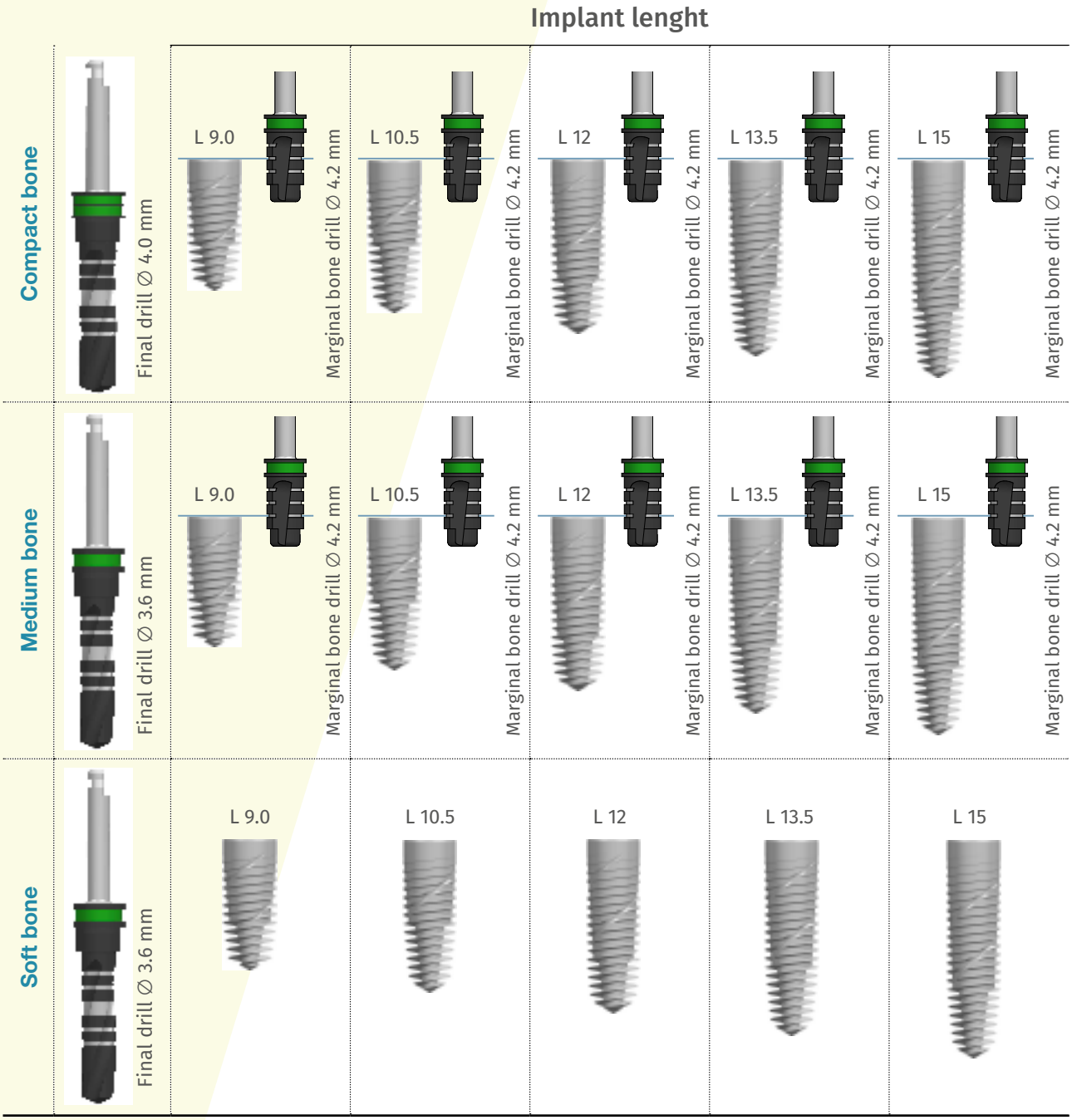
Drills sequence GTB T-ZERO Regular ⌀ 3.6 mm

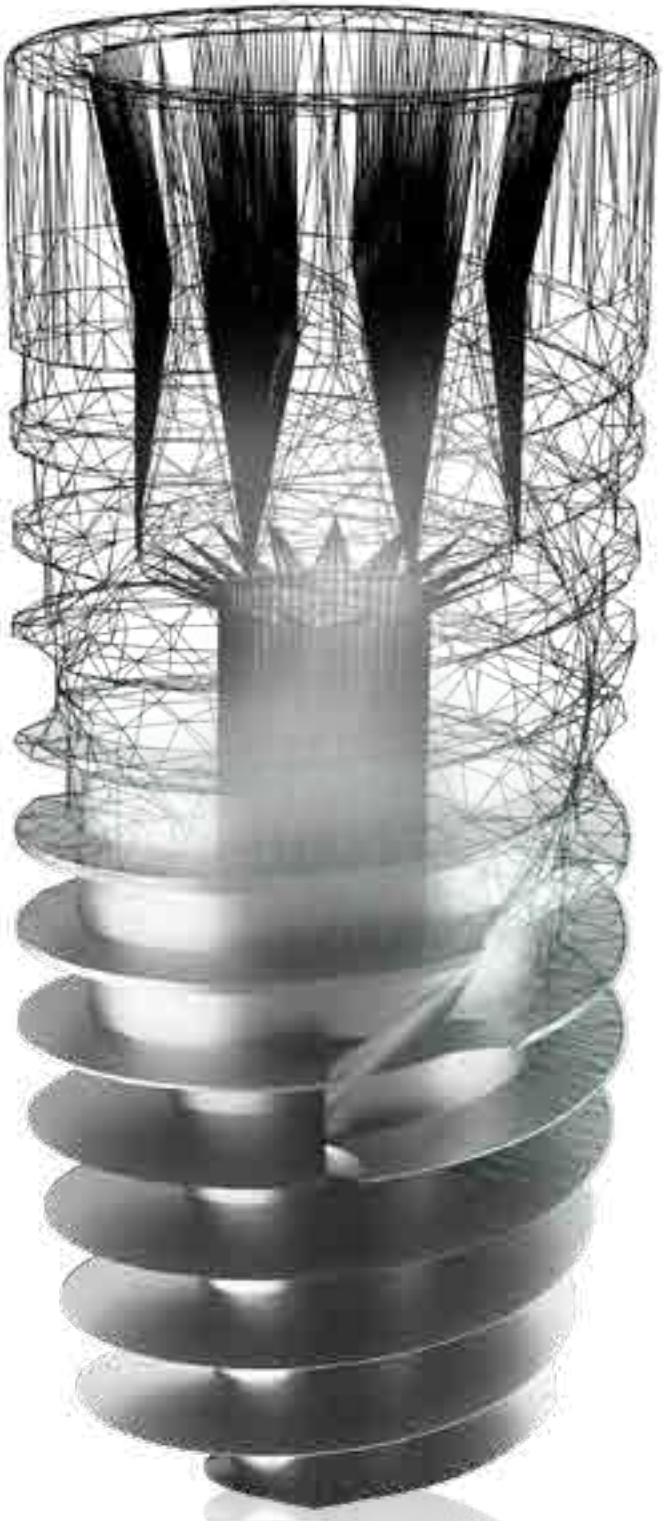
Example for L 9.0 mm implant lenght and epicrestal positioning



Soft bone

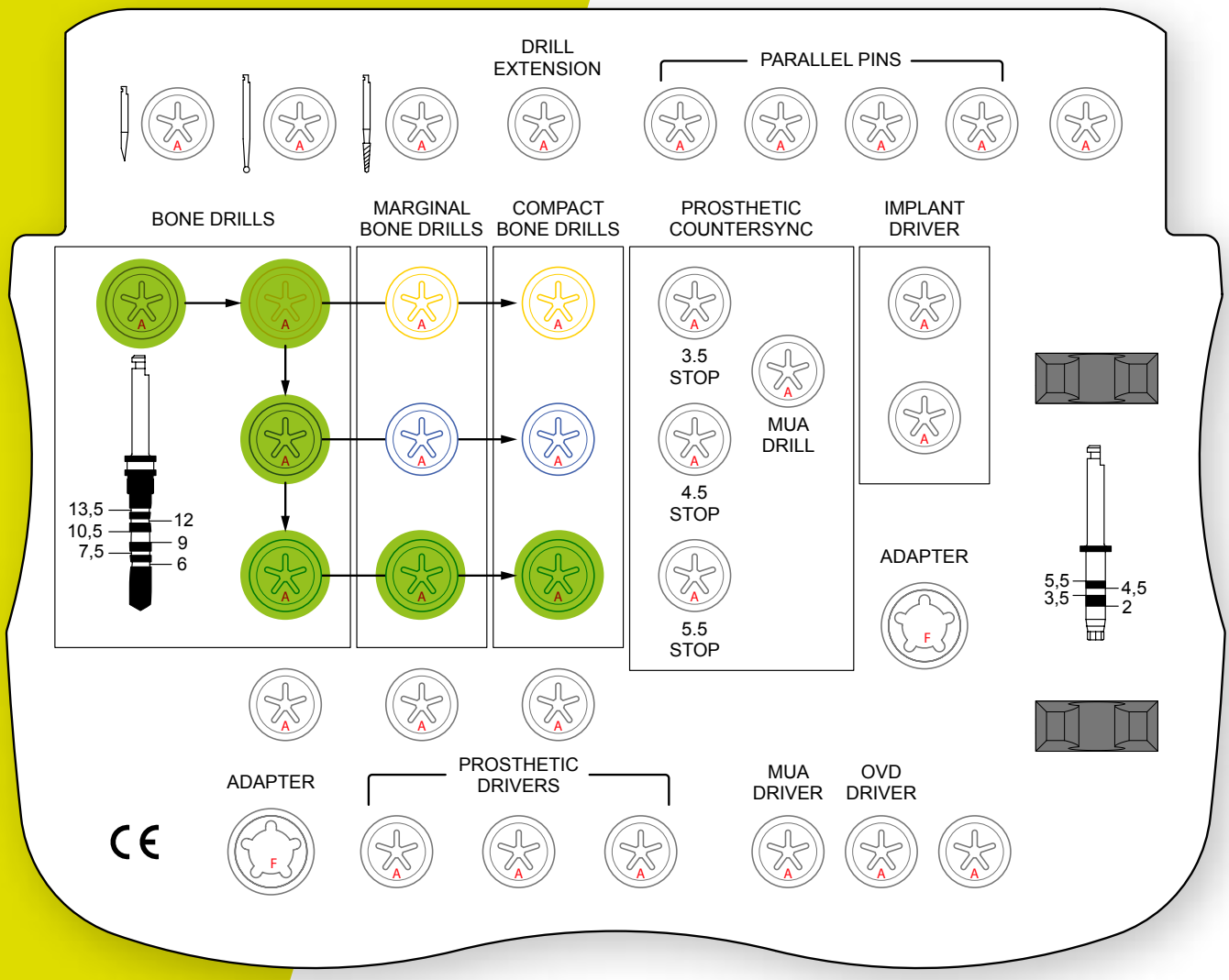
Final drills GTB T-ZERO Wide ⌀ 4.3 mm





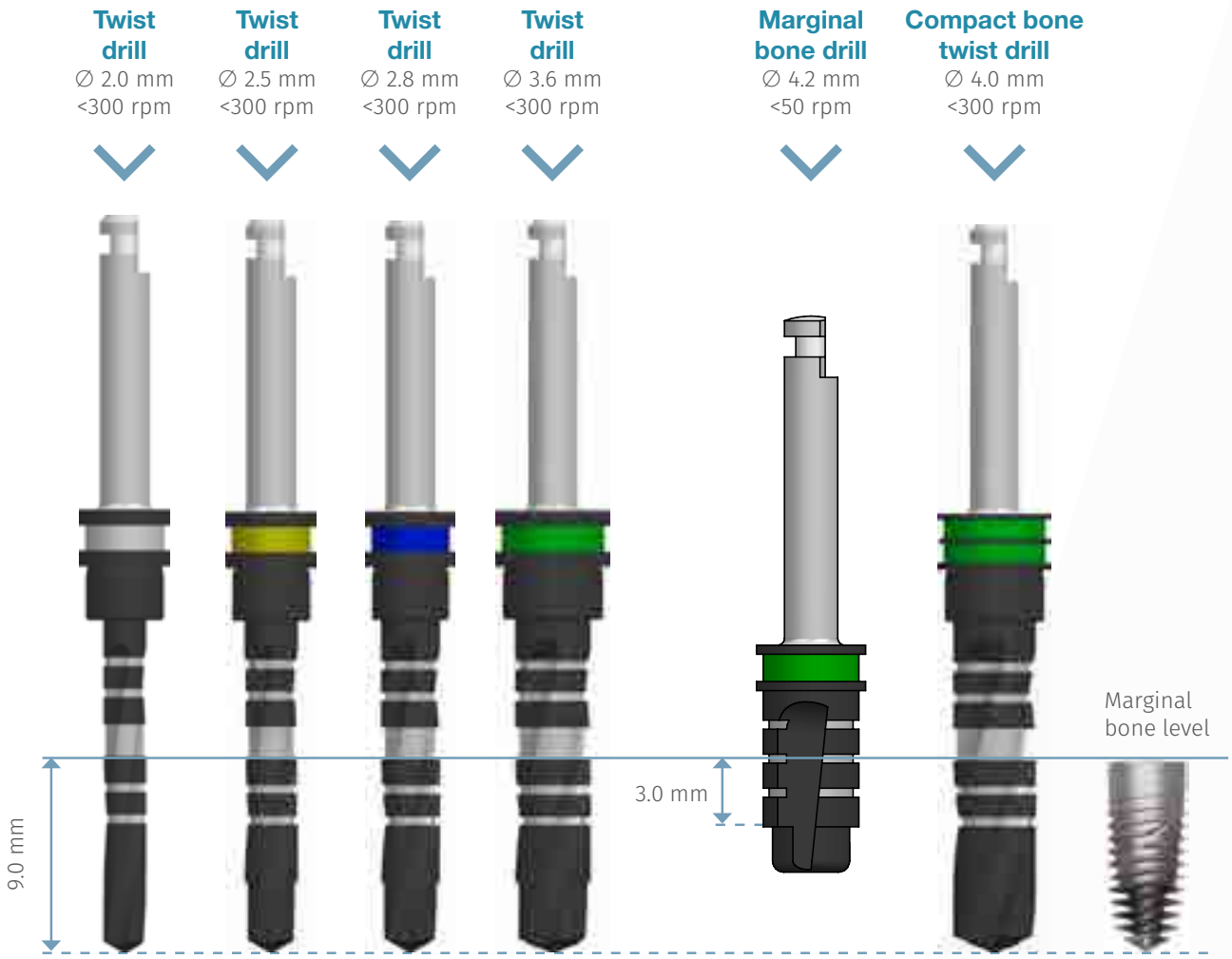
Drills sequence GTB T-ZERO Wide ⌀ 4.3 mm

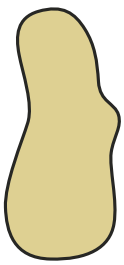
Compact bone



Drills sequence GTB T-ZERO Wide ⌀ 4.3 mm

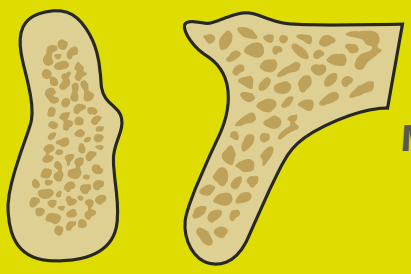
Example for L 9.0 mm implant lenght and epicrestal positioning



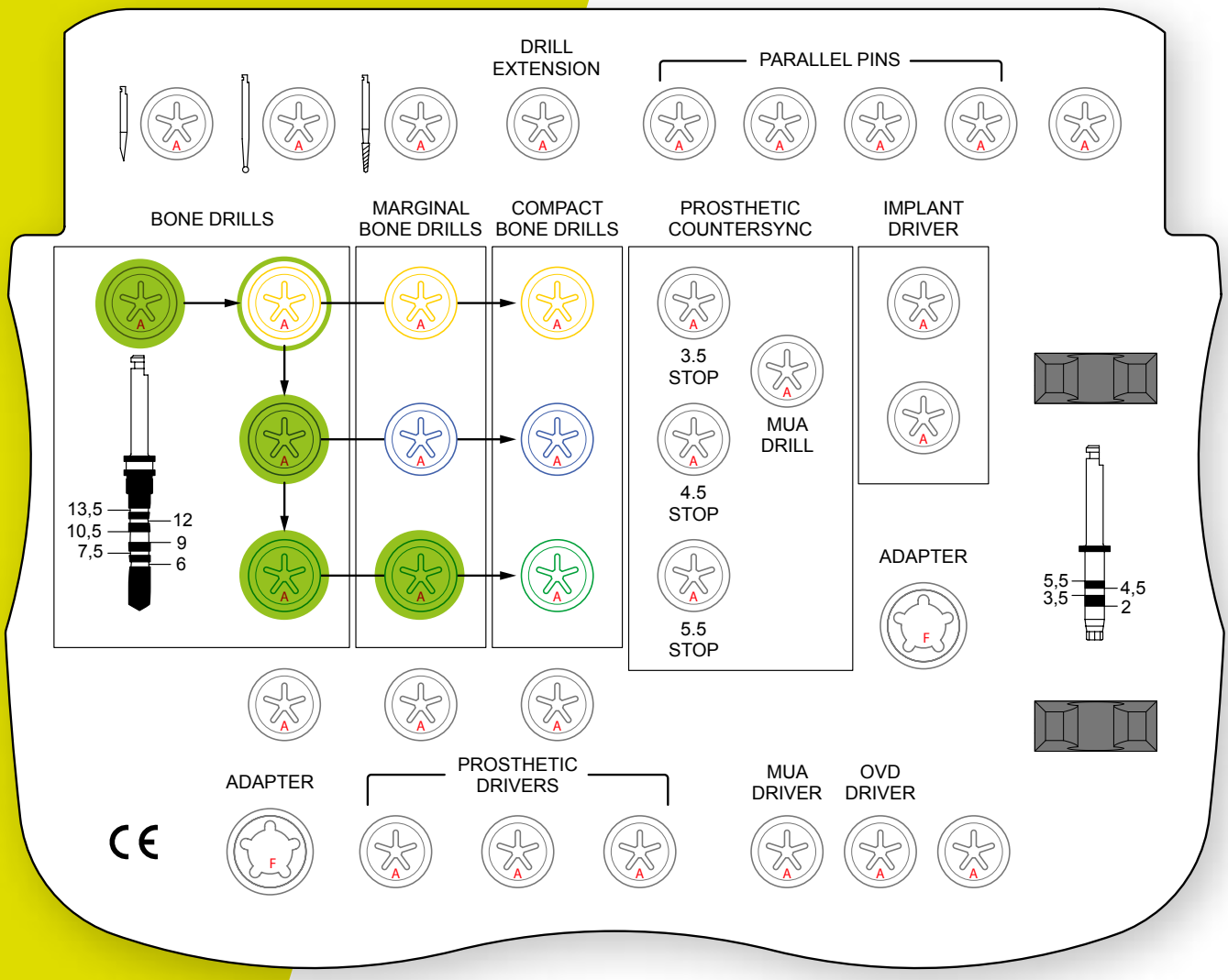


Compact bone

Drills sequence GTB T-ZERO Wide ⌀ 4.3 mm

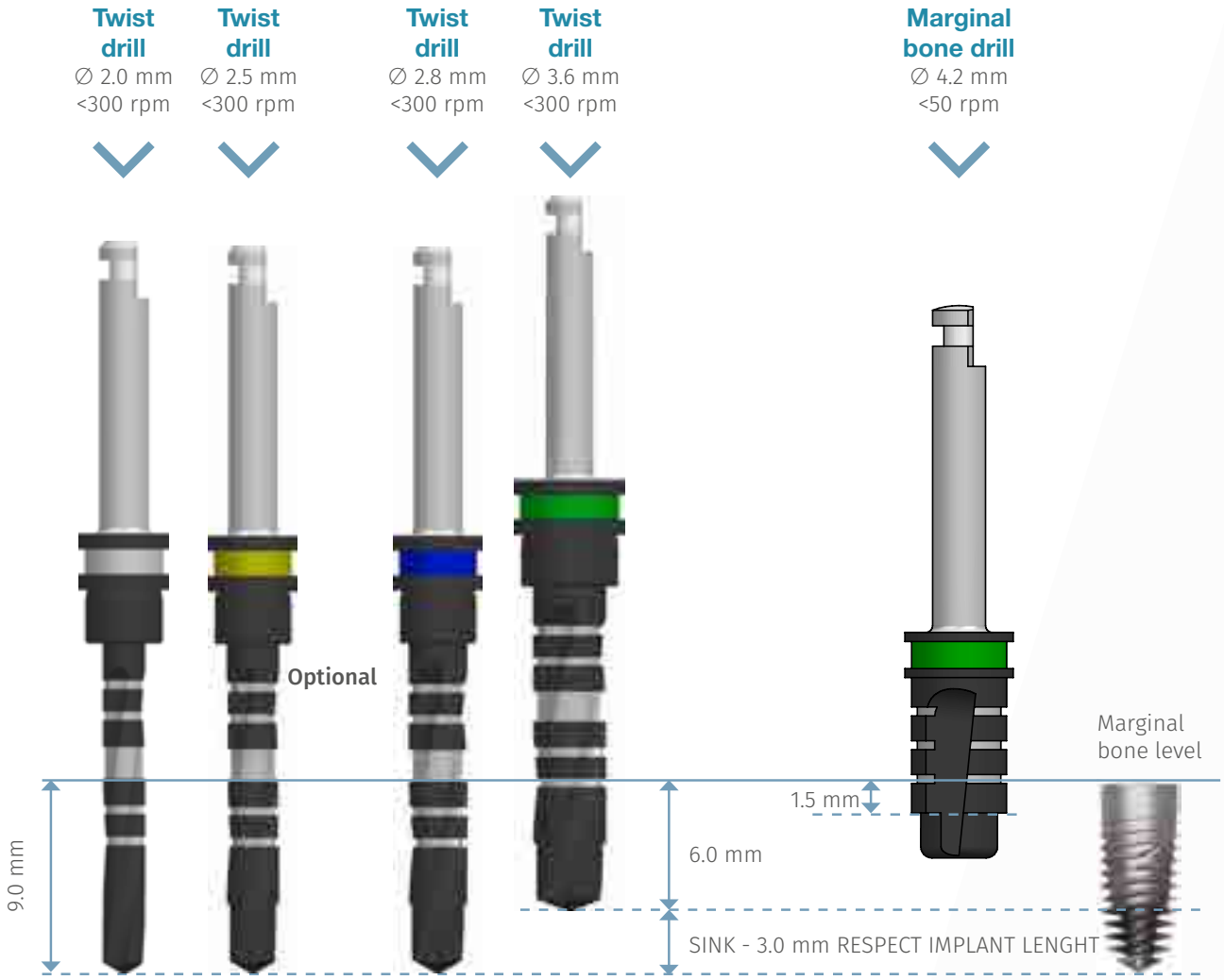


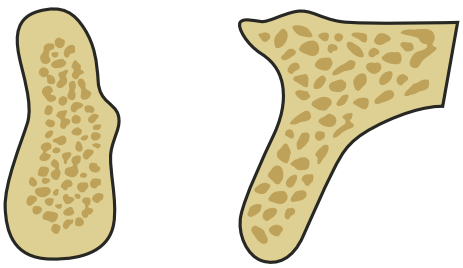
Medium bone



Drills sequence GTB T-ZERO Wide ⌀ 4.3 mm

Example for L 9.0 mm implant lenght and epicrestal positioning

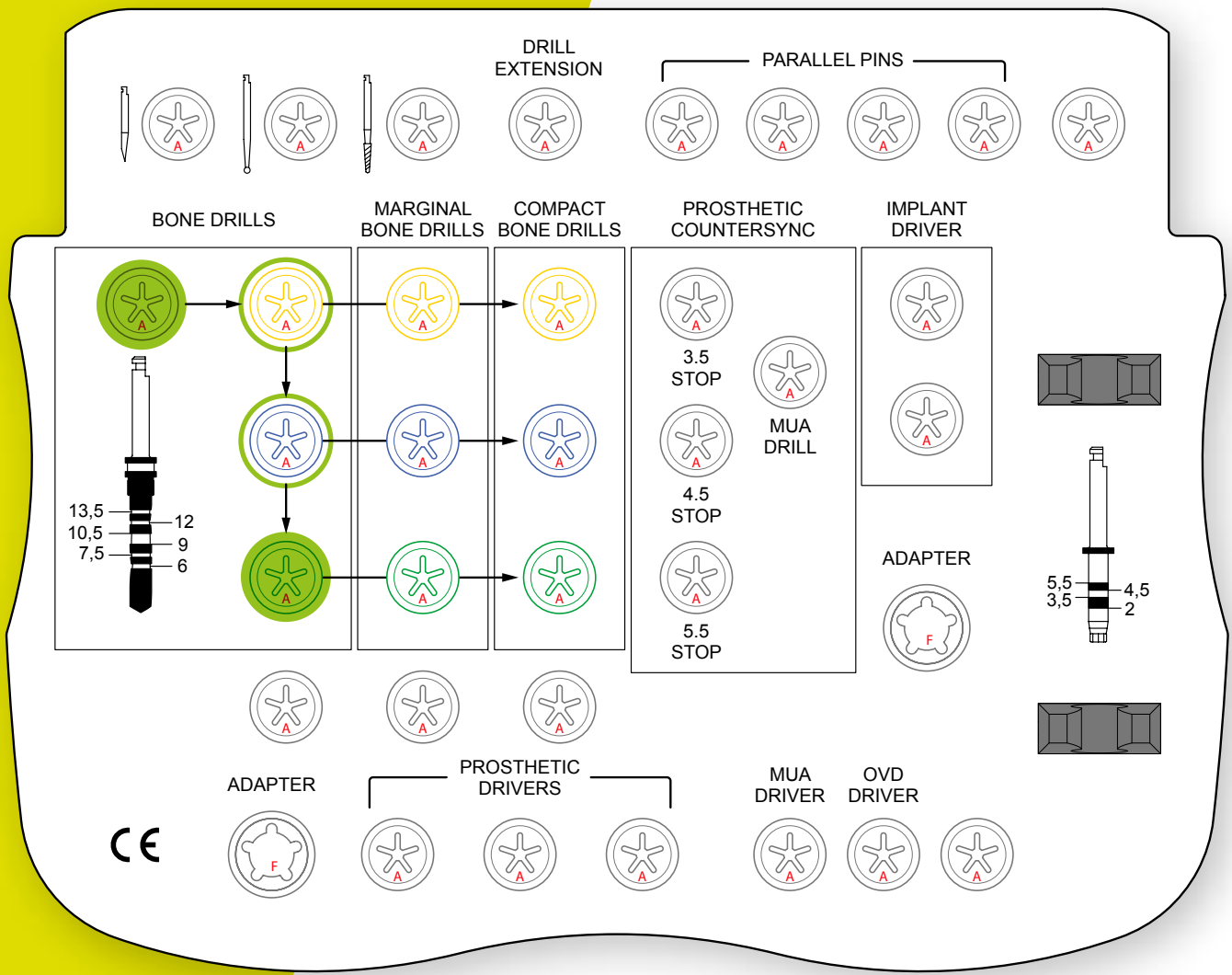




Medium bone

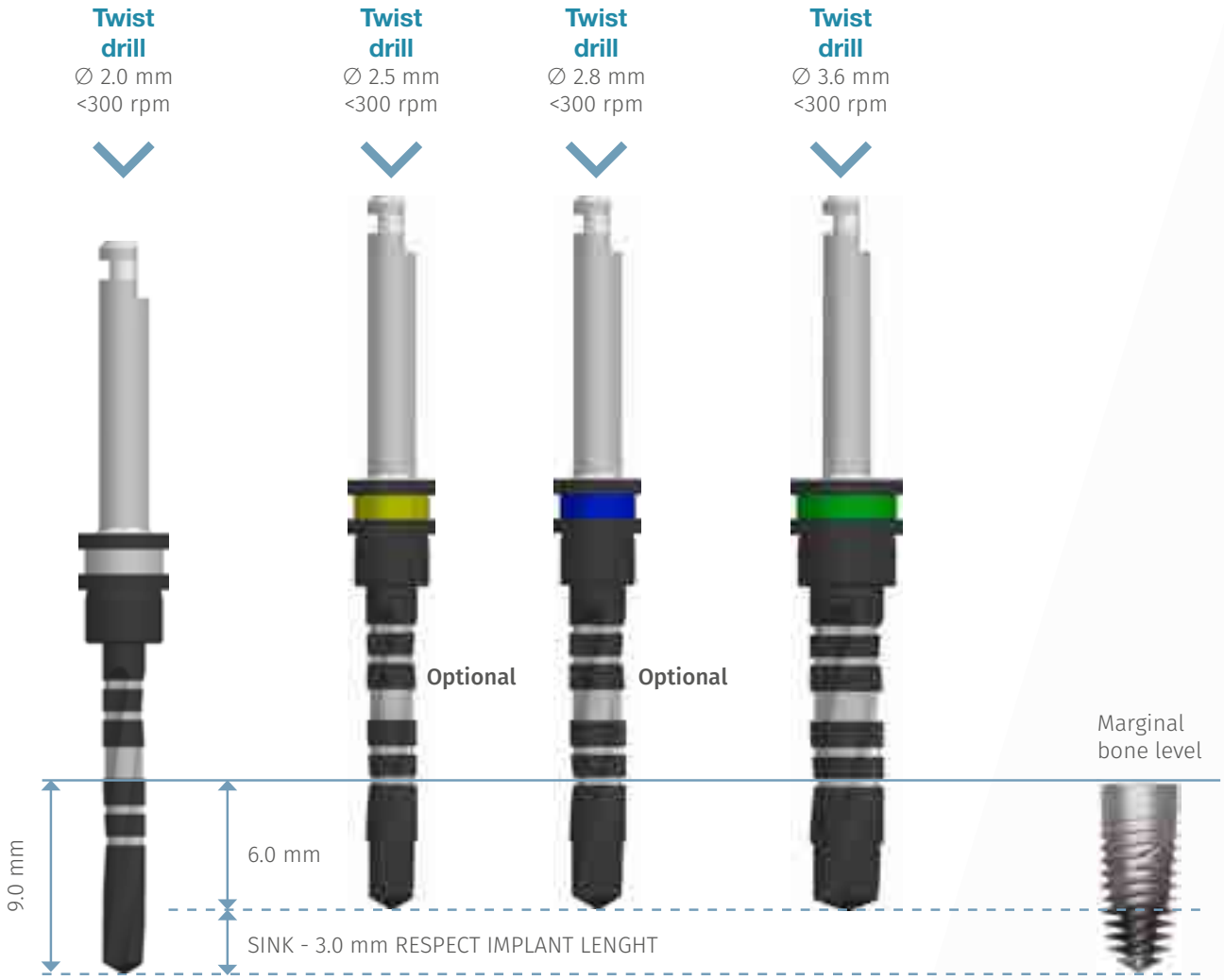
Drills sequence GTB T-ZERO Wide ⌀ 4.3 mm

Soft bone



Drills sequence GTB T-ZERO Wide ⌀ 4.3 mm

Example for L 9.0 mm implant lenght and epicrestal positioning



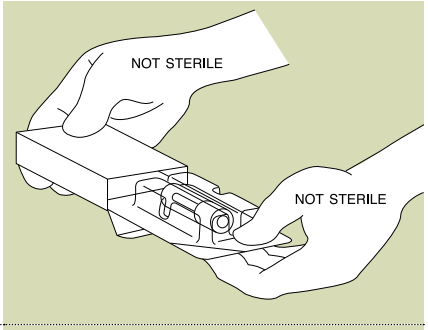
Soft bone

Implant packaging description

1 Scegliere tipo, lunghezza e diametro dell'impianto ed estrarre il blister dalla scatola.

Choose the implant type, length and diameter and take the blister out of the cardboard box.

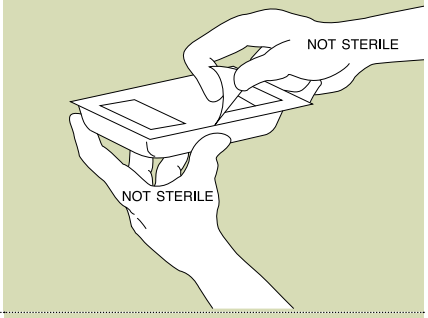
Elegir el tipo , la longitud y el diámetro del implant y extraer el blister de la caja.



2 Il contenitore con l'impianto è sterile e contenuto nel blister. L'etichetta riporta la descrizione del prodotto e il numero di lotto. Aprire il blister.

The vial containing the implant is sterile and lodged in the blister. The product description and the lot number are indicated on the label. Open the blister.

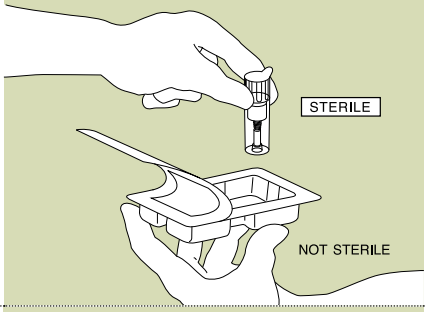
El frasco con el implante es estéril y está contenido en el blister. La etiqueta muestra la descripción del producto y el número de lote. Abrir el blister.



3 Prelevare il contenitore con l'impianto.

Take out the vial with the implant.

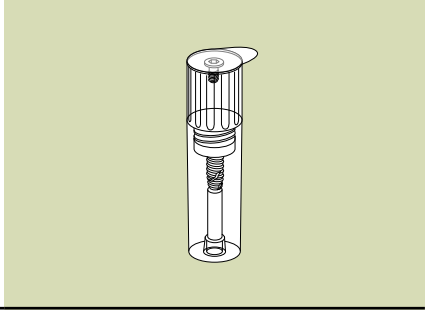
Tomar el frasco con el implante.



4 La vite di copertura è alloggiata nel tappo del contenitore sotto un sigillo di Tyvek termosaldato.

Surgical cover screw is placed in the vial cap and sealed with a Tyvek film.

El tornillo de sierre está alojado en la tapa del frasco debajo de un sello de Tyvek soldado térmicamente.

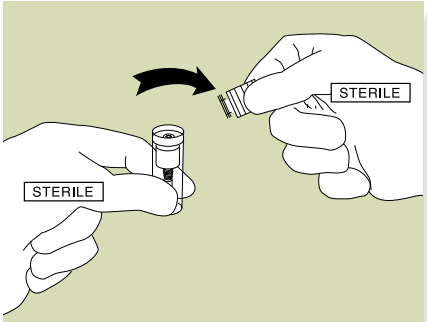


Implant packaging description

5 Aprire delicatamente il tappo. (non strappare verso l'alto).

Gently open the vial cap (do not pull up with force).

Abrir suavemente la tapa. (no tirar con fuerza).

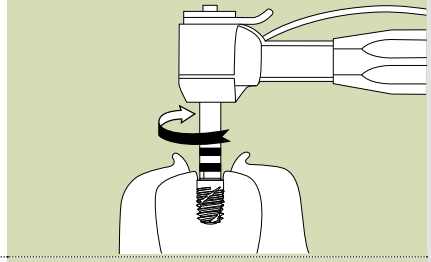


6 Connettere il Driver Impianto (07GDD01; 07GDD02) ed avvitare a bassa velocità (10-15 giri al minuto).

Connect the Implant Driver (07GDD01; 07GDD02) and screw at low speed (10-15 rpm).

Conectar el Destornillador de Implante (07GDD01; 07GDD02) y atornillar a baja velocidad (10-15 rpm).

TORQUE MAX 50 Ncm

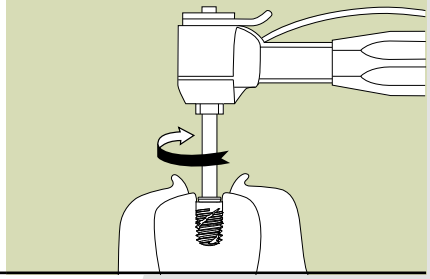


7 Prelevare la vite di copertura dal tappo della fiala e avvitarla sull'impianto mediante il Driver Protesica (07-EG05; 07-EG10; 07-EG20).

Pick the cover screw from the vial cap and screw it onto the implant with the Prosthetic Driver (07-EG05; 07- EG10; 07-EG20).

Retirar el tornillo de sierre del tapón del frasco y atornillarlo al implante con el Destornillador Protésico (07-EG05; 07- EG10; 07-EG20).

TORQUE MAX 7 Ncm



Healing phase description

Find some general indications in the table below, keeping in mind, however, that the time for implant recovery and loading should be evaluated separately for each clinical case

TABLE OF IMPLANT RECOVERY PERIOD

SITUATION	HEALING PHASE DURATION
· Good bone quality and adequate bone quanty · Implants with a diameter of 3.6 Mm or 4.3 Mm · Implants with length of 9 mm or more	**4-6 weeks**
· Poor bone quality or excessively compact bone with poor vascularisation implants · With a diameter of 3.3 Mm · Implants with length of 6.0 Mm or 7.5 Mm	**8-12 weeks**
· Implant positioned without adequate primary stability · Implant positioned simultaneously to bone restoration procedure · Implant positioned simultaneously to considerable sinus elevation	**24-32 weeks**

Healing phase description

IMMEDIATE PROSTHETIZATION OF IMPLANTS

Unless there are contraindications to consider, all GTB implants are suitable for immediate restoration of a single missing tooth, as well as for restoration of edentulous or partially edentulous mandible.

The essential conditions that must be met: good primary stability (final tightening torque at least 40-45 Ncm), adequate bone quality and appropriate occlusal load.

In case of multiple teeth rehabilitation, the implants can be rigidly connected. In case of overdenture, a minimum of 4 implants with at least 3.6mm diameter are connected together by means of a bar.

Restoration or immediate loading of a single implant has not been studied and is not recommended in the following indications:

- Last molar in the mandible and/or the maxilla.
- Making a cantilevered extension on a single implant.

PROSTHETISATION OF POST-EXTRACTION IMPLANTS

Appropriate timing for functional loading of post-extraction implants must abide by the same guidelines given above. If the conditions for immediate loading are met and the post-extraction implant is in contact with the 4 walls of the implant bed, it is possible to consider the option of immediate loading. If this is not the case, either because there are just 3 walls present or because the implant is positioned very palatally, it is recommended to observe approximately 8-12 weeks recovery time. Using the GTB implants, a palatized position of the implant is advised.

In case of immediate loading, it is recommended to make a temporary crown out of occlusion, without distalizing or centric contacts, and without contacts in eccentric movements.

IMMEDIATE PROSTHETIZATION OF IMPLANTS

In cases of single missing tooth or partially edentulous jaw, immediate loading is recommended in anterior regions avoiding the canine pillar, using a temporary crown outside occlusion, without distalizing or centric contacts, and without contacts in eccentric movements.

In case of edentulous jaws, the following recommendations apply:

- Minimum 4 implants in the mandible
- Minimum 6 implants in the maxilla
- No particular inclination in mesiodistal and vestibular-lingual directions are required for the implants since the internal vertical conical connection provides optimal support to the prosthetic elements
- It is possible to place short implants of reduced diameter (L6.0 D3.6) in the extraforaminal position
- The short implants with reduced diameter make it possible to use either a screwed or a cemented prosthesis
- Immediate load must be applied by directly inserting the final prosthesis on a stabilizing bar
- Thanks to the bar-stabilized prosthesis, the conditions for immediate loading must not necessarily be met by all of the implants but at least by 75% of all implants (at least 3 out of 4 implants in the mandible and at least 5 out of 6 implants in the maxilla)

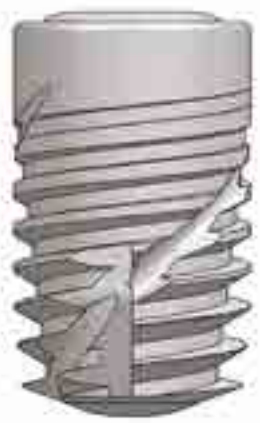
Cover screw description

The GTB system allows to choose between juxta-crestal and sub-crystal positioning of the implant platform. The surgical cover screw, lodged inside the cap of the implant vial, emerges form the implant platform for about 1.5 mm to guarantee easy implant uncovering in case of two-stage surgery and to allow implant-prosthetic connection without recurring to marginal bone osteotomy (to free the platform from bone overgrowth).

In case o significant sub-crystal positioning, it is possible to use the Membrane Cover Screw instead of the standard one. The Membrane cover screw is designed for membrane use in case o guided bone regeneration to crate a curtain to allow free space for sintetico bone and for bone regrowth.

In case of juxta-crestal positioning and a thin gingival biotype, it is possible to use a Platform Level Cover Screw that do not increase the height of the implant platform.

Standard cover screw included in the implant package



Optional cover screw code 01GVT02

Soft tissue management

The aesthetic results depend largely on the successful management of the soft tissues. In order to optimize this process, all GTB prosthetic components are designed around the concept of reducing the volume of abutments' transmucosal pathway (starting immediately with the abutment emergence at the prosthetic platform level) and using a concave emergence profile of transmucosal pathway. This concept is applied to all the healing components as well as the temporary and the final prosthetic components.

Therefore, the emergence profiles are uniform throughout the entire management process.

Only a slim and concave profile guarantees the necessary space for peri-implant soft tissue which remains stable in time and makes it possible to easily achieve excellent aesthetic results.

It is now common knowledge that the "One Abutment One Time" protocol brings better biological and aesthetic results that also last longer if performed with innovative implant systems such as the GTB. Obviously, it is possible to use different methods to adapt the implant system to specific requirements of each clinical case.

After insertion, the implant is closed (hand-tightened; see the table with tightening torque on page 69) and protected with a cover screw, a healing abutment or a prosthetic abutment (in case of immediate loading protocol). The surgeon can choose between submucosal and transmucosal healing and has all the options available for soft tissue management by using a set of well-studied healing components. In spite of one single diameter of implant-prosthetic connection for any GTB implant screw diameter, it is in fact possible to choose between two different emergence types, SLIM (maximum emergence diameter is 3.4 mm) and BOLD (maximum emergence diameter is 4.4 mm). In this way, even a limited stock of healing prosthetic components allows the dental studio to adapt the implant system to each clinical case.

The non-epithelialized side of the flap should be approximated to the implant neck (soft tissue approximation).

If necessary, this step must be combined with a gingivectomy. The wound margins are closed with atraumatic suture material, and the sutures must not be tied too tightly. One relieving suture is placed on either side of the cover screw or the healing abutment so that the wound margins are approximated without tension.

Use of non-absorbable suture material is recommended (e.g. Polyamide or Teflon).

The sutures are removed in 7–10 days.

A postoperative radiographic control is advised.

Prosthetic compnents tightening torque

The tightening torque of the prosthetic components plays a fundamental role in implant systems using vertical connection with tapered coupling. The torque must, in fact, be calibrated to activate the connection and allow the removal of the prosthetic component at the same time.

In case of tapered coupling connection, the retaining screw serves to activate the conical surface of the connection. That is the reason for always indicating the minimum and the maximum torque. The minimum torque corresponds to the lower limit for triggering the tapered connection of the implant system (reference value during the temporary prosthetic restoration) whereas the maximum torque corresponds to the upper limit for tightening the retaining screw (reference value during the final prosthetic restoration).

Some of the prosthetic components, i.e. cover screws, healing abutments and transfer abutments, have a reduced tapered coupling to facilitate the removal of a temporary element, yet still granting the perfect closure of the implant-abutment connection which is characteristic of the GBT implant system (very important feature of cover screws and healing abutments).

In case of One Abutment One Time technique, it is advised to tighten the abutment with 15 Ncm torque during temporary phase and then increase it to 20-25 Ncm before cementing the final crown (the abutment stays in its place).

RECOMMENDED TIGHTENING TORQUE		
	Cover screw	7 Ncm MAX
	Transfer abutment	7 Ncm MAX
	Healing abutment	7 Ncm MAX
	Abutment in temporary phase	15 Ncm
	Abutment in final restoration	25 Ncm

Cleaning and care of surgical instruments

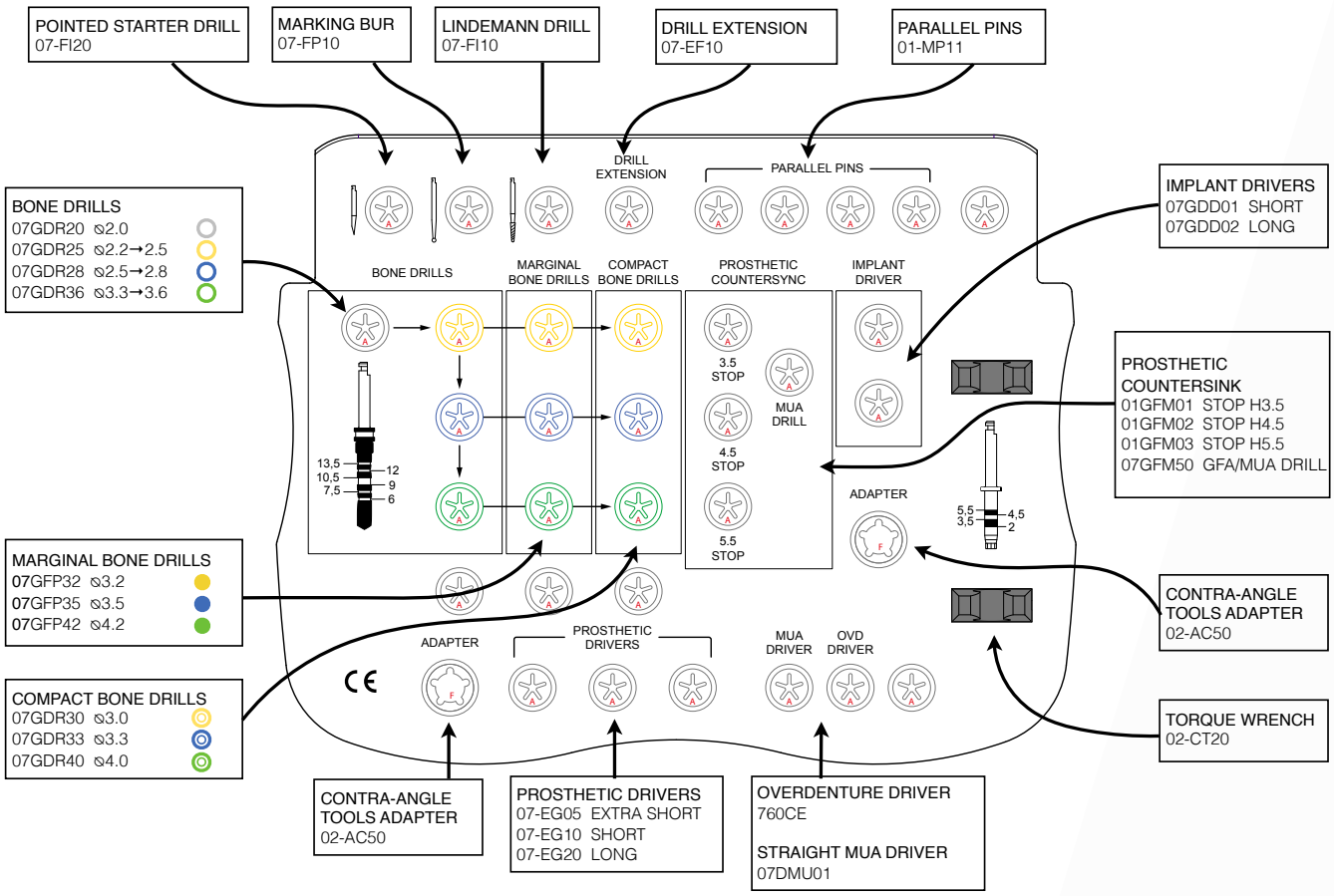
Careful treatment of all instruments is of the utmost importance. Even a slight damage to the drill tips, which can occur when the drills are “thrown” into a bowl of water, may have negative effect on the cutting performance and thus the clinical results. If treated correctly and carefully,

the rotating instruments can be used repeatedly since they are made of high quality materials and in line with best workmanship standards (however, it is recommended to keep in mind the maximum working cycles as described in the dedicated section on page 20).

High cutting performance of the surgical instruments is a basic requirement for successful implantation.

Always keep in mind the following rules:

- Never allow instruments to land on their tips
- Every instrument may only be used only for its particular purpose
- Never leave surgical residues (blood, saliva, tissues) to dry on the instrument; remove them from the instruments immediately after surgery
- Carefully remove incrustations with the help of soft bristles; dismantle the instruments and clean eventual cavities with care
- Never disinfect, clean (even if using ultrasound) or sterilise together instruments made of different materials
- Use only specific cleaning products and disinfectants for each type of material and follow the producer’s instructions for use
- Wash off disinfectants and detergents with plenty of water
- Never store instruments damp or wet for prolonged periods


POINTED STARTER DRILL
07-FI20
MARKING BUR
07-FP10
LINDEMANN DRILL
07-FI10
DRILL EXTENSION
07-EF10
PARALLEL PINS
01-MP11
BONE DRILLS
07GDR20 ⦰2.0
07GDR25 ⦰2.2→2.5
07GDR28 ⦰2.5→2.8
07GDR36 ⦰3.3→3.6
DRILL EXTENSION
PARALLEL PINS
BONE DRILLS
MARGINAL BONE DRILLS
COMPACT BONE DRILLS
PROSTHETIC COUNTERSYNC
IMPLANT DRIVER
3.5 STOP
4.5 STOP
5.5 STOP
MUA DRILL
ADAPTER
PROSTHETIC DRIVERS
MUA DRIVER
OVD DRIVER
IMPLANT DRIVERS
07GDD01 SHORT
07GDD02 LONG
PROSTHETIC COUNTERSINK
01GFM01 STOP H3.5
01GFM02 STOP H4.5
01GFM03 STOP H5.5
07GFM50 GFA/MUA DRILL
MARGINAL BONE DRILLS
07GFP32 ⦰3.2
07GFP35 ⦰3.5
07GFP42 ⦰4.2
COMPACT BONE DRILLS
07GDR30 ⦰3.0
07GDR33 ⦰3.3
07GDR40 ⦰4.0
CONTRA-ANGLE TOOLS ADAPTER
02-AC50
TORQUE WRENCH
02-CT20
CONTRA-ANGLE TOOLS ADAPTER
02-AC50
PROSTHETIC DRIVERS
07-EG05 EXTRA SHORT
07-EG10 SHORT
07-EG20 LONG
OVERDENTURE DRIVER
760CE
STRAIGHT MUA DRIVER
07DMU01

Cleaning and care of surgical instruments

DISINFECTION AND STERILIZATION

After surgery all instruments are contaminated due to contact with blood, saliva and potentially infected organic substances.
Therefore all instruments must be properly cleaned, disinfected and sterilized before each use.

Observe these recommendations:

1. place the tools in an appropriate high quality decontamination solution immediately after use. Prolonged immersion time and/or excessive solution concentration can cause corrosion of the instruments; always comply with the recommendations for immersion time provided by the producer of the disinfectant solution.
2. ultrasonic cleansing (with thermal disinfection or cleansing brushes) may be necessary to remove residues (DO NOT USE BRUSHES ON THE RETENTION SYSTEMS). It is advised to carefully inspect the instrument for cleanliness prior to sterilization. In case of ultrasonic cleansing the instruments must be opportunely positioned to avoid collisions between instruments or container itself; we recommend to use the appropriate supports.
3. prior to sterilization process all the instruments must be rinsed in clean running water or distilled water and subsequently dried; the surgical kit must be reassembled using the supplied tray and box. The surgical kit must be placed into a sterilization bag suited for steam sterilization (the bag protects the instruments during sterilization and keeps theme sterile until its opening). It is recommended to maintain closed the sterile bag until the next surgical procedure.
4. instruments that have not been used must be washed and sterilized anyway before the next use; new instruments provided in original packaging by Plan1Health must be washed and sterilized before use.
5. the surgical tray should not be put in contact with contaminated instruments just used. We recommend to clean the surgical box with denatured alcohol and check its cleanliness. Avoid use of corrosive disinfectant liquids and ultrasonic cleansing for surgical tray.
6. we recommend the use of an autoclave for steam sterilization of surgical tray. Carefully observe the instructions and recommendations of autoclave manufacturer. Follow the instructions for maintenance and calibration of the autoclave. We report that a steam sterilization cycle at 134°C, 2 bar and 1 hour lasting, has produced a sterile condition of the surgical kit; this condition has been certified by an accredited laboratory.
7. we recommend to sterilize the instruments arranged in the appropriate position inside the surgical tray. Pack the surgical tray with sterilization bag and put inside the autoclave in a horizontal position; do not turn it upside down to ensure the proper drying.

MAINTENANCE

Plan1Health surgical instruments are made of materials suitable for surgical use and for severe conditions occurring during cleansing, disinfection and sterilization. We recommend not to exceed with disinfection and sterilization processes (excessive concentrations, temperatures, times, etc.) or it can reduce tool's lifetime. We recommend to follow the manufacturer's instructions for all products used in combination with Plan1Health surgical instruments.

We recommend to check frequently the wear conditions of surgical instruments and immediately replace the worn out ones. In particular:

1. **CUTTING TOOLS**: it is very important to check the cutting performance before each use; replace the tools that can not guarantee adequate cutting performance, leading to inaccurate cut and bone overheating.
2. **COUPLING PARTS OF TOOLS**: parts of the tools that are mechanically coupled are subjected to wear (SCREWDRIVER HEXAGON and OCTAGON, HANDPIECE CONTRA-ANGLE TOOLS ADAPTOR, DRILL EXTENSION, HANDPIECE CONTRA-ANGLE CONNECTIONS). We recommend to check after each cleansing, disinfection and sterilization cycle wear of screwdriver's retention systems and replace theme before can not be guaranteed the correct retention anymore.
3. We recommend to check periodically the calibrated instruments to ensure their proper functioning (e.g. RATCHET LOAD).

WARNINGS:

- During cleansing do not use brushes on retention systems of Implant Direct Driver 07GDD01, 07GDD02.
- Using the Handpiece Contra-Angle Tools Adapter 02-AC50 avoid to apply tightening torque exceeding 50Ncm to avoid damaging the adapter or the connected instrument.
- Strictly follow the instructions for use and maintenance of the Torque Wrench 02-CT20.

Please, contact Plan1Health for any doubt regarding the correct use of its surgical instruments

Surgical Guidelines

ADVAN
Implantology Reinvented

GTB
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