
Pilot guided surgery



Easy and effective

BioniQ

Pilot guided surgery procedure

BASIC INFORMATION ABOUT BIONIQ PILOT GUIDED SURGERY

This brochure provides dental professionals and related specialists with the essential steps for the surgical procedure of guided pilot surgery with the BioniQ implant system from the LASAK company.

Please note that, this information only provides a solution for pilot guided drilling and does not contain information regarding fully guided surgery procedures.

The following only provides appropriate information on how to pilot drill with the help of a BioniQ surgical template. Subsequent bone bed preparation is in accordance with freehand conventional BioniQ surgical procedures, without the use of a surgical template.

PREOPERATIVE PROCEDURE AND GUIDED SURGERY FOR BIONIQ IMPLANTS

BioniQ guided instruments are intended for use with the following 3D planning software: *Implant Studio by 3Shape* and *CoDiagnostiX by Dental Wings Inc.*

These planning software packages enable implants to be planned virtually. When completed successfully, the treatment plan is sent to the surgical template manufacturer.

The surgical template manufacturer ensures compatibility with BioniQ drills by utilizing a sleeve, like that shown below, for pilot guided surgery positioned according to the specified BioniQ parameters.

Preoperative procedures, such as the treatment plan, CT scan, fabrication of scan prosthesis and planning in the particular software follow according to the 3D planning software guidelines and are not the subject of this brochure.

INSTRUMENTS FOR PILOT GUIDED SURGERY

Sleeves for pilot guided surgery

These are guide sleeves specially for pilot guided surgery. The sleeves are cylindrical with an additional rim at the top and an anti-rotation element for precise positioning in the surgical template.



Product	Ref. No.	Sleeve inner diameter	Sleeve height
Steco inner sleeve with depth stop	M.27.24.D235L5	Ø 2.35 mm	5 mm

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Pressing tool for sleeve insertion

The pressing tool for the titanium sleeve is a useful tool for the easy fitting of the sleeve into the surgical template.






Product	Ref. No.
Steco pressing tool for inner sleeve	M.27.03.E235

Note: This tool is only intended for users not using a surgical template manufactured by LASAK.

Drills for pilot guided surgery

There are three types of \varnothing 2.3 mm drill to be used with the surgical template for guided pilot drilling, see below. With these drills it is possible to drill through the template to the appropriate depth according to the chosen implants.

	Product	Ref. No.	Overall length	Symbol	Max rpm
	Guided drill S2.9 – short (GS)	2484.00	31.5 mm	—	800
	Guided drill S2.9 – medium (GS)	2486.00	35.5 mm	==	800
	Guided drill S2.9 – long (GS)	2485.00	39.5 mm	===	800

SURGICAL PROCEDURE

The BioniQ surgical template is only suitable for guiding a pilot drill. The basic implant bed preparation using the surgical template ends here. After pilot drilling, remove the surgical template and continue according to the freehand conventional BioniQ surgery procedures.

CAUTION

Check before drilling that:

- External irrigation is switched on and flowing.
- The drills move freely through all of the template sleeves.
- The maximum speed is 800 rpm.
- The drill must not be allowed to rotate during its insertion into the template.

During drilling avoid lateral pressure on the drill.

The BioniQ system for guided surgery allows the flexible placement of the titanium sleeve within the surgical template. The different positions of the sleeves in the template are determined for fully controlled depth preparation with the Guided drills S2.9.

The BioniQ system for guided surgery is available in two 3D planning software packages:

- *Implant Studio by 3Shape*
- *CoDiagnostiX by Dental Wings Inc.*

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Implant Studio Software

Sleeve positioning according to implant length in Implant Studio software (see Picture 1, below)

The sleeve position within the surgical template is determined during the planning of the implant placement in the software. Position the sleeve as close to the bone as the soft tissue and anatomic conditions allow. Avoid contact of the sleeve with soft tissue. **Picture 1**, below, shows which distance of sleeve from the bone level is required for preparing the osteotomy for each specific implant.

Table 1 recommends which drill length (short, medium or long) and distance of sleeve from the bone level are required for preparing the osteotomy for each specific implant.

H7.5 = 7.5 mm above bone level
H9.0 = 9.0 mm above bone level

H9.5 = 9.5 mm above bone level
H11.5 = 11.5 mm above bone level

Picture 1

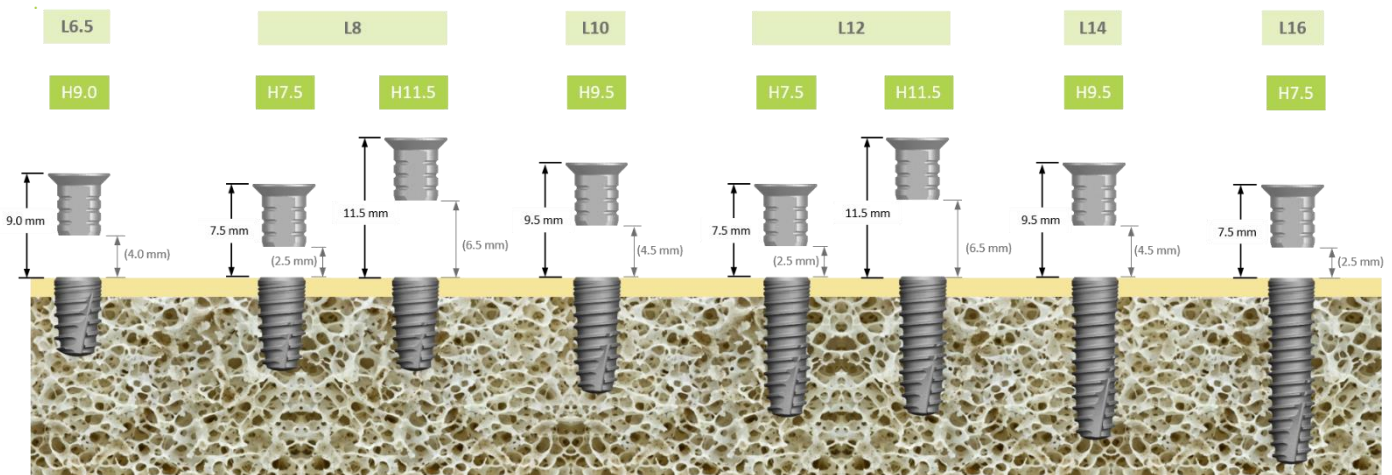


Table 1

Implant length	Distance of sleeve from the bone level			
	H7.5	H9.0	H9.5	H11.5
L6.5		Short drill		
L8	Short drill			Medium drill
L10			Medium drill	
L12	Medium drill			Long drill
L14			Long drill	
L16	Long drill			

Sleeve library in Implant Studio software

For the correct, predefined placement of the sleeve within the template, you must choose the sleeve from the “Steco – Fully guided” sleeve library.

The fully guided Steco sleeve library contains a sleeve with this predefined distance from the bone level for each implant according to **Picture 1**, above.

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Example for BioniQ implant S4.0 with length 10 mm

The sleeve must be placed within the surgical template at 9.5 mm above bone level (H9.5) in the planning software. The guided drill S2.9 – medium (Ref. No. 2486.00) must be used to reach the required bed preparation depth. All the information above regarding the positioning of the sleeve, applies only to the guided drill S2.9 – medium (Ref. No. 2486.00).

coDiagnostiX software

Sleeve positioning according to implant length in coDiagnostiX software (see Picture 2, below)

The sleeve position within the surgical template is determined during the planning of the implant placement in the software. Position the sleeve as close to the bone as the soft tissue and anatomic conditions allow. Avoid contact of the sleeve with soft tissue. **Picture 2**, below, shows which distance of sleeve from the implant apex is required for preparing the osteotomy for each specific implant.

Table 2 recommends which drill length (short, medium or long) is required for preparing the osteotomy for each specific implant.

Picture 2

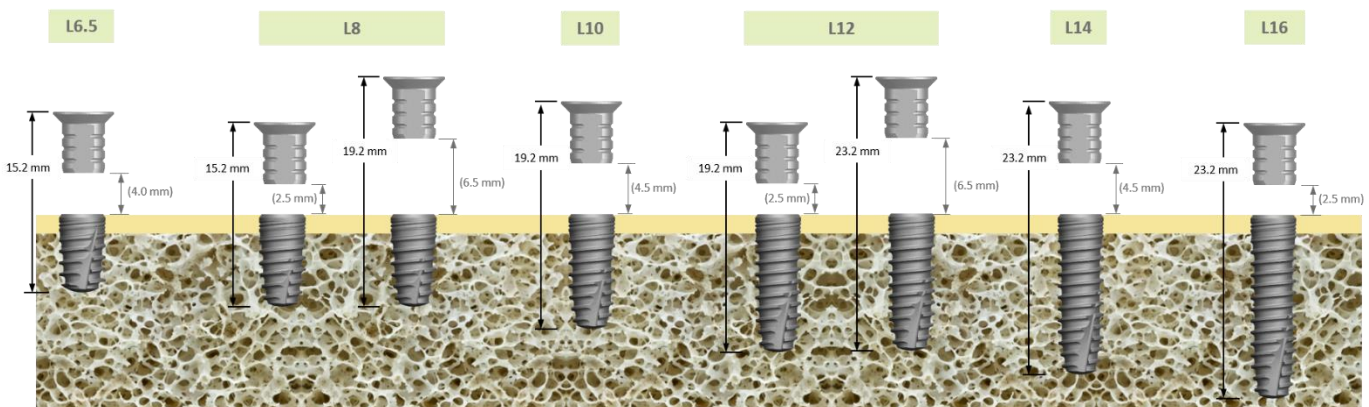


Table 2

Implant length	Distance of sleeve from the implant apex		
	15.2	19.2	23.2
L6.5	Short drill		
L8	Short drill	Medium drill	
L10		Medium drill	
L12		Medium drill	Long drill
L14			Long drill
L16			Long drill

Sleeve library in coDiagnostiX software

For the correct placement of the sleeve within the template, you must choose the type of sleeve: **“Titanium inner sleeves with depth stop”** and diameter \varnothing 2.35 mm from the **“Steco system-technik”** sleeve library. This library contains sleeves where the distance from the implant apex must be set manually for each implant according to **Picture 2**, above.

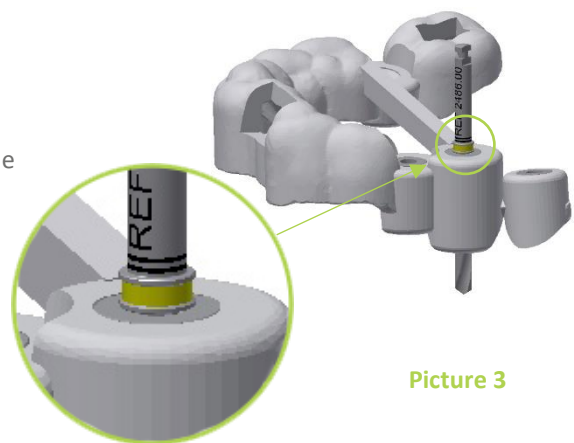
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Example for BioniQ implant S4.0 with length 10 mm

The sleeve must be placed within the surgical template at 19.2 mm from the implant apex in the planning software. The guided drill S2.9 – medium (Ref. No. 2486.00) must be used to reach the required bed preparation depth. All the information above regarding the positioning of the sleeve, applies only to the guided drill S2.9 – medium (Ref. No. 2486.00).

PROCEDURE OF IMPLANT BED PREPARATION USING PILOT GUIDED DRILLING

- Place the surgical template.
- Check the stability and position of the surgical template.
- Start the preparation using the guided drill S2.9 through the template.
- Drill to the depth of the drill collar. When the drill collar meets the sleeve (see [Picture 3](#)), you have reached the required osteotomy depth.
- Remove the surgical template and continue in accordance with freehand conventional BioniQ surgery procedures.
- The conventional procedure without a surgical template is described in the BioniQ Quick start – Surgery leaflet.



Picture 3

THE SURGICAL PROTOCOL FOR PILOT GUIDED SURGERY

For example for pilot guided drilling followed by the conventional freehand preparation protocol for implant S4.0/L10 in D1 and D2 density bones, see [Picture 4](#), below.

Picture 4

