

# PRODUCT CATALOGUE

**BETA and GAMMA SYSTEM** 

### **COMPANY PROFILE**

For over 20 years we are committed to offering high quality smiles to dentists and patients.

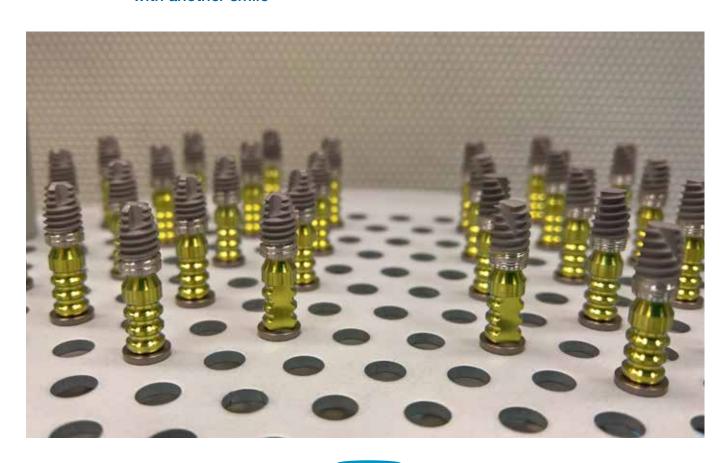
We specialise in the design and manufacture of high quality and outstanding reliable devices for oral surgery.

We offer an array of customized services and professional training courses able to meet the needs of our professionals and the high expectations of their patients.

We value innovation and development integrating our knowledge and expertise with the most advanced technology.

We work with passion and discipline to ensure unmatched reliability and to improve the daily clinical practice.

"In any corner of the world, regardless of the language and culture of the place, everyone understands a smile and respond with another smile"



### **QUALITY FIRST**

Our quality policy is the engine of development for the continuous improvement of the Beta / Gamma system.

# KNOWLEDGE AND EXPERTISE:

- Medical robotics:
- Biomedical engineering;
- Dentistry and orthodontics;
- Material&Process technologies;
- R&D and clinical studies;
- IT applied to dental industry.

The knowledge developed in the key sectors of the dental industry ensures absolute quality in every process of Beta / Gamma products: from development to design, from production to control, from sterilization to packaging, to guarantee the technological and biological success.

### **MATERIALS**

- Lubricating polymers (PEEK);
- Titanium gr. 4 and 5, Gold, Steel;
- Zirconium, Cobalt chrome;
- POM-C and PMMA:
- Glass fiber.

All Beta and Gamma products (traditional implant, CAD/CAM systems, guided surgery) are manufactured starting from high quality and biocompatible materials, developed and tested to guarantee long-term effective clinical outcomes.

# TECHNOLOGIES AND MACHINERY

- SLM, CAD/CAM, hybrid;
- BIO-ACTIVE surface treatment;
- Plasma treatment with Argon;
- 5-axis CNC machines;
- Quality Control with SEM:
- Optical scanner.

The initial concept of a dental implant or a prosthetic part is designed and realized through CAD/CAM advanced systems and then developed with state-of-the-art technologies and machinery.

### **QUALITY SYSTEM**

- UNI CEI EN ISO 9001: 2008

- UNI CEI EN ISO 13485: 2012

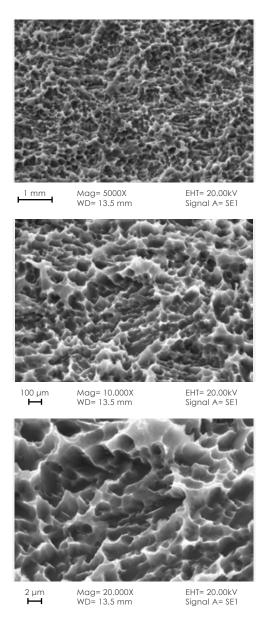
The whole Beta and Gamma process is constantly controlled, in order to ensure the maximum safety and traceability. All Beta and Gamma products meet international standards and comply with the stringent quality directives UNI EN ISO 9001 and UNI CEI EN ISO 13485.

### **BIO-ACTIVE SURFACE TREATMENT**

#### OSTEOCONDUCTIVE PROPERTIES OF THE MORPHOLOGY

Histological researches on implants showed best performance of the BIO-ACTIVE surfaces (treated with double acid-etching) compared to the "machined" surfaces, especially in cases of poor bone quality. The BIO-ACTIVE treatment consists of a double organic acid etching (the first creates the macro-texture, the second generates the micro-rough structure). Each treatment involves a cold plasma decontamination. The benefits introduced by the treated surfaces are more evident in difficult situations, where the improved biological response can provide for the reduced mechanical contribution.

The surface morphology of the screws was evaluated by observation under the Scanning Electron Microscope. Increasing the magnification, in figures (5000, 10000 e 20000 x), we can observe the typical micro-roughness topography produced by the surface treatment with double acid etching.



As known and reported in the scientific literature, this particular micro topography allows the surface to act as a "sponge" which strongly interacts with the clot and stimulates the regeneration of bones. From these images it is possible to highlight the absence of contaminants or foreign deposits.

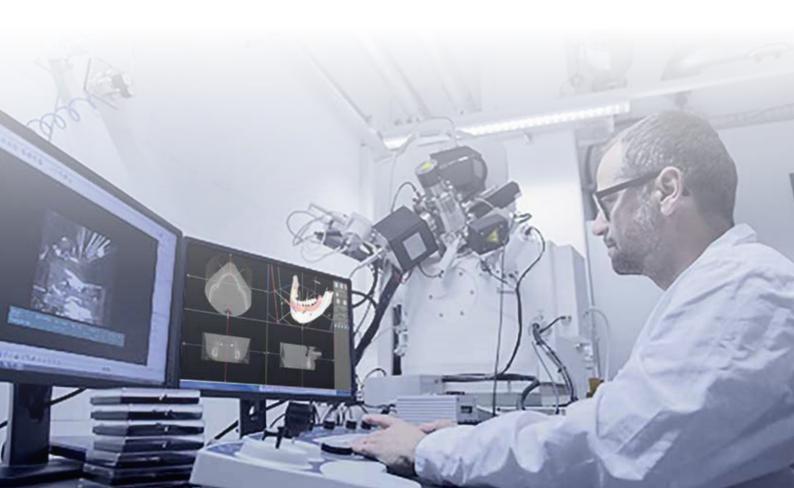
### **BIO-ACTIVE SURFACE TREATMENT**

#### ABSENCE OF CONTAMINATION FOR A CORRECT OSSEOINTEGRATION

The high level of cleanliness of the BIO-ACTIVE surface was confirmed by the analysis of the chemical composition of the surface by XPS. The depth analysed is about 5 nm and thus provides a direct indication of the chemical composition of the material layers that are in contact with the bone tissue. The result of the analysis is expressed in atomic %. The results are reported in the table below:

С	О	Ti	N	Si	Р
30.8	47.1	19.3	0.9	1.2	0.7

In the surface analysis of Titanium is expected the presence of at least three elements: Titanium, Oxygen and Carbon. The latter element derives from the presence of carbonaceous molecules (CO2 or hydrocarbon type compounds) which are inevitably present in the Earth's atmosphere. The surfaces of metals are combined with these carbonaceous species, which are "invisible" in the more traditional methods of analysis, but which can be detected by a specific analysis such as the XPS. Carbon can also derive from "heavier" contamination, such as contact with oils or fats during the production process. To discern between "natural" C and C from contamination it is necessary to take into account the quantitative aspect. Percentages of 30-40% are physiological and can be considered normal. Higher percentages suggest the presence of contamination. Theoretically, the maximum percentage of Ti observable in surface analysis is about 33%, since on the surface it is present the titanium oxide TiO2. The inevitable presence of C, previously described, further lowers this theoretical limit. On the basis of the experience concerning the surface analysis of implants and literature data, the maximum observable concentration of Ti by XPS is 14-19%. A percentage of Ti higher than 10% can be considered satisfactory.



### BETA E GAMMA IMPLANT SYSTEM

BETA and GAMMA line offers a wide range of implants: internal hexagon with a narrow or wide thread. We provide a complete line of prosthetic components and surgical instruments which allow to offer several alternatives to the different clinical situations, in order to ensure the correct treatment of rehabilitation. All Beta and Gamma products are **marked CE** and comply with the European Directive concerning medical surgical devices.

#### BETA AND GAMMA PACKAGING

Implants are placed in a titanium cylinder that preserves the sterility and allows to transfer the implant, from the packaging to the implant site, without manipulation or contamination. Sterility is further guaranteed by a double barrier packaging composed of a glass bottle and a blister. Everything is then packed in a box with the instructions for use and the labels with the specifications of the implant, which will be applied on the implant "passport" for the patient.



All products of the Beta / Gamma implant line are marked with a specific colour according to the corresponding diameter or type of Platform, as

All the implants are equipped with mounter, which can be used as a transfer and abutment

shown in the table on the right.



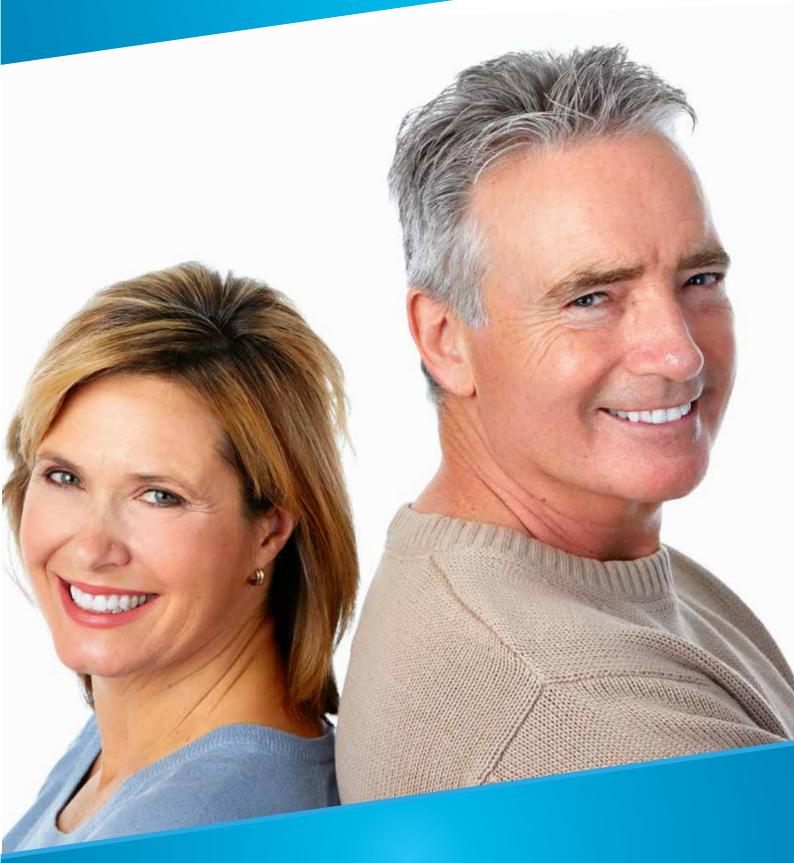
**COLOUR** 

**PLATFORM** 

3,5 mm

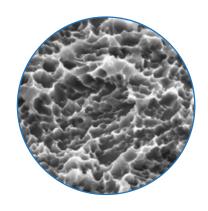
4,0 / mm





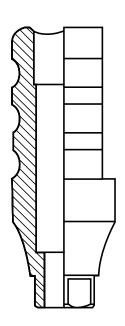
**IMPLANTS** 

### **BETA IMPLANT SYSTEM**

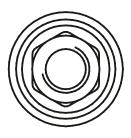


#### **OPTIMAL OSTEOINTEGRATION**

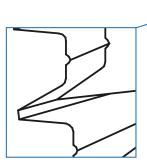
The Beta implant with its exclusive bioactive surface, maintains high primary stability during healing and thanks to its rapid bone formation guarantees long-term success.



The Beta system includes an assembled Mounter that, thanks to its particular conformation, can also be used as a Transfer and temporary prosthetic pillar.



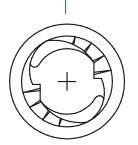
Perfect conical seal (24°) with hexagonal connection block for uniform load distribution and high mechanical strength.



The Beta system's particular coil for high primary stability under difficult conditions such as soft bone and post-extractive implants.

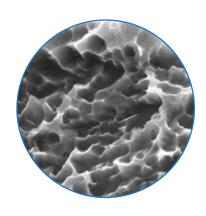


This particular micro topography allows the surface to behave like a "sponge", interacting strongly with the clot and stimulating bone regeneration. From these images it is possible to highlight the absence of contaminants or foreign accumulation.



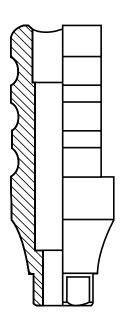
Self-tapping apex that allows reduced osteotomy.

### **GAMMA IMPLANT SYSTEM**

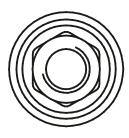


#### **OPTIMAL OSTEOINTEGRATION**

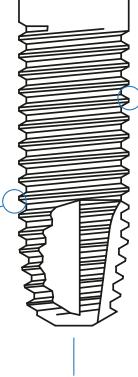
The Gamma implant with its exclusive bioactive surface, maintains high primary stability during healing and thanks to its rapid bone formation guarantees long-term success.



The Gamma system includes an assembled Mounter that, thanks to its particular conformation, can also be used as a Transfer and temporary prosthetic pillar.

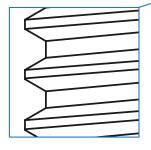


Perfect conical seal (24°) with hexagonal connection block for uniform load distribution and high mechanical strength.

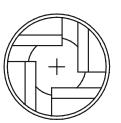


This particular r

This particular micro topography allows the surface to behave like a "sponge", interacting strongly with the clot and stimulating bone regeneration. From these images it is possible to highlight the absence of contaminants or foreign accumulation.



The particular coil of the Gamma System, facilitates screwing progression and limits trauma to the bone.



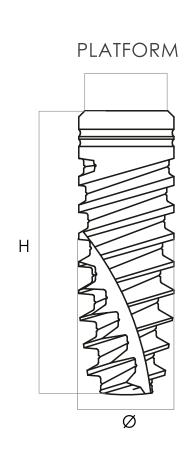
#### SELF-TAPPING APEX

To achieve excellent primary stability in difficult situations such as soft bone or post-extractive alveoli.

Reduced apical compression, great cutting and advancing capacity.

### BETA WIDE THREAD

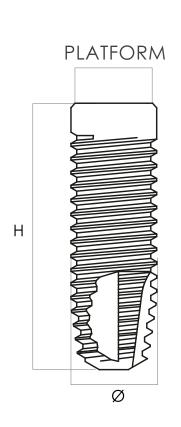
Implant made in Istanium Gr. 4. with an exceptional versatility: tive diameters and multiple lengths are available to satisfy all needs of rehabilitation. This implant is particularly suitable in situation of low bone density. The wide thread allows to obtain a high primary stability, even in situations of D3 /D4 bone tissue type. The cover screw and the abutment made of titanium are included in every implant.



	DIAMETER	PLATFORM	H (mm)	CODE
	3.30 mm	■ 3.5 mm	10 11,5 13	WK3310-SPI WK3311-SPI WK3313-SPI
	3.75 mm	■ 3.5 mm	8.5 10 11.5 13 15	WK3708-SPI WK3710-SPI WK3711-SPI WK3713-SPI WK3715-SPI WK3718-SPI
O THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TO THE PERSON NAMED IN COLUMN	4.25 mm	□ 4.0 mm	7 8.5 10 11.5 13	WK4207-MPI WK4208-MPI WK4210-MPI WK4211-MPI WK4213-MPI WK4215-MPI
	5.0 mm	□ 4.0 mm	6 7 8,5 10 11,5	WK5006-MPI WK5007-MPI WK5008-MPI WK5010-MPI WK5011-MPI WK5013-MPI
	5.5 mm	□ 4.0 mm	6 8.5 10	WK5506-MPI WK5507-MPI WK5508-MPI

### GAMMA NARROW THREAD

Implant made of Titanium Gr. 4 with an exceptional versatility: five diameters and multiple lengths are available to satisfy all needs of rehabilitation. Implant particularly suitable for the lower jaw. It can be used for the treatment of all indications where the volume of available bone is appropriate for an implant. The cover screw and the abutment made of titanium are included in every implant.



DIAMETER	PLATFORM	H (mm)	CODE
3.30 mm	■ 3.5	10 11,5 13	W3310-SPI W3311-SPI W3313-SPI
3.75 mm	■ 3.5 mm	8.5 10 11.5 13 15	W3708-SPI W3710-SPI W3711-SPI W3713-SPI W3715-SPI W3718-SPI
4.25 mm	□ 4.0 mm	7 8.5 10 11.5 13	W4207-MPI W4208-MPI W4210-MPI W4211-MPI W4213-MPI W4215-MPI
5.0 mm	□ 4.0 mm	6 7 8,5 10 11,5	W5006-MPI W5007-MPI W5008-MPI W5010-MPI W5011-MPI W5013-MPI
5.5 mm	□ 4.0 mm	6 8.5 10	W5506-MPI W5507-MPI W5508-MPI







SCREWED TECNIQUE

### STRAIGHT MUA ABUTMENT

Made of Titanium Gr. 5

Plastic device (ALPORT) pre-assembled Indicated for the anterior region.



PLATFORM	H (mm)	SCREW CODE	COMPATIBLE WITH
■ 3.5 mm	1,5	W-UMD1-SPI	BETA
	2	W-UMD2-SPI	and
	3	W-UMD3-SPI	GAMMA
■ 4.0 mm	1,5	W-UMD1-MPI	BETA
	2	W-UMD2-MPI	and
	3	W-UMD3-MPI	GAMMA

### ANGLED MUA ABUTMENT 17°

Made of Titanium Gr. 5

Titanium cover screw included

Positioning device in steel (MAAST) pre-assembled Indicated for the anterior region.





PLATFORM	ANGULATION	H (mm)	CODE	COMPATIBLE WITH
■ 3.5 mm	17°	2	W-UMA172-SPI	BETA and
		3	W-UMA173-SPI	GAMMA
4.0 mm	1 <i>7</i> °	2	W-UMA172-MPI	BETA and
4.0111111	17	3	W-UMA173-MPI	GAMMA

### ANGLED MUA ABUTMENT 30°

Made of Titanium Gr. 5

Titanium cover screw included

Positioning device in steel (MAAST) pre-assembled Indicated for the posterior region.





PLATFORM	ANGULATION	H (mm)	CODE	COMPATIBLE WITH
■ 3.5 mm	30°	4 5	W-UMA304-SPI W-UMA305-SPI	BETA and GAMMA
■ 4.0 mm	30°	4 5	W-UMA304-MPI W-UMA305-MPI	BETA and GAMMA

### **SCAN BODY**

PLATFORM	H (mm)	SCREW CODE	COMPATIBLE WITH
■ 3.5 mm		W-SCAN-SPI	BETA and GAMMA
■ 4.0 mm		W-SCAN-MPI	BETA and GAMMA

### **IMPLANT ANALOG**

Made of Titanium Gr. 5

It reproduces the connection of the implant. Used for the preparation of models in laboratory



PLATFORM	H (mm)	CODE
■ 3.5 mm	14	W-AN-SPI
☐ 4.0 mm	14	W-AN-MPI

### HEALING ABUTMENT

Made of Titanium Gr. 5

Indicated for conditioning the soft tissue. It is used for the preparation of the implant site for the insertion of the superstructure. Wide range of heights.



PLATFORM	DIAMETER	H (mm)	CODE
■ 3.5 mm	4.0	3 4 5 7	W-VG30-SPI W-VG40-SPI W-VG50-SPI W-VG70-SPI
■ 4.0 mm	4.5	3 4 5 7	W-VG30-MPI W-VG40-MPI W-VG50-MPI W-VG70-MPI

## IMPRESSION COPING PICK-UP TECHNIQUE

Made of Titanium Gr. 5
Cover screw (21 mm) included

For use with an individual open tray, for a more precise impression.



PLATFORM	H (mm)	CODE	SCREW CODE
■ 3.5 mm	13	W-TR1-SPI W-TR3-SPI	W-VTRI-SPI
■ 4.0 mm	13	W-TR1-MPI W-TR3-MPI	W-VTRI-MPI

## TEMPORARY ABUTMENT

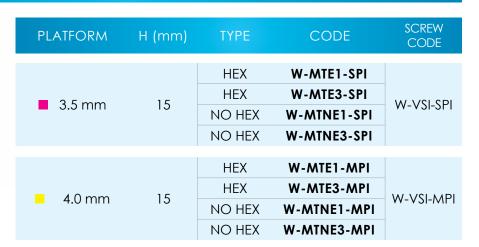
Made of Titanium Gr. 5

Titanium cover screw included

Available non-rotating (HEX) and rotating (NO HEX)

Suitable for temporary prostheses with immediate loading.





## SHOULDERED STRAIGHT TITANIUM ABUTMENT

Made of Titanium Gr. 5

Titanium cover screw included

Used for cemented prostheses, single crowns or bridges.

The shoulder determines the closure of the crown margin. Millable according to the prosthetic needs.



PLATFORM	H (mm)	CODE	SCREW CODE
■ 3.5 mm	10	W-MD1-SPI W-MD3-SPI	W-VSI-SPI
■ 4.0 mm	10	W-MD1-MPI W-MD3-MPI	W-VSI-MPI

### STANDARD STRAIGHT TITANIUM ABUTMENT

Made of Titanium Gr. 5

Titanium cover screw included

Used for cemented prostheses, single crowns or bridges.

Millable according to the prosthetic needs.



PLATFORM	H (mm)	CODE	SCREW CODE
■ 3.5 mm	10	W-MDS1-SPI W-MDS3-SPI	W-VSI-SPI
4.0 mm	10	W-MDS1-MPI W-MDS3-MPI	W-VSI-MPI

### ANGLED ABUTMENT

Made titanium Gr. 5

Titanium cover screw include

Suitable for the correction of disparallelism.



PLATFORM	H (mm)	ANGULATION	CODE	SCREW CODE	
		1.50	W-MA151-SPI		
2.5	10	15°	W-MA153-SPI		
■ 3.5 mm	10	25°	W-MA251-SPI	W-VSI-SPI	
			W-MA253-SPI		
	4.0 mm 10 25°	15°	1.50	W-MA151-MPI	
4.0 , ,,,,,,,,			W-MA153-MPI	\A/ \/C  \ADI	
4.0 mm		25°	W-MA251-MPI	W-VSI-MPI	
			25°	W-MA253-MPI	

### PEEK ABUTMENT

Made of PEE

Titanium cover screw included

The Perfect combination of flexibility and resistance. Peek is a highly biocompatible and self-lubricating polymer. This material presents a low conductivity and a high chemical resistance. Its natural colour allows highly aesthetic outcomes. Millable according to the prosthetic needs.



PLATFORM	H (mm)	CODE	SCREW CODE
■ 3.5 mm	10	W-MTP1-SPI W-MTP3-SPI	W-VSI-SPI
■ 4.0 mm	10	W-MTP1-MPI W-MTP3-MPI	W-VSI-MPI

### **CASTABLE ABUTMENT**

Made of PMMA

Titanium cover screw included

Available non-rotating (HEX) and rotating (NO HEX)

Millable and meltable according to the prosthetic needs.



PLATFORM	H (mm)	TYPE	CODE	SCREW CODE
■ 3.5 mm	13	HEX HEX	W-MGE1-SPI W-MGE3-SPI	W-VSI-SPI
■ 4.0 mm	13	HEX HEX	W-MGE1-MPI W-MGE3-MPI	W-VSI-MPI

## BALL ABUTMENT FOR OVERDENTURE

Made of Titanium Gr. 5
TiN covering on the ball
Suitable for everdentures

For use with a steel container and a hylon can



PLATFORM	DIAMETER Ø SPHERE (mm)	H (mm)	CODE
		1	W-MS01-SPI
		2	W-MS02-SPI
■ 3.5 mm	2.5	3	W-MS03-SPI
		4	W-MS04-SPI
■ 4.0 mm	2.5	1	W-MS01-MPI
		2	W-MS02-MPI
		3	W-MS03-MPI
		4	W-MS04-MPI



## CONTRA-ANGLE SCREWDRIVER (INTERNAL HEXAGON)

Made of steel

It allows to pick up the implant directly from its packaging and to place it without manipulations.



PLATFORM	TYPE	CODE
■ 3.5 mm	23 mm 28 mm	W-CAC-I-SPI W-CAM-I-SPI
■ 4.0 mm	23 mm 28 mm	W-CATC-I-MPI W-CATM-I-MPI

## TORX SCREWDRIVER FOR CONTRA-ANGLE

Made of steel

Universal screwdriver for all prosthetic screws, ball abutments or healing abutments



LENGTH	TYPE	CODE
25 mm	Torx	CATXC
30 mm	Torx	CATXM

## RATCHET SCREWDRIVER (INTERNAL HEXAGON)

Made of stee

It is indicated to proceed with the implant screwing with the ratchet.



PLATFORM	TYPE	CODE
■ 3.5 mm	18 mm 23 mm	W-CRC-I-SPI W-CRM-I-SPI
■ 4.0 mm	18 mm 23 mm	W-CRTC-I-MPI W-CRTM-I-MPI

## TORX SCREWDRIVER FOR RATCHET

Made of stee

Universal screwdriver for all prosthetic screws, ball abutments or healing



LENGTH	TYPE	CODE
25 mm	Torx	CRTXC
30 mm	Torx	CRTXM

## MANUAL TORX SCREWDRIVER

Made of stee

Universal screwdriver for all prosthetic screws, ball abutments or healing abutments.



LENGTH	TYPE	CODE
21 mm	Torx	DRTXC
25 mm	Torx	DRTXM

### **DRILL EXTENSION**

Made of stee



LENGTH	CODE
25 mm	PFR

#### **RATCHET**

Made of steel

To use in combination with the connectors "CR" with 3.5 mm hexagonal connection.



LENGTH	CODE
80 mm	CRCH
80 mm	CRCHT

CRCHT torque wrench

### **DIGITAL KEY**

For manual screwing, in combination with the connectors "CR" whit 3.5 mm hexagonal connection



LENGTH	CODE
10 mm	CRCHM

### PARALLELISM PIN

Made of titanium Gr

Indicated to verify the parallelism of the site prepared during drilling.



DIAMETER	LENGTH	CODE
2.0 / 3.0	27 mm	PPL

### **TWEEZERS**

#### Made of titanium Gr. 4



LENGTH	CODE
100 mm	PZT

### **SURGICAL PROBE**

Made of titanium Gr. 4



LENGTH	CODE
85 mm	SCH
85 mm	SCHP

SCHP  $\emptyset$  3,0 without sphere on the terminal



SURGICAL COMPONENTS

PRECISION DRILL

Made of stainless steel

Used as a pilot drill for the incision of the cortical bone during the initial phase of drilling



DIAMETER	LENGTH	CODE
1.5	30	FRLI

**DRILL** 

Made of stainless steel

DLC coating on the surface

Depth marks to facilitate the surgical procedure



DIAMETER	H (mm)	CODE
2.0	32 37	FR20C FR20L
2.6	32 37	FR26C FR26L
3.0	32 37	FR30C FR30L
3.2	32 37	FR32C FR32L
3.4	32 37	FR34C FR34L
3.8	32 37	FR38C FR38L
4.2	32 37	FR42C FR42L
4.5	32	FR45C
4.8	32	FR48C

Made of stainless steel

DIAMETER

Predetermined length that ensures the drilling at the chosen depth

CODE

2,0	6 8.5 10 11.5 13 15	FR2006G FR2008G FR2010G FR2011G FR2013G FR2015G FR2018G	3,2
2,3	6 8.5 10 11.5 13 15	FR2306G FR2308G FR2310G FR2311G FR2313G FR2315G FR2318G	3,4
2,6	6 8.5 10 11.5 13 15	FR2606G FR2608G FR2610G FR2611G FR2613G FR2615G FR2618G	3,8
3,0	6 8.5 10 11.5 13	FR3006G FR3008G FR3010G FR3011G FR3013G FR3015G	4,2

	DIAMETER	H (mm)	CODE
		6	FR3206G
		8.5	FR3208G
		10	FR3210G
	3,2	11.5	FR3211G
		13	FR3213G
		15	FR3215G
		18	FR3218G
		6	FR3406G
		8.5	FR3408G
		10	FR3410G
	3,4	11.5	FR3411G
		13	FR3413G
		15	FR3415G
		18	FR3418G
		6	FR3806G
		8.5	FR3808G
	2.2	10	FR3810G
	3,8	11.5	FR3811G
		13	FR3813G
		15	FR3815G
		18	FR3818G
		6	FR4206G
		8.5	FR4208G
	4,2	10	FR4210G
		11.5	FR4211G
		13	FR4213G
		15	FR4215G
		18	FR4218G



FR3018G

18

### **SURGICAL KIT**

Beta and Gamma surgical kits are designed to contain and make immediately available, under sterile conditions, all the components for the surgical intervention.

- One kit for all Beta and Gamma implants;
- A simple tray, smart and practical;
- Faster and well organized work thanks to an intuitive colour-code;
- Wide range of placement of the surgical tray for an extra comfort;
- The kit is modular and customizable according to the specific needs and preferences.



### **USE OF SURGICAL TRAY**

### Cleaning

- Remove all the pieces contained in the kit and dismantle those composed;
- Leave the pieces immersed for 15 minutes in a detergent solution;
- Wash the pieces with ultrasound for 15 minutes using an enzymatic detergent with neutral ph diluted in water (according to product instructions);
- 4. Rinse with water for 3 minutes.



### **Sterilization**

Dentists usually use sterilization with autoclave. Users must follow the instructions and the specific cycles recommended for the autoclave used.

The operating cycles that are generally used are:

- 121°C x 20 min. at 1 atm + drying
- 134°C x 3,5 min. at 2 atm + drying

#### **INSTRUCTIONS FOR USE AND MAINTENANCE:**

The kits are supplied in conditions of NON sterility, the user has therefore to arrange for the sterilization before use. Dry the kits with a soft cloth. Do not use abrasive sponges or metal parts which may damage the surface. Before sterilization is necessary to ensure that all the parts have been cleaned from the residual contaminants. The material may change its colour tone when exposed to UV rays for long periods. Keep the kit far from lights when not in use. The materials used can withstand a high number of sterilization cycles. It is recommended not to exceed the maximum values of tolerance estimated, which are: Maximum time: 20 min - maximum temperature 135 ° C and maximum pressure: 2.2 bar.



## EFFEEMME MEDICAL SOLUTIONS ST

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