CONELOG®
SCREW-LINE

CONELOG®
SCREW-LINE Implant
Basic Information
Surgical Procedures

CONELOG® SCREW-LINE implants (C1065.xxxx and C1066.xxxx)
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Healing options

a perfect fit

camlog

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SYSTEM INFORMATION

The CONELOG® Implant System is based on years of clinical and laboratory experience and is a user-friendly, consistently prosthetically oriented implant system.

All CONELOG® Products are manufactured with the latest state-of-the-art technology. These are continuously being further developed by the company's research and development team in collaboration with clinics, universities and dental technicians and therefore stay abreast of the latest technology.

The CAMLOG® and CONELOG® Implant Systems are well documented scientifically. Studies* support this with respect to many parameters including the implant surface, time of implantation and/or implant loading, primary stability, connection design or type of superstructure. The long-term results of the CONELOG® Implant System are convincing.

IMPORTANT NOTE:
The descriptions that follow are not adequate to permit immediate use of the CAMLOG® Implant System. Instruction by a surgeon experienced in using the CAMLOG® Implant System is strongly recommended. CAMLOG® Implants and abutments should only be used by dentists, physicians, surgeons and dental technicians who have been trained in using the system.
Camlog regularly offers relevant courses and training sessions.

Methodical errors made during the treatment can result in loss of the implant and significant loss of the peri-implant bone.

The images in this document are for reference purposes only and may differ from the actual product

COLOR CODING

COLOR CODING OF THE SURGICAL AND PROSTHETIC CONELOG® PRODUCTS

	COLOR	DIAMETER
	Gray	3.3 mm
	Yellow	3.8 mm
	Red	4.3 mm
	Blue	5.0 mm

* See section «Further information» on page 43

CONELOG®
SCREW-LINE IMPLANT
PROMOTE® PLUS

GENERAL

CONELOG® SCREW-LINE implants are endosseous implants available in various lengths and diameters. They are surgically inserted in the bone of the maxilla and/or mandible and serve as an anchor for functional and esthetic oral restorations for partially and fully edentulous patients. The prosthetic restoration is performed with single crowns, bridges or full dentures that are attached to the CONELOG® Implants with the appropriate CONELOG® Components. CONELOG® SCREW-LINE implant, Promote® plus are distinguished by:

- a conical implant/abutment connection,
- the Promote® surface,
- standard integrated Platform Switching,
- a machined implant shoulder surface,
- a slightly tapered external geometry and
- efficient implant handling with mounted insertion post.

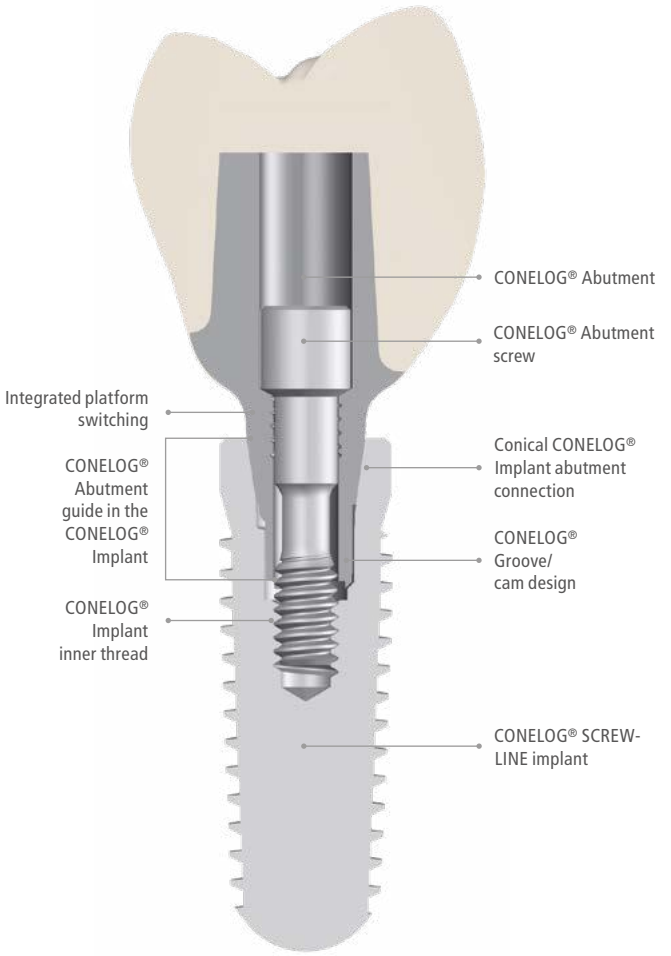
The CONELOG® SCREW-LINE implant, Promote® plus is not only suitable for late implantations but also for immediate or delayed immediate implantations in maxillary and/or mandibular bone. The selected healing technique can be either submerged or transgingival. In the case of a one-stage surgical procedure, the implants can be loaded immediately if good primary stability has been achieved and functional loading is appropriate.

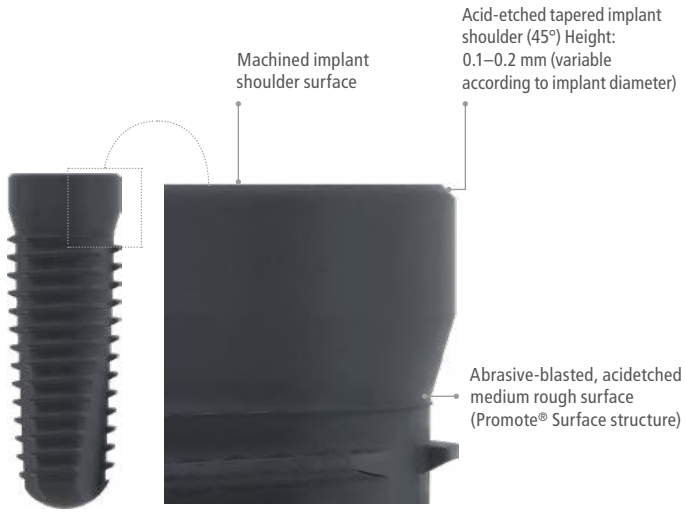
The CONELOG® SCREW-LINE implant, Promote® plus has an acid-etched, tapered implant shoulder (45°). The implant is easily inserted because the taper of the implant body (3°–9° depending on length and diameter) induce self centering. The self-cutting thread provides for continuous grip on the bone and high primary stability.

RANGE OF USE FOR CONELOG® SCREW-LINE IMPLANTS

A more deeply positioned coronal implant shoulder is recommended particularly where a high-esthetic outcome is important. The CONELOG® SCREW-LINE implant, Promote® plus is suited for this situation*. The following clinical conditions facilitate the process:

- Normal to thick biotype,
- Gingival height of at least 3.0 mm,
- Minimum width of 1.0 mm of the attached gingiva,
- Minimum distance of 2.0 mm between attached gingiva and mimetic musculature.





CONELOG® SCREW-LINE implant
Promote® plus

* See [A] in section «Further information» on page 43

CONELOG®
SCREW-LINE IMPLANT
PROMOTE® PLUS

MATERIAL

All CONELOG® SCREW-LINE implants are made of titanium grade 4. The CONELOG® Abutments and abutment screws are made of titanium alloy Ti6Al4V ELI.

PRODUCT PRECISION

For the most part, the inner and outer geometry of the CONELOG® Implants and abutments are rotary machined. As a result, the tolerances can be kept very small as well as excellent component precision without impacting the material structure. The CONELOG® Implant abutment connection ensures a very precise, stable and rotation-resistant connection to the CONELOG® Prosthetic components.

INNER CONFIGURATION OF THE IMPLANT

CONELOG® SCREW-LINE implants are equipped with a cone (7.5°) and three grooves in the inner configuration for positioning CONELOG® Abutments. The CONELOG® Abutments are equipped with an apical cone and three cams which will lock into the tapered connection and the three grooves of the implant.

The CONELOG® Abutment does not cover the implant shoulder.
A CONELOG® Abutment screw is used to fix CONELOG® Abutments in the CONELOG® SCREW-LINE implant with a defined torque.

Conical CONELOG® Implant abutment connection

For optimal positioning of the abutments in the implant, they should be aligned in the bone so that one of the three grooves points vestibularly. The drivers include markings on the outside that correspond to the three grooves of the CONELOG® Implant inner configuration.

Groove/cam design of the CONELOG® Implant abutment connection

IMPLANT-DIMENSIONS

	Article	Art. No.	Ø	L	A Ø
with screw-mounted insertion post 	**CONELOG® SCREW-LINE Implant, Promote® plus** incl. snap-in insertion post and cover screw, sterile **Material** Titanium Grade 4	C1065.3309	3.3 mm	9 mm	2.2 mm
		C1065.3311		11 mm	
		C1065.3313		13 mm	
		C1065.3316		16 mm	
		C1065.3807	3.8 mm	7 mm	3.0 mm
		C1065.3809		9 mm	
		C1065.3811		11 mm	2.7 mm
		C1065.3813		13 mm	
		C1065.3816		16 mm	
		C1065.4307	4.3 mm	7 mm	3.0 mm
		C1065.4309		9 mm	
		C1065.4311		11 mm	2.7 mm
		C1065.4313		13 mm	
		C1065.4316		16 mm	
		C1065.5007	5.0 mm	7 mm	3.5 mm
		C1065.5009		9 mm	
		C1065.5011		11 mm	3.2 mm
		C1065.5013		13 mm	
with snap-in insertion post 	**CONELOG® SCREW-LINE Implant, Promote® plus** incl. screw-mounted insertion post and cover screw, sterile **Material** Titanium Grade 4	C1066.3309	3.3 mm	9 mm	2.2 mm
		C1066.3311		11 mm	
		C1066.3313		13 mm	
		C1066.3316		16 mm	
		C1066.3807	3.8 mm	7 mm	3.0 mm
		C1066.3809		9 mm	
		C1066.3811		11 mm	2.7 mm
		C1066.3813		13 mm	
		C1066.3816		16 mm	
		C1066.4307	4.3 mm	7 mm	3.0 mm
		C1066.4309		9 mm	
		C1066.4311		11 mm	2.7 mm
		C1066.4313		13 mm	
		C1066.4316		16 mm	
		C1066.5007	5.0 mm	7 mm	3.5 mm
		C1066.5009		9 mm	
		C1066.5011		11 mm	3.2 mm
		C1066.5013		13 mm	
		C1066.5016		16 mm	

Note: the implant length (L) is the distance from the apical curve to the machined shoulder surface of the implant. (Length over everything)
AØ: Apical diameter (mean value)

IMPLANT POSITION PLANNING

As a matter of principle, the implant should be planned by the team and be based on the prosthetic therapy («Backward Planning»). The following gives some aspects which should be taken into account during planning:

LEVERAGE RATION ON IMPLANT

The loading of the implant-bone connection is determined by the leverage ratio from the osseointegration-related resistance to the prosthetic load arm (equal to the supracrestal implant length plus crown length from the implant shoulder). If the implant length (IL) is less than the length of the crown (CL), measures must be taken to reduce loading (e.g. using prosthetic splints).

The ratio of crown length (CL) to implant length (IL) should be 0.8:1 maximum.

Implant distribution should be structured in such a way that spanned segments are kept small. Preparation of the abutment must ensure the common insertion direction of the crown block/bridges. The implant-abutment connection may not be altered.

DISTANCES TO ADJACENT STRUCTURES

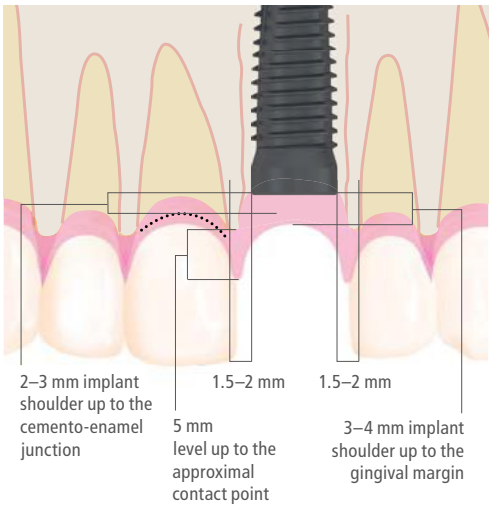
VERTICAL IMPLANT POSITION

The recommendations for the distances to be maintained from adjacent structures must be observed to allow wound healing to proceed optimally and for hard and soft tissue to develop optimally during the healing phase.

The recommended distances for determining the vertical implant position are shown in the diagram. These must be adapted to the clinical situation.

The implant length must be sized to leave adequate bone (at least 1 mm) around the implant.

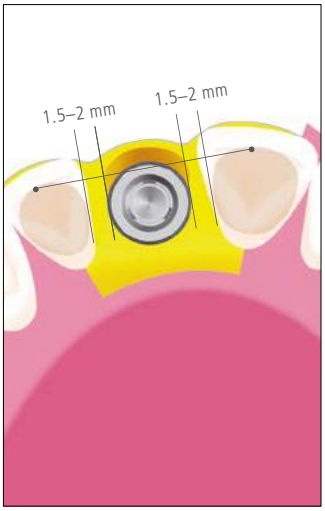
Vertical implant position



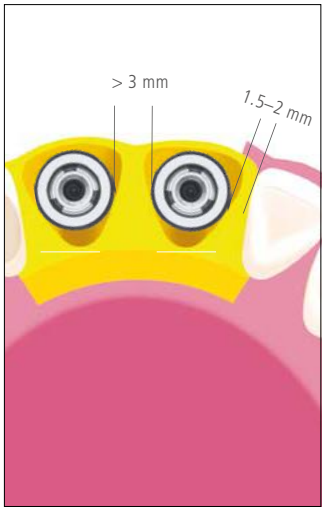
HORIZONTAL IMPLANT POSITION

Maintain a minimum distance of 1.5 mm to an adjacent natural tooth and 3 mm to an adjacent implant.

The implant diameter must be sized to leave adequate bone (at least 1 mm) around the implant.



Mesio-distal implant position at bone level



Distances at bone level

DESIGN OF PROSTHETIC RESTORATIONS

Irrespective of the type of restoration - fixed single crowns, splinted crowns, bridges or removable restorations - the hygiene capability of the restoration should be taken into account.

In the case of hybrid restorations, we recommend designing the prosthetics with «Passive Fit». The tension-free seat of a secondary (double crown) or primary (bar) splinted structure on implants is regarded as «Passive Fit».

In the case of double crown restorations, this is obtained through intraoral bonding of the secondary crowns (preferably galvano crowns) onto the tertiary framework. In the case of bar structures, it involves the use of bar sleeves for a "Passive Fit" and intraoral bonding of the titanium bonding base. The idea is to create a fit that is free from stress or to minimize stress on the implants.

When planning a removable denture, the implants should be placed so that, if necessary, extending to a fixed restoration is possible.

Single-crown restoration

Cement-retained bridge

IMPLANT POSITION PLANNING

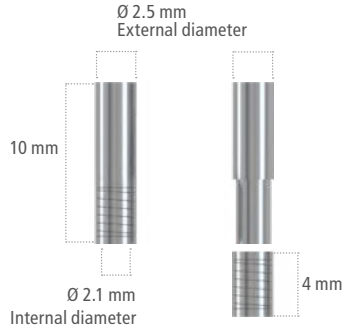
X-RAY/DRILLING TEMPLATE WITH CT-TUBES FOR CT-PLANNING

CT-tubes for CT-planning are integrated at the appropriate implant positions in the planning templates created from the wax-up/set-up and are used as reference positions in the X-ray image. The two-piece sleeves are made of a titanium alloy, as this does not cause scattered radiation in the CT/DVT.

The lower section is polymerized into the template. The upper section is pluggable. The entire tube is used for the radiological diagnostics; the upper section can be removed for surgery and then serves as drilling guide (see section «Pilot drilling with tube for CT-planning», below).

Consistent placing of the tubes directly on the mucosa allow determining its thickness in the CT/DVT. The respective documentation included with these systems contains further information.

CT-tubes for CT-planning for pilot drill Ø 2.0 mm:



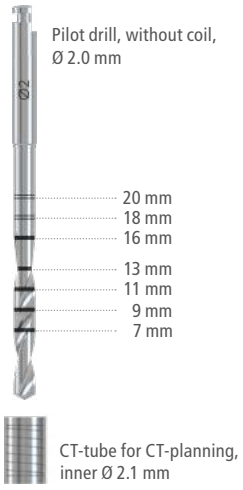
Drill for placement of CT-tubes

FABRICATING THE DRILLING TEMPLATE WITH CT-TUBES FOR CT-PLANNING

If a planning or x-ray template with tubes for CT-planning was created, it can be converted into a drilling template after adjusting the tube positions based on the implant planning. If required, the template is reduced to an outline after preparation of the flap to ensure it stays in position during surgery (dental or gingival base outside the surgical area).

PILOT DRILLING WITH CT-TUBE FOR CT-PLANNING

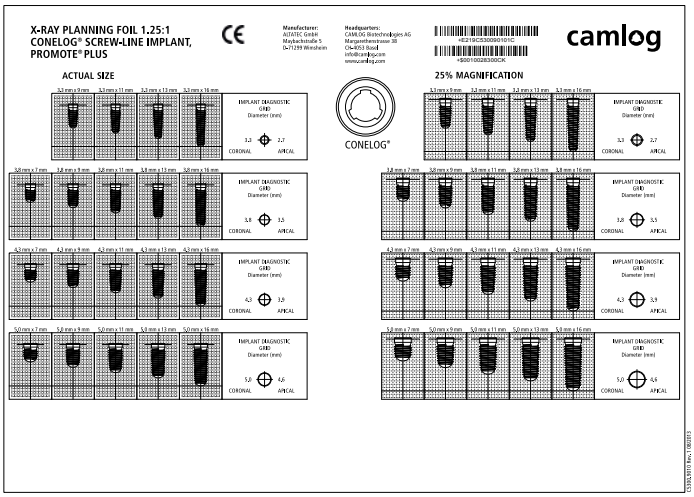
The pilot drill without coil has a 2.0 mm diameter. It can also be used with the CT-tube for drill Ø 2.0 mm which has a 2.1 mm inner diameter. There are ring markings, whose lower edges define the drill depth of 7, 9, 11, 13, 16, 18 and 20 mm. The thickness of each ring mark is 0.4 mm. The 18 and 20 mm markings are not filled in and are used for orientation when using the 4 mm long CT-tube with 2.1 mm internal diameter.



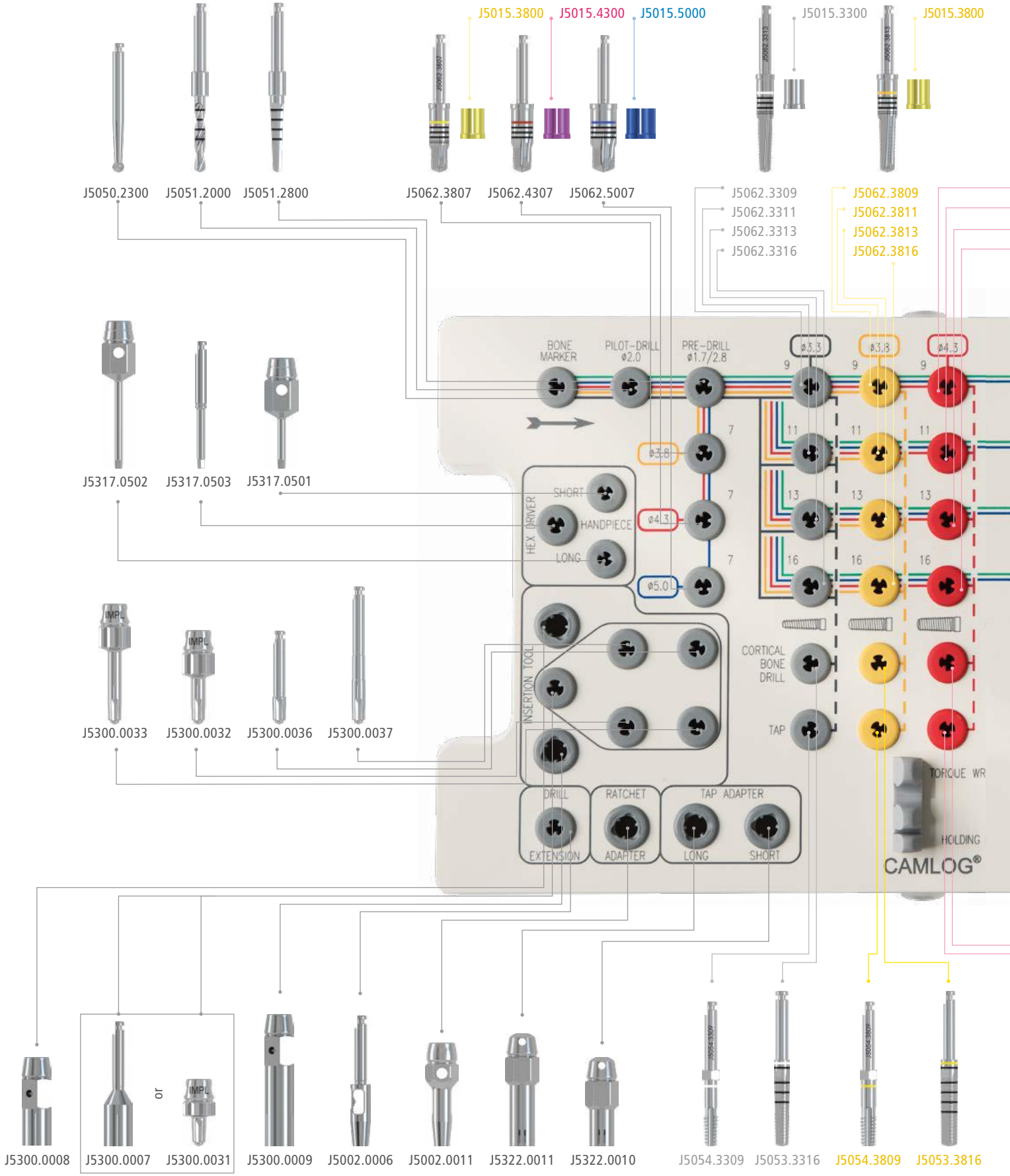
IMPORTANT NOTE:
Only use CT-tubes for CT-Planning with 2.1 mm internal diameter in conjunction with the pilot drill!

ORTHOPANTOMOGRAPH

X-Ray planning foils are available in 1.25:1 and 1.4:1 scales for all implant types to check the dimensions on the orthopantomograph. The foil magnifications match the delay factors for most orthopantomographs. However, they should be considered only as an aid to implant dimensioning.

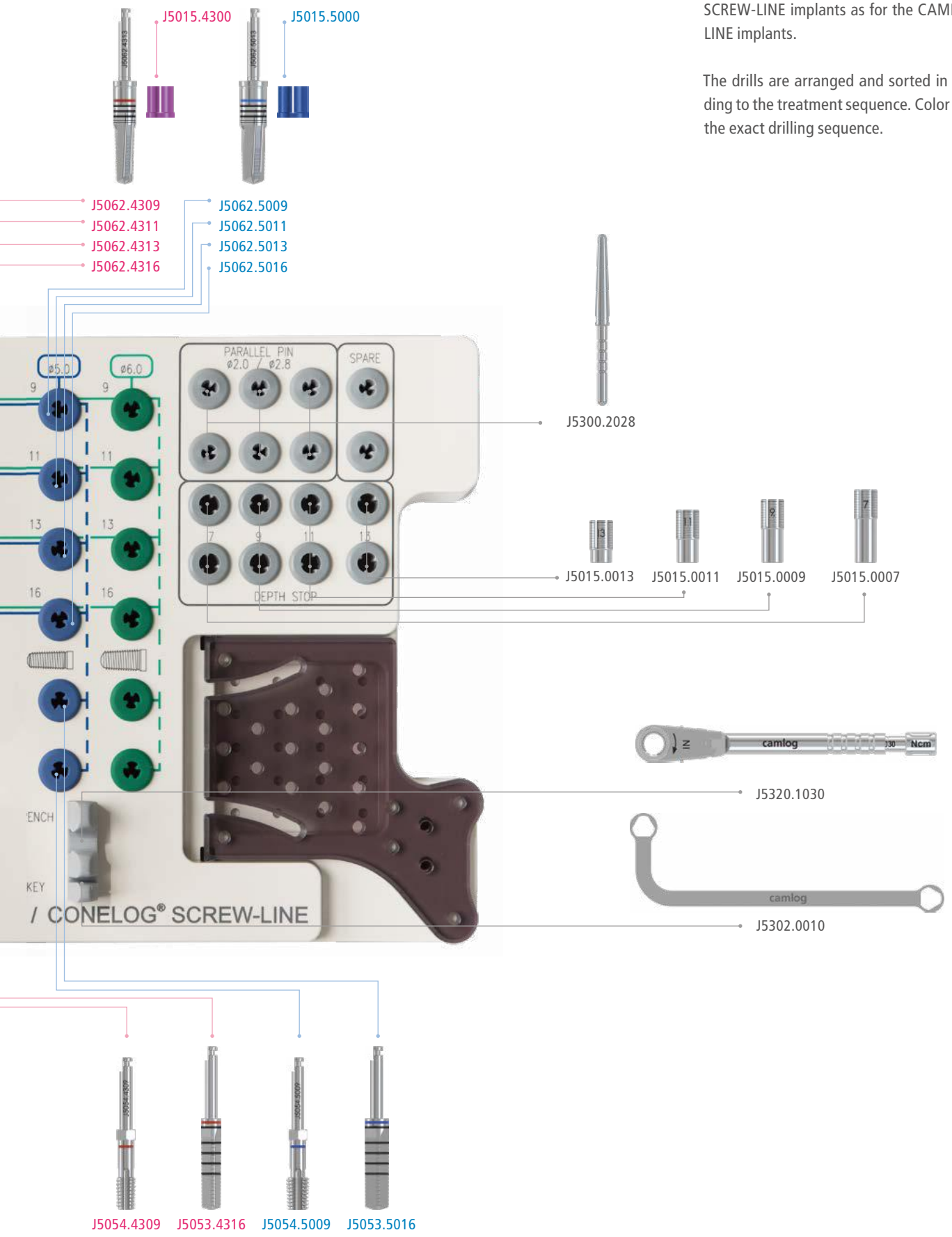


SURGERY-SET FOR **CONELOG® SCREW-LINE IMPLANTS**



The same surgery set is used for the CONELOG® SCREW-LINE implants as for the CAMLOG® SCREW-LINE implants.

The drills are arranged and sorted in the set according to the treatment sequence. Color lines indicate the exact drilling sequence.



SURGICAL PROCEDURE

DRILLING SEQUENCES FOR IMPLANT BED PREPARATION

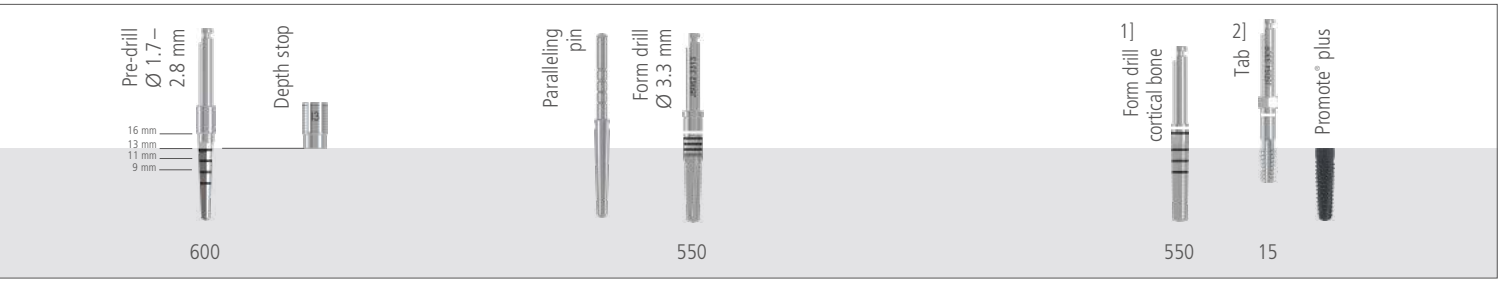
Overview of the implant bed preparation using the example of a CONELOG® SCREW-LINE implant, Promote® plus, length 13 mm.

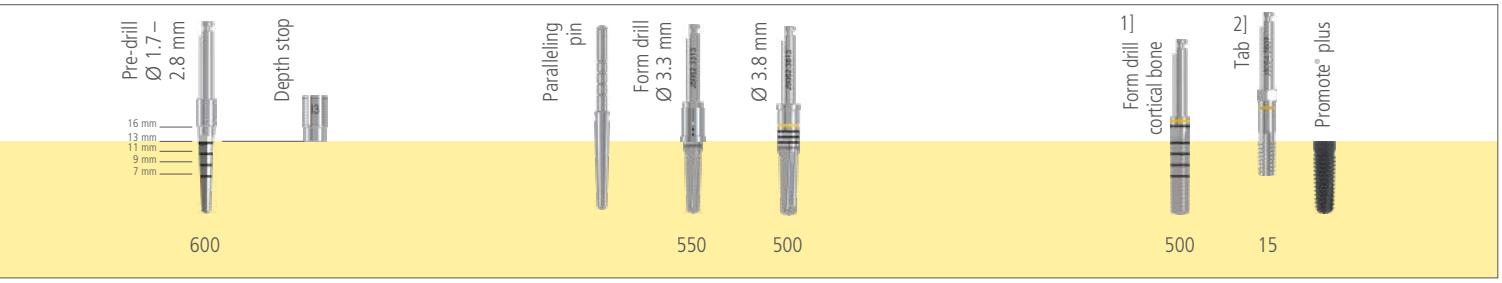
- Punch-mark the desired implant position with the Ø 2.3 mm round bur
- Deep drill along the implant axial line with the Ø 2.0 mm pilot drill
- Depth control with the Ø 1.7–2.8/2.0 mm paralleling pin with depth marks
- Pre-drill with the Ø 1.7–2.8 mm pre-drill
- Check with the Ø 1.7–2.8/2.0 mm paralleling pin with depth marks
- Shape with the form drill
- Probe the implant bed hole for its bony end
- Cortical bone drilling [1]
- Tap SCREW-LINE [2]

[1] Form drills cortical bone allow reduced-torque implant insertion in cortical bone for bone quality 1*.

[2] We recommend using the tap for bone qualities 1* and 2*.

* See [B] in section «Further information» on page 43


Pre-drill Ø 1.7 – 2.8 mm
Depth stop
16 mm
13 mm
11 mm
9 mm
600
Paralleling pin
Form drill Ø 3.3 mm
550
1] Form drill cortical bone
550
2] Tab
15
Promote® plus


Pre-drill Ø 1.7 – 2.8 mm
Depth stop
16 mm
13 mm
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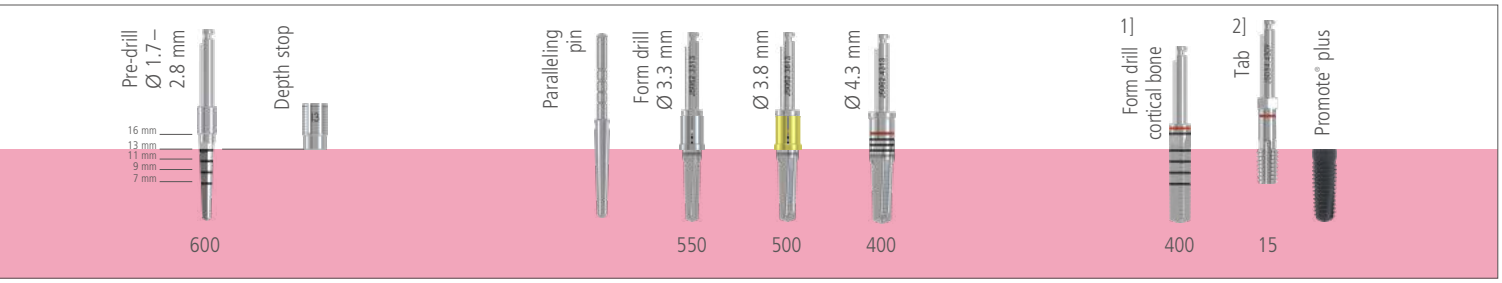
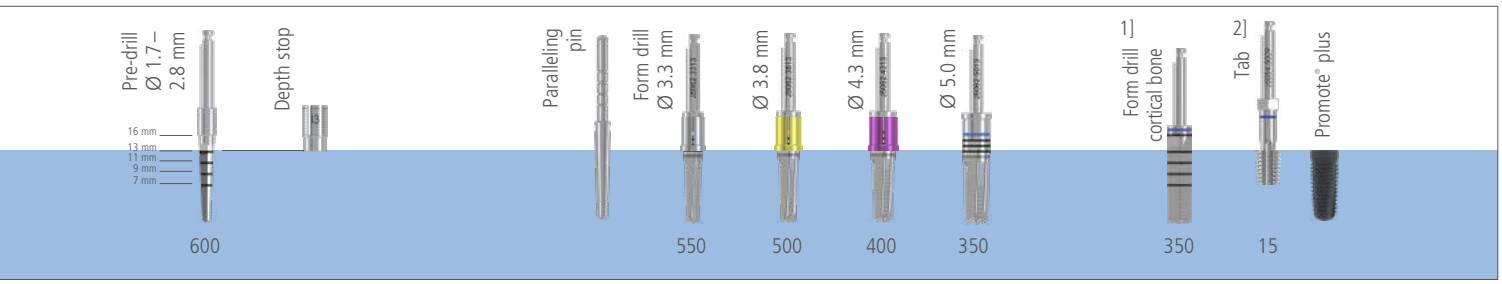
9 mm
7 mm
600
Paralleling pin
Form drill Ø 3.3 mm
550
Ø 3.8 mm
500
1] Form drill cortical bone
500
2] Tab
15
Promote® plus


Pre-drill Ø 1.7 – 2.8 mm
Depth stop
16 mm
13 mm
11 mm
9 mm
7 mm
600
Paralleling pin
Form drill Ø 3.3 mm
550
Ø 3.8 mm
500
Ø 4.3 mm
400
1] Form drill cortical bone
400
2] Tab
15
Promote® plus


Pre-drill Ø 1.7 – 2.8 mm
Depth stop
16 mm
13 mm
11 mm
9 mm
7 mm
600
Paralleling pin
Form drill Ø 3.3 mm
550
Ø 3.8 mm
500
Ø 4.3 mm
400
Ø 5.0 mm
350
1] Form drill cortical bone
350
2] Tab
15
Promote® plus

SURGICAL PROCEDURE

DRILL SPEEDS

Depending on the drill type and diameter, the maximum drill speeds (300-800 rpm) vary according to the table. (handpiece angle reduction ratio 16:1–20:1).

The maximum speed for taps is 15 rpm (contra-angle reduction 70:1-100:1). The tap adapter for the torque wrench allows manual tapping.

COOLING OF DRILLS

The cooling occur through external irrigation on the angled hand piece with sterile saline solution (pre-chilled to 5 °C/41 °F).

DRILL LIFE

Drill longevity depends on bone quality and drilling technique. The pilot drills, pre-drills, and form drills are good for 10–20 times. If excessive force has to be applied because of a dull drill, then change the drill immediately to prevent bone overheating.

Article	⌀	drilling speed (rpm) max.
Round bur	–	800
Pilot drill with/without depth stop	2.0 mm	800
Pre-drill	1.7–2.8 mm	600
Form drill with/without depth stop	3.3 mm	550
	3.8 mm	500
	4.3 mm	400
	5.0 mm	350
Form drill cortical bone	3.3 mm	550
	3.8 mm	500
	4.3 mm	400
	5.0 mm	350
Tap	3.3 mm	15
	3.8 mm	
	4.3 mm	
	5.0 mm	

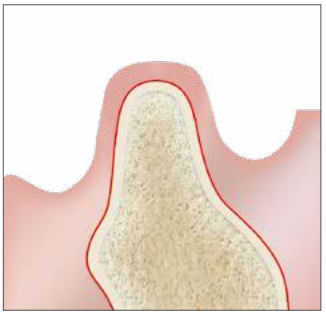
CAUTION:
The maximum apical externsion length of the drill is 0.4 mm.

INCISION LINE

The indication used as an example illustrates the insertion of a Ø 4.3 mm L 13 mm CONELOG® SCREW-LINE Implant, Promote® plus in the lateral mandible. The implantation technique is two-step transperiosteal. A split flap preparation is selected for the incision line. We recommend this procedure in cases where there is sufficient bone width and no bone augmentation has to be performed. We recommend a split flap preparation only where the thickness of the mucosa is adequate. Otherwise a full mucoperiosteal flap preparation should be performed.

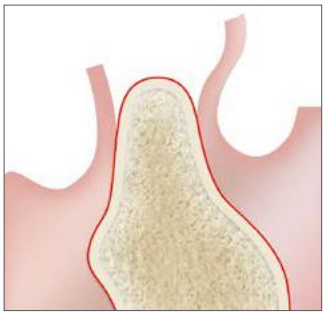
After performing a somewhat lingual, paracrestal mucosal incision, a predominantly epiperiosteal flap is created on the vestibular aspect. The muscle is divided and the preparation is continued for approximately another 5 mm. The mucosa is separated 2–3 mm lingually to simplify suturing later.

After marking the desired implant position (if necessary, with a drilling template), the periosteum is removed circularly only in the area around this site (with gingival punch or scalpel). Depending on the selected implant diameter and implant length, the implant bed is then shaped using the instruments designed for the CONELOG® SCREW-LINE implant.

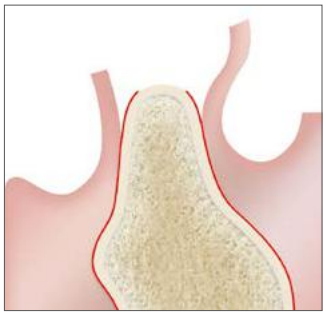


Initial situation

Mucosal incision



Epiperiosteal split-flap preparation



Removal of the periosteum at the implantation site

SURGICAL PROCEDURE

IMPLANT BED PREPARATION

GENERAL

DRILL EXTENSION

A drill extension is available to prevent resting of the angled handpiece on the remaining dentition during preparation of the implant bed adjacent to elongated teeth.

Drill extension

DEPTH STOP FOR PILOT DRILLS

The pilot drill SCREW-LINE and pre-drill have a maximum working length of 16 mm. The drilling depths of 7, 9, 11, and 13 mm are lasermarked.

Insertable depth stops limit the drilling depths to the selected depths of 7, 9, 11, or 13 mm.

Depth stop SCREW-LINE

NOTE:
The depth stops SCREW-LINE are only compatible with the SCREW-LINE pilot and pre-drill.

PARALLELING PINS SCREW-LINE
WITH DEPTH MARKINGS

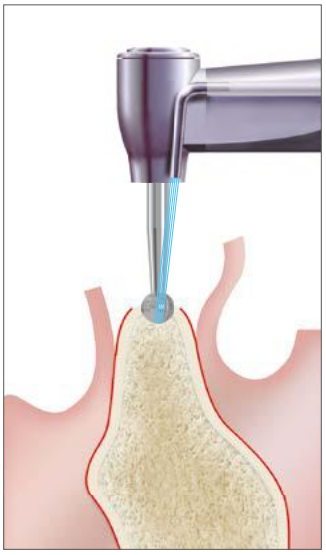
After each pilot and pre-drilling, the depth and axial directions are checked using the paralleling pins with depth markings.

The depth marks and diameter graduations on the paralleling pins allow inspection of the drilling depth and axis at each stage of pilot and pre-drilling.

PUNCH-MARKING THE CORTICAL BONE

The round bur Ø 2.3 mm is used for punch-marking the cortical bone, which simplifies the use of the drills to follow. The bur is inserted up to the bur equator.

Maximum drilling speed: 800 rpm



Punch-marking the cortical bone

SURGICAL PROCEDURE

PILOT DRILLING AND DEPTH CONTROL

The pilot drill determines the depth and axis of the implant site. The depth marks on the drill correspond to the implant lengths 7, 9, 11 and 13 mm. The maximum drilling depth is 16 mm. For safety reasons, a depth stop matching the proposed implant length should be used.

Maximum drilling speed: 800 rpm

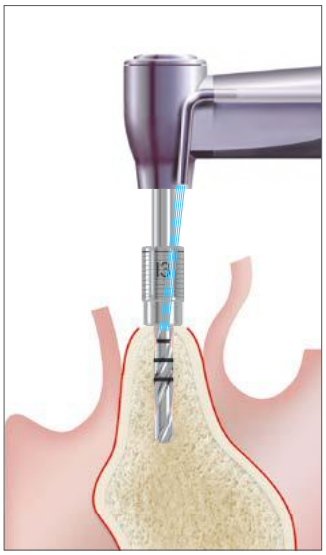
If no drilling template is used, the depth stops may be placed to the pilot drill after the markings have been drilled.

Once drilling is complete, the depth and axis of the implant bed is checked using the paralleling pins. If several implants are being placed, a paralleling pin is inserted into the first hole in order to align the other implant axes.

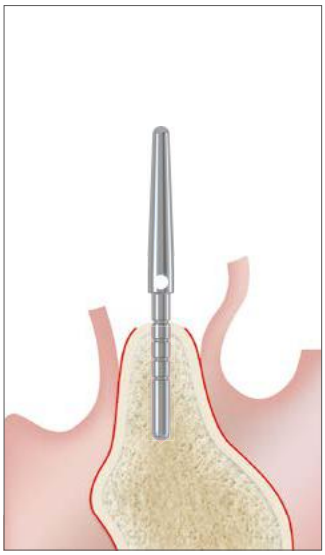
The pilot drill is aligned parallel to the paralleling pin and visually checked from two planes (sagittal and transversal).

Pilot drill SCREW-LINE
Ø 2.0 mm
max. 800 rpm

Paralleling pin SCREW-LINE



Pilot drilling



Depth control following pilot drilling

PRE-DRILLING AND CONTROL AXIS ALIGNMENT

A tapered pre-drill SCREW-LINE with a coronal diameter of 2.8 mm and apical diameter of 1.7 mm is available for the SCREW-LINE configuration.

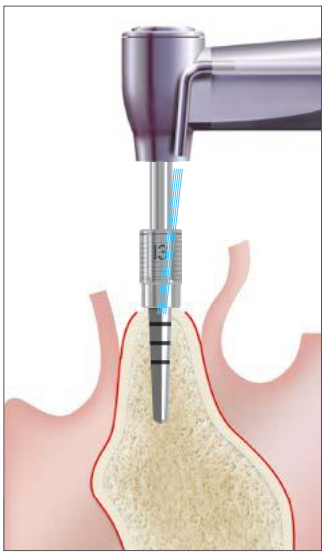
Maximum drilling speed: 600 rpm

The depth marks on the drill match the implant lengths 7, 9, 11 and 13 mm. The maximum drilling depth is 16 mm. For safety reasons, a depth stop matching the proposed implant length should be used. Further drilling is performed with the form drills.

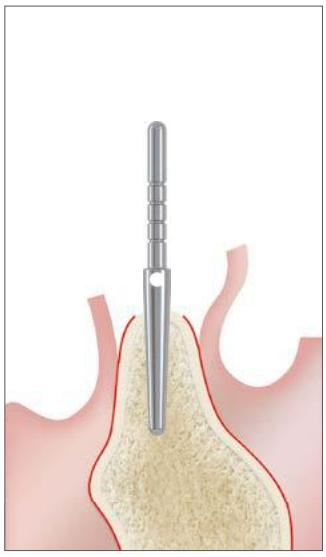
The axis alignment is controlled with the paralleling pin.

Pre-drill SCREW-LINE
Ø 1.7–2.8 mm
max. 600 rpm

Paralleling pin SCREW-LINE



Pre-drilling



Control of axis alignment

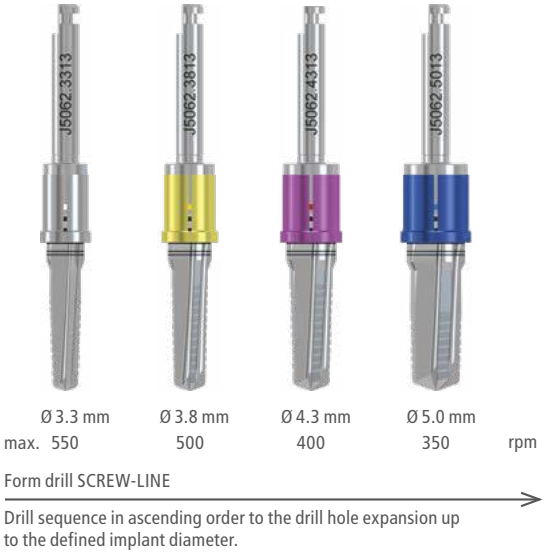
SURGICAL PROCEDURE

FORM DRILLING

Diameter- and length-specific form drills are available for each implant size. The form drills are color-coded and laser-marked.

The form drills included in the surgery sets are supplied with a color-coded, removable depth stop. This must only be used with form drills SCREW-LINE.

Depending on the specified drilling depth (implant length), the hole diameter is expanded progressively with the series of form drills until the intended implant diameter is achieved. The small graduations in diameter achieve a gentle preparation of the bone.



Drill sequence in ascending order to the drill hole expansion up to the defined implant diameter.

PERFORMING FORM DRILLING

Performing form drilling using CONELOG® SCREW-LINE as an example implant size Ø 4.3 mm, L 13 mm:

1. Form drill Ø 3.3 mm, L 13 mm **with** depth stop,
2. Form drill Ø 3.8 mm, L 13 mm **with** depth stop,
3. Form drill Ø 4.3 mm, L 13 mm **without** depth stop (final form drilling).

FINAL FORM DRILLING

In order to place the CONELOG® SCREW-LINE implant Promote® plus epicrestally*, final form drilling is performed without depth stop and to the upper edge of the first filled depth mark.

The lower edge of the first achieved depth mark corresponds to the drill length with the depth stop in place.

If final form drilling is performed with the depth stop, the implant lies 0.4 mm supracrestal.

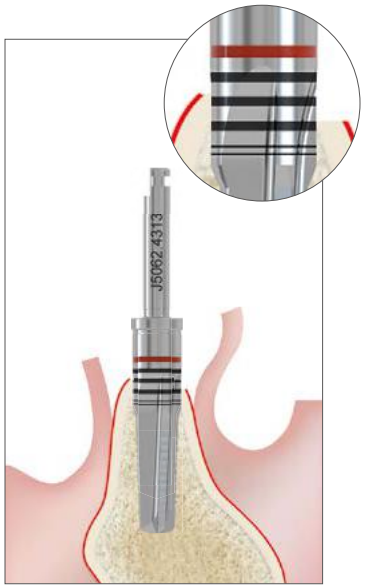
The reusable depth stops can be used with replacement form drills (delivered without depth stops).

If the circular bone level is uneven, the depth stop rests on the highest point of the crest and thereby limits the insertion depth.

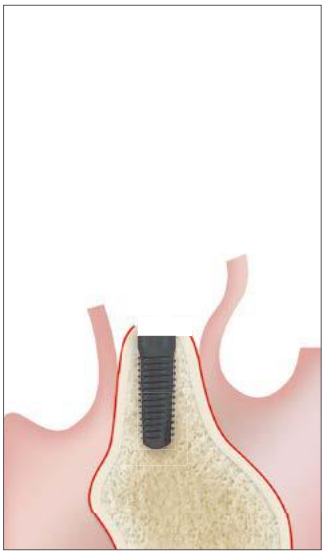
If a deeper insertion is required for esthetic or functional reasons, the depth stop can be removed and form drilling can be continued in steps of 1 mm (watch for anatomic structures!). In this case, preparation is performed using the laser marks (black). The marks** are arranged at intervals of 1.0 mm and are 0.4 mm in width.

CAUTION:
The maximum apical externsion length of the drill is 0.4 mm.

The depth stops must be removed before cleaning the drills. The cleaned depth stops must be reattached before sterilization (see «Preparation instructions for the CAMLOG®/CONELOG® Implant System», Art. No. J8000.0032). The depth stops can be reordered individually.



Form drilling without depth stop



Example: insertion depth for an irregular bone profile

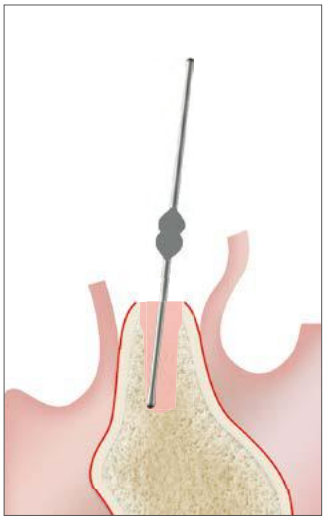
* See [A] in section «Further information» on page 43

** The two lower thin black markings are solely for the purposes of implant bed preparation for CAMLOG® SCREW-LINE Promote® Implants (insertion depth up to 1.4 mm supracrestal) and are of no relevance for the insertion depth of the CONELOG® SCREW-LINE Promote® plus implants.

SURGICAL PROCEDURE

CHECKING THE IMPLANT BED

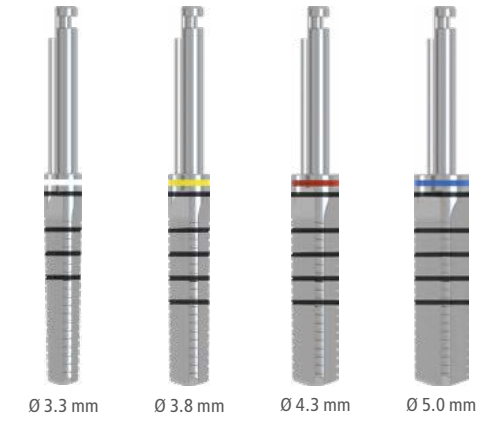
Probing the implant bed hole for fenestration is recommended. Results of probing tests for the absence of soft tissue in the implant bed hole must be documented in the patient file.



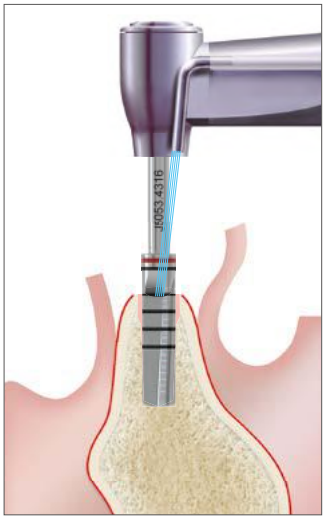
Checking the implant bed

CORTICAL BONE DRILLING

If the bone quality is class 1* the cortical bone drill enables reduced-torque implant insertion through controlled circular expansion of the implant bed. The flattened drill tip serves as the depth stop. A color-coded laser-marked cortical bone drill is available for each implant diameter.



Form drills SCREW-LINE Cortical bone



Cortical bone drilling Ø 4.3 mm for implant length 13 mm

* See [B] in section «Further documentation» on page 43

TAPPING

All CONELOG® SCREW-LINE implants come with a self-tapping thread. Use of a tap is recommended for bone quality categories 1* and 2*.

The maximum speed must not exceed 15 rpm when performing powerassisted tapping. We recommend manual tapping.

* See [B] in section «Further information» on page 43

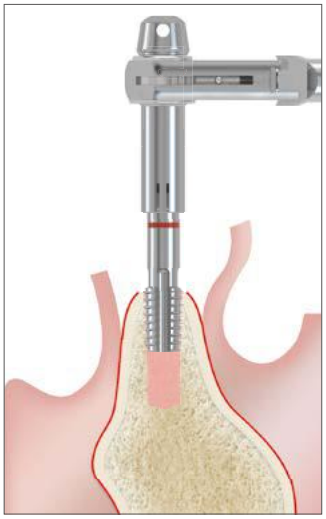
Ø 3.3 mm Ø 3.8 mm Ø 4.3 mm Ø 5.0 mm

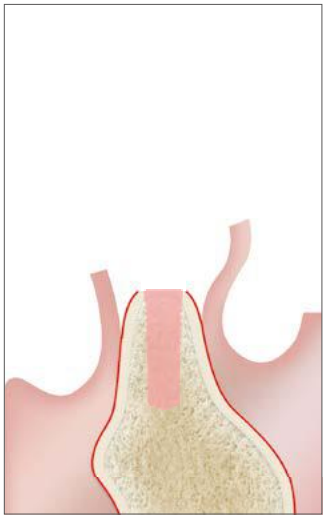
Tap SCREW-LINE, with hexagon, max. 15 rpm

Manual tapping is performed with tap adapters for the tap SCREW- LINE and the locked torque wrench. Make sure to pay attention to the axial direction of the implant bed when inserting and removing the tap. The limit for insertion of the tap is the upper edge of the cutting blade.

Locked torque wrench

Tap adapter, short and long, for tap SCREW-LINE





Tapping in the upper region of the implant bed

SURGICAL PROCEDURE

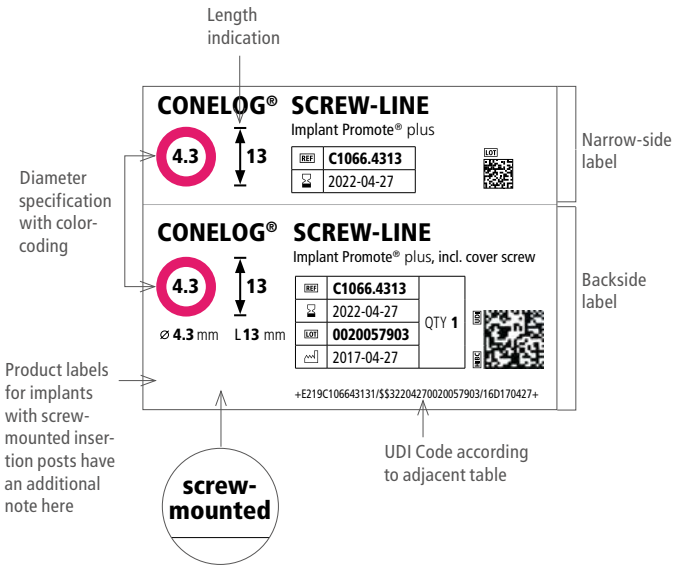
IMPLANTATION

GENERAL INFORMATION ON PACKAGING AND IMPLANT HANDLING

A) Secondary packaging (cardboard) with label:

The label on the secondary packaging contains relevant system information and is applied on three sides. This means that the label is clearly readable regardless of stacking of the packages.

Example product label on the secondary packaging for an implangt with snap-in insertion post:



UDI CODE

A B C D E F G H I J K

+E219C106443131 / $$3220427XXXXXXXXXX / 16D170427+

Sections of the primary code (UDI-DI)	Code	Explanation
A	+	Protected HIBC-ID (1 digit)
B	E219	Manufacturer's code (Altatec)
C	C10644313	Article number (max. 13 digits)
D	1	Quantity index (number of packaging units, 1 digit)
Sections of the secondary code (UDI-DI)	**Code**	**Explanation**
E	/	Separator primary/secondary
F	$$3	Identifier for expiry date
G	220427	Expiry date (6 digits) 27.04.2022
H	XXXXXXXXXX	Manufacturer's batch (10 digits)
I	/16D	Identifier for date of manufacture
J	170427	Date of manufacture (6 digits) 27.04.2017
K	+	Variable test mark

Further information on the exterior packaging:
The bottom side of the CONELOG® Implant packaging refers to the instruction manual in electronic form: https://ifu.camlog.com
In addition, it includes a QR code which links directly to the corresponding webpage.

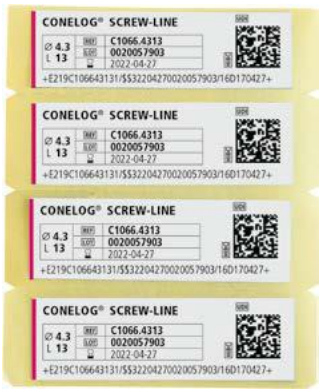
The left side view of the CONELOG® Implant packaging contains the CE label, the corresponding ISO warnings as well as the address of the legal manufacturer.

B) Transparent blister with Tyvek® foil and primary label:

The blister with the Tyvek® foil represents the primary packaging, the contents of which are sterile – implant holder with implant and cover screw. Furthermore, the blister includes four self-adhesive patient labels.

IMPORTANT NOTE:
One of the patient labels must be affixed to the patient´s personal implant passport and handed over to the patient.

The other patient labels can, for example, be used for the patient records, the letter of referral or the order for the technician. For faster orientation, the diameter information is also highlighted in color here.

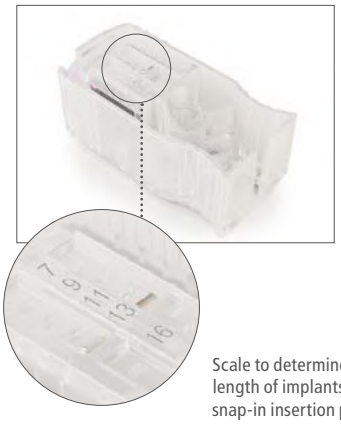


C) Implant holder with implant and cover screw:

The implant holder securely fixates the implant and the cover screw in the packaging. Both the implant and the cover screw can be released and removed via a simple click mechanism with the implant holder. In addition, the implant can also be clearly identified in the implant holder after removal from the primary packaging:

a) The implant diameter can be identified via the color-coding of the insertion post and the cover screw.

b) For implants with a snap-in insertion post, a scale on the bottom side of the implant holder allows reading the length of the implant: the position of the titanium retaining plate on the scale gives the implant length 7, 9, 11, 13 and 16 mm.



Scale to determine the length of implants with a snap-in insertion post

D) Snap-in insertion posts:

The implants are secured in the implant holder with a color-coded insertion post corresponding to the diameter. The insertion posts are **snaped** in the implant and can be pulled off easily from the implant after implantation without requiring further tools.

SURGICAL PROCEDURE

E) Screw-mounted insertion posts:

The screw mounted insertion post is firmly screwed into the implant and is specifically indicated on the label of the secondary packaging (see page 24). The screw mounted variant is necessary for guided surgery (Guide) to be able to place the implant via the template. However, it can also be used whenever a correction of the intraoperative position of the implant in all three spatial dimensions may prove necessary during insertion.

The screw mounted insertion posts are color-coded and secured with the implant in the implant holder. After implantation, the screw mounted connection of the insertion post to the implant must first be disengaged. Only then can the insertion post be removed from the implant.

F) Insertion tools:

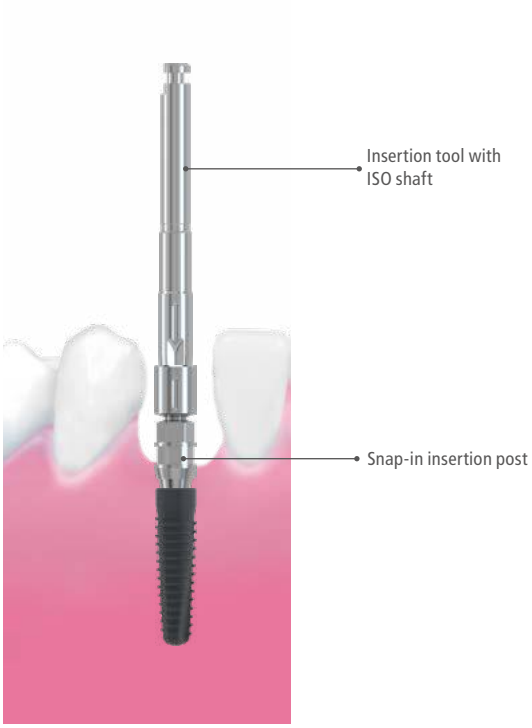
The implant can be picked up directly with the insertion tool via the mounted insertion post and removed from the implant holder. One of the five illustrated insertion tools can be used for this purpose.

Furthermore, the long insertion tools also allow the placement of implants in narrow and deep anatomical situations.

The three manual insertion tools for use with the wrench (long, short, extra short).

The two insertion tools with ISO shaft (long and short) for use with the angled hand piece.

The figure illustrates the use of a handpiece insertion tool (with ISO shaft) with snap-in insertion post for the CONELOG® Implant Ø 3.3 mm under tight interdental conditions.



NOTE:
The insertion tools and snap-in insertion posts are designed such, that they are also suitable for narrow gaps. None of these components has a diameter larger than the implant itself.

G) Insertion aid:

If a low primary stability is expected during sinus lift surgery, Camlog recommends the use of implants with screw-mounted insertion posts. These allow intraoperative position correction of the implant in all three spatial dimensions if required. If the use of an implant with a snap-in insertion post was planned, Camlog recommends mounting the insertion aid (see page 34) instead of the pre-assembled, snap-in insertion post. The insertion aid is screw-retained as compared to the snap-in insertion post, and also allows intraoperative corrections in positioning of the implant in all three spatial dimensions.

SURGICAL PROCEDURE

OPENING OF THE PACKAGING AND TRANSFER OF THE IMPLANT HOLDER TO THE STERILE ZONE

The exterior packaging is opened with the perforated packaging tab.

NOTE:
If the perforated packaging tab is partially or fully open, the packaging is deemed damaged and the implant may no longer be used.

The four self-adhesive patient labels included with the blister, are intended for documentation purposes for example:

- Implant pass
- Letter of referral
- Patient records

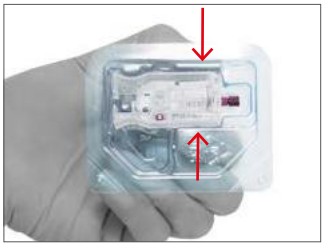
The blister with the Tyvek® foil forms the sterile barrier. As long as the blister as well as the Tyvek® foil are undamaged, sterility of the content is assured.

Opening of the blister:
At the two lower corners, the blister is fitted with tabs which allow easy separation of the Tyvek® foil from the blister. If the blister or the Tyvek® foil are damaged, the content is no longer sterile and may no longer be used.

There are two ways to transfer the implant holder to the sterile zone **(A and B)**:

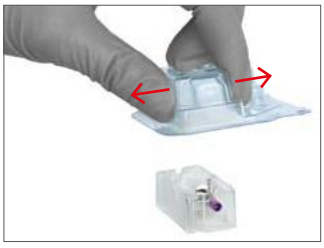
A: DISCARDING THE IMPLANT HOLDER ONTO THE STERILE SHELF

The opened blister is gently compressed between two fingers in the marked position.



The blister is designed such, that the implant holder is retained in the blister as long as finger pressure is maintained. This allows controlled placement over the sterile shelf.

By releasing finger pressure, the holder can be discarded onto the sterile shelf in a controlled manner.



B: PASSING THE IMPLANT HOLDER TO THE IMPLANTOLOGIST

The opened blister is passed to the implantologist.

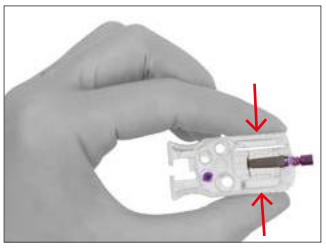
The implantologist takes the implant holder with two fingers at the intended place.

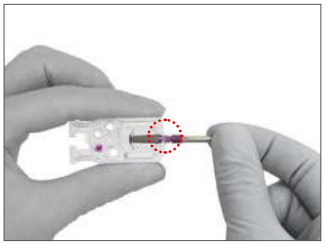
Then the implant holder can be used in the sterile zone.

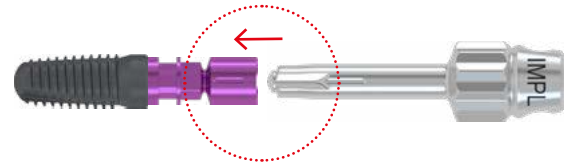
PICKING UP THE INSERTION POST WITH THE MANUAL INSERTION TOOL

The front part of the implant holder is held between two fingers and the insertion tool is mounted into the insertion post by applying pressure.

During the pick-up process, observe the correct alignment of the three groove markings on the head of the insertion post and the insertion tool.







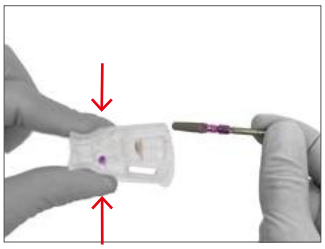
Observe the correct alignment during the pick-up process!

The three groove markings on the head of the insertion post serve easy picking up of the post with the insertion tool, which is also fitted with the corresponding three markings.

Furthermore, the three groove markings on the insertion tool and on the insertion post relate to the groove position of the implant-abutment connection.

Only after inserting the insertion tool on the insertion post, press the implant holder together at the rear section (see arrows in the illustration) to release the lock on the implant holder and thus the implant.

Lift out the insertion post **upwards in a straight line** (do not kink).

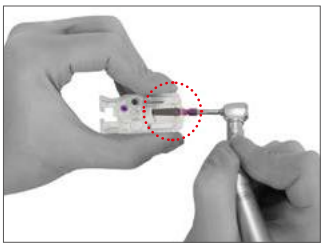


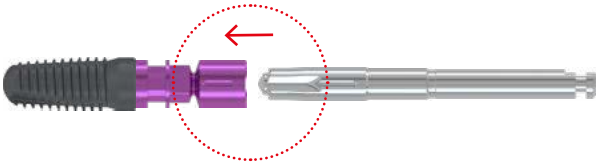
SURGICAL PROCEDURE

PICKING UP THE INSERTION POST WITH THE ANGLED HAND PIECE

Optionally, the insertion post can also be picked up directly with the ISO shaft handpiece insertion tool on an angled hand piece. The front part of the implant holder is held and then the insertion post is picked up with the handpiece insertion tool by applying pressure.

During the pick-up process, observe the correct alignment of the 3 groove markings on the head of the insertion post and the insertion tool.

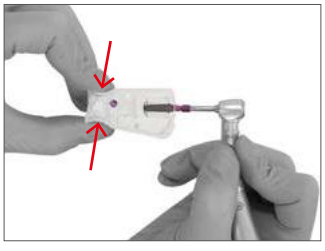




Observe the correct alignment during the pick-up process!

Only after inserting the insertion tool on the insertion post, press the implant holder together at the rear section (see arrows in the illustration) to release the lock on the implant holder and thus the implant.

Lift out the insertion post **upwards in a straight line** (do not kink).



IMPLANT INSERTION AND POSITIONING

Using the insertion tool, the implant is inserted into the implant bed and carefully screwed in clockwise either manually or with the angled hand piece (maximum speed may not exceed 15 rpm). Pay attention to the axial alignment of the implant bed.

If the thread was tapped in advance, the positions of the threaded ends in the cortical bone and on the implant must match.

It is recommended to first rotate the insertion tool with the implant carefully to the left manually, until the thread socket can be felt. Then the implant is screwed in clockwise manually with the insertion tool.

When reaching the planned insertion depth (see section on «Form drilling» on page 20), one of the three grooves should face in a vestibular direction.

If it was decided to set preparation depths for the implants individually by removing the depth stop during form drilling, this must be kept in mind when inserting the implant. It is possible to individually position implants vertically to match the drilling depth.

Insertion of implant with a manual insertion tool

Insertion of implant with a machine insertion tool

Screw insertion of implant with manual insertion tool and wrench (max. 15 rpm)

Screw insertion of implant with a machine insertion tool and angled hand piece (max. 15 rpm)

Manually screwed in implant

Machine screwed in implant

NOTE:
If low primary stability is expected in a sinus lift procedure, but this method is nonetheless still selected, then we recommend assembly of the insertion aid short in place of the snap-in insertion post (see page 34). The insertion aid is screw-retained as compared to the snap-in insertion post, and allows intraoperative corrections in positioning of the implant in all three spatial dimensions.

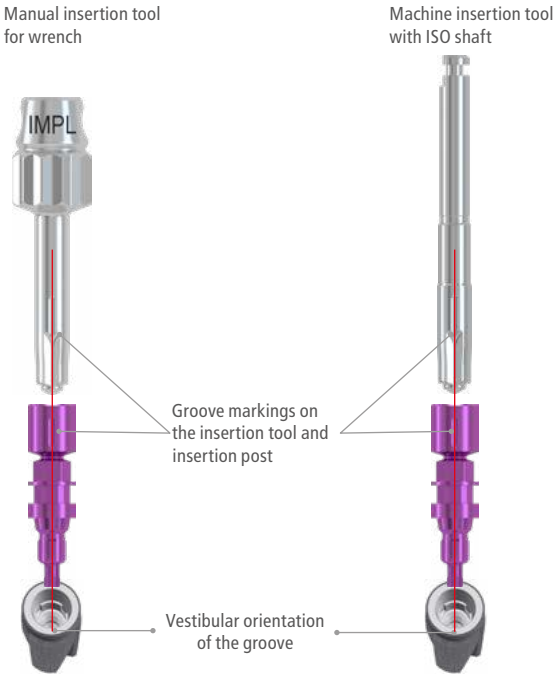
SURGICAL PROCEDURE

The following is to be observed during implantation:

Groove markings are applied to the insertion tool and the insertion post which correspond to the three grooves of the implant-abutment connection. These permit a check of the groove positions during the insertion and their orientation as required for the prosthesis.

If the dental technician has not indicated the groove position, a vestibular orientation is advantageous in most cases since the angle of angulated abutments originates at a groove.

NOTE:
Keep in mind during positioning of the grooves that turning to the next groove position (120°) will cause the screw implant to be inserted about 0.2 mm deeper.



After successful checking of the implantation depth (see section "Form drilling" on page 20) as well as the position of the grooves (see above), the insertion post can be separated from the implant in different ways depending on the insertion post used:

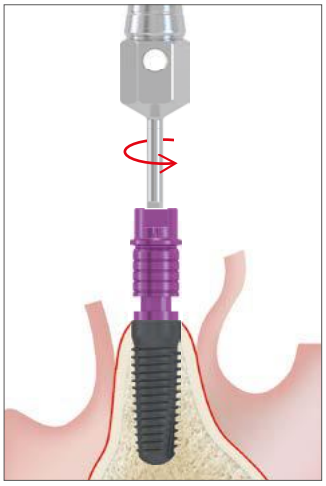
a) Snap-in insertion posts:
The snap-in insertion post can be pulled directly from the implant with the insertion tool. Sufficient primary stability of the implant should be available here. Should the insertion post inadvertently remain in the implant, it can simply be pulled out with forceps. If it is desired to leave the insertion post in the implant for the time being (e.g. in order to be able to compare the axes of several implants better), the insertion post may have to be retained in the implant by applying axial pressure using a suitable instrument in order to loosen the insertion tool from the insertion post.

If the primary stability is not sufficient, the implant can be stabilized with a suitable instrument during extraction of the insertion post.

Removal of the insertion post for manual screwing in


Removal of the insertion post for machine screwing in

b) Screw-mounted insertion posts:
After removing the insertion tool, loosen the screw inside the insertion post with the screwdriver, hex, and remove the insertion post with the forceps or by hand (danger of aspiration!). In the case of low primary stability, Camlog recommends using the universal holding key to counter the implant when loosening the screw to prevent movement of the implant.



Loosen the screw inside the screw mounted insertion post so that it can be pulled off.

SURGICAL PROCEDURE

ADDITIONAL INSTRUMENTS

INSERTION AID SHORT

The insertion aid short can be mounted as described below:

- Pick up implant with the insertion tool
- Slide the color-coded sleeve with the appropriate diameter over the endosseous part of the implant (Fig. 1)
- Compress sleeve at implant shoulder level with a hemostatic clip
- Implant with snap-in insertion post: remove insertion tool with insertion post
  Implant with screw-mounted insertion post: unscrew insertion post
- Insert the insertion aid appropriate for the diameter into the implant until the cams engage in the grooves (Fig. 2)

Fig. 1

Fig. 2

IMPORTANT NOTE:
The hemostatic clip, the CONELOG® Insertion aid and the sleeve must be sterilized prior to use.

- Fixation of the implant with the fixing screw of the insertion aid (tighten manually) (Fig. 3)

- Remove the hemostatic clip and the sleeve (Fig. 4)

Fig. 3

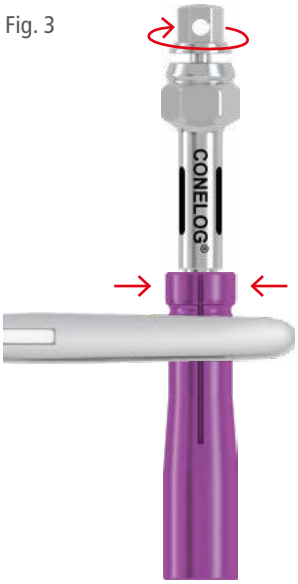


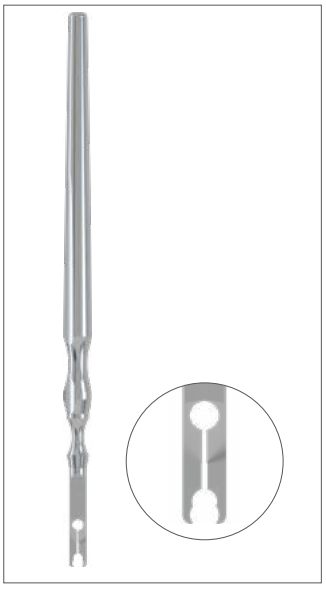
Fig. 4

Ready assembled insertion aid, short

PICKUP INSTRUMENT FOR IMPLANTS WITH SNAP-IN INSERTION POST

By default, the implant can be removed from the implant holder with the insertion tool. As an alternative to the insertion tool, the PickUp instrument can also be used to remove the implant.

To this purpose, the PickUp instrument is pushed into the notch on the snap-in insertion post above the hexagon.

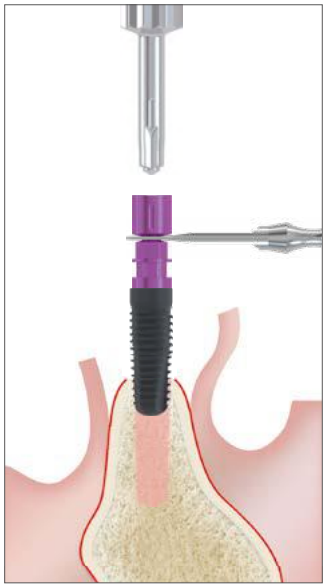


PickUp instrument

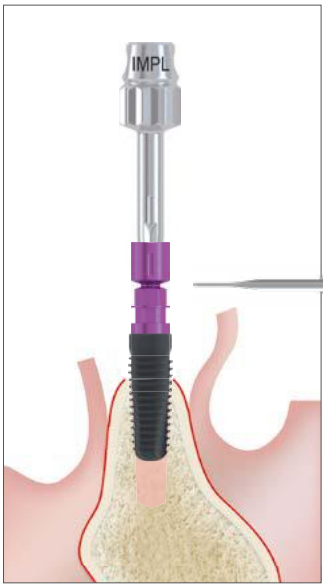
Placing the PickUp instrument on the snap-in CONELOG® Insertion post

SURGICAL PROCEDURE

For the insertion procedure, the implant is inserted into the bone and the selected insertion tool placed on the insertion post. Then the PickUp instrument is removed.



Mounting the insertion tool.



Removing the PickUp instrument and inserting the implant.

REMOVAL ADAPTER FOR IMPLANTS / PREDETERMINED BREAKING POINT OF THE SNAP-IN INSERTION POSTS

If the torque or bending moment are too high when screwing in the implant, the snap-in insertion post snaps off at the pre-defined breaking point. This protects the inner configuration of the implant. This ensures that the inner configuration of the implant is not damaged and that the fracture fragment of the post can be removed with forceps as a single piece from the implant.

If the predetermined breaking point snaps, the fractured piece must be secured with a thread prior to removal to avoid aspiration.

The following two situations may occur:

A: If snapping at the predetermined breaking point occurs at the same time as final positioning of the implant, the fragment of the snap-in insertion post is extracted as described above, and the restoration can be continued as planned. The cover screw or a healing cap is inserted into the implant, or it is already fitted with a prosthetic component.

Pre-determined breaking point of the snap-in insertion posts

CONELOG® Removal adapters for all diameters

B: If the implant is not in the final position when the pre-defined breaking point snaps, the implant must be removed as described in the following, and the reason for snapping investigated.

The removal adapter is used to unscrew the implant after the predetermined breaking point of the snap-in insertion post has snapped. To do this, remove the fragment and place the removal adapter on the broken snap-in insertion post in the implant. Insert the insertion tool into the removal adapter and unscrew the implant counter-clockwise using the initially blocked torque wrench.

NOTE:
Both fragments of the snap-in insertion post, the removal adapter as well as the implant are not attached to each other, which is why all elements must be secured against aspiration.

The CONELOG® Removal adapters should only be used for the explantation of non-osseointegrated implants.

Afterwards the implant can be unscrewed with the mounted removal adapter using the insertion tool and the initially locked torque wrench. The implant must be disposed of.

Placing the removal adapter on the broken insertion post

Unscrewing the implant with the aid of the removal adapter and mounted torque wrench

HEALING OPTIONS

HEALING PHASE AND PATIENT INFORMATION

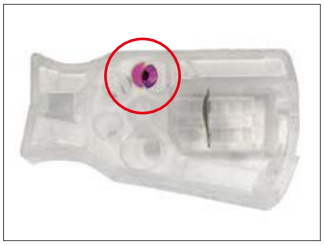
The patient is to be informed about the measures and precautions to be taken during the healing phase, an appointment for follow-up care of the wound must be ensured and the updated implant passport with the affixed patient label is to be handed over.

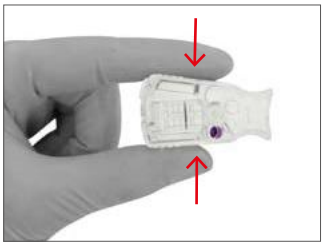
SUBMERGED HEALING

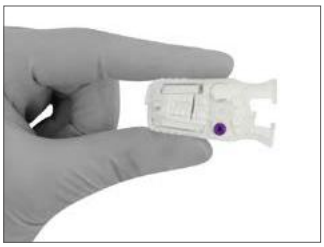
The cover screw for submerged healing is located in the middle section of the implant holder and protected against falling out (red circle) in one of the provided wells (Ø 3.3, Ø 3.8, Ø 4.3 and Ø 5.0 mm).

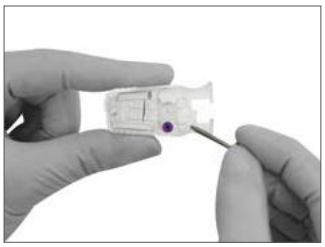
By closing (compressing) the implant holder (see illustration) the cover screw can be released. The screw is freely accessible after this procedure. This procedure is only possible if the insertion post and implant are no longer in place.

Using a screwdriver, the cover screw can be picked up directly from the implant holder by applying pressure.

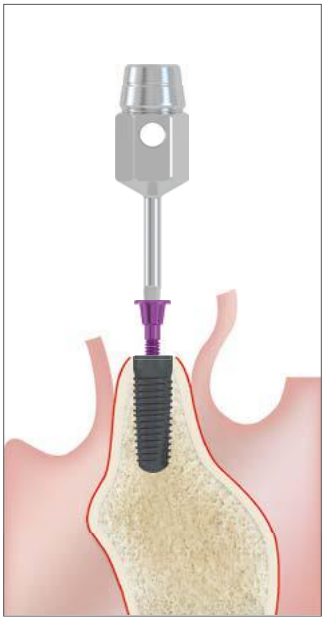




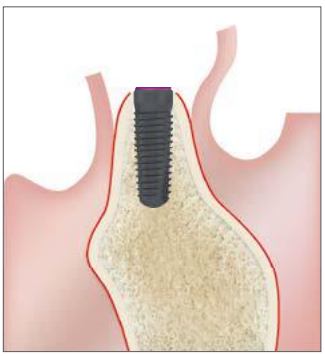




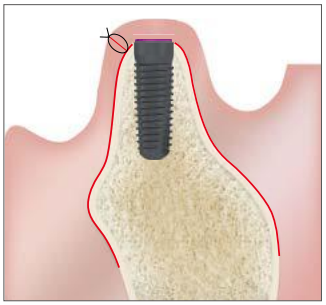
Pick up the cover screw with the screwdriver, hex, and insert it into the CONELOG® SCREW-LINE implant manually controlled (danger of aspiration!). The cover screw must only be tightened manually controlled using the hex screwdriver.



Inserting the CONELOG® Cover screw



CONELOG® SCREW-LINE implant with CONELOG® Cover screw



Wound closure

TRANSGINGIVAL HEALING

The healing cap enables transgingival healing (one-time). The healing cap must match the implant diameter and the thickness of the gingiva. Confirm complete seating of the healing cap. In particular, ensure that no tissue is pinched between the implant shoulder and healing cap. The mucosa must fit tightly against the healing cap.

When preparing a flap, the wound margins are closed tightly with the appropriate suture material. Do not tie the sutures too tightly. They must placed in such a way that the wound margins are free of tension above the cover screw or around the healing cap or a provisional restoration.

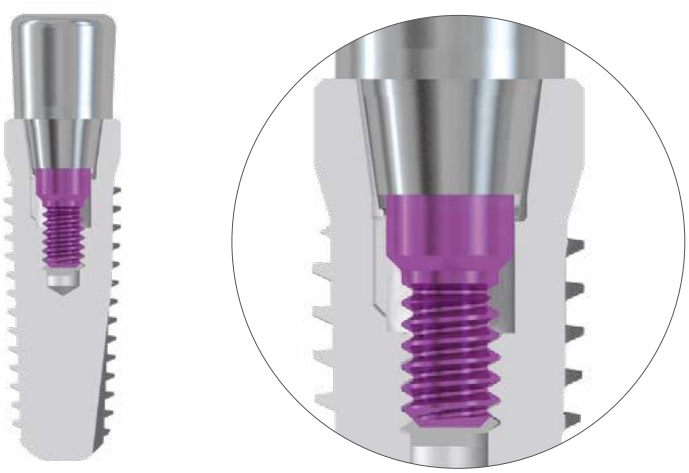
CONELOG® HEALING CAPS

Use of the CONELOG® Healing caps supports the development of the periimplant soft tissue. CONELOG® Healing caps are available in three different geometries:

- cylindric
- wide body
- bottleneck

The healing caps are color-coded to match the respective implant diameter.

CONELOG® Healing caps are screwed hand-tight into the CONELOG® SCREW-LINE implant with a screwdriver, hex, whereby the conical surfaces do not come into contact. The healing cap sits on the machined implant shoulder, but does not cover it completely. As a result, the soft tissue over the shoulder can be adapted.



Connection CONELOG® SCREW-LINE implant – CONELOG® Healing cap

HEALING OPTIONS

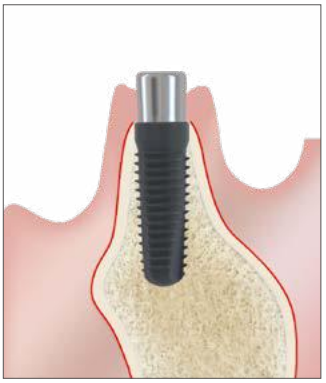
	Article	Art. No.	Ø	GH	GØ
	**CONELOG® Healing cap, cylindrical** sterile **Material** Titanium alloy	C2015.3320	3.3 mm	2.0 mm	3.0 mm
		C2015.3340		4.0 mm	3.0 mm
		C2015.3820	3.8 mm	2.0 mm	3.5 mm
		C2015.3840		4.0 mm	3.5 mm
		C2015.3860*		6.0 mm	3.5 mm
		C2015.4320	4.3 mm	2.0 mm	3.8 mm
		C2015.4340		4.0 mm	3.8 mm
		C2015.4360*		6.0 mm	3.8 mm
		C2015.5020	5.0 mm	2.0 mm	4.5 mm
		C2015.5040		4.0 mm	4.5 mm
		C2015.5060*		6.0 mm	4.5 mm
	**CONELOG® Healing cap, wide body** sterile **Material** Titanium alloy	C2014.3340	3.3 mm	4.0 mm	4.8 mm
		C2014.3840	3.8 mm	4.0 mm	5.3 mm
		C2014.3860		6.0 mm	5.3 mm
		C2014.4340	4.3 mm	4.0 mm	5.8 mm
		C2014.4360		6.0 mm	5.8 mm
		C2014.5040	5.0 mm	4.0 mm	6.5 mm
		C2014.5060		6.0 mm	6.5 mm
	**CONELOG® Healing cap, bottleneck** sterile **Material** Titanium alloy	C2011.3340	3.3 mm	4.0 mm	3.3 mm
		C2011.3840	3.8 mm	4.0 mm	3.8 mm
		C2011.3860		6.0 mm	3.8 mm
		C2011.4340	4.3 mm	4.0 mm	4.0 mm
		C2011.4360		6.0 mm	4.0 mm
		C2011.5040	5.0 mm	4.0 mm	4.7 mm
		C2011.5060		6.0 mm	4.7 mm

GH: Gingival height
GØ: Gingival diameter

* Suitable for bite registration

CONELOG® HEALING CAPS, CYLINDRICAL, AND WIDE BODY

The cylindrical and wide body CONELOG® Healing caps are for standard use. After removal of the CONELOG® Cover screw, diameter-matching CONELOG® Healing caps are screwed in manually with a screwdriver, hex. A gingival height ensuring that the healing cap sits 1–1.5 mm supragingivally should be selected. The CONELOG® Impression is taken once the periimplant soft tissue has been stabilized.



CONELOG® Healing cap, cylindrical

CONELOG® Healing cap, wide body

CONELOG® HEALING CAP BOTTLENECK

In esthetically challenging areas, the treatment outcome can be optimized by using CONELOG® Healing caps, bottleneck. The coronally tapered crosscut enables soft-tissue generation during healing.

After 3–4 weeks (and before the final organization of the elastic fibers) a CONELOG® Healing cap cylindrical is screwed in. No tissue should be excised.

The tissue is coronally suppressed and thereby forms a papilla-like structure. The impression is taken once the peri-implant soft tissue has stabilized.

Healing stage

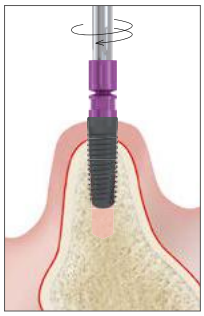
Soft-tissue generation

Coronal suppression of the soft tissue by substitution with a CONELOG® Healing-cap cylindrical

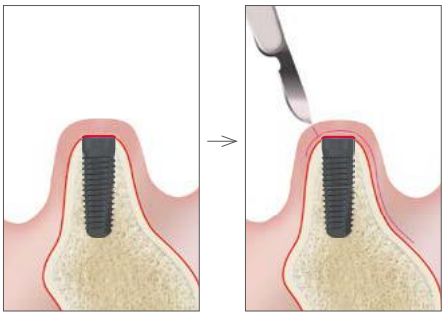
HEALING OPTIONS

TISSUE GENERATION/TISSUE SUPPROT

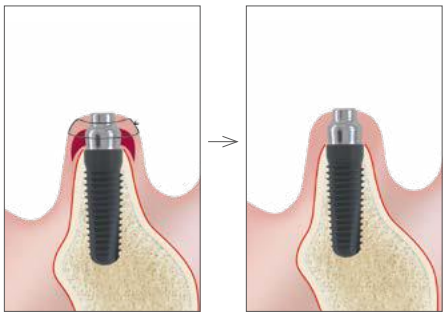
One-step use
(transgingival)



Two-step-use
(submerged)

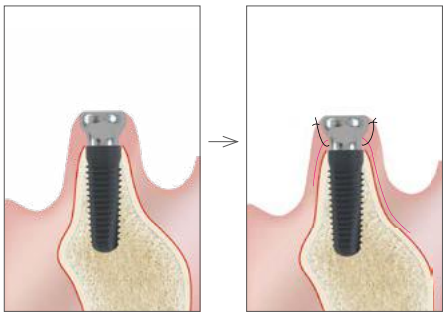


Bottleneck
tissue generation – step 1

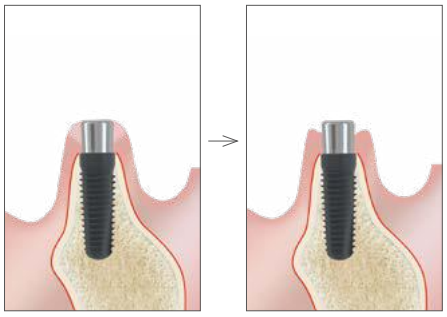


optional

Wide body
tissue support

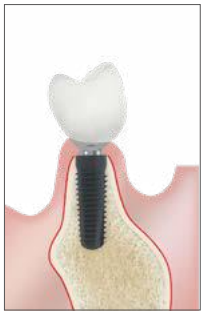


Cylindrical
tissue generation – step 2



Temporary restoration with
CONELOG® Temporary abutment

Final restoration –
abutment
with superstructure



FURTHER INFORMATION

Further information on the CONELOG® Products can be found in the following documents:

- CONELOG® Product catalog
- CONELOG® Working instructions
- CONELOG® Instruction manuals
- Preparation instructions
- Camlog Literature overview
- Camlog and science

[A] Schwarz F, Alcoforado G, Nelson K, Schaer A, Taylor T, Beuer F, Strietzel FP. Impact of implant–abutment connection, positioning of the machined collar/microgap, and platform switching on crestal bone level changes. CAMLOG Foundation Consensus Report. Clin.Oral Impl. Res. 2014; 25(11): 1301-1303.

[B] Bone quality as documented in Lekholm U, Zarb GA. Patient selection and preparation. In: Branemark PI, Zarb GA, Albrektsson T, editors. Tissue-integrated prostheses-Osseointegration in Clinical Dentistry. Chicago: Quintessence Publishing Co. 1985; p.199–209.

The documents, with the exception of [A] and [B] are available from the local Camlog representative.

See also:

https://ifu.camlog.com
www.camlog.com

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biohorizons camlog