

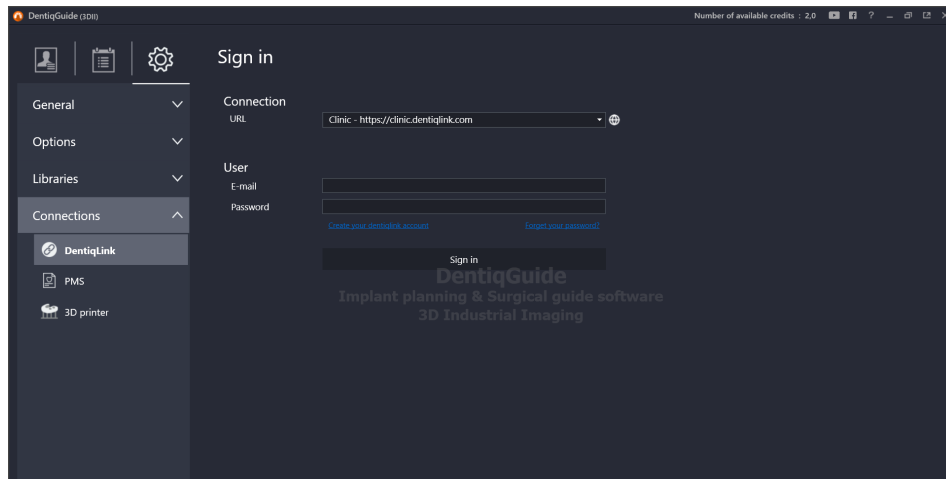
GUIDED | **KIT** DAS SURGICAL



INSTRUCTIONS FOR USE
DYNAMIC ABUTMENT SOLUTIONS LIBRARY

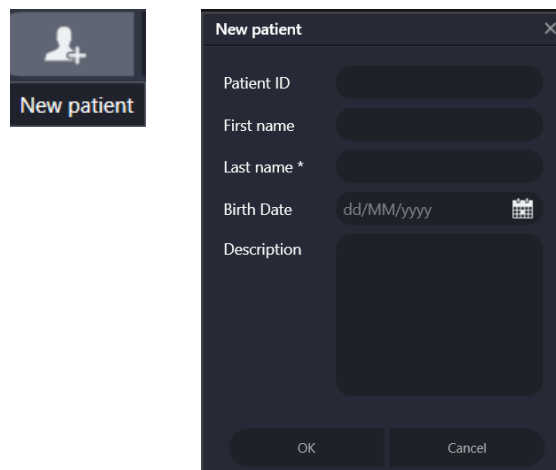
1. INTRODUCTION

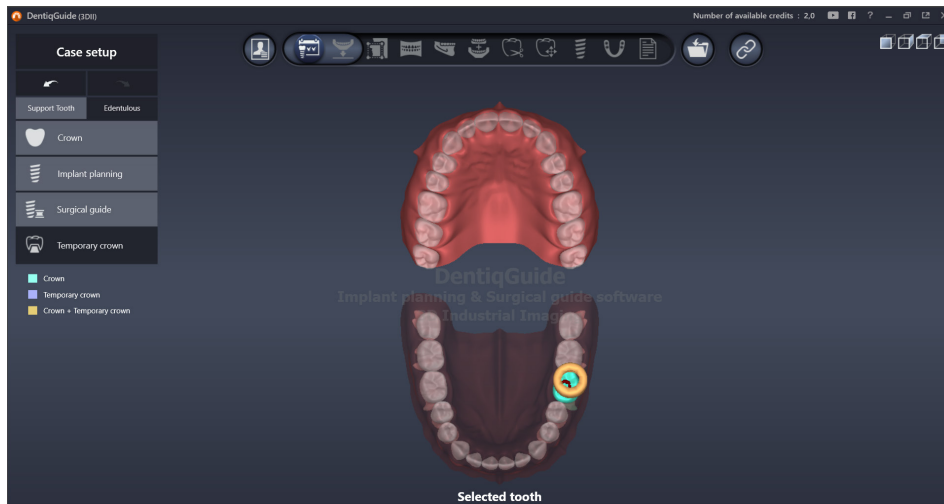
Before planning a case, you must sign in by clicking the **DentiqLink** button and enter your email and password. If you already have an account, click on **Sign In**, or you can create an account by choosing **Create your DentiqLink account**.



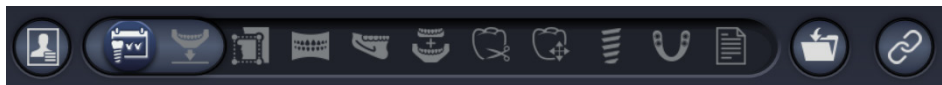
2. CASE SETUP

Once you have signed in, you must first enter the patient details (the fields marked with an asterisk are obligatory). Then create and define the case and click on the **New case** icon. A window will open where you have to define the case and this will determine the next steps you need to take. First choose the tooth followed by the restoration or planning you wish to carry out. In the example, we can see **Support Tooth -> Crown -> Implant planning -> Surgical Guide**.





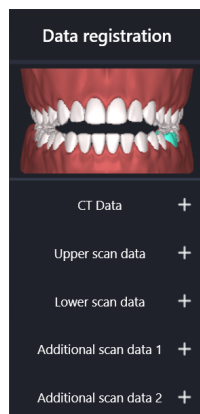
All the planning process, from defining the case to the surgical guide design, is controlled by a status bar which shows the work progress. The options available depend on how the case was defined at the beginning. To advance to successive steps, select the corresponding icon on the help tool bar.



3. DATA REGISTRATION

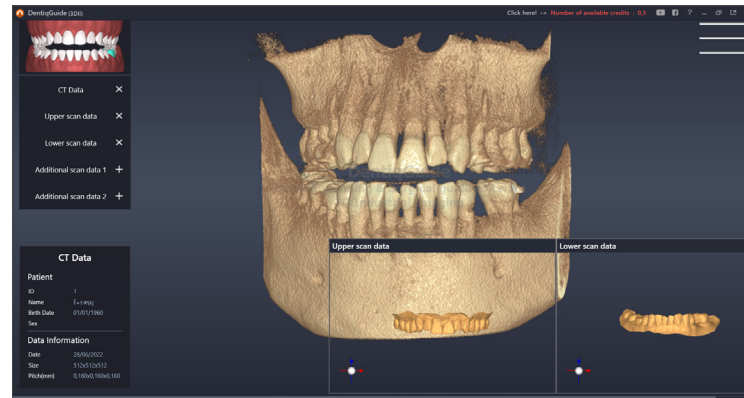
3.1 IMPORT CT / SCAN DATA

Select the patient details by clicking on Data Registration and then clicking on the + sign to import the data.

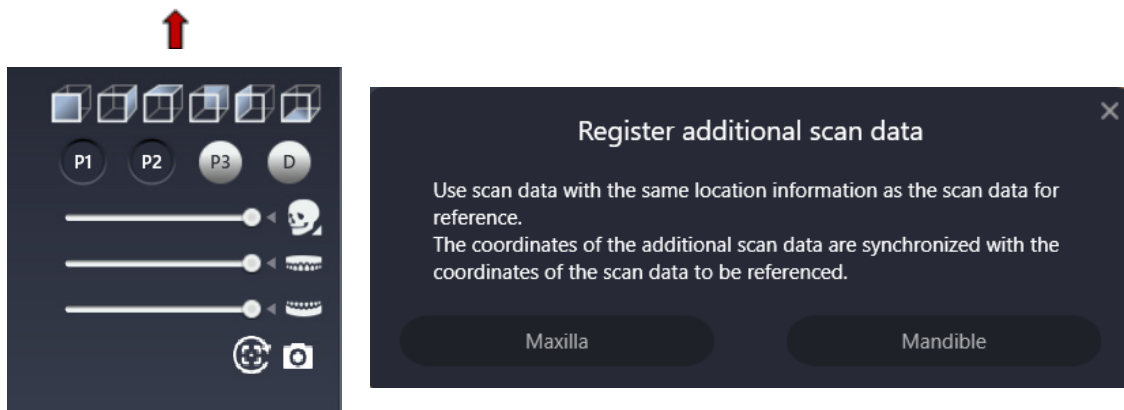


In this step, the patient's CT data and scans of the maxilla and mandible can be imported. The CT data allow DICOM format and scan data allow STL, PLY and OBJ formats.

Once you have imported the files, you can see the imported CT data in the bottom left and the scan data in the bottom right.



In the upper right corner, you have different viewing options, additional characteristics and other functions such as screenshots or different views to measure using this software.

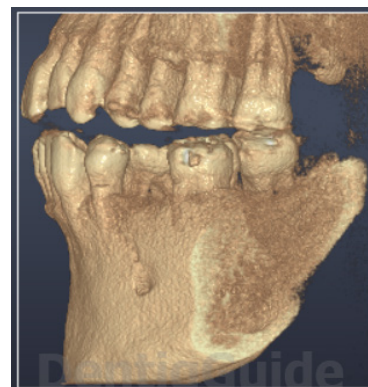
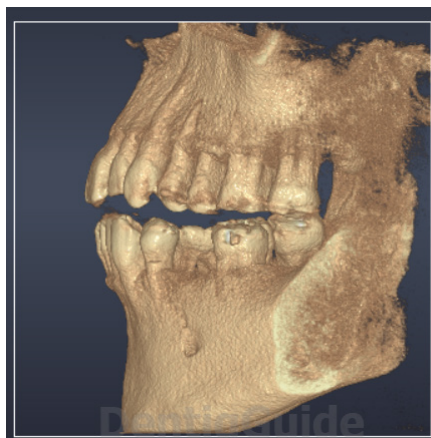
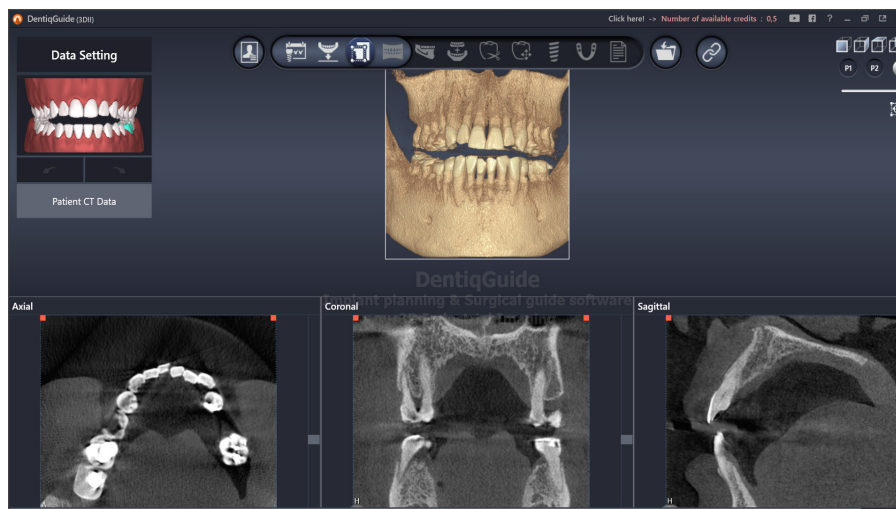


If you wish to add data from additional scans, this option synchronizes these files with the coordinates you previously entered.

4. DATA SETTING

This step allows you to set the ROI (Region of Interest) of the CT data area. Once you have configured this data, the image will only be marked with the CT data selected in this phase.

The ROI adjustment tool will appear in the MPR image area (Axial/Coronal/Sagittal) in the bottom part of the screen.

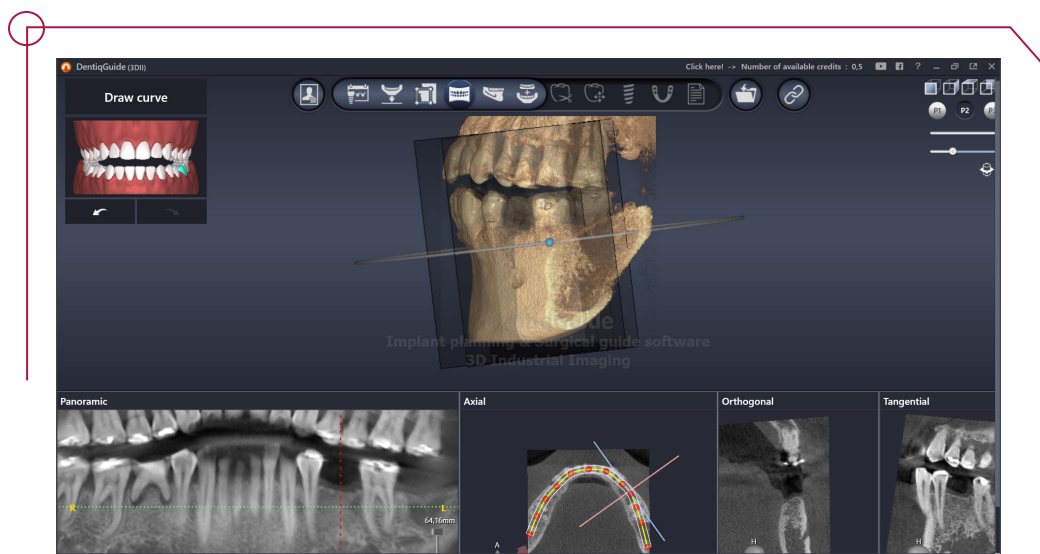


Before (left) and after (right) adjusting the ROI in the Axial/Coronal/Sagittal planes.

5. DRAW CURVE

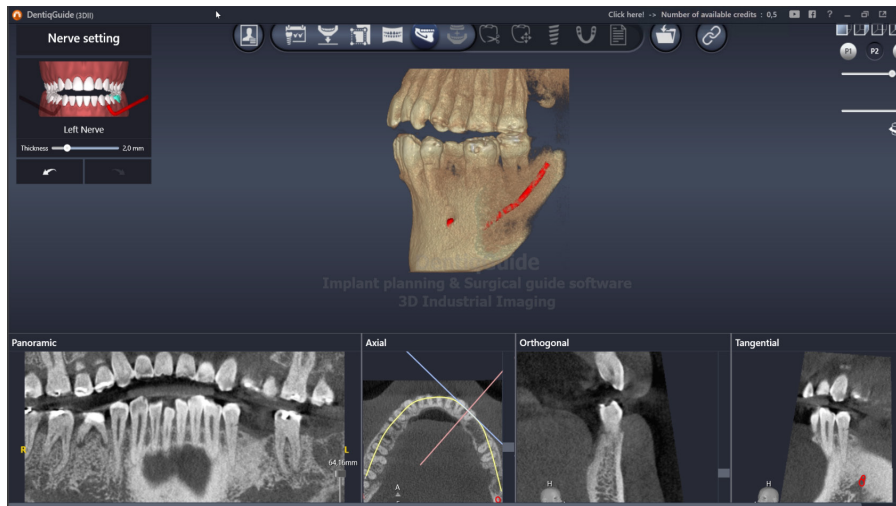
Before starting to draw the curve, select the arch you want to work on. Select the axial image where the curve is drawn and, if necessary, modify the angle of the plane according to the acquisition plane and the patient anatomy. To modify the inclination of the layout, place the mouse over the grey circle and use the spheres to drag the image in the desired direction.

When you first enter the Draw Curve stage, you will only see 3D and Axial images. Once you draw the curve, you will then see the Panoramic, Orthogonal and Tangential views.



6. NERVE SETTING

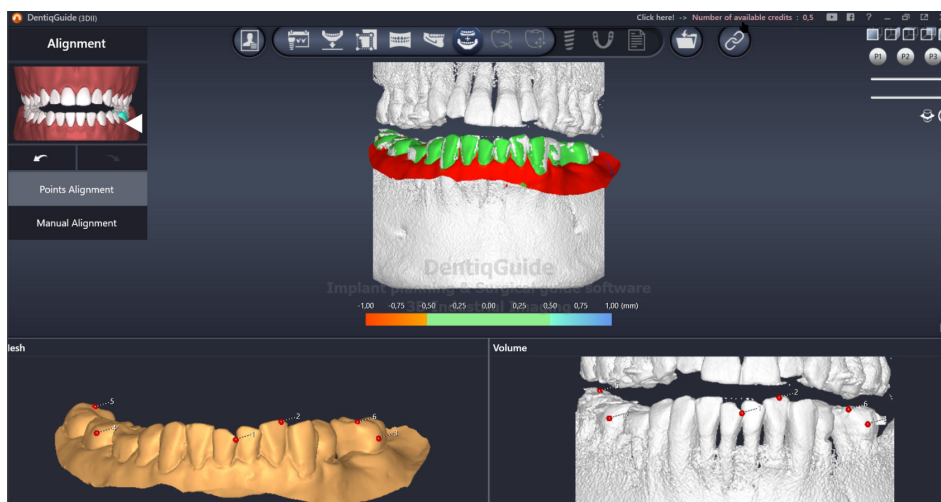
It is possible to trace the right and left mandibular nerves along the new curve. Start drawing the right nerve in the view by left-clicking on the points. You can adjust the points in the different views. Use the mouse scroll wheel to change the panoramic image and follow the nerve position in different planes. Select the right nerve and press the space bar on the keyboard. This takes us to the left mandibular nerve. Remember that drawing the nerve will ensure safer implant planning.



7. ALIGNMENT

Once you reach the alignment stage, you will see at the bottom two different 3D views: the STL file (for alignment) on the left and the DICOM reconstruction on the right. These two files have different reference systems (RS): the CBCT and the scanner, respectively. There are two options for alignment: points or manual. The image shows points alignment.

Left-click on the two files to select at least three corresponding points of reference. It is very important to select areas that are easily identifiable in both 3D objects.

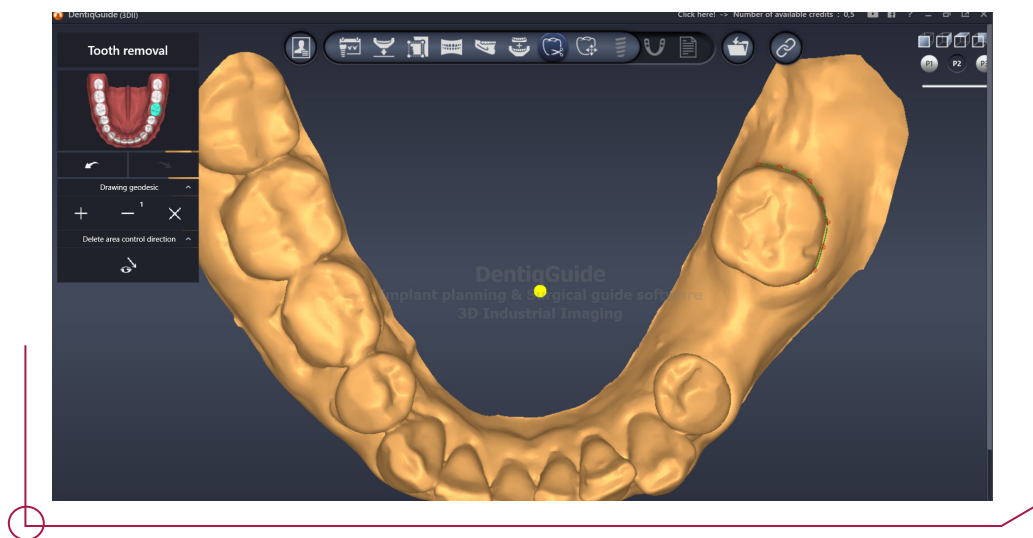


Left click - add point
 Right click on a point - deletes point

8. TOOTH REMOVAL


You can remove teeth from the scan data in this stage. This is useful for removing teeth from the scan data when you expect to remove the teeth before the implant stage.

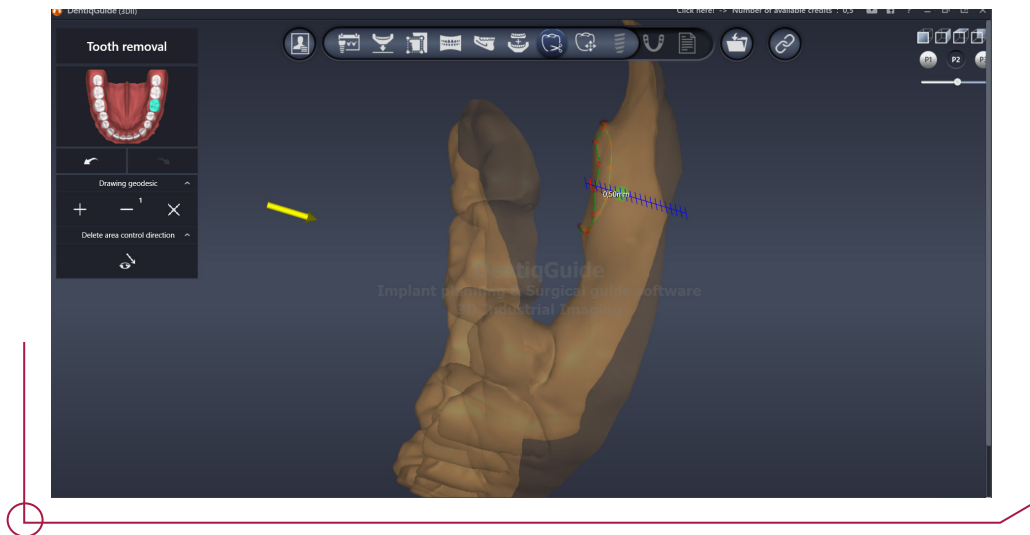
Choose the + in the new window and left click to draw points round the tooth you wish to remove.



8.1 ADJUSTING THE HEIGHT OF THE TOOTH REMOVAL SURFACE

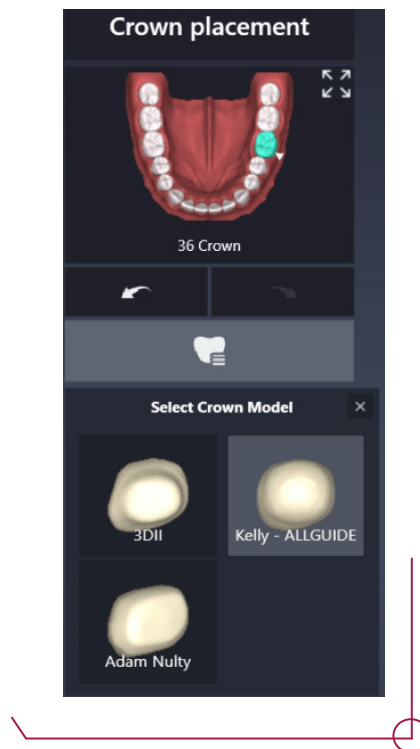
The tooth removal surface is created as a plane which connects the geodesic lines. Steps you must follow if you need to adjust the height of the removal surface:

- To adjust the height of the generated plane after tooth removal, you need to set the direction in which you want to make the adjustment and click on , which is a button you can find at the bottom of the new window
- A green sphere will appear at the point where the tooth was removed. Click here and drag the green sphere to adjust the height of the removal surface.



9. CROWN PLACEMENT

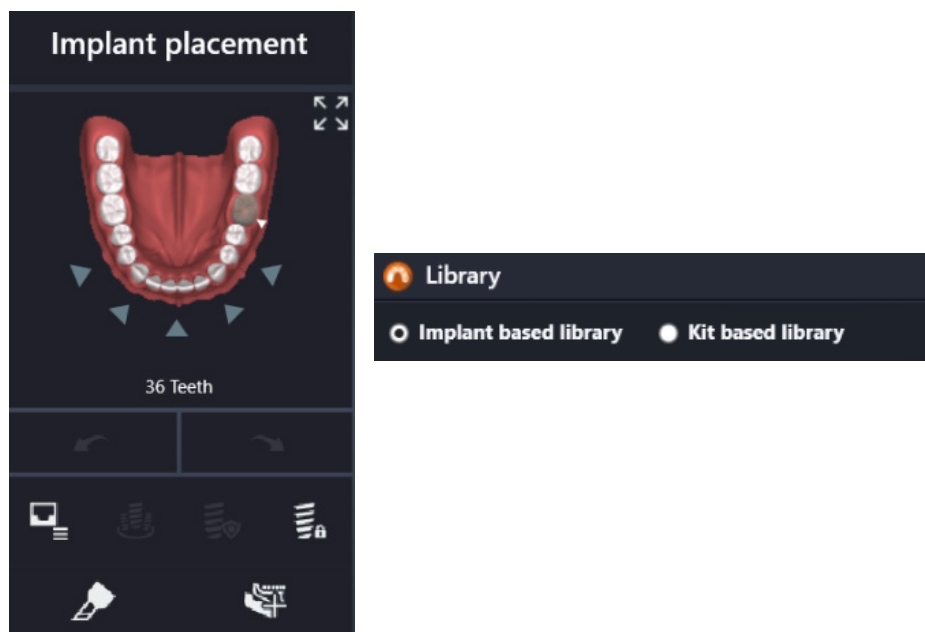
When you select the crown option during surgical planning, you can choose the size, the position and the direction of the crown at this stage. The initial position of the implant is determined based on the information about the position of the crown. Accurate positioning taking into account the antagonist tooth and the occlusal plane will be of great assistance in quick implant planning.



10. IMPLANT PLACEMENT

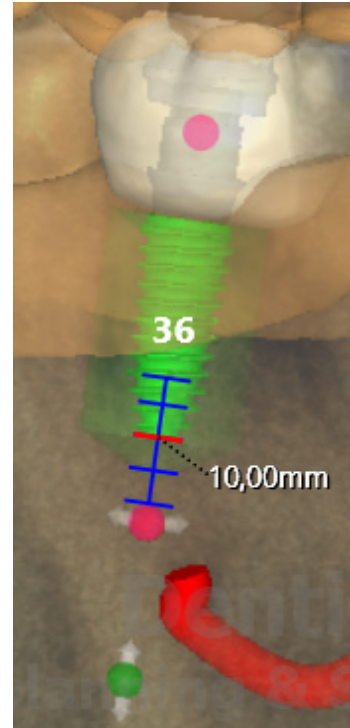
The elements selected in the previous step are highlighted in grey. Click on the tooth to open a new window which contains libraries of all the makes of implants, sleeves and abutments available in DentiqGuide. Our abutments are linked to their corresponding implants. Select **Abutment -> Dynamic Abutment** to see all the options available for our Ti-bases and MU based on the compatibility you are going to use.


There are two options for choosing the implant: using the **Implant based library**, or choosing the **Kit based library**.



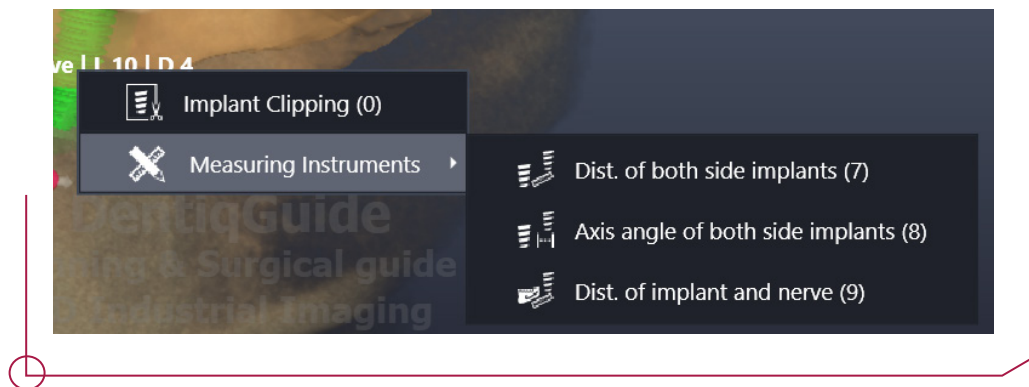
Once you choose the implant, sleeve and the Ti-base, the tooth will turn turquoise. Now you need to set the position and direction of the implant.

Once you have positioned the implant and want to change its length, place the mouse over the green sphere and drag to the desired length.



If you want to change the implant model or diameter, choose the tooth you want to change and then click on the Library button  in the new window. Remember that each time you change the implant model or diameter, you need to choose the abutment again.

When you right click on the implant, the software will automatically calculate the distance, angle between implants and the distance between the implant and the nerve.



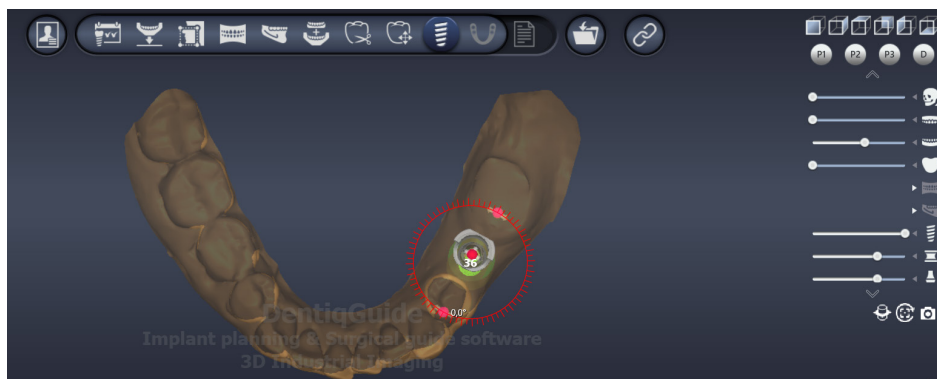
10.1 SLEEVE SELECTION

In the **Sleeve** section, choose **Dynamic Abutment** and the type of sleeve you desire. There are currently two sleeves available: **DAS Sleeve (71.340.485.01-2)** and **DAS Cut Sleeve (71.340.485.02-2)**.

Once you position the sleeve, the offset is established.

Important: The sleeves have several different offsets depending on the implant selected. The selected offset will establish which drills and which implant mounts to use when performing the surgery. See the PDF on **Work Offsets by Compatibility** to see the available offsets for each implant model. DentiqGuide allows you to choose any offset between 9 and 13,5, so it is important to choose a suitable offset for the procedure carefully.

The sleeve rotation can only be changed in conjunction with the implant and the abutment. Position the 3D model so you are viewing from above, click on the pink sphere and turn until you achieve the desired position.



To change the offset in the DentiqGuide software, click on the sleeve and drag until you get the desired offset value.

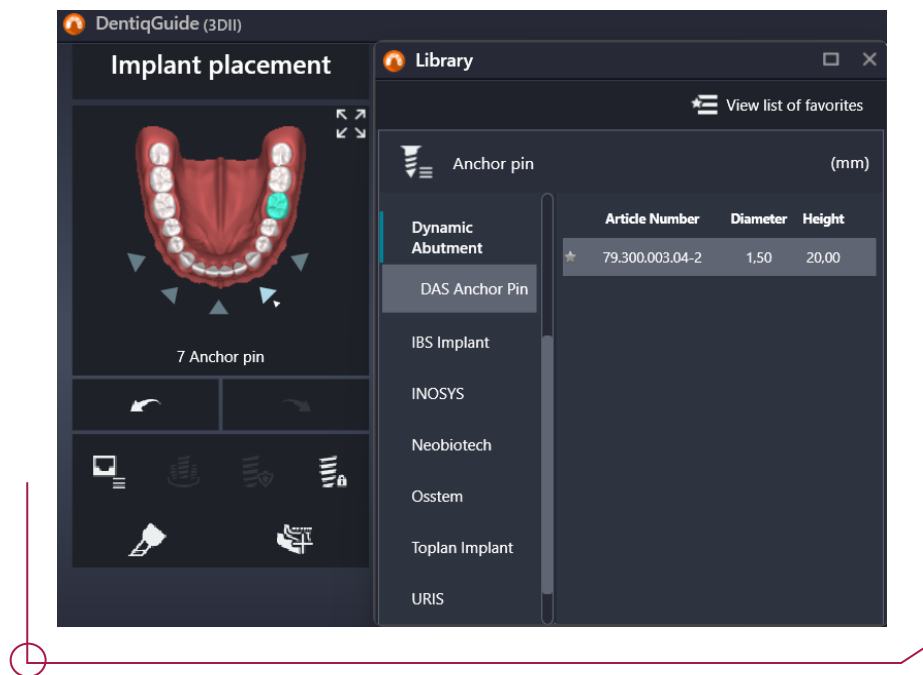
In the case which appears here, an implant of $\text{Ø}4$, length 10 mm and offset 10,5 mm has been chosen.



10.2 ANCHOR PIN SELECTION

If your case requires, you can set anchor pins.

Choose where you want to position the pin. Then a new window will appear with all the anchor pin libraries: **Anchor Pin** -> choose **Dynamic Abutment** -> **DAS Anchor Pin** -> **79.300.003.04-2** (see image).



IMPORTANT

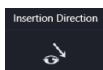
The anchor pins in DentiqGuide work without the sleeve being supported directly on the guide surface.

11. GUIDE GENERATION

Design the surgical guide based on the implant planning information.

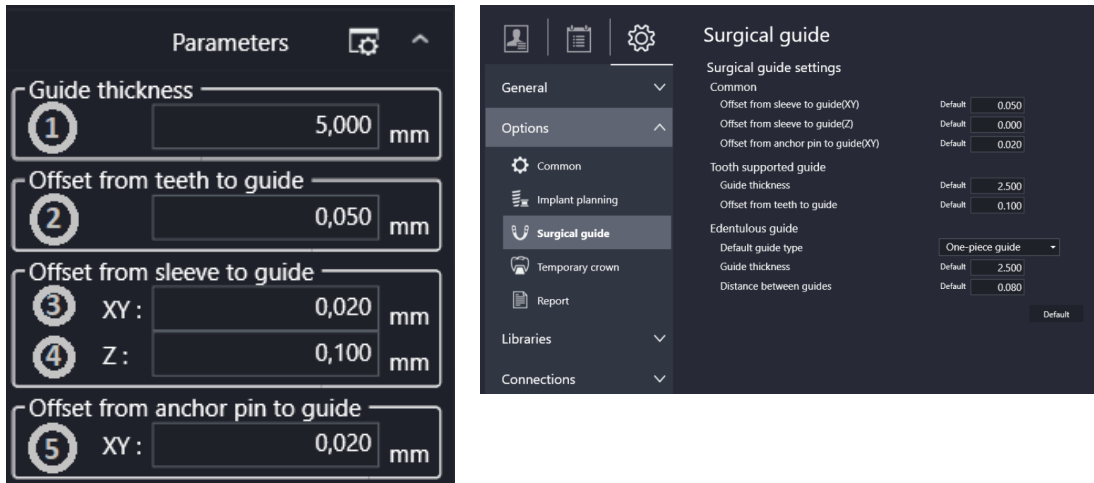


After completing the implant planning, it is possible to continue with the surgical guide by clicking on the **Guide Generation** tab on the upper tool bar. This opens up a wizard that guides the user through the process of setting the construction parameters.



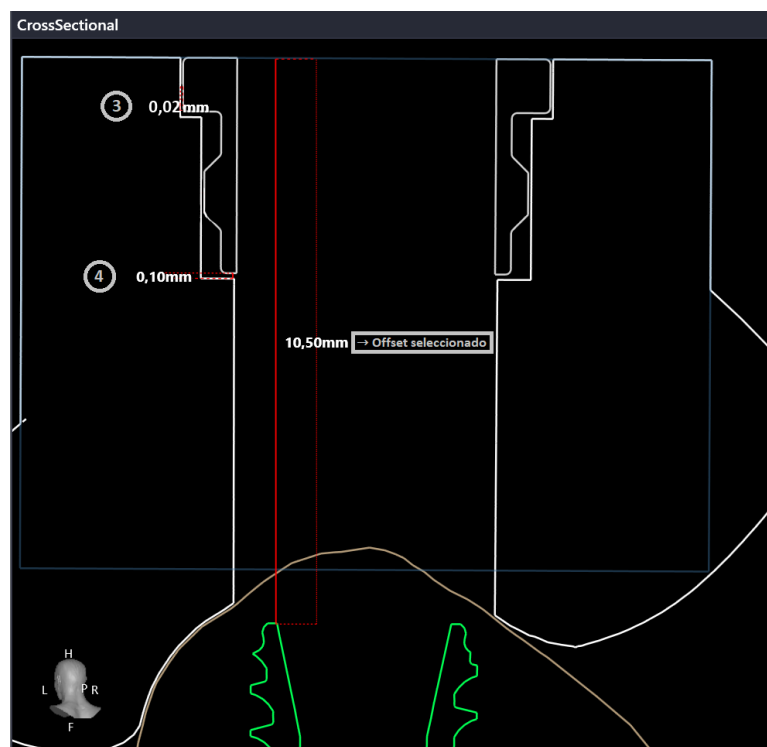
Position the 3D model and set the insertion axis. Once you have established the insertion axis select **+** in the **Draw geodesic** option, draw the outer border of the guide which surrounds a model area point by point. Click on the first point to close the loop. Then check and set the fit tolerance and occlusal and lateral thickness values.

The new window shows several parameters which you can change in the guide generation stage based on the option you chose in step 2 (the example shows a tooth-supported guide) (image on the left).

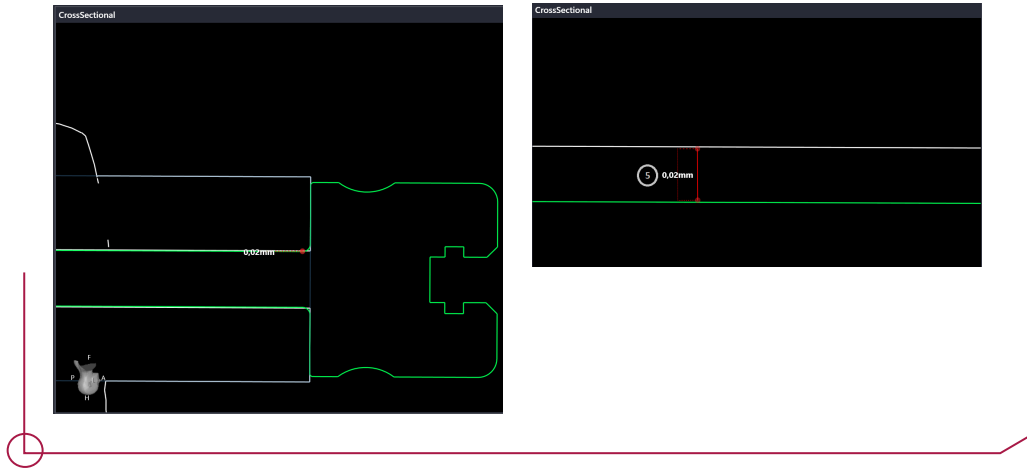


Common parameters you can modify:

- **Offset from sleeve to guide (XY):** The gap between the sleeve and the surgical guide. By defect, the software offers a value of 0,05 mm. For DAS sleeves, we recommend a value of 0,02 mm, although this can be modified to suit the client's needs.
- **Offset from sleeve to guide (Z):** Additional thickness in the insertion direction of the implant.

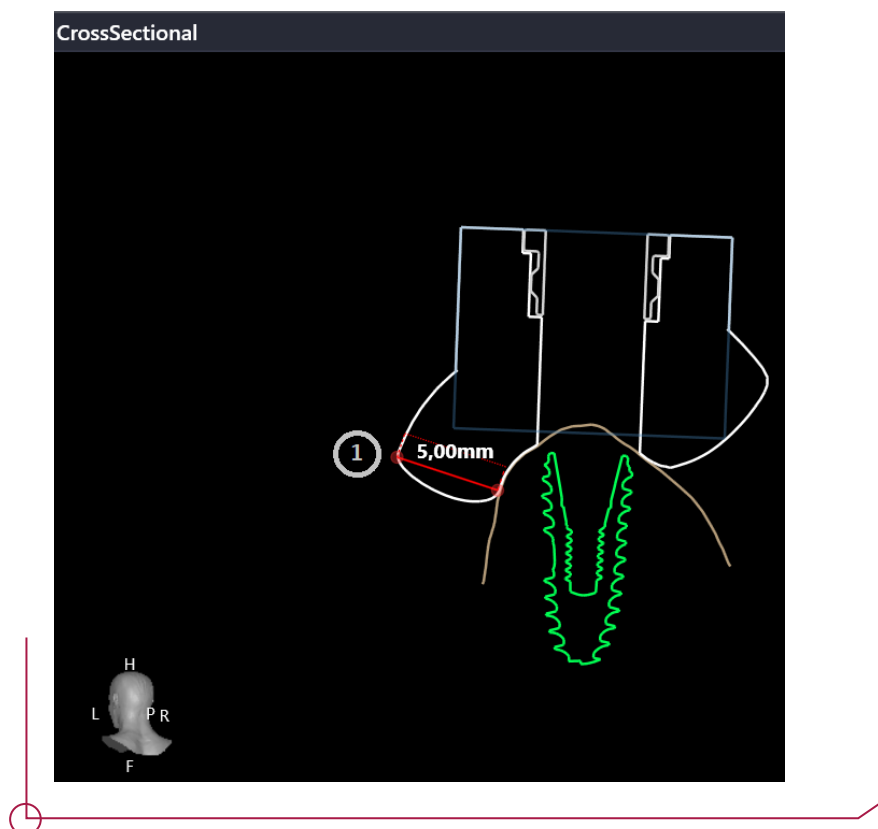


- **Offset from anchor pin to guide (XY):** Gap between the guide and the anchor pin. This is because the software does not work with sleeves when anchor pins are used. By defect, this has a value of 0,02 mm.

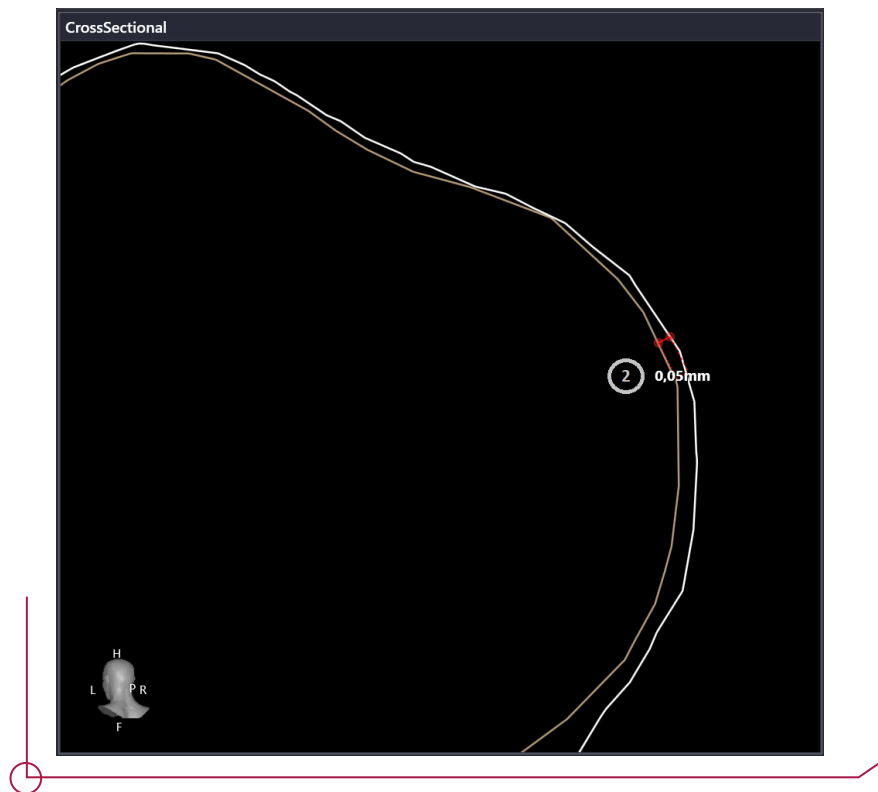


Parameters for tooth-supported guide:

- **Guide thickness:** guide thickness in the perimeter;



- **Offset from teeth to guide:** thickness between the anatomy surface and the surgical guide;




Parameters for mucosa-supported and bone-supported guides:

- **Types of surgical guide** – For DentiqGuide edentulous cases, you can choose between two types of guide: those with one or two pieces. Choose the type which best suits your case.

-> **One-piece guide:** more suitable during surgery than an assembled guide because it is all in one. However, in some cases, the occlusion may not be confirmed depending on the situation.

-> **Two-piece guide:** an occlusion guide and a surgical guide. During surgery, it is necessary to check the occlusion, so this is used when checking the occlusion with a one-piece guide is difficult.

- **Surgical guide thickness** - thickness of the surgical guide.
- **Offset between two guides** - when you create a two-piece guide, you can adjust the distance between the surgical guide and the occlusion guide.

Once you have adjusted the parameters to suit your needs, click on **Generate surgical guide** .

Once you have created the guide volume, you can find on the side menu options to add bars, verification windows and text in the surgical guide.



Guide creation tools

Design and create guides



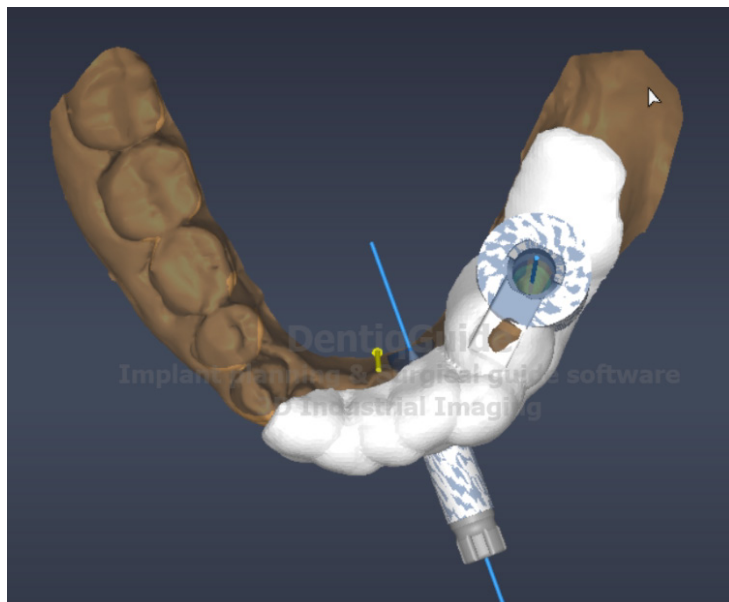
Window and bar creation tools


Design and create bars and windows



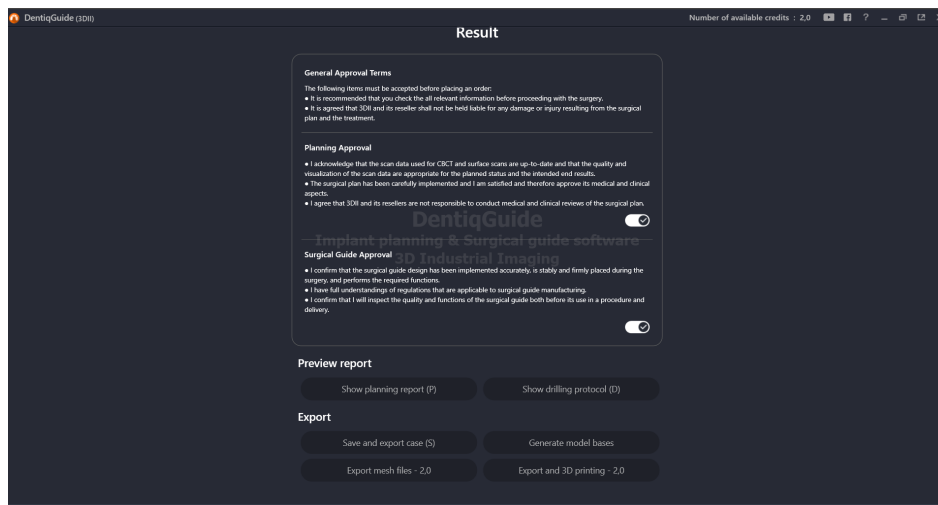
Engrave text tool

Add text to the surgical guide



If you want to measure the thickness, offset, distance and so on, you can take a cross section and take the necessary measurements. Press the  button you can find on the right of the screen and draw the line where you want to make the cut.

Once you have finished designing the surgical guide, you can go on to the next stage. Here you can approve both the planning and the guide itself. Once you have approved the planning, you can access the surgical report which shows the position of all the implants.



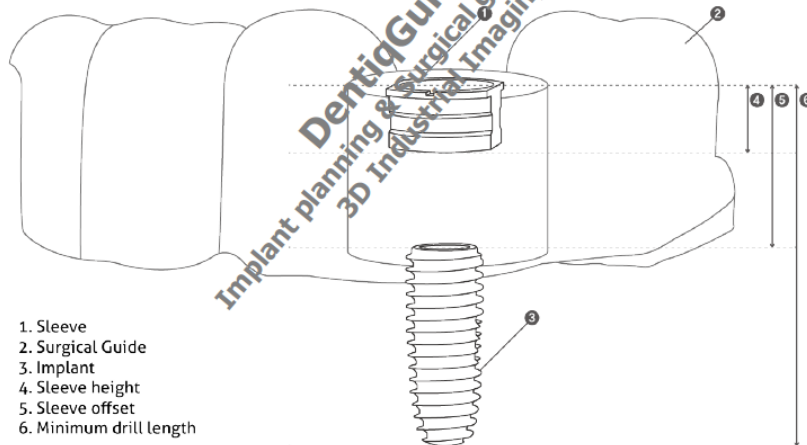
After approving the surgical guide, you can access the drilling procedure which shows the minimum length of the drill. **Check the PDF Work Offsets by Compatibility to see the drill length which corresponds to each offset depending on the length of the implant.**

DentiqGuide Drilling Protocol

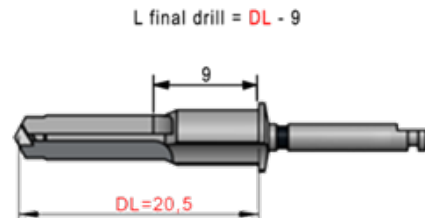


Order details

Patient Name :
 Order Number : 20230328170000_4
 Creation Date :
 Approved by :



Implant Information	
Position (FDI)	36
Manufacturer	Neobiotech
Model	IS-II Active
Article Number	BIS4010A
Length	10mm
Diameter	4,00mm
Sleeve Information	
Name	3/16 Cut sleeve
Type	DAS Cut Sleeve
Article Number	71-210-485-02-2
Offset	10,50mm
Drill Information	
Minimum drill length	20,50mm



(E.g : L final drill = 20,5 - 9 = 11,5
 Final drill: L11,5)

Always check the PDF Work Offsets by Compatibility.

Save and export the case, create the mouth model and export the STL files. Do this once the implant planning and the guide have been approved in the **Export** section.