

PROTOCOL FOR GUIDED SURGERY

# MAESTRO



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MAESTRO



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IMPORTANT NOTE

For latest updates and information, visit **www.btk.dental**

This manual provides dental practitioners and related specialists with general information regarding the methodology and use of the “MAESTRO” guided surgery kit.

For detailed information on other specific implant lines and their restorative procedures, please refer to the corresponding manuals, specific literature or refer to the BTK website.

Consider to regularly visit practical courses for updates and professional exchange with dedicated colleagues in order to ensure your long-term success with implant-borne dental restorations.

# a well-SUCCESSFUL PLAN!

Linearity and precision guide our digital workflow. We have structured a simple and reliable procedure for you in an open and customizable system, both for the dentist, the dental technician and for the patient. This allows a minimally invasive surgery with predictable results.

BTK software **OPERA** for accurate and complete diagnosis and optimized surgical and prosthetic planning. The software is:

- Flexible (it can manage any DICOM format exam).
- It also interfaces with prosthetic modelling systems and CAD CAM systems.

Our **MAESTRO** surgical kit is the most complete for guided implant surgery. It is:

- Complete by allowing to operate on PLUS, IS KONE and BT SAFE implant line with a single kit.
- Easy, intuitive for an efficient workflow, universal, and customizable.

## The objectives and benefits of the MAESTRO protocol

- A complete digital platform that connects the team of experts for collaboration and comparison.
- A CLOUD software to access to your cases wherever you are
- BTK assistance for the dental practice and the laboratory thanks to our experience and skills
- A complete and compatible implant system and surgical tools.
- Innovative 3D printing techniques
- The opportunity to develop prosthesis for immediate load

POWERED BY  
**OPERA**  
btk digital workflow



## DIAGNOSTIC PROTOCOL

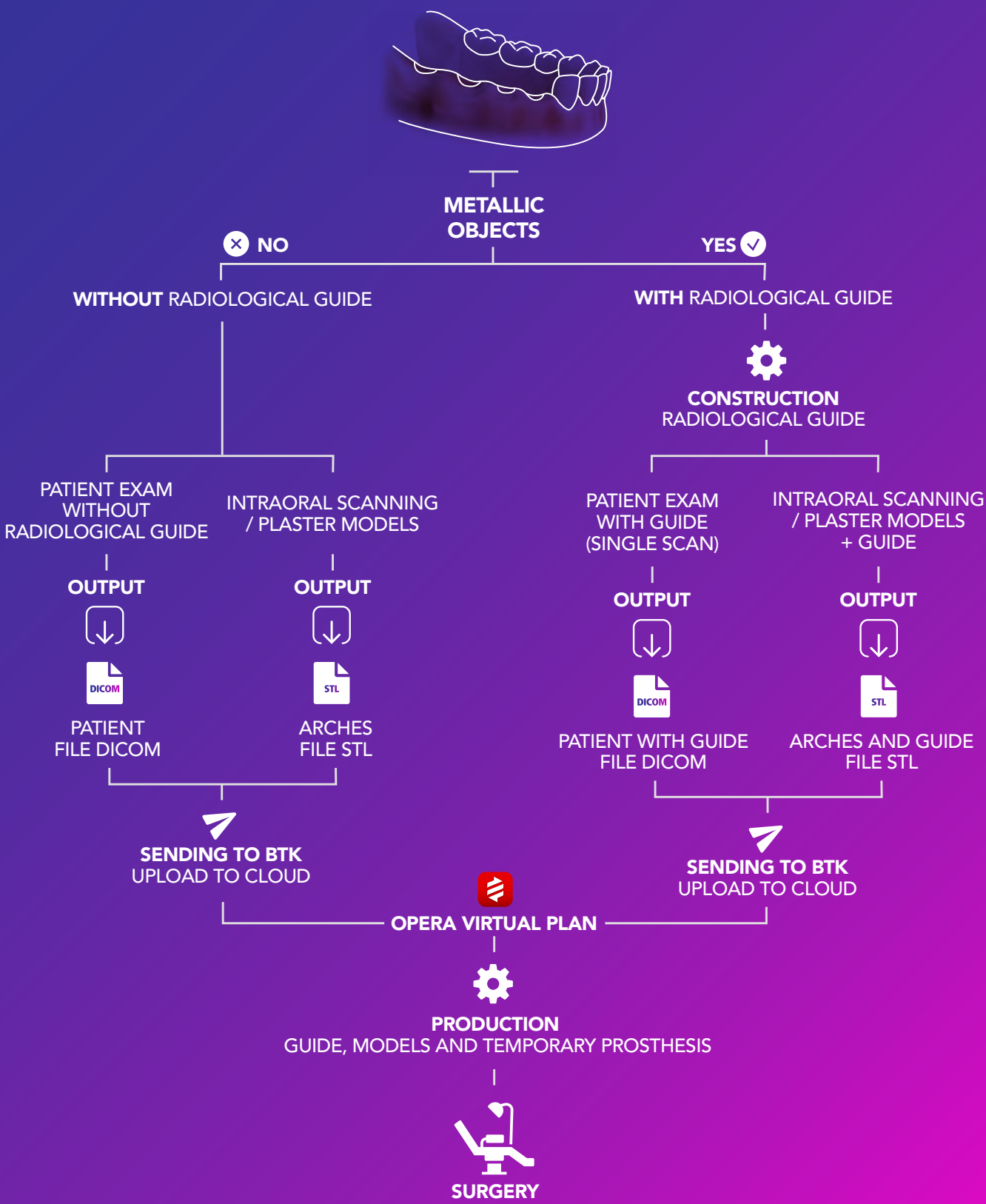
The dental practice develops the diagnostic phase by performing the following instructions:

- Diagnosis performance on the patient completed by the clinical exams.
- Analysis of the treatment plan.
- Check of the patient's mouth opening to have a suitable space for the drills passing.
- Performance of dental impressions and chewing index.
- Sending of the traditional impressions or scans with the intraoral scanner to the laboratory for the creation of the radiological guide.





# PARTIAL EDENTULISM



# PROTOCOL FOR THE PARTIAL EDENTULISM WITHOUT RADIOLOGICAL GUIDE

This protocol applies **ONLY** in the cases of **PARTIAL EDENTULISM WITHOUT METAL ELEMENTS** (crowns, fillings, inlays, implants, fixed dentures...). The radiological guide is **NOT** necessary in the following cases:

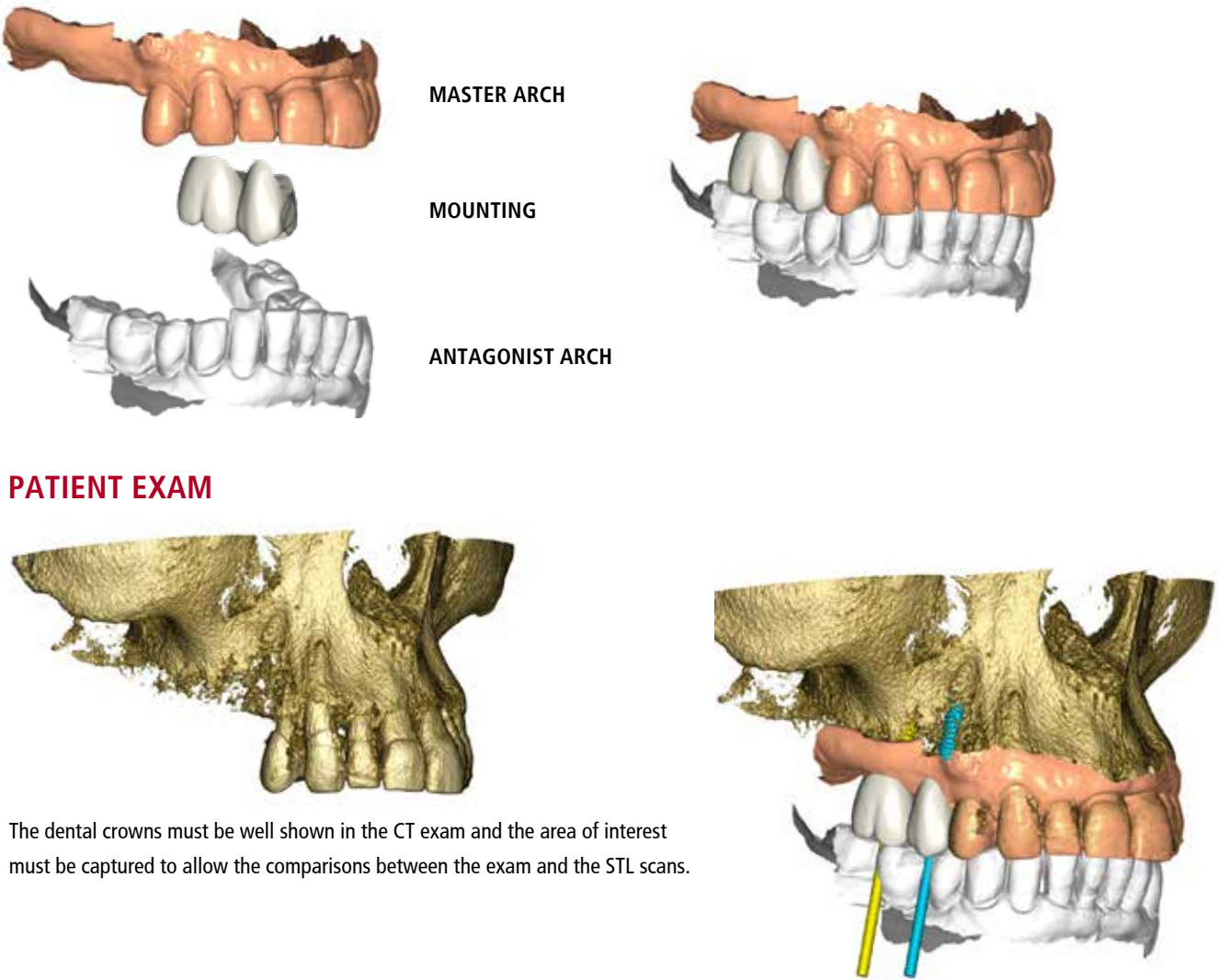
- Single tooth.
- Small edentulism without metals near the areas of interest.
- Partial edentulism with the presence of natural teeth.

## INTRAORAL OR MODELS SCAN

Capture the following scans through a laboratory optical scanner or intraoral scanner:

- A scan of the **MASTER ARCH**
- A scan of the **ANTAGONIST ARCH**
- A scan of the **MOUNTING IN THE ARTICULATOR**, if possible.

For the scan procedure, please see the existing scan instructions.  
The 3 files need to be in the same reference system and exported in STL format.



## PROTOCOL FOR PARTIAL EDENTULISM WITH RADIOLOGICAL GUIDE

The radiological guide is necessary in the greatest part of the cases, in particular:

- Total edentulism
- Cases of partial edentulism with metal presence in the mouth  
(crowns, bridges, fixed circular prosthesis, implants can cause issues and artifacts in the picture of the exam).

All the data necessary for the correct virtual planning and the prosthetic rehabilitation of the case are based on the radiological guide. For this reason, the creation of the radiological guide is essential in the planning of the case, and it must be accurate and stable in the patient's mouth.

The impression must exactly reproduce the dental arches because its quality affects the accuracy of the models and the creation of the radiological guide.

The laboratory performs the construction and sends the radiological guide to the dental practice.

The radiological guide must be used according to the protocol described in this document.

### THE RADIOLOGICAL GUIDE CONSTRUCTION



The radiological guide can be represented also by the patient's prosthesis, if it does not contain metal supports inside.



It must be functional, aesthetical, and accurate. If not, the laboratory can create a new radiological guide.

For the construction of the radiological guide, please use a semi-transparent material, and create an indented chewing index able to keep the arches separate during the exam and to guarantee the immobility of the guide in the mouth.

The model must be perfectly stable in the patient's mouth during the CT exam by laying on both dental arches. For the guide construction, it is necessary to apply RADIOGRAPHIC MARKERS on its surface.

We suggest gluing 2mm-diameter QUARTZ BALLS on the surface by following these instructions:

- place 10-15 balls on teeth and below the gingival planes, both on the palate and the vestibular sides.
- avoid placing the markers on the same plane.
- assure a correct gluing on the guide and do not remove them before the CBCT exam and the guide scans.



Test the radiological guide on the patient before the CT exam to check the positioning and to instruct the patient on how to wear it.

### INTRAORAL OR MODEL SCANS

Perform the scans through one of the following scanners:



#### INTRAORAL SCANNER:

- Scan of the **ARCH** of interest **WITH** the **RADIOLOGICAL GUIDE** in the right position.
- Scan of the **TWO ARCHES IN OCCLUSION**.

If a mounting has been set, perform a scan of the positioned mounting on the arch of interest.

Otherwise, BTK can arrange a virtual mock-up on the base of the provided scans.

#### LABORATORY SCANNER:

- Scan of **MASTER MODEL WITH THE RADIOLOGICAL GUIDE** in the right position.
- Scan of **MASTER AND ANTAGONIST MODELS** in occlusal relation.

If there is a **MOUNTING**, scan it in the right position on the master model.

*The files must be in the same system of reference and must be exported in the STL format. For the scan procedure, please see the existing scan instructions.*



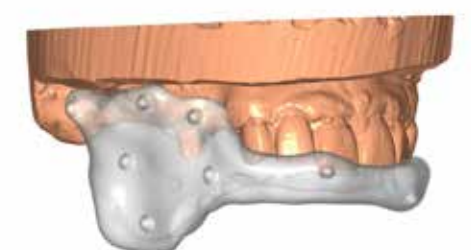
MASTER ARCH



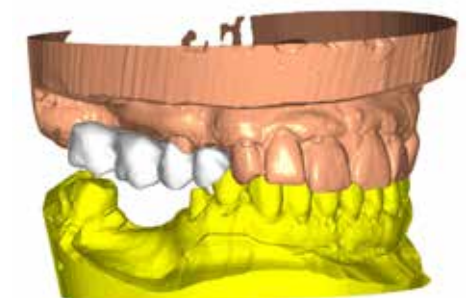
MOUNTING



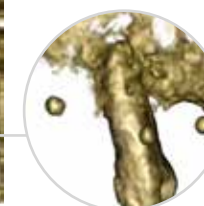
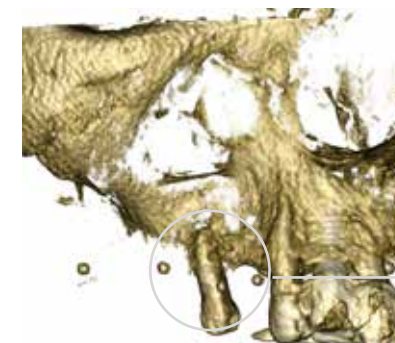
ANTAGONIST ARCH



MASTER ARCH + RADIOLOGICAL GUIDE



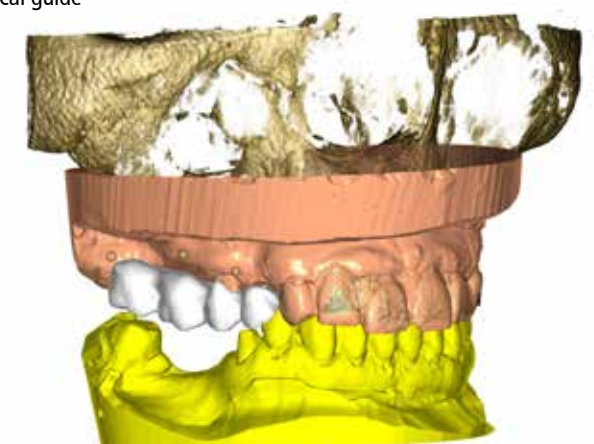
### PATIENT EXAM



Radiographic markers of the radiological guide

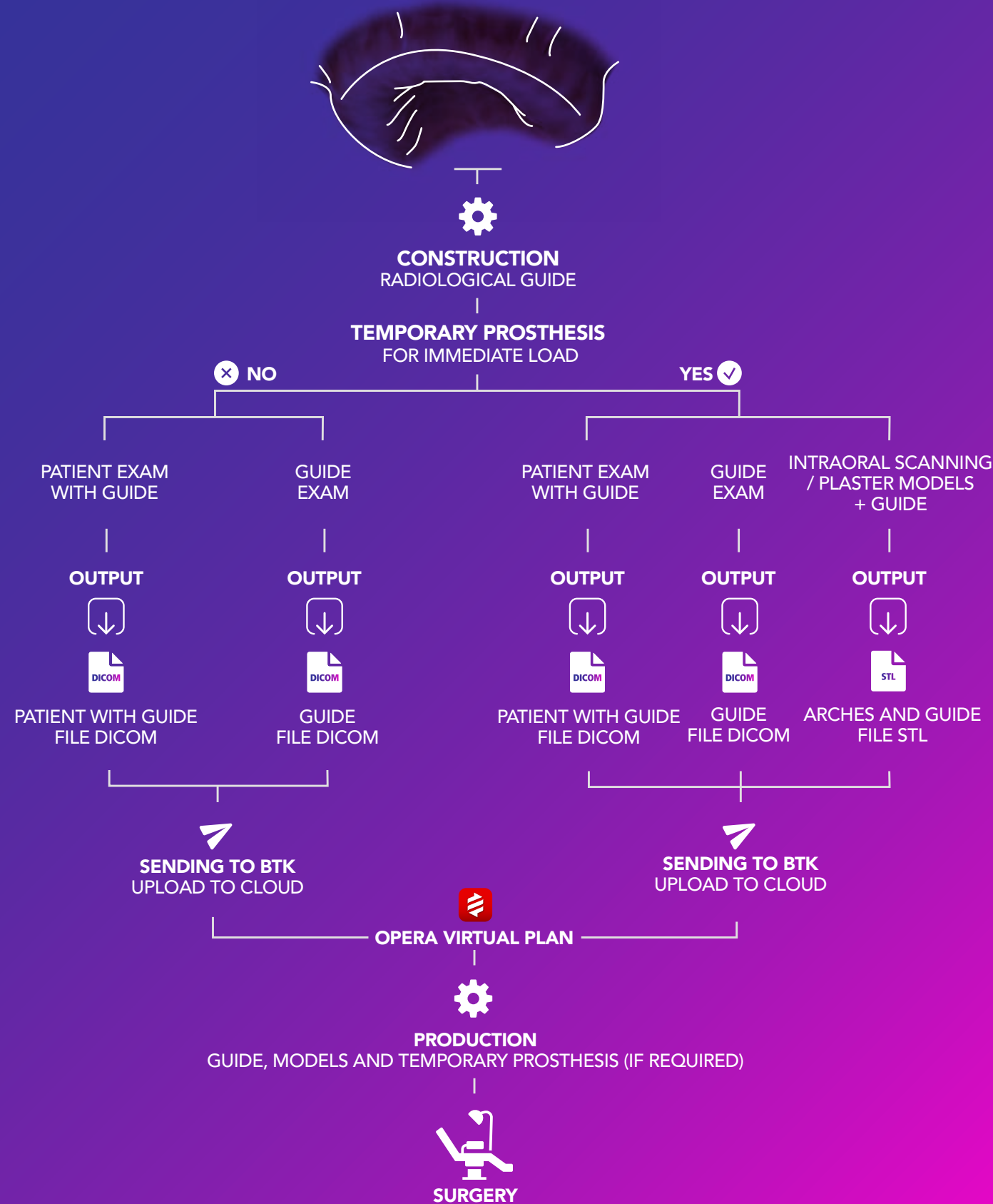
After having checked the perfect stability and the fit of the radiological guide in the patient's mouth, invite the patient at the radiological centre to perform the CT exam. The patient must correctly wear the radiological guide and, if available, the occlusal index. The radiological guide must be kept and delivered to the dental practice.

SEND THE DICOM FILES OF THE EXAM TO BTK and the STL scans of the models.





# TOTAL EDENTULISM



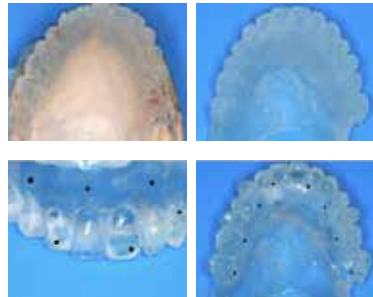
# PROTOCOL FOR TOTAL EDENTULISM WITH RADIOLOGICAL GUIDE

## THE RADIOLOGICAL GUIDE CONSTRUCTION

If the patient has a removable prosthesis which satisfies all the aesthetic-functional requisites, and it does not contain metal supports, it is possible to use it as radiological guide. We suggest relining the prosthesis to guarantee an excellent adhesion to the soft tissues through non-radiographic relining material (for example impregum).

If the patient's prosthesis does not satisfy the stability and functionality requisites, it is necessary to create a new scan prosthesis starting from the plaster models and the impressions.

We suggest starting from a new tooth mounting by creating a new radiological guide made of PMMA or resin.



The template must be perfectly stable in the patient's mouth during the CT exam by laying on both dental arches.

For the guide construction, it is necessary to place 2mm diameter QUARTZ BALLS on the surface of the RADIOGRAPHIC MARKERS by following the instructions:

- Place 10-15 balls on teeth and below the gingival planes, both on the palate and the vestibular sides
- Avoid placing the markers on the same plane but rather randomize their placement along the entire surface of the template. Do not remove them before performing the CBCT and scans.

Test the radiological guide on the patient before the CT exam to check the placing and to instruct the patient on how to wear it.



In case of no accurate positioning of the guide, it is necessary to create an occlusal index, which the patient must wear during the CT exam.

Add the occlusal index material between the guide and the antagonist model and close the arches to create a chewing index. If the patient has few remaining teeth on the antagonist arch, the occlusal index must fill the edentulous area up to reach a contact with the alveolar crest to guarantee a balanced horizontal recording.

The occlusal index helps to guarantee the stability of the radiological guide during the CT/CBCT scan and to clearly identify the two arches during the X-rays exam.

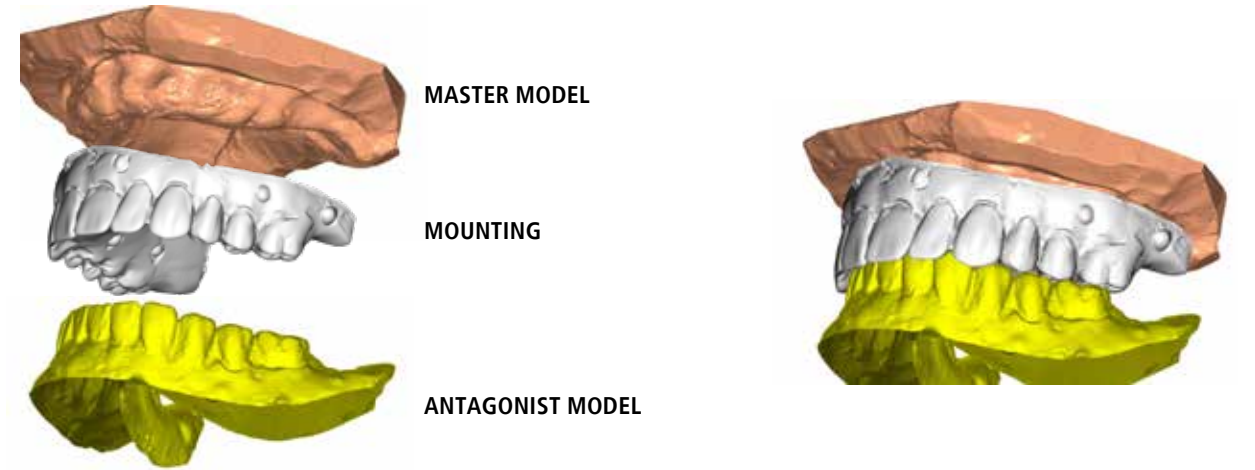
## MODEL SCAN

Test the radiological guide on the patient before the CT exam to check the positioning and to instruct the patient on how to wear it.

Perform the scans with the **LABORATORY OPTICAL SCAN**:

- A scan of the **MASTER MODEL**
- A scan of the **ANTAGONIST MODEL**
- A scan of the **RADIOLOGICAL GUIDE**

The files must be in the same reference system and must be exported in the STL format. For the scan procedure, see the existing instructions of the scanner.



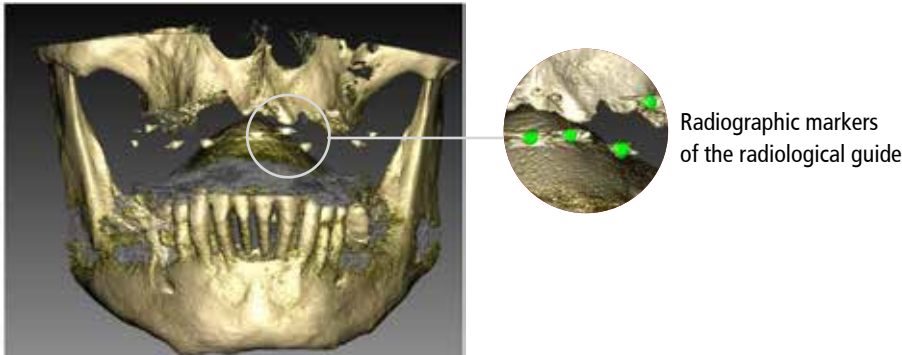
# EXAM PERFORMANCE WITH RADIOLOGICAL GUIDE

## - Protocol Double Scan

### THE IMPORTANCE OF THE RADIOLOGICAL GUIDE

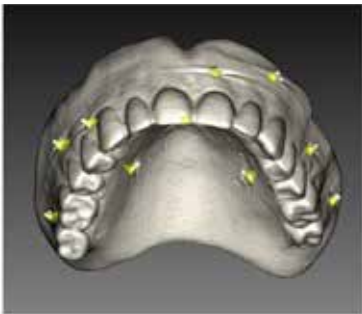
After having checked the perfect stability and the fit of the radiological guide in the patient's mouth, invite the patient at the radiological centre to perform the CT exam. The patient must correctly wear the radiological guide and, if available, the occlusal index. The radiological guide must be kept and delivered to the dental practice.

### FIRST SCAN – PATIENT EXAM WITH RADIOLOGICAL GUIDE



- The first scan must be performed on the patient with the positioned radiological guide by following these instructions:
- Field of view (FOV): the sections must have the same field of view and include all the areas of interest.
  - Sections: use the minimum distance among the sections, if possible lower than 1mm.
  - If possible, remove all the objects which can create artifacts in the pictures (removable prosthesis, metal objects, jewels, piercings...).
  - Place the patient inside the scanning area and assure to:
    - Wear correctly the radiological guide, and if available, the radiological index.
    - Stay immobile and does not swallow during the procedure.
    - Keep the lips closed and relaxed.
    - Breathe through the nose.

### SECOND SCAN – RADIOLOGICAL GUIDE EXAM



- The second scan must be performed on the patient with the positioned radiological guide by following these instructions:
- Field of view (FOV): the sections must have the same field of view and include all the areas of interest.
  - Sections: use the minimum distance among the sections, if possible lower than 1mm.
  - If possible, remove all the objects which can create artifacts in the pictures (removable prosthesis, metal objects, jewels, piercings...).
  - Place the patient inside the scanning area and assure to:
    - Wear correctly the radiological guide, and if available, the radiological index.
    - Stay immobile and does not swallow during the procedure.
    - Keep the lips closed and relaxed.
    - Breathe through the nose.

### EXAM EXPORT AND SAVE

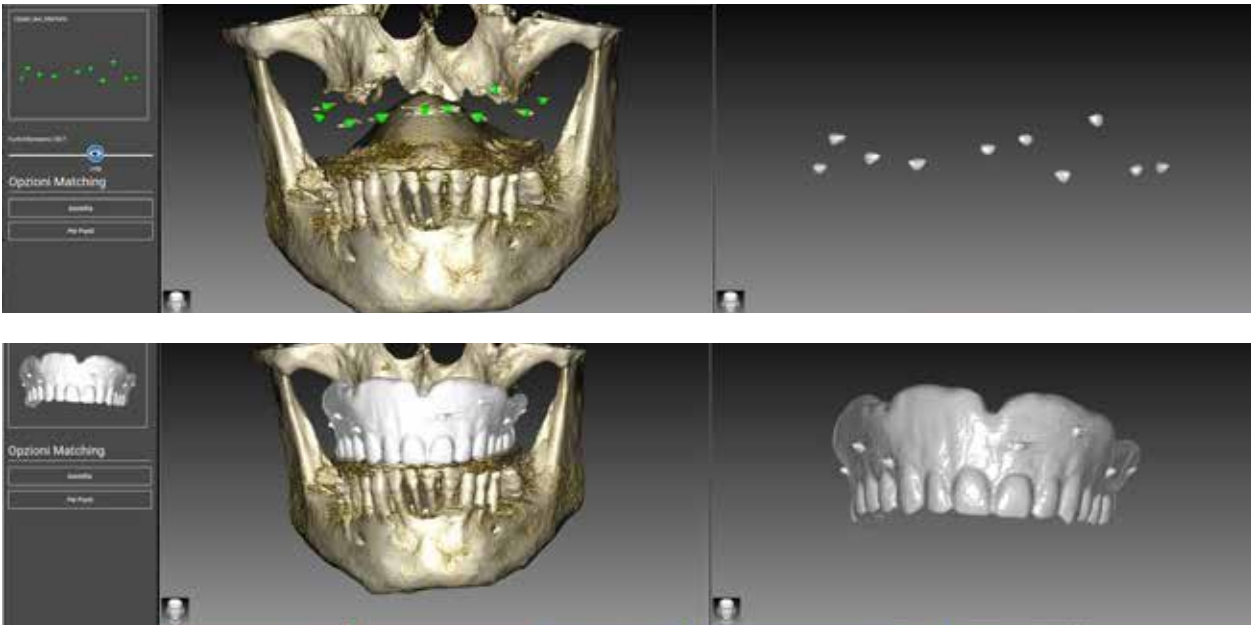
After the exam, save both the scans in **DICOM (standard) FORMAT** by exporting every scan in a separated folder (one folder containing the first scan and a second folder with the second scan). Save in a folder or on a CD/DVD support. If the exam is performed by an external radiological centre, assure that it is saved also in DICOM format (and not only in Visualisation mode).

SUGGESTED MATRIX: recreate the picture through a scanning matrix of 512 x 512 pixel for each picture.  
SUGGESTED FORMAT: single-frame DICOM file folder.

# SCANNING VOLUME FOR THE PROJECT CREATION

It is essential choosing a FOV which includes all the areas of interest.  
Before the scan, assure that the patient is in the middle of scanning volume.  
We kindly suggest performing one or more scout view to check the right positioning of the patient and the correct selected FOV.  
It is important to select the most suitable FOV according to the patient's anatomy.

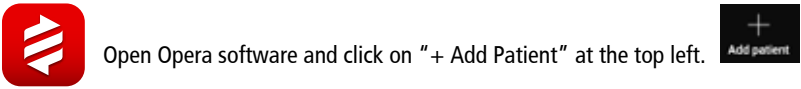
### EXAMPLE OF RADIOLOGICAL GUIDE ALIGNMENT DURING THE PATIENT EXAM THROUGH OPERA SOFTWARE



SENDING FILE TO BTK

After having completed the CT/CBCT exam, the dental practice must send the DICOM and STL data to BTK by using 2 methods:

CASE SHARING THROUGH OPERA CLOUD



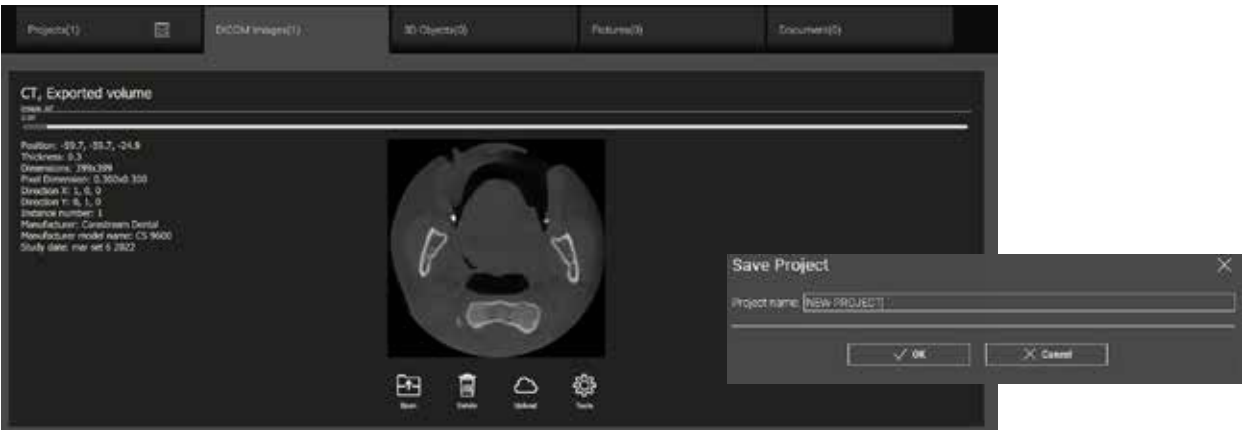
Insert the new patient's data.

A screenshot of the 'NEW PATIENT' form in the Opera software. It contains fields for 'Name', 'Surname', and 'Date of birth (DD/MM/YYYY)'. There is also a 'Notes' text area at the bottom. 'OK' and 'Cancel' buttons are at the bottom right.

Click on Import 3D Exam/Project and Import 3D Object (STL).

A screenshot of the 'Unknown' dialog box with an 'Import' tab. It features four buttons: 'Import 3D Exam/Project', 'Import STL', 'Import 2D Pica', and 'Import Documents'. There is also an 'Import from Scanner' button. At the bottom, there is a 'Create' section with a 'New CAD Project' button and a 'Close' button.

Open the selection in DICOM format and save the project.



Upload on the OPERA Cloud and share with the Production Centre.

A screenshot of the 'Share' dialog box for sharing data on the OPERA Cloud. It includes a 'Production Center' dropdown, a 'User email' field, and a 'Write a short message here for the recipient:' text area. There are 'OK' and 'Cancel' buttons at the bottom. An 'IMPORTANT NOTICE' is displayed at the bottom of the dialog.

PLEASE NOTE

To produce a correct surgical guide, it is necessary to upload on Opera Cloud and share with BTK Production Centre both the files saved in a unique project:

- Patient's DICOM.
- Scans STL.

BTK ON-LINE FILE TRANSFER SERVICE

The file uploading through BTK PRIVATE AREA can be performed by following these steps:

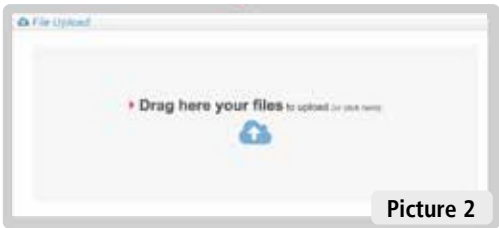
A screenshot of the BTK File Upload web page. It contains a form with fields for 'First Name', 'Last Name', 'Email', 'Phone', and 'Password'. There is a 'Proceed' button at the bottom right. A QR code is visible on the right side of the page.

Go to the web page <https://upload.btk.dental/btk3d?lang=en> or scan the QR CODE



A page with a to-be-filled form will open. **Picture 1**

Please fill in the form empty spaces, even the optional ones. Authorise the personal data treatment and click on "Proceed" button.



**Zip the folder** you need to send (.zip or .rar format or other similar one). To upload it is possible to directly drag the zip folder into the uploading area or click on the icon to make standard research. **Picture 2**

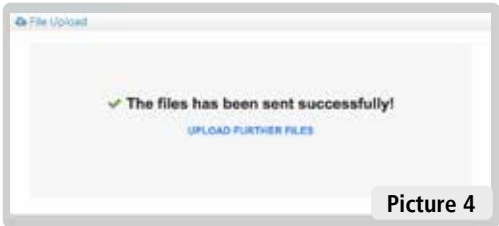
If available, the STL files resulting from the intraoral scans or of the plaster models and radiological guide must be sent in this moment.



Wait until the end of the folder uploading before closing or exiting from the page. During the upload, the sign "uploading" will appear with the progress percentage. **Picture 3**

The file upload is indicated by the appearance of the green flag and a confirmation sentence of the file sending. **Picture 4**

Only after the completed upload, it is possible to close the page.



If the STL files of the models and the radiological guide are not available, the material needs to be **sent physically** to the Company at the following address: **Biotec srl - Via Industria 57, 36031 - Povolaro di Dueville (VI)**. BTK will perform the STL scan of the received objects and the matching of the CT/ CBCT exam with the scans.



# VIRTUAL PLANNING AND SURGICAL GUIDE PRODUCTION



In this phase, the dental practice creates the virtual planning of the surgical case with the possible BTK technical assistance after having installed OPERA software. Once the planning phase is completed, BTK sends a summary file of the project to the client. The physician will sign a prescription and authorisation document to proceed and officially confirm the production of the customised device. After the approval of the project, BTK creates the surgical guide and, if necessary, the anatomical model, and it send them to the dental practice.

**The delivery time of the surgical guide is around 5 working days (1 week).** This time is calculated since the approval by the physician of the final project through the prescription signature. In case of the production of a temporary prosthesis for immediate load with metal support, the delivery times are about 10 working days.

- For the surgery, BTK can provide the dental practice with the necessary material:
- Surgical guide and tester anatomical model
  - MAESTRO surgical kit
  - Dental implants
  - Abutments designed for the implants
  - Temporary prosthesis for immediate load (semi-finished) with titanium prosthesis cylindric.



# BE A MASTER OF IMPLANT GUIDED SURGERY.



# DISCOVER OPERA



Universal platform of diagnosis, implant planning, surgical guides, and prosthesis modelling in compliance with every DICOM and STL file.



# MAESTRO

THE MOST EFFECTIVE TOOL  
FOR YOUR GUIDED SURGERY



## SIMPLE

Thanks to its ease of use, MAESTRO allows you to focus solely on the surgical procedure without having to worry about using complex instruments or difficult-to-use programs.

## COMPLETE

MAESTRO is the most complete kit for guided implant surgery, allowing you to operate on PLUS, IS KONE and BT SAFE implant lines with a single kit, without having to purchase specific kits for each line.

## COMPATIBLE

MAESTRO is compatible with the main design programs for guided surgery on the market, allowing you to use it in combination with the programs you trust the most.

## PRECISE

Thanks to its high precision, MAESTRO allows you to perform precise and safe surgical interventions with long-lasting aesthetic and functional results.

COUNTERSINKS



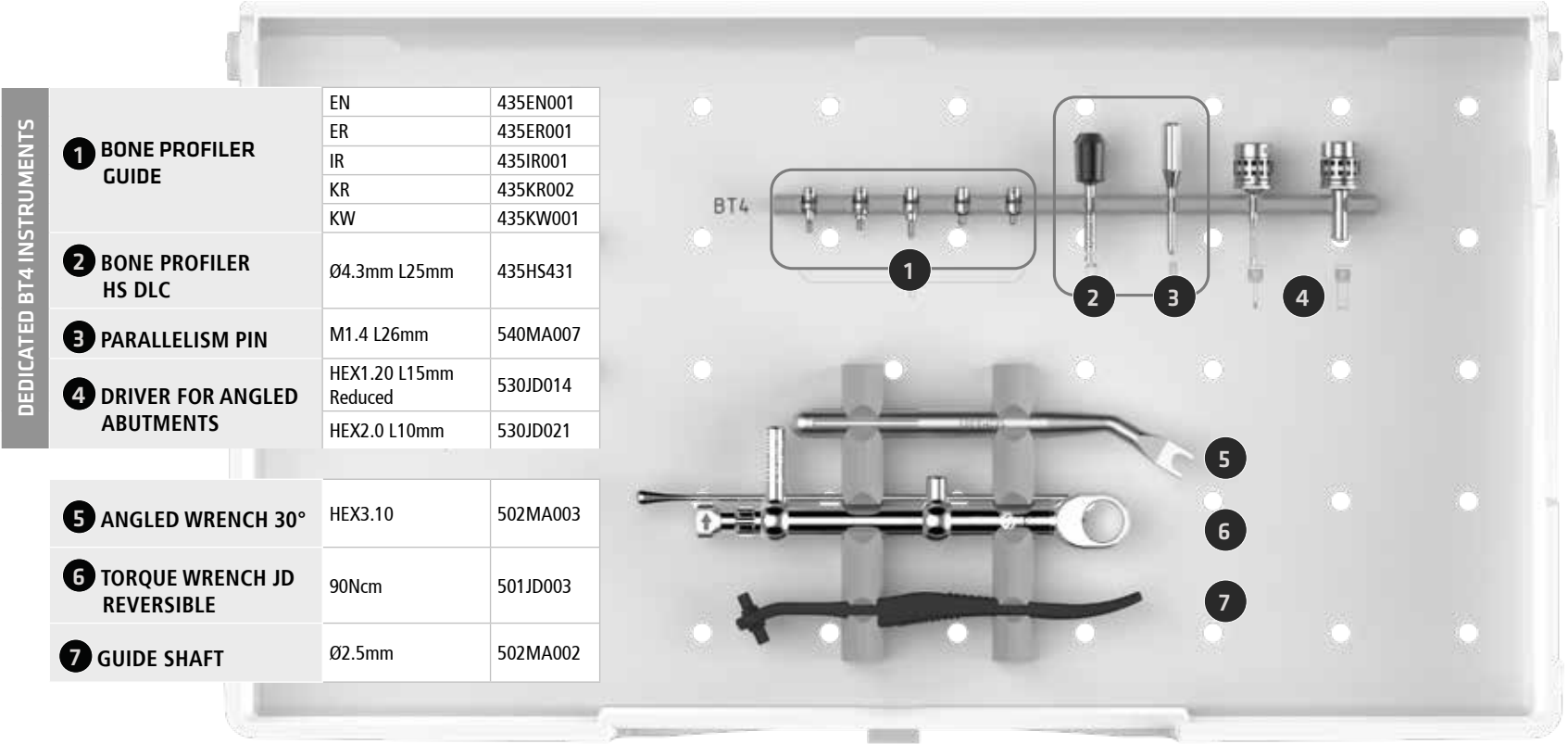
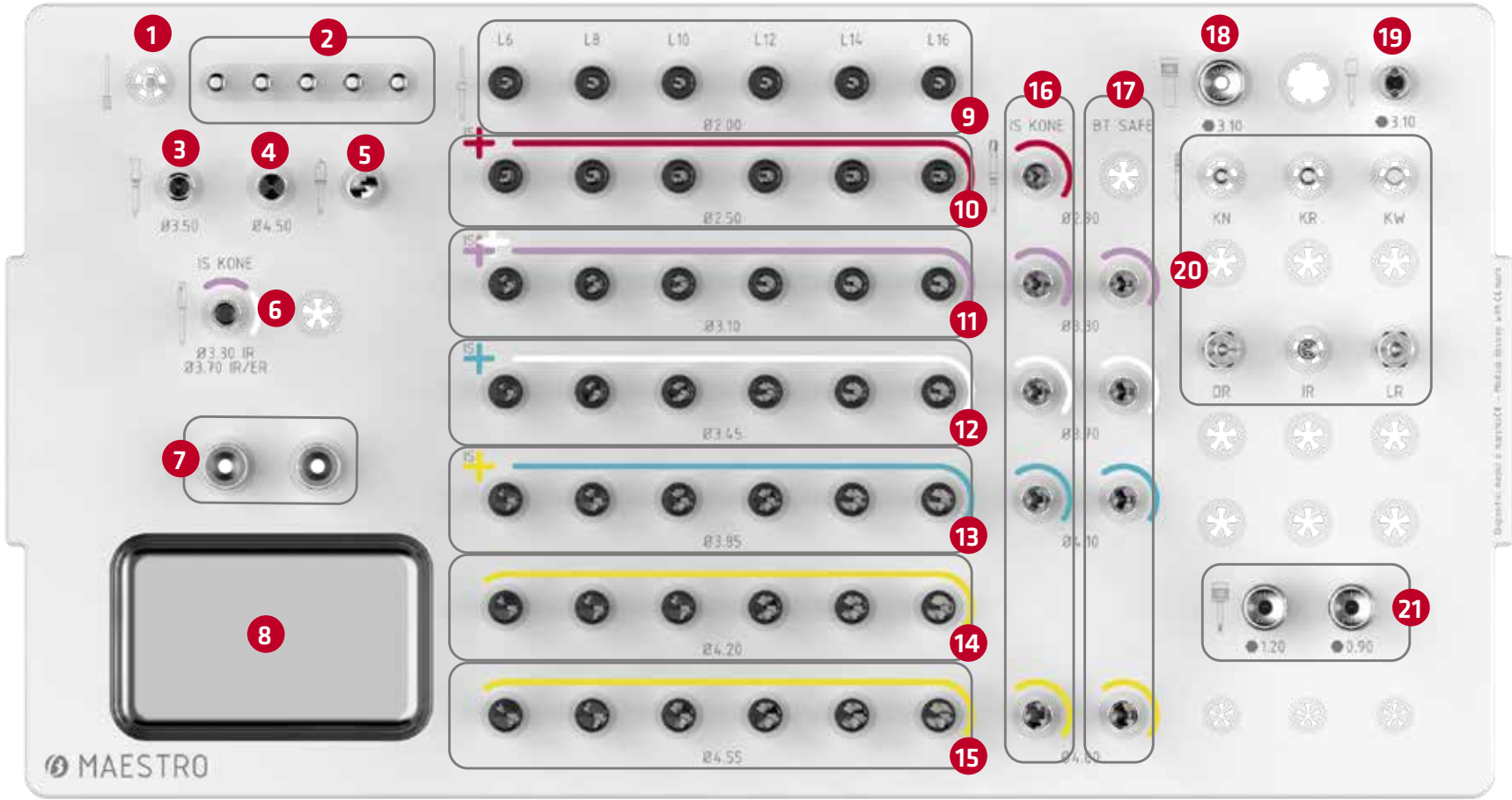
### ORDERLY AND INTUITIVE LAYOUT FOR EFFICIENT SURGERY

- Ease of use with clear navigation
- Distinct, color-coded procedures
  - Implant line identification
  - Pictograms of instruments for each stage












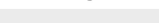

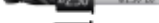
















- IS KONE Ø 2.9
- IS KONE-BT SAFE-IS+-IC+-EC+ Ø 3.3
- IS KONE-BT SAFE-IS+-IC+-EC+ Ø 3.7
- IS KONE-BT SAFE-IS+-IC+-EC+ Ø 4.1
- IS KONE-BT SAFE-IS+-IC+-EC+ Ø 4.8








































**SURGICAL KIT** (Ref 670NA024)  
Contains all the essential instruments for the application of IS KONE - IS+ - IC+ - EC+ - BT SAFE implants.



DEDICATED BT4 INSTRUMENTS	1 BONE PROFILER GUIDE	EN	435EN001
		ER	435ER001
		IR	435IR001
		KR	435KR002
		KW	435KW001
	2 BONE PROFILER HS DLC	Ø4.3mm L25mm	435HS431
	3 PARALLELISM PIN	M1.4 L26mm	540MA007
	4 DRIVER FOR ANGLED ABUTMENTS	HEX1.20 L15mm Reduced	530JD014
		HEX2.0 L10mm	530JD021
	5 ANGLED WRENCH 30°	HEX3.10	502MA003
	6 TORQUE WRENCH JD REVERSIBLE	90Ncm	501JD003
	7 GUIDE SHAFT	Ø2.5mm	502MA002

1 SHARP LANCE DRILL		Ø1.5mm L36mm	415HR150
2 FIXATION PIN		Ø1.5mm 5 pz	540MA012
3 TISSUE PUNCH 3D HS		Ø3.5mm L28mm	415HS350
4 TISSUE PUNCH HR		Ø4.5mm Int	490HR450
5 START DRILL HS		Ø5mm L27mm	415HS501
6 COUNTERSINK 3D HS DLC		Ø3.3mm L30.5mm Is Kone Int	450HS330
7 IMPLANT HOLDER CUPS			
8 STAINLESS STEEL TANK			
9 TWIST DRILLS 3D HR DLC Ø2mm		Ø2mm L6mm	419HR201
		Ø2mm L8mm	419HR202
		Ø2mm L10mm	419HR203
		Ø2mm L12mm	419HR204
		Ø2mm L14mm	419HR205
		Ø2mm L16mm	419HR206
10 TWIST STEP DRILLS 3D HR DLC Ø2.5mm		Ø2.5mm L6mm	419HR251
		Ø2.5mm L8mm	419HR252
		Ø2.5mm L10mm	419HR253
		Ø2.5mm L12mm	419HR254
		Ø2.5mm L14mm	419HR255
		Ø2.5mm L16mm	419HR256
11 TWIST STEP DRILLS 3D HR DLC Ø3.1mm		Ø3.1-2.75mm L6mm	419HR311
		Ø3.1-2.75mm L8mm	419HR312
		Ø3.1-2.75mm L10mm	419HR313
		Ø3.1-2.75mm L12mm	419HR314
		Ø3.1-2.75mm L14mm	419HR315
		Ø3.1-2.75mm L16mm	419HR316
12 TWIST STEP DRILLS 3D HR DLC Ø3.45mm		Ø3.45-3.05mm L6mm	419HR341
		Ø3.45-3.05mm L8mm	419HR342
		Ø3.45-3.05mm L10mm	419HR343
		Ø3.45-3.05mm L12mm	419HR344
		Ø3.45-3.05mm L14mm	419HR345
		Ø3.45-3.05mm L16mm	419HR346

Within the kit, there are empty slots available to insert optional mounters.

13 TWIST STEP DRILLS 3D HR DLC Ø3.85mm		Ø3.85-3.4mm L6mm	419HR381
		Ø3.85-3.4mm L8mm	419HR382
		Ø3.85-3.4mm L10mm	419HR383
		Ø3.85-3.4mm L12mm	419HR384
		Ø3.85-3.4mm L14mm	419HR385
		Ø3.85-3.4mm L16mm	419HR386
14 TWIST STEP DRILLS 3D HR DLC Ø4.2mm		Ø4.2-3.7mm L6mm	419HR421
		Ø4.2-3.7mm L8mm	419HR422
		Ø4.2-3.7mm L10mm	419HR423
		Ø4.2-3.7mm L12mm	419HR424
		Ø4.2-3.7mm L14mm	419HR425
		Ø4.2-3.7mm L16mm	419HR426
15 TWIST STEP DRILLS 3D HR DLC Ø4.55mm		Ø4.55-4mm L6mm	419HR451
		Ø4.55-4mm L8mm	419HR452
		Ø4.55-4mm L10mm	419HR453
		Ø4.55-4mm L12mm	419HR454
		Ø4.55-4mm L14mm	419HR455
		Ø4.55-4mm L16mm	419HR456
16 TAPS 3D HR DLC IS KONE		Ø2.9mm L37.5mm Is Kone	481HR290
		Ø3.3mm L37.5mm Is Kone	481HR330
		Ø3.7mm L37.5mm Is Kone	481HR370
		Ø4.1mm L37.5mm Is Kone	481HR410
		Ø4.8mm L37.5mm Is Kone	481HR480
17 TAPS 3D HR DLC BT SAFE		Ø3.30mm L35mm BT Safe	480HR330
		Ø3.70mm L35mm BT Safe	480HR370
		Ø4.10mm L35mm BT Safe	480HR410
		Ø4.80mm L35mm BT Safe	480HR480
18 MANUAL WRENCH		ISO/HEX3.10-JD L10mm	530JD033
19 RETENTIVE WRENCH		HEX3.10	530HS017
20 IMPLANT DRIVER		L33mm KR	530HL001
		L33mm KW	530HL002
		L33mm KN	530HL003
		L35mm IR-IW	530HL005
		L31.2mm DR	530HR003
		L30.7mm LR-LW	530HR015
21 SCREWDRIVER JD		HEX1.20 L15mm	530JD005
		HEX0.90 L15mm	530JD012







# SURGICAL PROCEDURE







## SURGICAL GUIDE PREPARATION

In the surgery practice:

- The surgical guide must be cold sterilized.
- The surgical guide lays and is fixed on the patient's arch.
- The physician performs the surgery by using the dedicated MAESTRO surgical kit.
- During the same surgery session, the physician can use the temporary prosthesis for immediate load previously arranged by the dentistry laboratory.



TYPES OF GUIDES AND MODELS		
	TYPOLOGY	REF
	<b>SURGICAL GUIDE</b> Needed for surgery, it includes the sleeves.	C41DS...
	<b>DIGITAL TEST MODEL</b> Used for the fit test of the surgical guide, it represents the patient's situation during surgery.	C46BG...
	<b>REGULAR SLEEVE MAESTRO</b> To guide the drills and implant placement with the MAESTRO kit.	690NA376
	<b>SLEEVE FOR FIXATION PINS</b> To be used with the PIN drill for inserting fixation pins to stabilize the surgical guide.	690NA174

MOUNTING DEVICE		
	TYPOLOGY	REF
	Mounting Device 3D <b>EN</b>	690EN003
	Mounting Device 3D <b>ER</b>	690ER003
	Mounting Device 3D <b>IR</b>	690IR003
	Mounting Device 3D <b>KN</b>	690KN001
	Mounting Device 3D <b>KR</b>	690KR001
	Mounting Device 3D <b>KW</b>	690KW001

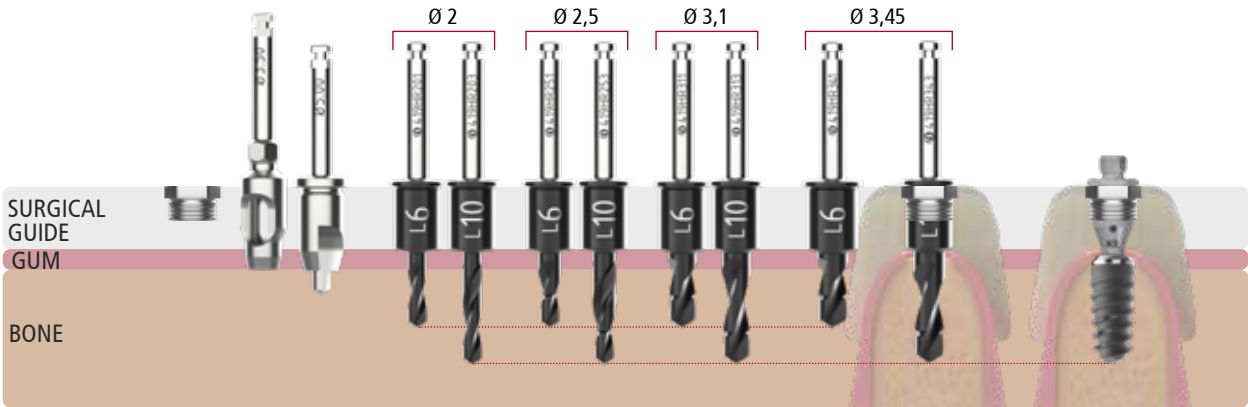
The 3D mounting devices are available in single packages or 6-piece packages.

## SEQUENTIAL POSITIONING SCHEME OF IMPLANT

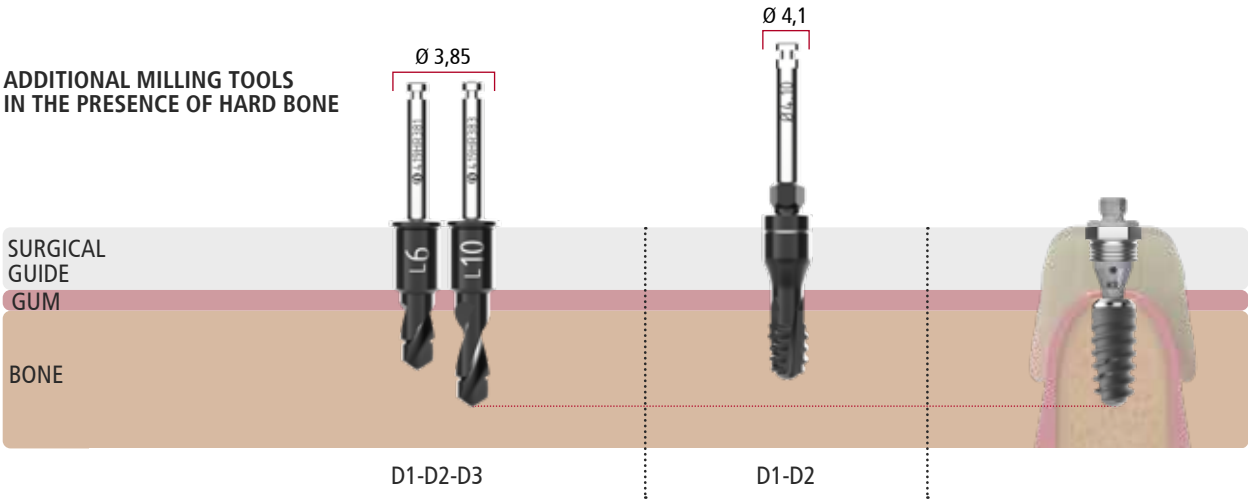


**POSITIONING OF SURGICAL GUIDE**  
and use of lance drill and fixing PINS to guarantee and keep the correct positioning of the guide during the surgery.

EXAMPLE  
BT SAFE IMPLANT Ø 4,1 mm L= 10 mm



D1-D2-D3-D4



D1-D2-D3

D1-D2

### NOTE

For more details, refer to the Milling Sequences on pages 24-25-26.

## MILLING SEQUENCES

[illegible][illegible]

## LEGEND

- Always
- Only in presence of D1 bone
- Only in presence of D1-D2-D3 bone

## NOTE

- Taps and countersink are not necessary for D3-D4 bone.
- Countersink should be used if the standard protocol is not sufficient to fully insert the implant without exceeding the recommended maximum insertion torque (max 45 Ncm).
- IS KONE 2.9 is not used for D4 bone.

*The described procedures are for information only.*

*The physician is responsible for the possible variations according to the single case and the bone density.*

Considering the presence of cutting tips, we suggest valuating the correct drill length to avoid a dangerous hole depth and potential damages to vital structures.



IS+ IC+ EC+ IMPLANTS	LANCE DRILL	PILOT DRILL	DRILLS																							
			Ø 2,00						Ø 2,50						Ø 3,10						Ø 3,45					
			L6	L8	L10	L12	L14	L16	L6	L8	L10	L12	L14	L16	L6	L8	L10	L12	L14	L16	L6	L8	L10	L12	L14	L16
			419HR20...						419HR25...						419HR31...						419HR34...					
			1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
3,3	8		●	●					●	●					○	○										
	10	●	●		●				●		●				○		○									
	12		●		●	●			●		●	●			○		○	○								
	14		●		●		●		●		●		●		○		○		○							
3,7	8		●	●					●	●					○	○										
	10		●		●				●		●				○		○									
	12	●	●		●	●			●		●	●			○		○	○								
	14		●		●		●		●		●		●		○		○		○							
	16		●		●		●	●	●		●		●	●	○		○		○	○						
4,1	6		●						●						●					○						
	8		●	●					●	●					●	●				○	○					
	10	●	●		●				●		●				●		●			○		○				
	12		●		●	●			●		●	●			●		●	●		○		○	○			
	14		●		●		●		●		●		●		●		●		●	○		○		○		
	16		●		●		●	●	●		●		●	●	●		●		●	○		○		○	○	
4,8	6		●						●						●					●			○			
	8		●	●					●	●					●	●				●	●		○	○		
	10	●	●		●				●		●				●		●			●		●		○		○
	12		●		●	●			●		●	●			●		●	●		●		●	●		○	○
	14		●		●		●		●		●		●		●		●		●	○		○		○		○

LEGEND

● Always

○ Only in presence of D1-D2-D3 bone

NOTE

- For EC+ implants, use the 690NA345 spacer on the mounter.

The described procedures are for information only.  
The physician is responsible for the possible variations according to the single case and the bone density.  
Considering the presence of cutting tips, we suggest valuating the correct drill length to avoid a dangerous hole depth and potential damages to vital structures.

USEFUL INSTRUMENTS AFTER THE IMPLANT INSERTION:



BONE PROFILER

It is used to level the bone crest around the implant neck. It eases the abutment insertions, in case of indented bone crest or inclined implant.

# Maestro at the Opera!





## TEMPORARY PROSTHESIS FOR IMMEDIATE LOAD

The following protocol refers to a temporary reinforced prosthesis made of multilayer drilled resin for immediate load offered by the BTK Drilling Center on 4 or more implants.

We have chosen this solution to guarantee a good tissue healing and an excellent prosthesis emergency, together with an easy hygiene for the patient and of the prosthesis.

To proceed with the following phases, our CAD-CAM Center must have:

In case of total edentulism:

- Total scan of the in-situ prosthesis or plaster models which shows the right chewing process and articulation.
- Radiological guide perfectly worn in the patient's mouth as previously said.
- Impression or intraoral scan of the patient's tissues.
- Impression or intraoral scan of the antagonist.

In case of partial edentulism:

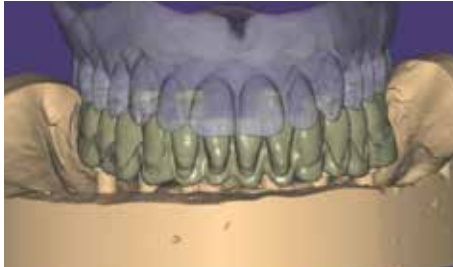
- Traditional/virtual mounting considering the aesthetic and the functionality of the implant planning.
- Impression or intraoral scan of the patient's tissues and the near teeth.
- Impression or intraoral scan of the antagonist.

- After the surgery and the implant positioning, there is the insertion of M.U.A. abutments (with BT/BU connection).  
During the planning, our CAD-CAM Department will evaluate what prosthesis components are to be used (straight or angled M.U.A.) according to the data given by the already-existing total or partial prosthesis.

- After having obtained the model file, we design the first part of the structure by paying attention to access to all the information (antagonist/soft tissue/potential mock-up). (Picture 3-4).



Picture 3 – Check of resin structure in relation to the antagonist.



Picture 4 – Check of resin structure in relation to the antagonist (front view).

- The production of the temporary prosthesis involves a metal support which allows to adjust the temporary structure in-situ. (Picture 5).



Picture 5 – Example picture of a prototype temporary prosthesis.

- The metal support is produced through the laser melting technique in chrome-cobalt and the product shows as follows (picture 8-9-10).



Picture 8-9-10 – Views of the prosthesis ready for the finalisation by the laboratory dentist.

- Maximum duration of the temporary prosthesis in the patient's mouth is 1 year.  
The temporary prosthesis is delivered as semi-finished and must be characterised and optimised by the dentistry laboratory.

# PERMANENT PROSTHESIS

The workflow for the permanent prosthesis production starts from the impressions in the dental practice. The impressions can be performed according to the traditional method with the use of Transfers for open impressions, or according to the digital method if the dental practice has the intraoral scanner by using the Intraoral Scan Abutment BT/BU.

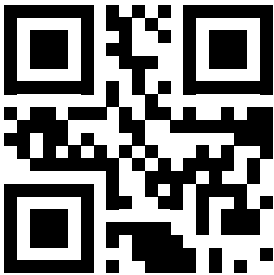


TRADITIONAL IMPRESSIONS



SCAN WITH THE INTRAORAL SCANNER  
AND RESULT OF AN INTRAORAL SCAN BY CAD SOFTWARE

The impressions must be delivered to a dentistry laboratory to be developed.  
The final prosthesis can be produced according to the usual techniques of the referring laboratory.  
As Drilling Center, BTK can deal also with the production of the prosthesis which will be finalised in the laboratory.  
  
All our digital libraries are updated to plan the construction of the prosthesis and can be downloaded from our website.



**FREE DOWNLOAD**  
of open CAD libraries of our implants on  
[www.btk.dental/en/btk-cad-cam/](http://www.btk.dental/en/btk-cad-cam/)



exocad 3shape dental wings



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# PROTOCOL FOR GUIDED SURGERY MAESTRO



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## WARNINGS AND RECOMMENDATIONS

The indications provided in this brochure describe the BTK guided surgery procedure. The use of BTK components is intended exclusively for physicians who have received proper training in implant techniques, prosthodontics, and guided surgery. The physician utilizing the system is responsible for the procedures performed and for the necessary periodic checks to promptly identify and treat any complications, ensuring the proper functioning and safety of the device.



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BIOTEC is certified UNI EN ISO 9001 and UNI EN ISO 13485.



CE marked product, in accordance with Directive 93/42/EEC and Reg. (UE) 2017/745

## MADE IN ITALY USED GLOBALLY



We constantly ensure that the quality of our products and services meet the high expectations of our customers and their patients. Specialized professionals are taking care to offer comprehensive solutions in applied research, engineering, education and related activities.

Our specialized staff is at your disposal for any **information regarding the MAESTRO surgical kit or the OPERA guided surgery software**. Please feel free to call our company at **0444.361251** or write to us at [btk3d@btk.dental](mailto:btk3d@btk.dental).

POWERED BY  
**OPERA**  
btk digital workflow



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