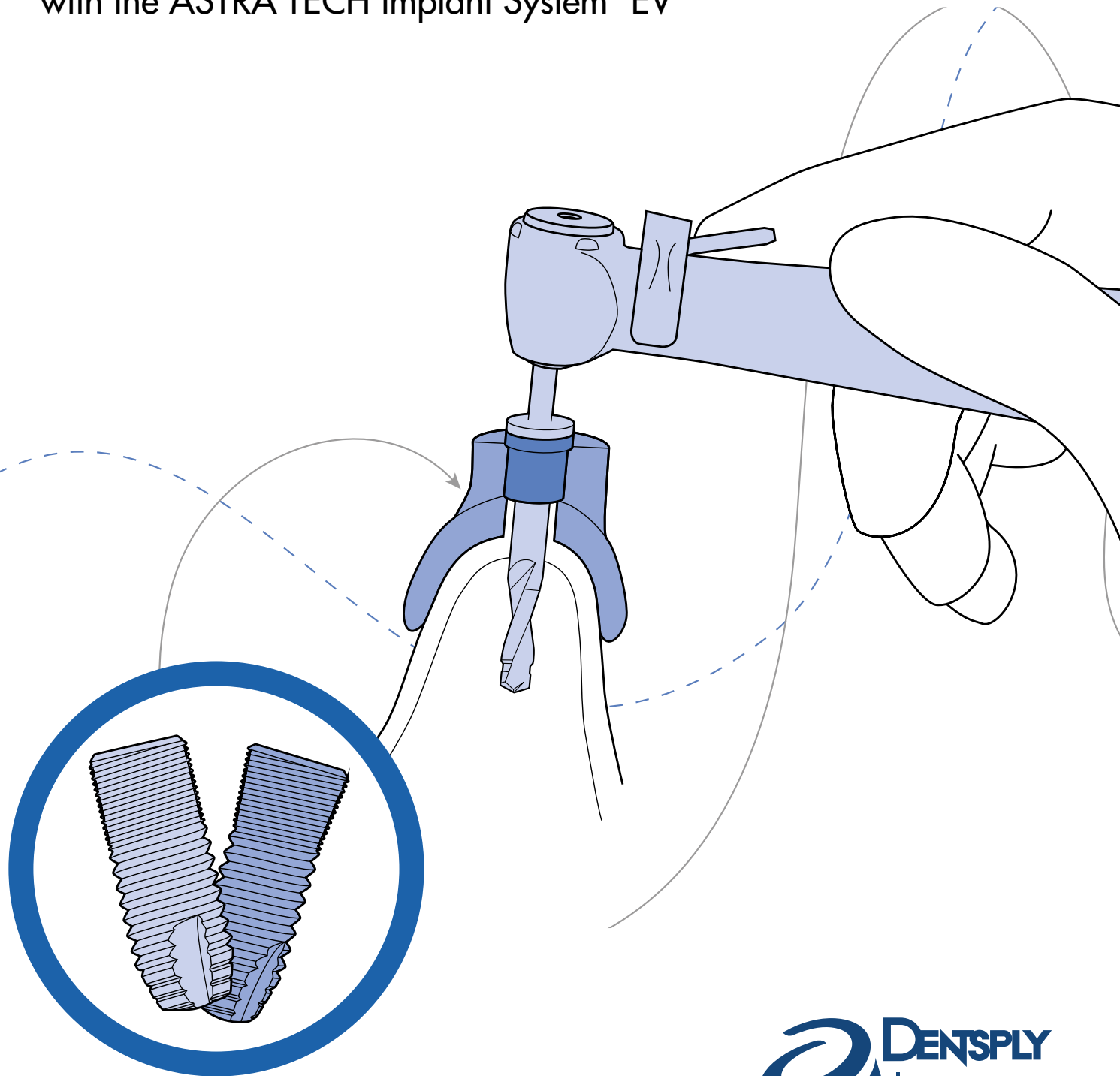


Including  
product catalog

**ASTRA TECH  
IMPLANT SYSTEM**

# Guided surgery manual

SIMPLANT® computer guided implant treatment  
with the ASTRA TECH Implant System™ EV



**DENSPLY**  
IMPLANTS



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This manual is designed for use by clinicians who have undergone at least basic surgical and in-clinic implant training. Staying current on the latest trends and treatment techniques in implant dentistry through continued education is the responsibility of the clinician.

This manual only addresses the additional information needed to work with guided surgery using ASTRA TECH Implant System EV. For all other instructions and/or a full description of the ASTRA TECH Implant System EV implant placement, restorative procedures and all instruments and components needed, please refer to the Surgical manual, Cement, Screw, Attachment-retained restorations manuals and the Product Catalog ASTRA TECH Implant System EV.

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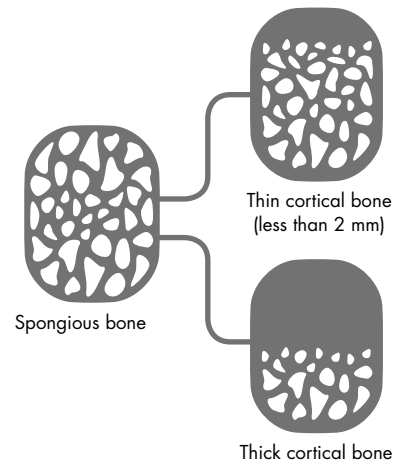
Product illustrations are not to scale.

# Drilling protocol and bone classification

The density and orientation of trabeculae in spongius bone differs from patient to patient and from location to location. These variations can create differences in perceived resistance when preparing the implant site. The marginal cortical bone, however, is most often homogeneous in quality but may vary in thickness from case to case, which requires adaptive preparation methods.

As a result, a unique and simple drilling protocol has been developed to allow for preferred primary stability of the implant:

- One standard procedure that produces a 0.5 mm under-preparation relative to the implant diameter.
- Followed by two options for preparation of the cortical bone based on bone thickness
- In situations when a wider osteotomy preparation is needed, apically and/or along the implant body, additional drills are available.



There is one drilling protocol recommended for preparation of the spongius bone with two options for the cortical bone.






# Implant assortment for guided surgery

OsseoSpeed EV implants are available in a versatile range of shapes, diameters and lengths for all indications, including situations with limited space and/or bone quantity.

Specific colors have been assigned to the different implant-abutment connection sizes, which are consistently used throughout the system and identified by symbols and colors.

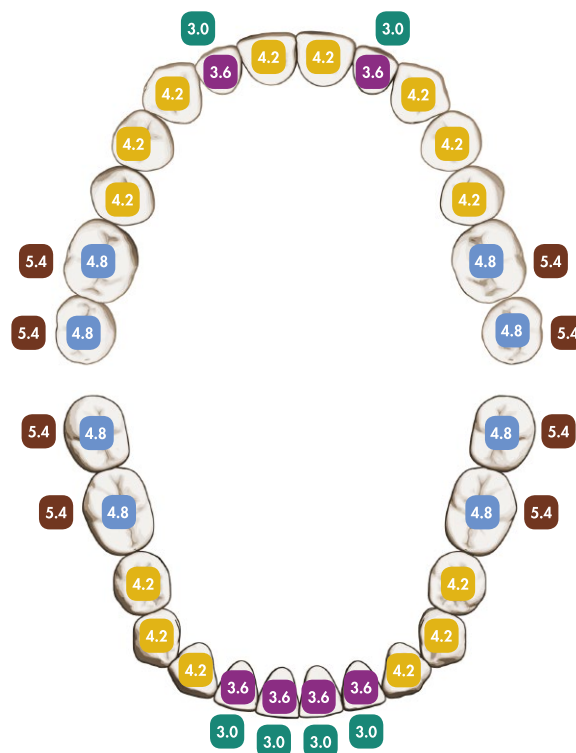
The guided surgery assortment of ASTRA TECH Implant System EV supports the following implants:

- OsseoSpeed EV straight implants
  - diameters 3.6 S, 4.2 S, 4.8 S
  - lengths 6 mm – 15 mm
- OsseoSpeed EV conical implants
  - diameters 4.2 C, 4.8 C
  - lengths 8 mm – 15 mm

	Straight			Conical	
					
Ø	 3.6 S	 4.2 S	 4.8 S	 4.2 C	 4.8 C
Length					
6 mm	X	X	X		
8 mm	X	X	X	X	X
9 mm	X	X	X	X	X
11 mm	X	X	X	X	X
13 mm	X	X	X	X	X
15 mm	X	X	X	X	X

## Implant size/tooth position

The design philosophy of the ASTRA TECH Implant System EV is based on the natural dentition utilizing a site-specific, crown-down approach supported by an intuitive surgical protocol and a simple prosthetic workflow.



Multiple considerations are required for each individual tooth, the support needed for the final restoration in the particular position, soft-tissue healing, and implant design and size. The illustration indicates the recommended implant sizes in relation to the natural dentition, provided there is sufficient bone volume and space in relation to adjacent dentition. **Note:** The 3.0 and 5.4 implants are not fully supported with all drilling steps.

# Tray concept

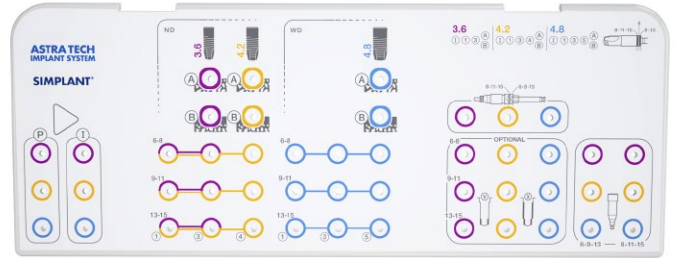
The tray layout and components are organized to support the user throughout the entire guided surgery procedure. The tray design eliminates the need for rubber grommets for holding drills and instruments, which simplifies the cleaning process.

The layout is printed on the overlay, which is snapped onto the tray base. This solution offers the possibility of adapting the tray's contents according to individual preferences.



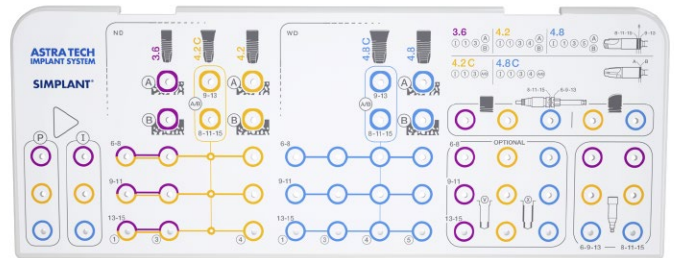
## Streamline overlay

The Streamline Overlay is designed for straight implants with the diameters of 3.6 mm, 4.2 mm, and 4.8 mm in the lengths of 6 mm to 15 mm.



## Proline overlay

The Proline Overlay supports the full assortment of both straight and conical implants. Straight implants are available in the diameters of 3.6 mm, 4.2 mm and 4.8 mm in the lengths of 6 mm to 15 mm. In addition to the most commonly used straight implants, the Proline Overlay also supports conical and OsseoSpeed Profile EV implants in the diameters of 4.2 mm and 4.8 mm in the lengths of 8 mm to 15 mm.



## Tray logics

The color-coded tray has a drill marking system for ease of use and effective handling throughout the procedure, based on the following principles:

- All drills for spongy bone preparation are color-coded white and laser marked with drill number 1–5, implant diameter and length on the drills shaft.
- All drills for the cortical bone preparation are color-coded according to the implant diameter and laser marked with either an A or B for straight implants, or A/B for conical implants.
- The drills for optional osteotomy preparation are laser marked with V or X, drill diameter, implant length and color-coded.

Please place the instruments and components in the tray according to the Tray-Guide overview.

## Delivery mode

To prepare a clinical case with the ASTRA TECH Implant System EV with SIMPLANT, a Base Kit has to be ordered. The case specific drills will be delivered with the Safe Guide.

Two types of Base Kits can be ordered: The Streamline Base Kit and the Proline Base Kit

The Streamline Base Kit consists of:

- Tray with Streamline Overlay
- Cortical Drills: A-Drill, B-Drill
- All Initial Drills, Implant Drivers, and Stabilization Abutments

In addition to the Streamline Base Kit, the Proline Base Kit consists of:

- All Cortical A/B-Drills

By ordering a SIMPLANT SAFE Guide, the case specific selection of all necessary drills and instruments according to the planned OsseoSpeed EV implant types will be added to your order.

The case specific drills together with either the Streamline or the Proline Base Kit support the complete surgical treatment protocol specified for ASTRA TECH Implant System EV.

## Drill systematic

Spongy bone preparation



Cortical bone preparation  
– straight implants



Cortical bone preparation  
– conical implants



Optional preparation



# Tray- and drilling protocol guide

REF 26000 | A/B-Cortical Drill EVGS 4.2C, 9.13 mm, Ø3.1/4.2  
 REF 26001 | A/B-Cortical Drill EVGS 4.2C, 8.1-1.15 mm, Ø3.1/4.2



REF 26006 | A-Cortical Drill EVGS 4.2, Ø3.7/3.9  
 REF 26007 | B-Cortical Drill EVGS 4.2, Ø3.7/4.2



REF 26008 | A-Cortical Drill EVGS 4.8, Ø4.3/4.5  
 REF 26009 | B-Cortical Drill EVGS 4.8, Ø4.3/4.8

REF 26004 | A-Cortical Drill EVGS 3.6, Ø3.1/3.3  
 REF 26005 | B-Cortical Drill EVGS 3.6, Ø3.1/3.6



REF 26002 | A/B-Cortical Drill EVGS 4.8C, 9.13 mm, Ø3.7/4.8  
 REF 26003 | A/B-Cortical Drill EVGS 4.8C, 8.1-1.15 mm, Ø3.7/4.8



REF 26016 | Implant Driver EVGS Ø3.6  
 REF 26017 | Implant Driver EVGS Ø4.2  
 REF 26018 | Implant Driver EVGS Ø4.8

REF 26013 | Initial Drill EVGS Ø3.6  
 REF 26014 | Initial Drill EVGS Ø4.2  
 REF 26015 | Initial Drill EVGS Ø4.8

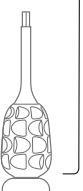


REF 26033 | EVStabilization Abutment, 8.1-1.15 mm, Ø3.6  
 REF 26034 | EVStabilization Abutment, 6.9-1.3 mm, Ø3.6  
 REF 26035 | EVStabilization Abutment, 8.1-1.15 mm, Ø4.2  
 REF 26036 | EVStabilization Abutment, 6.9-1.3 mm, Ø4.2  
 REF 26037 | EVStabilization Abutment, 8.1-1.15 mm, Ø4.8  
 REF 26038 | EVStabilization Abutment, 6.9-1.3 mm, Ø4.8

REF 26099 | Streamline  
 REF 26098 | Proline



REF 26010 | Punch EVGS Ø3.6  
 REF 26011 | Punch EVGS Ø4.2  
 REF 26012 | Punch EVGS Ø4.8



Hex Driver EV Manual  
 Short, 20 mm, REF 25771  
 Hex Driver EV Manual  
 Intermediate, 31 mm, REF 25772

REF 26021 | Implant Driver Extender EVGS

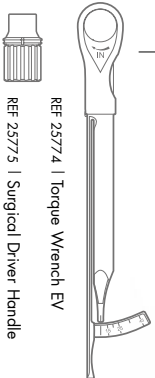


REF 26072 - 26083 | XDrills EVGS 3.6, 4.2C, 4.2, 4.8C, 4.8  
 REF 26084 - 26095 | VDrills EVGS 3.6, 4.2C, 4.2, 4.8C, 4.8

REF 26050 | Drill for Guide fixation screw



REF 26051 | 1-Drill EVGS, 6.8 mm, Ø1.9 ND  
 REF 26052 | 1-Drill EVGS, 9.1 mm, Ø1.9 ND  
 REF 26053 | 1-Drill EVGS, 13.15 mm, Ø1.9 ND  
 REF 26054 | 3-Drill EVGS, 6.8 mm, Ø2.5/3.1 ND  
 REF 26055 | 3-Drill EVGS, 9.1 mm, Ø2.5/3.1 ND  
 REF 26056 | 3-Drill EVGS, 13.15 mm, Ø2.5/3.1 ND  
 REF 26057 | 4-Drill EVGS, 6.8 mm, Ø3.1/3.7 ND  
 REF 26058 | 4-Drill EVGS, 9.1 mm, Ø3.1/3.7 ND  
 REF 26059 | 4-Drill EVGS, 13.15 mm, Ø3.1/3.7 ND



REF 25774 | Torque Wrench EV  
 REF 25775 | Surgical Driver Handle



REF 26060 | 1-Drill EVGS, 6.8 mm, Ø1.9 WD  
 REF 26061 | 1-Drill EVGS, 9.1 mm, Ø1.9 WD  
 REF 26062 | 1-Drill EVGS, 13.15 mm, Ø1.9 WD  
 REF 26063 | 3-Drill EVGS, 6.8 mm, Ø2.5/3.1 WD  
 REF 26064 | 3-Drill EVGS, 9.1 mm, Ø2.5/3.1 WD  
 REF 26065 | 3-Drill EVGS, 13.15 mm, Ø2.5/3.1 WD  
 REF 26066 | 4-Drill EVGS, 6.8 mm, Ø3.1/3.7 WD  
 REF 26067 | 4-Drill EVGS, 9.1 mm, Ø3.1/3.7 WD  
 REF 26068 | 4-Drill EVGS, 13.15 mm, Ø3.1/3.7 WD  
 REF 26069 | 5-Drill EVGS, 6.8 mm, Ø3.7/4.3 WD  
 REF 26070 | 5-Drill EVGS, 9.1 mm, Ø3.7/4.3 WD  
 REF 26071 | 5-Drill EVGS, 13.15 mm, Ø3.7/4.3 WD





### Guide types

Three types of drill guides are available for SIMPLANT Computer guided surgery with ASTRA TECH Implant System EV:

#### Bone-supported guide

for optimal, stable template seating for edentulous patients and ideal in combination with augmentation.

#### Mucosa-supported guide

for minimally invasive procedures (e.g. flapless surgery) for edentulous patients. Note: Infiltration may cause little changes to the mucosa topography and less stable fit of the mucosa supported guide.

#### Tooth-mucosa supported guides

for partially edentulous patients. A plaster cast or the scan of the plaster model (Optical Scan module) is needed to enable optimal fit of the guide.

**Note:** Immediately before use of the SAFE Guide on the patient, follow the decontamination and sterilization notes of the manufacturer "IFU SIMPLANT SAFE Guide". The SAFE Guide has to be checked for an exact fit. If necessary, make adjustments of imperfections. To avoid injuries to the soft tissue ensure moderate application of force at all times.

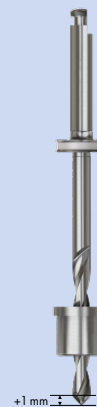
### Lateral access

A SIMPLANT SAFE Guide can be ordered with a closed tube or with an open lateral access.

The lateral open access provides additional convenience by reducing the insertion height of the drill by at least 4 mm, up to 10 mm, depending on the implant position and the thickness of the mucosa. Thus, guided surgery is facilitated in cases with limited space.

### Dynamic tube position

The positions of the tubes in the Safe Guide are adjusted to the planned implant length. One drill length can accommodate different osteotomy depths. The tube position will be added by the SIMPLANT Software corresponding to the planned implant length. Manual adjustments are not possible.



The guided instruments are at least 11 mm longer than the non-guided assortment.

Consider during planning in the SIMPLANT Software that the drill tip can be up to 1 mm longer than the implant.

# Surgical components and instruments overview

All drills except the Punch are reusable and can be used for approximately 10 cases.



## Punch for soft tissue preparation

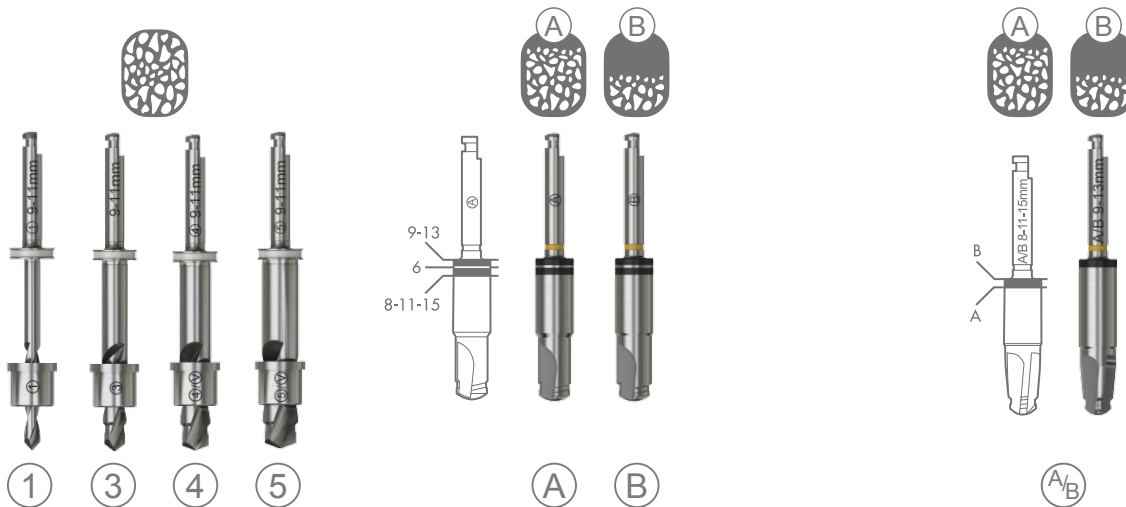
The punch, marked with a (P) is used to make a minimally invasive circular incision in the soft tissue. It is a single-use punch directly guided in the tube of the guide.

- Laser marking corresponds to the implant length and diameter
- Color: corresponds to the implant diameter
- Single use only

## Initial Drill

After using the optional punch, the mandatory Initial drill is used to remove the soft and hard tissue and to prepare the shape of the bone for the first full length drill. The Initial Drill is marked with an (I) and is directly guided in the tube of the guide.

- Laser marking corresponds to the implant length and diameter
- Color: corresponds to the implant diameter
- Delivered sterile and for multiple use, approximately 10 cases



### Spongy bone preparation

Full length drills with mechanical depth stop are used for the osteotomy preparation. The osteotomy design ensures proper preparation of the bone for implant placement, while achieving the preferred level of primary stability.

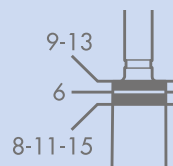
- Color: white
- Laser marking: drill diameter and number, implant length and diameter
- Drill lengths available according to the implant length:  
6–8 mm, 9–11 mm, 13–15 mm
- Drill: delivered sterile and for multiple use, approximately 10 cases
- Sleeve: sterile and single use only
- Delivered together with guides

### Cortical bone preparation – straight implants

The (A) or (B) Cortical Drill is used for the preparation of the cortical layer to reduce pressure in the bone around the implant neck. The Cortical Drills are directly guided in the tube of the guide.

- Color: corresponds to implant size
- Markings: diameter and drill letter
- A – thin cortical bone < 2 mm
- B – thick cortical bone ≥ 2 mm
- Delivered sterile and for multiple use, approximately 10 cases

**Note:** There is a separate depth marking for the 6 mm implant.



### Cortical bone preparation – conical implants

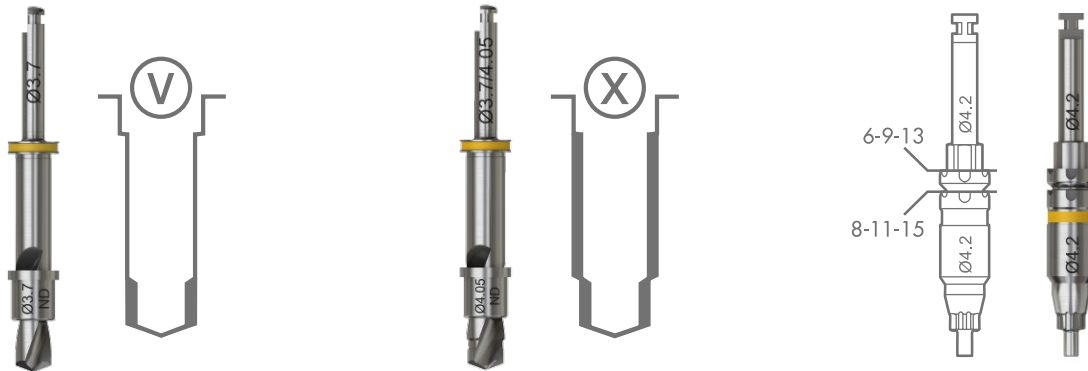
The drill marked (A/B) is used to prepare the conical shape of the cavity.

The intended preparation depth (A) or (B) has to be chosen depending on the thickness of the cortical bone.

- (A) – thin cortical bone < 2mm,
- (B) – thick cortical bone ≥ 2mm

The Cortical Drills are directly guided in the tube of the guide.

- Color: corresponds to implant diameter.
- Laser marking: drill letter, implant diameter and length
- Two lengths available:  
9-13 mm and 8-11-15 mm
- Delivered sterile and for multiple use, approximately 10 cases



### V-Drill – extra apical preparation (optional)

Following opening of the marginal cortical layer with cortical drill (A), (B) or conical drill (A<sub>B</sub>), the (V) drill can be used to widen the apical part of the osteotomy.

- Color: corresponds to implant size.  
**Note:** for conical implants, this color refers to the implant body diameter.
- Laser marking: drill diameter, implant length and (V)
- Drill lengths available according to the implant length: 6–8 mm, 9–11 mm, 13–15 mm
- Drill: sterile and multiple use, approximately 10 cases
- Sleeve: sterile and single use only
- Delivered together with guides

### X-Drill – extra body preparation (optional)

Following opening of the marginal cortical layer with cortical drill (B) or conical drill (A<sub>B</sub>), the (X) drill can be used to widen the remaining osteotomy below.

- Color: corresponds to implant size.  
**Note:** for conical implants, this color refers to the implant body diameter.
- Laser marking: drill diameter, implant length and (X)
- Drill lengths available according to the implant length: 6–8 mm, 9–11 mm, 13–15 mm
- Drill: sterile and multiple use, approximately 10 cases
- Sleeve: sterile and single use only
- Delivered together with guides

### Implant Driver EV-GS

Used for picking up and installing the implant through the tube of the guide in the prepared osteotomy. The Implant Driver EV-GS can only engage into one single position of the implant.

The two grooves on the shaft indicate the corresponding implant lengths 8-11-15 mm and 6-9-13 mm. Each groove contains two engaging systems with 6 notches. One of the six notches is longer and indicates the one-position-only feature for pre-surgically manufactured ATLANTIS Abutments.

- ISO Hex shaft
- Color: corresponds to implant
- Grooves indicate the implant depth in relation to the tube in the guide
- Six notches for aligning to the single notch of the tube in the Guide for standard Abutments
- The single long notch must align with the notch of the tube in the guide for pre-surgically manufactured ATLANTIS patient-specific abutments
- Install the implant at low speed (25rpm) under profuse irrigation and set the maximum torque to 45 Ncm

**Note:** In order to avoid tilting, there must not be any pressure on the drill guide. Hence, instead of a mechanical depth stop, the implant driver has two groove markings. This prevents stripping of the implant thread and damaging the implant site. The implant driver should preferably be used with a torque-controlled contra-angle hand piece or with the Torque Wrench EV and the Surgical Driver Handle EV.

# Immediate Smile® for ASTRA TECH Implant System EV

The Immediate Smile solution featuring ATLANTIS Abutment offers guided surgery and guided soft tissue healing for immediate temporizations, already at time of tooth extraction. This solution consists of a SIMPLANT SAFE Guide, an ATLANTIS Abutment and a temporary crown based on the ATLANTIS Abutment Core File and is currently indicated for single-tooth implant restorations. For more details see: *“Immediate Smile – featuring ATLANTIS Abutment, Clinical and laboratory procedures”*.

The implant must be installed to the planned height and index orientation for proper seating and positioning of the already manufactured ATLANTIS patient-specific abutment.



## Implant-abutment interface connection

The ASTRA TECH Implant System EV features a one-position-only placement of patient-specific ATLANTIS Abutments for restorative ease.

The Immediate Smile treatment concept is based upon patient-specific ATLANTIS Abutments designed and manufactured prior to surgery.



OsseoSpeed EV

### Abutment placement option

#### One-position-only

ATLANTIS patient-specific, CAD/CAM abutments will seat in one position only.



#### Six positions

Indexed abutments will seat in six available positions.



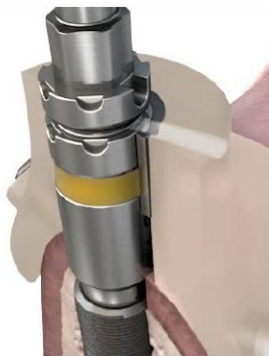
#### Index free

Index-free abutments will be seated in any rotational position.



By aligning the single long notch of the Implant Driver with the notch in the tube of the guide, the pre-manufactured, patient-specific ATLANTIS Abutment will be correctly indexed upon abutment connection.

**Note:** If you rotate the implant in the SIMPLANT Software, an additional notch will be present around the tube in the guide. The single long notch in the Driver has to be aligned with this additional notch in the guide.



The single long notch that is to be used for implant indexing during Immediate Smile featuring ATLANTIS Abutment procedures is longer and deeper in comparison to the other notches.





### Sleeve-on-Drill™

The Sleeve-on-drill guides the drill in the tube of the guide. The following steps describe the handling of the sleeve-on-drill concept.

- In preparation for the surgery, mount the sleeve manually with the collar first on the drill until the sleeve snaps into the groove of the drill.
- Put the drill with the mounted sleeve into the tube of the guide.
- Start drilling with max. 1500 rpm.
- Prepare the osteotomy until the depth stop of the drill is reached.
- Remove the rotating drill out of the osteotomy until the sleeve snaps into the groove of the drill again.
- Stop drilling!
- Finally remove the drill with the sleeve out of the tube in the guide.

- Laser markings: inner sleeve diameter, tube size ND=narrow diameter or WD=wide diameter
- Delivered sterile together with the guide
- Single use only

### Implant Driver Extender EV-GS

The Extender EV-GS can be used for the drills and Implant Drivers in case of limited space. Align the flat shaft of the instrument with the dot marking on the Implant Driver Extender and snap into position.

### EV-Positioning Aid

For pre-manufactured immediate prosthetic restorations used with the Safe Guide.

- Precise transfer of the planned implant position to the master cast
- Color: corresponds to implant
- Markings: implant diameter and length
- Two lengths available:  
6-9-13 mm and 8-11-15 mm
- Multiple use

**Note:** Before using the PositioningAid, check for damage on the outside. If signs of wear are visible, replace it with a new one.

# Fixation System



## EV-Stabilization Abutment

The stabilization abutment secures the SAFE Guide against lateral and horizontal displacement and twisting when multiple implant sites are prepared.

At least one implant should be provided with a stabilization abutment.

The Abutment should be hand-tightened. For easier removal use the Hex Screwdriver EV.

- Color: corresponds to implant
- Two lengths available:  
6-9-13 mm and 8-11-15 mm

## Guide Fixation Screw

It is recommended to secure the mucosa supported guide with fixation screws. Place Guide Fixation Screws through the SAFE Guide to reduce lateral and horizontal movements. The screw position has to be planned with the SIMPLANT Software and it is mandatory for the preparation with the Drill Guide Fixation Screw.

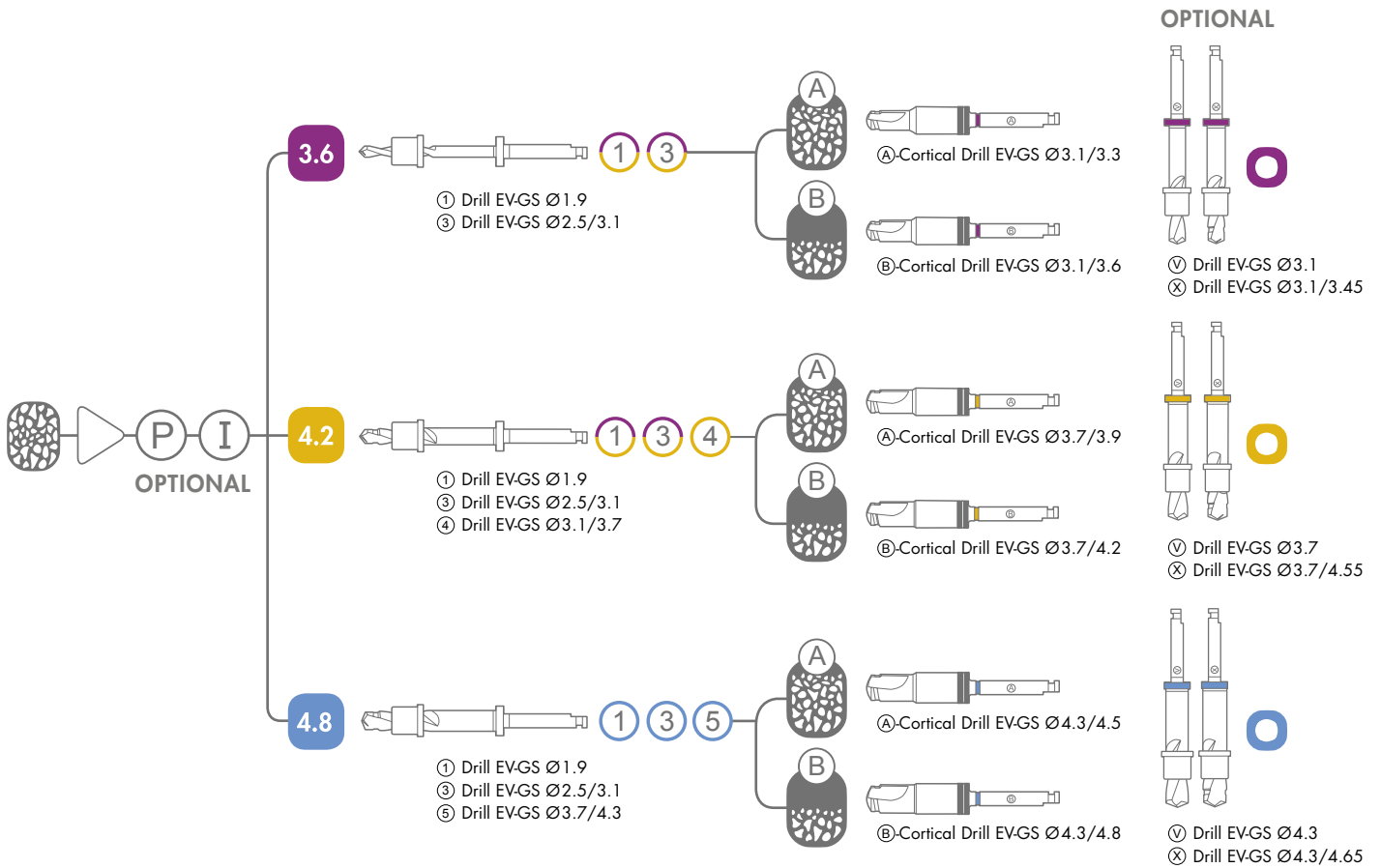
- Precise implant placement by connecting mucosa supported guides with the bone through fixation screws
- Stainless steel
- Single use only
- Delivered sterile

## Drill for Guide Fixation Screw

Directly guided Drill through the SAFE Guide, is used to prepare the Guide Fixation Screw.

- Stainless steel
- Multiple use approximately 10 cases
- Delivered sterile

# Drilling protocol for OsseSpeed™ EV – straight



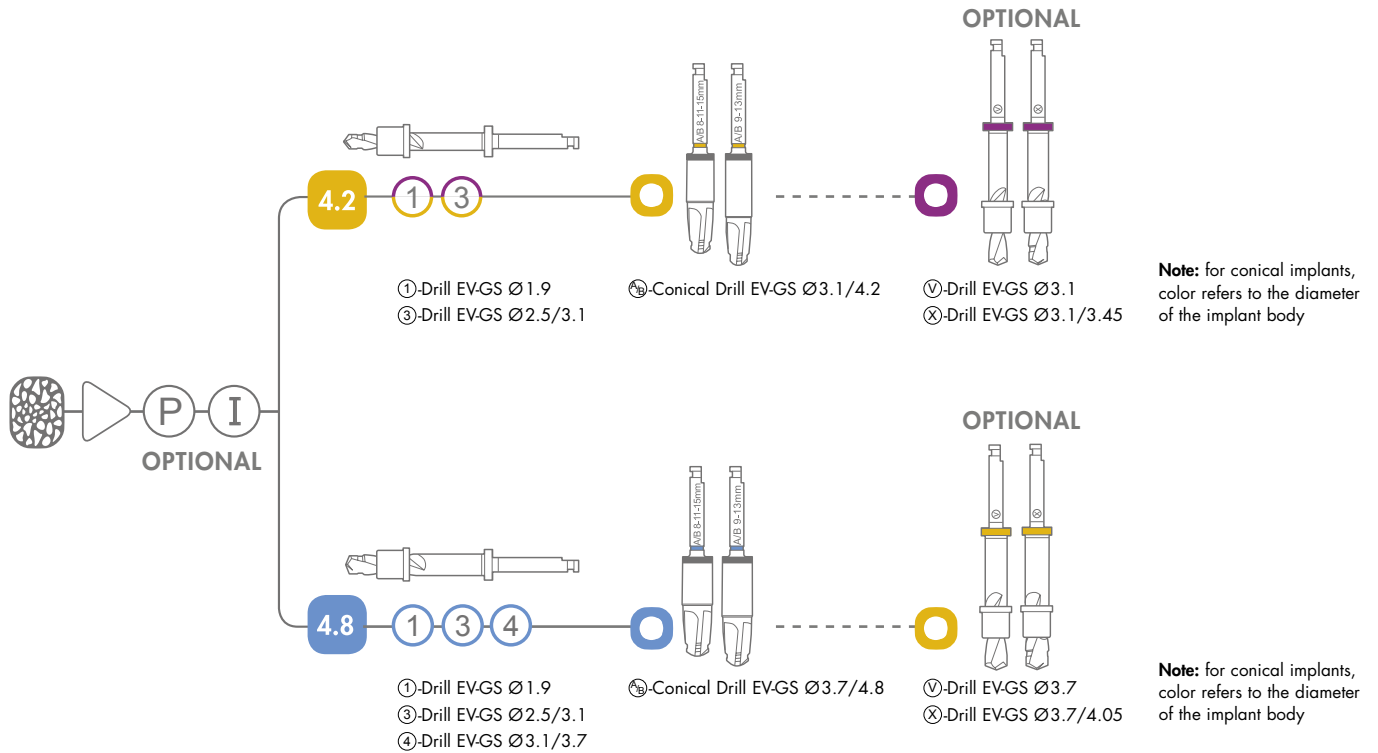


# Drilling protocol for OsseoSpeed™ EV – conical



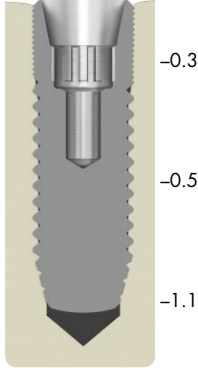
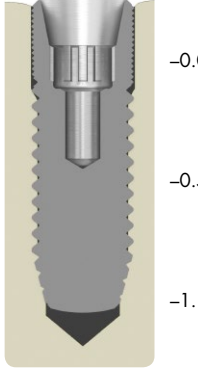
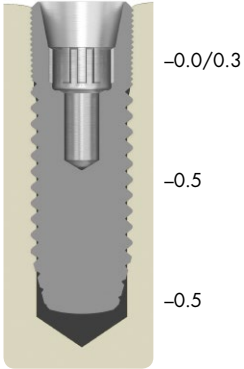
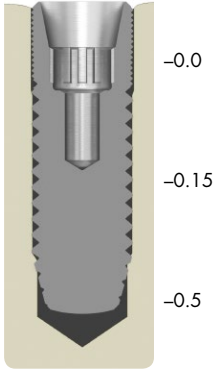


Conical implants are available for situations with limited bone volume where a diameter 3.6 or 4.2 mm implant body is the choice, but where a larger prosthetic platform is preferred.

**Note:** If an optional osteotomy preparation with V or X drills is utilized, use the color that refers to the implant body diameter.



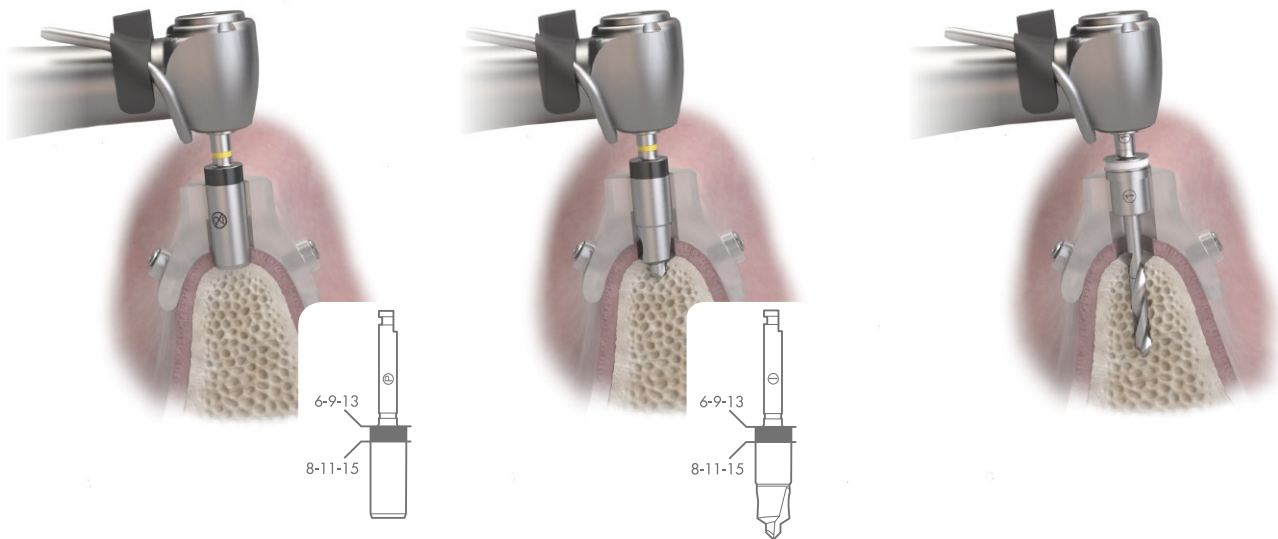
# Osteotomy preparation options

Cortical bone preparation	
Thin cortical bone  (A)	Thick cortical bone  (B)
	
A drilling protocol using step drills for the spongy bone preparation followed by preparation using cortical drill (A) will result in an underpreparation compared to the implant body diameter of -0.3 mm at the margin, -0.5 mm at the body and -1.1 mm at the apex respectively.	A drilling protocol using step drills for the spongy bone preparation followed by preparation using cortical drill (B) will result in an underpreparation compared to the implant body diameter of 0 mm at the margin, -0.5 mm at the body and -1.1 mm at the apex respectively.
Optional osteotomy preparation	
Extra apical preparation (V)	Extra body preparation (X)
	
To widen the apical part of the osteotomy, the (V) drill can be used. This results in an underpreparation, compared to the implant body diameter, of -0.5 mm at the apex.	In situations where dense bone is present and the marginal bone has been prepared with cortical drill (B), the (X) drills can be used to widen the osteotomy below the margin. This will result in an underpreparation compared to the implant body diameter of -0.15 mm at the body and -0.5 mm at the apex respectively.

# Step-by-step implant placement: OsseoSpeed™ EV

For preparation and installation of an OsseoSpeed EV implant follow the steps below:

**Note:** All drilling, except for the Punch, should be performed at a maximum speed of 1500 rpm with profuse irrigation.



## Punch EV-GS

The directly guided single patient Punch EV-GS is used for a minimally invasive circular incision for the planned implant diameter. The correct position has been reached when the implant length laser marking of 8-11-15 or 6-9-13 respectively is flush with the top margin of the tube.

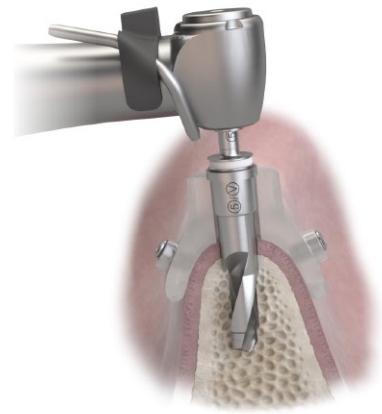
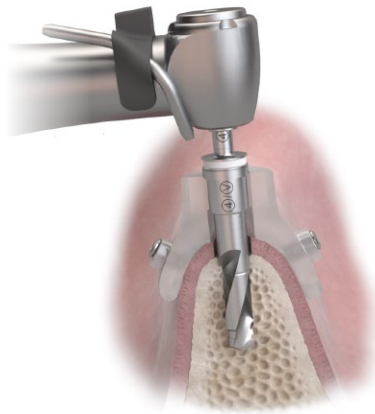
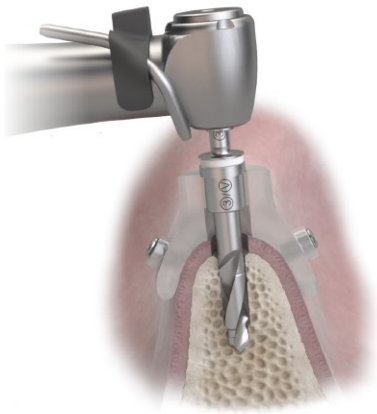
The max speed for this instrument is 800 rpm.

## Initial Drill EV-GS

For minimally invasive treatments, the use of the Initial Drill EV-GS is essential to remove the mucosa and, if necessary, the bone to the planned implant shoulder. The Initial Drill is directly guided in the tube of the guide. The correct position has been reached when the implant length laser marking of 8-11-15 or 6-9-13 respectively is flush with the top margin of the tube.

## ①-Drill EV-GS 1.9

①-Drill with the corresponding ①-Sleeve is placed in the tube of the Safe Guide. Prepare the osteotomy until the physical depth stop is reached. Remove the Drill with the Sleeve out of the tube.



**③-Drill EV-GS 2.5/3.1**

Use the ③-Drill with the corresponding ③/⑤-Sleeve as the last step drill to prepare the osteotomy for a 3.6S or 4.2C Implant.

**④-Drill EV-GS 3.1/3.7**

Use the ④-Drill with the corresponding ④/⑤-Sleeve as the last step drill to prepare the osteotomy for a 4.2S or 4.8C Implant.

**⑤-Drill EV-GS 3.7/4.3**

Use the ⑤-Drill with the corresponding ⑤/⑤-Sleeve as the last step drill to prepare the osteotomy for a 4.8S implant.

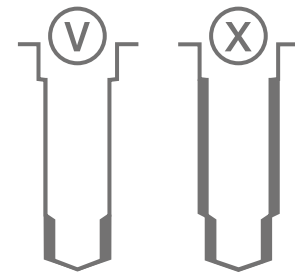
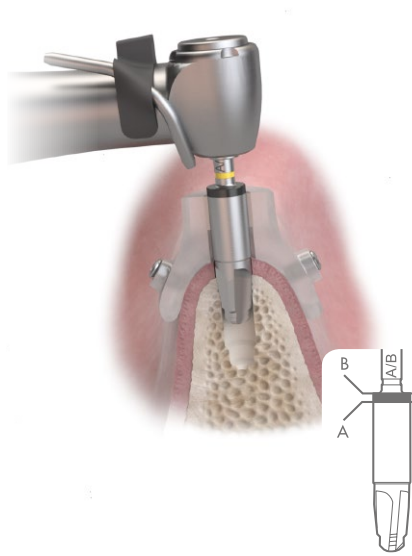
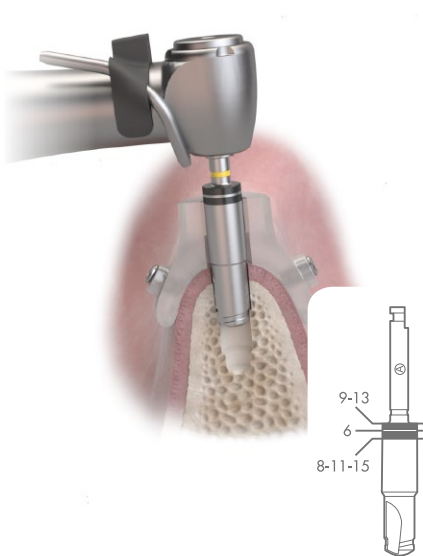
## Preparation for Straight Implants

For straight implants, use one of the cortical A or B Drills for the final cortical bone preparation.

## Preparation for Conical Implants


For conical implants, use one of the conical A/B-Drills for the final cortical bone preparation.


## Additional osteotomy preparation



### Ⓐ-Drill EV-GS Ⓑ-Drill EV-GS Cortical bone preparation – straight implants

Choose the specific cortical drill based on the cortical bone thickness:

Cortical Drill Ⓐ  for a thin >2mm cortical bone

Cortical Drill Ⓑ  for a thick =< 2mm cortical bone

Finalize the osteotomy by drilling to the full depth indicated by the marked line. The Ⓐ and Ⓑ Drills are directly guided. The correct position has been reached when the implant length laser marking of 8-11-15 mm, 9-13 mm or the 6 mm respectively is flush with the top margin of the tube.

**Note:** There is a separate laser mark position for the 6mm implant.

### Ⓐ/Ⓑ-Drill EV-GS Cortical bone preparation – conical implants

Use the Ⓐ/Ⓑ conical Drill according to the Implant Diameter 4.2C or 4.8C and length 9-13 or 8-11-15.

Depth markings are based on the cortical bone thickness: Ⓐ for thin > 2mm cortex, drill to the apical border of the depth indication line. Ⓑ in thick =< 2mm cortex, drill to the full depth. The Drill shaft has to be flush with the top margin of the tube in the guide.

### Additional osteotomy preparation

If necessary, additional preparation can be performed with one of the following drills:

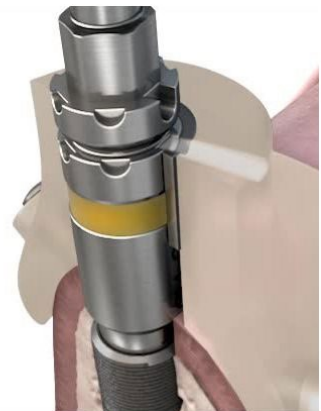
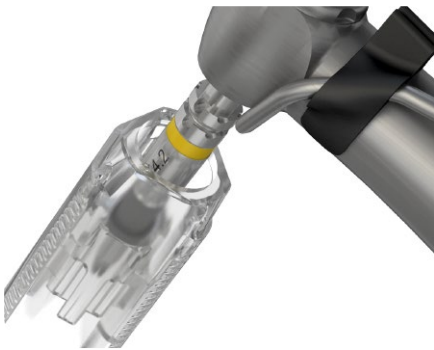
#### Ⓥ-Drill EV

After preparation of the cortical layer with the cortical drill Ⓐ, Ⓑ or Ⓐ/Ⓑ, the Ⓥ drill can be used to widen the apical portion of the osteotomy.

#### ⓧ-Drill EV

After preparation of the cortical layer with the Ⓑ or Ⓐ/Ⓑ Drill, the ⓧ-Drill can be used to widen the osteotomy below the margin.

**Note:** For conical implants, color refers to the diameter of the implant body



### Implant pick up

Attach the appropriate Implant Driver EV-GS to the contra angle.

- Ensure that the implant driver is fully seated into the implant.
- Press downwards to activate the carrying function before picking up the implant.

**Note:** The Implant Driver EV-GS is seated in a one-position-only.

### Implant installation EV-GS with Surgical Handle Driver

For manual seating of the implant, attach the appropriate Implant Driver EV-GS to the Surgical Driver Handle.

- Ensure that the implant driver is fully seated into the surgical driver handle and the implant.
- Press downwards to activate the carrying function before picking up the implant.

**Note:** The Implant Driver EV-GS is seated in a one-position-only.

### Implant installation EV-GS

Install the implant with the contra angle at low speed (25 rpm) and set the maximum torque at 45 Ncm.

The grooves indicate the implant length. The lower one is for lengths 8-11-15 mm, the upper is for 6-9-13 mm.

The correct groove has to be flush with the tube of the guide.

### Implant installation for prefabricated stock abutments:

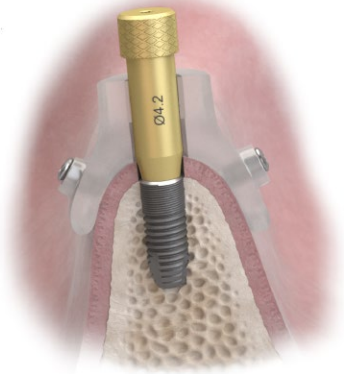
One of the six notches on the driver shaft has to be aligned with the notch in the Guide tube.

### Implant installation for pre-surgically fabricated ATLANTIS Abutments:

The long notch on the implant driver shaft indicates the one-position-only, which must be aligned with the notch in the Guide tube.

**Note:** Do not exceed 45 Ncm when installing the implant. If the implant is not completely seated before reaching 45 Ncm, reverse/remove the implant and widen the osteotomy appropriately (see the option for the preparation of additional osteotomy).

It is recommended to have titanium forceps available in case the implant driver does not provide sufficient carrying function during the removal procedure.



### EV-Stabilization Abutment

For multiple implant cases, you can use the stabilization abutment to secure the SAFE guide against lateral and horizontal movement and twisting. For easier removal, the abutment should be hand-tightened using the Hex Screwdriver EV.

### Healing protocol

Finalize the procedure of the implant installation according to a one- or two-stage approach by attaching a Heal Design abutment EV or a cover screw EV.

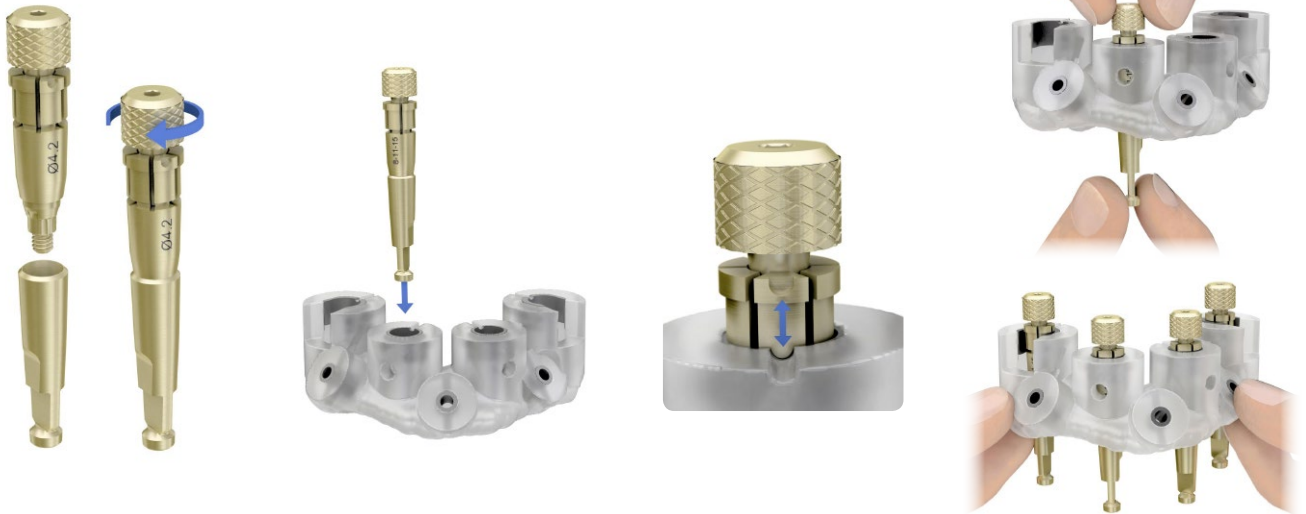
For details, see Surgical manual ASTRA TECH Implant System EV.

# Step-by-step: Immediate temporary restoration directly following the implant placement

For mucosa- and tooth-supported cases – with the EV-PositioningAid, a plaster cast is necessary for the fabrication of the prosthetic restoration.

When using SIMPLANT, an immediate restoration can be prepared before surgery based on the planning data.

## Application of the EV – PositioningAid



**1.** Screw the EV-PositioningAid loosely into the implant replica to avoid pre-mature expansion.

**Note:** Before using the PositioningAid, check for possible damage on the outside. If signs of wear are visible, replace it with a new one.

**2.** Insert the joined components into the respective tube of the guide. The EV- PositioningAid must be seated in the guide completely up to the stop collar. Do not mount the retaining screw too tight into the PositioningAid, as this will expand it and it will no longer be possible to position it in the tube correctly. In case of high expansion loosen the screw and lift it.

**3.** The single notch of the EV-PositioningAid must be aligned with the notch in the tube of the guide. The alignment of the notches ensures the transfer of the planned implant position to the master cast.

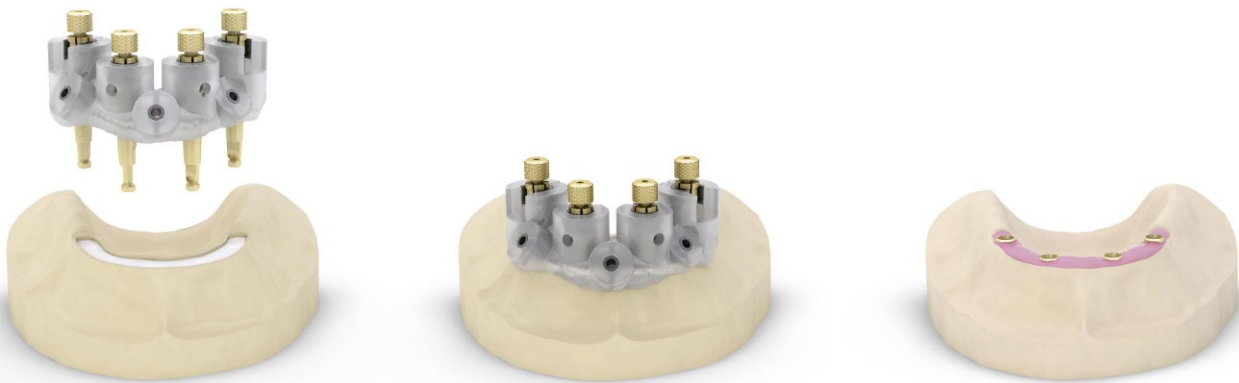
**4.** Tighten the screw firmly by hand. The EV-PositioningAid, is expanded and it is securely fixed in position in the SAFE Guide.



**Preparation:**

Position the SIMPLANT SAFE Guide on the plaster cast, check for an exact fit and, if necessary, remove imperfections, etc. on the cast. Once the SIMPLANT SAFE Guide is seated precisely on the cast, place a silicone cast over the guide and plaster cast section in the region of the implants.

Then, mark the designated position of the implant replicas on the plaster cast through the sleeves using a pencil. Using a plaster milling tool, remove the plaster at the pencil markings sufficiently from the lateral / buccal surfaces such that there is sufficient space for the implant replica.



**5.** Replace the SIMPLANT SAFE Guide with the EV-PositioningAid and the connected implant replicas on the plaster cast and then check that there is no contact between the components and the cast. If necessary, adjust the plaster cast in order to guarantee a tension-free fit.

**6.** Block any possible gaps between the EV-PositioningAid and the template sleeve of the plaster. Then fill the space, initially created in the cast with plaster, in order to fix the implant replicas firmly. The initially fabricated silicone cast will help to reproduce the previous model form and mucosal contouring.

**7.** Carefully remove the screws by using the Hex Driver EV after the plaster has hardened. A mucosal mask around the implant shoulder is recommended. Finally, a master cast is created which can be used to produce an immediate temporary restoration.



# Product catalog

ASTRA TECH Implant System™ EV with SIMPLANT®

# One surgical Tray – two overlay options

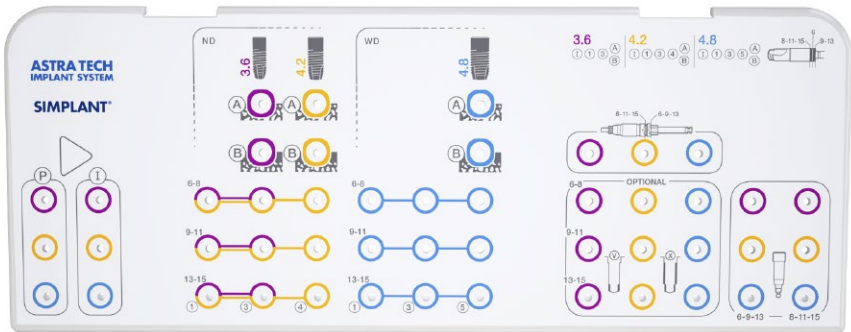
## One surgical tray – two overlay options

The guided surgical tray design with two interchangeable overlays allows for adaptation of tray content according to your clinical preferences.

### Streamline

The Streamline Overlay supports the most commonly used straight implants from 6 mm to 15 mm.

### Streamline

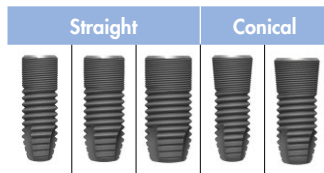
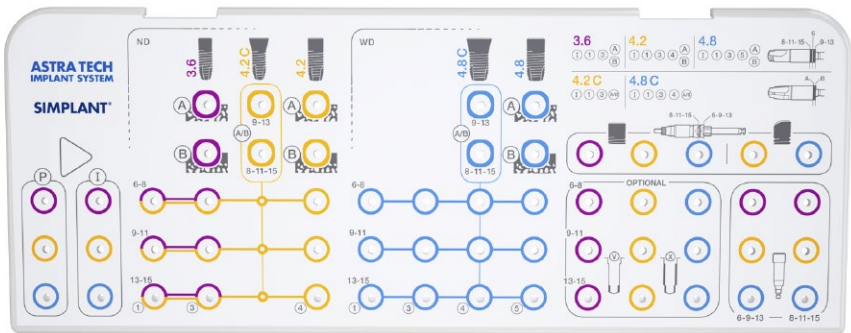


### Proline

The Proline Overlay supports the complete assortment within guided surgery including 6mm, conical and Profile EV implants.

The overlays can be snapped onto the tray base. This solution offers the possibility of adapting the tray's contents according to individual preferences.

### Proline



	3.6	4.2	4.8	4.2 C	4.8 C
Ø	3.6 S	4.2 S	4.8 S	4.2 C	4.8 C
Length					
6 mm	X	X	X		
8 mm	X	X	X	X	X
9 mm	X	X	X	X	X
11 mm	X	X	X	X	X
13 mm	X	X	X	X	X
15 mm	X	X	X	X	X

### Large Tray EV (without overlay)

### Streamline

### Proline

Order no.	25769	26099	26098
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### Punch EV-GS



Ø mm	3.6	4.2	4.8
Order no.	26010	26011	26012

### Punch EV-GS

Stainless steel

- Laser etched depth indicator
- Delivered sterile
- Laser marked with (P) and corresponding implant diameter.
- Laser marking according to implant length
- Color: corresponds to the implant diameter
- Single use only

**Note:** These Drills will be delivered case specific with the SAFE Guide.

### Initial Drill



Ø mm	3.6	4.2	4.8
Order no.	26013	26014	26015

### Initial Drill

Stainless steel

- Laser etched depth indicator
- Delivered sterile
- Laser marked with (I) and corresponding implant diameter.
- Laser marking according to implant length
- Color: corresponds to implant diameter
- Multiple use drill

**Drill EV-GS with narrow diameter Sleeve (ND)**

Stainless steel

- Drills for spongy bone preparation
- Physical depth stop
- Delivered sterile with Sleeve on Drill
- Laser marked with the corresponding number and drill diameter
- Drills color white for all diameters
- Multiple use drill
- Single use Sleeve

**Note:** These drills will be delivered case-specific with the SAFE Guide.

**Drill EV-GS with narrow diameter Sleeve (ND)**

1-Drill EV-GS, ND



3.6 4.2

3-Drill EV-GS, ND



3.6 4.2

4-Drill EV-GS, ND



3.6 4.2

Ø mm	Ø1.9 ND	Ø2.5/3.1 ND	Ø3.1/3.7 ND
Implant length	6–8 mm	6–8 mm	6–8 mm
Order no.	26051	26054	26057
Implant length	9–11 mm	9–11 mm	9–11 mm
Order no.	26052	26055	26058
Implant length	13–15 mm	13–15 mm	13–15 mm
Order no.	26053	26056	26059

**Drill EV-GS with wide diameter Sleeve (WD)**

Stainless steel

- Drills for spongy bone preparation
- Physical depth stop
- Delivered sterile with Sleeve on Drill
- Laser marked with the corresponding number and drill diameter
- Drills color white for all diameters
- Multiple use drill
- Single use Sleeve

**Note:** These drills will be delivered case specific with the SAFE Guide

**Drill EV-GS with wide diameter Sleeve (WD)**

1-Drill EV-GS, WD



4.8

3-Drill EV-GS, WD



4.8

4-Drill EV-GS, WD



4.8

5-Drill EV-GS, WD



4.8

Ø mm	Ø1.9 WD	Ø2.5/3.1 WD	Ø3.1/3.7 WD	Ø3.7/4.3 WD
Implant length	6–8 mm	6–8 mm	6–8 mm	6–8 mm
Order no.	26060	26063	26066	26069
Implant length	9–11 mm	9–11 mm	9–11 mm	9–11 mm
Order no.	26061	26064	26067	26070
Implant length	13–15 mm	13–15 mm	13–15 mm	13–15 mm
Order no.	26062	26065	26068	26071

# Cortical preparation

## Cortical Drill EV-GS



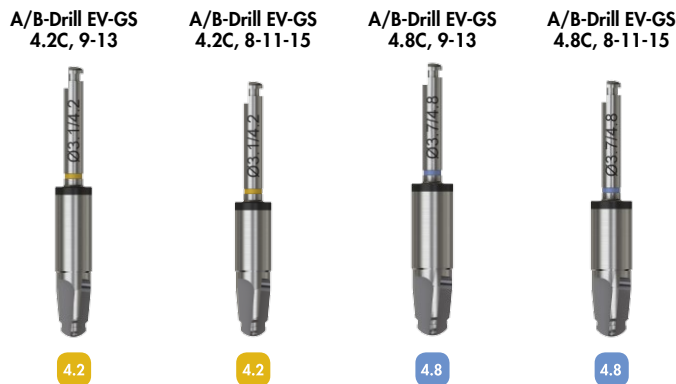
Ø mm	Ø3.1/3.3	Ø3.1/3.6	Ø3.7/3.9	Ø3.7/4.2	Ø4.3/4.5	Ø4.3/4.8
Order no.	26004	26005	26006	26007	26008	26009

## Cortical Drill EV-GS

Stainless steel

- For straight implants
- Drills for the preparation of the cortical layer to reduce pressure in the bone around the implant neck
- Color: corresponds to implant
- Laser marked with (A) or (B), the drill diameter and implant length
- Laser etched depth indicator
- (A) – thin cortical bone < 2 mm
- (B) – thick cortical bone ≥ 2 mm
- Multiple use drill

## Conical Drill EV-GS



Ø mm	Ø3.1/4.2	Ø3.1/4.2	Ø3.7/4.8	Ø3.7/4.8
Order no.	26000	26001	26002	26003

## Conical Drill EV-GS

Stainless steel

- For conical implants
- Drills to prepare the conical shape of the cavity
- (A) – thin cortical bone < 2 mm
- (B) – thick cortical bone ≥ 2 mm
- Color: corresponds to implant
- Laser marked with (A/B), the drill diameter and implant length.
- Multiple use drill

# Optional Drill EV-GS

## Additional osteotomy preparation

If necessary, additional preparation can be performed with one of the following drills:

### V-Drill EV-GS

- Use to widen the apical portion of the osteotomy
- Physical depth stop
- Delivered sterile with Sleeve on Drill
- Laser marked with (V), the drill diameter and implant length
- Drills have color according to implant body diameter
- Multiple use drill
- Single use Sleeve

**Note:** These Drills will be delivered case specific with the SAFE Guide

### V-Drill EV-GS

#### V-Drill EV-GS 3.6-4.2C



3.6 4.2

#### V-Drill EVGS 4.2



4.2

#### V-Drill EVGS 4.8C



4.2 4.8

#### V-Drill EVGS 4.8



4.8

Ø mm	Ø3.1	Ø3.7	Ø3.7	Ø4.3
Implant length	6–8 mm	6–8 mm	6–8 mm	6–8 mm
Order no.	26084	26087	26090	26093
Implant length	9–11 mm	9–11 mm	9–11 mm	9–11 mm
Order no.	26085	26088	26091	26094
Implant length	13–15 mm	13–15 mm	13–15 mm	13–15 mm
Order no.	26086	26089	26092	26095

### X-Drill EV-GS

- Use to widen both the apical and body portion of the osteotomy
- Physical depth stop
- Delivered sterile with Sleeve on Drill
- Laser marked with (X), the drill diameter and implant length
- Drills have color according to implant body diameter
- Multiple use drill
- Single use Sleeve

**Note:** These drills will be delivered case-specific with the SAFE Guide

### X-Drill EV-GS

#### X-Drill EV-GS 3.6-4.2C



3.6 4.2

#### X-Drill EVGS 4.2



4.2

#### X-Drill EVGS 4.8C



4.2 4.8

#### X-Drill EVGS 4.8



4.8

Ø mm	Ø3.1/3.45	Ø3.7/4.05	Ø3.7/4.05	Ø4.3/4.65
Implant length	6–8 mm	6–8 mm	6–8 mm	6–8 mm
Order no.	26072	26075	26078	26081
Implant length	9–11 mm	9–11 mm	9–11 mm	9–11 mm
Order no.	26073	26076	26079	26082
Implant length	13–15 mm	13–15 mm	13–15 mm	13–15 mm
Order no.	26074	26077	26080	26083



## Implant Driver EV-GS

Implant Driver EV-GS 3.6



3.6

Implant Driver EV-GS 4.2



4.2

Implant Driver EV-GS 4.8



4.8

Implant Driver Extender EV-GS



Ø mm	Ø3.1/4.2	Ø3.1/4.2	Ø3.7/4.8	
Order no.	26016	26017	26018	26021

## Surgical Instruments Implant Driver EV-GS

Stainless steel, non-sterile

- For picking up and installing implant
- With two level grooves to indicate the depth position according to the SAFE Guide
- Notch to facilitate the correct position

**Note:** For use with Contra Angle or Torque Wrench EV Surgical Driver Handle order no. 25775

ASTRA TECH Implant System EV Product Catalog

## Positioning System

EV-PositioningAid



3.6

EV-PositioningAid



4.2

EV-PositioningAid



4.8

Ø mm	Ø3.6	Ø4.2	Ø4.8
Implant length	8-11-15 mm	8-11-15 mm	8-11-15 mm
Order no.	26039	26041	26043
Implant length	6-9-13 mm	6-9-13 mm	6-9-13 mm
Order no.	26040	26042	26044

## Positioning System

Titanium

- Multiple use
- Color: corresponds to implant
- Laser markings: Implant Length 6-9-13 mm or 8-11-15 mm

# Fixation System

## Fixation System

Titanium

- Multiple use
- Color: corresponds to the implant
- Stabilizes the Guide for further implant treatment
- Laser markings: Implant length 6-9-13 mm or 8-11-15 mm and diameter

## Stabilization Abutments

EV-Stabilization Abutment



3.6

EV-Stabilization Abutment



4.2

EV-Stabilization Abutment



4.8

Ø mm	Ø3.6	Ø4.2	Ø4.8
Implant length	8-11-15 mm	8-11-15 mm	8-11-15 mm
Order no.	26033	26035	26037
Implant length	6-9-13 mm	6-9-13 mm	6-9-13 mm
Order no.	26034	26036	26038

## Fixation System

Stainless steel

- Single use screw
- Multiple use drill
- Delivered sterile
- Drill to prepare the bone for the fixation screw
- Secures the guide directly to the bone to avoid guide movement

## Fixation System

Drill for guide fixation screw



Guide fixation screw



	14 mm	Ø2.0
Order no.	26050	26049



#### **About DENTSPLY Implants**

DENTSPLY Implants offers comprehensive solutions for all phases of implant therapy, including ANKYLOS®, ASTRA TECH Implant System™ and XiVE® implant lines, digital technologies, such as ATLANTIS™ patient-specific CAD/CAM solutions and SIMPLANT® guided surgery, SYMBIOS® regenerative solutions, and professional development programs. DENTSPLY Implants creates value for dental professionals and allows for predictable and lasting implant treatment outcomes, resulting in enhanced quality of life for patients.

#### **About DENTSPLY International**

DENTSPLY International Inc. is a leading manufacturer and distributor of dental and other healthcare products. For over 110 years, DENTSPLY's commitment to innovation and professional collaboration has enhanced its portfolio of branded consumables and small equipment. Headquartered in the United States, the company has global operations with sales in more than 120 countries.