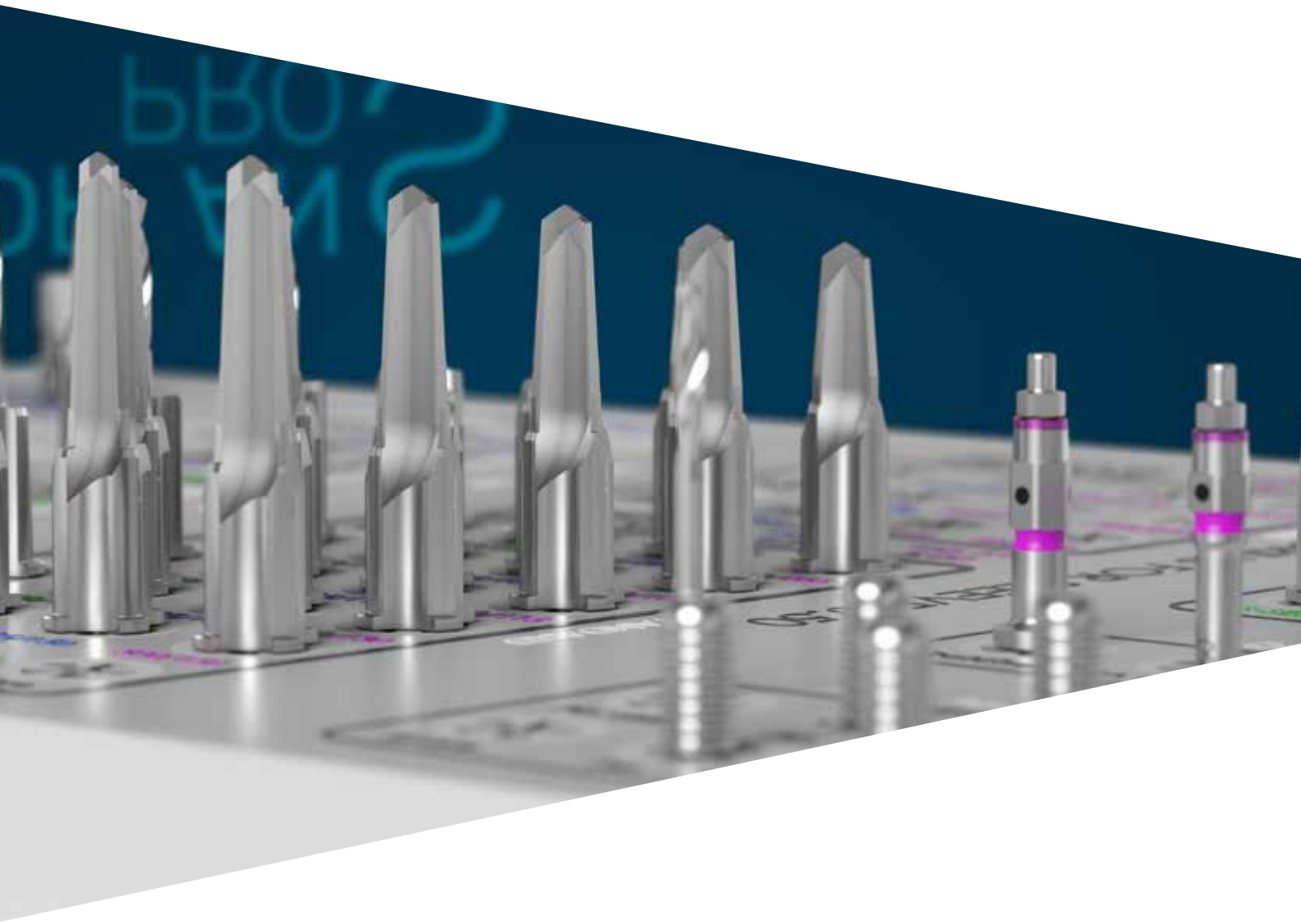
Surgical manual

ECHOPLAN PRO S



sweden & martina

Echoplan PRO S kit

Clinical indications for recourse to implant prosthetic treatment

When evaluating patients, aside from considering the suitability for implant prosthetic restorations, any contraindications for dental surgery should also be taken into account. These include:

- Anticoagulant therapies and any alterations in the blood coagulation cascade
- Disorders affecting wound healing or bone regeneration
- Uncompensated diabetes mellitus
- Metabolic or systemic diseases affecting cell renewal that impair tissue regeneration, especially wound healing and bone regeneration
- Abuse of alcohol, tobacco or drugs
- Immunosuppressive therapies such as chemotherapy or radiotherapy
- Infection and inflammation such as periodontitis or gingivitis
- Poor oral hygiene
- Poor motivation
- Occlusion and/or articulation defects as well as insufficient interocclusal space
- Inadequate alveolar process

Insertion of implants and implant prostheses are contraindicated in patients with poor general health, little or inadequate oral hygiene, little or no possibility of controlling their general condition, or who have previously undergone organ transplantation. Patients who have been deemed psychologically unstable, who abuse alcohol or drugs, who show insufficient motivation or cooperation should also be considered ineligible. Patients with poor periodontal health should be treated and rehabilitated beforehand. Appropriate guided tissue regeneration is to be carried out beforehand if the recipient's bone tissue is lacking or of poor quality, such that implant stability could be compromised.

The following should also be considered contraindications: titanium allergy (rare, but documented in the international literature), acute or chronic infectious diseases, chronic subacute jawbone osteitis, systemic conditions, endocrine disorders, diseases resulting in microvascular disorders, pregnancy, breastfeeding, previous exposure to radiation, haemophilia, granulocytopenia, use of steroids, diabetes mellitus, renal insufficiency, fibrous dysplasia.
Normal contraindications common to all oral surgery should also be observed. Patients receiving anticoagulant, anticonvulsant, or immunosuppressive therapy, with active inflammatory-infective processes in the oral cavity, or patients with abnormal creatinine and BUN levels should not undergo surgery. Patients with cardiovascular disease, hypertension, thyroid or parathyroid disease, malignant tumours detected in the 5 years prior to surgery, or nodular enlargements should also be deemed ineligible.

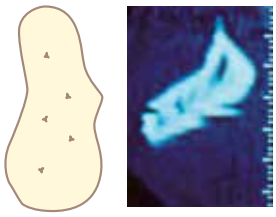
Chemotherapy reduces or nullifies the capacity for osseointegration, so patients undergoing such treatments should be carefully screened before intervening with implant-retained restorations. Numerous cases of peri-implant osteonecrosis have been reported in the literature, mainly in the mandible, when bisphosphonates were being administered. This problem has especially affected patients receiving intravenous treatment.
As a precautionary measure, patients should avoid activities requiring physical exertion after surgery.

Side effects and symptoms

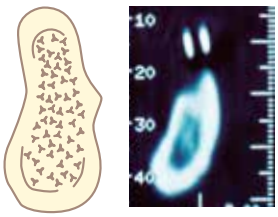
Manifestations accompanying surgery include temporary local swelling, oedema, haematoma, and local tumefaction, temporary numbness and limitations of chewing functions, as well as some post-surgical micro-bleeding within 12 to 24 hours of the procedure. Additional manifestations that may also occur include pain, minor speech impairment, gingivitis, loss of bone ridge, permanent paraesthesia, dysesthesia, local or systemic infections, exfoliation, hyperplasia, perforation of the Schneiderian membrane, oroantral and oronasal fistulas, labial or lingual plate perforation, fractures of the bone, the implant, or the superstructure, aesthetic problems, inadvertent sinus perforation, nerve damage, or impairment of the natural dentition. These pathophysiological problems may also incur increased risk: cardiovascular insufficiency, coronary artery disease, arrhythmia, chronic pulmonary or respiratory diseases, gastrointestinal diseases, hepatitis, intestinal inflammation, chronic renal insufficiency and urinary system disorders, endocrine disorders, diabetes, thyroid diseases, haematological conditions, anaemia, leukaemia, impaired coagulation, osteoporosis or musculoskeletal arthritis, heart attack, neurological disorders, mental retardation, or paralysis.

Verifying the patient's suitability for implant treatment through a careful pre-operative medical history is fundamental. The collection and filing of complete clinical, radiological and radiographic documentation should also be a part of the patient's history.

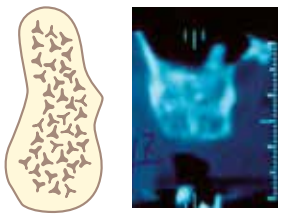
In addition to both a clinical and radiographic oral examination, it is advisable to obtain a CT scan of the area concerned. Once the radiographic and tomographic images have been secured, the reference software can aid the specialist in identifying the most suitable implant for that specific patient.
With the preoperative CT Dentalscan the bone type found at the point where the implant is to be inserted can be identified. The choice of surgical procedure cannot disregard the type of bone present. Normally, there are four types of bone that can be identified according to its density. Carl Misch bone density classification:



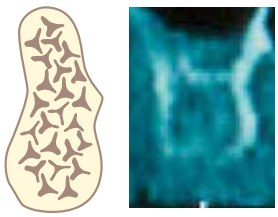
D1: dense cortical bone



D2: coarse trabecular bone core in a porous cortical shell



D3: all fine trabecular bone with no cortical crestal bone

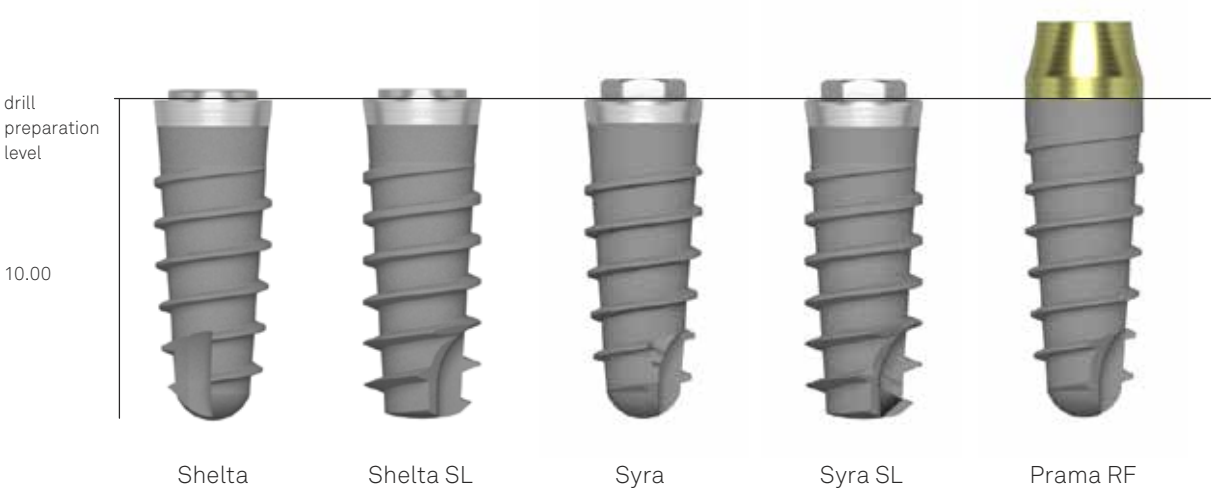


D4: all fine trabecular bone with very little mineralisation

Dentalscan images by kind permission of Dr. Marco Csonka - Catania

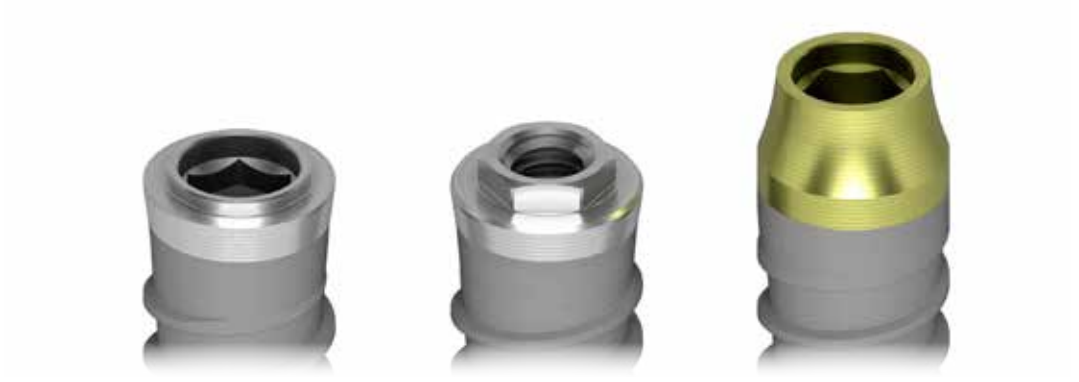
General information

The guided surgery implant treatment technique includes diagnosis, planning and positioning. The main advantage is being able to plan the intervention by working with a complete 3D view of the radiological and prosthetic anatomy of patients and so evaluate the dimensions and final position of the dental implant precisely, also in accordance with the prosthetic study (wax-up), and using surgical guides capable of guiding the implant positioning according to this same planning.
The Echoplan PRO S surgical kit was designed and developed to enable the preparation of the surgical site using the guided implantology technique for Shelta, Shelta SL, Syra , Syra SL and Prama RF conical implants, produced by Sweden & Martina. The Echoplan PRO S kit and the surgical instruments contained therein are designed to be compatible with the main guided surgery techniques currently available on the market (three-dimensional diagnostic software and surgical guides). Sweden & Martina has an up-to-date list available upon request.

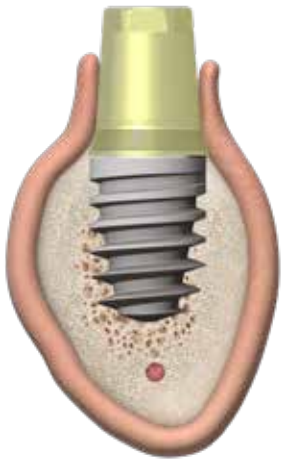


Connections

Endosseous preparation being equal, the Shelta, Shelta SL, Syra, Syra SL and Prama RF conical implants have different connections: this means that the preparation will be executed using the same sequence of drills, but the mounters to be used for transportation to the surgical site and for the fixture's insertion will vary based on the implant line.



For clinical cases in which a short implant is preferable due to proximity with delicate anatomical structures, the precision of the fixture's insertion becomes even more important: guided surgery is a safe and predictable approach.
The Syra range also includes 4.00, 5.00 and 6.00 mm heights, the Prama RF range also includes a 6.00 mm heights: specific surgical drills for short implants are available as an option and can be added to the kit.

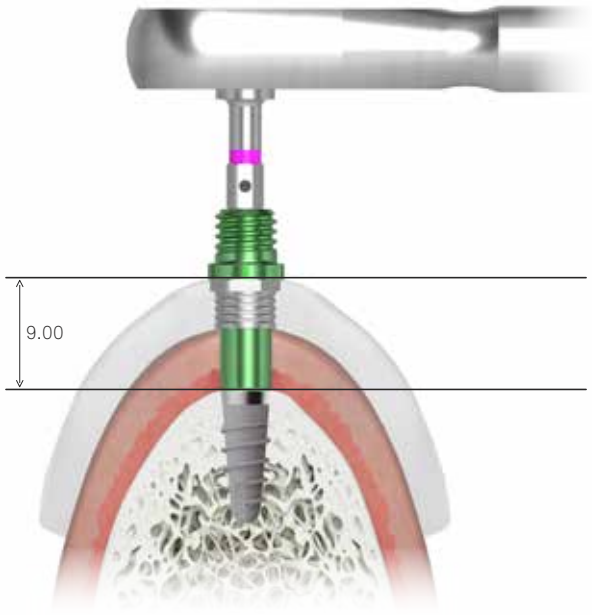


Due to the conditions of use, two different ranges of drills are available for Short implants in order to obtain an under preparation of the implant site in poorly mineralised bone, or a preparation compatible with the implant core in mineralised bone, where the desire is to avoid excessive friction and compression. The type of preparation is determined by the clinician, who, based on his/her experience, will decide whether to adopt an under preparation or a standard preparation protocol based on the working size of the drills listed on pages 38 and 39; the preparation sequences for both poorly mineralised and compact bone are provided starting on page 60.

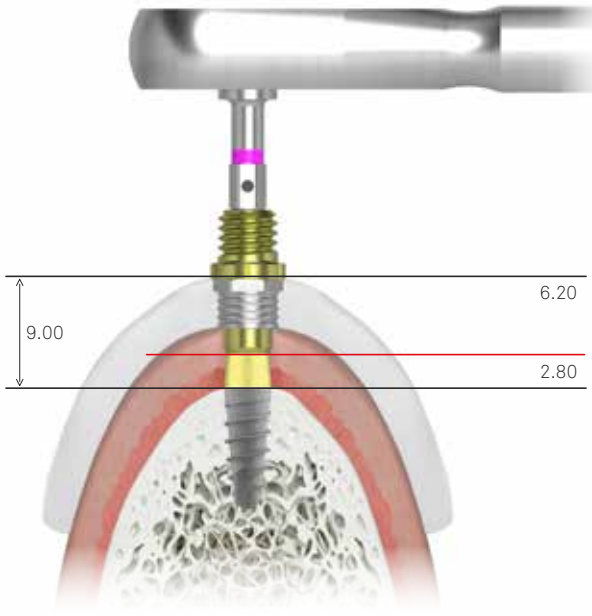
drill preparation level

Introduction to the Echoplan PRO S system

There is a **fixed relationship** between the instruments involved in guided surgery which facilitates congruence between the implant position and its planned position. The ratio according to which the Echoplan PRO S system was designed is **9.00 mm** between the level of the mechanical stop of instruments on the sleeve, the metal cylinder inserted into the surgical guide (which guides the axis of insertion for the instrument and determines its stoppage at a determined length), and the preparation plane.

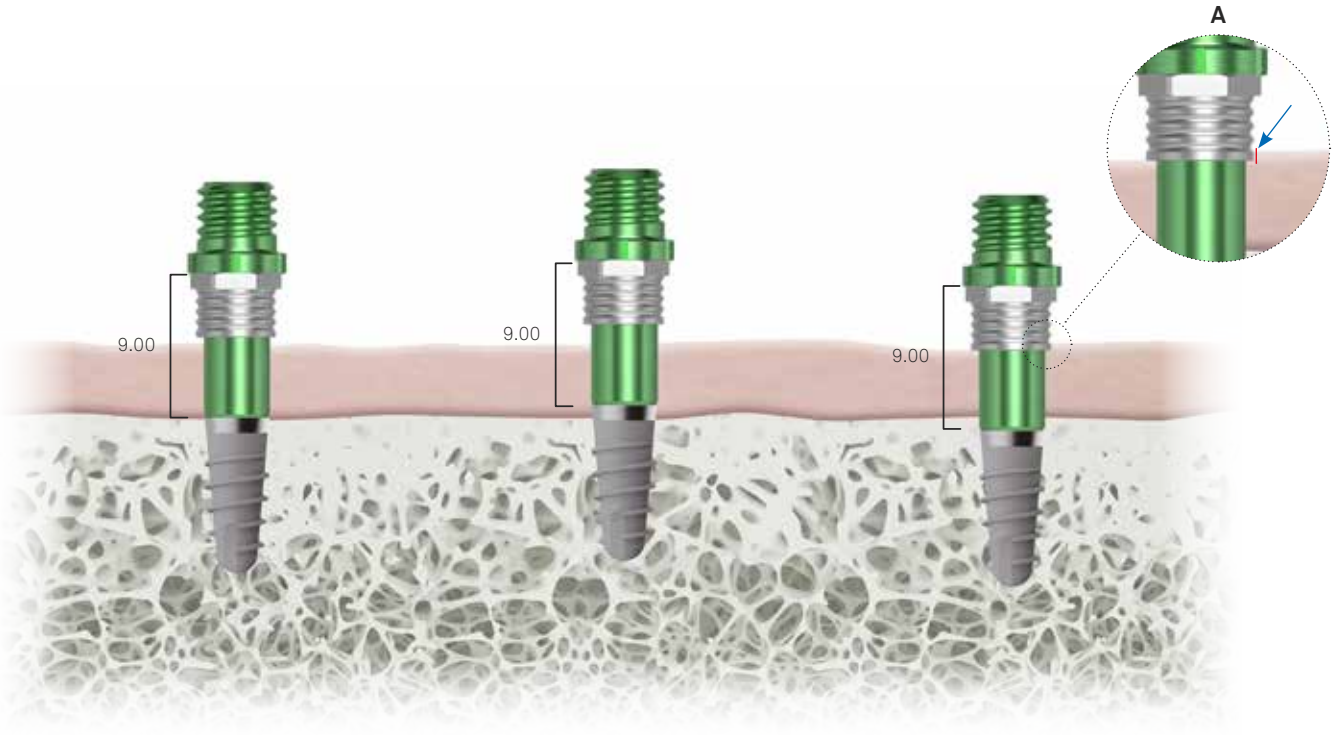


Shelta Implant
bone level



Prama RF implant
intramucosal

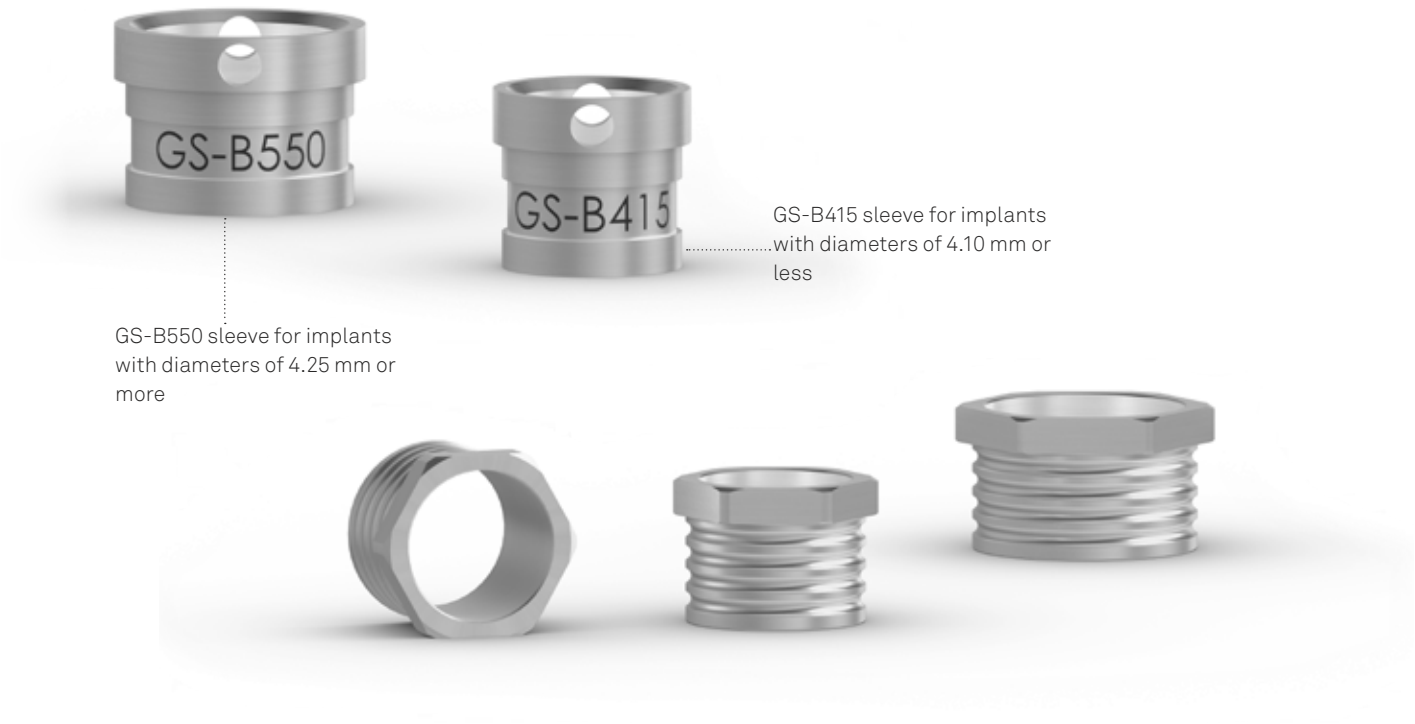
When a surgical protocol provides for a different positioning of the implant platform from the juxtaosseous as in the XA technique (for further information on the XA technique, please go to www.sweden-martina.com), the digital planning automatically calculates the position of the sleeve's upper edge at exactly 9.00 mm from the preparation plane. The thickness of the soft tissues in such cases may interfere with the ideal position of the sleeve so rather than adopting a flapless approach, the flap needs to be opened (**A**).



In clinical cases where a short implant is chosen due to the proximity of delicate anatomical structures, the precision of fixture placement becomes even more important. Guided surgery is a safe and predictable approach that helps to avoid unexpected complications.
The Syra range also includes heights of 4.00, 5.00, and 6.00 mm, while the Prama RF range includes a height of 6.00 mm. Dedicated drills for short implants can be optionally purchased and included in the kit.

Guide sleeves

The guide sleeves consist of AISI 630 stainless steel cylinders (diameters of 4.15 or 5.50 mm) embedded within the polymer of the surgical guide in order to guide the rotating instruments during the preparation so that the work axis determined by the planning software is maintained. They provide a definite physical stop for all the instruments at 9.00 mm from the plane of the preparation. Sweden & Martina produces a series of standard sleeves, which are not indexed: these are available to laboratories who manufacture surgical guides using software different from RealGUIDE. In addition, Sweden & Martina produces a series of indexed sleeves with an upper hexagon which means the positioning of the implant connection previously planned using RealGUIDE software can be respected. Due to this specific peculiarity, indexed sleeves can be positioned in Sweden & Martina surgical guides just using the appropriate software.



Important warning
Whenever a 3D printer is available to make the templates, it is appropriate to use the flow to bond the sleeves and not use cyano-methacrylate because the latter tends to oxidize them.

Important warning
In order to use the mounters for guided surgery with the Syra Short implants, the specific GS-VTMOU-200-S screw must be purchased separately.

implant	implant ø	sleeve		mounter	screw
Shelta Shelta SL	**3.80**	**GS-B415**  5.00 	**GS-B415-EX-6***  4.00 	**GS-MOU-A380**  9.00	**GS-VTMOU-180**  M 1.8
	4.25 **5.00**	**GS-B550**  5.00 	**GS-B550-EX-6***  4.00 	**GS-MOU-A380SP**  9.00	**GS-VTMOU-180**  M 1.8

implant	implant ø	sleeve		mounter	screw
Prama RF	**3.80**	**GS-B415**  5.00 	**GS-B415-EX-6***  4.00 	**GS-MOU-L415**  6.20	**VM2-180**  M 1.8
	4.25 **5.00**	**GS-B550**  5.00 	**GS-B550-EX-6***  4.00 	**GS-MOU-L550**  6.20	**VM2-180**  M 1.8

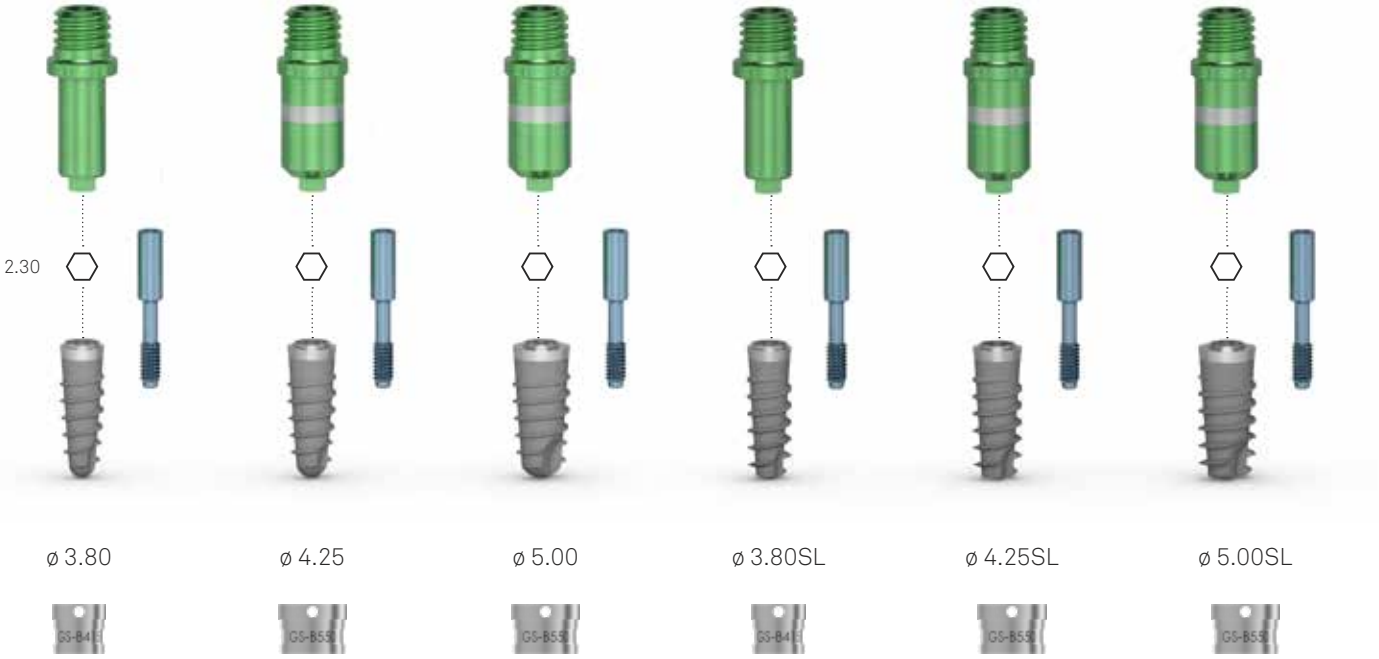
implant	implant ø	sleeve		mounter	screw
Syra	**3.80**	**GS-B415**  5.00 	**GS-B415-EX-6***  4.00 	**GS-MOU-E410**  9.00	**GS-VTMOU-200**  M 2.0
	4.25 **5.00**	**GS-B550**  5.00 	**GS-B550-EX-6***  4.00 	**GS-MOU-E500**  9.00	**GS-VTMOU-200**  M 2.0

implant	implant ø	sleeve		mounter	screw
Syra Short	**4.10**	**GS-B415**  5.00 	**GS-B415-EX-6***  4.00 	**GS-MOU-E410** 9.00	**GS-VTMOU-200-S** M 2.0
	5.00	**GS-B550** 5.00 	**GS-B550-EX-6*** 4.00 	**GS-MOU-E500** 9.00	**GS-VTMOU-200-S** M 2.0

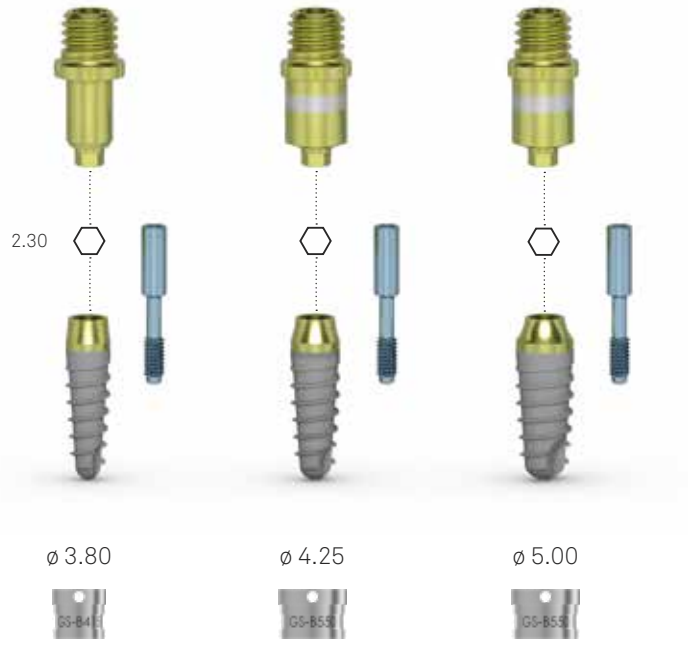
**The indexed sleeves are available in packs of 6, not individually.*

Implant mounters and connections

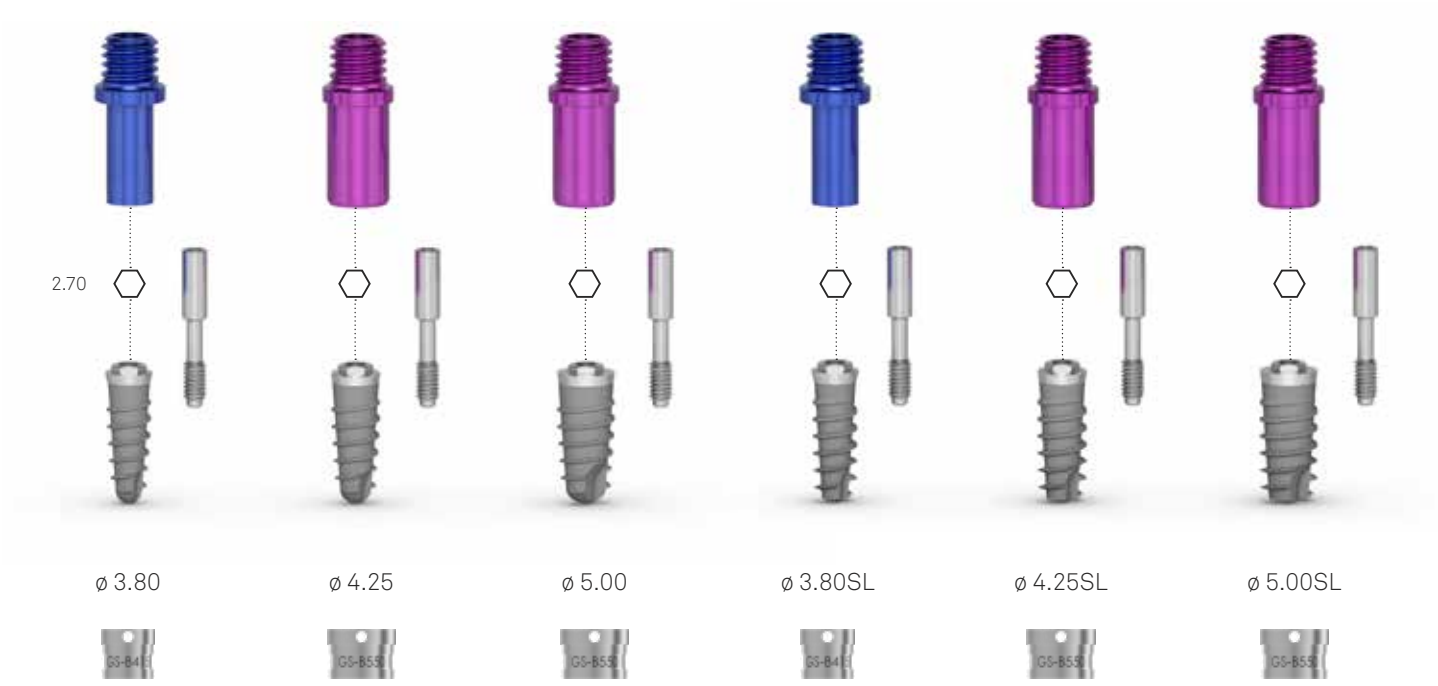
The Echoplan PRO S kit allows for the insertion of conical implants with three different coronal emergences and connections. The Shelta and Shelta SL implants have the Collex One connection, with an internal prosthetic support hexagon that makes the prostheses robust and stable and acts as a guide when engaging the mounters. The connection is the same for all implant diameters but mounters differ according to the diameters of the reference guide sleeves (see the table in the previous page) within which the mounters must be guided for the 9.00 mm of their length.



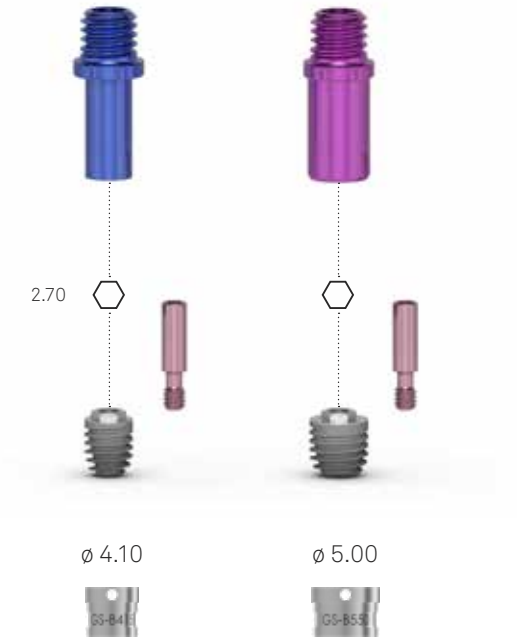
The Prama RF mounters take the 2.80 mm length of the intramucosal neck into consideration, and the tract that's guided into the sleeve is therefore 6.20 mm in length (see page 8).



All three diameters of the Syra and Syra SL implants have an external hexagon connection with a 2.70 mm standard hexagon, 0.70 mm height and M 2.0 threading.
The hexagon acts as a guide when engaging the mounters, which are pre-assembled with the implants; however, for positioning with guided surgery, these must be removed and replaced with the appropriate Echoplan mounters: the indications for this operation are found on page 67.



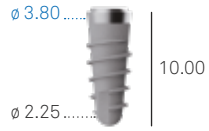
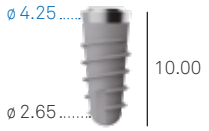
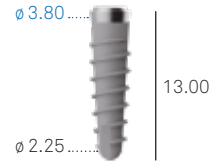
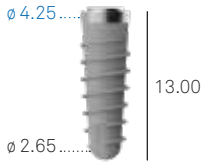
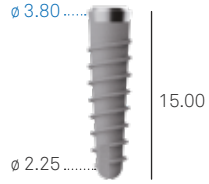
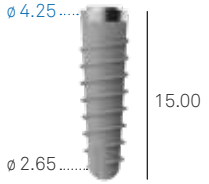
Though the same hexagon connection, the internal threading on the Syra Short implants is slightly shorter than the threading on the Syra standard and Syra SL implants, and the mounters for the external hexagon therefore need to be fixed to the implant with a specific pink screw (code GS-VTMOU-200-S), which must be purchased separately from the mounters.



Shelta implants

Shelta implants have a conical shape that gradually decreases as the length of the implants themselves increases. The angle, on the other hand, remains the same for implants of the same length but with different diameters.

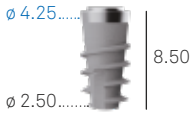
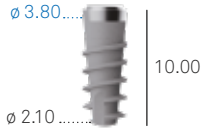
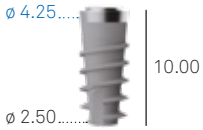
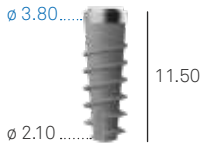
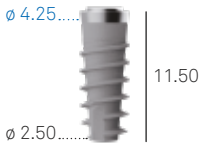
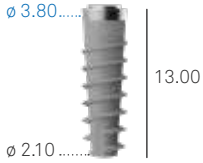
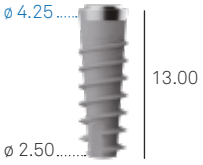
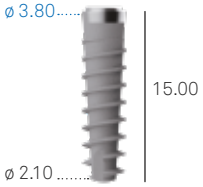
***N. B.**: The Shelta implant range also includes implants with a diameter of 6.00 mm, but these cannot be inserted using guided surgery. For complete information about Shelta implants, the sizes available and the traditional insertion protocol for each size, see the MC-IMP-SHELTA-E surgical manual available for download from the website www.sweden-martina.com.*

implant ø	3.80	4.25	5.00
8.50	**SH-ZT-380-085** 	**SH-ZT-425-085** 	**SH-ZT-500-085** 
10.00	**SH-ZT-380-100** 	**SH-ZT-425-100** 	**SH-ZT-500-100** 
11.50	**SH-ZT-380-115** 	**SH-ZT-425-115** 	**SH-ZT-500-115** 
13.00	**SH-ZT-380-130** 	**SH-ZT-425-130** 	**SH-ZT-500-130** 
15.00	**SH-ZT-380-150** 	**SH-ZT-425-150** 	**SH-ZT-500-150** 
Surgical cover screws*	**SH-VT-380-VE** 	**SH-VT-425-BL** 	**SH-VT-500-VI** 

**Each implant is sold with the respective 4 Gr. titanium surgical cover screw already sterilised. Individual surgical cover screws are also available in sterile packs and are tightened at 8-10 Ncm.*
In the event that a Platform Switching protocol is adopted starting from the initial healing phase, surgical cover screws with a smaller diameter can be purchased separately.

Shelta SL implants

The tapered morphology of the body of the Shelta SL implants is the same as that of the Shelta implants, but the threading outer profile is cylindrical along the entire length of the implant.

implant ø	3.80	4.25	5.00
8.50	**SH-ZT-380SL-085** 	**SH-ZT-425SL-085** 	**SH-ZT-500SL-085** 
10.00	**SH-ZT-380SL-100** 	**SH-ZT-425SL-100** 	**SH-ZT-500SL-100** 
11.50	**SH-ZT-380SL-115** 	**SH-ZT-425SL-115** 	**SH-ZT-500SL-115** 
13.00	**SH-ZT-380SL-130** 	**SH-ZT-425SL-130** 	**SH-ZT-500SL-130** 
15.00	**SH-ZT-380SL-150** 	**SH-ZT-425SL-150** 	**SH-ZT-500SL-150** 
Surgical cover screws*	**SH-VT-380-VE** 	**SH-VT-425-BL** 	**SH-VT-500-VI** 

**Each implant is sold with the respective 4 Gr. titanium surgical cover screw already sterilised. Individual surgical cover screws are also available in sterile packs and are tightened at 8-10 Ncm..*
In the event that a Platform Switching protocol is adopted starting from the initial healing phase, surgical cover screws with a smaller diameter can be purchased separately.

Prama RF implants

Prama RF (Root Form) implants have a conical endosseous morphology and a convergent neck consisting of an initial cylindrical segment followed by a hyperbolic upper portion. Their rounded apex renders them ideal for sinus lifting procedures. Prama RF implants are made from **cold worked** Gr. 4 titanium bars.

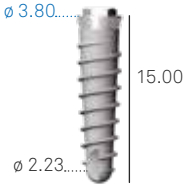
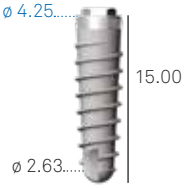
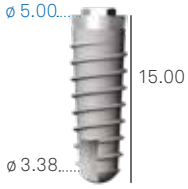
Prama implants with golden-yellow transmucosal neck may not be released for sale in all markets. For further information on Prama implants, please go to www.sweden-martina.com

implant ø	3.80	4.25	5.00
6.00	-	**LS-ZT-425-060** ø 3.40 ø 4.25 2.80 6.00	**LS-ZT-500-060** ø 3.40 ø 5.00 2.80 6.00
8.50	**LS-ZT-380-085** ø 3.40 ø 3.80 ø 2.25 2.80 8.50	**LS-ZT-425-085** ø 3.40 ø 4.25 ø 2.65 2.80 8.50	**LS-ZT-500-085** ø 3.40 ø 5.00 ø 3.40 2.80 8.50
10.00	**LS-ZT-380-100** ø 3.40 ø 3.80 ø 2.25 2.80 10.00	**LS-ZT-425-100** ø 3.40 ø 4.25 ø 2.65 2.80 10.00	**LS-ZT-500-100** ø 3.40 ø 5.00 ø 3.40 2.80 10.00
11.50	**LS-ZT-380-115** ø 3.40 ø 3.80 ø 2.25 2.80 11.50	**LS-ZT-425-115** ø 3.40 ø 4.25 ø 2.65 2.80 11.50	**LS-ZT-500-115** ø 3.40 ø 5.00 ø 3.40 2.80 11.50
13.00	**LS-ZT-380-130** ø 3.40 ø 3.80 ø 2.25 2.80 13.00	**LS-ZT-425-130** ø 3.40 ø 4.25 ø 2.65 2.80 13.00	**LS-ZT-500-130** ø 3.40 ø 5.00 ø 3.40 2.80 13.00
15.00	**LS-ZT-380-150** ø 3.40 ø 3.80 ø 2.25 2.80 15.00	**LS-ZT-425-150** ø 3.40 ø 4.25 ø 2.65 2.80 15.00	**LS-ZT-500-150** ø 3.40 ø 5.00 ø 3.40 2.80 15.00
Surgical cover screws	**L-VT-340**	**L-VT-340**	**L-VT-340**

***N. B.**: the implant's nominal length expresses the endosseous length of the implant.*
Given the presence of the intramucosal neck, the total length is 2.80 mm greater than the nominal length.
Each implant is sold with the respective 4 Gr. titanium surgical cover screw already sterilised. Individual surgical cover screws are also available in sterile packs and are tightened at 8-10 Ncm.

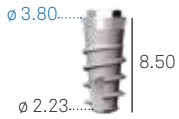
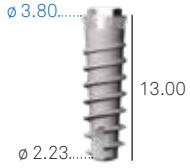
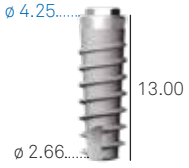
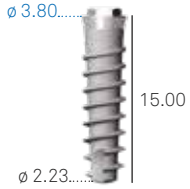
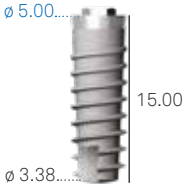
Syra implants

The thread on Syra implants have the same **constant** depth along the entire body of the fixture, keeping the maximum external profile conical. **This means that the morphology of the entire implant can be inserted even where bone volumes between the roots of the adjacent teeth would prevent the use of broader morphologies**.

implant ø	3.80	4.25	5.00
8.50	**SE-ZT-380-085** 	**SE-ZT-425-085** 	**SE-ZT-500-085** 
10.00	**SE-ZT-380-100** 	**SE-ZT-425-100** 	**SE-ZT-500-100** 
11.50	**SE-ZT-380-115** 	**SE-ZT-425-115** 	**SE-ZT-500-115** 
13.00	**SE-ZT-380-130** 	**SE-ZT-425-130** 	**SE-ZT-500-130** 
15.00	**SE-ZT-380-150** 	**SE-ZT-425-150** 	**SE-ZT-500-150** 
Surgical cover screws	**SE-VT-410** 	**SE-VT-410** 	**SE-VT-410** 

Syra SL implants

Syra SL implants have a conical core geometry paired with a constant cylindrical **external profile along the entire implant length**.
This feature ensures that the thread is far more accentuated at the apex. The elevated **cutting capacity of the thread towards the apex** is therefore combined with **thicker** coronal thread that **gradually packs the peri-implant bone**, thus ensuring great stability. **The resulting morphology is ideal for post-extraction surgery and in cases of poor bone density**.

implant ø	3.80	4.25	5.00
8.50	**SE-ZT-380SL-085** 	**SE-ZT-425SL-085** 	**SE-ZT-500SL-085** 
10.00	**SE-ZT-380SL-100** 	**SE-ZT-425SL-100** 	**SE-ZT-500SL-100** 
11.50	**SE-ZT-380SL-115** 	**SE-ZT-425SL-115** 	**SE-ZT-500SL-115** 
13.00	**SE-ZT-380SL-130** 	**SE-ZT-425SL-130** 	**SE-ZT-500SL-130** 
15.00	**SE-ZT-380SL-150** 	**SE-ZT-425SL-150** 	**SE-ZT-500SL-150** 
18.00	**SE-ZT-380SL-180** 	-	-
Surgical cover screws	**SE-VT-410** 	**SE-VT-410** 	**SE-VT-410** 

Syra Short implants

Syra Short implants, with feature heights of 4.00, 5.00 and 6.00 mm, are designed for use in clinical cases of **limited vertical bone dimensions**.
For this reason, the reduced height of the implant is paired with high-performance thread with an excellent cutting capacity, thus guaranteeing **excellent primary stability for the implant**, even in cases of low-density bone.

Syra Short implants have the same conical morphology typical of Syra implants and the same **external hexagon connection**. Available with Full Treatment ZirTi. An extremely shallow bevel is present around the connection platform to guarantee the prosthetic seal.

Syra Short implants with heights of 5.00 and 6.00 mm have the same morphology at the apex as the 4.00 mm implants, but with a cylindrical coronal section that is 1.00 mm and 2.00 mm longer, respectively.

implant ø	4.10	5.00
4.00	**SE-ZT-410-040** 	**SE-ZT-500-040** 
5.00	**SE-ZT-410-050** 	**SE-ZT-500-050** 
6.00	**SE-ZT-410-060** 	**SE-ZT-500-060** 
Surgical cover screws	**SE-VT-410** 	**SE-VT-410** 

Important warning
The length of the internal threading on the Syra Short implants is slightly shorter compared to the Syra standard and Syra SL implants. It should be noted that prosthetic solutions from other implant systems that feature a standard external hexagon (e.g. Outlink²) may not be compatible with Syra Short implants. In any event, the use of any non original prosthetic components will invalidate the product's warranty.

Important warning
The Syra Short implant with a nominal length of 4.00 mm has an effective height of 4.30 mm.

General overview

The surgical instruments for implant systems manufactured by Sweden & Martina S.p.A. are reusable medical devices intended for use in the oral cavity, for temporary use (continuous duration not exceeding 60 minutes). The surgical instruments' functions are to prepare the implant sites, to insert the implants into the sites, to tighten and loosen all the connecting screws (surgical locking screws, transmucosal healing screws, abutment screws, prosthetic screws, transfer screws, etc.)

Surgical instruments manufactured by Sweden & Martina are intended for use with dental implants also manufactured by Sweden & Martina. The use of surgical instruments for procedures with implants other than those manufactured by Sweden & Martina limits Sweden & Martina's liability and voids the product warranty. Sweden & Martina shall bear no liability for the use of non-original instruments. Sweden & Martina surgical instruments are sold in **NON-STERILE packaging**. Before use, the instruments must be cleaned, disinfected and sterilised according to the instructions below. Lack of compliance may result in patient infection.
The materials used for the manufacture Sweden & Martina surgical instruments have been selected on the basis of the properties indicated for their intended use, in compliance with the European Regulation 2017/745.

Each package bears the product code, a description of the contents and the batch number. These same data, which can also be found on labels inside the packages, are to always be quoted by the doctor in any communications about the products.
All devices are identified by their instrument code, laser-marked on the device body. If space does not permit the complete code to be shown, the elements that allow the device to be identified unambiguously (e.g. diameter or length) are marked. When handling the devices, both during use and during cleaning and sterilisation, it is recommended that surgical gloves always be worn for individual protection against bacterial contamination. Failure to comply may result in cross infection.

Surgical instrument code key

Surgical instrument codes are so-called "talking" codes, i.e. they allow the part to be easily identified. Below is a table explaining how the talking code works, using different types of instruments as examples.

Examples	Type of component and type of implant	Diameter	Length	sleeve
Since the range of instruments is vast, below are a few examples from the main instrument families	The "GS" acronym indicates the instruments dedicated to guided surgery, designed to be conducted on the sleeves inserted in the surgical template	Normally this is the diameter measurement of the implant to be inserted using that specific instrument	This measurement is normally linked to the length of the component, or to other relevant measurements that characterise it, or it is an abbreviation that defines the preparation depth of the drill	This indicates the internal diameter of the sleeve on which the instrument will be guided
GS-F200-100-415	GS-F: drill for guided surgery	200: 2.00 mm	100: for preparation of implants h 10.00 mm	415: for sleeve with diameter 4.15 mm
GS-MUC-550	GS- MUC: mucotome for guided surgery	-	-	550: for 5.50 mm diameter sleeve
GS-FPN-148	GS-FPN: drill for insertion of pin to fix surgical template	148: 1.48 mm	-	-

Echoplan PRO S surgical kit

The Echoplan PRO S surgical kit has been designed and developed to offer ease of use and immediacy in terms of the correct sequence of the instruments. The instruments are all made of stainless steel for surgical use. Their descriptions are screen printed on the tray in order to allow the user to easily identify each instrument and return it to its proper place in the kit after the cleansing and cleaning phases, thanks to the help of a system of colour codes used to identify the appropriate surgical procedures for the various implant diameters.

Important warning
The Echoplan PRO S kit and the surgical instruments contained therein are sold in a NON-STERILE pack. They must be cleaned, disinfected and sterilized prior to use, in accordance with the instructions provided below. Failure to follow these warnings may expose the patient to infections.

The kit has holders for the optional drills used to prepare the 4.00, 5.00 and 6.00 mm short implants and the 18.00 mm long implants, which are available separately

description	code
Grommetless surgical kit complete with the instruments required for guided insertion of Shelta, Syra and Prama RF implants	**ZGS-PRO-S-INT** 
Grommetless instrument cases made of Radel for the guided surgery instruments, empty	**GSPROS-TRAY-INT**

Important warning
The kit does not contain mounters which must be bought separately before the surgical operation.
The mounters can be subsequently organised and stored in a specific organizer. For details, see page 48.

1 **Mucotomes**
GS-MUC-415
GS-MUC-550

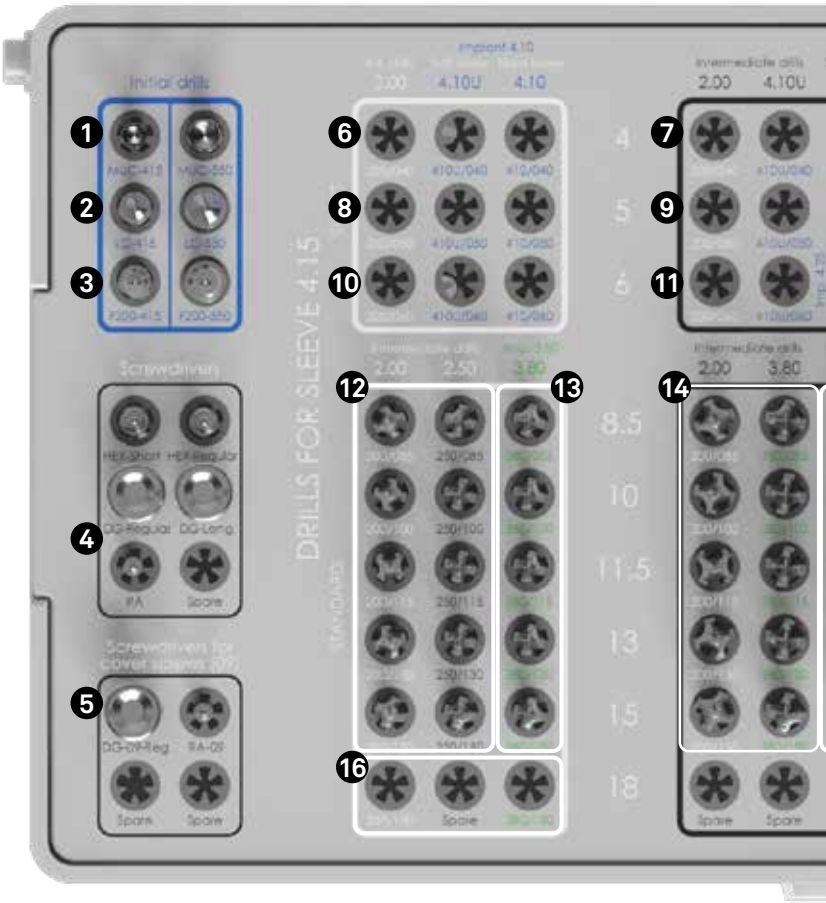
2 **Bone profilers**
GS-LC-415
GS-LC-550

3 **Initial drills and progressive drill**
GS-F200-415
GS-F200-550

4 **Drivers for fixation screws**
HSM-20-EX HSML-20-EX HSM-20-DG HSML-20-DG HSM-20-CA

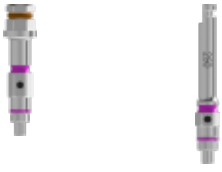
22 **Hand knob**
AVV3-MAN-DG

21 **Torque control ratchet**
CRI5-KIT



20 **Pins and drill for pins**
GS-FPN-148 GS-PIN (1 pcs)

19 **Drivers for mounters**
EASY4-EX250-EX EASYC4-EX250-CA



18 **Countersink drills**
GS-FCS-SH380
GS-FCS-SH425
GS-FCS-SH500
GS-FCS-SE380
GS-FCS-SE425
GS-FCS-SE500

17 **Bone taps**
GS-MS-S380
GS-MS-S425
GS-MS-S500

16 **Optional drills for H 18.00 mm implants ø 4.15 mm sleeve**
GS-F200-180-415
GS-FK380-180-415

15 **Final drills for ø 5.50 mm sleeve**
GS-FK425-085-550
GS-FK425-100-550
GS-FK425-115-550
GS-FK425-130-550
GS-FK425-150-550
GS-FK500-085-550
GS-FK500-100-550
GS-FK500-115-550
GS-FK500-130-550
GS-FK500-150-550

5

Screwdrivers for surgical cover screws

HSM-09-CA HSM-09-DG

6

Optional drills for Syra Short H 4.00 mm ø4.10 mm implants

GS-F200-040-415
GS-FK410U-040-415
GS-FK410-040-415

7

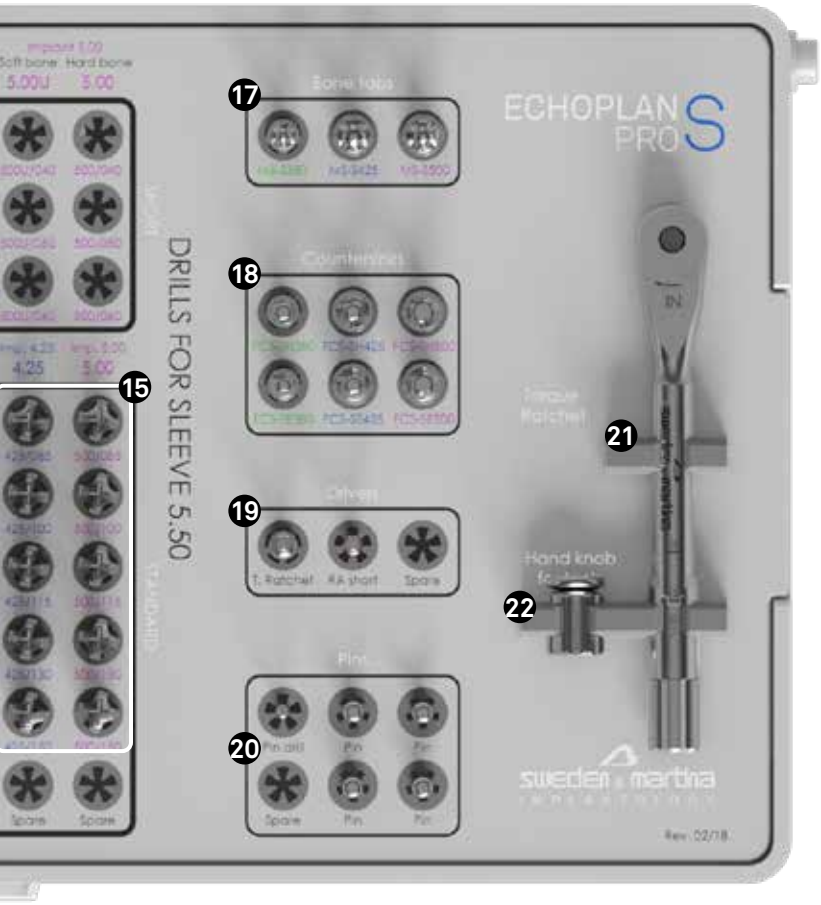
Optional drills for Syra Short H 4.00 mm ø 5.00 mm implants

GS-F200-040-550
GS-FK410U-040-550
GS-FK500U-040-550
GS-FK500-040-550

8

Optional drills for Syra Short H 5.00 mm ø 4.10 mm implants

GS-F200-050-415
GS-FK410U-050-415
GS-FK410-050-415



9

Optional drills for Syra Short H 5.00 mm ø 5.00 mm implants

GS-F200-050-550
GS-FK410U-050-550
GS-FK500U-050-550
GS-FK500-050-550

10

Optional drills for Syra Short H 6.00 mm ø 4.10 mm implants

GS-F200-060-415
GS-FK410U-060-415
GS-FK410-060-415

11

Optional drills for Syra Short and Prama RF H 6.00 mm ø 5.00 mm implants

GS-F200-060-550
GS-FK410U-060-550
GS-FK500U-060-550
GS-FK500-060-550

14

Intermediate drills for ø 5.50 mm sleeve

GS-F200-085-550
GS-F200-100-550
GS-F200-115-550
GS-F200-130-550
GS-F200-150-550
GS-FK380-085-550
GS-FK380-100-550
GS-FK380-115-550
GS-FK380-130-550
GS-FK380-150-550

13

Final drills for ø 4.15 mm sleeve

GS-FK380-085-415
GS-FK380-100-415
GS-FK380-115-415
GS-FK380-130-415
GS-FK380-150-415

12

Intermediate drills for ø 4.15 mm sleeve

GS-F200-085-415
GS-F200-100-415
GS-F200-115-415
GS-F200-130-415
GS-F200-150-415
GS-FK250-085-415
GS-FK250-100-415
GS-FK250-115-415
GS-FK250-130-415
GS-FK250-150-415

Rotating instruments

All Sweden & Martina drills are made of **surgical steel**, which is **highly resistant to corrosion and wear**. They are intended for mechanical use, i.e., they have a shank with a contra-angle attachment and must be used with a suitable micromotor. The great care taken in their design and manufacture means that their operation is **absolutely free of vibrations and oscillations**. Nevertheless, any improper insertion of the tools into the handpiece can lead to instrument vibration, eccentric rotation, premature wear and bent shanks. Only surgical micromotors that are suitable for these applications should be used. To prevent any malfunctions (e.g. axis shifts of the drive shafts, worn or malfunctioning collets, etc.), it is strongly suggested that your micromotors be periodically inspected by their manufacturers, according to instructions.

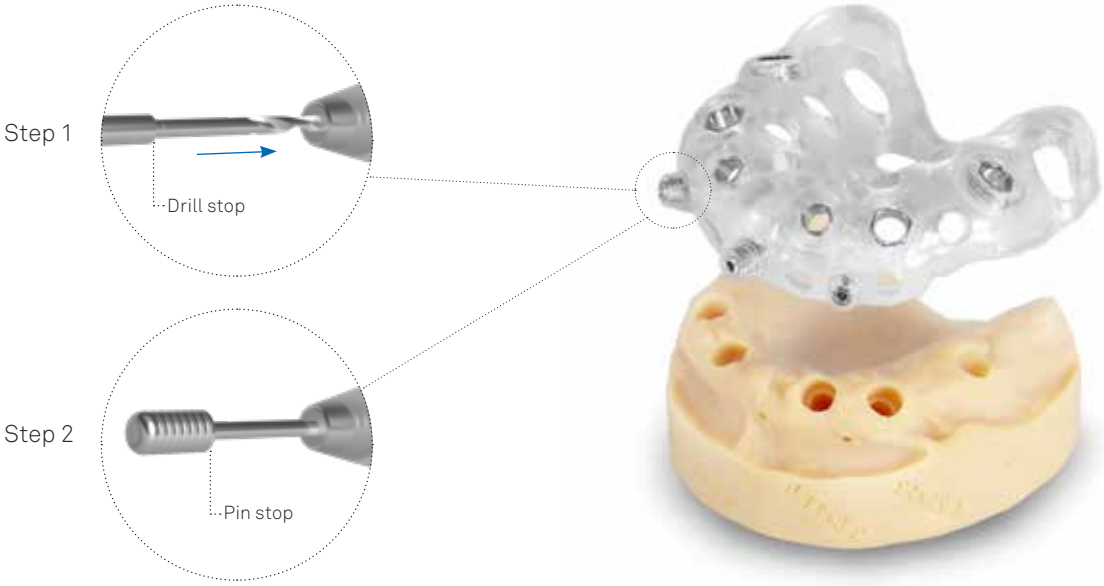
Failure to follow these guidelines could lead to surgical complications and consequent harm to patients' health. It is recommended that the rotation speeds, which are indicated in the procedures on page 55 et seq., be used to avoid the development of bone necrosis. Lever movements augment the risk of tool fracture and should therefore be avoided. In general, sudden changes in speed should be avoided. Pressure should never be applied to forcibly stop the rotation of the instrument. This could cause excessive heat to build-up in the tissues being cut, which can result in bone necrosis, and which can ruin both the tool and the drive used (micromotor). This can also lead to the tool breaking. It is also suggested that the work be performed intermittently with a vertical up-and-down movement to avoid overheating and wear of the working tool and any undue heat build-up in the tissues involved in the cut. Furthermore, an appropriate coolant should also be used. Bone necrosis may occur without adequate irrigation. Drill wear largely depends on the type and density of the bone being cut: harder bone leads to greater tool wear.
It is recommended, for greater safety and caution with respect to the wear capacity of the device, that drills be used for no more than 20 work cycles or less if the tools begin to lose their cutting capacity. The suggested 20 work cycles is an average figure. The tools' residual cutting capacity should be checked after each surgical procedure. Sweden & Martina shall bear no liability for excess usage. Drills should never be resharpened before use. Never use tools that are either damaged, bent or worn.

The drills for guided surgery have been designed to work inside the sleeves, manufactured by Sweden & Martina, which have been inserted in the surgical templates by the respective manufacturer.
Sweden & Martina shall bear no liability for any malfunctions or damage caused by the use of guided surgery drills with non-original sleeves or sleeves that do not match the dimensions of the instruments, which may seize up, may not be guided correctly or may reach a position different from what was planned by the clinician if the sleeve height is not correct.

Important Warnings
The Echoplan PRO S kit and the surgical instruments it contains are sold in NON-STERILE packaging. Before use, the instruments must be cleaned, disinfected and sterilised according to the instructions below. Lack of compliance may result in patient infection.

Fastener pins and drills

When it is not possible to stabilise the surgical guide on the residual teeth, a full-thickness flap protocol should be adopted to ensure support from the bone. Since using the dental arch would still give rise to rocking, the template will need to be stabilised with bone pins, in titanium Gr 5, included in the kit. To drill the hole for the pins, the corresponding GS-FPN-148 drill has been supplied, to be used at 800 rpm.
The pins are guided in dedicated sleeves, which have been supplied fully inserted in the template by Sweden & Martina at no extra cost with respect to the list price. If the templates are to be made in the laboratory, the sleeves, which are not sold individually, can be purchased separately in packs of 6.



Important Warning
To correctly stabilise the template, it is essential that both the drills and the pins are brought to the stop.

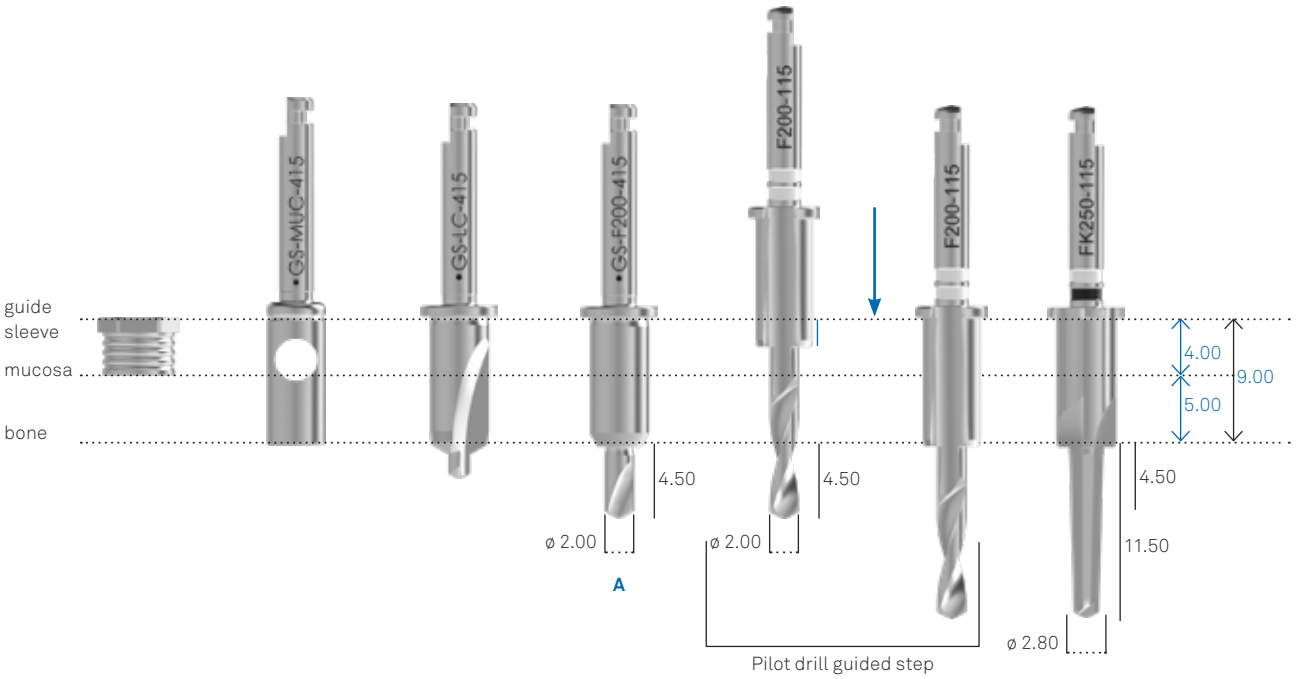
Description	Code
Drill for fixing pin	**GS-FPN-148** 
Fixing pin Pack of 1 piece	**GS-PIN** 
Sleeve for pins Pack of 6 pieces	**GS-B150-PIN-6** 

From planning to implant insertion: stages in Echoplan guided surgery

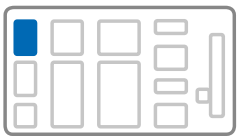
Thanks to the potential of 3D simulation, the clinician is able to define exactly the diameter and height of the implant to be inserted using one of the numerous softwares on the market. The correct implant positioning is referred to the operator's clinical experience and to the accuracy of the chosen software. The Echoplan PRO S kit can be used with all softwares respecting a stop contact distance for the instruments fixed at 9.00 mm from the implant platform.

The choice of the guide sleeve to be inserted in the template is made by the template manufacturer and is bound by the diameter of the implant chosen. See page 8 for information about the sleeves that Sweden & Martina manufactures for the production of the surgical templates. After identifying the diameter of the sleeve to be used, it is possible to prepare the surgical site using the appropriate surgical instruments from the Echoplan PRO S kit for the sleeve diameter.

Site preparation **must** proceed with the sequential use of three surgical accessories included in the kit, which are the following: mucotome, the bone profiler and the initial drill. The shape of the drill tips allows a hole with a diameter of 2.00 mm and a depth of 4.50 mm (**A**) to be bored. In this way the final drills that are used subsequently are guided from the first millimetres onwards at the tip (for 4.50 mm by the hole bored by the initial drill) and in the guide sleeve. The illustration below visually helps to understand the importance of these three initial steps.
All three instruments are included in the kit in both the versions for the ø 4.15 mm and the ø 5.50 mm sleeve.

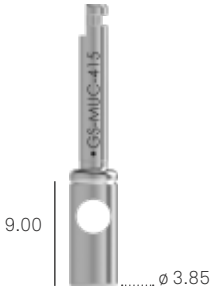


Surgical instruments for the initial phase



Mucotomes GS-MUC-415 and GS-MUC-550

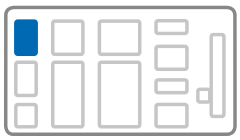
The kit contains two mucotomes, one for each sleeve diameter. Since they only have to core the mucosa and are used in the first surgical step, they have no predetermined stop. The mucotomes have an indented notch at 9.00 mm, as a visual reference. The two mucotomes create a modest over-preparation of the mucosa to avoid direct contact with the drills.

Description	For ø 4.15 mm sleeve	For ø 5.50 mm sleeve
Mucotomes for guided surgery	**GS-MUC-415** 	**GS-MUC-550** 

Crestal bone levellers GS-LC-415 and GS-LC-550

The crestal levellers have a dual function. They drill a very shallow hole that will guide the tip of subsequent instruments whilst also eliminating any irregularities in the bone crest. This is precisely why there is a cutting edge on the oblique profile at the tip of the part that is guided by the sleeve.

Description	For ø 4.15 mm sleeve	For ø 5.50 mm sleeve
Crestal levellers for guided surgery	**GS-LC-415** 	**GS-LC-550** 



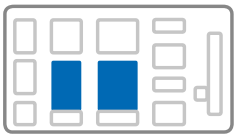
Initial drills GS-F200-415 and GS-F200-550

The third compulsory stage involves two initial drills, one for each sleeve diameter, to be used always regardless of the implant system.
The drills create a hole with a depth of 4.50 mm, so that the subsequent drills can be guided doubly, both at the tip, because this is inserted in the guide hole already drilled, and by the stop that is guided inside the sleeve at a higher position.

Description	For ø 4.15 mm sleeve	For ø 5.50 mm sleeve
Frese iniziali per chirurgia guidata	**GS-F200-415** 	**GS-F200-550** 

Important warning
The GS-F200-415 drill must not be used for the insertion of Syra Short implants with heights of 4.00, 5.00 and 6.00 mm. Instead, use the appropriate drill specified in the sequences from page 60 onward.

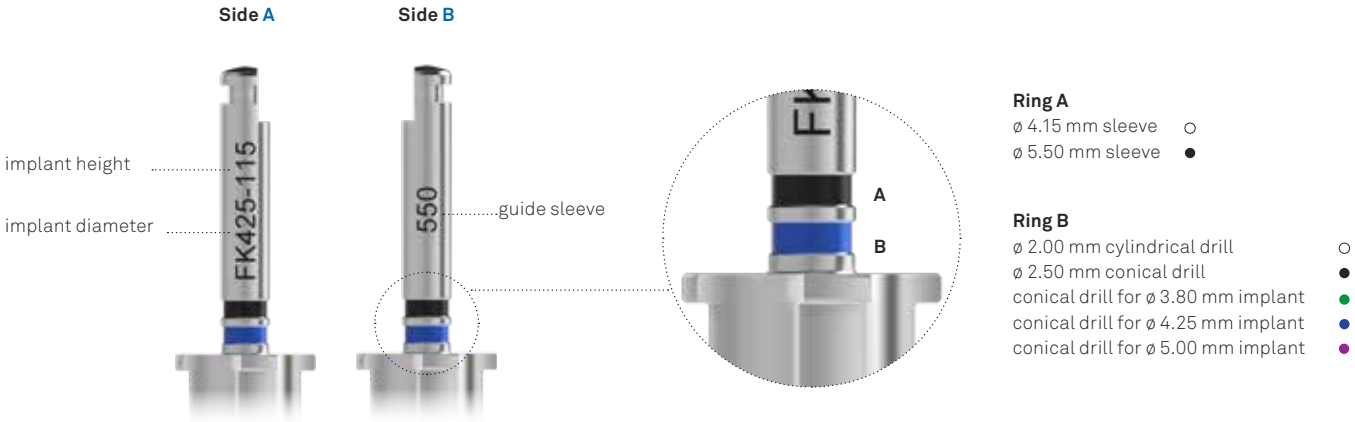
Intermediate and final drills



Given the shared conical body morphology of the Shelta, Syra and Prama RF implants, the same drills are used to prepare their sites. All the drills for the Echoplan PRO S system are conical and feature four perpendicular notches capable of collecting all the bone debris produced while drilling, resulting in preparation with a precise shape.

Each final drill has two indications on its shaft: one side (**side B**) indicates the diameter of the sleeves with which it is to be used, and the other side (**side A**) indicates a code made up of the diameter and the height of the corresponding implant, in that order.
The image below shows how for example the first part in the code F425-115 identifies the width of the preparation, that is, the diameter of the working part of the 4.25 mm drill, which is used as the final drill for a ø 4.25 mm implant, while the second part specifies length of the implant, 11.50 mm.

The drills are also characterized by a coloured double ring at the foot of the shaft. This colour is a code that, along with the upper band, identifies the sleeve's diameter (**ring A**: white for the ø 4.15 mm sleeve and black for the ø 5.50 mm sleeve) and, along with the lower band, identifies the diameter of the cutting edge, which in the case of the final drills refers to the colour of the sticker on the fixture's pack (**ring B**). See the headings of the tables on page 45 for the implant diameters corresponding to the colour codes.

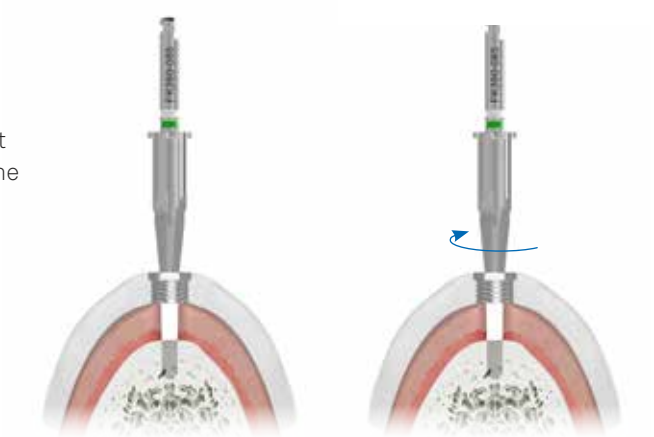


Intermediate drills have black and white rings only. Please find all the details in the tables on the following pages.

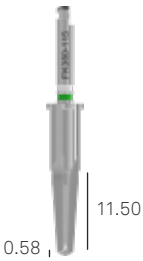
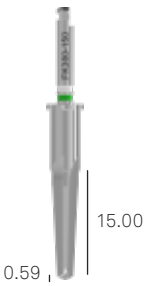
Stops are integrated into the drills' shaft for a faster and more ergonomic work.
Where possible, **the rotation of the drill should only be started when the stop is engaged into the sleeve**.

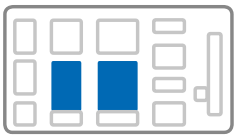
In order to guarantee maximum accuracy, it is advisable to irrigate the implant site abundantly with a sterile physiological solution (NaCl) during and after the preparation to facilitate the expulsion of bone residues that may obstruct the correct functioning of the instruments. The irrigation will also help prevent the drill from overheating and consequently the surrounding tissues: to facilitate the passage of the liquid, the intermittent drilling technique is probably the most useful.

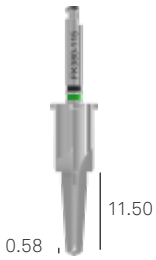
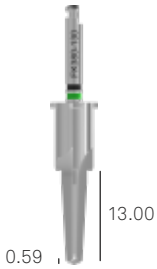
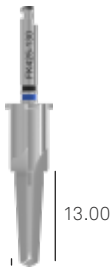
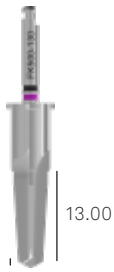
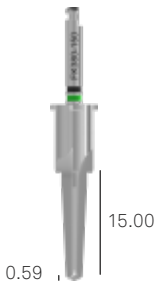
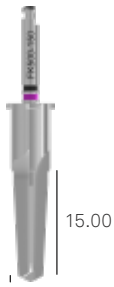
Before each intervention, check that the drills are in good condition and substitute them if necessary.



Drills provided with the Echoplan PRO S kit

description	for ø 4.15 mm sleeve		
Drills for preparing H 8.50 mm implants	**GS-F200-085-415** 	**GS-FK250-085-415** 	**GS-FK380-085-415** 
Drills for preparing H 10.00 mm implants	**GS-F200-100-415** 	**GS-FK250-100-415** 	**GS-FK380-100-415** 
Drills for preparing H 11.50 mm implants	**GS-F200-115-415** 	**GS-FK250-115-415** 	**GS-FK380-115-415** 
Drills for preparing H 13.00 mm implants	**GS-F200-130-415** 	**GS-FK250-130-415** 	**GS-FK380-130-415** 
Drills for preparing H 15.00 mm implants	**GS-F200-150-415** 	**GS-FK250-150-415** 	**GS-FK380-150-415** 

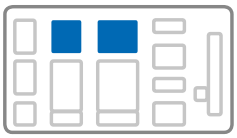


description	for ø 5.50 mm sleeve			
Drills for preparing H 8.50 mm implants	**GS-F200-085-550** 	**GS-FK380-085-550** 	**GS-FK425-085-550** 	**GS-FK500-085-550** 
Drills for preparing H 10.00 mm implants	**GS-F200-100-550** 	**GS-FK380-100-550** 	**GS-FK425-100-550** 	**GS-FK500-100-550** 
Drills for preparing H 11.50 mm implants	**GS-F200-115-550** 	**GS-FK380-115-550** 	**GS-FK425-115-550** 	**GS-FK500-115-550** 
Drills for preparing H 13.00 mm implants	**GS-F200-130-550** 	**GS-FK380-130-550** 	**GS-FK425-130-550** 	**GS-FK500-130-550** 
Drills for preparing H 15.00 mm implants	**GS-F200-150-550** 	**GS-FK380-150-550** 	**GS-FK425-150-550** 	**GS-FK500-150-550** 

Optional drills for 4.00, 5.00 and 6.00 mm heights

The surgical kit contains all the instruments for inserting implants ranging from 8.50 mm to 15.00 mm in length. It also includes empty slots for the optional drills for preparing sites 4.00, 5.00 and 6.00 mm in length for Syra Short and Prama RF Short implants. Two final drills are available for preparing the sites for Syra Short implants (4.10 and 5.00 mm), to be used based on bone quality: one drill is dedicated to soft bone and bears the code GS-FK410U-... and GS-FK500U-... on the shank, the other drill is meant for use with hard bone. The drill for soft bone can also be used as an intermediate step for the preparation of hard bone. Instructions for the use of the drills for under preparation or full diameter preparation are provided on pages 60-63.
Such optional drills can be purchased individually or in sets that cover all of the implant diameters for each special height.

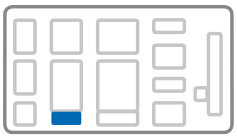
sleeve	ø 4.15 mm			Set of drills for the same diameter code
		Drill for preparation in soft bone	Drill for preparation in hard bone	
Drills for preparing H 4.00 mm ø 4.10 mm implants	**GS-F200-040-415**  4.58	**GS-FK410U-040-415**  4.29	**GS-FK410-040-415**  4.32	**GS-PROS-INTEGRA-040**
Drills for preparing H 5.00 mm ø 4.10 mm implants	**GS-F200-050-415**  5.58	**GS-FK410U-050-415**  4.72	**GS-FK410-050-415**  4.92	**GS-PROS-INTEGRA-050**
Drills for preparing H 6.00 mm ø 4.10 mm implants	**GS-F200-060-415**  6.58	**GS-FK410U-060-415**  5.72	**GS-FK410-060-415**  5.92	**GS-PROS-INTEGRA-060**

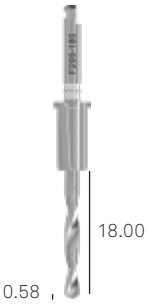
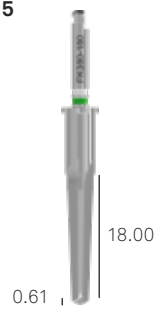


sleeve	ø 5.50 mm				Set of drills for the same diameter code
		Intermediate drill	Drill for under preparation in soft bone	Drill for final standard preparation in hard bone	
Drills for preparing H 4.00 mm ø 5.00 mm implants	**GS-F200-040-550**  4.58	**GS-FK410U-040-550**  4.29	**GS-FK500U-040-550**  4.26	**GS-FK500-040-550**  4.42	**GS-PROS-INTEGRA-040**
Drills for preparing H 5.00 mm ø 5.00 mm implants	**GS-F200-050-550**  5.58	**GS-FK410U-050-550**  4.72	**GS-FK500U-050-550**  4.88	**GS-FK500-050-550**  5.02	**GS-PROS-INTEGRA-050**
Drills for preparing H 6.00 mm ø 5.00 mm implants	**GS-F200-060-550**  6.58	**GS-FK410U-060-550**  5.72	**GS-FK500U-060-550***  5.88	**GS-FK500-060-550**  6.02	**GS-PROS-INTEGRA-060**

Important warning
The GS-FK500U-060-550 drill for the under-preparation of H 6.00 mm ø 5.00 mm Syra Short implants is the same drill used in the standard preparation for H 6.00 mm ø 4.25 mm Prama RF implants.

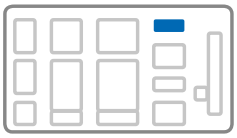
Optional drills for 18.00 mm height



sleeve	ø 4.15 mm	
Drills for preparing H 18.00 mm ø 3.80 mm implants	**GS-F200-180-415** 	**GS-FK380-180-415** 

***N. B.**: the drills for the preparation of implants with a height of 18.00 mm can only be purchased individually.*

Bone taps

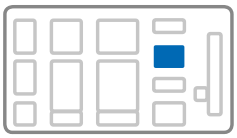


These are bladed instruments able to prepare bone to receive the implants' thread, in very compact or cortical bone in order to alleviate the compression and decrease the insertion torque. Each implant diameter has a dedicated bone tap.

description	ø 3.80	ø 4.25	ø 5.00
Bone taps for Shelta,Syra and Prama RF implants	**GS-MS-S380** 	**GS-MS-S425** 	**GS-MS-S500** 

Important warning
It is not recommended to tap preparations intended to receive Shorty implants (i.e. Prama RF with a height of 6.00 mm and Syra Short with heights of 4.00, 5.00 and 6.00 mm), even in highly mineralised bone.

Countersink drills



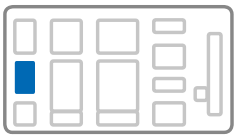
The Shelta and Syra implants have a 1.00 mm tall neck that widens with respect to the conical morphology of the core. The angle is different for the two systems and for implants of different diameters, which is why the Echoplan PRO S includes two different sets of countersink drills, useful for avoiding excessive compression of the coronal cortex.

description	ø 3.80	ø 4.25	ø 5.00
Countersink drills for Shelta implants	**GS-FCS-SH380** 	**GS-FCS-SH425** 	**GS-FCS-SH500** 

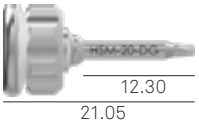
description	ø 3.80	ø 4.25	ø 5.00
Countersink drills for Syra implants	**GS-FCS-SE380** 	**GS-FCS-SE425** 	**GS-FCS-SE500** 

Important warning
Even in very mineralized bone it is not advisable to use the countersink drill for the preparations of 6.00 mm height implants.

Drivers for fixation screws



The surgical kit contains several useful screwdrivers for tightening and unscrewing mounter fixation screws, healing abutments, transfer screws, post and abutments screws. All of the screwdrivers are made of stainless steel for surgical use. The design of the tip of all of the screwdrivers is the same so they are all interchangeable. They are available in different total lengths and in digital and one-piece version, that is to say, solid with a handpiece that can be gripped, or equipped with a hexagonal connector compatible with the ratchet.
The one-piece hand drivers in the kit are available in two different heights.

description	code
Screwdriver for fixation screws, digital, short and for surgical cover screws for Shelta and Prama RF implants	**HSM-20-DG** 
Screwdriver for fixation screws, digital, long and for surgical cover screws for Shelta and Prama RF implants	**HSML-20-DG** 

Important warning
It is recommended to pass a thread through the hole on the top of the digital screwdriver to prevent it from falling.

Important warning
Lever movements should be avoided as they increase the risk of breakage. Before tightening, make sure the hexagonal socket screw head on the driver tip is correctly inserted into the screws to be tightened. Incorrect insertion is likely to pare off the hexagonal connection of the screwdriver or the screw to be tightened.
Drivers have a slightly conical profile, able to guarantee the hexagonal connection on the tip of the drivergrips inside the hexagonal connection on the head of the screws, making it possible to carry the screw to the patient's mouth correctly, without dropping it.
Replace drivers regularly to reduce the risk of wear to the hexagon connection.

Important warning
Excessive torque can strip the fixation screws' slots and round off the corners of the screwdrivers causing intraoperative or prosthetic complications that can be serious. The recommended torques for tightening the various components are summarized in the following table:

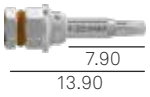
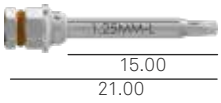
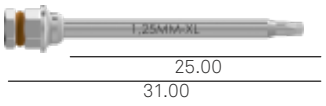
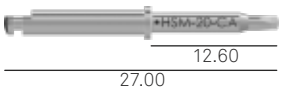
description	recommended torque
surgical cover screws, healing abutments	8-10 Ncm
all of the prosthetic screws	20-25 Ncm
all of the prosthetic components with direct screw retention on the implant	25-30 Ncm
transfer fixation screws	8-10 Ncm

Surgical screwdrivers for Syra implants

description	code
Screwdriver for surgical cover screws, with right angle shank for fixation screws	**HSM-09-CA** 
Screwdriver for surgical cover screws, digital	**HSM-09-DG** 

Prosthetic screwdrivers

In order to facilitate the engagement of the screws or the threaded portions of the prosthetic components, tightening can be started using the digital screwdrivers. Nevertheless, given the importance of the tightening torque, it is advisable to use screwdrivers with hexagonal connectors in this phase, keeping the torque under control with the applied use of the torque wrench.

description	code
Screwdriver for fixation screws, with hexagonal connector for torque control ratchet or hand knob, short	**HSM-20-EX** 
Screwdriver for fixation screws, with hexagonal connector for torque control ratchet or hand knob, long	**HSML-20-EX** 
Screwdriver for fixation screws, with hexagonal connector for torque control ratchet or hand knob, extra long*	**HSMXL-20-EX** 
Screwdriver, with right angle shank for fixation screws	**HSM-20-CA** 

**Optional instrument not included in the surgical kit but purchased separately*

Important warning
All the ratchet drivers have a red polymer O-ring in the connecting hexagon that guarantees friction between the instruments and therefore a correct grip of the components. This O-ring must be checked periodically and replaced when worn or when no longer able to exert the correct friction.
A kit of 5 spare O-rings is available, which can be ordered with code **ORING180-088**.

Hand knob

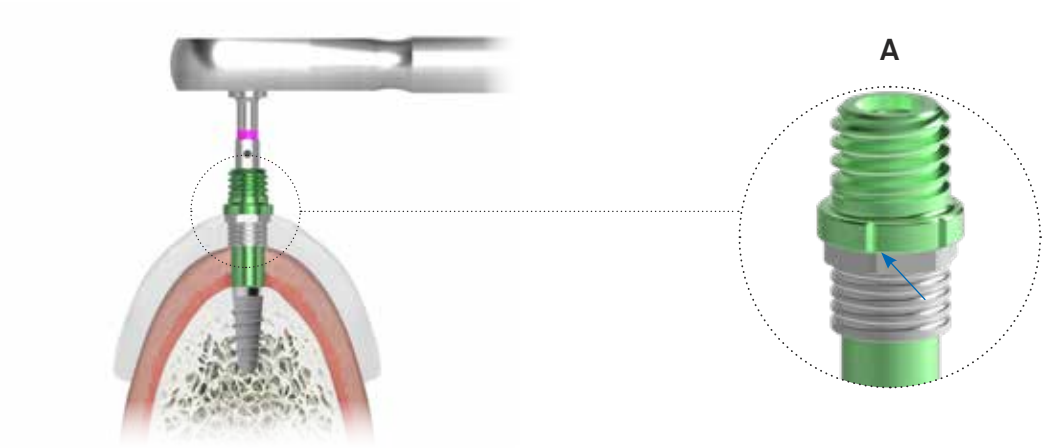
description	code
Hand knob for bone taps, mounters, drivers and manual drivers	**AVV3-MAN-DG** 

Mounters

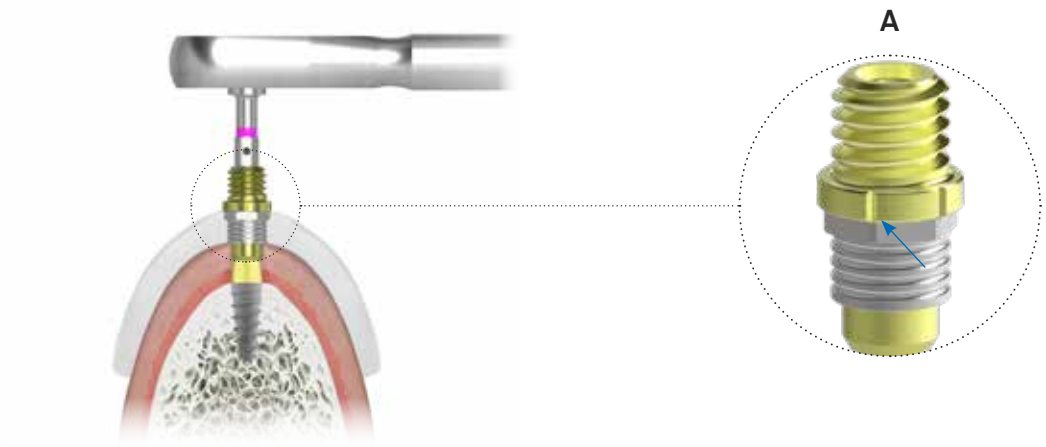
Mounters are used to ensure that final implant insertion is also guided, not only in terms of angle and depth but also of orientation. In fact, mounters have a hexagonal landmark with faces aligned with the faces of the implant connections (**A**). They are made in 5 Gr. Titanium, anodized according to the colour code shown in the table below, and are supplied together with the specific screw, to be tightened manually with a torque no greater than 10 Ncm.

Mounters can be organized, sterilized and preserved in the dedicated Mounter Organizer illustrated on page 48.

Mounters for Shelta implants



Mounters for Prama RF implants



Important warning
In order to meet the needs of each individual situation, the implants (above all the Short implants) can be positioned more deeply (see page 7). For help in advance in the planning stage of these cases, it is advisable to call Sweden & Martina personnel dedicated to guided surgery. The support service for guided surgery can be contacted by phone on 0800 7747542..

Important warning
In order to use the mounters for guided surgery with the Syra Short implants, the specific GS-VTMOU-200-S screw must be purchased separately.

Shelta ø	3.80	4.25	5.00
implant colour code			
mounter code	**GS-MOU-A380** 	**GS-MOU-A380SP** 	**GS-MOU-A380SP** 
fixation screw supplied with the mounter	**GS-VTMOU-180** 	**GS-VTMOU-180** 	**GS-VTMOU-180** 

Prama RF ø	3.80	4.25	5.00
implant colour code			
mounter code	**GS-MOU-L415** 	**GS-MOU-L550** 	**GS-MOU-L550** 
fixation screw supplied with the mounter	**GS-VTMOU-180** 	**GS-VTMOU-180** 	**GS-VTMOU-180** 

implant morphology	Syra			Syra Short	
implant ø	3.80	4.25	5.00	4.10	5.00
implant colour code				SHORT	SHORT
mounter code	**GS-MOU-E410** 	**GS-MOU-E500** 	**GS-MOU-E500** 	**GS-MOU-E410** 	**GS-MOU-E500** 
fixation screw supplied with the mounter	**GS-VTMOU-200** 	**GS-VTMOU-200** 	**GS-VTMOU-200** 	**GS-VTMOU-200-S** 	**GS-VTMOU-200-S** 

Easy Insert Driver for mounters

The Echoplan PRO S surgical kit includes two Easy Insert drivers with a metal O-ring that clicks inside the upper end of all of the mounters, thus ensuring the safety of the assembled implant-mounter's transport into the sleeve and the surgical insertion phases.
These drivers have been tested up to a torque of 70 Ncm. Greater insertion torque can cause mechanical criticality. It is advisable to use Easy Insert with hexagon in all of the later inserting phases.

description	code
Easy Insert Driver for guided surgery mounters with hexagonal connector for torque control ratchet	**EASY4-EX250-EX** 
Easy Insert Driver for guided surgery mounters with right-angle attachment	**EASYC4-EX250-CA** 

Important warning
The Easy Insert drivers for mounters cannot be used to directly engage Shelta, Shelta SL and Prama RF implants: their dimensions only allow them to be used with guided surgery mounters. They are supplied pre-mounted with the appropriate titanium O-ring. Being mechanical components, these small retention rings are subject to wear and can lose their elasticity and functionality with the passage of time and cannot be replaced.
On the other hand, the instrument *in its entirety* can be replaced. The Easy Inserts have been tested to withstand up to 50 uses under the most unfavourable usage conditions. Consequently, this limit can vary according to the conditions of use. They have a guiding pin on the tip that facilitates insertion into the mounter. Lever movements can cause the driver to bend or fracture with intraoperative surgical complications being possible.

Hand knob for removal of the GS-MOU-DG mounter

This optional hand knob can be useful after implant insertion and mounter screw removal for the guided extraction and removal of the mounter, without compromising the primary stability of the implant. The hand knob can be sterilized and kept in the appropriate slot inside the Mounter Organizer (page 48).

GS-MOU-DG hand knob

Threading for anchoring the hand knob

Guide diameter calibrated for the sleeve

Connection hexagon for the implants (where required)

Index hexagon: the faces are aligned with those of the internal hexagon of the implant consequently allowing it to be oriented during the insertion phase

Important warning
The connecting screw between the implant and the mounter must be removed prior to the hand knob being employed.

Mounter Organizer GSMOUNT-TRAY-INT

The Mounter Organizer is an autoclavable Radel tray designed to organize, sterilize and store guided surgery mounters. In the upper half there are two areas each with 20 slots to divide the instruments according to the size of the sleeve they are to be used with. There is a removable surgical steel tray for storing used instrument holders after removal in the centre of the tray. In the lower half of the tray there is a retainer for the manual handpiece, 4 slots for hexagonal and contra-angle instruments, and 7 secured slots for implant vials that aid the assembly of the mounter to the fixture.

Important Warning
The Mounter Organizer tray is sold empty, and does not include any tools. The surgical steel tray should be removed for cleaning and can be reassembled before being sterilised.

A comparison of the control lever TWL and CRI5-KIT

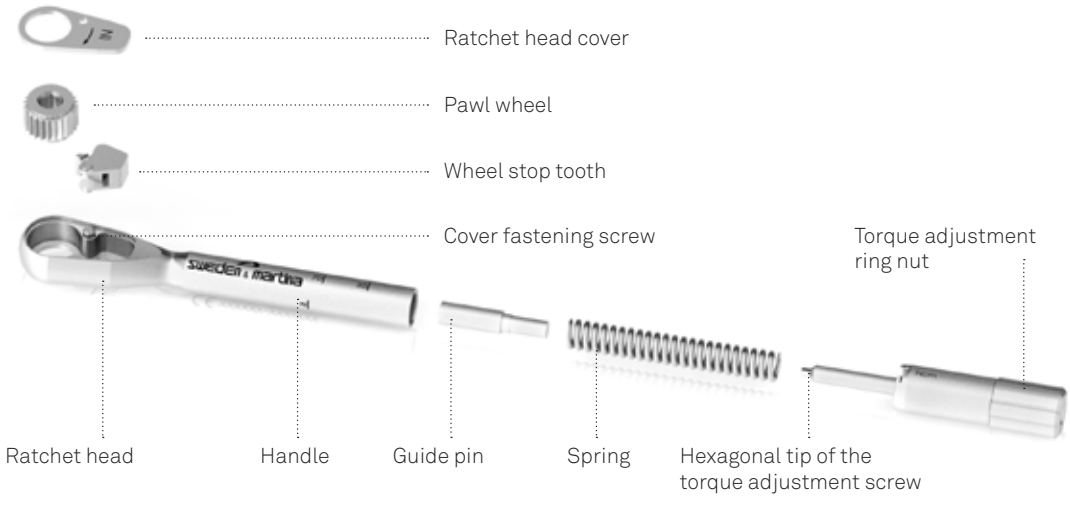
The surgical kit includes a special torque wrench with control lever (TWL). The torque wrench can be used to indicate the torque applied during the surgical phases of screwing and unscrewing, showing values from 10 to 90 Ncm. It is supplied complete with a specific adaptor that allows it to be used with surgical instruments with a hexagonal connection.

The torque wrench can also be used as a fixed key, without using the scale, by using the entire handle as a lever. In this case, it must not exceed the torque value of 150 Ncm.

On the other hand, it is not possible to use this torque wrench, which is why the CRI5-KIT torque ratchet is recommended for the temporary, laboratory and final stages of rehabilitation.

The torque ratchet is not included in the surgical kit but can be ordered separately (using the code **CRI5-KIT**) and is supplied with the torque adjustment and maintenance instruments.

For the use of the CRI5-KIT in the tightening of the fixation and prosthetic screws, please refer to the torque values on page 42 and in the sequence of use. The ratchet key CRI5-KIT is a multi-purpose instrument that can be disassembled, and is sold non-sterile.



Before each use, this instrument must be cleaned and sterilized according to the instructions on page 71. Adequate maintenance, carried out by scrupulously following all the steps indicated for dismantling and reassembly of the torque wrench during cleaning operations is essential for its correct use and to prolong its shelf life. Personnel who use this tool must be suitably trained, and they must have read the instructions in this manual prior to handling the device.

After sterilisation, the key is ready for use. The instrument must be tested for correct assembly and correct funcionality every time it is used, whether for surgical and prosthetic procedures.
The torque is adjusted by aligning the marking of the desired torque in the circular opening of the handle. The “IN” arrow legible on the top of the head indicates the screwing position of the key. The “OUT” arrow legible on the top of the head indicates the loosening or unscrewing position. An unlimited torque position is obtained by positioning the torque adjustment device up to the line marked “R” on the handle of the ratchet body.

The ring nut may be screwed and unscrewed by hand, but to speed up these operations the kit also contains a driver that allows it to be turned quickly. Any deterioration of the screwing, insertion and torque mechanisms must be checked by personnel responsible for the use and maintenance of this dental instrument.
The pieces of this mechanism are not interchangeable; one piece from one key cannot be replaced by a piece from another key as each ratchet is calibrated INDIVIDUALLY. If a piece is lost, please return the instrument to Sweden & Martina for repair. No components for assembling the ratchet can be sold individually. Failure to follow the instructions provided may cause problems of maintenance and stability of the prosthesis.

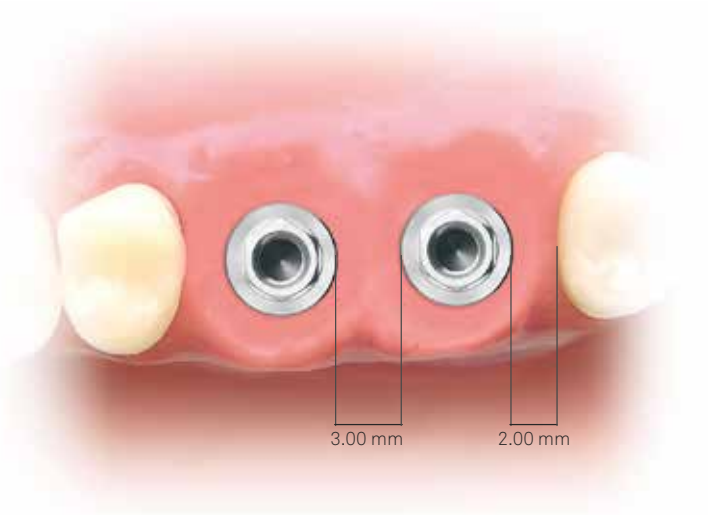
Important warning
Torque is always adjusted by screwing in/unscrewing the sleeve at the end of the instrument handle.
Torque must always be adjusted upwards, starting from a value lower than that required and tightening the adjustment sleeve in a clockwise direction until the desired value is reached. This means that if a torque value lower than that used previously is to be set, the adjustment sleeve must be slackened by two whole turns beneath the new torque value required, and then tightened again in a clockwise direction to the desired value.

In order to set a torque value, turn the ring nut in the clockwise direction until the wanted value.

To turn down a torque value of work of the ratchet, first it is necessary to unscrew the ring nut in the anticlockwise senzo until reaching a value inferior of the wanted one, then proceed with the clockwise direction screwing until the chosen torque.

Preparation of the implant site

During the software-assisted planning it is best as a rule to keep a distance of 3.00 mm between the perimeters of the implants and at least 2.00 mm between implants and adjacent natural teeth. The numerous clinical trials and experimental studies conducted have shown that the implants should be positioned more lingually or palatally in order to obtain better aesthetic results, as such positioning helps to preserve the level of the soft and hard tissues coronal to the implant. It is also essential to check that the thickness of the residual osseous wall is not less than 1.00 mm. The best aesthetic results are obtained with buccal walls of no less than 2.00 mm. The risk of bone resorption and exposure of the threads increases if thicknesses are thinner.



The appropriate preparation sequences for the Shelta, Syra and Prama RF implants are described in the following pages. These procedures have been developed through clinical experience and information from numerous clinical trials and protocols for implants with this endosseous morphology. However, it must always be taken into consideration that types of bone with different densities need different surgical approaches and the instructions that follow cannot and are not meant to substitute the required training, medical knowledge nor personal experience that sometimes suggests different indications. The sequences that follow, however, refer to specific bone types.

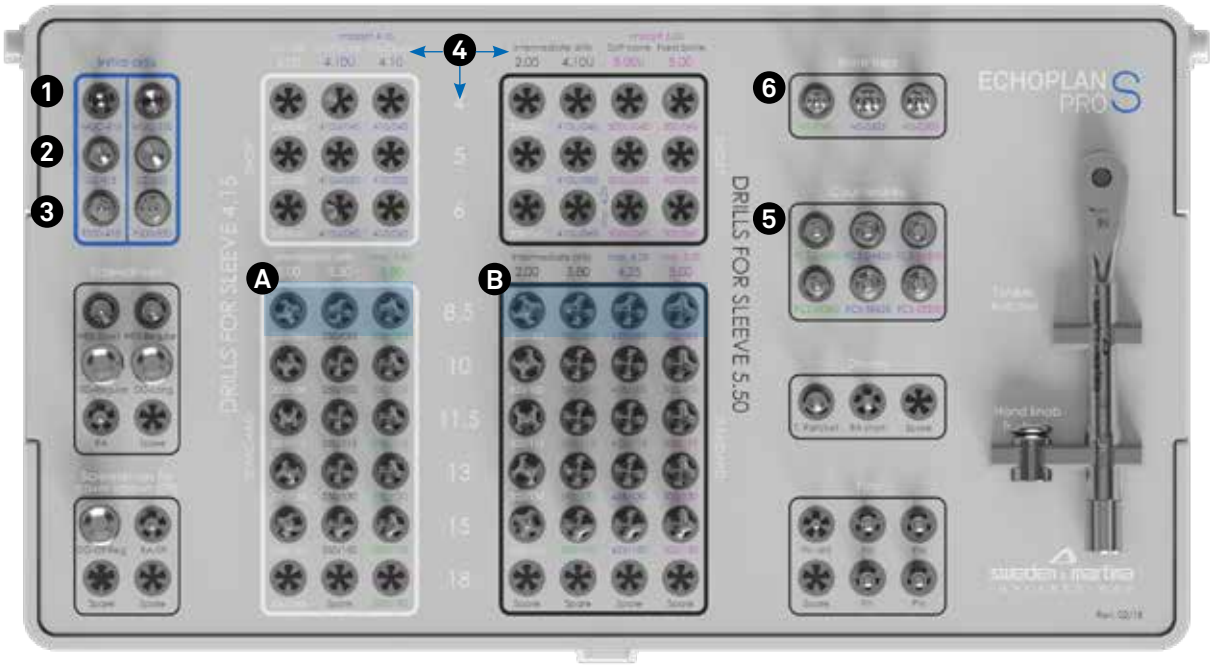
It should be borne in mind that standard drills always prepare a hole longer than the implant. See pages 36 and beyond for the dimensions of the over-preparation. The preparations must be atraumatic and the most gradual possible as well as be carried out quickly and accurately. The bone must not be overheated.

It should also be borne in mind that the surgical micromotor needs to be set to the correct torque, reduction and rotation values accordingly to the intervention that needs to be carried out. In particular:

- **drills** must be used at the speed stated in each single sequence, with maximum torque and irrigated abundantly with cold sterile physiological solution, better if it has been cooled in a refrigerator;
- the **bone taps** must only be used when stated in the procedures.

Incorrect insertion of the instruments in the handpieces can lead to vibrations, eccentric rotation, precocious wear and bending of the shaft. It is recommended that only the surgical micromotors suitable to this application are used. It is also recommended that the micromotors are periodically checked by their manufacturer according to each individual instructions in order to prevent possible malfunctioning (e.g. movement of the transmission shaft axis, worn forceps, poor functioning, etc.). Not respecting the instructions provided can cause surgical problems and damage the patient's health.

The sequence for using the instruments in the kit is simple and intuitive. As explained on pages 54-55, the preliminary use of a mucotome (**1**), bone profiler (**2**) and initial drill (**3**) for the sleeve on the template is mandatory. After that, simply identify the height and diameter of the implant to be inserted (**4**) on the surgical tray, and use the drills from the corresponding line in the white field for the ø 4.15 mm sleeves (**A**) or in the black field for the ø 5.50 mm sleeves (**B**). Whenever necessary, on completion of the preparation the countersink drill is used (**5**) and/or the bone tap (**6**) of the diameter of the implant to be inserted.



The following pages present these sequences subdivided by sleeve and diameter, **taking the insertion of an implant 11.50 mm in height** (**A**-**B**) as an example. It is simply a matter of changing the black field of the codes shown for all other heights with the height desired in order to have the correct sequence for the insertion of each implant length.

Surgical sequences - Premises

The initial phases of the insertion of any implant provide for the use of the following instruments in the order indicated:

A. mucotome
(Use of the mucotome is only obligatory for flapless surgery)

B. Bone profiler

C. Initial drill

These first three steps must always be carried out before any other drill is used. Otherwise, correct guidance of the final drills cannot be guaranteed.

Important warning
The steps described below must always be taken before the final and/or intermediate drills are used. These steps must NEVER be skipped. The use of fewer surgical instruments could compromise a good result being obtained from the surgery. In fact, the correct guide of the final drills would not be guaranteed. Sweden & Martina advise that the drills should not be used for type D4 bone.

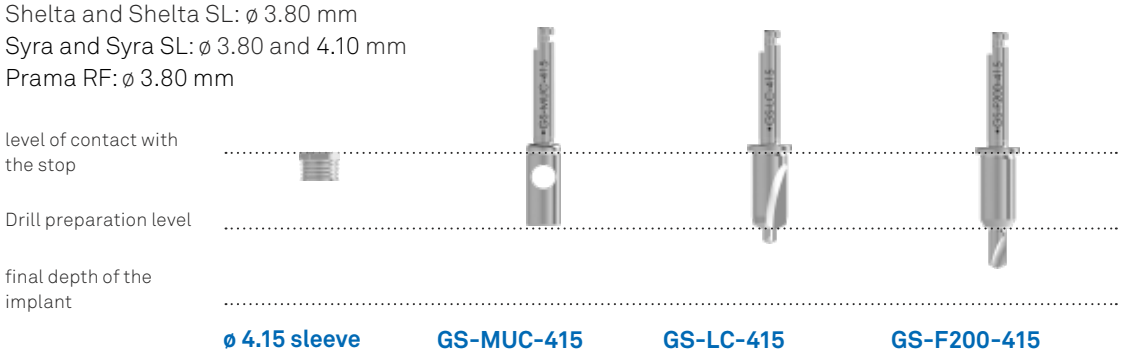
The sequences that follow refer to specific bone types.
However, it must always be taken into consideration that types of bone with different densities need different surgical approaches and the instructions that follow cannot and are not meant to substitute the training and medical knowledge required nor the personal experience that sometimes suggests different instructions.
The rotation speeds indicated must be respected.

It is not advised in both traditional and guided surgery to use rotating instruments in D4 quality bone. The use of osteotomes and/or bone compactors is preferable in order to conserve as much of the bone as possible (all of the instruments available are in the MC-IMP-SHELTA-E, MC-IMP-SYRA-E and MC-IMP-PRAMA-E manuals, which can be downloaded from the Sweden & Martina website).
In this case only the obligatory stage can be guided up until the initial drill is used, which acts as a pilot hole for the osteotomes which not present integrated stops, must be used according to the traditional surgical protocols, that is, by removing the surgical template.

Preliminary surgical sequences

MANDATORY preliminary sequence for inserting Shelta, Syra and Prama RF implants using the Echoplan PRO S guided implantology kit, in the case of a ø 4.15 mm sleeve

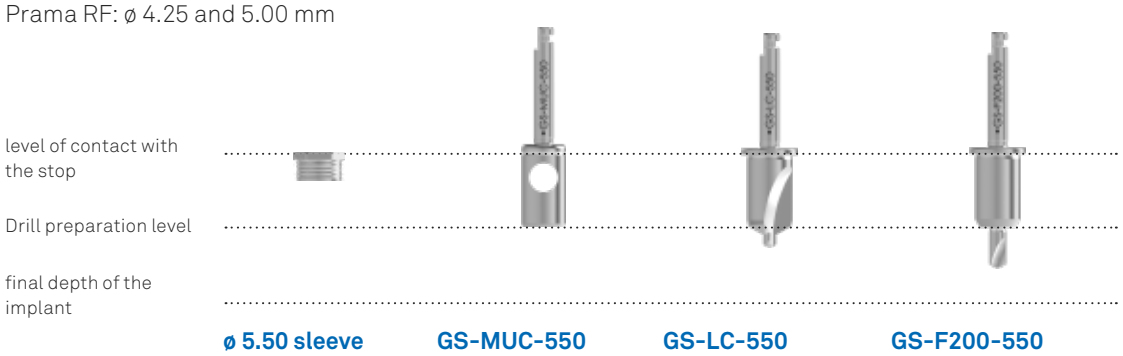
Valid for implants:
Shelta and Shelta SL: ø 3.80 mm
Syra and Syra SL: ø 3.80 and 4.10 mm
Prama RF: ø 3.80 mm



	work until contact with the bone	integrated stop	integrated stop
BONE D1	800 rpm	800 rpm	800 rpm
BONE D2	800 rpm	800 rpm	800 rpm
BONE D3	800 rpm	800 rpm	800 rpm
BONE D4	-	-	-

MANDATORY preliminary sequence for inserting Shelta, Syra and Prama RF implants using the Echoplan PRO S guided implantology kit, in the case of a ø 5.50 mm sleeve

Valid for implants:
Shelta and Shelta SL: ø 4.25 and 5.00 mm
Syra and Syra SL: ø 4.25 and 5.00 mm
Prama RF: ø 4.25 and 5.00 mm



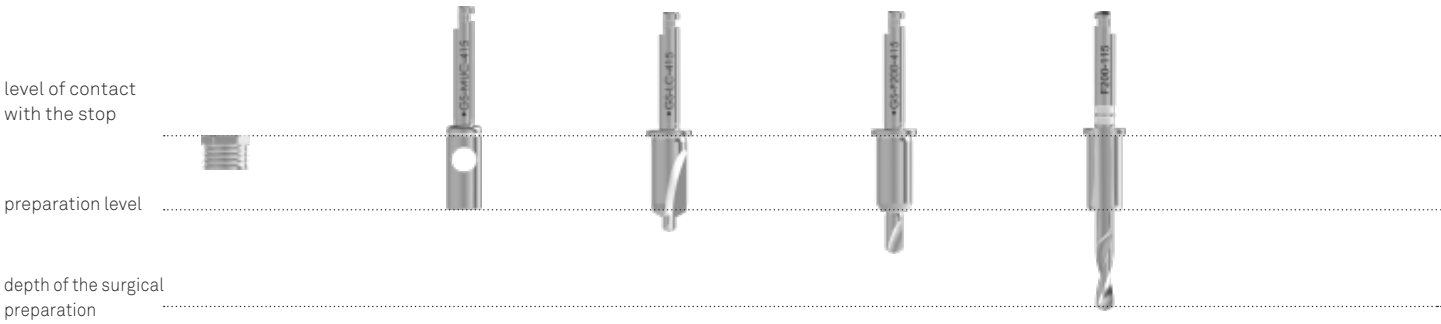
	work until contact with the bone	integrated stop	integrated stop
BONE D1	800 rpm	800 rpm	800 rpm
BONE D2	800 rpm	800 rpm	800 rpm
BONE D3	800 rpm	800 rpm	800 rpm
BONE D4	-	-	-

Important warning
The GS-F200-415 drill must not be used for the insertion of Syra Short implants with heights of 4.00 and 5.00 mm. Instead, use the appropriate drill specified in the sequences found on pages 60-63 and beyond.

Surgical sequences – ø 4.15 mm sleeve

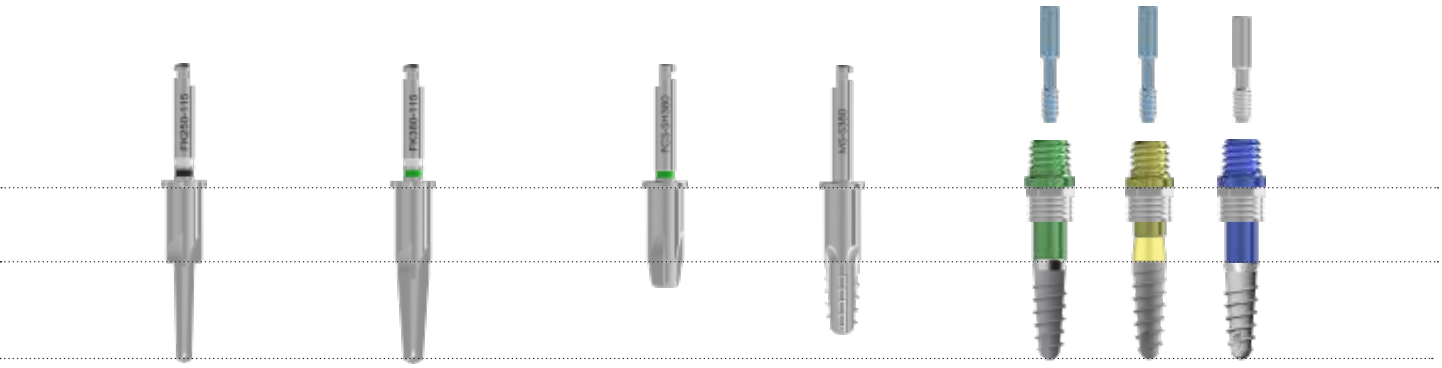
It should be noted that the drills over-prepare the length for a measurement indicated in the table found on pages 36 and beyond. **The graphic sequence refers to the 11.50 mm high implants**: in order to obtain the correct sequence of instruments to be used for all the other heights, simply replace the portion of the code in black in the following table with the length of the implant.

Surgical sequence for ø 3.80 mm Shelta, Shelta SL, Syra, Syra SL and Prama RF implants



	ø 4.15 sleeve	GS-MUC-415	GS-LC-415	GS-F200-415	GS-F200-115-415
ø 3.80 mm	BONE D1	800 rpm	800 rpm	800 rpm	800 rpm
	BONE D2	800 rpm	800 rpm	800 rpm	800 rpm
	BONE D3	800 rpm	800 rpm	800 rpm	800 rpm
	BONE D4	-	-	-	-

Important warning
In order to insert implants with heights greater than 11.50 mm, it may be useful to carry out the intermediate phases, including using the 8.50 mm or 10.00 mm drills so that the longer corresponding drills have enough space to engage with the sleeve through the integrated stop, thus allowing them to be guided for the entire lengths of their use.



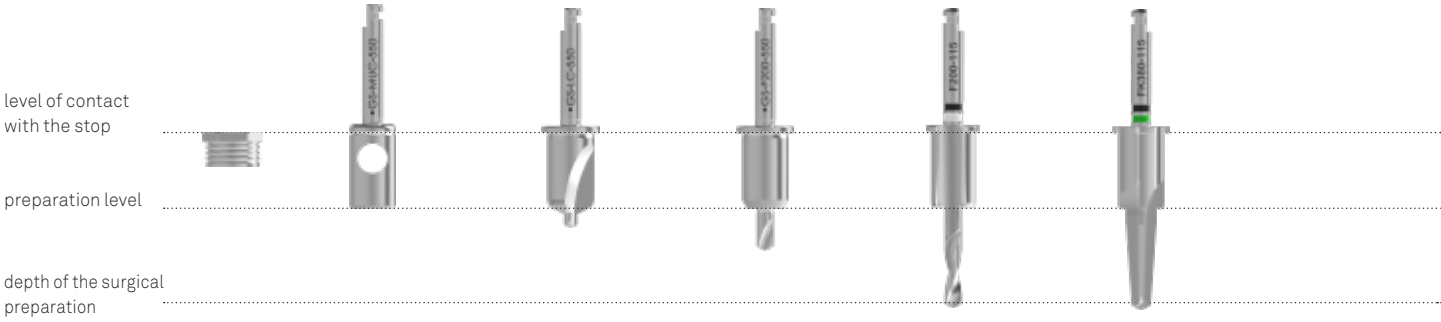
GS-FK250-115-415	**GS-FK380-115-415**	**GS-FCS-SH380*** **GS-FCS-SE380***	**GS-MS-S380**	**GS-MOU-A380** **GS-MOU-L415** **GS-MOU-E410**
			max 50 Ncm	max 50 Ncm
800 rpm	800 rpm	800 rpm	20 rpm	20 rpm
800 rpm	800 rpm	800 rpm	-	20 rpm
800 rpm	800 rpm	800 rpm	-	20 rpm
-	-	-	-	-

** Do not use countersink drills for PRAMA RF implants.*

Surgical sequences – ø 5.50 mm sleeve

It should be noted that the drills over-prepare the length for a measurement indicated in the table found on pages 36 and beyond. **The graphic sequence refers to the 11.50 mm high implants**: in order to obtain the correct sequence of instruments to be used for all the other heights, simply replace the portion of the code in black in the following table with the length of the implant.

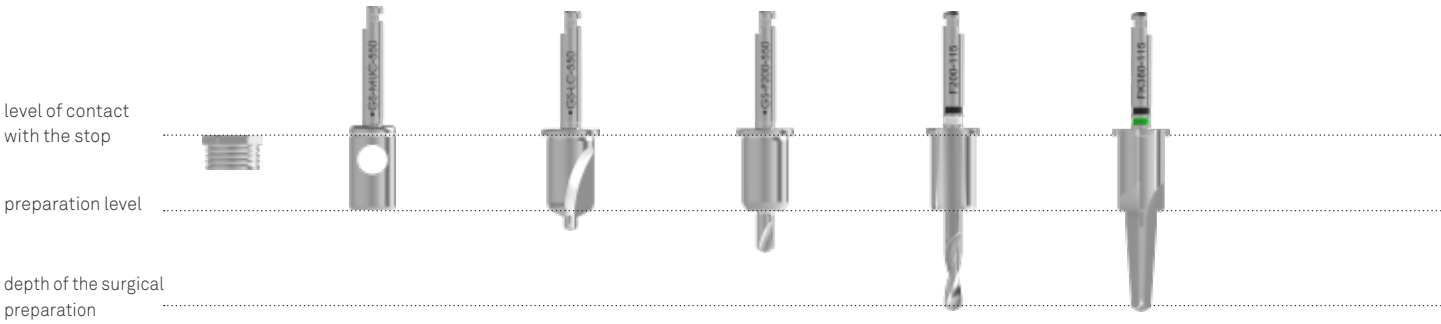
Surgical sequence for ø 4.25 mm Shelta, Shelta SL, Syra, Syra SL and Prama RF implants



ø 5.50 sleeve	GS-MUC-550	GS-LC-550	GS-F200-550	GS-F200-115-550	GS-FK380-115-550
BONE D1	800 rpm	800 rpm	800 rpm	800 rpm	800 rpm
BONE D2	800 rpm	800 rpm	800 rpm	800 rpm	800 rpm
BONE D3	800 rpm	800 rpm	800 rpm	800 rpm	800 rpm
BONE D4	-	-	-	-	-

ø 4.25 mm

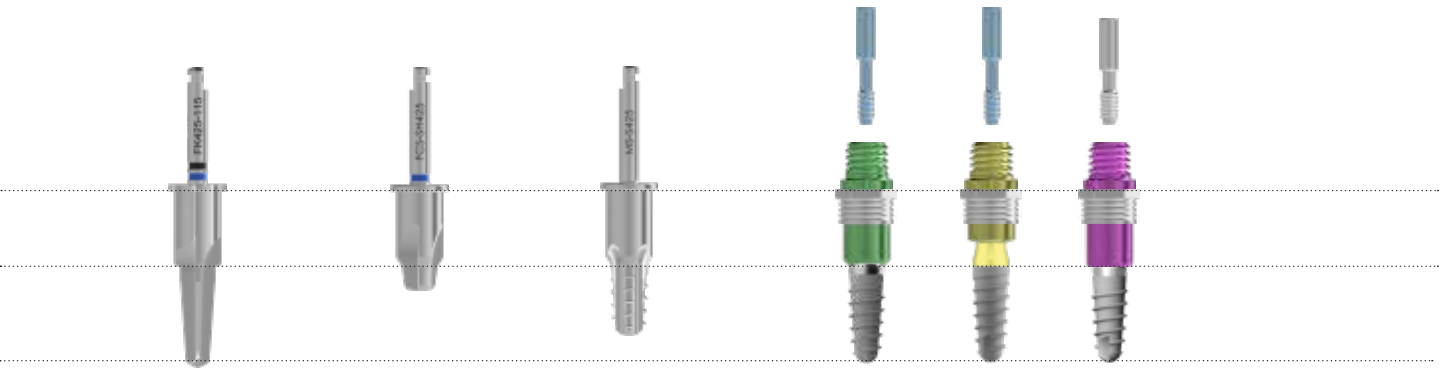
Surgical sequence for ø 5.00 mm Shelta, Shelta SL, Syra, Syra SL and Prama RF implants



ø 5.50 sleeve	GS-MUC-550	GS-LC-550	GS-F200-550	GS-F200-115-550	GS-FK380-115-550
BONE D1	800 rpm	800 rpm	800 rpm	800 rpm	800 rpm
BONE D2	800 rpm	800 rpm	800 rpm	800 rpm	800 rpm
BONE D3	800 rpm	800 rpm	800 rpm	800 rpm	800 rpm
BONE D4	-	-	-	-	-

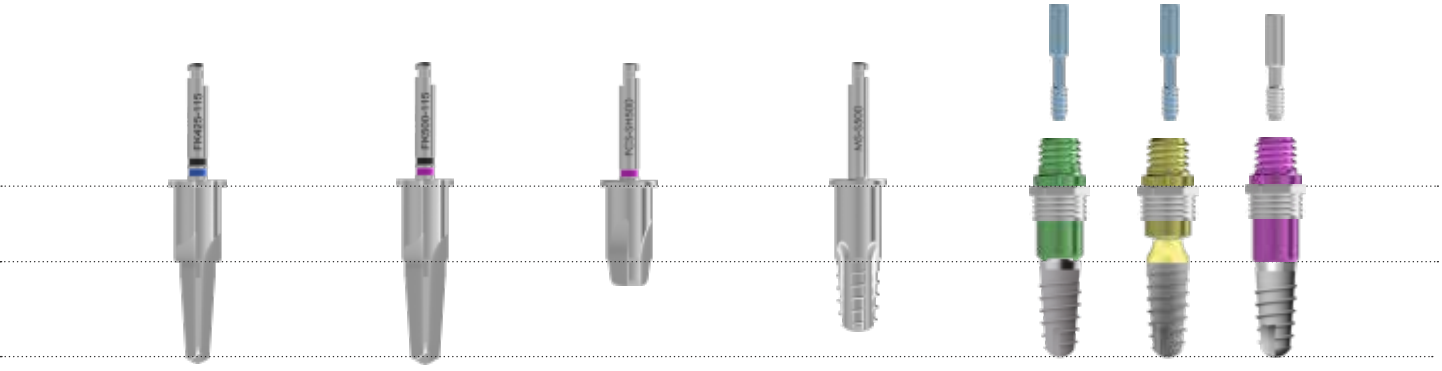
ø 5.00 mm

Important warning
In order to insert implants with heights greater than 11.50 mm, it may be useful to carry out the intermediate phases, including using the 8.50 mm or 10.00 mm drills so that the longer corresponding drills have enough space to engage with the sleeve through the integrated stop, thus allowing them to be guided for the entire duration of their use.



GS-FK425-115-550 **GS-FCS-SH425*** **GS-FCS-SE425*** **GS-MS-S425** **GS-MOU-A380SP** **GS-MOU-L550** **GS-MOU-E500**

		max 50 Ncm	max 50 Ncm
800 rpm	800 rpm	20 rpm	20 rpm
800 rpm	800 rpm	-	20 rpm
800 rpm	800 rpm	-	20 rpm
-	-	-	-



GS-FK425-115-550 **GS-FK500-115-550** **GS-FCS-SH500*** **GS-FCS-SE500*** **GS-MS-S500** **GS-MOU-A380SP** **GS-MOU-L550** **GS-MOU-E550**

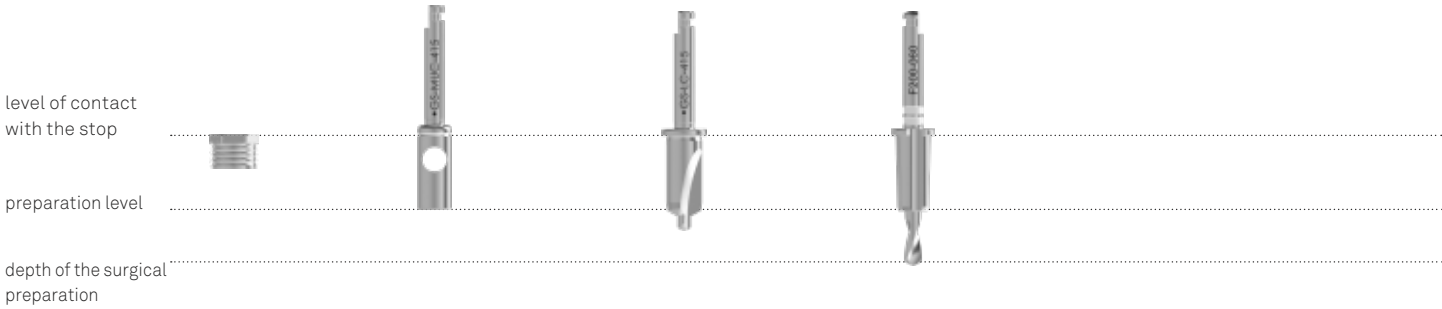
			max 50 Ncm	max 50 Ncm
800 rpm	800 rpm	800 rpm	20 rpm	20 rpm
800 rpm	800 rpm	800 rpm	-	20 rpm
800 rpm	800 rpm	800 rpm	-	20 rpm
-	-	-	-	-

** Do not use countersink drills for PRAMA RF implants.*

Surgical sequences for Short implants height 4.00, 5.00 and 6.00 mm – ø 4.15 sleeve

Since the Syra Short and Prama RF Short implants have an insertion protocol that differs slightly from the logic just explained, the sequence is described in detail for greater clarity.
Specifically, the Echoplan PRO S kit includes two series of final drills: one is meant for the preparation of soft bone (e.g. GS-FK410U-040-415), which under-prepares the hole in order to allow for the stabilisation of the implant despite poor bone density, while the other is meant for hard bone (e.g. GS-FK410-040-415) and is used for preparation consistent with the core of the implant in mineralised bone, where the objective is to avoid excessive friction and compression. The clinician decides which drills to use based on his/her experience with the insertion of the first drills, keeping in mind that the soft bone drills can always be used as an intermediate step before completion with the corresponding hard bone drills. It should also be noted that the design of the tip on the Short drills does not create over-preparation in length, and allows all the available bone to be used for housing the implant. The measurements are indicated in the table on pages 38-39.

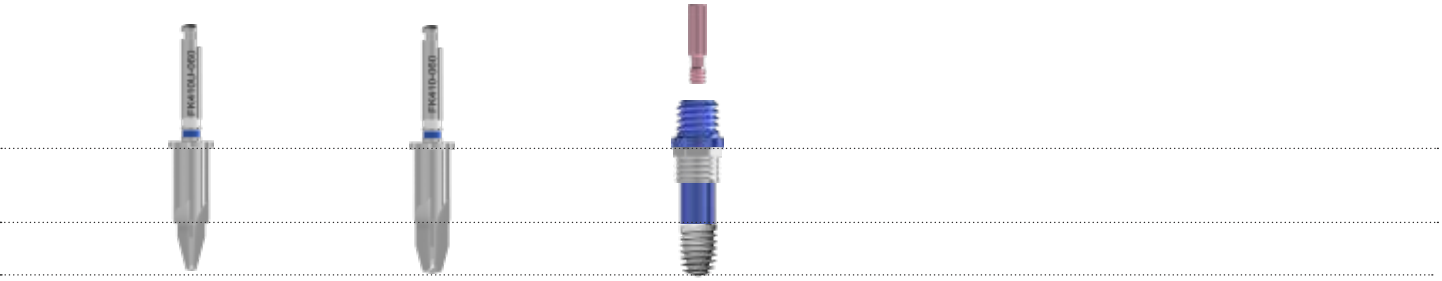
Surgical sequence for ø 4.10 mm Syra implants, heights of 4.00, 5.00 and 6.00 mm



ø 4.15 sleeve	GS-MUC-415	GS-LC-415	GS-F200-060-415
ø 4.10 mm			
BONE D1	800 rpm	800 rpm	800 rpm
BONE D2	800 rpm	800 rpm	800 rpm
BONE D3	800 rpm	800 rpm	800 rpm
BONE D4	-	-	-

Important warning
In order to use the mounters for guided surgery with the Syra Short implants, the specific GS-VTMOU-200-S screw must be purchased separately.

The graphic sequence refers to the 6.00 mm high implants: for 4.00 and 5.00 mm high implants all that needs to be done is to substitute the length of the implant (040 and 050 respectively) with the part with the code in black in the following table to obtain the correct sequence of tools.



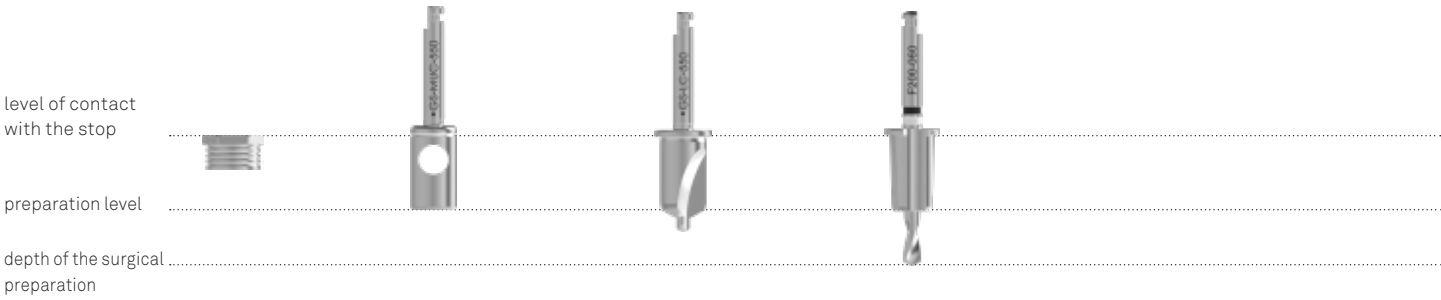
GS-FK410U-060-415 **GS-FK410-060-415** **GS-MOU-E410**

		max 50 Ncm
800 rpm	800 rpm	20 rpm
800 rpm	-	20 rpm
800 rpm	-	20 rpm
-	-	-

Surgical sequences for Short implants height 4.00, 5.00 and 6.00 mm – ø 5.50 sleeve

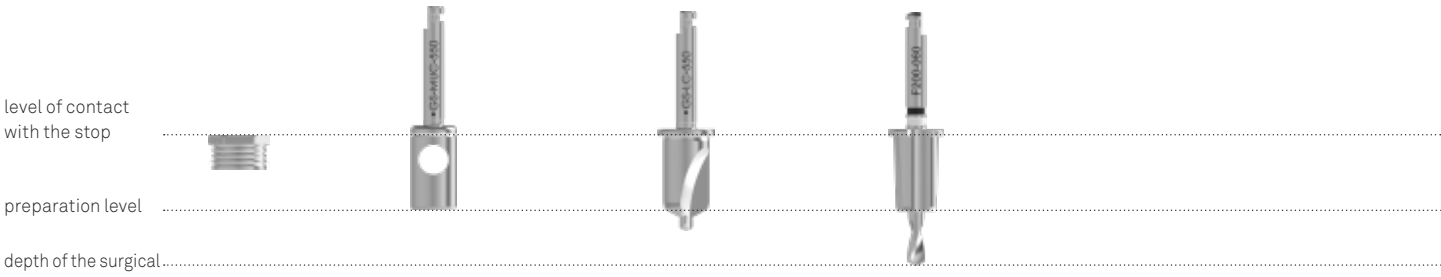
Since the Syra Short and Prama RF Short implants have an insertion protocol that differs slightly from the logic just explained, the sequence is described in detail for greater clarity. Specifically, the Echoplan PRO S kit includes two series of final drills: one is meant for the preparation of soft bone (e.g. GS-FK410U-060-550), which under-prepares the hole in order to allow for the stabilisation of the implant despite poor bone density, while the other is meant for hard bone (e.g. GS-FK410-060-550) and is used for preparation consistent with the core of the implant in mineralised bone, where the objective is to avoid excessive friction and compression. The clinician decides which drills to use based on his/her experience with the insertion of the first drills, keeping in mind that the soft bone drills can always be used as an intermediate step before completion with the corresponding hard bone drills. It should also be noted that the design of the tip on the Short drills does not create over-preparation in length, and allows all the available bone to be used for housing the implant. The measurements are indicated in the table on pages 38-39.

Surgical sequence for ø 4.25 mm Prama RF implants, height 6.00 mm



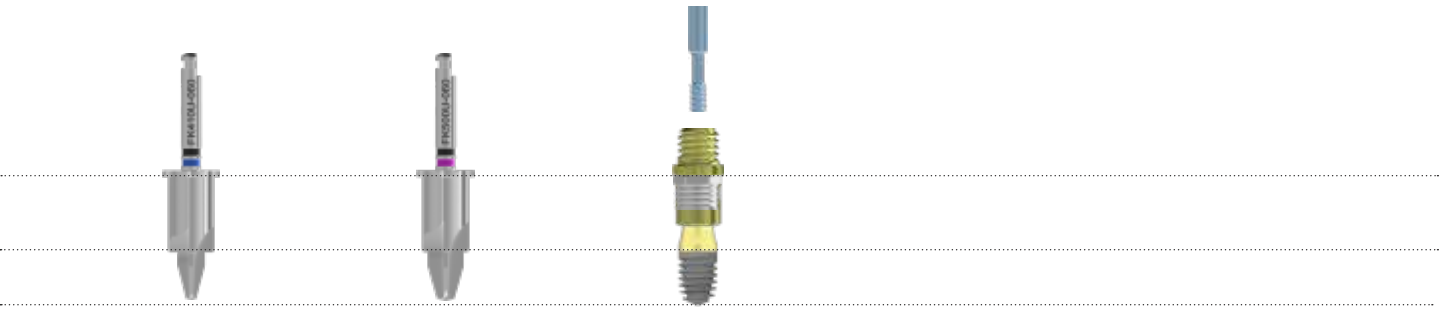
	ø 5.50 sleeve	GS-MUC-550	GS-LC-550	GS-F200-060-550
ø 4.25 mm	BONE D1	800 rpm	800 rpm	800 rpm
	BONE D2	800 rpm	800 rpm	800 rpm
	BONE D3	800 rpm	800 rpm	800 rpm
	BONE D4	-	-	-

Surgical sequence for ø 5.00 mm Syra implants, height 4.00, 5.00 and 6.00 mm and ø 5.00 mm, Prama RF height 6.00 mm



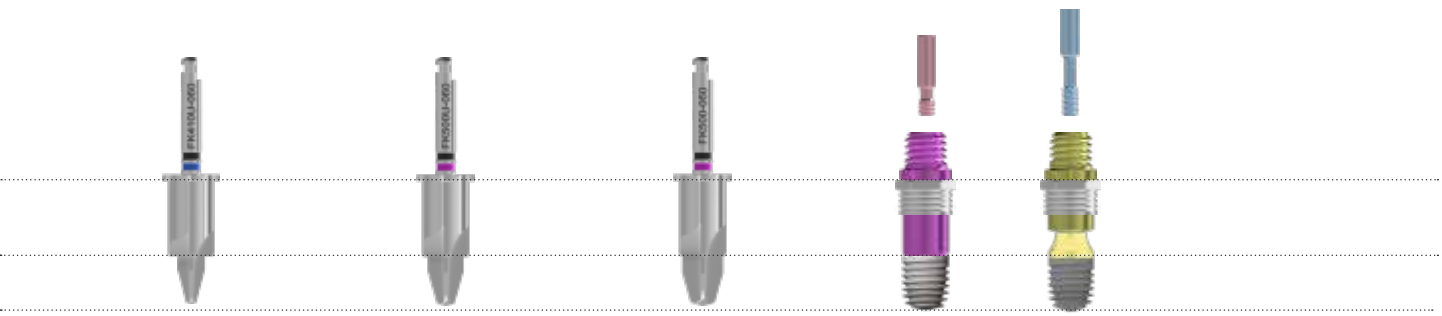
	ø 5.50 sleeve	GS-MUC-550	GS-LC-550	GS-F200-060-550
ø 5.00 mm	BONE D1	800 rpm	800 rpm	800 rpm
	BONE D2	800 rpm	800 rpm	800 rpm
	BONE D3	800 rpm	800 rpm	800 rpm
	BONE D4	-	-	-

The graphic sequence refers to the 6.00 mm high implants: for 4.00 and 5.00 mm high implants all that needs to be done is to substitute the length of the implant (040 and 050 respectively) for the part with the code in black in the following table to obtain the correct sequence of tools.



GS-FK410U-060-550 **GS-FK500U-060-550** **GS-MOU-L550**

		max 50 Ncm
800 rpm	800 rpm	20 rpm
800 rpm	-	20 rpm
800 rpm	-	20 rpm
-	-	-



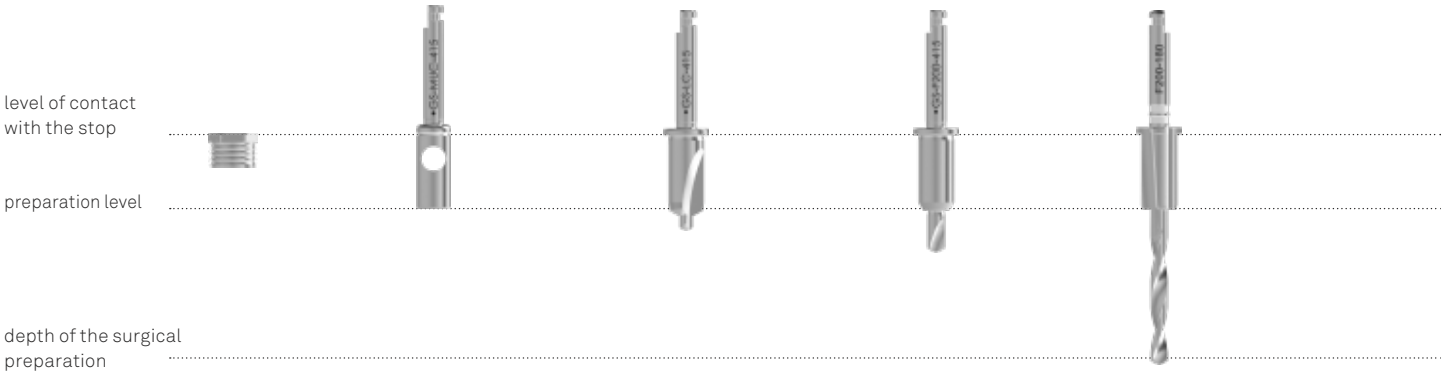
GS-FK410U-060-550 **GS-FK500U-060-550** **GS-FK500-060-550** **GS-MOU-E500** **GS-MOU-L550**

			max 50 Ncm
800 rpm	800 rpm	800 rpm	20 rpm
800 rpm	800 rpm	-	20 rpm
800 rpm	800 rpm	-	20 rpm
-	-	-	-

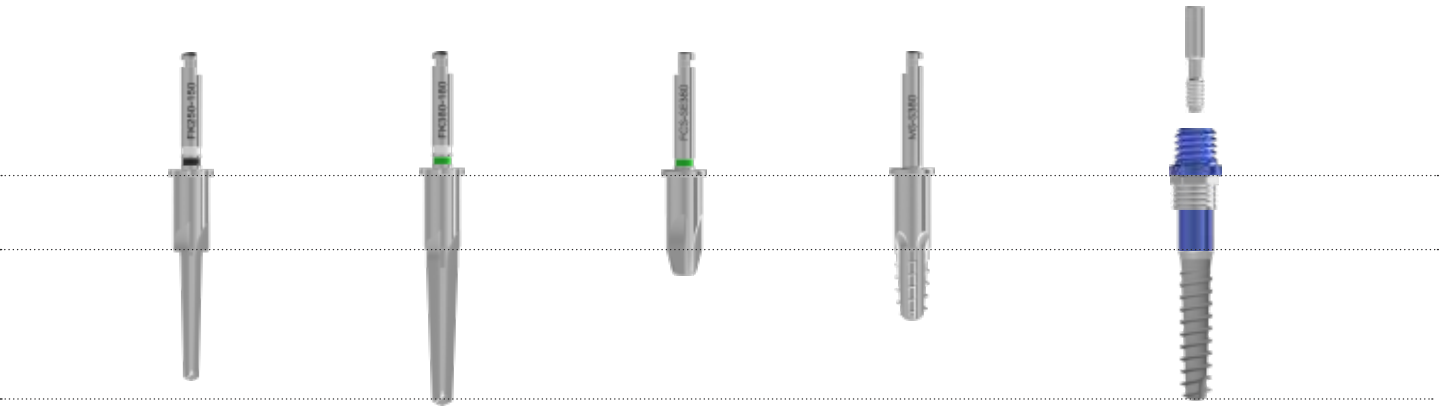
Surgical sequences - 18.00 mm height implants

Since the 18.00 mm high implants have a insertion protocol that differs slightly from the logic just explained, the sequence is described in details for greater clarity. It should be noted that the drills over-prepare the length for a measurement indicated in the table found on page 40.

Surgical sequence for ø 3.80 mm Syra SL implants, height 18.00 mm



	ø 4.15 sleeve	GS-MUC-415	GS-LC-415	GS-F200-415	GS-F200-180-415
ø 3.80 mm	BONE D1	800 rpm	800 rpm	800 rpm	800 rpm
	BONE D2	800 rpm	800 rpm	800 rpm	800 rpm
	BONE D3	800 rpm	800 rpm	800 rpm	800 rpm
	BONE D4	-	-	-	-



GS-FK250-150-415	GS-FK380-150-415	GS-FCS-SE380	GS-MS-S380	GS-MOU-E410
			max 50 Ncm	max 50 Ncm
800 rpm	800 rpm	800 rpm	20 rpm	20 rpm
800 rpm	800 rpm	800 rpm	-	20 rpm
800 rpm	800 rpm	800 rpm	-	20 rpm
-	-	-	-	-

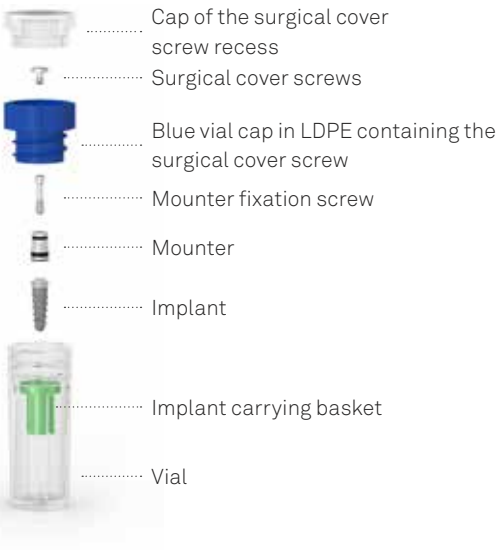
Insertion of the implant

1 Use the patient use label found inside the pack for the patient's medical records and apply it to the Dental Card: this makes the recording of the patient's treatment plan simpler and helps trace the batch used.

2 Open the blister and place the vial contained in it on a sterile surface (a single-use towel or a sterile cloth) or insert in one of the appropriate Mounter Organizer compartments, also previously sterilized, near the operating field.

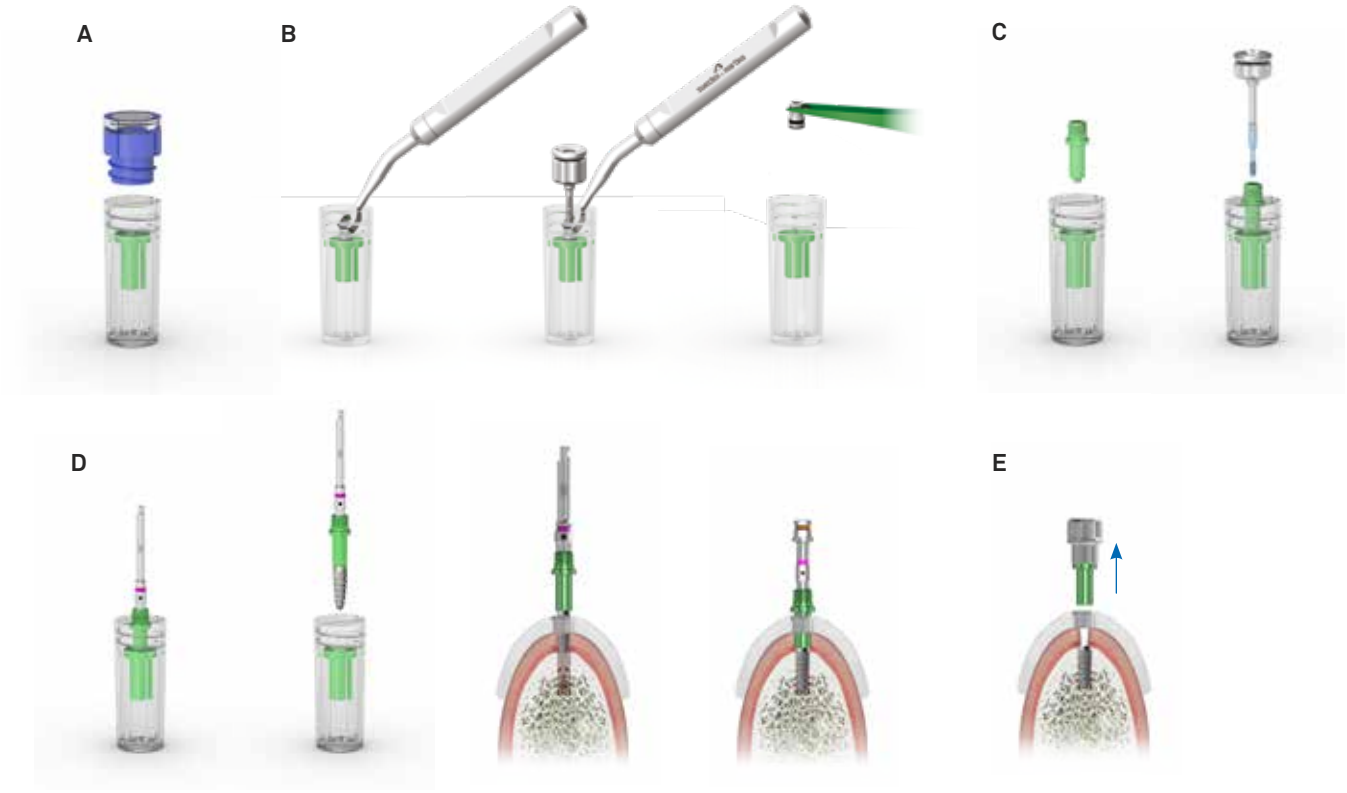
Shelta implant (mountless)

3 Immediately before the insertion into the oral cavity, remove the blue cap of the vial, making sure not to remove the transparent cap containing the surgical cover screw. The implant holding cylinder inside the vial and the surgical cover screw are coloured according to a colour code that allows the rapid identification of the implant diameter.



Syra implant (packaged already assembled with the mounter for traditional surgical protocol)

(**A**) Open the vial containing the implant (a Shelta implant is shown in the example (code SH-ZT-380-115).
(**B**) For Syra implants the standard mounter will first need to be removed using the mounter fixation key (code CM2) found in the standard surgical kit (code ZSYRA-INT) and the screwdriver (code HSM-20-DG). It will only be possible to assemble the mounter for guided surgery and complete the subsequent phases after this operation has been completed.
(**C**) Assemble the mounter (code GS-MOU-A380) with the implant using the appropriate screw (code GS-VTMOU-180, provided with the mounter) and the screwdriver (code HSM-20-DG).
(**D**) Select the appropriate Easy Insert from among those included in the kit, and engage it by applying light manual pressure inside the mounter in order to extract the implant from the vial and transport it into the mouth. It should be borne in mind that the implant insertion must be carried out using the torque control so it is always advisable to complete the operation using the torque control ratchet and the Easy Insert with hexagon connection.
(**E**) After having removed the mounting screw, the mounter can be removed without tilting thanks to the GS-MOU-DG handpiece.



Phase after the implant insertion

Healing times

It is essential to respect the healing times recommended in implant surgery and periodically verify the progress of the osteointegration with X-rays. Preliminary healing times before loading an implant are influenced by the quality of the receiving bone.
Whenever it is decided to defer loading, in order to minimize the discomfort conditioned by respecting the biological time for osteointegration, temporary mobile prostheses must be used prudently, avoiding functional load of these mobile prostheses.

After healing, surgical cover screws are removed from the implants. After this, according to the protocol adopted, tissue profiles are adapted through an appropriate temporary restoration or using suitable healing abutments. It is recommended that healing screws are tightened using a torque of no more than 10 Ncm.

Cleaning, disinfection, sterilisation and storage of surgical kits and instruments

Warning! All surgical instruments for dental implants are sold in non-sterile condition. Before positioning in the oral cavity, the instruments must be cleaned, disinfected and sterilised according to the following procedure validated by Sweden & Martina.
These processes are to be performed before first use, and before each subsequent re-use.
Repeating the processes described in this section has a minimal effect on these devices' wear and tear.

Make sure to always check the functionality of the instruments before use. Any instrument showing signs of wear should be replaced with a new device immediately. Specifically, it is recommended that the correct retention of the screwdrivers inside the engagement wells on the heads of the screws that are to be taken out and screwed in with those tools always be checked. Failure to comply with these instructions may result in cross infection and intraoperative complications.

a.Cleaning
Containers and transport to be used for cleaning have no special requirements. If automated cleaning is applied: use ultrasonic bath with a suitable cleaning solution. It is recommended that only neutral detergents be used.
The concentration of the solution and the duration of the cleaning process should be in accordance with the solution manufacturer's instructions. Use demineralised water to prevent the formation of stains and marks.
When draining, check that residues have been completely removed from recesses, holes, etc., in the devices.
If necessary, repeat the cycle or clean manually.

If manual cleaning is performed, use a suitable neutral detergent, following the manufacturer's instructions for use. Brush the products with soft bristles under running water. Using the brush, apply the cleaning solution to all surfaces. Rinse with distilled water for at least 4 minutes.
Ensure that plenty of running water flows through any holes. When cleaning drills with internal irrigation, use the pins provided with the handpieces to ensure that the irrigation holes have been thoroughly cleaned and cleared of any residual bone chips or biological tissue. After rinsing, dry the devices completely and pack them in suitable sterilisation bags. If a drying cycle is performed as part of the washing and disinfection machine cycle, do not exceed 120 °C.

b.Sterilisation
When using a vacuum autoclave, sterilise using the following procedures:
- autoclave (Gravity-Displacement Cycles) at the temperature of 121 °C with a minimum of 30 minutes of exposure and a 15-minute drying cycle;
- autoclave (Dynamic-Air-Removal Cycles) at the temperature of 132 °C with 4 minutes of exposure and at least a 20-minute drying cycle.

c. Storage
After sterilisation, the product should remain in the pouches used for sterilisation. The pouches should only be opened immediately prior to reuse. Sterilisation pouches are normally capable of maintaining sterility inside the pouch unless the pouch is damaged. Care should therefore be taken to not use components if the pouches in which they were stored are damaged and to re-sterilise them in new pouches before use. The shelf life of sterilised products in pouches should not exceed that recommended by the pouch manufacturer. The product should be stored in a cool, dry place, away from direct sunlight, and from sources of water and heat.

Cleaning, disinfection, sterilisation and storage of the CRI5-KIT torque ratchet

The processes described below are to be carried out before the first use, and before any subsequent use. Repeating the processes described in this section has a minimal effect on these devices' wear and tear. Failure to comply with these instructions may result in cross infection. Containers and transport to be used for cleaning have no special requirements. As soon as possible after each use of the wrench, place it in a container filled with a disinfectant/detergent solution and cover everything with a cloth. The purpose of this operation is to prevent that contaminants from the patient dry out, by dissolving them, and to then make cleaning easier and more effective. Completely disassemble the wrench as indicated below.

Completely unscrew the torque adjustment screw and pull out the spring inside the ratchet body handle. Do not separate the spring from the pin that acts as a stop.

Using the hexagonal bit at the base of the torque adjustment screw, unscrew and completely remove the cover fastening screw from the side marked OUT. Apply light pressure to avoid damaging the hexagonal bit.

After removing the cover, remove the two components inside the ratchet head: the notched pawl wheel and the wheel stop tooth.

For manual cleaning, mechanically clean all of the tool's external and internal surfaces with a soft bristle brush under warm water. Rinse the poorly accessible holes in the head and around the pawl wheel and wheel stop tooth by injecting hot water using a syringe without the needle. If necessary, do the same for the inside of the handle and torque adjuster. Use a suitable neutral detergent, following the manufacturer's instructions for its use. Using the brush, apply the cleaning solution to all surfaces. Rinse with distilled water for at least 4 minutes. Make sure that plenty of running water flushes through all the passages. If automated cleaning is applied: use ultrasonic bath with a suitable cleaning solution.
It is recommended that only neutral detergents be used. The concentration of the solution and the duration of the cleaning process should be in accordance with the solution manufacturer's instructions. Use demineralised water to prevent the formation of stains and marks. During this cycle, avoid that the parts make contact with one another as this can cause deterioration of the machined surfaces, and a resulting loss of torque measurement accuracy. When draining, check that residues have been completely removed from recesses, holes, etc., in the devices. If necessary, repeat the cycle or clean manually.
Observation: Blood residues or other deposits reduce the effectiveness of sterilisation, which is why it is important to thoroughly clean all the parts. During all cleaning cycles, avoid that the liquids spurt or splash and work with appropriate personal protection. Avoid contact between this instrument and other nickel-plated instruments. The parts must be reassembled before sterilisation. Dry the parts and lubricate the functional areas moderately and reassemble the wrench as shown in the figures below. Excess lubricant will cause it to come up on the instrument's surface during sterilisation. Use only the lubricant supplied.

After having lubricated the parts shown in the figures, assemble the two elements that make up the ratchet head in the following sequence: toothed pawl wheel and then the wheel stop tooth.

Lubricate the areas that make contact between the pawl wheel tooth and the wheel stop tooth pin.

Once parts 2 and 3 have been lubricated and assembled in the ratchet head, position the cover and rotate the ratchet body from the OUT side. Tighten the screw with the hexagonal tip of the torque adjustment screw.

Lubricate the spring inside the ratchet handle as shown in the figure. Assemble the torque adjustment screw, checking that the instrument is working properly by manually activating the pawl wheel.

Sterilization: Before sterilisation, the wrench must be fully assembled and adjusted to its minimum torque. The medical device must undergo steam sterilisation.
Recommended cycle: • 3 (4 for the US market) pre-vacuums,
• 18 minutes at 134°C / 273°F at 2 bars and drying for 20 minutes.
We recommend the use of devices fitted with vacuum pumps (type B) to reduce the risk of air pockets forming. This recommendation is particularly important for hollow tools and to guarantee perfect drying. The hot air steriliser is not recommended as it can accelerate the ageing of the spring and consequently cause modification of the torque.
This procedure is essential to maintain the precision of the instrument within a tolerance range of ± 3.5 Ncm. Operate the torque and insertion mechanism to check its correct operation.
Remove all traces of lubricant from the external surfaces of the key. Place the device in a suitable sterilization bag. Disassembly and reassembly operations must be carried out following the instructions provided.

Cleaning, disinfection, sterilization and storage of the TWL torque wrench

The TWL torque wrench and its screwdriver are produced by Elos Medtech Pinol A/S.
For the cleaning, disinfection, sterilization and storage processes please refer to the producer's indications at the following link https://elosmedtech.com/IFU/

Cleaning/sterilisation/storage of prosthetic components

Warning! All surgical instruments for dental implants are sold in non-sterile condition. Before positioning in the oral cavity, the instruments must be cleaned, disinfected and sterilised according to the following procedure validated by Sweden & Martina.
Failure to comply with these instructions may result in cross infection and intraoperative complications.

a.Cleaning
Containers and transport to be used for cleaning have no special requirements. If automated cleaning is applied: use ultrasonic bath with a suitable cleaning solution. It is recommended that only neutral detergents be used.
The concentration of the solution and the duration of the cleaning process should be in accordance with the solution manufacturer's instructions. Use demineralised water to prevent the formation of stains and marks.
When draining, check that residues have been completely removed from recesses, holes, etc., in the devices.
If necessary, repeat the cycle or clean manually.

If manual cleaning is performed, use a suitable neutral detergent, following the manufacturer's instructions for use. Brush the products with soft bristles under running water. Using the brush, apply the cleaning solution to all surfaces. Rinse with distilled water for at least 4 minutes.
Ensure that plenty of running water flows through any holes. When cleaning drills with internal irrigation, use the pins provided with the handpieces to ensure that the irrigation holes have been thoroughly cleaned and cleared of any residual bone chips or biological tissue. After rinsing, dry the devices completely and pack them in suitable sterilisation bags. If a drying cycle is performed as part of the washing and disinfection machine cycle, do not exceed 120 °C.

b.Sterilisation
We reccomend this vaacum procedure of sterilization with autoclave before use:
- autoclave (Gravity-Displacement Cycles) at the temperature of 121 °C with a minimum of 30 minutes of exposure and a 15-minute drying cycle;
- autoclave (Dynamic-Air-Removal Cycles) at the temperature of 132 °C with 4 minutes of exposure and at least a 20-minute drying cycle.

c. Storage
After sterilisation, the product should remain in the pouches used for sterilisation. The pouches should only be opened immediately prior to use. Sterilisation pouches are normally capable of maintaining sterility inside the pouch unless the pouch is damaged. Care should therefore be taken to not use components if the pouches in which they were stored are damaged and to re-sterilise them in new pouches before re-use. The shelf life of sterilised products in pouches should not exceed that recommended by the pouch manufacturer. The product should be stored in a cool, dry place, away from direct sunlight, and from sources of water and heat.

Please visit the website **https://www.sweden-martina.com/en_gb/ifu/** for more information on:
- material composition;
- maintenance, cleaning/sterilization/storage of prosthetic components, surgical instrumentation and the
- CRI5-KIT torque control ratchet,
- legend of symbols used in packaging.

THE LAST REVISION DATE OF THIS MANUAL IS MAY 2023.

The design and manufacture of the devices covered by this manual has been undertaken in compliance with the most up-to-date directives and harmonised standards with regard to materials used, manufacturing processes, sterilisation, information provided and packaging.

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