CONELOG®
PROGRESSIVE-LINE

CONELOG® PROGRESSIVE-LINE Flex

CONELOG® PROGRESSIVE-LINE Implants Catalog
Planning of the CONELOG® Implant position
Surgical procedures
Healing options

Valid from May 2020

biohorizons camlog

Table of contents

General information

This surgical manual serves as a reference for using the CONELOG® PROGRESSIVE-LINE implants and surgical instruments according to the Flex protocol. It is intended solely to provide instructions on the use of Camlog products. It is not intended to describe the methods or procedures for diagnosis, treatment planning, or placement of implants, nor does it replace clinical training or a clinician's best judgment regarding the needs of each patient.
Camlog strongly recommends appropriate training as a prerequisite for the placement of implants and associated treatment.

The procedures illustrated and described within this manual reflect idealized patient presentations with adequate bone and soft tissue to accommodate implant placement. No attempt has been made to cover the wide range of actual patient conditions that may adversely affect surgical and prosthetic outcomes. Clinician judgment as related to any specific case must always supersede any recommendations made in this or any Camlog literature.
Before starting any implant surgical procedure with CONELOG® PROGRESSIVE-LINE implants:

- Read and understand the Instructions for Use that accompany the products.
- Clean and sterilize the surgical tray and instruments per the Instructions for Use.
- Become thoroughly familiar with all instruments and their use.
- Study the surgical kit layout and iconography.
- Design a surgical treatment.

CONELOG®
PROGRESSIVE-LINE

CONELOG® PROGRESSIVE-LINE conical performance [1,2] at bone level

Precise conical connection

- Long conus for reduced micromovements
- Superior positional stability in comparison to other conical systems [1,2]
- Easy positioning with excellent tactile feedback
- Integrated platform switching supporting the preservation of crestal bone
- "Vertical fit feature" minimizing vertical discrepancies during work flow

Flexible solutions
Full range of prosthetic components serving all prosthetic indications and treatment concepts

Digital workflow
from planning to guided surgery and prosthetic restoration

Machined implant shoulder surface

Integrated platform switching supporting the preservation of crestal bone

A coronal anchoring thread provides additional hold, even with limited bone height

Promote® surface
for predictable longterm success outstanding clinical longterm results and comprehensive scientific documentation

Diameter-reduced implants (Ø 3.3 mm) and a short implant length (L 7 mm) extend the range of indications

[1] Semper-Hogg, W, Kraft, S, Stiller, S et al. Analytical and experimental position stability of the abutment in different dental implant systems with a conical implant–abutment connection Clin Oral Investig (2013) 17: 1017
[2] Semper Hogg W, Zulauf K, Mehrhof J, Nelson K. The influence of torque tightening on the position stability of the abutment in conical implant-abutment connections. Int J Prosthodont 2015;28:538-41

CONELOG® PROGRESSIVE-LINE Flex

Product information & ordering

The CONELOG® PROGRESSIVE-LINE Implant System is based on many years of experience with the SCREW-LINE implant design as well as comprehensive laboratory tests.

The CONELOG® PROGRESSIVE-LINE Implant System 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 CONELOG® and CAMLOG® 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, and the connection design. The long-term results of the Promote® Surface are convincing.

General

CONELOG® PROGRESSIVE-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® PROGRESSIVE LINE implants with the appropriate CONELOG® Components. CONELOG® PROGRESSIVE-LINE implants were developed to facilitate the implementation of modern treatment concepts such as immediate restoration or loading, which require high primary stability.

The CONELOG® PROGRESSIVE-LINE implants are 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.

Scope of application

A deeper coronal implant shoulder is especially beneficial in treating esthetically challenging areas.

The CONELOG® PROGRESSIVE-LINE Implant Promote® plus, which can be placed both epicrestally as well as subcrestally, is suited for this situation.**

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 chapter "Further Documentation" on page 41

** See [A] in chapter "Further Documentation" on page 41

CONELOG® PROGRESSIVE-LINE implants

Snap-in and screw-mounted insertion post

	Article	Art. No.	Ø	L	A Ø
with screw-mounted insertion post 	**CONELOG® PROGRESSIVE-LINE Implant, Promote® plus** incl. screw-mounted insertion post and cover screw, sterile **Material** Titanium Grade 4	C1085.3309	3.3 mm	9 mm	2.2 mm
		C1085.3311		11 mm	
		C1085.3313		13 mm	
		C1085.3316		16 mm	
		C1085.3807	3.8 mm	7 mm	3.0 mm
		C1085.3809		9 mm	
		C1085.3811		11 mm	2.7 mm
		C1085.3813		13 mm	
		C1085.3816		16 mm	
		C1085.4307	4.3 mm	7 mm	3.0 mm
		C1085.4309		9 mm	
		C1085.4311		11 mm	2.7 mm
		C1085.4313		13 mm	
		C1085.4316		16 mm	
		C1085.5007	5.0 mm	7 mm	3.5 mm
		C1085.5009		9 mm	
		C1085.5011		11 mm	3.2 mm
		C1085.5013		13 mm	
		C1085.5016		16 mm	

	Article	Art. No.	Ø	L	A Ø
with snap-in insertion post 	**CONELOG® PROGRESSIVE-LINE Implant, Promote® plus** incl. snap-in insertion post and cover screw, sterile **Material** Titanium Grade 4	C1086.3309	3.3 mm	9 mm	2.2 mm
		C1086.3311		11 mm	
		C1086.3313		13 mm	
		C1086.3316		16 mm	
		C1086.3807	3.8 mm	7 mm	3.0 mm
		C1086.3809		9 mm	
		C1086.3811		11 mm	2.7 mm
		C1086.3813		13 mm	
		C1086.3816		16 mm	
		C1086.4307	4.3 mm	7 mm	3.0 mm
		C1086.4309		9 mm	
		C1086.4311		11 mm	2.7 mm
		C1086.4313		13 mm	
		C1086.4316		16 mm	
		C1086.5007	5.0 mm	7 mm	3.5 mm
		C1086.5009		9 mm	
		C1086.5011		11 mm	3.2 mm
		C1086.5013		13 mm	
		C1086.5016		16 mm	

Flex surgery set

CAMLOG®/CONELOG® PROGRESSIVE-LINE

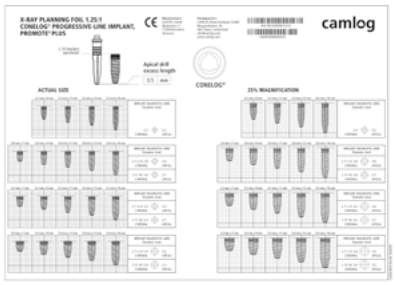
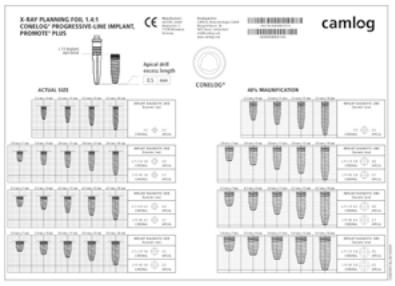
	Article	Art. No.
	**Surgery set CAMLOG®/CONELOG® PROGRESSIVE-LINE Flex** contains all necessary surgical instruments sorted by color code, incl. torque wrench and holding key for insertion post	J5300.0071
	**Surgery tray CAMLOG®/CONELOG® PROGRESSIVE-LINE Flex** without content	J5300.8920

features:

- Small tray with all instruments to perform surgery according to Flex protocol
- The drilling sequence is supported visually by colored lines marked on the tray
- Validated for automated cleaning, disinfection and sterilization
- Empty spare slots for other instrumentation such as taps

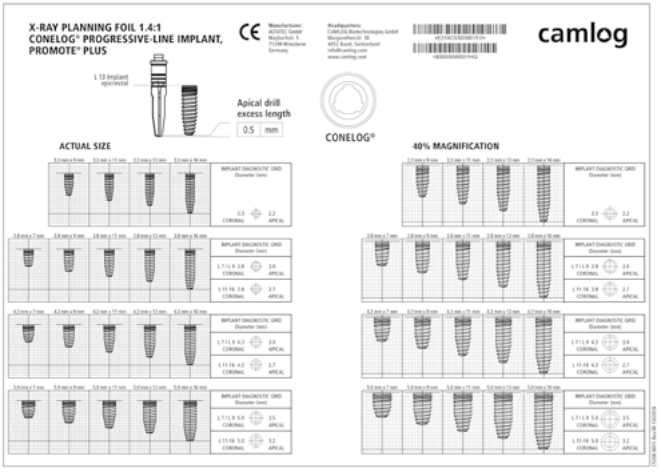
Planning foils

in 1.25:1 and 1.4:1 scales

	Article	Art. No.	Ø
	**X-Ray Planning foil 1.25:1 CONELOG® PROGRESSIVE-LINE implants** Magnification 25%	C5300.9014	-
	**X-Ray Planning foil 1.4:1 CONELOG® PROGRESSIVE-LINE implants** Magnification 40%	C5300.9015	-

Orthopantomogram

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.



CAUTION
The maximum apical overlength of the drills is 0.5 mm.

Surgical instruments

Implant bed preparation

	Article	Art. No.	Ø	L
	**Round bur** resterilizable **Material** Stainless steel	J5050.2300	2.3 mm	-
	**Guide System Gingiva punch** **Material** Stainless steel	J5041.3304	3.3 mm	-
		J5041.3804	3.8 mm	
		J5041.4304	4.3 mm	
		J5041.5004	5.0 mm	
	**Pilot drill SCREW-LINE** resterilizable **Material** Stainless steel	J5051.2000	2.0 mm	-
	**Drill** **PROGRESSIVE-LINE Flex** resterilizable **Material** Stainless steel	J5079.3300	3.3 mm	-
		J5079.3800	3.8 mm	
		J5079.4300	4.3 mm	
		J5079.5000	5.0 mm	

Drills

Surgical instruments

The drills PROGRESSIVE-LINE Flex feature highly efficient cutting flutes.
Simplified laser markings correspond to the five PROGRESSIVE-LINE implant lengths.
Drill longevity depends on bone quality and the drilling technique.
Pilot drill and Flex drills are good for 10-20 drilling cycles.

Flex drills are used sequentially to widen the osteotomy to the intended diameter.

Profile drills widen the cortical area of the bone

Dense bone drills are required to reduce the torque in bone qualities 1* and 2*. The use of the dense bone drill is considerably easier compared to a tap, as the dense bone drill can be used at higher speeds and without changing the direction of rotation. Furthermore the 4 cutting edges of the dense bone drill allow the collection of bone chips

Drill PROGRESSIVE-LINE features:

- High cutting performance
- Bone chip collector function for accompanying augmentations (Flex drill)
- Non-reflective surface for high visibility
- Simplified drill markings match each implant length
- Compatible with CONELOG® and CAMLOG® PROGRESSIVE-LINE Flex
- Creates 10-20 osteotomies depending on bone density and drilling technique

NOTE
The PROGRESSIVE-LINE Flex drills are not identical to the form drills of PROGRESSIVE-LINE (standard)!
The PROGRESSIVE-LINE Flex drills cannot be used with depth stops.

* See [B] in chapter "Further Documentation" on page 41

Surgical instruments

Implant bed preparation (continuation)

	Article		Art. No.	Ø	L
	**Profile drill** **PROGRESSIVE-LINE Flex** resterilizable **Material** Stainless steel		J5080.3300	3.3 mm	-
			J5080.3800	3.8 mm	
			J5080.4300	4.3 mm	
			J5080.5000	5.0 mm	
	**Dense bone drill** **PROGRESSIVE-LINE** resterilizable **Material** Stainless steel		J5072.3300	3.3 mm	-
			J5072.3800	3.8 mm	
			J5072.4300	4.3 mm	
			J5072.5000	5.0 mm	
	**Tap** **PROGRESSIVE-LINE** resterilizable **Material** Stainless steel		J5071.3300	3.3 mm	-
			J5071.3800	3.8 mm	
			J5071.4300	4.3 mm	
			J5071.5000	5.0 mm	
	**Bone profiler Ø 5.0 mm**	**Material** Stainless steel	J5003.3350	3.3 mm	-
	Bone profiler Ø 6.0 mm		J5003.4360	3.8 mm / 4.3 mm	-
	Bone profiler Ø 7.0 mm		J5003.5070	5.0 mm	-
	**CONELOG® Guiding pin** **for bone profiler** **Material** Titanium alloy		C5002.3300	3.3 mm	-
			C5002.3800	3.8 mm	
			C5002.4300	4.3 mm	
			C5002.5000	5.0 mm	
	**Removal adapter for** **CAMLOG® and CONELOG®** suitable for all implant diameters **Material** Stainless steel		J5300.0022	3.3 mm	6.2 mm
				3.8 mm	
				4.3 mm	
				5.0 mm	

Surgical instruments

Miscellaneous

	Article	Art. No.	Dimension
	**Paralleling pin PROGRESSIVE-LINE** with depth marks (for pilot drilling Ø 2.0 mm) **Material** Titanium alloy	J5300.2000	-
	**Driver, extra short** for screw implants, manual/wrench **Material** Stainless steel	J5300.0031	13.7 mm
	**Driver, short** for screw implants, manual/wrench **Material** Stainless steel	J5300.0032	19.2 mm
	**Driver, long** for screw implants, manual/wrench **Material** Stainless steel	J5300.0033	24.8 mm
	**Driver, short** for screw implants, with ISO-shaft for angled hand piece (without hexagon at the shaft) **Material** Stainless steel	J5300.0036	19.1 mm
	**Driver, long** for screw implants, with ISO-shaft for angled hand piece (without hexagon at the shaft) **Material** Stainless steel	J5300.0037	28.2 mm

Surgical instruments

Miscellaneous (continuation)

	Article	Art. No.	Ø	Dimension
	**PickUp instrument** holder for carrying implants **Material** Stainless steel	J5300.0030*	-	-
	**Adapter** ISO shaft for angled hand piece **Material** Stainless steel	J5002.0011	-	21.0 mm
	**Drill extension** ISO shaft (not for instruments with internal irrigation) **Material** Stainless steel	J5002.0006	-	26.5 mm
	**CONELOG® Adapter for screw implants, short** for CONELOG® Implants **Material** Stainless steel	C5302.3311	3.3 mm	28.1 mm
		C5302.4311	3.8 mm	
			4.3 mm	
		C5302.5011	5.0 mm	
	**CONELOG® Adapter for screw implants, long** for CONELOG® Implants **Material** Stainless steel	C5302.3310	3.3 mm	33.1 mm
		C5302.4310	3.8 mm	
			4.3 mm	
	**Holding sleeve for screw implants** color-coded **Material** Titanium alloy	J5302.3300	3.3 mm	-
		J5302.3800	3.8 mm	
		J5302.4300	4.3 mm	
		J5302.5000	5.0 mm	

* Only for use with CONELOG® PROGRESSIVE-LINE implants with snap-in insertion post, Art.-No. C1086.xxxx

Surgical instruments

Miscellaneous (continuation)

	Article	Art. No.	Dimension
	**Screwdriver** hex, short, ISO shaft **Material** Stainless steel	J5317.0504	18.0 mm
	**Screwdriver** hex, long, ISO shaft **Material** Stainless steel	J5317.0503	26.0 mm
	**Torque wrench** with continuous torque adjustment until maximal 30 Ncm **Material** Stainless steel	J5320.1030	-
	**Holding key for insertion post** **Material** Stainless steel	J5302.0010	-

Implant cover screw

Two-stage protocol

	Article	Art. No.	Ø
	**CONELOG® Implant cover screw** **Material** Titanium alloy	C2019.3300	3.3 mm
		C2019.3800	3.8 mm
		C2019.4300	4.3 mm
		C2019.5000	5.0 mm

Healing caps

One-stage protocol

	Article	Art. No.	Ø	GH	G Ø
	**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

* Suitable for bite registration

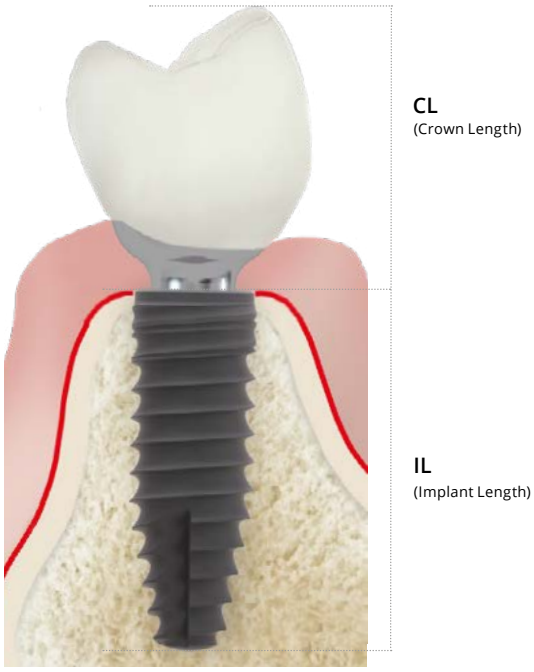
Implant position planning

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

Leverage ratio on implant

The loading of the implant-bone interface 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). If leverage ratios on the implant are unfavorable, a longer implant must be selected.

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

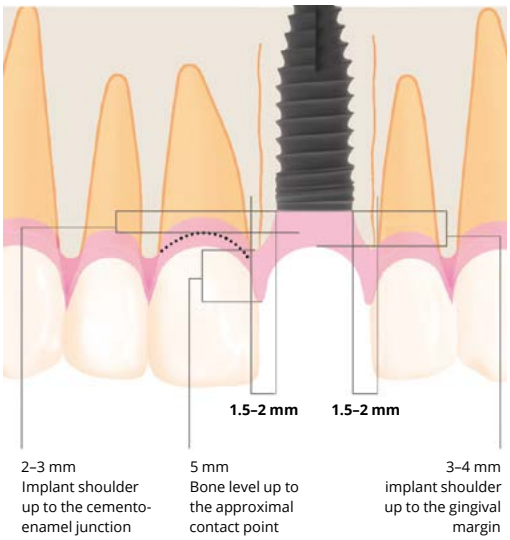
Vertical implant position

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.

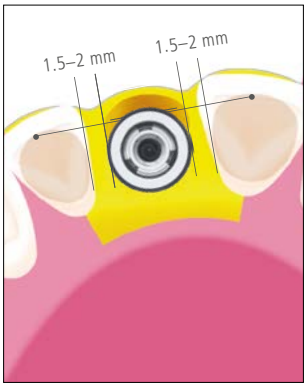
The implant length must be sized to leave adequate bone (at least 1 mm) around the implant.

Vertical implant position

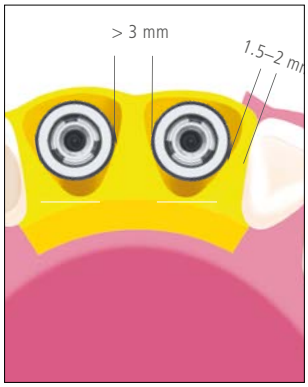


Horizontal implant position
Maintain a minimum distance of 1.5 mm to an adjacent natural tooth and 3 mm to an adjacent implant.

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



Mesiodistal 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.

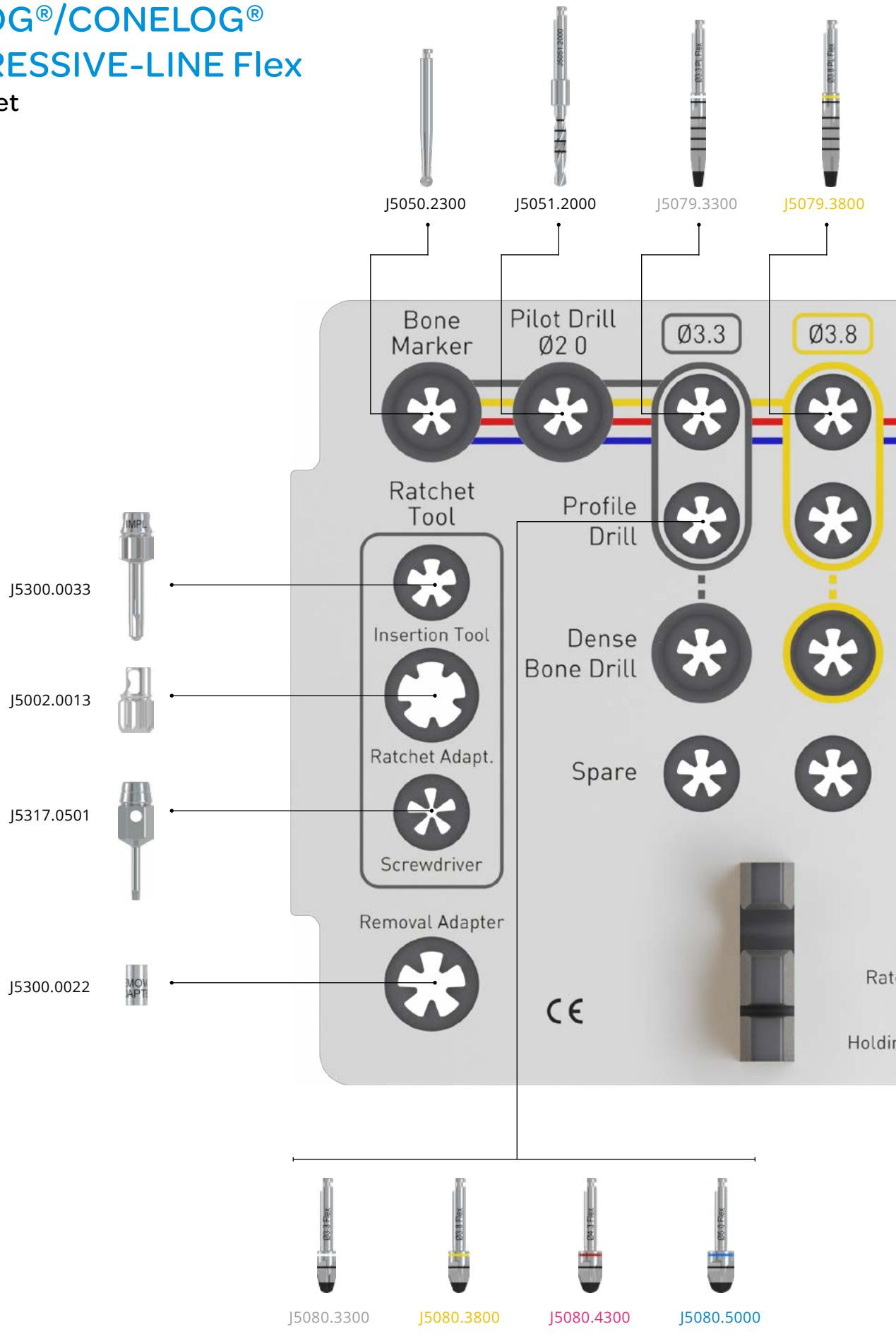
When planning a removable denture, the implants should be placed in a way that, if necessary, extending to a fixed restoration is possible.


Single-crown restoration

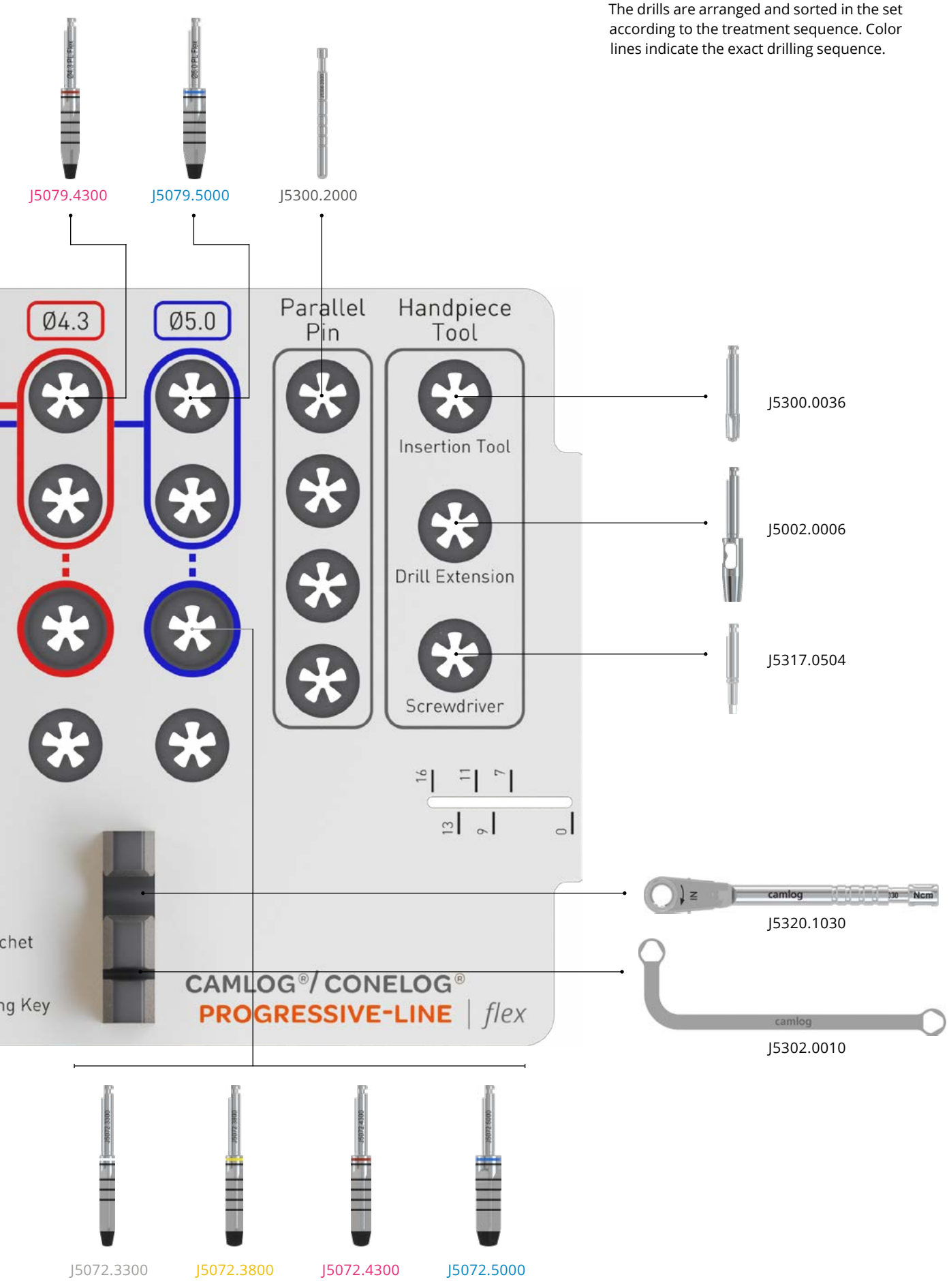

Cement-retained bridge

CAMLOG®/CONELOG® PROGRESSIVE-LINE Flex

Surgery Set



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



Standard drilling sequence

Implant bed preparation

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

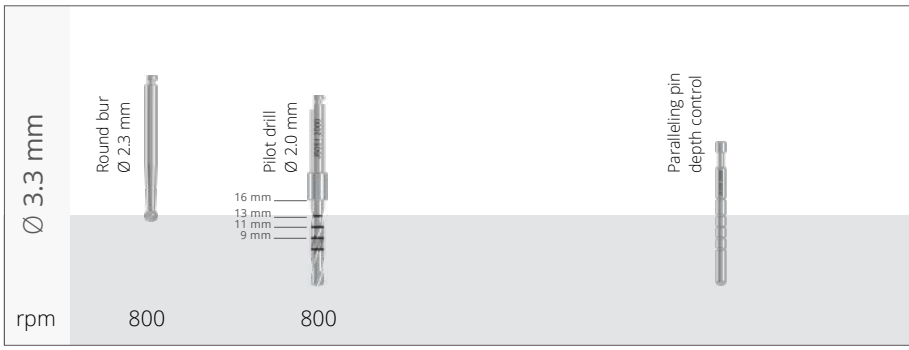
The standard drilling sequence for the CONELOG® PROGRESSIVE-LINE implant, according to Flex protocol, includes the following steps:

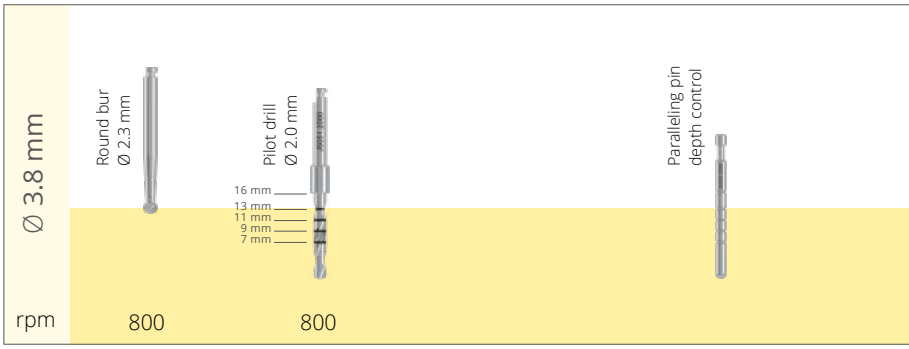
- Punch/mark the desired implant position, for example with the Ø 2.3 mm round bur
- Drill to depth along the implant axial line with the Ø 2.0 mm pilot drill
- Check the drilling depth and drilling axis with the Ø 2.0 mm paralleling pin
- Finalize the osteotomy depth with the drill PROGRESSIVE-LINE Flex and shape cavity with the profile drill PROGRESSIVE-LINE Flex
- Probe the implant osteotomy to check for intact bony walls and the correct depth
- Use of the dense bone drill PROGRESSIVE-LINE [1]

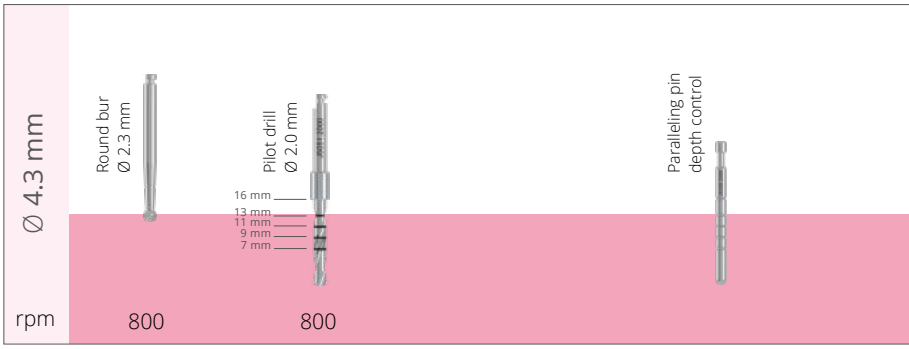
[1] For bone quality 1* and 2*, the use of a dense bone drill is required to reduce the insertion torque. In very dense bone the tap can be used to further minimize the insertion torque.

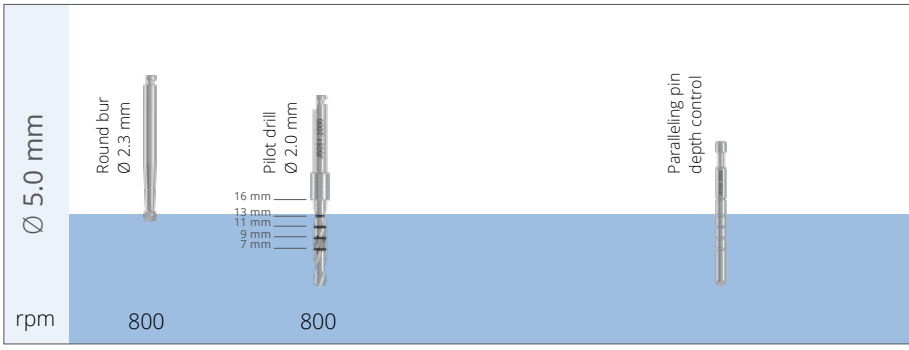
IMPORTANT NOTE
A tap (max. 15 rpm) can be used as an alternative to the dense bone drill. The use of both the dense bone drill as well as the tap in the preparation of the implant bed can lead to a reduction in primary stability. This can be a desired characteristic particularly in hard bone.

CAUTION
The maximum apical overlength of the drills is 0.5 mm.

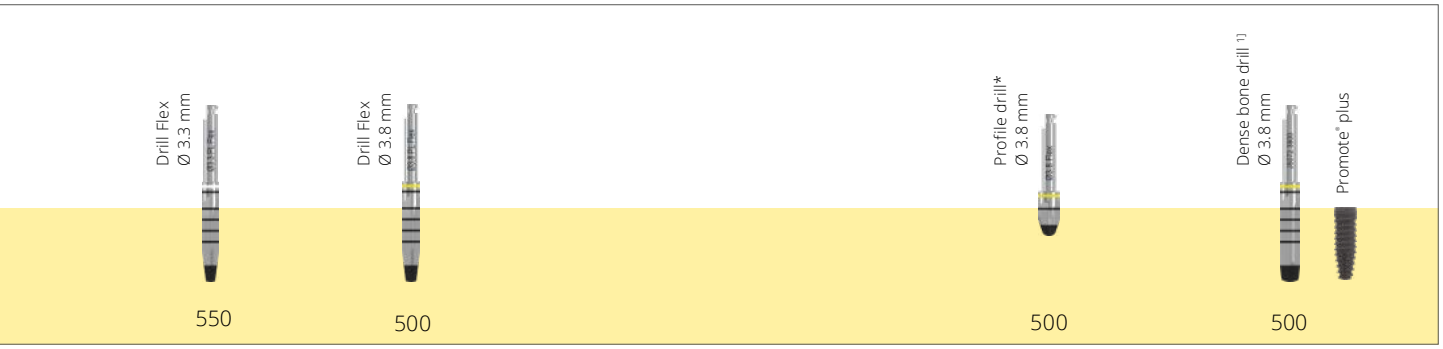


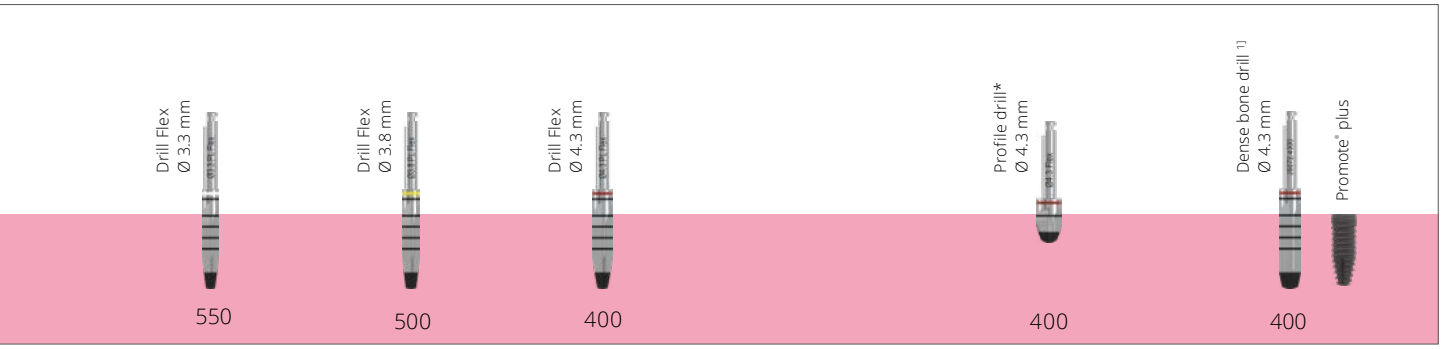


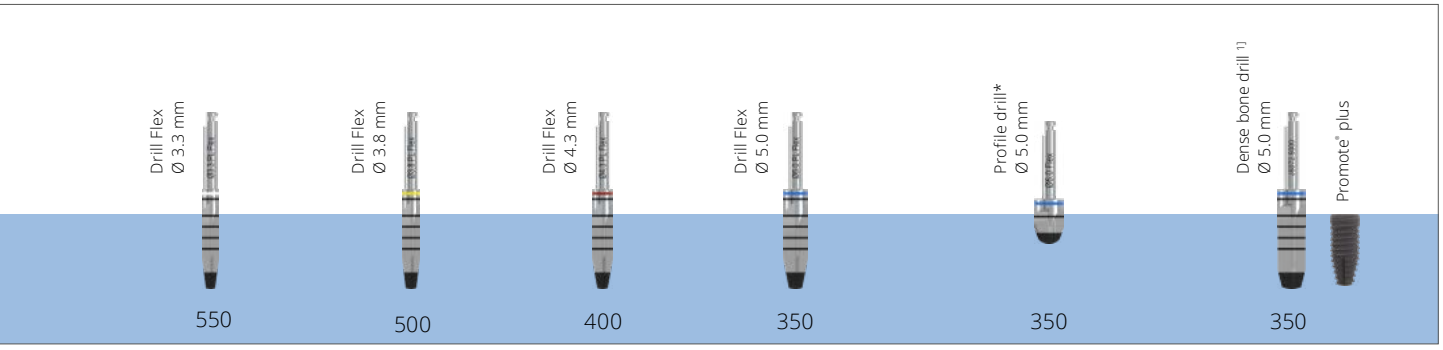




* See [B] in chapter «Further documentation» on page 41







*** IMPORTANT NOTE**
The profile drill has to be used always, independent of bone quality.

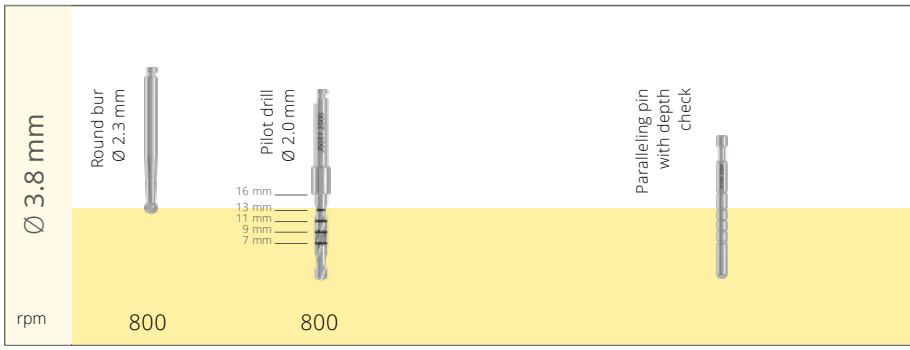
Alternative drilling sequence

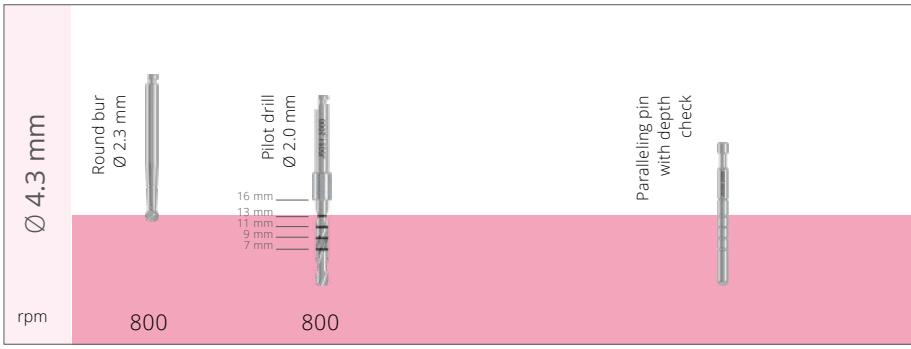
Implant bed preparation for soft bone

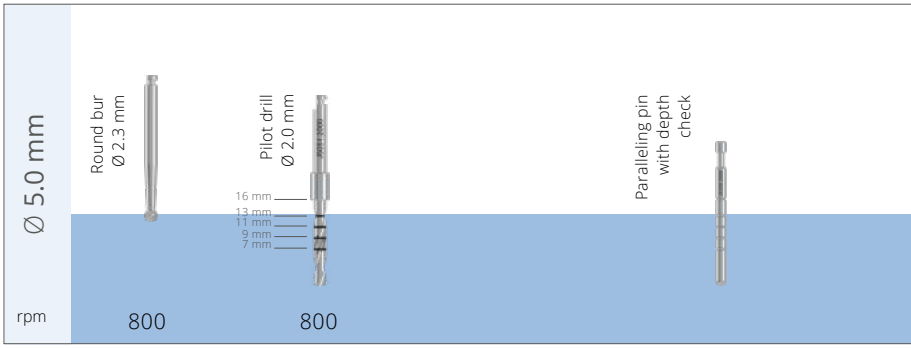
In particularly soft bone, it is sometimes advisable to underprepare the implant bed to achieve additional primary stability.

Underpreparation is achieved by not using the last form drill intended according to the standard protocol.

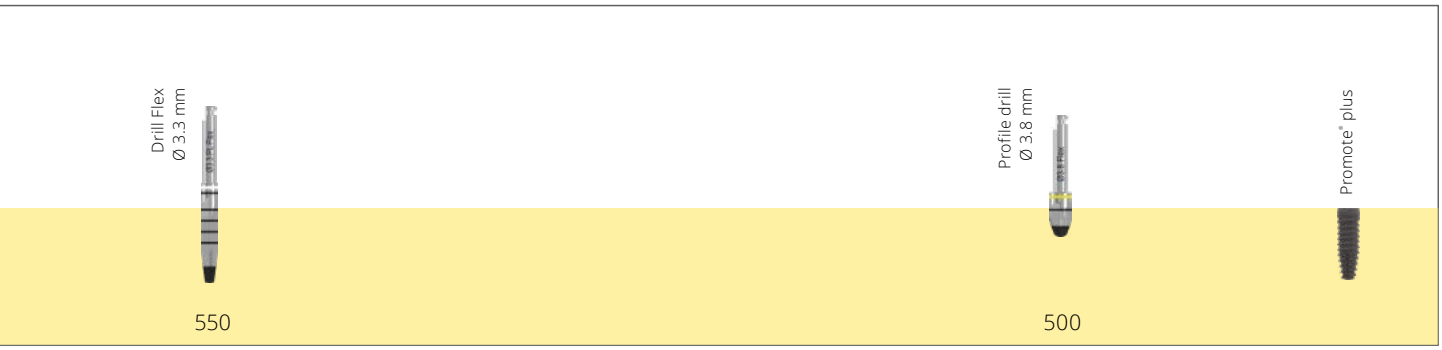
Additionally the profile drill has to be used.

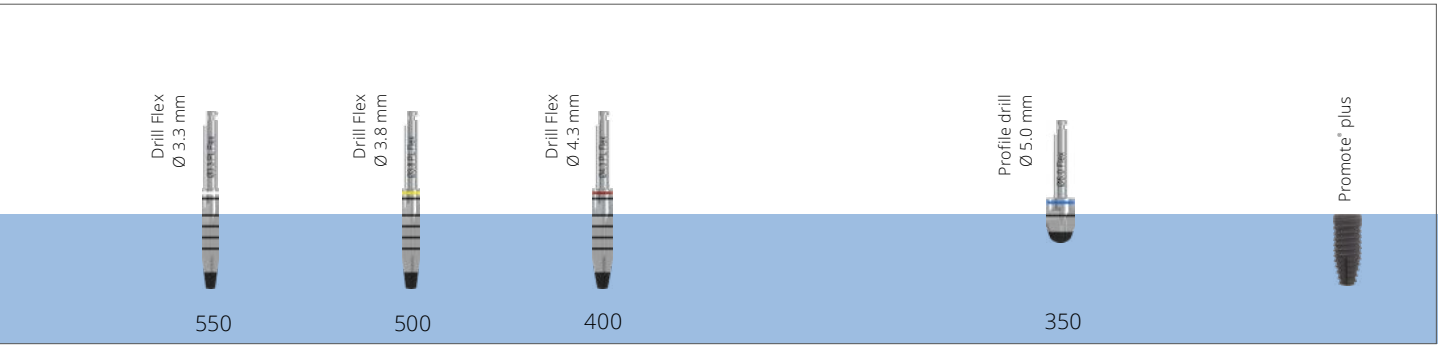






IMPORTANT NOTE
If too high torques are achieved during insertion of the implants, it is necessary to revert to the standard protocol.





*** IMPORTANT NOTE**
The profile drill has to be used always, independent of bone quality.

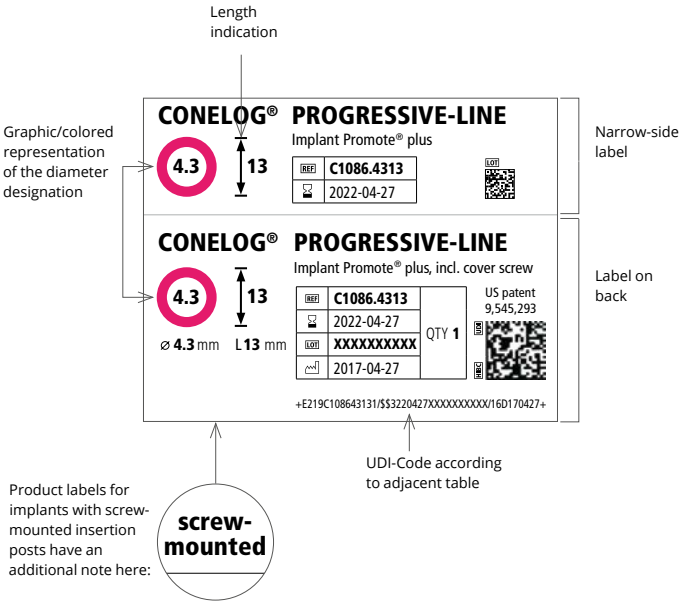
Packaging and implant handling

General information

A) Exterior packaging (cardboard box) with label

The label on the exterior 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 exterior packaging for an implant with snap-in insertion post:



UDI CODE

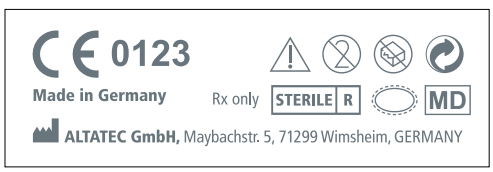
A B C DE F G H I J K

+E219C108643131/$$3220427XXXXXXXXXX/16D170427+

Sections of the primary code (UDI-DI)	Code	Explanation
A	+	Protected HIBC-ID (1 digit)
B	E219	Manufacturer's code (ALTATEC)
C	C10864313	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 instructions for use in electronic form: https://ifu.camlog.com. In addition, it includes a QR code which links directly to the corresponding Internet page.

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



Explanation of symbols

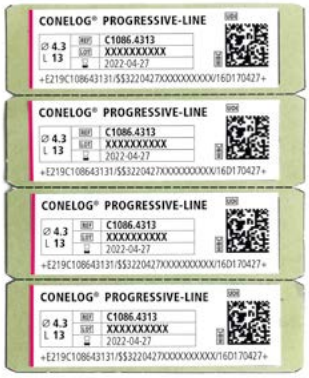
CE 0123	CE-label
	Consult instructions for use
	Caution, observe the warning notices
MD	Medical device
REF	Article number
LOT	Lot number
STERILE R	Sterilized using irradiation
	Single sterile barrier system with protective packaging outside
NON STERILE	Non-sterile
	Date of manufacture
	Use-by date
2 STERILIZE	Do not resterilize
2	Do not reuse
	Do not use if package is damaged
	Keep away from sunlight
	Temperature limit
	Manufacturer
MR	MR-Conditional
Rx only	Caution: US Federal law restricts this device to sale by or on the order of a dentist or physician.

Explanation of abbreviations

Ø	Diameter
A Ø	Apical diameter
G Ø	Gingival diameter
PP Ø	Prosthetic platform diameter
L	Length
GH	Gingival height
PEEK	Poly ether ether ketone
POM	Polyoxymethylene
PS	Platform Switching
PPSU	Polyphenylsulfone

B) Transparent blister with Tyvek® foil and primary label

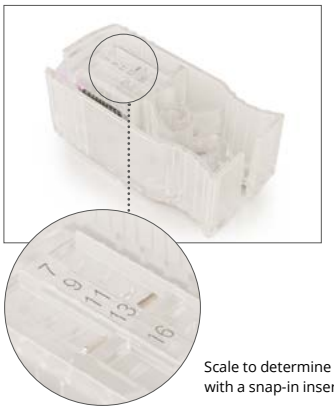
The blister with the Tyvek® foil represents the primary packaging, the contents of which are sterile – implant holder with implant and cover screw. Furthermore, the blister includes four self-adhesive patient labels. These can, for example, be used for the patient records, the implant pass, the letter of referral. 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 indicates the length of the implant: the position of the titanium retaining plate on the scale indicates 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 snapped in the implant and can be removed easily from the implant after implantation without requiring further tools.

E) Screw-mounted insertion posts

In addition to the version with the snap-in insertion post, there is also a variant where the insertion posts are firmly screw-mounted in the implant. This is specifically indicated on the label of the exterior packaging (see page 22). The screw-mounted variant is necessary for guided surgery (Guide) to be able to place the implant via the surgical guide. 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.

Same as the snap-in insertion posts, 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

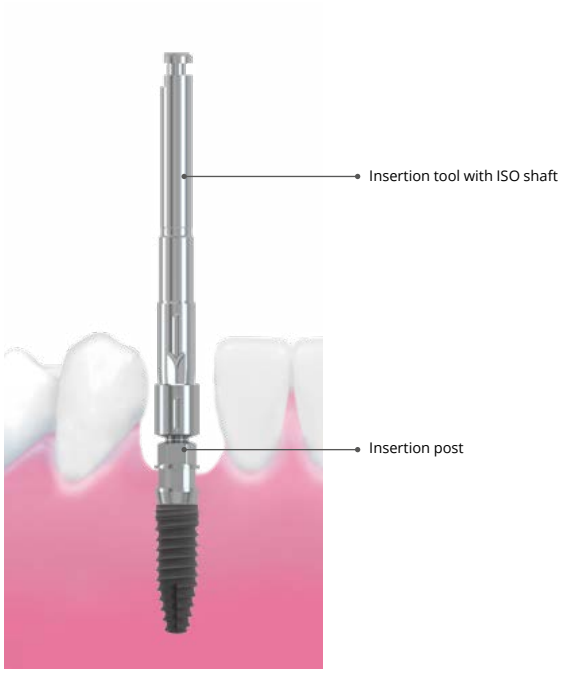
The implant can be picked up directly with the insertion tool (snap-in or screw-mounted) via the insertion post and removed from the implant holder. One of the five illustrated insertion tools can be used for this purpose.

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 on the right side illustrates the use of a handpiece insertion tool (with ISO shaft) with insertion post for the CONELOG® Implant Ø 3.3 mm under tight interdental conditions.



NOTE
The insertion tools and in particular the 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 35) instead of the pre-assembled, snap-in insertion post. The insertion aid is screw-retained unlike the snap-in insertion post, and also allows intraoperative corrections in positioning of the implant in all three spatial dimensions.

Drill speeds
Depending on the drill type and diameter, the maximum drill speeds (350-800 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 also permits manual tapping.

Cooling of drills
Cooling is performed through external irrigation on the angled hand piece with sterile saline solution (pre-chilled to 5 °C/41 °F).

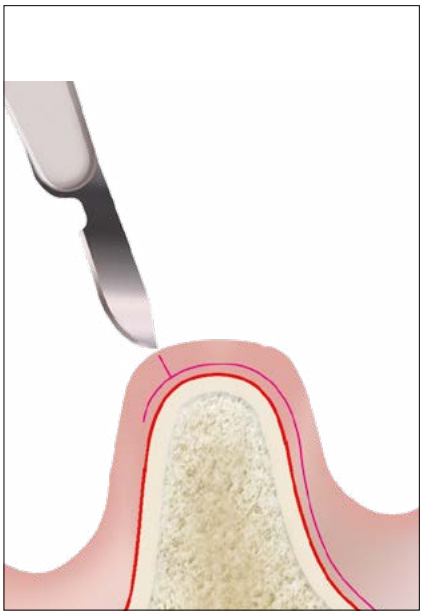
Drill life
Drill longevity depends on bone quality and the drilling technique. The pilot drills and form drills are good for 10–20 drilling cycles. If excessive force has to be applied because of a dull drill, then change the drill immediately to prevent overheating of the bone.

CAUTION
The maximum apical overlength of the drills is 0.5 mm.

Description	Ø	max. speed (rpm)
Round bur	–	800
Pilot drill	2.0 mm	800
Drill PROGRESSIVE-LINE Flex	3.3 mm	550
	3.8 mm	500
	4.3 mm	400
	5.0 mm	350
Profile drill PROGRESSIVE-LINE Flex	3.3 mm	550
	3.8 mm	500
	4.3 mm	400
	5.0 mm	350
Dense bone drill PROGRESSIVE-LINE	3.3 mm	550
	3.8 mm	500
	4.3 mm	400
	5.0 mm	350
Tap PROGRESSIVE-LINE	3.3 mm	15
	3.8 mm	
	4.3 mm	
	5.0 mm	

Surgical Procedure

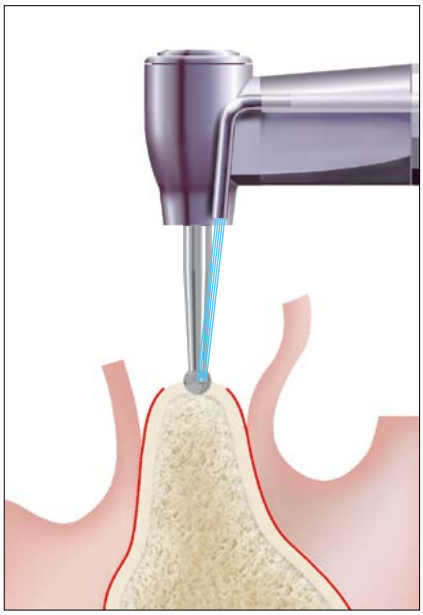
Drilling sequence



01. incision line

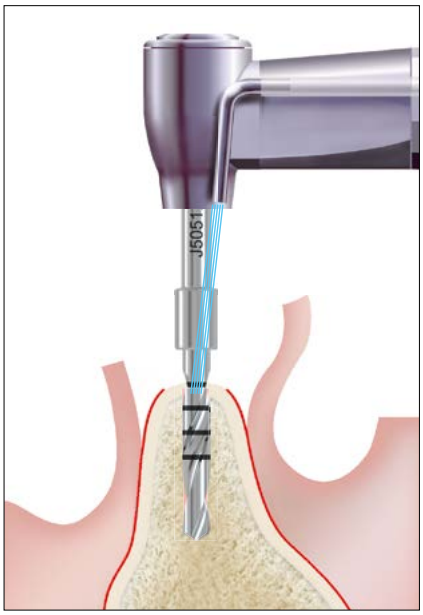
The procedure used as an example illus- tra- tes the insertion of a Ø 4.3/L13 mm CONELOG® PROGRESSIVE-LINE Promote® plus implant. The incision and flap formation result from the planned implant position and the clinical characte- ristics of the implantation site.

There is also the option of soft tissue punching (gingiva punch) to gain access to the bone. Corresponding gingiva punches (Guide System gingiva punches) are available.



02. 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. In the process, the spherical tip of the round bur is lowered to the equator.



03. pilot drilling

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.

Guide System Gingiva punch

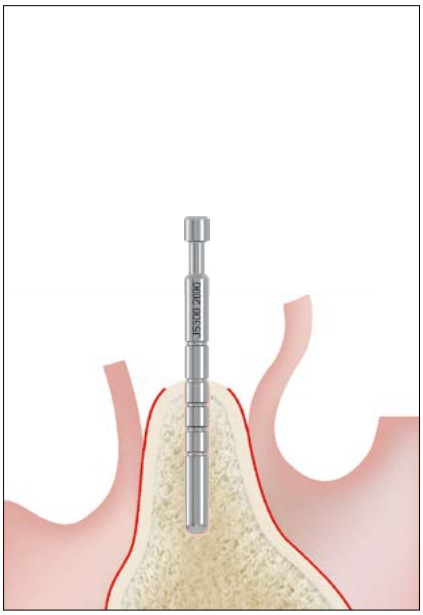
	Ø 3.3 mm	Ø 3.8 mm	Ø 4.3 mm	Ø 5.0 mm	
max.	15	15	15	15	rpm

Round bur

	Ø 2.3 mm	
max.	800	rpm

Pilot drill

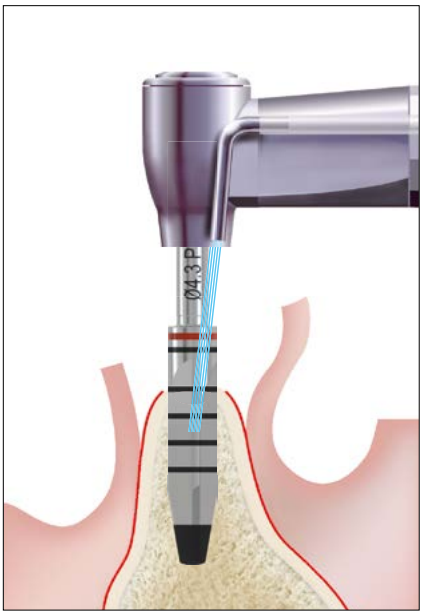
	Ø 2.0 mm	
max.	800	rpm



04. paralleling pins

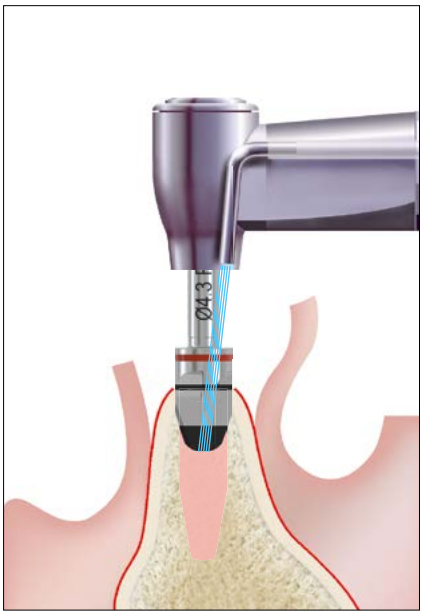
Once drilling is complete, the depth and axis of the implant bed is checked using the paralleling pins with depth marks. If several implants are being placed, a paralleling pin is inserted into the first hole in order to align the other implant axes.

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



05. preparing the cavity

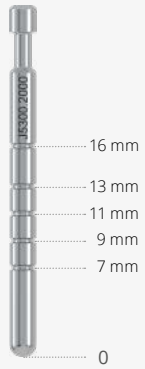
The diameter of the implant bed is expanded progressively with the series of drills (Flex) until the intended implant diameter is achieved. The small graduations in diameter achieve a gentle preparation of the bone.



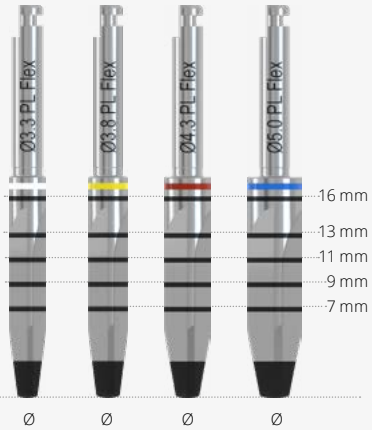
06. define the final form of the cavity

After defining the diameter size of the cavity, the profile drill needs to be applied to form the crestal part of the cavity.

Paralleling pin PROGRESSIVE-LINE are to check the depth and axis of the implant bed and for radiographic evaluation of the proximity to adjacent anatomy



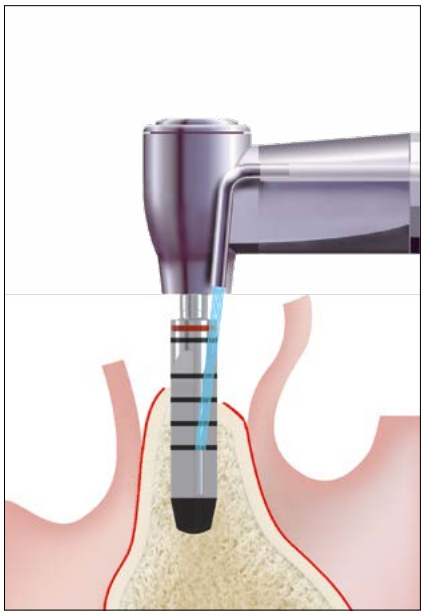
Drill PROGRESSIVE-LINE Flex



Profile drill PROGRESSIVE-LINE Flex

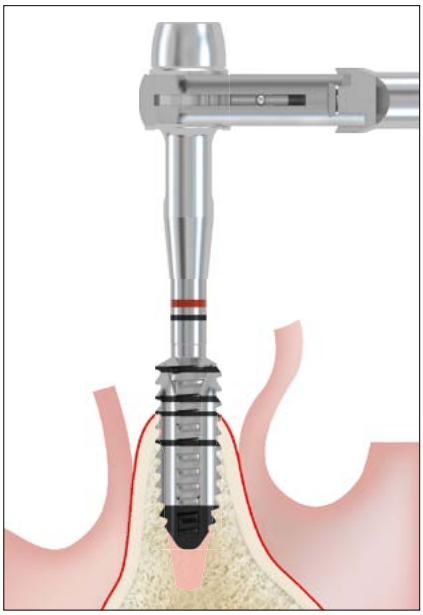
Surgical Procedure

In hard bone



07. dense bone drill

All CONELOG® PROGRESSIVE-LINE implants come with a self-tapping thread. However, for bone qualities 1* and 2*, the use of the dense bone drills is required to reduce the torque when inserting the implant.
The use of the dense bone drill is considerably easier compared to the tap, as the dense bone drill can be used at higher speeds and without changing the direction of rotation like all form drills. It can be used directly using the angled hand piece. Furthermore, the 4 cutting edges of the dense bone drill allow the collection of bone chips.



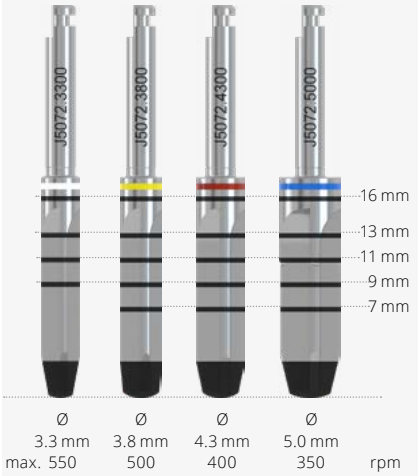
08. alternative

Taps can also be used as an alternative to the dense bone drill. These are inserted into the cavity at different depths depending on the implant length. The marks on the taps represent the length-specific insertion depths (not proportional to the implant length) for 7 mm, 9 mm, 11 mm, 13 mm and 16 mm implants.
The maximum speed of 15 rpm must not be exceeded with automated tapping. Manual tapping is recommended.

09. torque wrench use with tap

The adapter ISO shaft and the locked torque wrench are used to manually tap the thread. Make sure to pay attention to the axial direction of the implant bed when inserting and removing the tap.

Dense bone drill PROGRESSIVE-LINE



Tap PROGRESSIVE-LINE

Locked torque wrench

* See [B] in section «Further documentation» on page 41

Opening of the package

Patient label information

01. opening the packaging

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.

02. patient labels

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

- Implant pass,
- Patient records
- Letter of referral

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

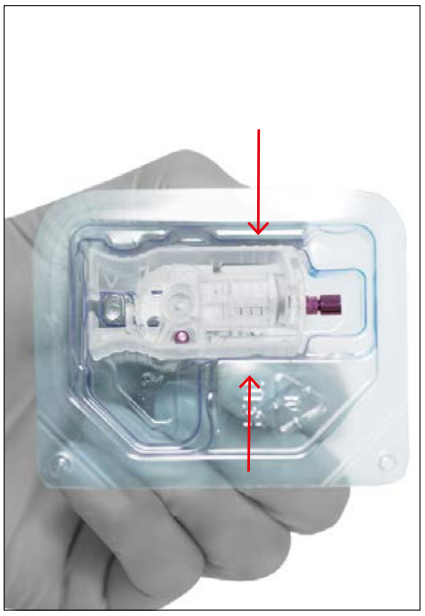
03. opening the blister

At the two sharp angle corners, the blister is fitted with tabs which allow easy separation of the Tyvek® foil from the blister.

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 package

Transfer of the implant holder to the sterile zone



04. transfer to the sterile zone

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

A

5A. press fingers

A: Discarding the implant holder onto the sterile shelf. The opened blister is gently compressed between two fingers in the marked position.

A

6A. release onto sterile shelf

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

B

5B. passing the blister

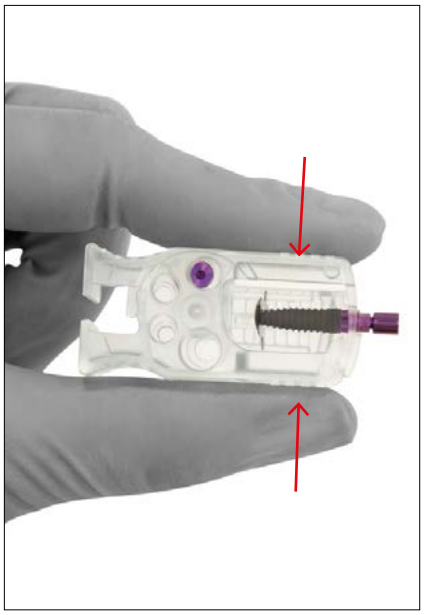
The opened blister is passed to the implantologist.

B

6B. taking of the implant holder

The implantologist takes the implant holder with two fingers to the intended place. The implant holder can be used in the sterile zone.

Picking up the implant
with the manual insertion tool

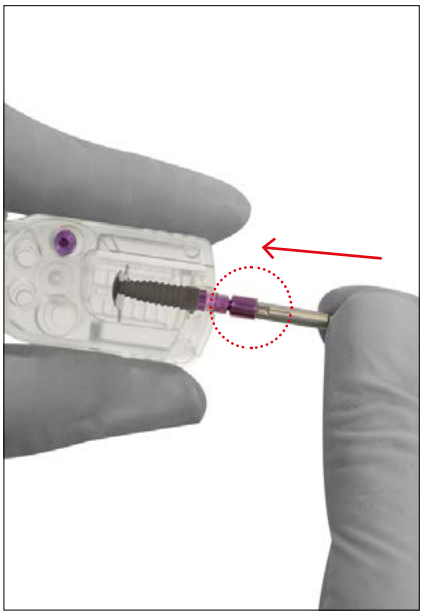


01. implant holder fixation

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

02. apply pressure

It should be noted that picking up the insertion post with the insertion tool is done by applying pressure. This ensures a secure hold of the insertion tool in the insertion post.

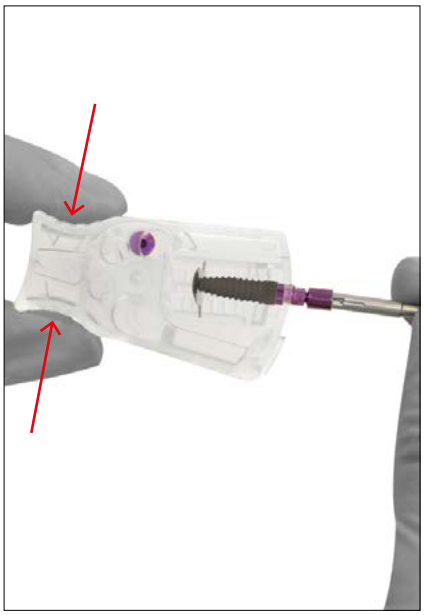


03. correct alignment

Observe the correct alignment of the insertion post with the insertion tool during the pick-up process.

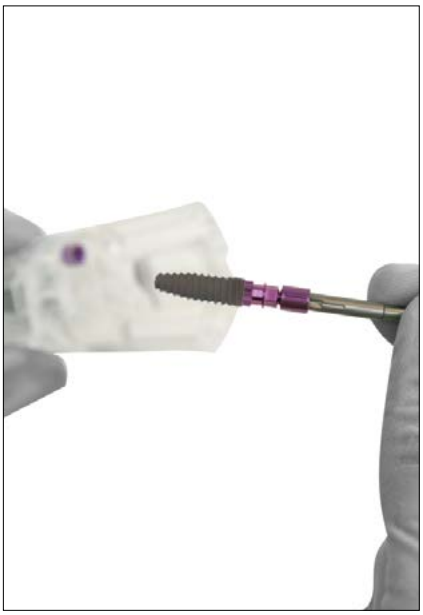
04. alignment with inner connection

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



05. release implant lock

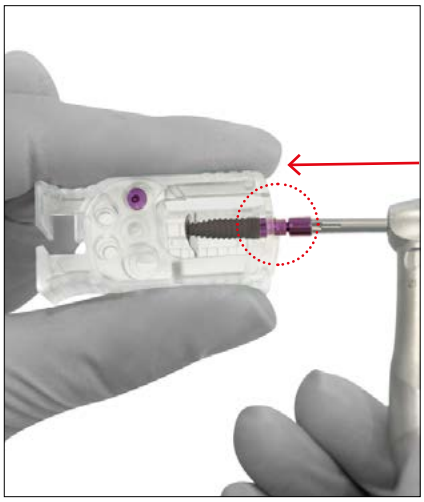
Only after inserting the insertion tool on the insertion post, press the implant holder together at the rear section (see arrows in the illustration) to release the lock on the implant holder and thus the implant.



06. lift implant

Lift out the implant on the insertion post upwards in a straight line (do not bend).

Picking up the implant
with the angled hand piece

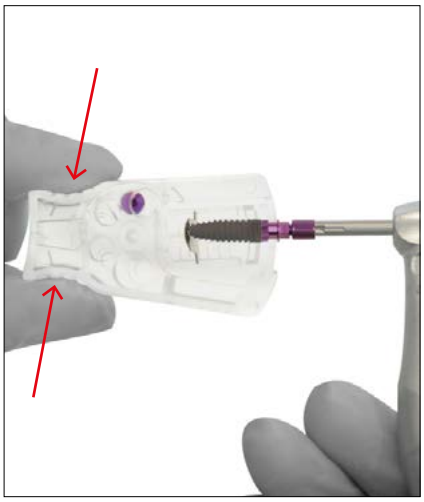


01. implant holder fixation

To pick up the implant holder directly with the machine insertion tool (with ISO shaft) and angled hand piece: the front part of the implant holder is fixed with two fingers. Then the insertion post is picked up with the machine insertion tool or angled hand piece. It should be noted that picking up the insertion post with the insertion tool is done by applying pressure. This ensures a secure hold of the insertion tool in the insertion post.

02. correct alignment

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.



03. release implant lock

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 bend).

PickUp instrument
for implants with snap-in insertion post

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.

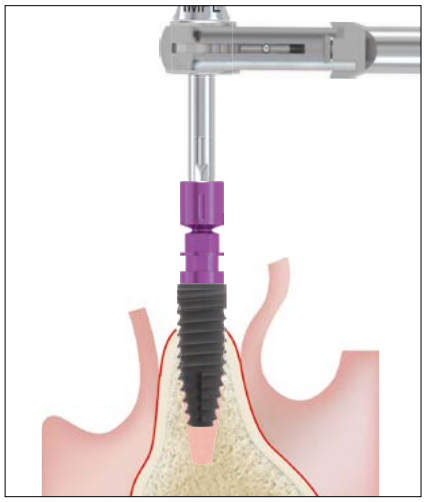
PickUp instrument

Implant insertion and positioning

with the manual insertion tool

1A. coronal = manual insertion

The implant is inserted manually into the coronal section of the implant bed using the insertion tool.

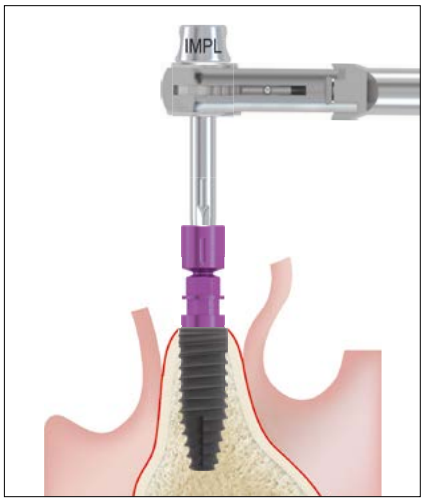


2A. manual insertion

Further insertion of implant with manual insertion tool and wrench, clockwise.*

*** NOTE**

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.



3A. orientation of grooves

When reaching the planned insertion depth, one of the three grooves should face in a vestibular direction.

NOTE

Each groove is 120° apart, advancing from one groove to the next will result in the implant progressing 0.3 mm deeper.

Retrieving the insertion post

4B. orientation of grooves

5A. retrieve insertion post (Snap in)

Snap-in insertion post:
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.

Implant insertion and positioning

with the angled hand piece

1B. manual insertion

The implant is inserted manually into the coronal section of the implant bed using the insertion tool.

2B. insertion with hand piece

Further insertion of implant clockwise with angled hand piece (max. 15 rpm).*

3B. orientation of grooves

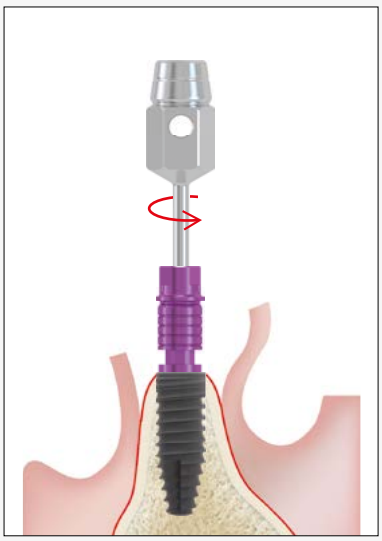
When reaching the planned insertion depth, one of the three grooves should face in a vestibular direction.

4B. orientation of grooves

5B. retrieve insertion post (Snap in)

Removal of the snap-in insertion post for machine screwing in

Screw-mounted insertion post



remove the insertion post

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.

Additional instruments

Insertion aid short

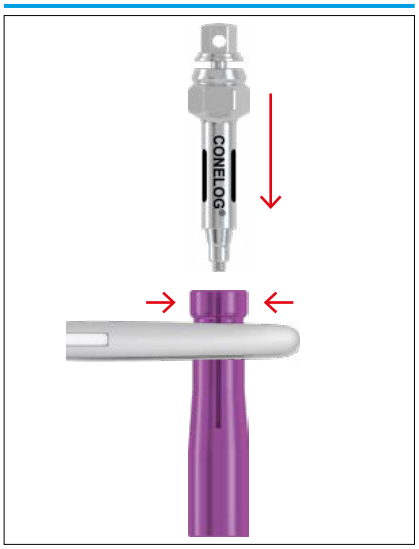
In situations in which an implant with a snap-in post has been chosen but only low primary stability is reached, the insertion aid short can be applied. The insertion aid is screw retained unlike the snap-in post, and allows intraoperative corrections in positioning of the implant in all three spatial dimensions.

The insertion aid short can be mounted as described below:

01

Pick up implant with the insertion tool.

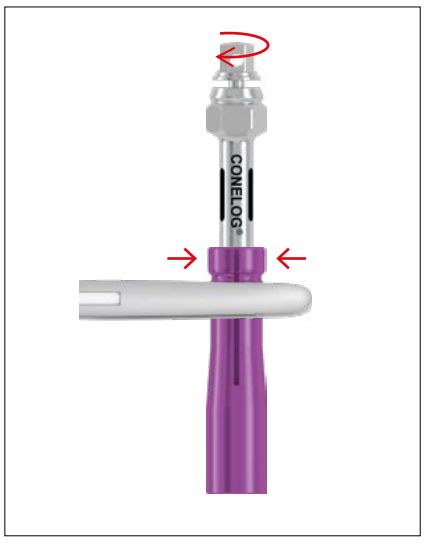
Slide the color-coded sleeve with the appropriate diameter over the endosseous part of the implant.



02

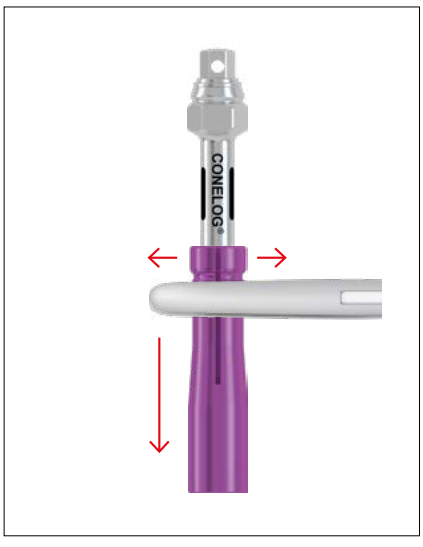
Compress sleeve at implant shoulder level with a hemostatic clip.
Implant with snap-in insertion post: remove insertion tool with insertion post
Implant with screw-mounted insertion post: unscrew insertion post.
Insert the insertion aid appropriate for the diameter into the implant until the cams engage in the grooves.

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



03

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



04

Remove the hemostatic clip and the sleeve

Additional instruments

PickUp instrument

mounting the insertion tool

removing the PickUp instrument and inserting the implant.

Surgical procedure

Removal adaptor

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 predefined 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:

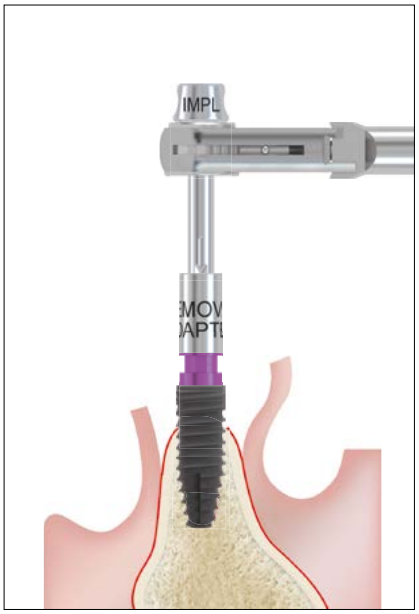
A: If snapping at the predetermined breaking point occurs at the same time as final positioning of the implant, the fragment of the snap-in insertion post is extracted as described above, and the restoration can be continued as planned. The cover screw or a healing cap is inserted into the implant, or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

B: If the implant is not in the final position when the pre-defined breaking point snaps, the implant must be removed as described below 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.

01

Placing the removal adapter on the broken insertion post



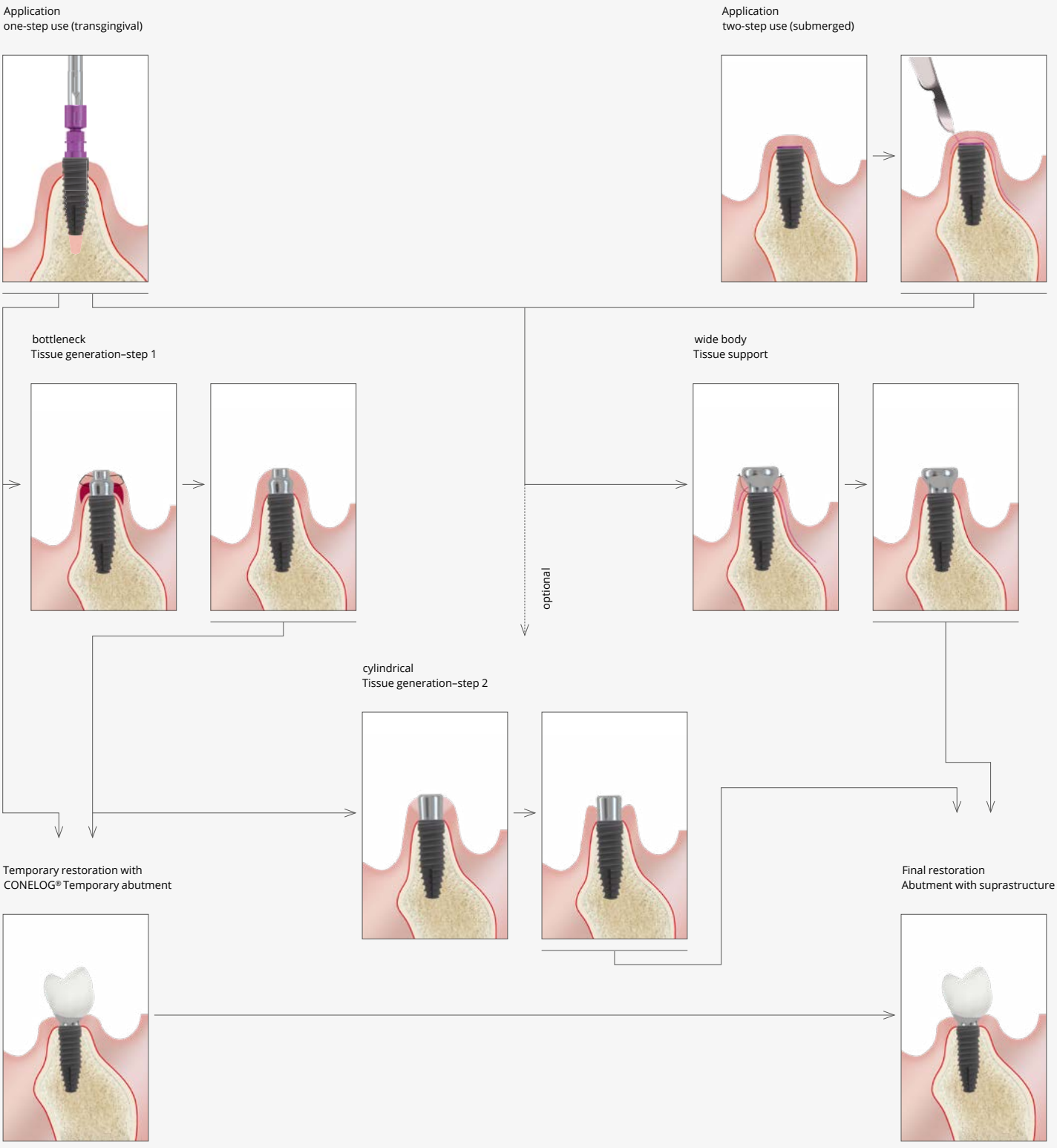
02

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

Healing options overview

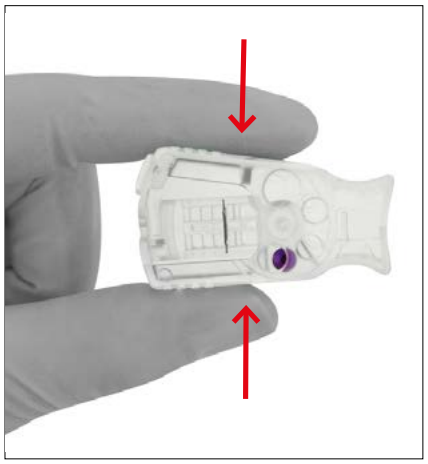
Submerged healing and transgingival healing

Tissue generation/tissue support



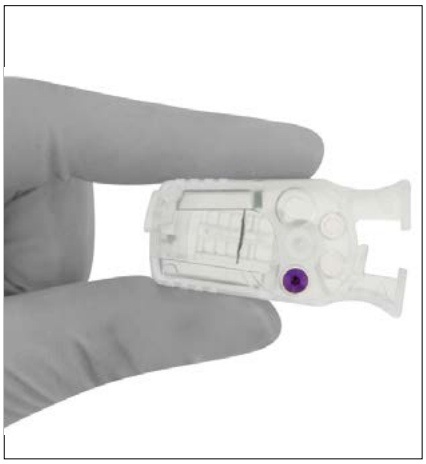
Healing options

Submerged healing



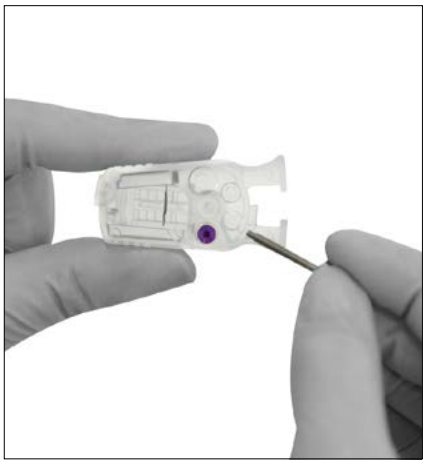
01. location of the cover screw

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



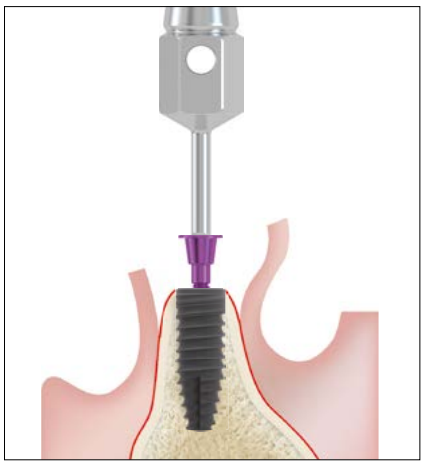
02. release of the cover screw

By closing (compressing) the implant holder (see illustrations 01 and 02) the cover screw can be released.
The screw is is freely acccesible after this procedure. This procedure is only possible if the insertion post and the implant are no longer in place.



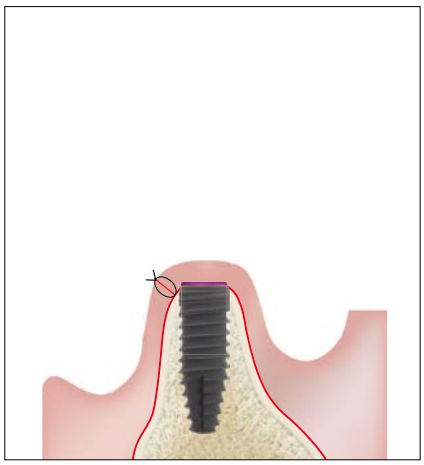
03. picking up the cover screw

Using a screwdriver, hex, the cover screw can be picked up directly from the implant holder applying pressure. The screw is freely accessible after this procedure. This procedure is only possible if the insertion post and implant are no longer in place.
The screw is freely accessible after this procedure. This procedure is only possible if the insertion post and implant are no longer in place.



04. manual tightening

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



05. wound closure

In a two-stage surgery, the implant is placed below the soft tissue and protected from occlusal function and other forces during osseointegration. A low-profile cover cap is placed on the implant to protect it from the ingress of soft tissue.

Following osseointegration, a second procedure exposes the implant and a transmucosal healing abutment is placed to allow for soft tissue healing and development of a sulcus. Prosthetic restoration begins after soft tissue healing.

Healing options

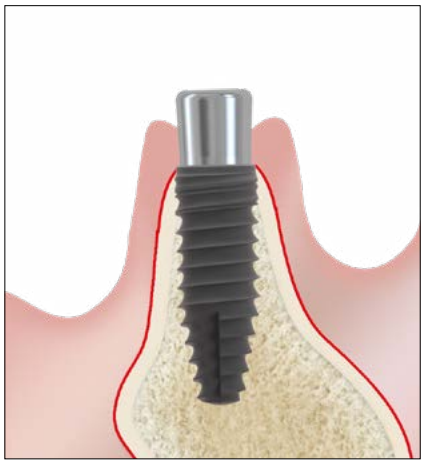
Transgingival healing (single-stage protocol)

CONELOG® Healing cap, cylindrical and wide body
The cylindrical and wide body CONELOG® Healing caps are for standard use. For insertion into the implant, a CONELOG® Healing cap corresponding to the diameter, is screwed in manually using the screwdriver, hex. The gingival height is selected such that the healing cap lies supragingival by 1-1.5 mm. The impression is taken once the peri-implant soft tissue has been stabilized.

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.

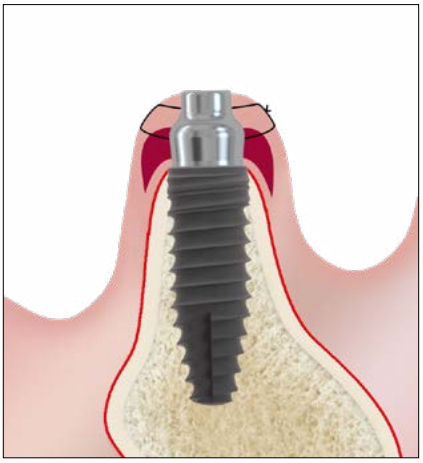


CONELOG® Healing cap, cylindrical

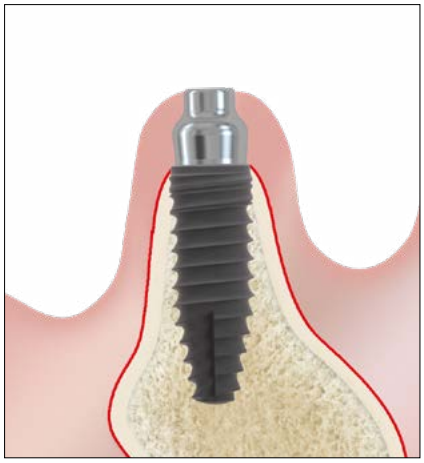
CONELOG® Healing cap, wide body

Single-stage surgery may be accomplished by placing a healing abutment at the time of implant surgery. This eliminates the need for a second procedure. Although the implant is not in occlusal function, some forces can be transmitted to it through the exposed transmucosal element.

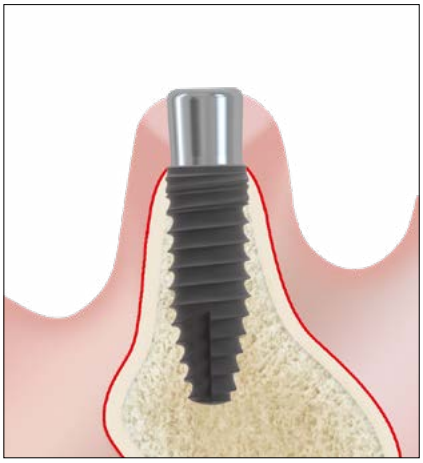
Prosthetic restoration begins following osseointegration of the implant and soft tissue healing.



healing phase



soft-tissue generation



coronal suppression of the soft tissue by substitution with a CONELOG® Healing cap, cylindrical

Loading protocols

Non-functional immediate restoration

A single-stage surgery with non-functional immediate provisionalization provides the patient with a non-functioning provisional prosthesis early in the treatment plan. An abutment is placed on the implant at or shortly after surgery, and a provisional restoration is secured using temporary cement. The provisional can help contour the soft tissue profile during healing.

Immediate function restoration

Single-stage surgery with immediate function can only be performed if the primary stability achieved is adequate for functional loading. Splinting implants together may offer a biomechanical advantage over individual, unsplinted prostheses.

Further documentation

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

- CONELOG® Product catalog
- CONELOG® Working instructions
- CONELOG® Instructions for use
- 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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Headquarters
CAMLOG Biotechnologies GmbH | Margarethenstr. 38 | 4053 Basel | Switzerland
Phone +41 61 565 41 00 | Fax +41 61 565 41 01 | info@camlog.com | www.camlog.com

Manufacturer CAMLOG® and CONELOG® Products: ALTATEC GmbH | Maybachstr. 5 | 71299 Wimsheim | Germany

biohorizons camlog