



twin *kon*<sup>®</sup>

Surgical manual

# twinKon®

## Surgical manual

### Introduction

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The instructions in this document describe the various stages of the surgical procedure to be used with the twinKon® implant system.

This document cannot under any circumstances be treated as a general teaching aid on implant practice. It does not under any circumstances give the right to any claim.

**Warning:**

The insertion of twinKon® implants is intended for practitioners who have already been trained in dental implantology and who have an infrastructure suitable for this type of procedure.

The twinKon® system must only be used in combination with original brand components and in accordance with the recommendations in this document. Global D will not be liable for any insertion which does not comply with this manual.

**General precautions:**

Before using any product in the twinKon® range, please read the instructions which are available online. Please also take note of the aspects concerning patient eligibility, organization of the room, preparation of the operating staff, preparation of the equipment, preparation of the patient, and cleaning and decontamination of the equipment.

**Practical information:**

The instructions for use given in this document can only be copied or distributed with the prior authorization of Global D, which reserves the right to modify the technical characteristics of the products and/or make changes or improvements to the twinKon® system without notice.

**This manual supersedes all previous versions.**



Link to instructions for twinKon® implant  
([doc-globald.com/0188.html](http://doc-globald.com/0188.html))

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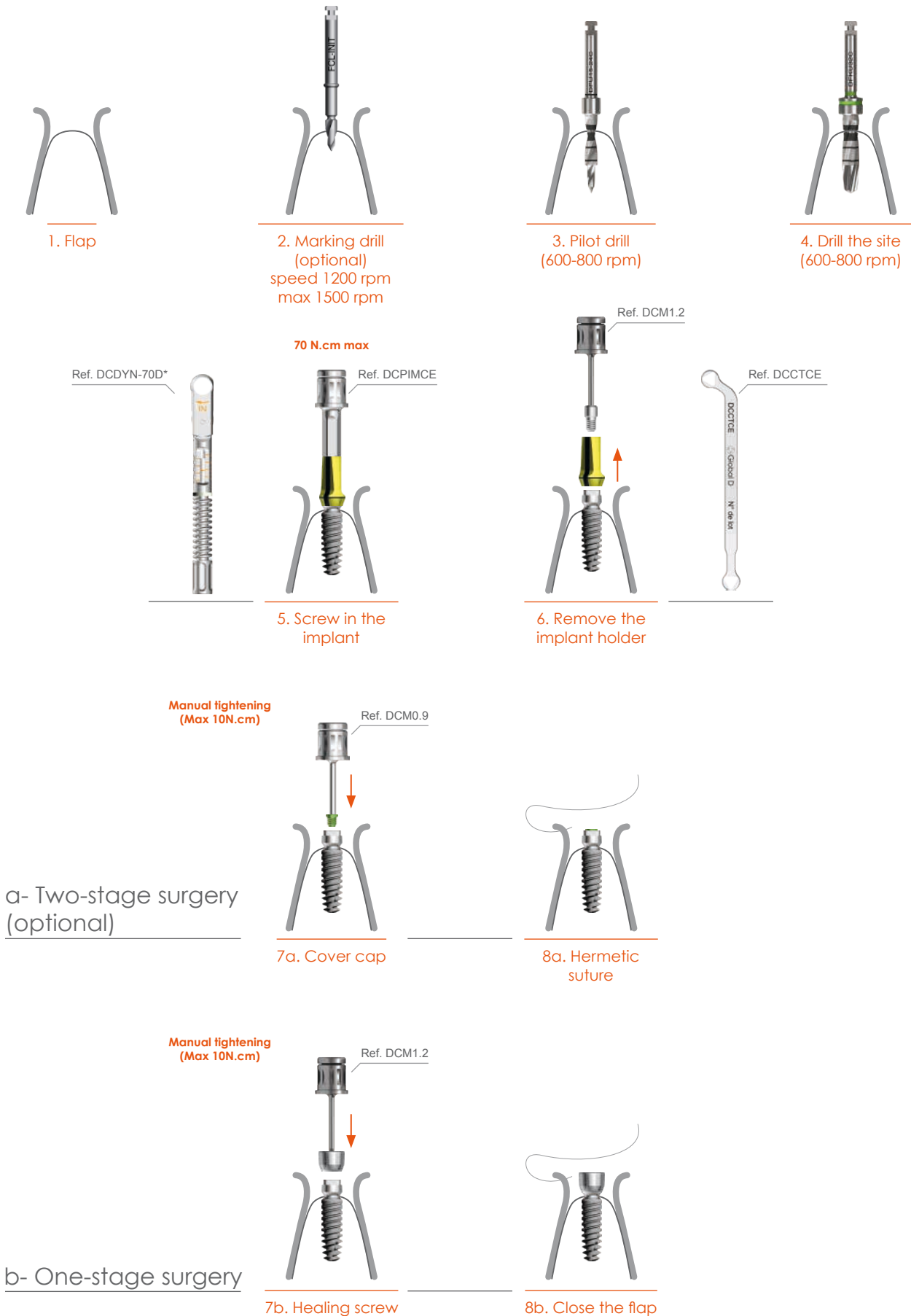
## D. Temporisation

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# Quick start guide

## a. Protocols

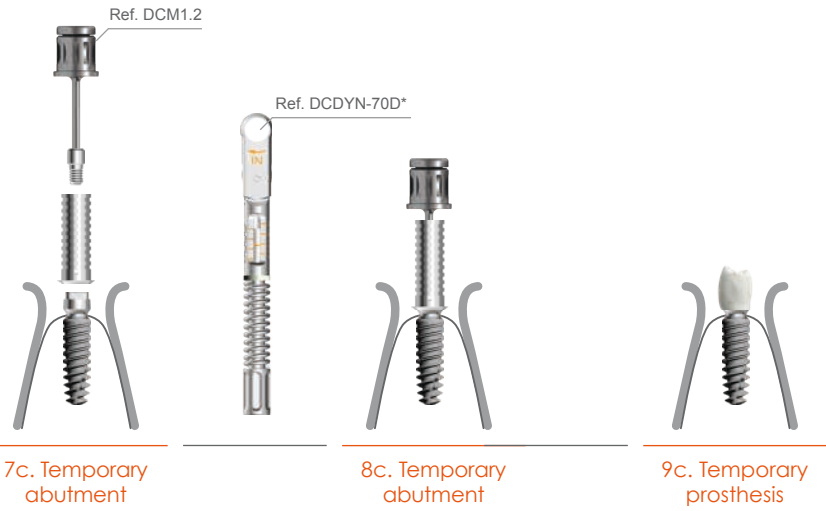


a- Two-stage surgery (optional)

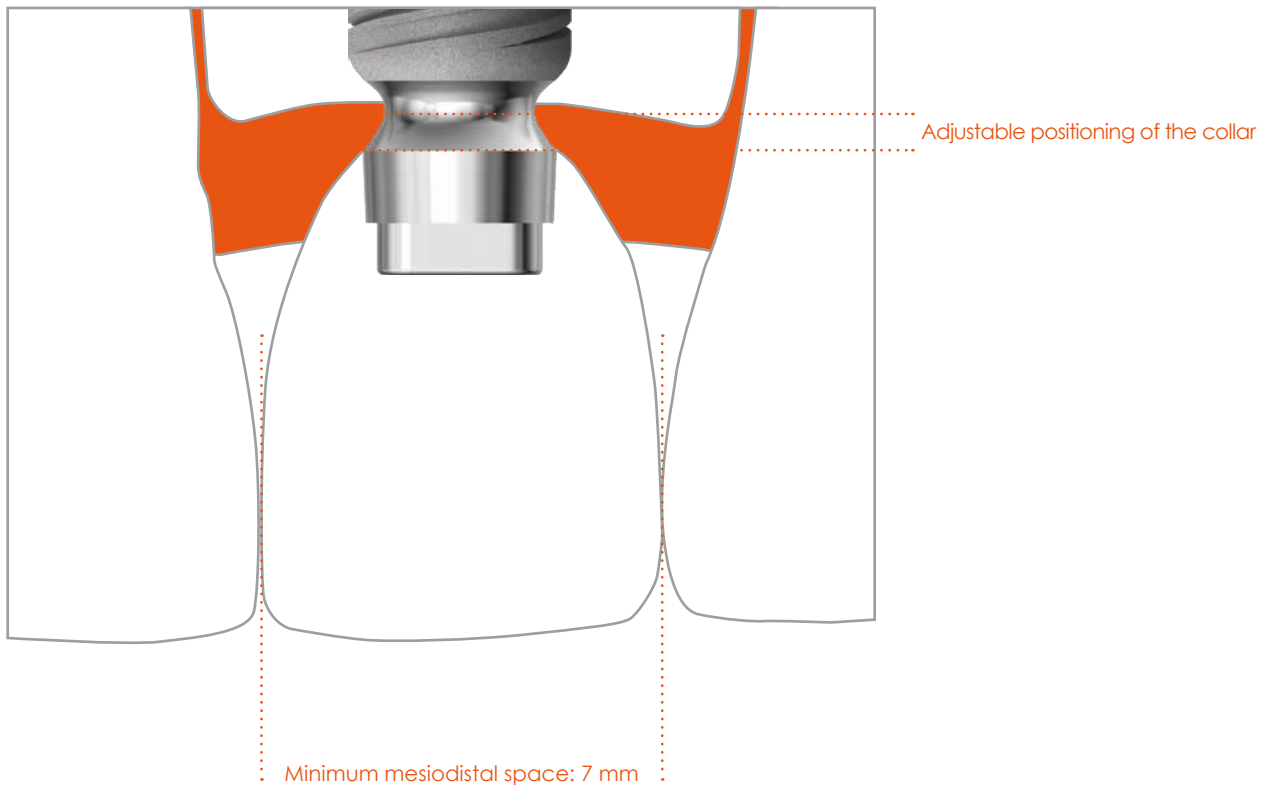
b- One-stage surgery

\*Key manufactured and CE marked by Josef Ganter GmbH. Respect the cleaning, decontamination and sterilization recommendations provided by the manufacturer.

c- Prosthesis simulation

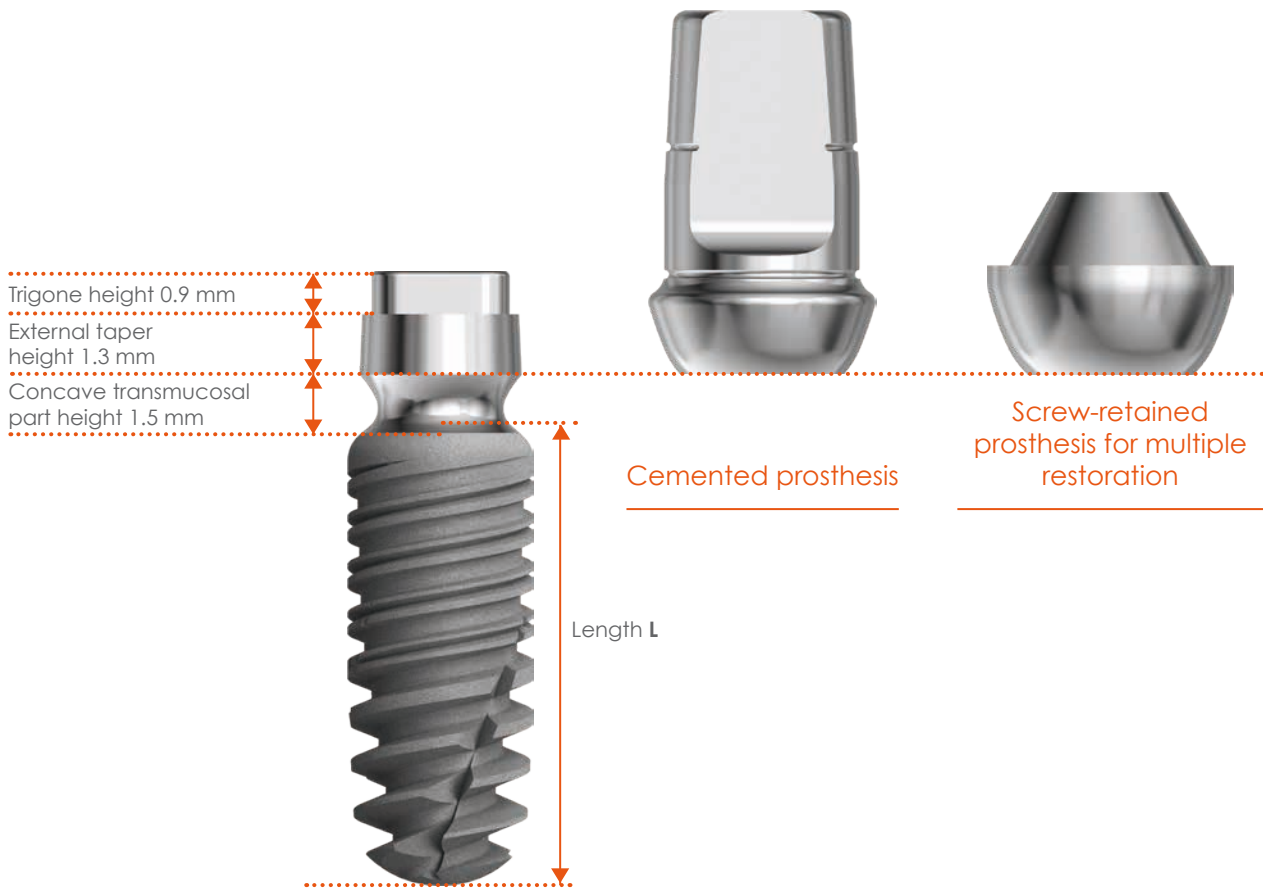


b. Positioning the implant



\*Key manufactured and CE marked by Josef Ganter GmbH. Respect the cleaning, decontamination and sterilization recommendations provided by the manufacturer.

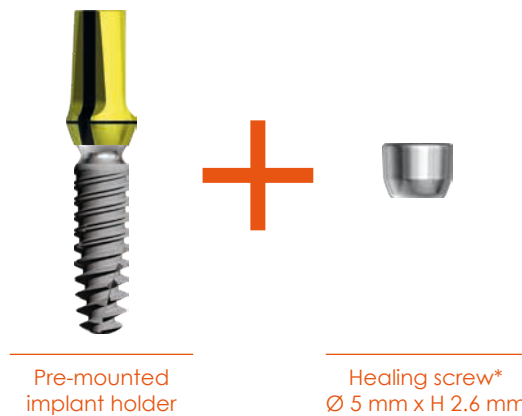
## 1. General



## Sizes

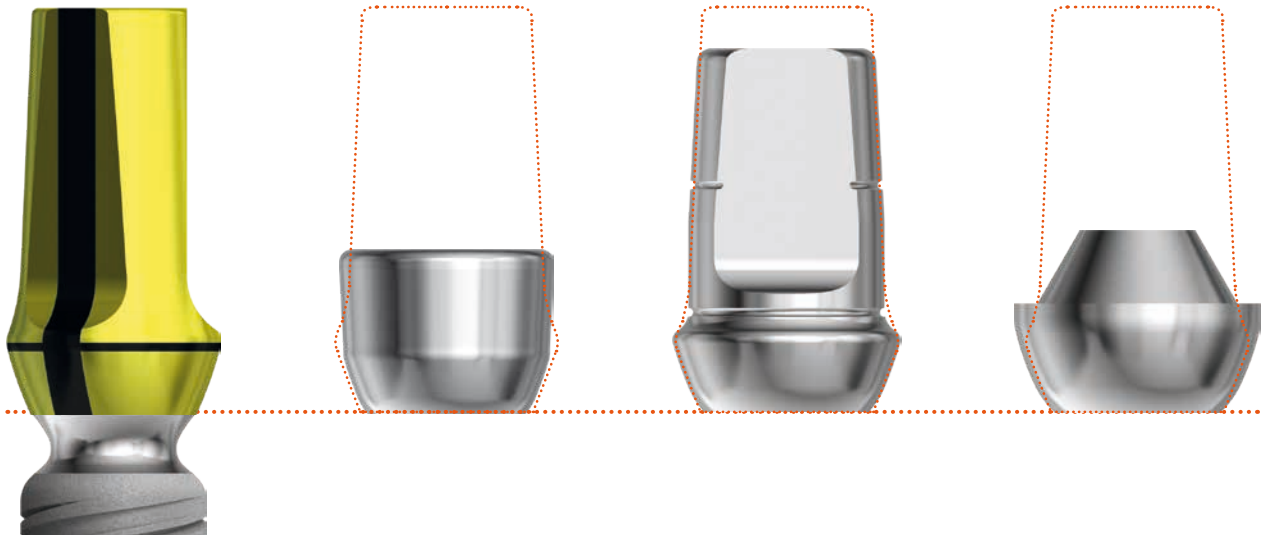
Ø mm	L. 6 mm	L. 8.5 mm	L. 10 mm	L. 11.5 mm	L. 13 mm	L. 15 mm
3.5	-	DPTWKCT3.5L8.5	DPTWKCT3.5L10	DPTWKCT3.5L11.5	DPTWKCT3.5L13	DPTWKCT3.5L15
4	DPTWKCT4L6	DPTWKCT4L8.5	DPTWKCT4L10	DPTWKCT4L11.5	DPTWKCT4L13	DPTWKCT4L15
4.5	DPTWKCT4.5L6	DPTWKCT4.5L8.5	DPTWKCT4.5L10	DPTWKCT4.5L11.5	DPTWKCT4.5L13	DPTWKCT4.5L15

## Sterile packaging

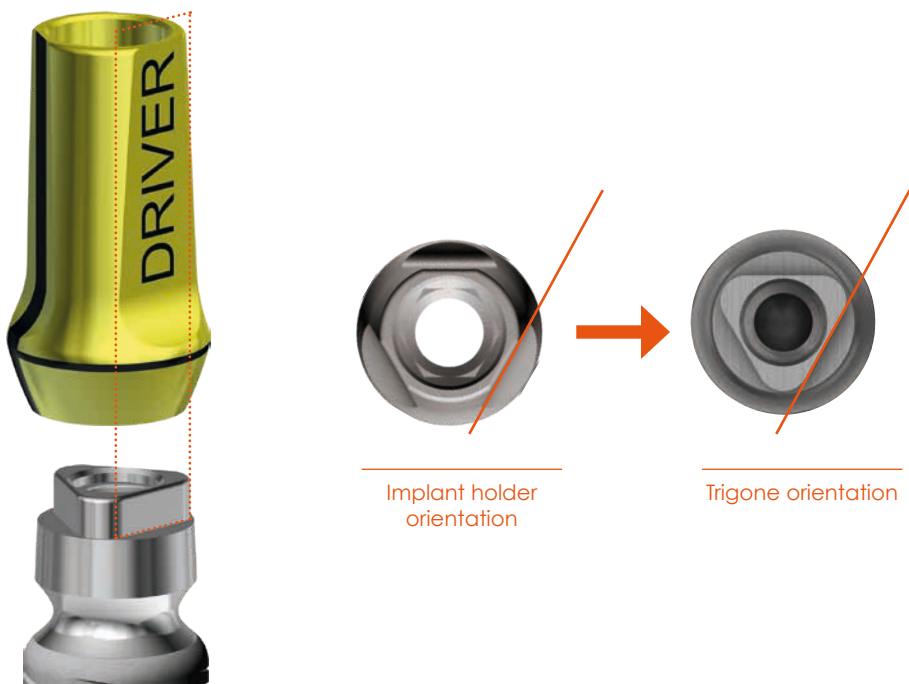


(\* new design available from 4<sup>th</sup> quarter 2020)

## Preview with implant holder



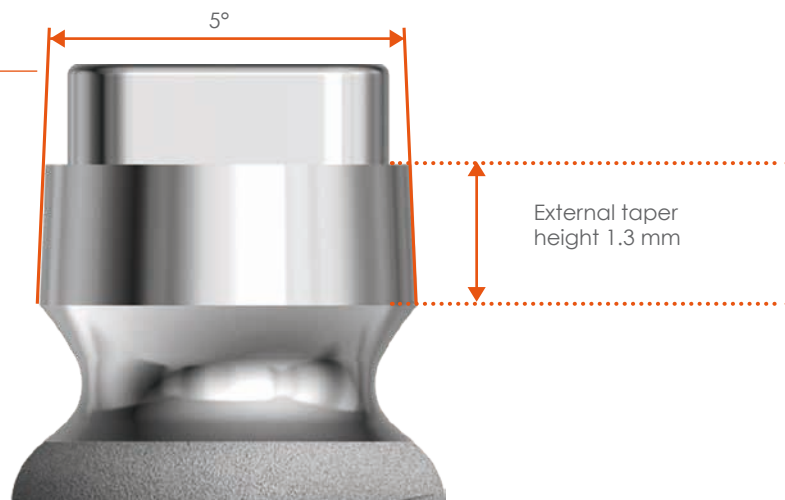
## Trigone orientation



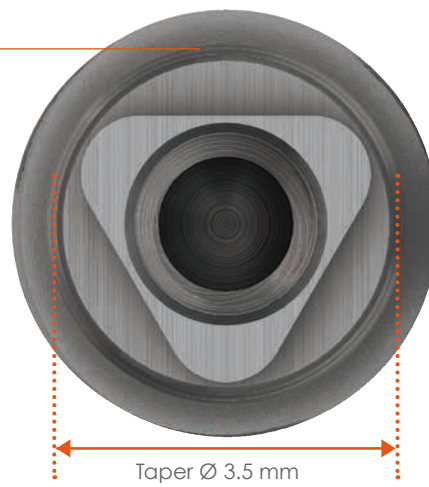
**Caution :** Do not use the implant holder as a temporary abutment. The implant holder is not supported on the taper so that it is easier to disengage it after the implant has been screwed in. It is not therefore suitable to withstand occlusal and shear forces.

## 2. Prosthetic connection

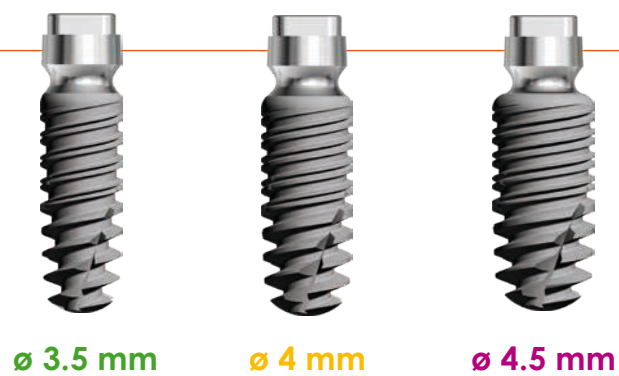
5° external taper



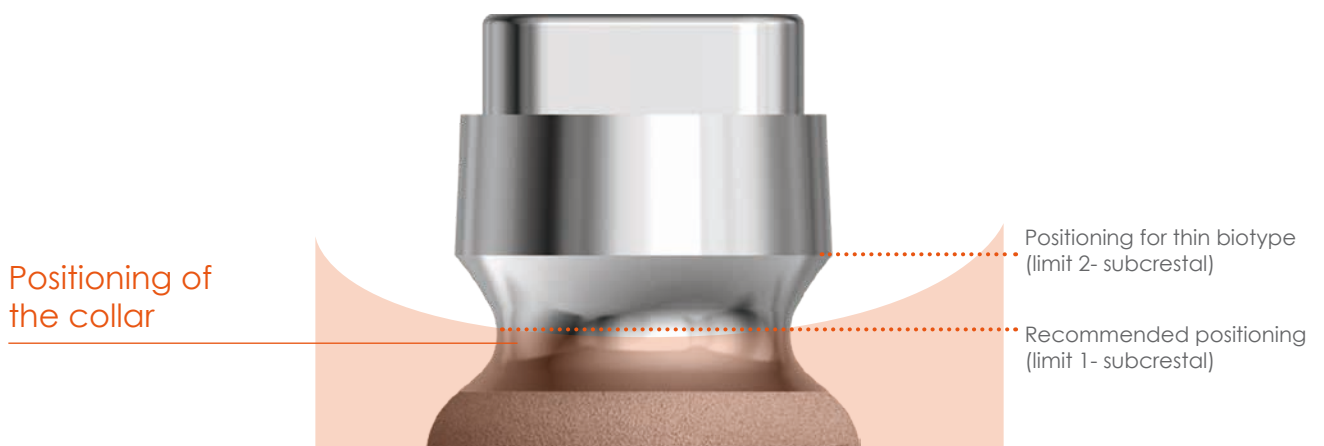
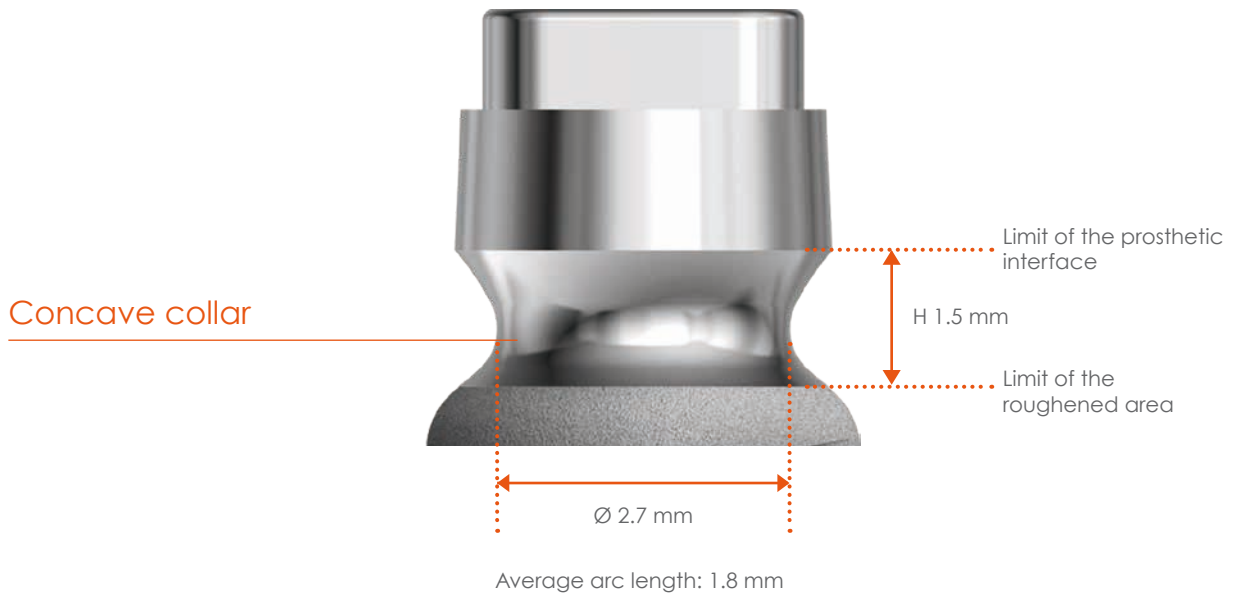
Prosthetic indexation



Single connection



### 3. Periodontal concept



#### As a general rule

The implant should be positioned in relation to the **lowest vestibular bone level**:

- When the **biotype is thick (height > 2 mm)**, position the implant so that this bone level is at the centre of the concave collar (limit 1),
- When the **biotype is thin (height < 2 mm)**, position the implant up to the limit of the implant holder (limit 2).

## 4. Bone concept

### ULTIMATE surgical protocol



## ULTIMATE SURGICAL PROTOCOL

### UNIVERSAL profile compatible with the ULTIMATE surgical protocol:

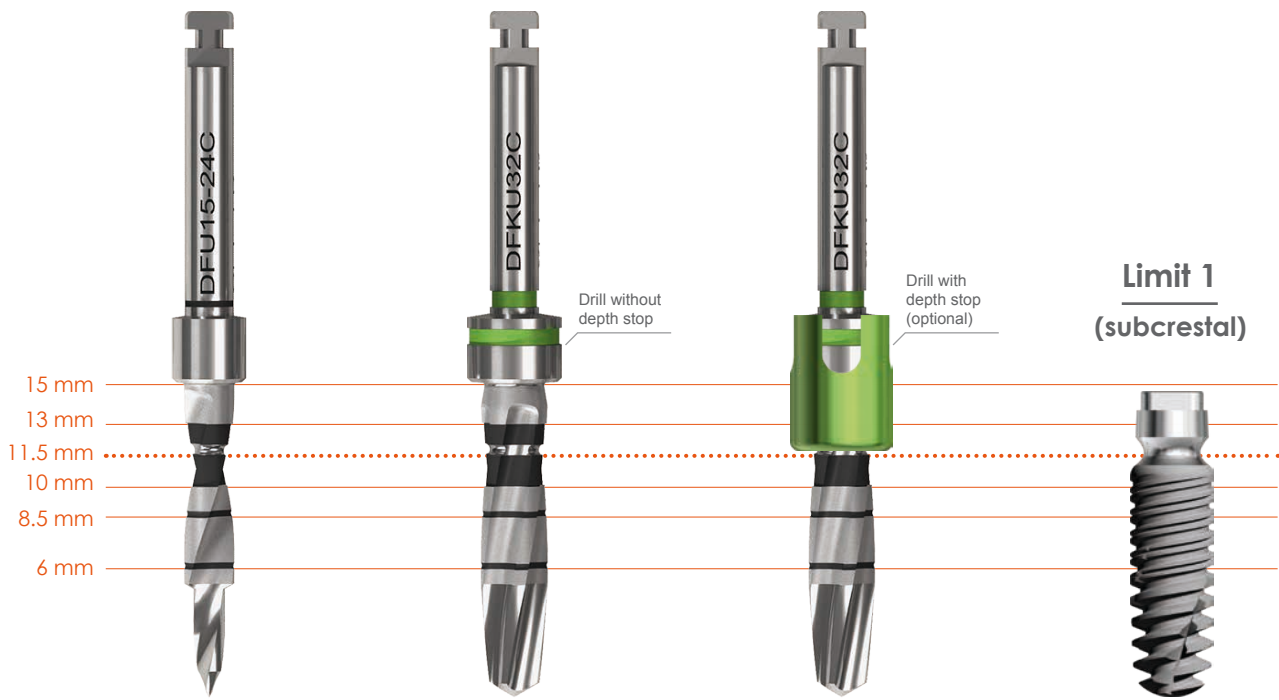
- Progressive double thread
- Triple self-tapping helical grooves
- Tapered cylindrical body
- SA<sup>2</sup> roughened surface

### ULTIMATE ancillary equipment



\*Key manufactured and CE marked by Josef Ganter GmbH. Respect the cleaning, decontamination and sterilization recommendations provided by the manufacturer.

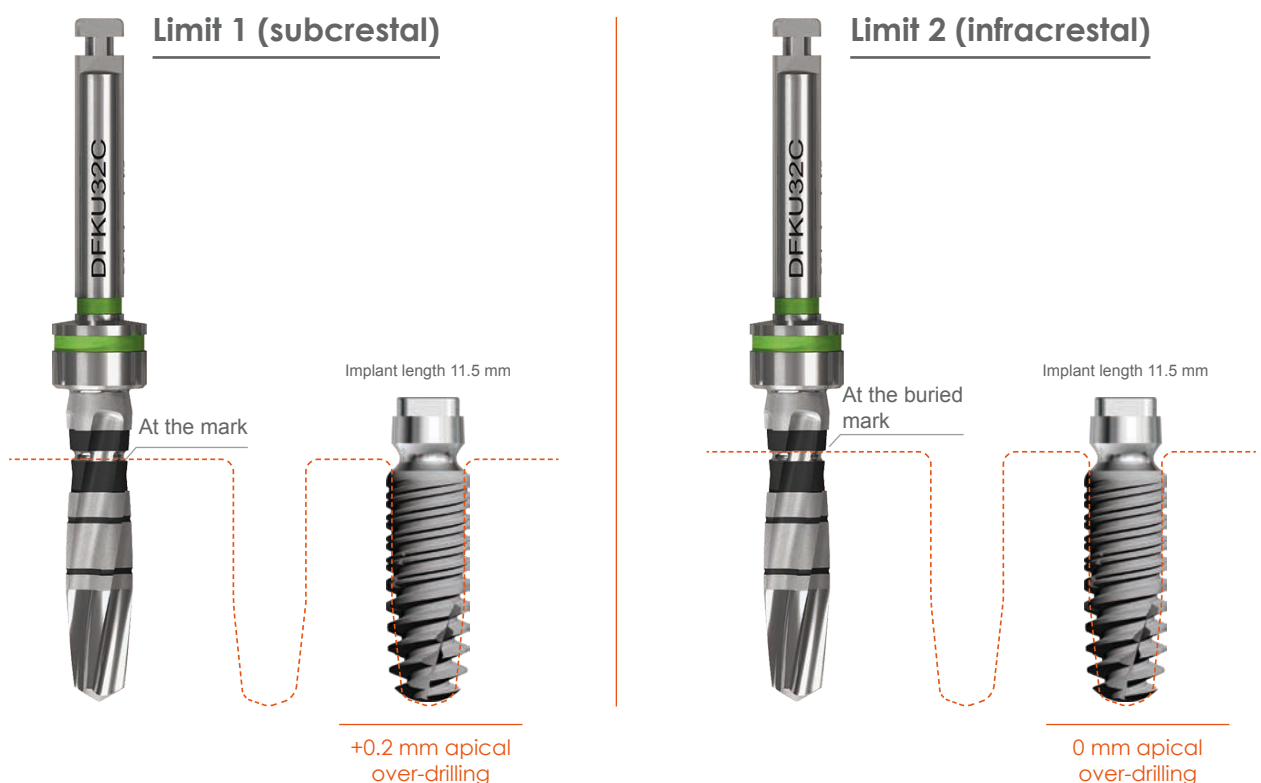
## Optional use of depth stops



The use of depth stops enables the implant to be positioned at limit 1 - subcrestal

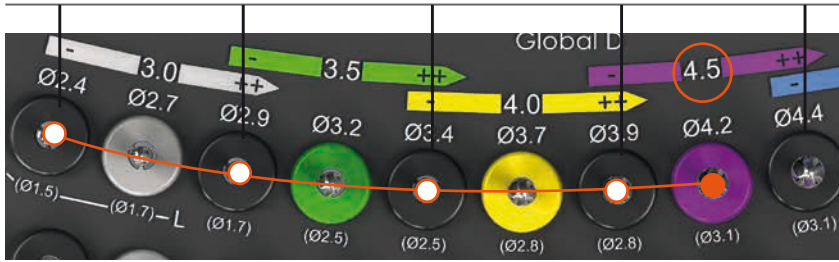
It is advisable to use depth stops when the bone crest is flat enough. Otherwise, drilling should be carried out without depth stops so that the mark on the drill is perfectly aligned with the level of the vestibular cortical bone.

## Homothetic preparation



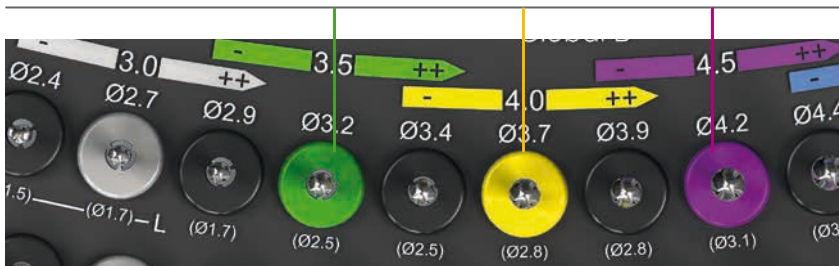
## Modular preparation of the implant site

Intermediate drills used for reaming the bone and also for oversizing (dense bone) or under-sizing (soft bone)



Example above of a drilling protocol for twinKon®  $\varnothing$  4.5 implant in medium density bone

Reference final drills (D2-D3 medium density bone)



## Drilling protocols: chart



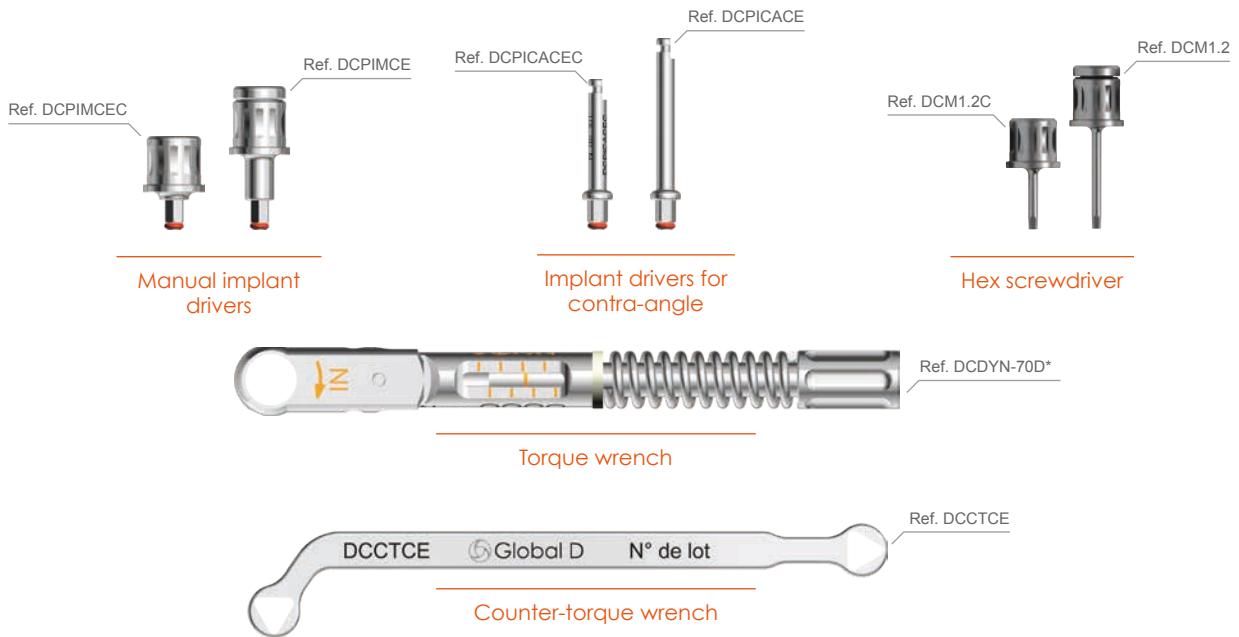
Implant	Bone density	P	Drill Diameter (mm)									
			2.4	2.7	2.9	3.2	3.4	3.7	3.9	4.2	4.4	
$\varnothing$ 3.5 mm	Low	•	•		•							
	Medium	•	•		•	•						
	High	•	•		•		•					
$\varnothing$ 4 mm	Low	•	•		•		•					
	Medium	•	•		•		•	•				
	High	•	•		•		•		•			
$\varnothing$ 4.5 mm	Low	•	•		•		•		•			
	Medium	•	•		•		•		•	•		
	High	•	•		•		•		•		•	



Use the reversible parallelism indicators to check the initial drilling axis and depth ( $\varnothing$  2.4 mm drill).

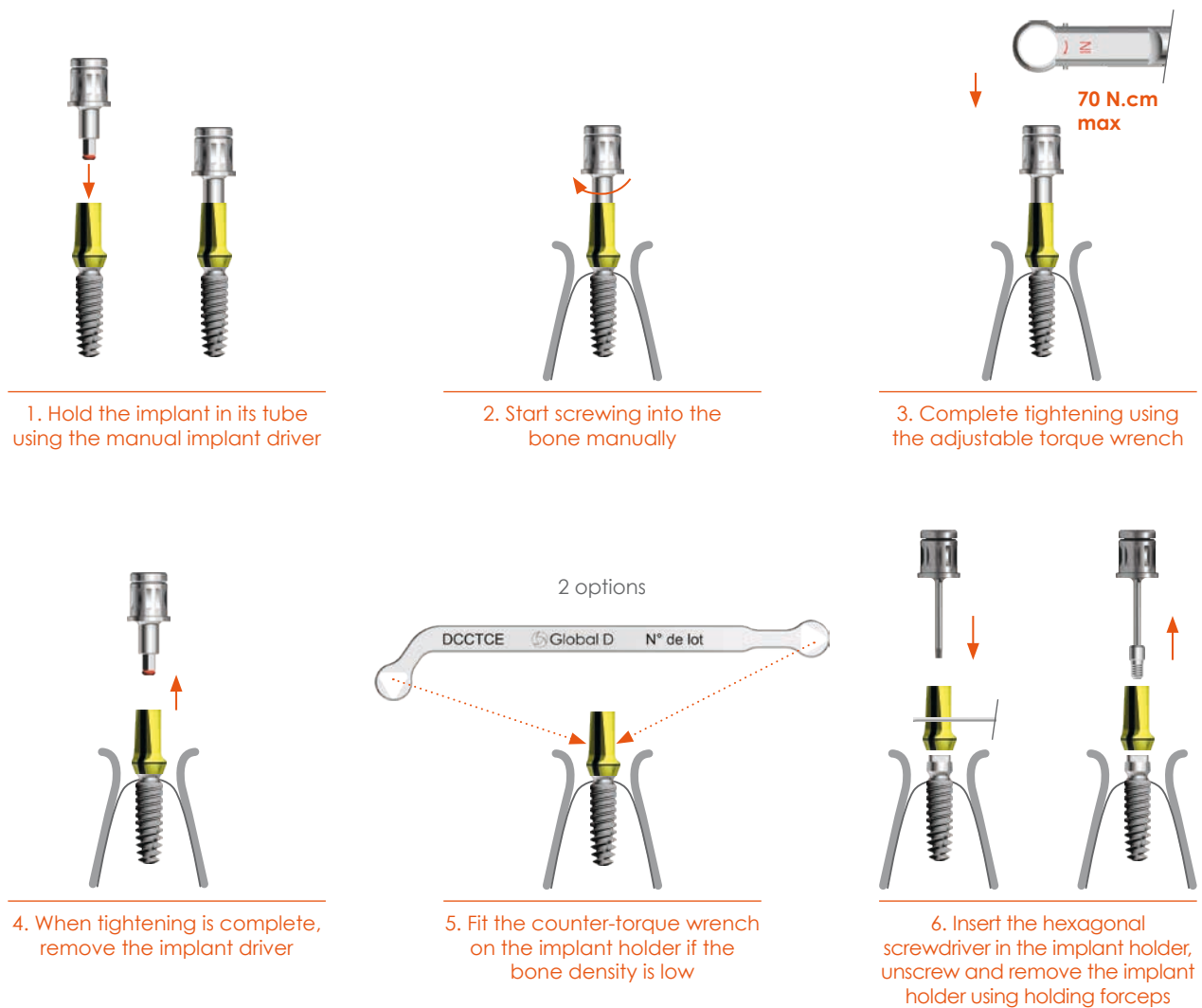
# Screwing in the implant

## Tightening instruments

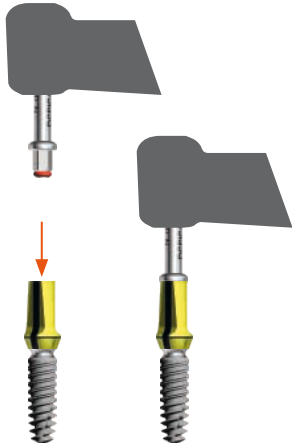


\*Key manufactured and CE marked by Josef Ganter GmbH. Respect the cleaning, decontamination and sterilization recommendations provided by the manufacturer.

## Screwing in the implant manually



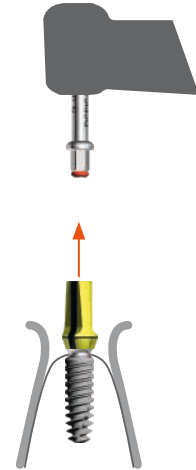
## Screwing in the implant using the contra-angle wrench



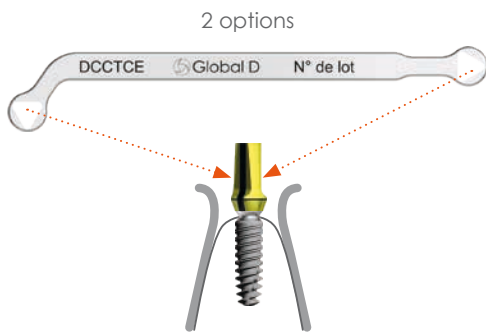
1. Hold the implant in its tube using the tightening mandrel mounted on the contra-angle wrench



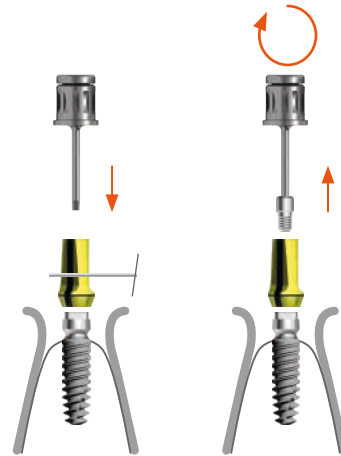
2. Screw the implant directly into the bone using the motor



3. When tightening is complete, remove the implant driver



4. Fit the counter-torque wrench on the implant holder if the bone density is low



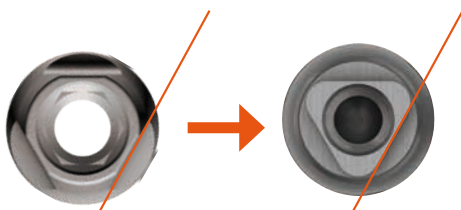
5. Insert the hexagonal screwdriver in the implant holder, unscrew and remove the implant holder using holding forceps

If, at the end of tightening, the maximum torque of 50 N.cm is reached before the implant is in the required position, do not force the positioning of the implant.

Loosen the implant slightly by a few turns then re-tighten. If necessary, repeat the operation 2 or 3 times.

If the implant is still not in the required position, remove the implant, drill using the next largest diameter, drill over the whole length or over the cortical part of the implant and screw it back in.

## Orientation of the flat part



Implant holder orientation

Trigone orientation

There are 2 possible approaches, depending on the proposed technique

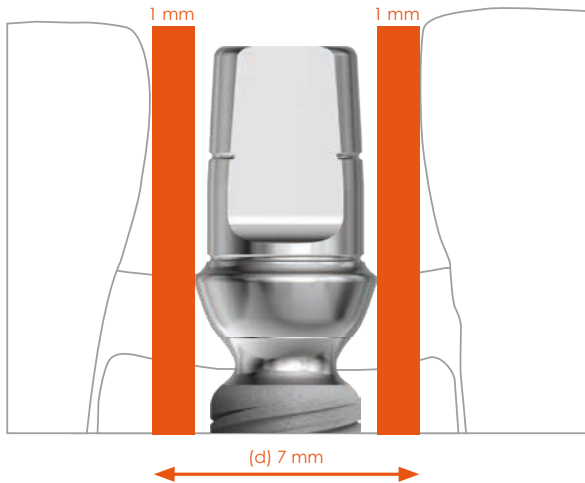
	Direct technique	Indirect technique
Trigone orientation	<b>YES:</b> flat part on vestibular side	<b>NO:</b> Any
Choice of prosthetic components	Anti-rotational version Marked $\triangle$ in the catalogues	Rotational version Marked $\textcircled{R}$ in the catalogues
Repositioning wrench	<b>NO</b>	<b>YES</b>
Advantage	Simpler <b>prosthodontically</b>	Simpler <b>surgeonically</b>

# Three-dimensional positioning of the implant

## Basic principles

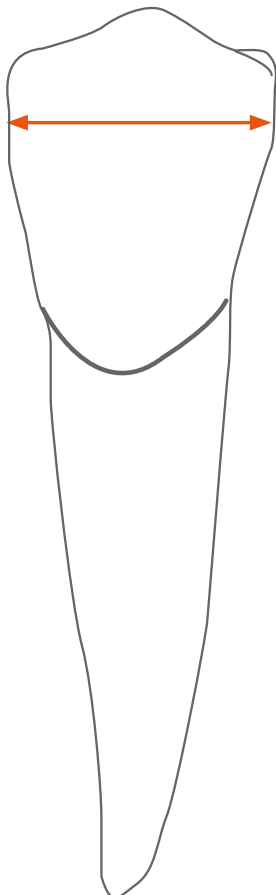
### 1. Single edentation with embedded teeth

#### Minimum mesiodistal space



The minimum mesiodistal space (d) **required for inserting the twinKon® is 7 mm**. The twinKon® is contra-indicated for spaces smaller than this.

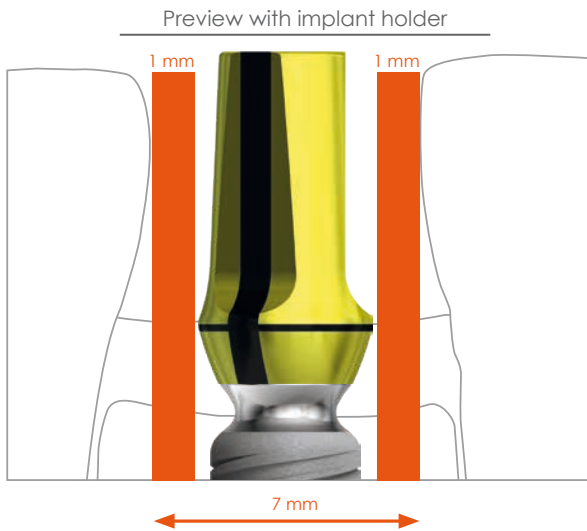
#### Indications for each area



Area	Maxilla		Mandible	
	d min-max* (in 1/10 mm)	Indication	d min-max* (in 1/10 mm)	Indication
Central incisor	76-105	●	47-62	●
Lateral incisor	53-83	●	53-70	●
Canine	69-88	●	60-81	●
1st premolar	60-82	●	60-81	●
2nd premolar	59-75	●	64-88	●
1st molar	97-127	●	97-125	●
2nd molar	87-114	●	93-119	●

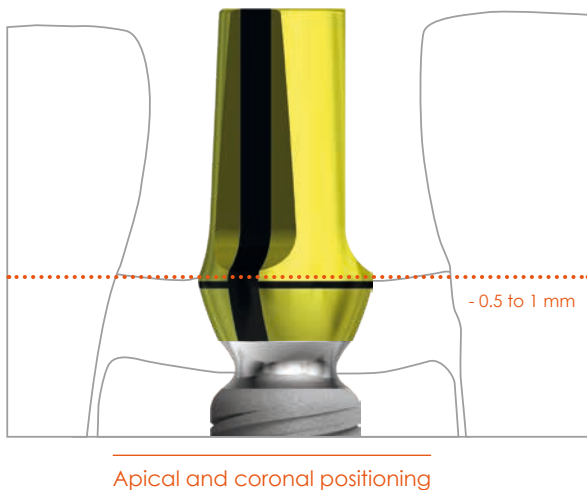
- Ideal indication
- Check it matches the minimum mesiodistal diameter
- Contra-indicated

Lavergne J. Dimensions méso-distales et vestibulo-linguales des dents humaines permanentes (Mesiodistal and vestibulo-lingual dimensions of permanent human teeth)  
 In: Bulletins et Mémoires de la Société d'anthropologie de Paris, XIII°  
 Series Volume 1 Part 3, 1974. pp. 351-355.  
 DOI: 10.3406/bmsap.1974.2096



The implant holder ( $\varnothing$  5 mm) can be used to preview the suitability of the emergence profile of the abutment for the available mesiodistal space.

### Apical and coronal positioning



Place the shoulder of the implant holder 0.5 to 1 mm below the cementum-enamel junction of the adjacent teeth.

The apical and coronal positioning recommended above may need to be adjusted in relation to the biotype that is present. For thin biotypes or gingival retraction, deeper positioning is recommended. (See above)

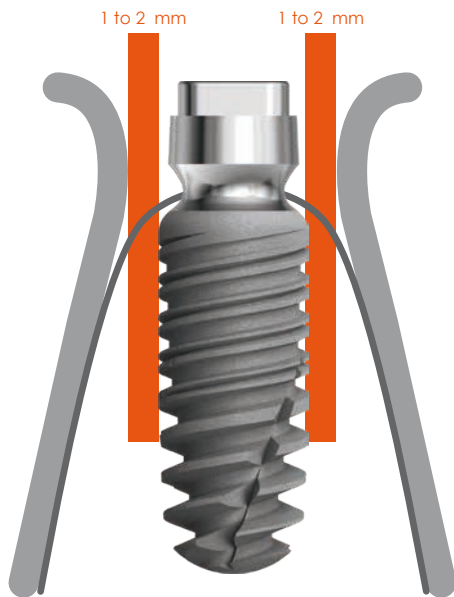
### Screw-retained prosthesis for single restoration



The implant holder ( $\varnothing$  5 mm) can be used to preview and validate that the implant axis matches the prosthetic project: provide a shaft for access to the  $\varnothing$  2.4 mm screw.

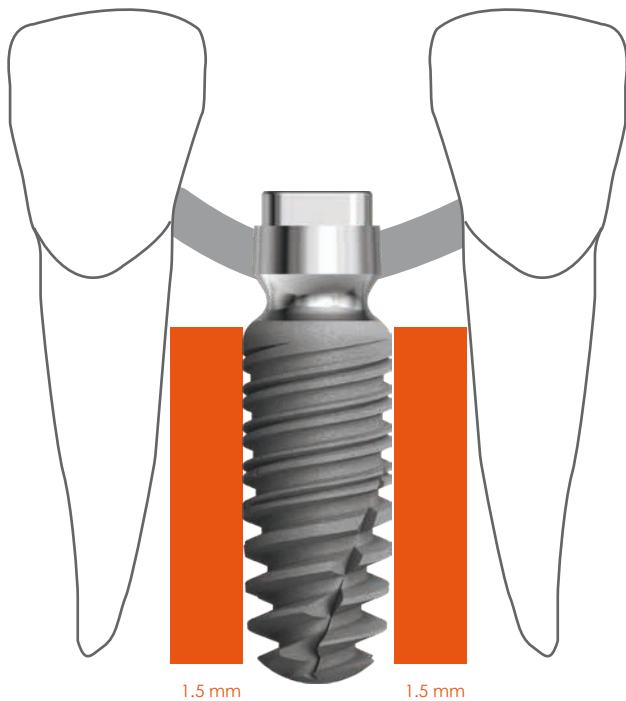
## Choice of implant diameter

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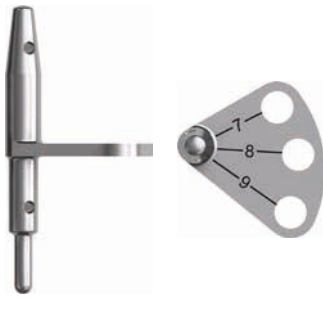
The diameter of the implant must be chosen so that there is a minimum bone partition of 1 mm. From an aesthetic point of view, a minimum thickness of 2 mm is highly recommended on the vestibular faces.

Implant diameter	Minimum width of bone crest
Ø 3.5 mm	5.5 mm min
Ø 4.0 mm	6.0 mm min
Ø 4.5 mm	6.5 mm min



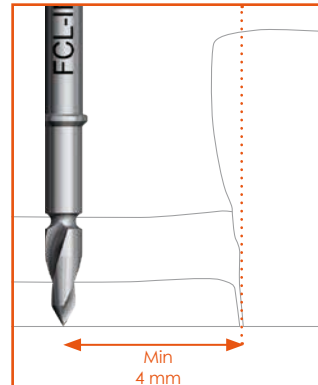
In the mesiodistal plane, there should be a distance of 1.5 mm between the surface of the implant and the periodontal ligament of the adjacent tooth.

## 2. Multiple edentation, screw-retained



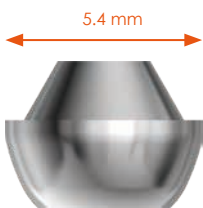
Spacing indicator

You can use the spacing indicator to help you define the inter-implant distance (included in the ULTIMATE kit).



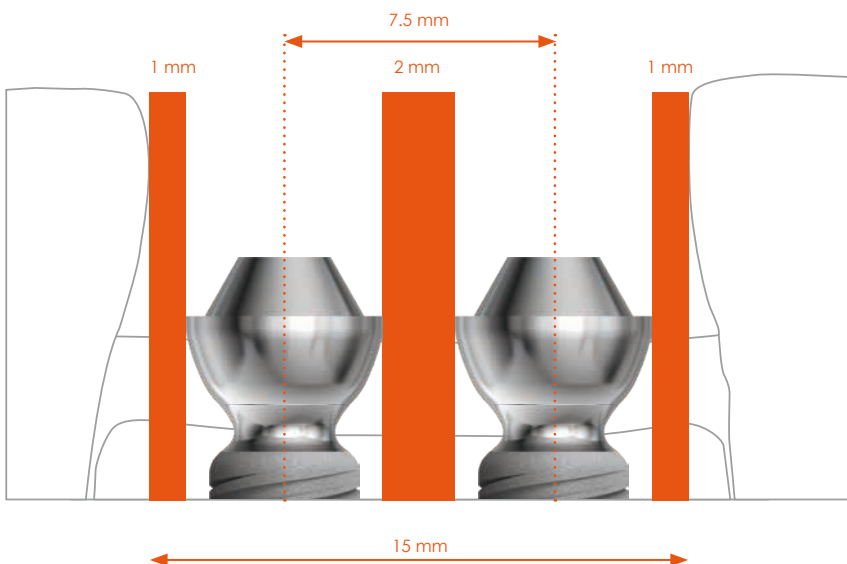
The minimum bone distance required between the tooth wall and the marking point is 4 mm.

### a. Minimum mesiodistal space for $\varnothing$ 5.4 mm conical abutment



conical abutment

Provide a 1 mm space either side of the pillar abutment so that the embrasures can be created: i.e. a centre-to-centre distance of at least 7.5 mm between two implants.



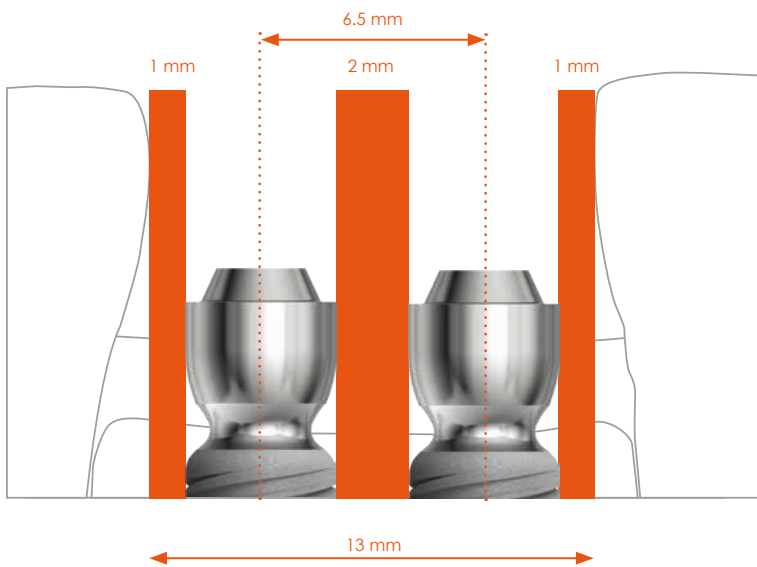
Note: a minimum space of 15 mm is required for the placement of 2 implants. If there is insufficient space, a cemented prosthesis could be considered.

## b. Minimum mesiodistal space for Ø 4.3 mm conical abutment



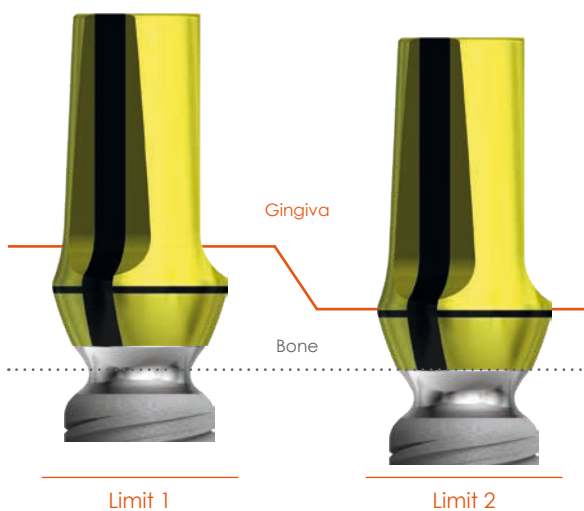
conical abutment

Provide a 1 mm space either side of the pillar abutment so that the embrasures can be created: i.e. a centre-to-centre distance of at least 6.5 mm between two implants.



Note: a minimum space of 13 mm is required for the placement of 2 implants. If there is insufficient space, a cemented prosthesis could be considered.

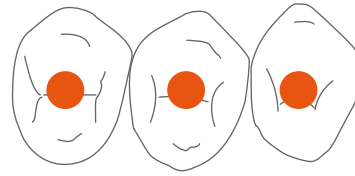
## Apical and coronal positioning



Adjust the apical and coronal positioning of the implant to suit the periodontal biotype (see above).

## Prosthetic axis

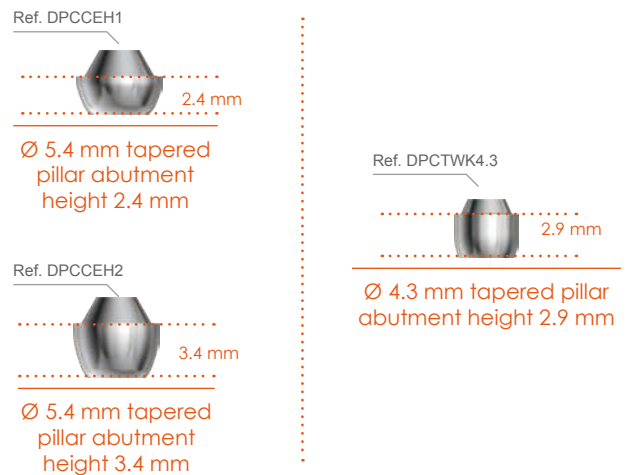
Ensure that the prosthetic axes emerge at the centre of the occlusal faces of the future teeth.



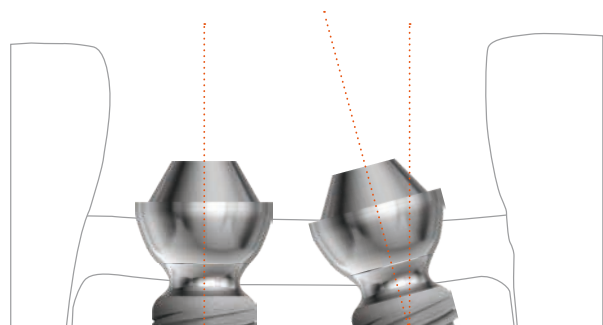
Use the implant holder (Ø 5 mm) to preview the size and prosthetic axis.



1. It is advisable to validate the prosthetic project before surgery by making a wax-up.
2. When conical abutments are used no orientation of the trigone is necessary when inserting the implant. Conical abutments are available in rotational version only.



**Caution:** Conical abutments are not available in an angled version. The maximum tolerated axial divergence is 15°, ensuring that the emergence of the prosthesis screw is always compatible with the prosthetic project.



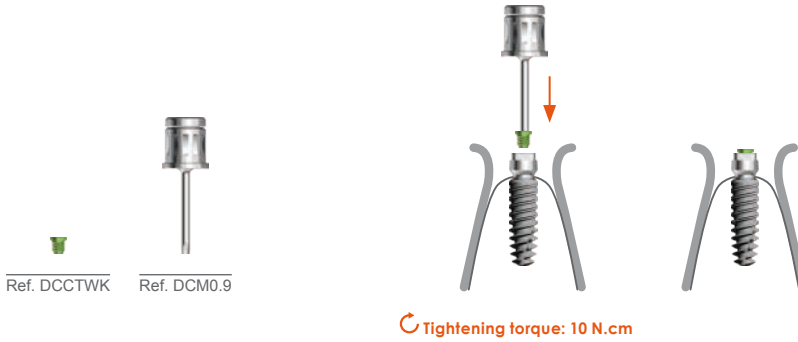
# Healing

## 1. Two-stage surgery (optional)



Cover cap

Screw the cover cap onto the head of the implant using the 0.9 hexagonal screwdriver and suture the flap hermetically.



## 2. One-stage surgery

With healing screw



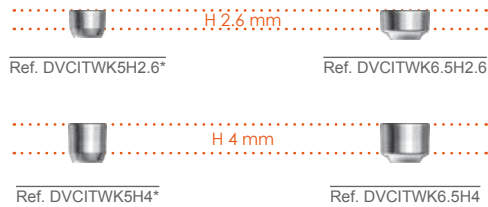
Suture the flap so that the gingival level is on the top part of the healing screw (i.e. above line "c" below).



(\*) new design available from 4<sup>th</sup> quarter 2020

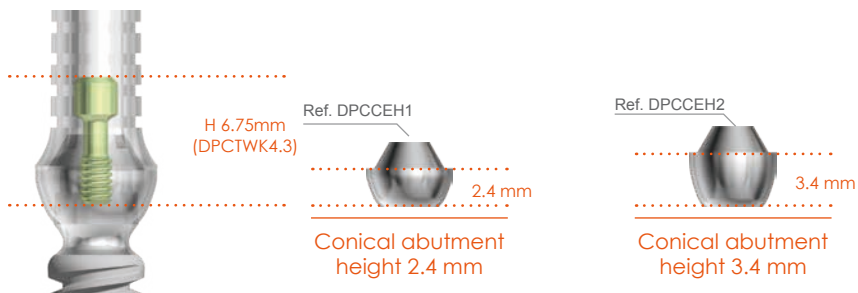
Healing screws are available in two heights: 2.6 mm and 4.0 mm

- The Ø 5.0 mm screws are for first-stage use.
- The Ø 6.5 mm screws are for **second-stage use only**.

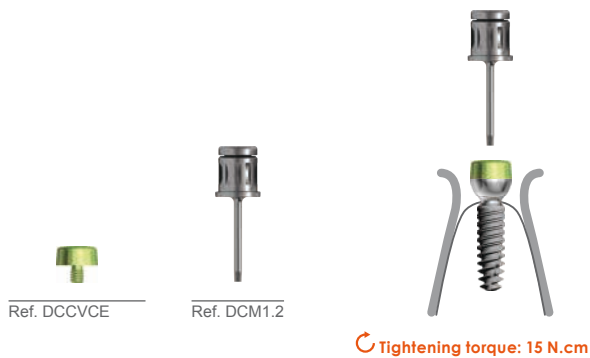


(\*) new design available from 4<sup>th</sup> quarter 2020

## With Ø 5.4 mm conical abutment



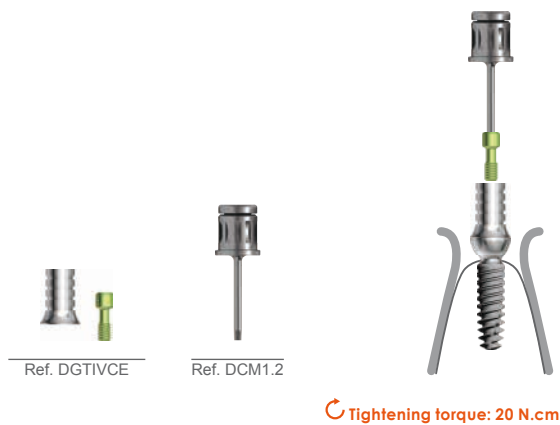
1. The conical abutment is embedded on the external cone by friction and screwed into the implant using the prosthesis fixing screw. This assembly has the benefit of the characteristics of tapered connections.



2. Screw the conical abutment cover cap on manually using the hex screwdriver. Tighten to 15 N.cm.

## Prosthesis on conical abutment

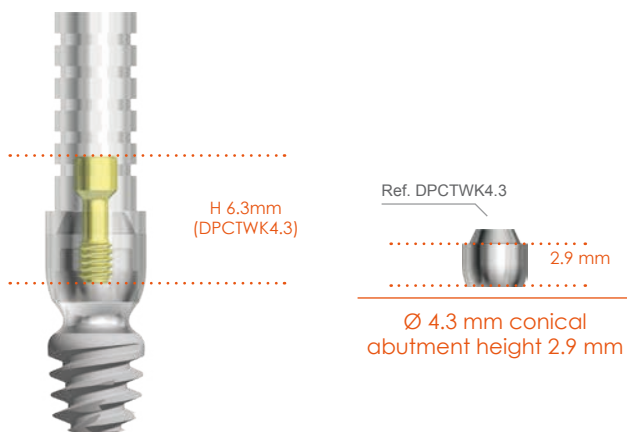
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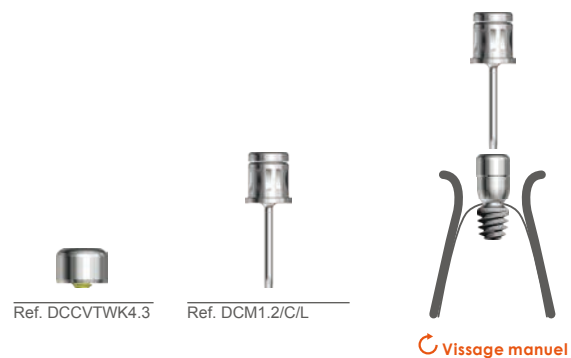
Use the rotational titanium cylinder in accordance with current practice.  
Screw in using the hexagonal screwdriver and the torque wrench (set to 20 N.cm).

## With Ø 4.3 mm conical abutment

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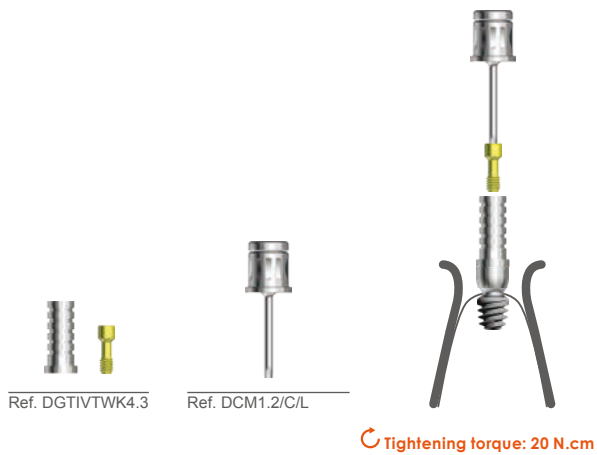
1. The conical abutment is embedded on the external cone by friction and screwed into the implant using the prosthesis fixing screw. This assembly has the benefit of the characteristics of tapered connections.



2. Screw the conical abutment cover cap on manually using the hex screwdriver.

## Prosthesis on conical abutment

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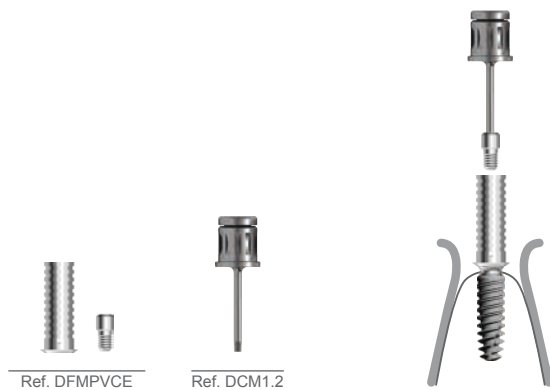
Use the rotational titanium cylinder in accordance with current practice.  
Screw in using the hexagonal screwdriver and the torque wrench (set to 20 N.cm).

## Temporization

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### Prosthesis for single restoration

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Use the anti-rotational temporary abutment in accordance with current practice.  
Screw in using the hexagonal screwdriver and the torque wrench (set to 20 N.cm).

## Instrument maintenance

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- Before any use of the instrument, check its wear, its good functioning and/or its retention force so that the performances of the instrument are preserved. Proper maintenance of your instruments extends the longevity of your instrumentation.
- Apart from some instruments delivered sterile, the instrument is generally delivered non-sterile. To be cleaned, checked and sterilized before use.
- The instruments supplied by Global D have been freed from manufacturing residues (lubrication, shavings, etc.) and then cleaned, but do not have a sufficient state of decontamination to be sterilized directly. A decontamination and cleaning treatment is therefore essential before any sterilization.
- Global D disclaims all responsibility in the event of non-compliance with these conditions.

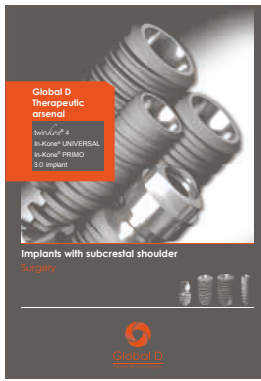
The products shown are Class I, IIa and IIb Medical Devices and as such bear the CE mark in compliance with Directive 93/42/EEC. In France, these devices are not subject to the social security reimbursement scheme.

The medical devices shown may not be available for sale in all countries. If you require any further information please contact the Global D sales department.

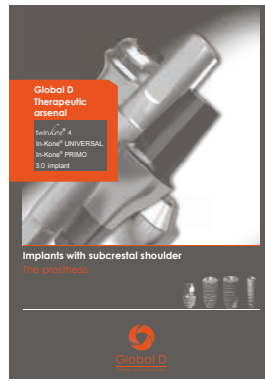
Please read the user instructions before use. If in doubt, please contact the Global D sales department.

In some cases the instructions may not be provided in printed form. In this case a QR code and a URL link are given on the label of the device. The instructions can however be obtained on request and at no additional cost and will be sent to you within 7 days. Send your request to the following address: [quality@globald.com](mailto:quality@globald.com).

[www.globald.com](http://www.globald.com)



Implants with subcrestal shoulder Surgery



Implants with subcrestal shoulder Prosthesis



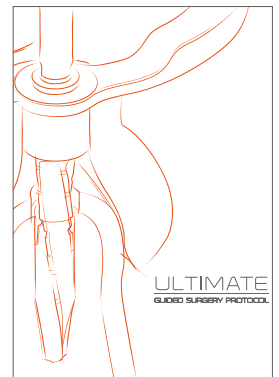
twinkon® Biological signature



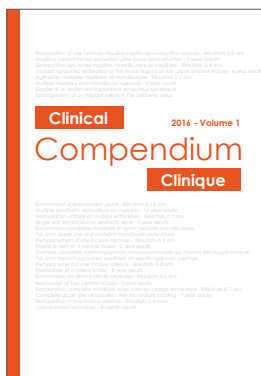
In-Kone® Surgery manual



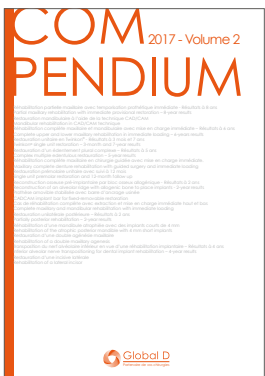
twinkon® 4 Surgery manual



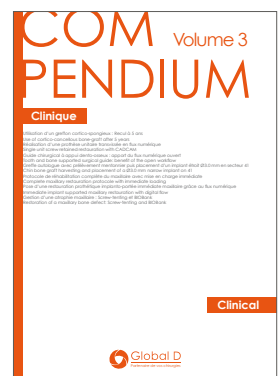
Ultimate Guided surgery protocol



Compendium Vol.1



Compendium Vol.2



Compendium Vol.3



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