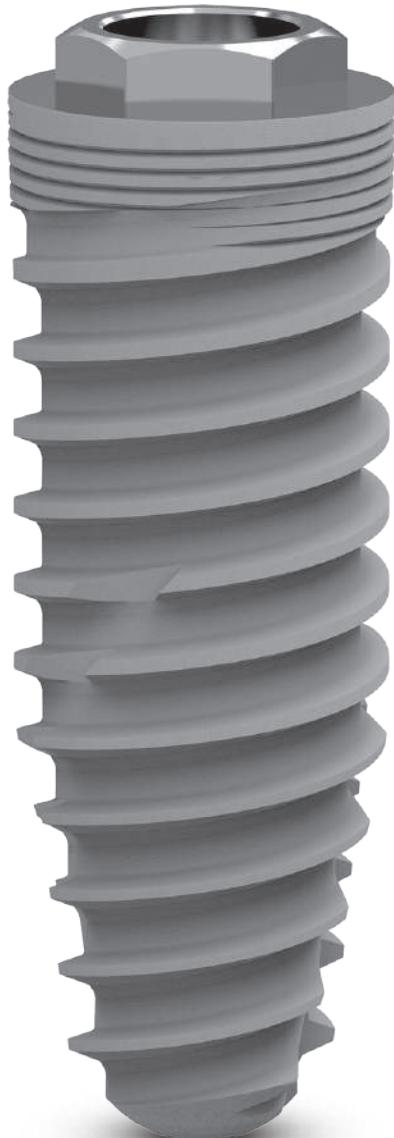


# ZM1

Conical implants with external hex connection





# ZM1

Conical implants with external hex connection







# Important information

Please read carefully before using Ziacom® products

## General information

This document contains basic information on the use of original Ziacom® dental implant systems, hereafter referred to as "Ziacom® dental implants" or simply "Ziacom® products". This document has been created as a quick guide for clinicians responsible for treatment, hereafter the "user", and therefore, is neither an alternative nor a substitute for specialised training or professional clinical experience.

Ziacom® products must be used according to a suitable treatment plan and in strict compliance with the manufacturer's surgical and prosthetic protocols. Carefully read the product-specific surgical and prosthetic protocols and the instructions for use and maintenance before using any Ziacom® product. You can find this information on our website, [www.ziacom.com](http://www.ziacom.com), or request it from your nearest authorised Ziacom® distributor.

## Liability, safety and warranty

The instructions for the use and handling of Ziacom® products are based on internationally published literature, current clinical standards and our clinical experience so they should be understood as general guidance. The handling and use of Ziacom® products is the sole responsibility of the user as it is outside the control of Ziacom Implants SLU. Ziacom Implants SLU, its subsidiaries and/or its authorised distributors disclaim all responsibility, whether explicit or implicit, total or partial, for possible damage or injury caused by poor handling of the product or any other situation not considered in their protocols and manuals for the correct use of their products.

The user must ensure that the Ziacom® product is appropriate for the intended procedure and end purpose. Neither these instructions for use nor the work or handling protocols for the products release the user from this obligation. Ziacom® products must be used, handled and applied by clinicians with the appropriate training and qualifications required according to current legislation in each country.

The total or partial use, handling and/or application of Ziacom® products at any stage of their implementation by personnel who are unqualified or lack the necessary training will automatically void any type of warranty and may cause severe damage to the patient's health.

Ziacom® products are part of their own system, with their own design characteristics and work protocols, including dental implants, abutments or prosthetic components and surgical or prosthetic instruments. The use of Ziacom® products in combination with elements or components from other manufacturers could result in treatment failure, damage to tissues or bone structures, inadequate aesthetic outcomes and severe damage to the patient's health. Therefore, only original Ziacom® products should be used.

The clinician in charge of the treatment is solely responsible for ensuring the use of original Ziacom® products and that they are used according to the corresponding instructions for use and handling protocols throughout the implant procedure. The use of any other non-original Ziacom® components, instruments or products, whether alone or in combination with any original Ziacom® products, will immediately void the warranty of the original Ziacom® products.

See the Ziacom Implants SLU Warranty Programme (available on the website or by contacting Ziacom Implants SLU, its subsidiaries or authorised distributors).

**Warning.** Not all Ziacom® products are available in all countries. Check availability in your country.

The Ziacom® brand and the names of other products and services, including their logos, that are mentioned in this document or on the website [www.ziacom.com](http://www.ziacom.com) are registered trademarks of Ziacom Medical Group SL.

Ziacom Implants SLU reserves the right to modify, change, remove or update any of the products, prices or technical specifications referenced on this website or in any of its documents without prior notification. All rights reserved. The reproduction of this document, whole or in part and in any medium or format, without the corresponding written authorisation from Ziacom Implants SLU is prohibited.



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# The Company

## Together for health

Ziacom® has been working for more than 20 years to improve the **oral health** and well-being of patients around the world by **designing and manufacturing innovative**, high-quality dental implant, prosthetic component, surgical instrument and biomaterial solutions.

The company was founded in 2004 with **100% Spanish capital** and began its activity as a manufacturer of dental implants and attachments for several European companies before later launching its own **brand of implant systems** in 2006.

## Ziacom® quality

Commitment to **quality and innovation** has been part of the values and the essence of Ziacom® since the beginning.

That is why we use state-of-the-art technology in **every stage of our products' production cycle**, from **design and manufacture** to **quality assurance, cleaning and packaging**. All of our products are also manufactured using only **high-quality raw materials** after applying **strict controls** to select our main suppliers.

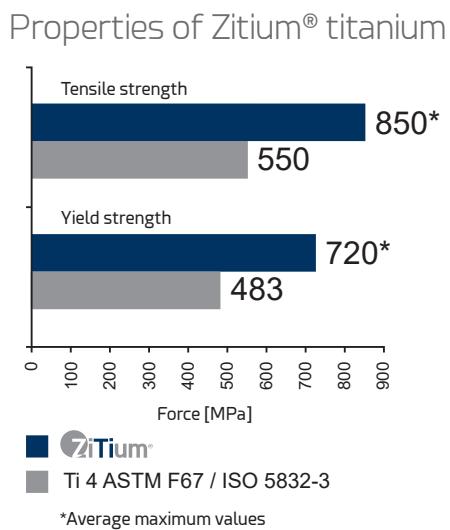
Ziacom Implants SLU is a **licensed manufacturer of medical devices** and an **AEMPS (Spanish Agency of Medicines and Medical Devices)** 6425-PS marketing authorisation holder. Our **quality management**

In 2015, Ziacom® introduced its **diversification strategy** with the development of **new business lines** and new product lines and the launch of a **new portfolio**, which helped the company achieve a **15% share of the Spanish market** in 2016 with the sale of more than 230.000 implants.

In 2022, the company began an **ambitious growth plan** with new goals of **international expansion**, broadening and **diversification** of its portfolio of **products and services** and a change in corporate identity.

## Zitium® titanium

Ziacom® **ZM1** implants are made from extra-high-strength grade 4 **Zitium®** titanium, which bestows them with **substantially improved elastic limit and mechanical properties**.



**system is certified** in accordance with the requirements of ISO standards 9001:2015 and 13485:2018, and is also GMP 21 CFR 820 compliant.



Thanks to our ceaseless endeavours to offer our clients unsurpassable quality, all our implants have a **lifetime guarantee**.

See the General Conditions for Accessing the Warranty for Ziacom® products.

With **Zitium®** our implants meet the requirements of standards ASTM F67 and ISO 5832-3, and are certified in accordance with EU Regulation 2017/745, attaining the corresponding CE marking from notified body 0051.



**FDA Approved\***

\*See approved models

Ziacom® dental implants are all sterilised using beta-ray radiation at 25 kGy, apart from the DSQ orthodontic implants, which are supplied **non-sterile**.

### IMPORTANT

All the products (except dental implants) listed in this Ziacom® catalogue are supplied non-sterile and must be sterilised before use.



## Investment in innovation and training

In order to always offer the very best solutions for the **well-being of every patient**, and thanks to the experience and dedication of our **highly-qualified professionals** and **innovative Technological Centre**, our R&D&I team works incessantly in the field of **research and innovation** to **improve** our products and develop **new solutions** to meet the demands and needs of both patients and dentists.

We also invest in **research** and **ongoing training** as a way of providing **scientific support to the sector** and we firmly believe in training **young professionals** to best ensure **advances in the dentistry field**.

We therefore work closely with **training centres, universities and scientific bodies** to create a practical and specialised teaching

environment to promote and strengthen their knowledge, abilities and professional growth.

In order to enhance our investment in the training and **development of dental professionals**, we have **specific areas at our facilities for hands-on training and practicals, state-of-the-art** training equipment and also a **physical and virtual showroom** where professionals can see all our dental solutions first hand.

## Ziacom® across the globe

We are committed to making oral health available to patients all over the world and have a solid **internal growth and expansion plan** to increase the company's **international presence** in those **areas where our products are already well-established** and to **expand into new areas**.

As part of our commitment to meet the specific **quality, regulatory and legal requirements of each country**, for both the registration and distribution of our products, we have **specific certifications** from each of the countries in which we trade.

In order to achieve this, we offer our **international associates** a **trusting and collaborative** partnership by adapting to their **local needs** and providing solutions that are specific to each market.

### Regional headquarters

### Ziacom Implants

Madrid - SPAIN

Calle Búhos, 2 - 28320 Pinto

 +34 91 723 33 06

### Subsidiaries

#### Ziacom Lusobionic

Av. Miguel Bombarda, 36 - 5º B  
1050 -165 - Lisbon - PORTUGAL  
 +351 215 850 209

#### Ziacom Medical USA LLC

Miami - USA  
333 S.E 2nd Avenue, Suite 2000  
Miami, FL 33131 - USA  
 +1(786) 224 - 0089

#### Ziacom ITS

Viale del Lavoro, 14  
35010 Vigonza  
Padova - ITALY  
 +39 049 603310

#### Ziacom Safe implant

Av. Iñaquito, Edificio Metropolitan,  
Oficina 304  
170507, Quito - ECUADOR  
 +593 96 368 0879

Please see the up-to-date list of Ziacom® distributors at [www.ziacom.com](http://www.ziacom.com) or email us at [export@ziacom.com](mailto:export@ziacom.com)

ΣΜΤ

# ZM1 | Z

Conical implants with external hex connection



# ZM1 implant

## Characteristics

### CONNECTION

- External hex connection: simple and versatile.
- Screw channel with upper guide: facilitates screw insertion.

### CORTICAL ZONE

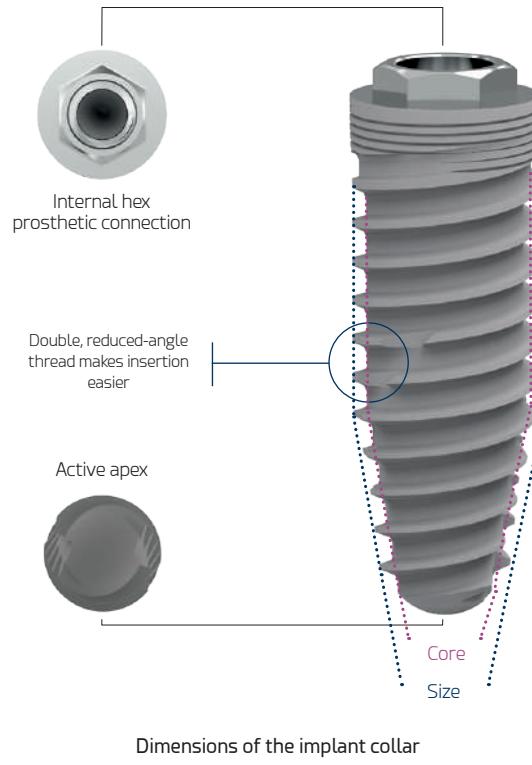
- Microthread design: preserves marginal bone.
- Microthread extension: improves load distribution.
- Macrodesign: optimal cortical compression.

### BODY

- Reduced-angle active threads: improve stability during insertion and increase BIC (bone-to-implant contact).
- Double threaded: quick insertion and shorter surgical time.
- Self-tapping active apex: facilitates insertion with underdrilling.
- Transverse apical windows: collect remnants of bone during insertion.
- Optimised morphology: high primary stability.
- Atraumatic apex: no damage to anatomical structures.

### CONICAL DESIGN

- Facilitates shaping in low density bone.
- Indicated for immediate loading.
- Indicated for cases of apical convergence and/or collapse.



## Advantages

- The external connection has been used for many years by implantologists, with an acceptable degree of confidence.
- Having been on the market for many years, there is a large number of studies to back up its efficacy.
- It is a good option when there is some divergence between implants.
- Suitable for multi-unit restorations.
- Very easy to restore.
- It has a wide range of options for restoration.

## Diameters and lengths

		LENGTH (L)							
Ø DIAMETER	Ø PLATFORM	6	7	8.5	10	11.5	13	14.5	
■ NP 3.30	3.30								
■ RP 3.60									
■ RP 4.00	4.10								
■ RP 4.40									
■ WP 4.80	5.00								

Dimensions in mm.

# ZM1 implant

## Surface treatments

### ■ **Titansure surface**

Implants inserted following surface treatment are known to benefit from improved osseointegration by increasing the bone-to-implant contact area. This is partly due to the implant's chemical composition and topographical characteristics.

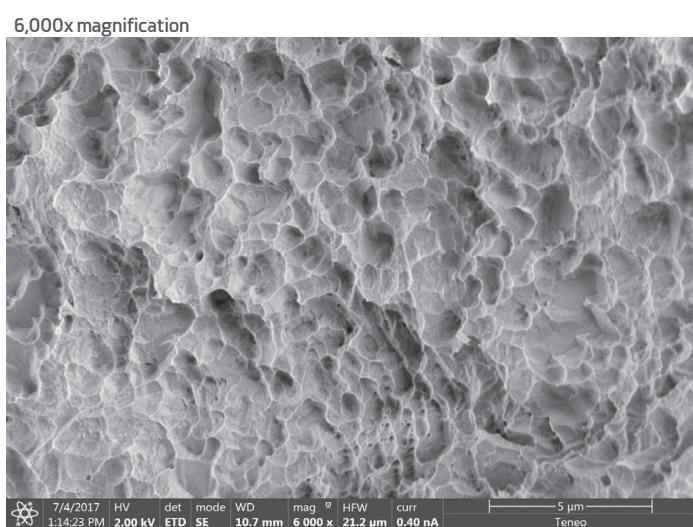
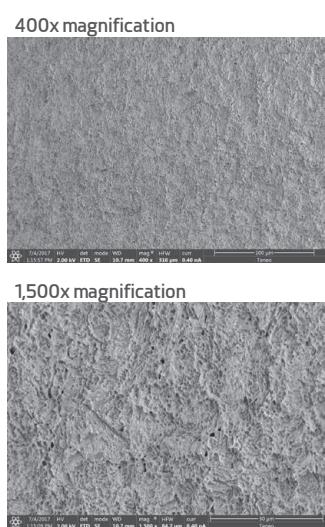
With its **Titansure** surface treatment, Ziacom® achieves contaminant-free surface topography and optimal average macro and microporosity values, which are key specifications for achieving prompt and proper osseointegration and, in turn, extremely reliable and predictable implants.

### ■ ANALYSIS OF THE TITANSURE SURFACE TREATMENT

**Titansure** is an SLA surface treatment created through a subtraction process involving sandblasting with white aluminium oxide and double acid-etching with hydrofluoric acid and a sulphuric/phosphoric acid mix.

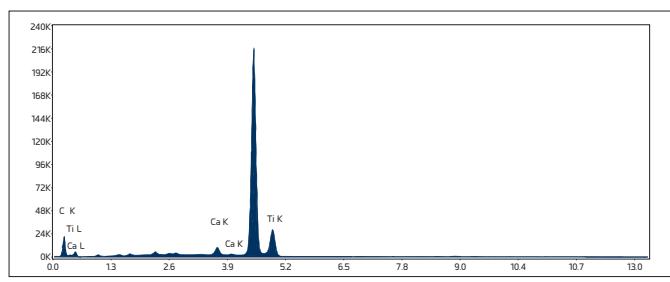
#### Surface morphology analysis

With the aid of a scanning electron microscope (FEI TENEON, Thermo Fisher Scientific Inc., Waltham, MA, USA), we can see the rough, porous surface creating numerous cavities with thin, sharp edges.



#### Surface elemental analysis

We used an energy-dispersive X-ray spectrometer (Octane Super, Edax-Ametek, Mahwah, NJ, USA) to analyse the chemical composition at the surface.



#### Compositional analysis of implant surface

ELEMENT	WEIGHT (%)
C K	9.32 (10.23)
AL K	-
Ti K	89.53 (11.77)

No aluminium was detected

Results are expressed as the mean and standard deviation of the mass percentage (WEIGHT (%)).

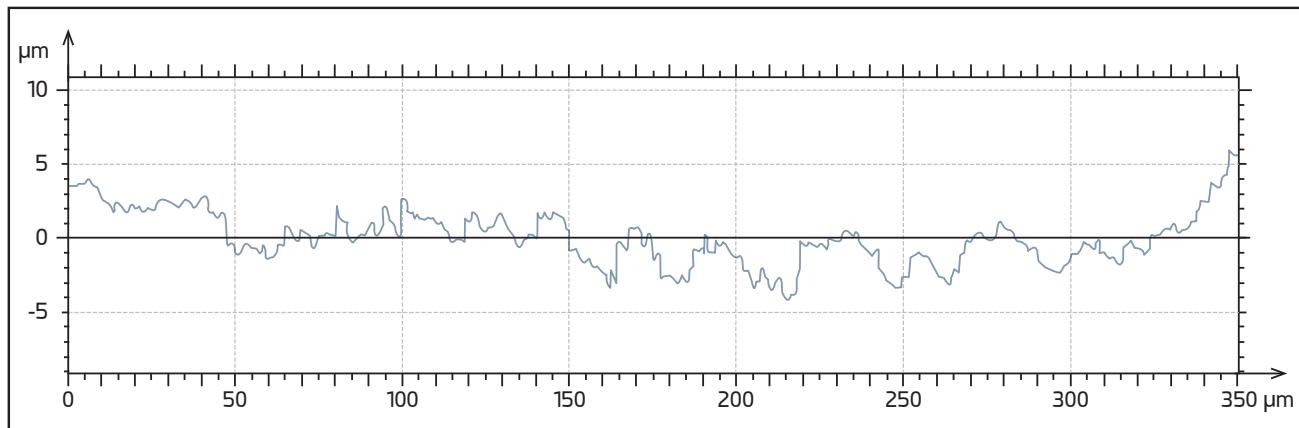
### Surface roughness analysis

The roughness study was conducted with a Sensofar S NEOX interferometric-confocal microscope (Sensofar Medical, Terrasa, Spain) and SensoMAP Premium 7.4 software. The quantitative roughness profile parameters applied were: average roughness (Ra), root-mean-square roughness (Rq), maximum profile peak height roughness (Rp) and maximum profile valley depth roughness (Rv).

Ra ( $\mu\text{m}$ ) (SD)	Rq ( $\mu\text{m}$ ) (SD)	Rp ( $\mu\text{m}$ ) (SD)	Rv ( $\mu\text{m}$ ) (SD)
0.82 (0.10)	0.97 (0.08)	1.84 (0.04)	2.21 (0.01)

The 3D surface roughness (Sa), 3D root mean square height (Sq), maximum 3D peak height (Sp) and maximum 3D pit depth of the selected area (Sv) were also recorded.

Sa ( $\mu\text{m}$ ) (SD)	Sq ( $\mu\text{m}$ ) (SD)	Sp ( $\mu\text{m}$ ) (SD)	Sv ( $\mu\text{m}$ ) (SD)
0.76 (0.01)	0.97 (0.01)	4.20 (0.12)	4.62 (0.20)



The data were extracted from:

Rizo-Gorrita, M.; Fernandez-Asian, I.; Garcia-de-Frenza, A.; Vazquez-Pachon, C.; Serrera-Figallo, M.; Torres-Lagares, D.; Gutierrez-Perez, J. Influence of Three Dental Implant Surfaces on Cell Viability and Bone Behavior. An In Vitro and a Histometric Study in a Rabbit Model. *Appl. Sci.* 2020, 10(14), 4790

### ■ OPTIMAL OSSEointegration

The **TitanSure** surface has a three-dimensional surface structure with high peaks and broad troughs, which is known to be highly effective at promoting the coagulation cascade and the release of growth factors through platelet activation [Kim, H.; Choi, S.H.; Ryu, J.J.; Koh, S.Y.; Park, J.H.; Lee, I.S. The biocompatibility of SLA-treated titanium implants. *Biomed. Mater.* 2008, 3, 025011].

This type of surface may have an osteogenic effect thanks to its different topographical features at a micrometer and nanometer level, which has a very similar morphology to the osteoclastic bone resorption cavities [Le Guehenne, L.; Goyenvalle, E.; Lopez-Heredia, M.A.; Weiss, P.; Amouriq, Y.; Layrolle, P. Histomorphometric analysis of the osseointegration of four different implant surfaces in the femoral epiphyses of rabbits. *Clin. Oral Implants Res.* 2008, 19, 1103–1110].

For more information on the surface treatment, please see the literature available at [www.ziacom.es/biblioteca](http://www.ziacom.es/biblioteca)



# ZM1 implant

## Product presentation

### ■ Blister packaging

Available for implants with **Titansure** surface. The blisters are heat-sealed and include identification labels for product traceability. There is a flap for easy opening in the surgery while preventing accidental opening.

## Titansure

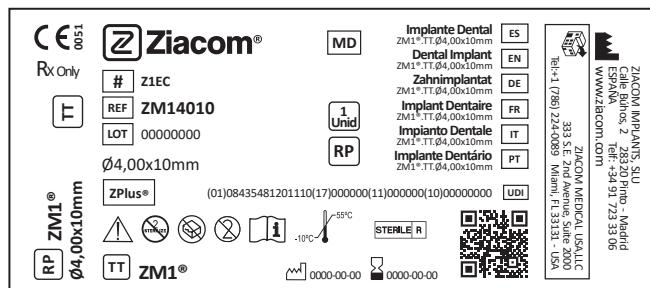


#### IMPORTANT

Do not open the sterile container until just before inserting the implant.

### ■ Outer identification label

Ziacom® implants are supplied in a sealed cardboard box that includes a product identification label with a description of their main characteristics.



#### Description of the symbology used

	CE marking (MDR) and notified body number.
	Medical device symbol.
	Model code.
	Product name.
	Product batch number.
	Unique device identifier.
	Sterilised by radiation.
	Temperature limit.
	Caution, consult attached documentation.
	Do not resterilise.
	Do not use if package is damaged.
	Single-use product.
	Consult instructions for use.
	Product use-by date.
	Date of manufacture.
	Manufacturer.
	Titansure surface treatment.
	Titansure Active surface treatment.
	Prescription only.
	Product distributor.

For full details on the product presentation and instructions for use (IFU), go to [www.ziacomes-ifus](http://www.ziacomes-ifus) or scan the QR code on the box.



## ■ ZPlus Mount

The ZM1 implant includes the **ZPlus** mount, a multi-functional abutment made in grade 5 ELI titanium (medical grade), which allows easy handling of the implant during the surgical procedure and incorporates several usage functions. Additionally, the concept of the **ZPlus** Mount is based on reducing treatment costs, as it works equally well as an implant mount, impression abutment, or abutment for provisional cemented or screwed restorations.

The **ZPlus** Mount is available in the Zinic® SX, Zinic® MTX, ZM4, ZM4 MT and ZM1 ranges.

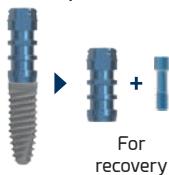
As indicated, the **ZPlus** Mount can be used as a provisional abutment. In such cases, the **ZPlus** should be sculpted extra-orally and adjusted on an analogue – preferably a lab model or clamp. Check also the structural integrity of the mount and screw, to ensure that they have not suffered any deformation or damage due to excessive insertion torque or forced removal manoeuvre. Additionally, verify on an analogue that the **ZPlus** fixing screw is well fitted and that the connection is secure.

### IMPORTANT

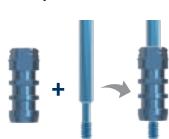
Always follow the surgical protocol when placing the implant. This will protect the mount and screw from possible damage which could prevent it being used later as an impression or provisional abutment. Use each **ZPlus** only with the implant to which it belongs. To avoid mix-ups, keep the **ZPlus** and screw with the patient's ID, listing the corresponding reference and batch number. The **ZPlus** has 3 flat sides. After finishing the implant placement procedure, ensure that one of these faces into the vestibular cavity.

### Uses of the **ZPlus** mount

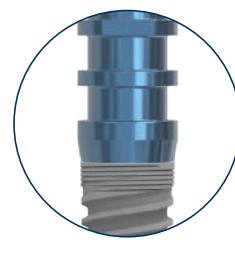
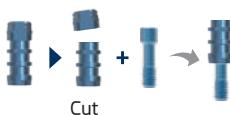
#### As an implant carrier



#### As an impression transfer



#### As a provisional abutment for cemented or screwed restorations



View of implant + Mount

# ZM1 implant

## ZM1 references

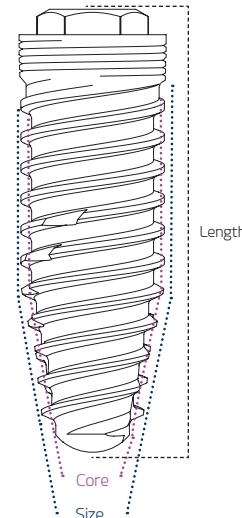
### ■ Specifications of ZM1 with ZPlus - Titansure

IMPLANT			
Ø Size (mm)	Ø Core (mm)	Length (mm)	Ref. Titansure
3.30	2.80/1.70	8.5	ZM13385
		10.0	ZM13310
		115	ZM13311
		13.0	ZM13313
		14.5	ZM13314
3.60	3.10/1.80	8.5	ZM13685
		10.0	ZM13610
		115	ZM13611
		13.0	ZM13613
		14.5	ZM13614
4.00	3.40/2.10	6.0	ZM14006
		7.0	ZM14007
		8.5	ZM14085
		10.0	ZM14010
		115	ZM14011
		13.0	ZM14013
		14.5	ZM14014
4.40	3.80/2.30	6.0	ZM14406
		7.0	ZM14407
		8.5	ZM14485
		10.0	ZM14410
		115	ZM14411
		13.0	ZM14413
		14.5	ZM14414
4.80	4.10/2.40	6.0	ZM14806
		7.0	ZM14807
		8.5	ZM14885
		10.0	ZM14810
		115	ZM14811
		13.0	ZM14813

#### Metric



Metrics 1.80 (NP) and 2.00 (RP/WP).



#### Cover screw\*



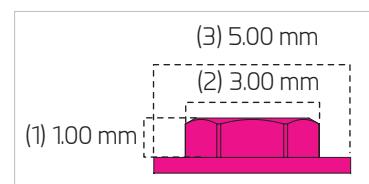
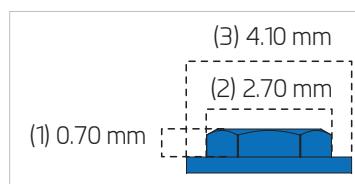
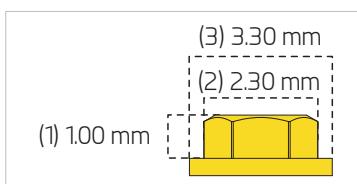
Platf.	Length (L)	Reference
Yellow	4.85	OEXNPT
Dark Blue	4.75	OEXRPT
Pink	4.90	OEXWPT

Anodised ■ NP ■ RP ■ WP



\* Screw included with each implant.

#### Platform



(1) External hex height. (2) Distance between faces of the external hex. (3) Diameter of working platform.

## Recommendations for use

All implant treatments must respect the natural biomechanical stability of the oral cavity and allow the natural emergence of the dental crown through the soft tissue. The implantologist must assess the quantity and quality of bone currently in the implant area and consider the need for prior or simultaneous bone regeneration, as appropriate.

Ziacom® has a wide range of implants available to cover every restoration possibility. The squares on the odontogram shown represent the implant diameters and platforms recommended for each tooth position.

These recommendations are valid for the replacement of teeth with single restorations, bridges, hybrid work or overdentures.

Remember to maintain minimum distances between adjacent implants and between implants and teeth in order to preserve interdental papilla, bone vascularisation and natural emergence profiles.

Selection of the appropriate implant for each case is the sole responsibility of the implantologist. Ziacom® advises all clinicians to take into account the warnings based on scientific evidence which can be found in the product catalogues and our website.

### ■ CLARIFICATIONS ON DRILLING MEASUREMENTS AND TECHNIQUES

- **IMPLANT SIZE:** identifies the diameter and length of the implant.
- **IMPLANT BODY:** diameter of the implant core.
- **DRILL SIZE:** diameter and length of the drill bit.
- **DRILLING TECHNIQUE:** We have developed various drilling protocols as a blueprint for dealing with different situations that arise when performing implant surgery.

For more information on implant size selection, see the literature available at [www.ziacom.com/biblioteca](http://www.ziacom.com/biblioteca)



### Dental chart

**ZM1**

#### Implant diameter<sup>(1)</sup>

■ NP ■ A RP ■ B RP ■ C RP ■ WP

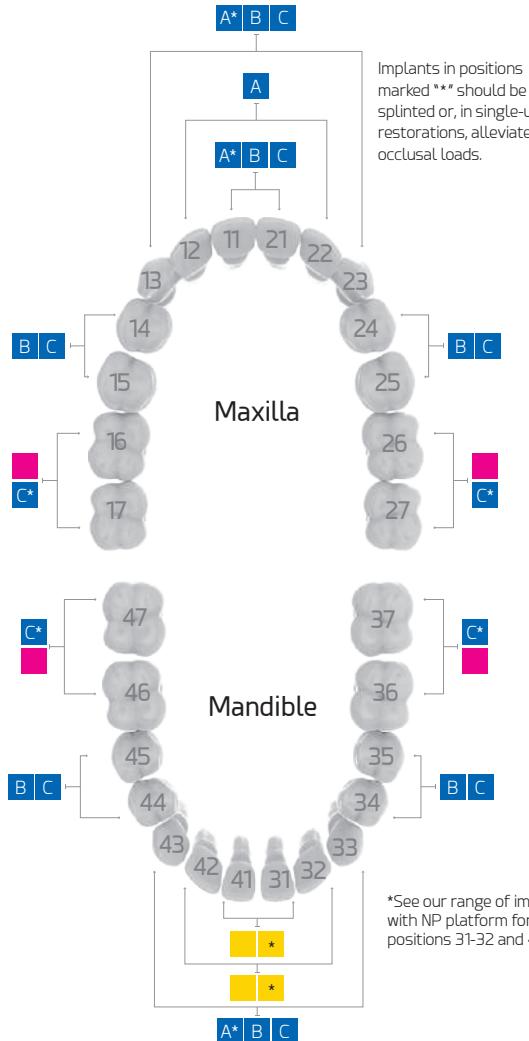
Ø3.30 mm Ø3.60 mm Ø4.00 mm Ø4.40 mm. Ø4.80 mm

(1) Diameters available for analogue platforms.

#### Implant crown diameter

■ NP ■ RP ■ WP

Ø3.30 mm Ø4.10 mm Ø5.00 mm

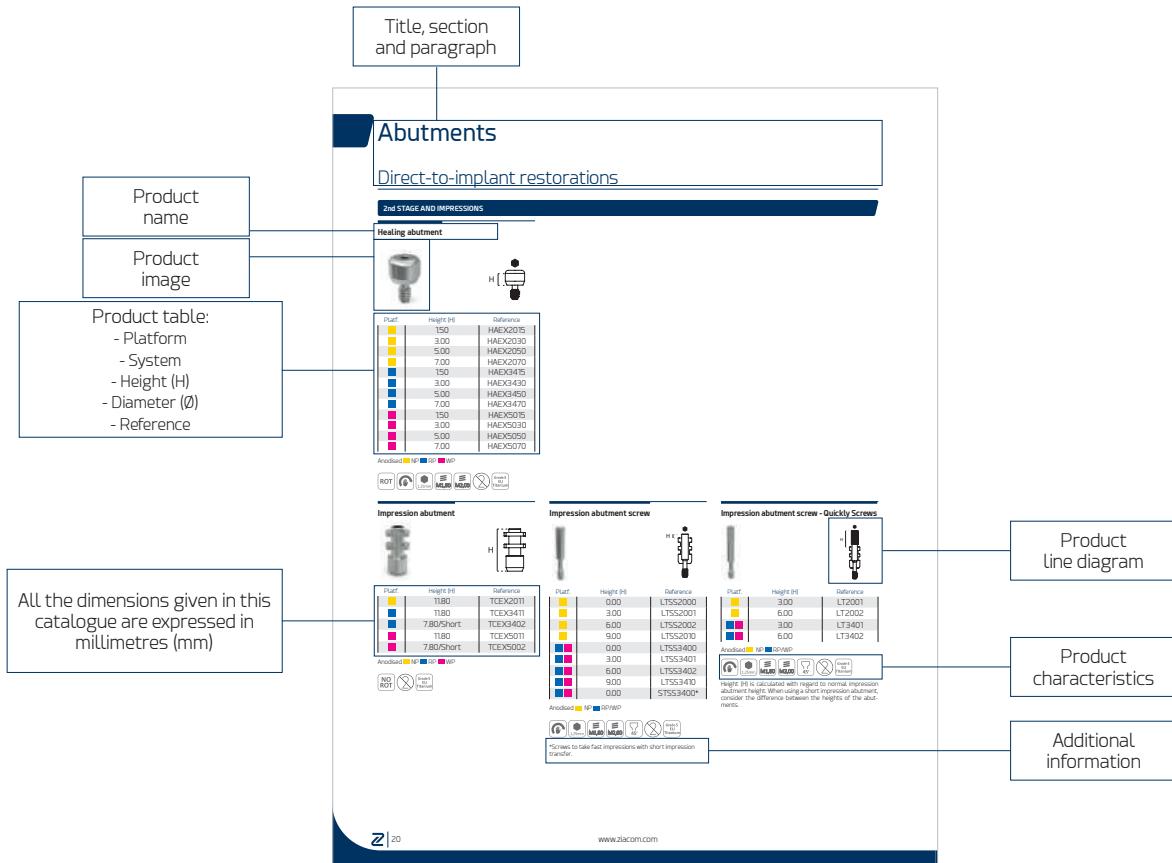


#### IMPORTANT

Short, 6.00 mm and 7.00 mm implants are ONLY recommended for use in combination with normal length splinted implants ( $\geq 10.00$  mm).

# How to use this catalogue

## Product data sheet



## Symbology

Symbol	Meaning	Symbol	Meaning	Symbol	Meaning
	Rotatory element		Tx30 connection		Made from steel
	Non-rotatory element		Size in millimetres		Made from cobalt-chromium + castable plastic
	Use with manual torque (see table on p. 38)		45° screw support		Made from cobalt-chromium
	Maximum operating torque		90° screw support		Made from PEEK
	Ratchet torque range		Use in rotation with a CA		Made from castable plastic
	Galaxy connection		Maximum rotation speed		Made from plastic
	Screw connection		Maximum number of uses		Recommended sterilisation temperature
	Kirator connection		Single-use product		Unsterilised product
	Nature connection		Made from grade 5 ELI (extra-low interstitial) titanium		Use with abundant irrigation
	Basic connection		Made from grade 2 titanium		Maximum angle
	XDrive connection		Made from stainless steel		

# Abutments

## Direct-to-implant reconstructions

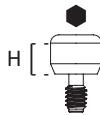


# Abutments

## Direct-to-implant restorations

### 2nd STAGE AND IMPRESSIONS

#### Healing abutment

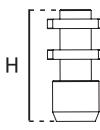


Platf.	Height (H)	Reference
■	1.50	HAEX2015
■	3.00	HAEX2030
■	5.00	HAEX2050
■	7.00	HAEX2070
■■	1.50	HAEX3415
■■	3.00	HAEX3430
■■	5.00	HAEX3450
■■	7.00	HAEX3470
■■■	1.50	HAEX5015
■■■	3.00	HAEX5030
■■■	5.00	HAEX5050
■■■	7.00	HAEX5070

Anodised ■ NP ■ RP ■ WP



#### Impression abutment

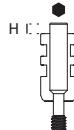


Platf.	Height (H)	Reference
■	11.80	TCEX2011
■■	11.80	TCEX3411
■■■	7.80/Short	TCEX3402
■■■	11.80	TCEX5011
■■■	7.80/Short	TCEX5002

Anodised ■ NP ■ RP ■ WP



#### Impression abutment screw



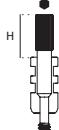
Platf.	Height (H)	Reference
■	0.00	LTSS2000
■■	3.00	LTSS2001
■■■	6.00	LTSS2002
■■■	9.00	LTSS2010
■■■■	0.00	LTSS3400
■■■■	3.00	LTSS3401
■■■■	6.00	LTSS3402
■■■■	9.00	LTSS3410
■■■■	0.00	STSS3400*

Anodised ■ NP ■ RP/WP



\*Screws to take fast impressions with short impression transfer.

#### Impression abutment screw - Quickly Screws



Platf.	Height (H)	Reference
■	3.00	LT2001
■■	6.00	LT2002
■■■	3.00	LT3401
■■■	6.00	LT3402

Anodised ■ NP ■ RP/WP

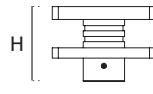


Height (H) is calculated with regard to normal impression abutment height. When using a short impression abutment, consider the difference between the heights of the abutments.

**Pick-up impression abutment**


Platf.	Height (H)	Reference
■	1.60	PUEX2000
■	1.60	PUEX3400
■	1.60	PUEX5000

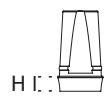
Anodised ■ NP ■ RP ■ WP


**Pick-up impression transfer**


Platf.	Height (H)	Reference
■ ■ ■	7.25	CPU3410

ROT Plastic

Pack of 4 units. DO NOT sterilise in an autoclave. Drillable.

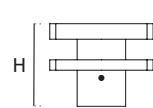
**Z2Plus Snap-On impression abutment**


Platf.	Height (H)	Reference
■	1.50	Z2NPEX10
■	1.50	Z2RPEX10
■	1.50	Z2WPEX10

Anodised ■ NP ■ RP ■ WP


**IMPORTANT**

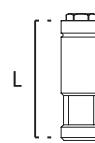
Use the laboratory screw to tighten this impression abutment.

**Z2Plus Snap-On impression transfer**


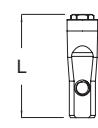
Platf.	Height (H)	Reference
■ ■ ■	8.00	ZPU3400
■ ■ ■	8.00	ZPU5000

NO ROT Plastic

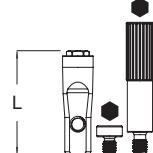
Pack of 4 units. DO NOT sterilise in an autoclave. Drillable.

**Implant analogue**


Platf.	Length (L)	Reference
■	12.00	IAEX2000
■	12.30	IAEX3400
■	12.00	IAEX5000


**3D implant analogue - Individual**


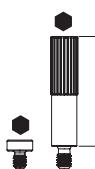
Platf.	Length (L)	Reference
■	13.00	IAEX2008D
■	13.00	IAEX3408D
■	13.00	IAEX5008D


**3D implant analogue - Pack**


Platf.	Length (L)	Reference
■	13.00	IAEX2008DC*
■	13.00	IAEX3408DC*
■	13.00	IAEX5008DC*



\*Includes base screw Ref. DSIADI and lateral screw Ref. DSIADT for analogue connection.

**Screws - 3D analogue**


Type	Length (L)	Reference
Base screw (1)*	-	DSIADI
Lateral screw (2)*	15.00	DSIADT

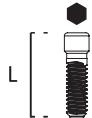


\*Pack of 4 units.

# Abutments

## FIXING ELEMENTS

### Clinical screw



Platf.	Length (L)	Reference
	8.30	DSEI2000
	8.30	DSEI3400

Anodised NP RP/WP



### Kiran clinical screw



#### For ZiaCam Ti-Base or metal structures

Platf.	Length (L)	Reference
	8.30	DSEI2010
	8.30	DSEI3410



Special Kiran screw with surface treatment

### Laboratory screw



Platf.	Length (L)	Reference
	7.40	LB102000
	7.40	LB103400



NOT suitable for use as the final clinical screw.

### Kiran Tx30 clinical screw



#### For ZiaCam Tx30 abutments and Ti-Base

Platf.	Length (L)	Reference
	6.80	DSEI2010TX
	6.80	DSEI3410TX



Special Kiran screw with surface treatment

Use only with Tx30 screwdrivers

## PROVISIONAL

### Provisional abutment



### Rotatory

Platf.	Length (L)	Reference
	9.50	RUEXT2010
	9.50	RUEXT3410
	9.50	RUEXT5010

Anodised NP RP WP



### Non-rotatory

Platf.	Length (L)	Reference
	9.50	NUEXT2010
	9.50	NUEXT3410

Anodised NP RP WP



### Provisional abutment



### Rotatory

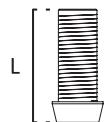
Platf.	Length (L)	Reference
	9.50	RUEXP2010
	9.50	RUEXP3410



### Non-rotatory

Platf.	Length (L)	Reference
	9.50	NUEXP2010
	9.50	NUEXP3410

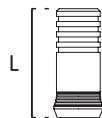


**SCREWED**
**■ UCLA**
**UCLA**

**Rotatory**

Pltf.	Length (L)	Reference
■	11.00	RUEX2000
■	11.00	RUEX3400
■	11.00	RUEX5000


**Non-rotatory**

Pltf.	Length (L)	Reference
■	11.00	NUEX2000
■	11.00	NUEX3400
■	11.00	NUEX5000


**■ MACHINED BASE UCLA**
**Machined base abutment**
**+ Castable abutment**

**Rotatory**

Pltf.	Length (L)	Reference
■	10.60	BRUEX20
■	10.60	BRUEX34
■	10.60	BRUEX50


**Non-rotatory**

Pltf.	Length (L)	Reference
■	10.60	BNUEX20
■	10.60	BNUEX34
■	10.60	BNUEX50


**ZM1**


# Abutments

## SCREWED

### ■ Tx30 VARIABLE ROTATION ABUTMENT

#### Mach. base abutment Tx30

+ 2 castable abutments (15° and 20°)



#### Rotatory

Platf.	15° Length (L)	20° Length (L)	Reference
■	11.40	11.20	BRUEX20TX
■	11.40	11.20	BRUEX34TX
■	11.40	11.20	BRUEX50TX



#### Mach. base abutment Tx30

+ 2 castable abutments (20° and 25°)



#### Rotatory

Platf.	20° Length (L)	25° Length (L)	Reference
■	11.20	11.00	BRUEX20TX1
■	11.20	11.00	BRUEX34TX1
■	11.20	11.00	BRUEX50TX1



#### Non-rotatory

Platf.	15° Length (L)	20° Length (L)	Reference
■	11.40	11.20	BNUEX20TX
■	11.40	11.20	BNUEX34TX
■	11.40	11.20	BNUEX50TX



#### Non-rotatory

Platf.	20° Length (L)	25° Length (L)	Reference
■	11.20	11.00	BNUEX20TX1
■	11.20	11.00	BNUEX34TX1
■	11.20	11.00	BNUEX50TX1

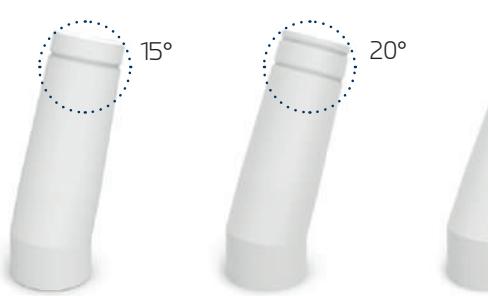


Includes special Kiran Tx30 screw with surface treatment Ref. DSEI2010TX (NP)/DSEI3410TX (RP/WP)  
for all Tx30 Variable Rotation abutments.

### ■ TX30 VARIABLE ROTATION ABUTMENT

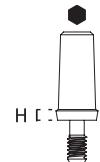
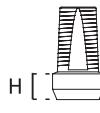
The Tx30 variable rotation abutment comprises a Cr-Co machined base that accepts 15°, 20° or 25° angled castable abutments and a Kiran clinical screw with a special Tx30 connection.

The Cr-Co base ensures a perfect fit and seal with the implant connection and the different angles of the castable abutments can be used to choose the best position for the correct emergence of the restoration screw access channel.



Identifying grooves for the castable angles



**CEMENTED**
**Straight Abutment**

**Straight Abutment**


Platf.	Height (H)	Reference
■	1.50	STAEX2015
■	2.50	STAEX2025
■	3.50	STAEX2035
■	1.50	STAEX3415
■	2.50	STAEX3425
■	3.50	STAEX3435
■	1.50	STAEX5015
■	2.50	STAEX5025
■	3.50	STAEX5035

Anodised ■ NP ■ RP ■ WP



Platf.	Height (H)	Reference
■	1.50	STEX2015
■	2.50	STEX2025
■	3.50	STEX2035
■	1.50	STEX3415
■	2.50	STEX3425
■	3.50	STEX3435
■	1.50	STEX5015
■	2.50	STEX5025
■	3.50	STEX5035

Anodised ■ NP ■ RP ■ WP


**15° angled abutment**

**25° angled abutment**


Platf.	Height (H)	Reference
■	1.50	A1EX2015
■	2.50	A2EX2015
■	1.50	A1EX3415
■	2.50	A2EX3415
■	1.50	A1EX5015
■	2.50	A2EX5015

Anodised ■ NP ■ RP ■ WP



Platf.	Height (H)	Reference
■	1.50	A1EX2025
■	2.50	A2EX2025
■	1.50	A1EX3425
■	2.50	A2EX3425
■	1.50	A1EX5025
■	2.50	A2EX5025

Anodised ■ NP ■ RP ■ WP



# Abutments

## Direct-to-implant restorations

### OVERDENTURES

## Kirator



**Kirator abutment**

Platf.	Height (H)	Reference
Yellow	1.00	LOEX2001
Yellow	2.00	LOEX2002
Yellow	3.00	LOEX2003
Yellow	4.00	LOEX2004
Yellow	5.00	LOEX2005
Yellow	6.00	LOEX2006
Blue	1.00	LOEX3401
Blue	2.00	LOEX3402
Blue	3.00	LOEX3403
Blue	4.00	LOEX3404
Blue	5.00	LOEX3405
Blue	6.00	LOEX3406
Magenta	1.00	LOEX5001
Magenta	2.00	LOEX5002
Magenta	3.00	LOEX5003
Magenta	4.00	LOEX5004

Golden surface treatment.

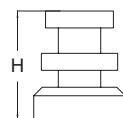
Insertion key Ref. LOSD01/LOSD02



Includes the Kirator abutment with sterilisable polyoxymethylene applicator (Tecaform AH-POM-C).

### Related abutments

#### Kirator impression transfer

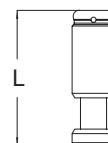


System	Height (H)	Reference
Kirator	6.50	TCRK3400



Pack of 4 units. DO NOT sterilise in an autoclave. Drillable.

#### Kirator analogue

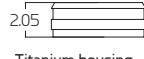


System	Length (L)	Reference
Kirator	13.00	IATORK01



Pack of 4 units. DO NOT sterilise in an autoclave. Drillable.

#### Kirator processing kit



Titanium housing

System	Reference
Kirator processing kit	TP8520

Kirator processing kit consisting of: Titanium housing with black relined cap, spacer and purple, transparent and pink plastic caps.

Sterilise the metal coping in an autoclave. Plastic caps and the disc should be cold sterilised. See Instructions for Cleaning and Sterilising on the Ziacom® website.

System	Retention (kg)	Reference
Kirator	Light/1.20 kg	TPK100
	Standard/1.80 kg	TPK200
	Strong/2.70 kg	TPK300

Pack of 4 plastic Kirator retainer caps.



NOT autoclavable – use cold steriliser. Maximum divergence of 22° between implants.

#### Kirator divergence processing kit



Titanium housing

System	Reference
Kirator processing kit	TPK8520D

Kirator divergence processing kit comprising: Titanium housing with black relined cap, spacer and purple, clear and pink plastic caps.

Sterilise the metal coping in an autoclave. Plastic caps and the disc should be cold sterilised. See Instructions for Cleaning and Sterilising on the Ziacom® website.

System	Retention (kg)	Reference
Kirator	Light/1.20 kg	TPK110
	Standard/1.80 kg	TPK220
	Strong/2.70 kg	TPK330

Pack of 4 plastic Kirator retainer caps - Divergent.



NOT autoclavable – use cold steriliser. Maximum divergence of 44° between implants.

#### Example sequence



# ZM-Equator



ZM-Equator abutment with applicator

## ZM-Equator abutment

Platf.	Height (H)	Reference
■	1.00	ZMEX2001
■	2.00	ZMEX2002
■	3.00	ZMEX2003
■	4.00	ZMEX2004
■	5.00	ZMEX2005
■	6.00	ZMEX2006
■■	1.00	ZMEX3401
■■	2.00	ZMEX3402
■■	3.00	ZMEX3403
■■	4.00	ZMEX3404
■■	5.00	ZMEX3405
■■	6.00	ZMEX3406
■■■	1.00	ZMEX5001
■■■	2.00	ZMEX5002
■■■	3.00	ZMEX5003
■■■	4.00	ZMEX5004

Golden surface treatment.



Includes ZM-Equator abutment with sterilisable polyoxymethylene plastic applicator (Tecaform AH-POM-C).

## Related abutments

### ZM-Equator impression transfer



System	Height (H)	Reference
ZM-Equator	6.50	TCRK3410



Pack of 4 units. DO NOT sterilise in an autoclave. Drillable.

### ZM-Equator analogue



System	Length (L)	Reference
ZM-Equator	13.20	IAZM01



### ZM-Equator processing kit



Titanium housing

System	Reference
ZM-Equator processing kit	ZM8520

ZM-Equator processing kit consisting of: Titanium housing with black lined cap, spacer and three plastic caps in purple, transparent and pink.

Sterilise the metal coping in an autoclave. Plastic caps and the disc should be cold sterilised. See Instructions for Cleaning and Sterilising on the Ziacom® website.

System	Retention (kg)	Reference
ZM-Equator	Light/120 kg	TZM100
ZM-Equator	Standard/180 kg	TZM200
ZM-Equator	Strong/2.70 kg	TZM300

Pack of 4 plastic ZM-Equator retainer caps.



NOT autoclavable – use cold steriliser. Maximum divergence of 22° between implants.

### ZM-Equator divergence processing kit



Titanium housing

System	Reference
ZM-Equator processing kit	ZM8520D

ZM-Equator divergence processing kit comprising: Titanium housing with black lined cap, spacer and three plastic caps in purple, transparent and pink.

Sterilise the metal coping in an autoclave. Plastic caps and the disc should be cold sterilised. See Instructions for Cleaning and Sterilising on the Ziacom® website.

System	Retention (kg)	Reference
ZM-Equator	Light/120 kg	TZM100
ZM-Equator	Standard/180 kg	TZM200
ZM-Equator	Strong/2.70 kg	TZM300

Pack of 4 plastic ZM-Equator retainer caps - Divergent.



NOT autoclavable – use cold steriliser. Maximum divergence of 44° between implants.

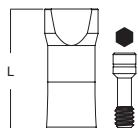
### Example sequence



# Abutments

## DIGITAL CAD-CAM

### ZiaCam scanbody to implant



See the literature available at [www.ziacom.com/biblioteca](http://www.ziacom.com/biblioteca) for more information on the use of zirconium restoration interfaces or the use of abutments in the "Prosthetic procedure" manual.



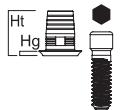
Platf.	Length (L)	Reference
Yellow	10.00	FNSYEX208T
Blue	10.00	FNSYEX348T
Pink	10.00	FNSYEX508T



Indicated for clinical and laboratory use.

All ZiaCam scanbodies to implant abutments include a screw Ref. LB102000 (NP)/LB103400 (RP/WP).

### ZiaCam Ti-Base



#### Rotatory

Platf.	Height (Hg/Ht)	Reference
Yellow	0.50/5.00	FRUEX201
Yellow	1.50/6.00	FRUEX202
Blue	0.50/5.00	FRUEX341
Blue	1.50/6.00	FRUEX342
Pink	0.50/5.00	FRUEX501
Pink	1.50/6.00	FRUEX502



### Tx30 ZiaCam Ti-Base



#### Rotatory

Platf.	Height (Hg/Ht)	Reference
Yellow	0.50/6.00	FRUEX20TX1
Yellow	1.50/7.00	FRUEX20TX2
Blue	0.50/6.00	FRUEX34TX1
Blue	1.50/7.00	FRUEX34TX2
Pink	0.50/6.00	FRUEX50TX1
Pink	1.50/7.00	FRUEX50TX2

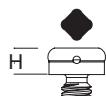


#### Non-rotatory

Platf.	Height (Hg/Ht)	Reference
Yellow	0.50/5.00	FNUEX201
Yellow	1.50/6.00	FNUEX202
Blue	0.50/5.00	FNUEX341
Blue	1.50/6.00	FNUEX342
Pink	0.50/5.00	FNUEX501
Pink	1.50/6.00	FNUEX502



### Kirator. Toolbar abutment



Platf.	Height (H)	Reference
Universal	1.80	LOTB100

Golden surface treatment.



### Non-rotatory

Platf.	Height (Hg/Ht)	Reference
Yellow	0.50/5.00	FNUEX201
Yellow	1.50/6.00	FNUEX202
Blue	0.50/5.00	FNUEX341
Blue	1.50/6.00	FNUEX342
Pink	0.50/5.00	FNUEX501
Pink	1.50/6.00	FNUEX502



All ZiaCam Ti-Base abutments come with a special Kiran screw with surface treatment Ref. DSEI2010 (NP)/DSEI3410 (RP/WP).

All Tx30 ZiaCam Ti-Base abutments come with a special Kiran Tx30 screw with surface treatment Ref. DSEI2010TX (NP)/DSEI3410TX (RP/WP).

# Abutments

## Restorations using transepithelials



# Abutments

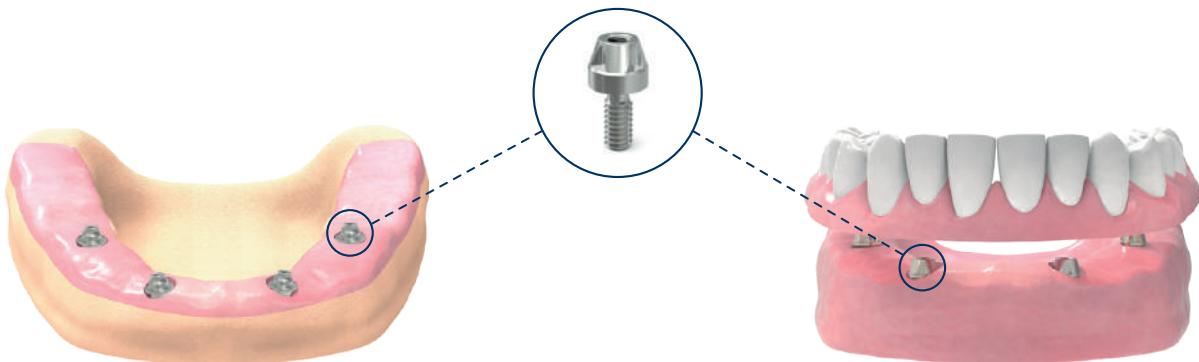
## Restorations using transepithelials

### ■ Transepithelial abutments

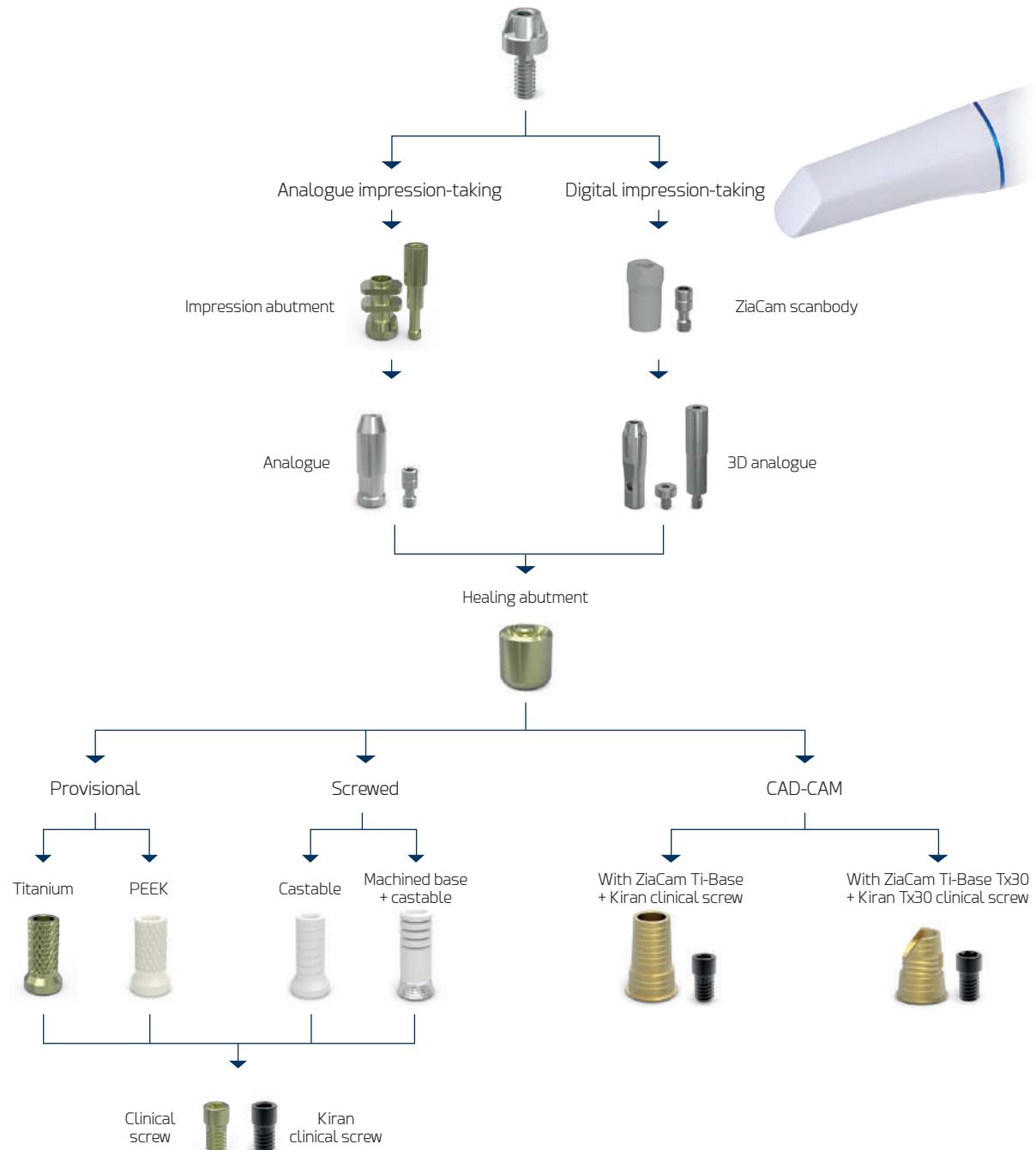
- Allows the peri-implant tissue to form from the initial 8 weeks.
- One abutment-one time, allows gingival adhesion to its surface as repeated detachments are not necessary.
- Avoids bone and soft tissue loss as there is no mechanical rupture of the peri-implant interface.
- The prosthetic working area is above the gingival level, making the soft tissue adhesive behaviour more predictable, maintaining a good seal.
- Less formation of micro-gaps at the implant-prosthesis junction.
- Increased crestal bone preservation.
- Prosthetic try-ins and definitive placement without anaesthesia.
- If the recommended torques are exceeded, the screw suffers the fracture at transepithelial level and not inside the implant.

### ■ Abutment heights

- Greater abutment height means more marginal bone is preserved in cement-retained prostheses.
- Higher abutments ( $\geq 2$ mm) provide better soft tissue adaptation.
- Short abutments ( $< 2$  mm) can compromise the soft tissues, resulting in more crestal bone loss.
- Marginal bone loss will differ depending on the clinical decision on the abutment height. Generally, prosthetic abutments  $\geq 2$ mm will lead to better preservation of crestal bone.



## ■ Basic | Example of usage sequence

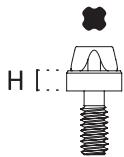


For more information on the use of abutments,  
see the "Prosthetic procedure manual"  
available at [www.ziacom.com/biblioteca](http://www.ziacom.com/biblioteca)



# Abutments

## Basic abutment



Platf.	Height (H)	Reference
■	2.00	BASIC2002
■	3.00	BASIC2003
■	4.00	BASIC2004
■	5.00	BASIC2005
■■	15.0	BASIC3401
■■	2.00	BASIC3402
■■	3.00	BASIC3403
■■	4.00	BASIC3404
■■	5.00	BASIC3405
■■■	2.00	BASIC5002
■■■	3.00	BASIC5003
■■■	4.00	BASIC5004
■■■	5.00	BASIC5005



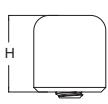
Basic abutment with applicator

Insertion key Ref. MABA100/MABA110.



Includes the Basic abutment with sterilisable polyoxymethylene applicator (Tecaform AH-POM-C). 18° cone angle. 36° angle between abutments.

## Basic healing abutment

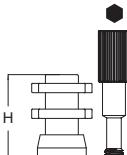


System	Height (H)	Reference
Basic	5.00	BAHAX34

Anodised ■



## Basic impression abutment



System	Height (H)	Reference
Basic	8.00	BATC134

Anodised ■



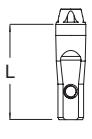
## Basic analogue



System	Length (L)	Reference
Basic	13.00	BAIAEX34



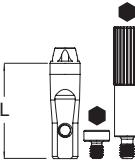
## Basic 3D analogue - Individual



System	Length (L)	Reference
Basic	13.00	BAIA348D



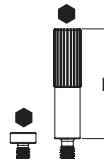
## Basic 3D analogue - Pack



System	Length (L)	Reference
Basic	13.00	BAIA348DC*



## Screws - 3D analogue



Type	Length (L)	Reference
Base screw (1)*	-	DSIADI
Lateral screw (2)*	15.00	DSIADT



\*Includes base screw Ref. DSIADI and lateral screw Ref. DSIADT for analogue connection.

\*Pack of 4 units.

**Basic clinical screw**

		
System	Length (L)	Reference
Basic	4.30	BDSEI3400
Anodised		

**Kiran Basic clinical screw**

		
System	Length (L)	Reference
Basic	4.30	BDSEI3410

Special Kiran screw with surface treatment.

**Basic laboratory screw**

		
System	Length (L)	Reference
Basic	5.50	BDSEI3401

NOT suitable for use as the final clinical screw.

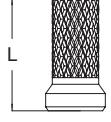
**Kiran Tx30 Basic clinical screw**

		
System	Length (L)	Reference
Basic	4.10	BDSEI34TX

Special Kiran Tx30 screw with surface treatment.

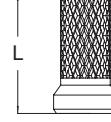
**Basic provisional abutment**

		
System	Length (L)	Reference
Basic	8.50	BARUT10

Anodised surface 

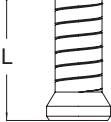
  

**Basic provisional abutment**

		
System	Length (L)	Reference
Basic	8.50	BARUP34

**Basic UCLA**

		
System	Length (L)	Reference
Basic	9.00	BARUEX34

**Machined base abutment Basic + Castable abutment**

		
System	Length (L)	Reference
Basic	11.00	BBRU34

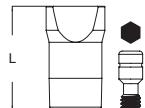
  



# Abutments

## DIGITAL CAD-CAM

### ZiaCam scanbody to Basic abutment



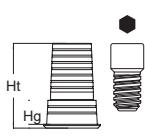
System	Length (L)	Reference
Basic	8.70	FNSYB18T



Indicated for clinical and laboratory use.

All ZiaCam scanbodies to Basic abutments include a screw  
Ref. BDSEI3401

### ZiaCam Ti-Base to Basic

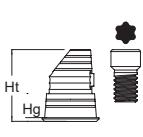


System	Height (Hg/Ht)	Reference
Basic	0.30/6.70	BFRU341



All Ti-Base ZiaCam to Basic abutments come with a special  
Kiran screw with surface treatment Ref. BDSEI3410.

### ZiaCam Ti-Base Tx30 to Basic



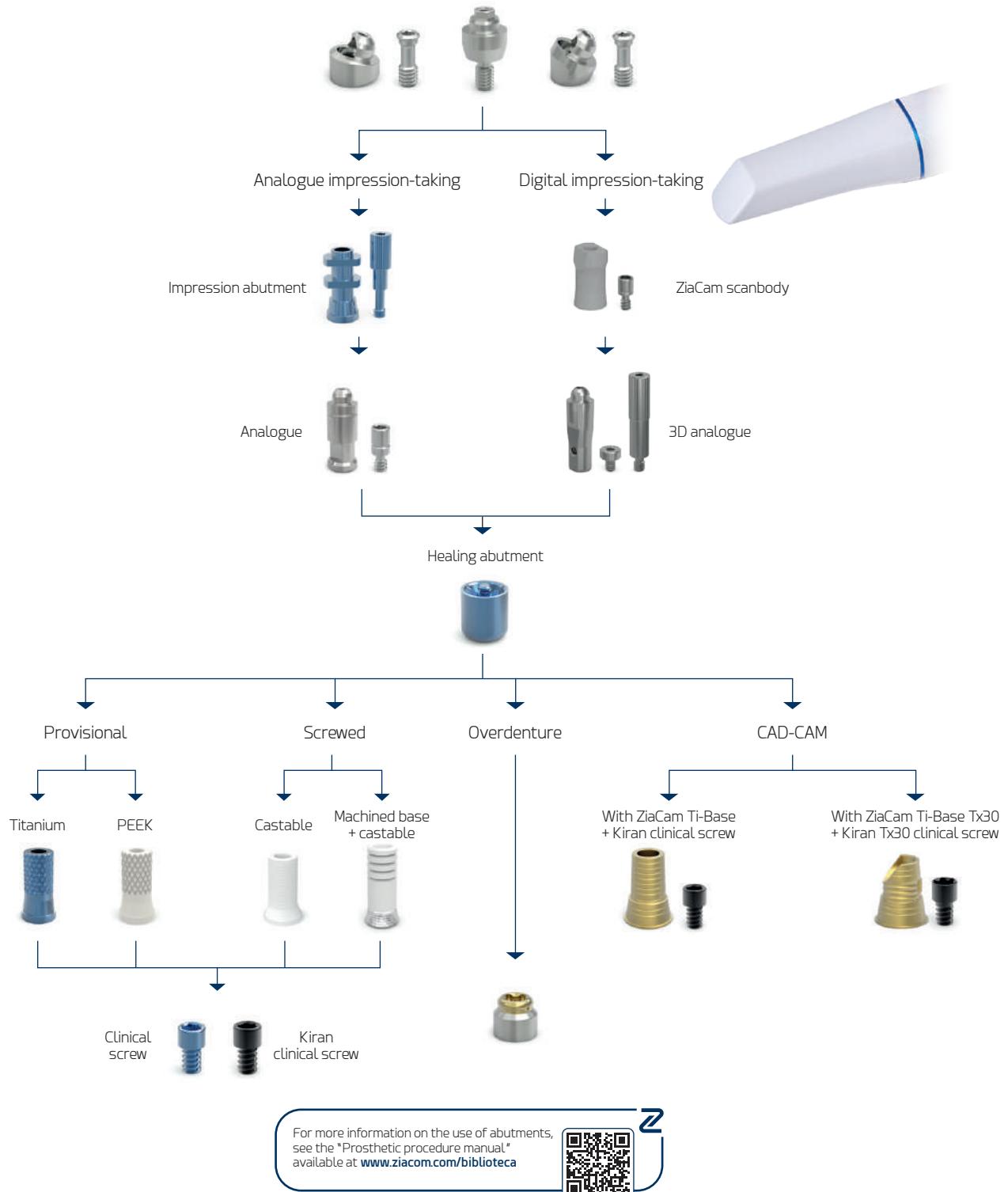
System	Height (Hg/Ht)	Reference
Basic	0.30/5.70	BFRU341TX



All ZiaCam Ti-Base Tx30 to Basic abutments come with  
a special Kiran Tx30 screw with surface treatment Ref.  
BDSEI34TX.

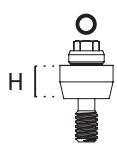
## Restorations using transepithelials

### ■ XDrive | Example of usage sequence



# Abutments

## XDrive straight abutment



Platf.	Height (H)	Reference
■	1.00	XST103410
■	2.00	XST103420
■	3.00	XST103430
■	4.00	XST103440
■	5.00	XST103450

Insertion key Ref. MABA200/MABA210



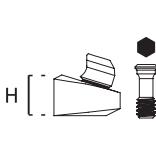
Includes XDrive abutment with sterilisable polyoxymethylene applicator (Tecaform AH-POM-C).

21° cone angle. 42° angle between abutments.



XDrive abutment with applicator

## XDrive 17° angled abutment

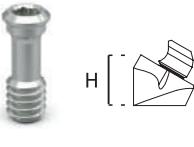


Platf.	Height (H)	Reference
■	2.00	XA2103417
■	3.00	XA3103417
■	4.00	XA4103417
■	5.00	XA5103417



All XDrive angled abutments come with a titanium positioner and screw.

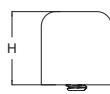
## XDrive 30° angled abutment



Platf.	Height (H)	Reference
■	3.00	XA3103430
■	4.00	XA4103430
■	5.00	XA5103430



## XDrive healing abutment

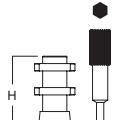


System	Height (H)	Reference
XDrive	5.00	XH103400

Anodised ■



## XDrive impression abutment



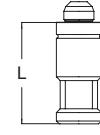
System	Height (H)	Reference
XDrive	10.50	XT103411

Anodised ■



Includes screw.

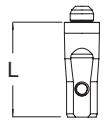
## XDrive analogue



System	Length (L)	Reference
XDrive	13.00	XIA103400



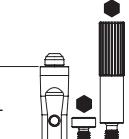
## XDrive 3D analogue - Individual



System	Length (L)	Reference
XDrive	13.00	XIA3408D



## XDrive 3D analogue - Pack

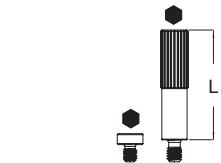


System	Length (L)	Reference
XDrive	13.00	XIA3408DC*



\*Includes base screw Ref. DSIADI and lateral screw Ref. DSIADT for analogue connection.

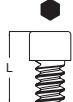
## Screws - 3D analogue



Type	Length (L)	Reference
Base screw (1)*	-	DSIADI
Lateral screw (2)*	15.00	DSIADT

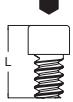


\*Pack of 4 units.

**XDrive clinical screw**


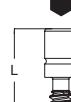
System	Length (L)	Reference
XDrive	3.50	XDS103410

Anodised


**Kiran XDrive clinical screw**


System	Length (L)	Reference
XDrive	3.50	XDS103411

Special Kiran screw with surface treatment.

**XDrive laboratory screw**


System	Length (L)	Reference
XDrive	5.10	XLB103410

NOT suitable for use as the final clinical screw.

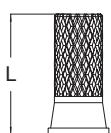
**Kiran Tx30 XDrive clinical screw**

**For ZiaCam Ti-Base or metal structures**

System	Length (L)	Reference
XDrive	3.50	XDS3411TX

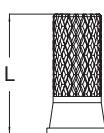


Kiran Tx30 special screw with surface treatment.

**XDrive provisional abutment**


System	Length (L)	Reference
XDrive	9.50	XST3410

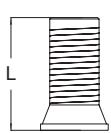
Anodised


**XDrive provisional abutment**


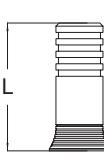
System	Length (L)	Reference
XDrive	9.50	XSP3410



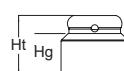
**XDrive**

**XDrive UCLA abutment**


System	Length (L)	Reference
XDrive	8.00	XRU103400

**Machined base abutment XDrive + Castable abutment**


System	Length (L)	Reference
XDrive	11.00	XBRU34

**Kirator XDrive abutment**


System	Height (Hg/Ht)	Reference
XDrive	3.00/4.30	XLO3400

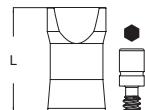
Kirator abutment with gold surface treatment.



# Abutments

## DIGITAL CAD-CAM

### ZiaCam scanbody to XDrive abutment



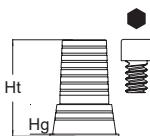
System	Length (L)	Reference
XDrive	8.70	FNSYX18T



Indicated for clinical and laboratory use.

All ZiaCam scanbodies to XDrive abutments include a screw Ref. XLB103410.

### ZiaCam XDrive Ti-Base

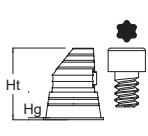


System	Height (Hg/Ht)	Reference
XDrive	0.15/6.70	XFRU341



Includes special Kiran screw with surface treatment Ref. XDS103411.

### ZiaCam Ti-Base Tx30 XDrive



System	Height (Hg/Ht)	Reference
XDrive	0.15/5.70	XFRU341TX



Includes special Kiran Tx30 screw with surface treatment Ref. XDS53411TX.

## Table of abutment torques

Element/Abutment	Instrument/Tool	Torque
Cover screws/Healing abutments	Hex screwdriver 1.25 mm	Manual
Impression abutment screws	Hex screwdriver 1.25 mm	Manual
Laboratory screws	Hex screwdriver 1.25 mm	Manual
Direct-to-implant clinical screws	Hex screwdriver 1.25 mm	30 Ncm
Kiran direct-to-implant clinical screws	Hex screwdriver 1.25 mm	30 Ncm
Nature abutments	Insertion keys: MANA100/MANA110/MANA120	30 Ncm
Clinical screws on Nature	Hex screwdriver 1.25 mm	30 Ncm
Kiran clinical screws on Nature	Hex screwdriver 1.25 mm	30 Ncm
Basic abutments	Insertion keys: MABA100/MABA110/MABA120	30 Ncm
XDrive abutments	Insertion keys: MABA200/MABA210/MABA220	30 Ncm
Clinical screws on Basic	Hex screwdriver 1.25 mm	25 Ncm
Kiran clinical screws on Basic	Hex screwdriver 1.25 mm	25 Ncm
Clinical screws on XDrive	Hex screwdriver 1.25 mm	20 Ncm
Kiran clinical screws on XDrive	Hex screwdriver 1.25 mm	20 Ncm
ZiaCam scanbody + screw	Hex screwdriver 1.25 mm	Manual
Kirator abutments	Insertion keys: LOSD01/LOSD02	30 Ncm
Tx30 abutment/screw (variable rotation)	Torx screwdriver Tx30	30 Ncm

### WARNING

Exceeding the recommended tightening torque for screws and abutments compromises the prosthetic restoration and could damage the implant structure.



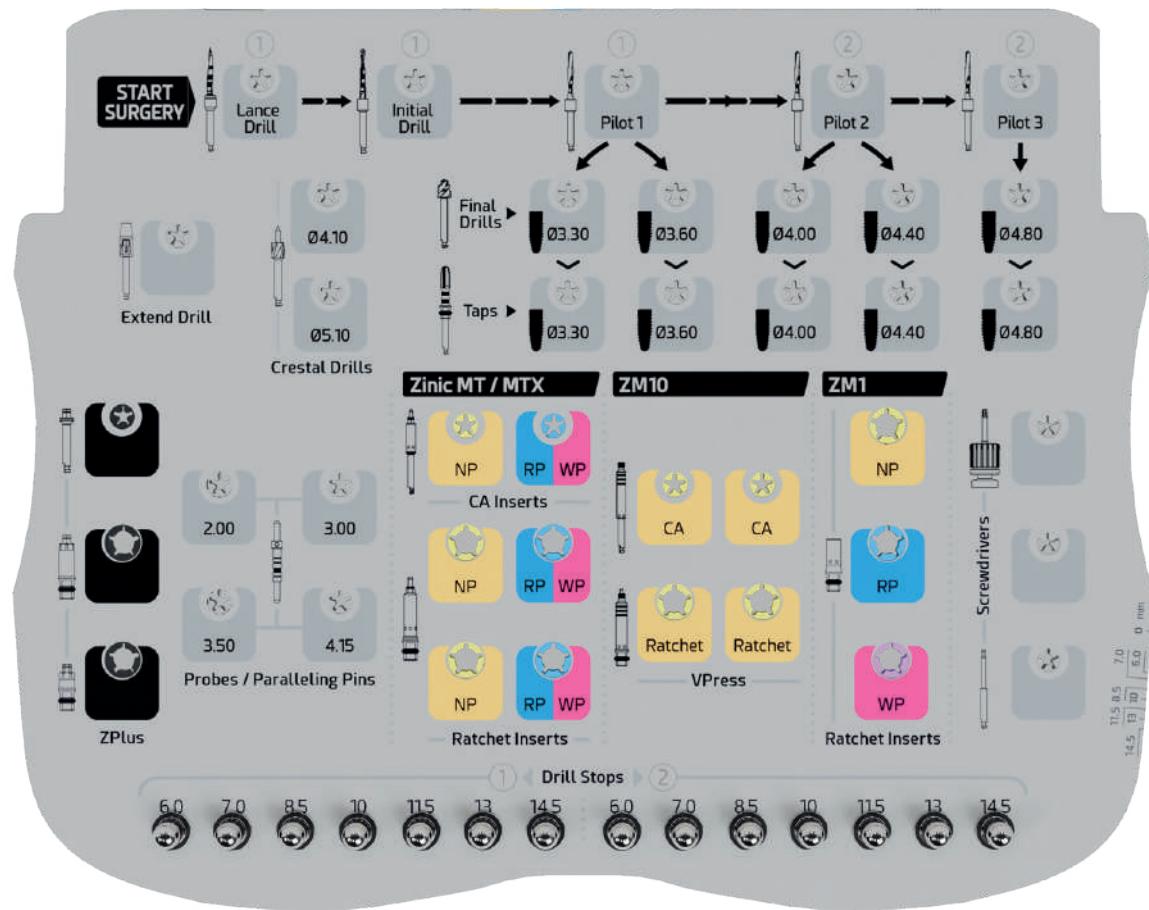
For immediate loading: DO NOT tighten manually, attach with the final torque. When using a screwdriver or adaptor for a contra-angle handpiece (CA), do not exceed a maximum speed of 25 rpm.

# Surgical instruments



# Surgical instruments

## Universal Box surgical box



### Universal Box contents available

Platf.	Contents	Reference
	Empty	BOX450U
	Complete	BOX450UC



Material: Radel.

Ensure boxes do not touch the walls of the autoclave to avoid damage.



■ Surgical kit contents

REF	Description	BOX450UC
<b>SID001M</b>	Lance drill. Ø2.00 mm. Millimeter.	●
<b>OSPD20M</b>	Pilot Drill Ø1.60/2.00 mm. Millimeter.	●
<b>OTD201C</b>	Pilot Drill P1. Millimeter.	●
<b>OTD301C</b>	Pilot Drill P2. Millimeter.	●
<b>OTD401C</b>	Pilot Drill P3. Millimeter.	●
<b>OTD203C</b>	Final surgical drill F1	●
<b>OTD303C</b>	Final surgical drill F2	●
<b>OTD403C</b>	Final surgical drill F3	●
<b>OTD503C</b>	Final surgical drill F4	●
<b>OTD603C</b>	Final surgical drill F5	●
<b>CLD34</b>	Crestal surgical drill. Ø4.10 mm.	●
<b>CLD50</b>	Crestal surgical drill. Ø5.10 mm.	●
<b>ZMPD160</b>	Calibrated drill stop. 1. H6 mm.	●
<b>ZMPD170</b>	Calibrated drill stop. 1. H7 mm.	●
<b>ZMPD185</b>	Calibrated drill stop. 1. H8.5 mm.	●
<b>ZMPD110</b>	Calibrated drill stop. 1. H10 mm.	●
<b>ZMPD115</b>	Calibrated drill stop. 1. H11.5 mm.	●
<b>ZMPD113</b>	Calibrated drill stop. 1. H13 mm.	●
<b>ZMPD114</b>	Calibrated drill stop. 1. H14.5 mm.	●
<b>ZMPD260</b>	Calibrated drill stop. 2. H6 mm.	●
<b>ZMPD270</b>	Calibrated drill stop. 2. H7 mm.	●
<b>ZMPD285</b>	Calibrated drill stop. 2. H8.5 mm.	●
<b>ZMPD210</b>	Calibrated drill stop. 2. H10 mm.	●
<b>ZMPD215</b>	Calibrated drill stop. 2. H11.5 mm.	●
<b>ZMPD213</b>	Calibrated drill stop. 2. H13 mm.	●
<b>ZMPD214</b>	Calibrated drill stop. 2. H14.5 mm.	●
<b>MTAP33MC</b>	Surgical tap. Ø3.30 mm. Millimeter.	●
<b>MTAP36MC</b>	Surgical tap. Ø3.60 mm. Millimeter.	●
<b>MTAP40MC</b>	Surgical tap. Ø4.00 mm. Millimeter.	●
<b>MTAP44MC</b>	Surgical tap. Ø4.40 mm. Millimeter.	●
<b>MTAP48MC</b>	Surgical tap. Ø4.80 mm Millimeter.	●
<b>MUR101MT</b>	Probe/Paralleling pin Initial. Millimeter.	●
<b>MUR201MT</b>	Probe/Paralleling pin P1. Millimeter.	●
<b>MUR301MT</b>	Probe/Paralleling pin P2. Millimeter.	●
<b>MUR401MT</b>	Probe/Paralleling pin P3. Millimeter.	●
<b>DEXT10</b>	Drill extender	●
<b>MESD</b>	Screwdriver tip, Ø 1.25 mm Long.	●
<b>LMSD</b>	1.25 mm surgical screwdriver. Long.	●
<b>SMSD</b>	1.25 mm surgical screwdriver. Short.	●
<b>TORK50</b>	Regulable torque wrench	●

**PLEASE NOTE**

The surgical kit box does not include the insertion keys or ZPlus block key. These must be ordered separately, according to the implant system used, Znic®MTX / ZM10 / ZM1.



# Surgical instruments

## SURGICAL DRILLS

### Lance drill



Platf.	Diameter (Ø)	Length (L)	Reference
Yellow Blue Magenta	2.00	16.30	SID001M

Millimeter: 6/7/8.5/10/11.5/13/14.5



### Initial pilot drill



Platf.	Diameter (Ø)	Length (L)	Reference
Yellow Blue Magenta	1.60/2.00	17.50	OSPD20M

Millimeter: 6/7/8.5/10/11.5/13/14.5



### Pilot drill

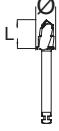


Platf.	Type	Diameter (Ø)	Length (L)	Reference
Yellow	Pilot 1	2.20/3.00	17.50	OTD201C
Blue	Pilot 2	2.70/3.60	17.50	OTD301C
Magenta	Pilot 3	2.90/4.25	17.50	OTD401C

Millimeter: 6/7/8.5/10/11.5/13/14.5



### Final drill



Platf.	Type	Diameter (Ø)	Length (L)	Reference
Yellow	Final 1	3.40	6.50	OTD203C
Yellow	Final 2	3.90	6.50	OTD303C
Blue	Final 3	4.10	6.50	OTD403C
Magenta	Final 4	4.30	6.50	OTD503C
Magenta	Final 5	4.95	6.50	OTD603C



### Crestal surgical drill



Platf.	Diameter (Ø)	Reference
Universal	4.10	CLD34
	5.10	CLD50



**STOPS**
**Calibrated drill stop**


Platf.	Type	Length (L) Implant	Reference
  	1	6.00	ZMPD160
		7.00	ZMPD170
		8.50	ZMPD185
		10.00	ZMPD110
		11.50	ZMPD115
	2	13.00	ZMPD113
		14.50	ZMPD114
		6.00	ZMPD260
		7.00	ZMPD270
		8.50	ZMPD285
	  	10.00	ZMPD210
		11.50	ZMPD215
		13.00	ZMPD213
		14.50	ZMPD214
Pack *	--	--	KZMPD100

\* Complete pack of 14 calibrated stops.


**TAPS**
**Surgical tap. CA/Manual**


Platf.	Diameter (Ø)	Reference
  	3.30	MTAP33MC
	3.60	MTAP36MC
	4.00 *	MTAP40MC
	4.40 *	MTAP44MC
	4.80 *	MTAP48MC

Millimeter: 8.5/10/11.5/13/14.5

\*Millimeter: 6/7/8.5/10/11.5/13/14.5



See surgical drilling protocol for more information on using tap.

**PROBES**
**Probe/Paralleling pin**


Platf.	Type	Diameters (Ø1-Ø2)	Length (L)	Reference
	Initial	1.60/2.00	27.00	MUR101MT
	Pilot 1	2.20/3.00	27.00	MUR201MT
	Pilot 2	2.60/3.50	27.00	MUR301MT
	Pilot 3	2.90/4.15	27.00	MUR401MT

Millimeter: 6/7/8.5/10/11.5/13/14.5



ZM1

# Surgical instruments

## KEYS

### ZPlus insertion key. Ratchet



Platf.	Length (L)	Reference
ZPlus	3.10/Mini	XSMIN *
	5.60/Short	TSMIN*
	10.60/Long	TLMIN*

● Hexagonal 2.4 mm / ■ Square 4x4 mm



\*Ref. XSMIN/TSMIN/TLMIN are NOT included in the surgical box.

### ZPlus insertion key. CA



Platf.	Length (L)	Reference
ZPlus	15.90	01MMIN*
	23.90	02MMIN *

● Hexagonal 2.4 mm



\*Ref. 01MMIN/02MMIN are NOT included in the surgical box.

### ZM4 insertion key. Ratchet



Platf.	Length (L)	Reference
	15.00	SMEX20*
	15.00	SMEX34*
	15.00	SMEX50*

● Hexagonal NP 2.30 mm

● Hexagonal RP 2.70 mm

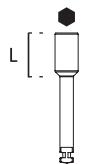
● Hexagonal WP 3.00 mm

■ Square 4x4 mm



\*Ref. SMEX20/SMEX34/SMEX50 are NOT included in the surgical box.

### ZM4 insertion key. CA



Platf.	Length (L)	Reference
■	7.50	MMEX20*
■	7.50	MMEX34*
■	7.50	MMEX50*

● Hexagonal NP 2.30 mm

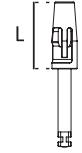
● Hexagonal RP 2.70 mm

● Hexagonal WP 3.00 mm



\*Ref. MMEX20/MMEX34/MMEX50 are NOT included in the surgical box.

### Drill extender



Platf.	Length (L)	Reference
Universal	12.00	DEXT10



**SCREWDRIVERS**
**Screwdriver tip. CA**


Platf.	Length (L)	Reference
Universal	20.00/Short	MESD01
	25.00/Long	MESD

● Hexagonal 1.25 mm


**Surgical screwdriver. Manual**


Platf.	Length (L)	Reference
Universal	2.80/Mini	XSMSD
	9.50/Short	SMSD
	14.50/Long	LMSD
	27.00/Extralong	XLMSD

● Hexagonal 1.25 mm

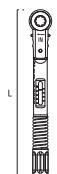

**ZPlus block key**


Platf.	Length (L)	Reference
ZPlus	90.00	01MOHW*

● Hexagonal 2.4 mm



\*Ref. 01MOHW are NOT included in the surgical box.

**RATCHET**
**Regulable torque wrench**


Platf.	Length (L)	Reference
Universal	86.80	TORK50

■ Square 4x4 mm



# Surgical instruments

## Complementary instruments

### ADAPTORS

#### Ratchet extension



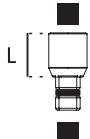
Platf.	Length (L)	Reference
Universal	7.20	LAEX

■ Square 4x4 mm



NOT included in the surgical box.

#### Ratchet to CA adaptor



Platf.	Length (L)	Reference
Universal	7.20	MAEX

■ Square 4x4 mm



NOT included in the surgical box.

### IMPLANT MOUNT

#### Extra long mount



Platf.	Length (L)	Reference
■	10.10/Extralong	MOUNT20
■	10.10/Extralong	MOUNT34

■ Hexagonal NP 2.30 mm

■ Hexagonal RP 2.70 mm

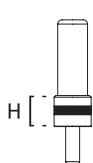
■ Square 4x4 mm



NOT included in the surgical box.

### LABORATORY TEST KIT

#### Laboratory test kit



Platf.	Height (H)	Reference
■	3.65	EXLAB20
■	3.65	EXLAB34

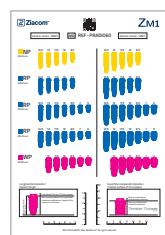


This product does not supersede the need for careful planning of each clinical case.

NOT included in the surgical box.

### RADIOGRAPHIC TEMPLATE

#### ZM1 radiographic templates



Platf.	Model	Reference
■ ■ ■	ZM1	PRADIO60

Scales 1:1 and 1:125

Material: transparent acetate. Non-sterilisable material

See the literature available at  
[www.ziacom.com/biblioteca](http://www.ziacom.com/biblioteca)

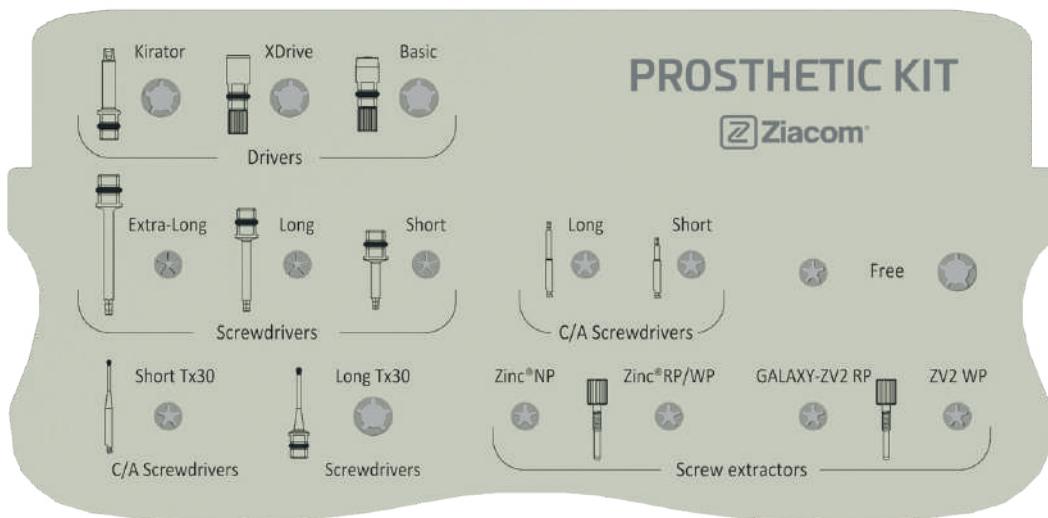


# Prosthetic instruments



# Prosthetic instruments

## Prosthetic box



### Contents of prosthetic boxes available

Contents	Reference
Empty	BOXPN
Basic	BOXPSN
Complete	BOXPCN



Material: Radel.

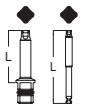
Ensure boxes do not touch the walls of the autoclave to avoid damage.



### Contents of prosthetic boxes

REF	Description	BOXPSN	BOXPCN
<b>LOS01</b>	Kirator insertion key.	●	●
<b>MABA100</b>	Basic insertion key. Short.	●	●
<b>MABA200</b>	XDrive insertion key. Short.	●	●
<b>MADW10</b>	Screwdriver handle. 4x4.	●	●
<b>SMSD1</b>	Screwdriver tip. 125 mm. Short.	●	●
<b>LMSD1</b>	Screwdriver tip. 125 mm. Long.	●	●
<b>XLMSD1</b>	Screwdriver tip. 125 mm. Extra long.		●
<b>MESD</b>	Screwdriver tip. 125 mm. Long.	●	●
<b>MESD01</b>	Screwdriver tip. 125 mm. Short.	●	●
<b>MESDTX</b>	Tx30 screwdriver tip. Long.	●	●
<b>LMSD1TX</b>	Tx30 screwdriver tip. Long.	●	●
<b>EDSZ20 *</b>	ZPlus extractor screw. NP		●
<b>EDSZ34 *</b>	ZPlus extractor screw. RP/WP.		●
<b>EDSG34 *</b>	Abutment extractor screw. RP		●
<b>EDSG50 *</b>	Abutment extractor screw. WP		●
<b>TORK50</b>	Regulable torque wrench	●	●

\* Product not included in the ZM1 system.

**KEYS**
**Kirator insertion key**


System	Length (L)	Reference
Kirator	13.60/Ratchet/Manual	LOSD01
	20.00/CA	LOSD02 *

◆ Square 2.11 mm / ■ Square 4x4 mm



\*Ref. LOSD02 is NOT included in the prosthetic box.

**Basic insertion key. Ratchet**


System	Length (L)	Reference
Basic	5.00/Short	MABA100
	13.00/Long	MABA110 *

◆ Basic / ■ Square 4x4 mm



\*Ref. MABA110 is NOT included in the prosthetic box.

**XDrive insertion key Ratchet**


System	Length (L)	Reference
XDrive	6.00/Short	MABA200
	13.00/Long	MABA210 *

○ XDrive / ■ Square 4x4 mm



\*Ref. MABA210 is NOT included in the prosthetic box.

**Nature insertion key. Ratchet**


System	Length (L)	Reference
Nature	5.00/Short	MANA100*
	15.00/Long	MANA110*

■ Nature / ■ Square 4x4 mm



\*Ref. MANA100/MANA110 are NOT included in the prosthetic box.

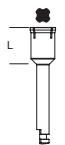
**Nature insertion key. CA**


System	Length (L)	Reference
Nature	20.50	MANA120*

■ Nature



\*Ref. MABA210 is NOT included in the prosthetic box.

**Basic insertion key. CA**


System	Length (L)	Reference
Basic	7.00	MABA120*

◆ Basic



\*Ref. MABA210 is NOT included in the prosthetic box.

**XDrive insertion key CA**


System	Length (L)	Reference
XDrive	7.00	MABA220*

○ XDrive



\*Ref. MABA220 is NOT included in the prosthetics box.

# Prosthetic instruments

## SCREWDRIVERS

### Screwdriver adapter handle

	Platf.	Length (L)	Reference
Universal	12.90	MADW10	
<b>■ Square 4x4 mm</b>			
			

### Screwdriver tip. Ratchet

	Platf.	Length (L)	Reference
Universal	9.50/Short	SMSD1	
Universal	14.50/Long	LMSD1	
Universal	27.00/Extralong	XLMSD1	
<b>■ Square 4x4 mm</b>			
			

### Screwdriver tip. CA

	Platf.	Length (L)	Reference
Universal	20.00/Short	MESD01	
Universal	25.00/Long	MESD	
<b>■ Square 4x4 mm</b>			
			

### Tx30 screwdriver tip. CA

	System	Length (L)	Reference
Tx30	26.00/Short	MESD01TX *	
	32.00/Long	MESDTX	
<b>■ Square 4x4 mm</b>			
			

Do not exceed 30 Ncm as it could cause severe damage to the screwdriver and screw

\* Ref. MESD01TX is NOT included in the prosthetics box.

### Tx30 screwdriver tip. Ratchet

	System	Length (L)	Reference
Tx30	12.00/Short	SMSD1TX *	
	18.00/Long	LMSD1TX	
<b>■ Square 4x4 mm</b>			
			

Do not exceed 30 Ncm as it could cause severe damage to the screwdriver and screw

\* Ref. SMSD1TX is NOT included in the prosthetic box.

### Tx30 prosthetic screwdriver. Manual

	System	Length (L)	Reference
Tx30	12.00/Short	SMSDTX *	
	18.00/Long	LMSDTX *	
	27.00/Extralong	XLMSDTX*	
<b>■ Square 4x4 mm</b>			
			

Do not exceed 30 Ncm as it could cause severe damage to the screwdriver and screw

\* Ref. SMSDTX/LMSDTX/XLMSDTX are NOT included in the prosthetics box.

## EXTRACTOR SCREW

### ZPlus extractor screw

	Platf.	Length (L)	Reference
	25.00	EDSZ20 *	
	23.70	EDSZ34 *	
<b>Anodised ■ NP ■ RP/WP</b>			
			

\* Product not included in the ZM1 system.

### Galaxy/ZV2 abutment extractor screw

	Platf.	Length (L)	Reference
	25.00	EDSG34 *	
	26.80	EDSG50 *	
<b>Anodised ■ RP ■ WP</b>			
			

## RATCHET

### Regulable torque wrench

	Platf.	Length (L)	Reference
Universal	86.80	TORK50	
<b>■ Square 4x4 mm</b>			
			
			

## Complementary instruments

### CA to ratchet adaptor



Platf.	Length (L)	Reference
Universal	12.00	MC10Z
■ Square 4x4 mm		
Stainless Steel		

NOT included in the prosthetic box.

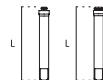
### Extractor + Retainer inserter handle



Platf.	A Length (L)	B Length (L)	Reference
Kirator ZM-Equator	81.50	110.40	MBEI3610
Plastic			
Stainless Steel			

NOT included in the prosthetic box.

### Retention inserter



Platf.	Length (L)	Reference
Kirator ZM-Equator	32.00	MBEI3602
ZM-Equator	32.00	MBEI3603

Kirator / ZM-Equator plastic cap insertion tool.

NOT included in the prosthetic box.

### Retentive joints instruments



Platf.	Dimensions	Reference
Universal	2x1	RREI0030

Pack of 10 units.

ΣΜΤ

Surgical  
protocols | 

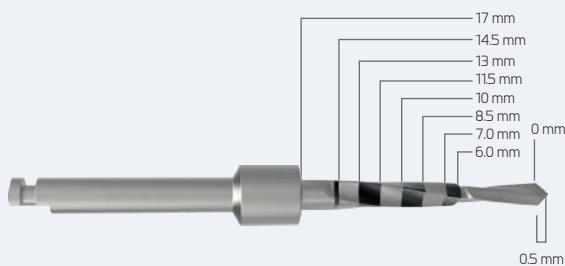


# Surgical protocol

## Features of the ZM1 drilling system

### ■ Ziacom® drill system

Ziacom® implant system drills are made from stainless steel. A laser marking on the bur's shank identifies its inner and outer diameters and its length, while the horizontal laser marked bands on the active section corresponds to the different lengths of the implants (millimeter drills). The drill tip is 0.5 mm long and this is not included in the different laser-marked lengths.



### ■ Ziacom® final drills

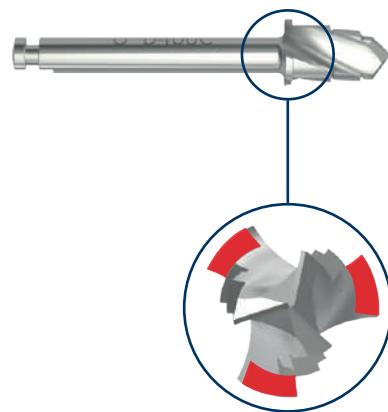
Its use is essential and mandatory in order to achieve an ideal finish of the prepared implant bed for smooth, safe and precision insertion. In this way, overtorquing of the implant can be avoided while it is placed into its final position.

### ■ FINAL DRILL STOP

A stop, consisting of three blades (see red areas marked on image) has been incorporated into the design of the final drills, between the active area and the shank, to limit the penetration of the drill.

#### IMPORTANT

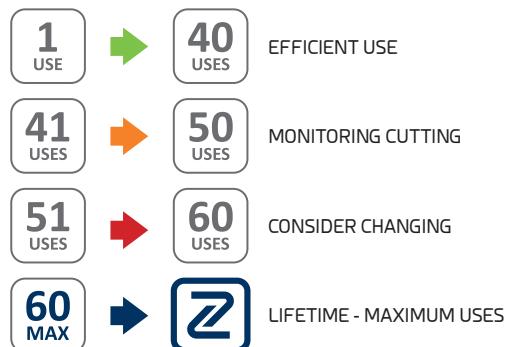
Take care not to drill beyond the stop, as this modifies the coronal anatomy of the surgical site.



### ■ ZIACOM® DRILLS EFFICIENCY GUARANTEE

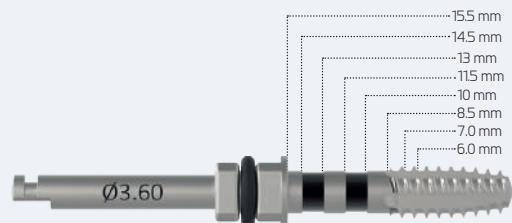
Surgical drills for ZM1 implants from Ziacom® (**cortical drills, lance drill, initial drill, pilot drills and final drills**), have a **lifetime of up to 60 uses**. It is advisable to monitor the cutting status at all times, especially when reaching around 41 to 50 uses, since after 50 uses it is necessary to consider changing the drills before reaching 60 uses.

Bear in mind that, depending on the size of the implant, bone density and your surgical protocol, not all of the various drills will be used equally - it is recommended that you monitor the number of uses for each instrument.



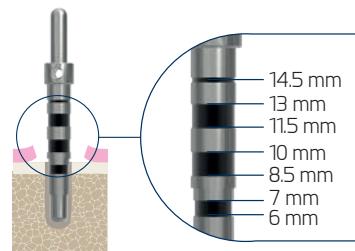
## ■ Ziacom® taps

Thread taps are available for contra-angle handpieces. The laser marking on the tap's shank identifies its diameter, while the horizontal laser marked bands on the active section corresponds to the different lengths.



## ■ Probe

Check the depth of the surgical site, especially when not using drill stops. To check the surgical bed axis, the paralleling pins are available in different diameters according to the drilling sequence.



## ■ Short and long insertion keys for ratchets and contra-angle handpieces

The insertion keys for contra-angle handpieces or ratchets have been designed for transporting implants from their No-Mount vial to the surgical site ready for insertion.



ZPlus



ZM1

## ■ Drill stops

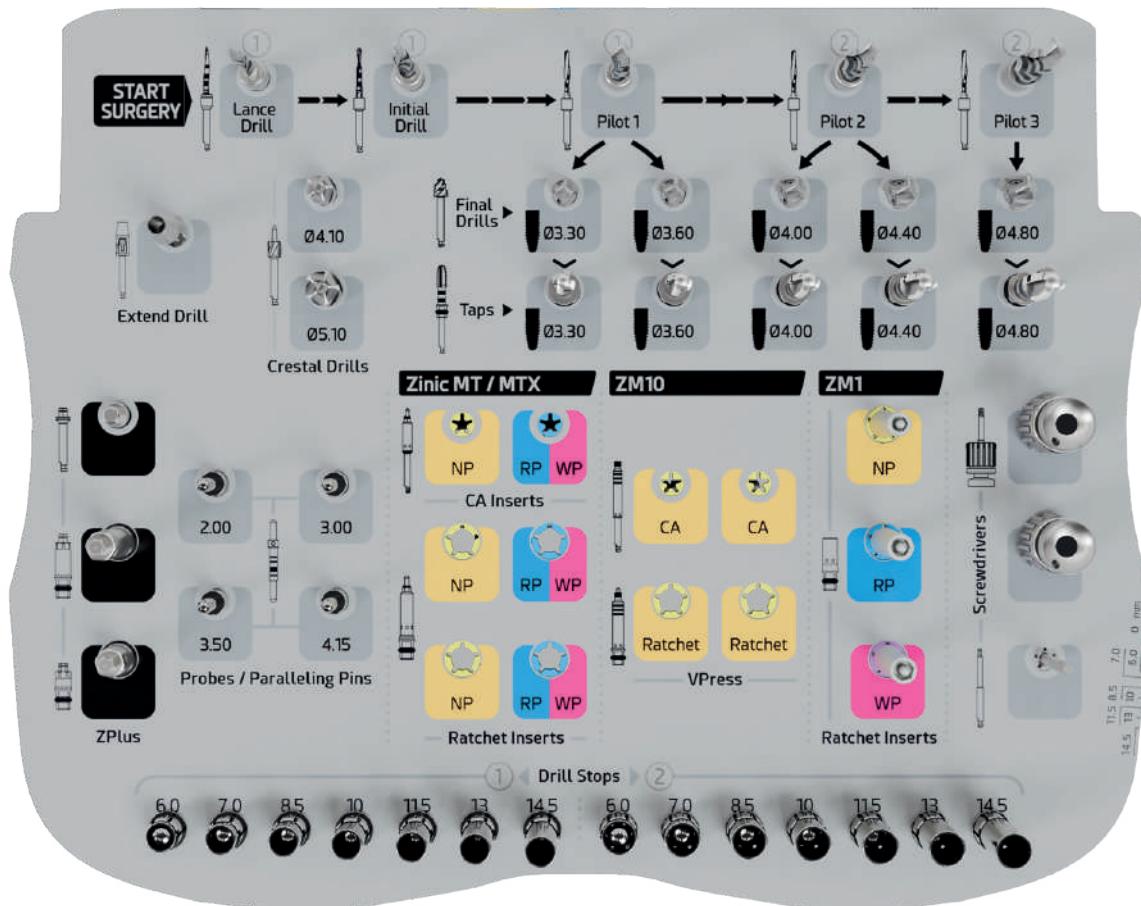
These are a surgical accessory that attach to drills and facilitate the work as they determine the depth of the osteotomy, providing extra assurance when preparing the surgical site.



# Surgical protocol

## Features of the ZM1 drilling system

### ■ Internal view of the Universal Box surgical box



## Recommendations on the maximum implant insertion torque



The recommended insertion torque ranges between **35** and **50 Ncm** on a case-by-case basis.

To avoid deforming the driver and/or implant connection, insertions performed with a contra-angle handpiece (CA) must respect the recommended maximum rpm (25 rpm) and maximum torque (50 Ncm).

If the implant cannot be fully inserted using the recommended maximum torque, withdraw the implant, repeat the drilling and then re-insert it.

Check the final insertion torque with the adjustable dynamometric ratchet Ref. TORK50 or a contra-angle handpiece.

Exceeding the maximum torque (50 Ncm) when inserting the implant may result in:

- Irreversible deformations in the implant's internal connection.
- Irreversible deformations in the implant insertion instruments.
- Difficulty or impossibility in dismounting the instrument/implant assembly.

## ■ ZM1 implant

It is important to note that the drilling protocol for ZM1 implants using stepped drill bits varies significantly based on the implant diameter and the type of bone at the surgical site, and therefore it is important to pay special attention to these two aspects.

**ZM1**

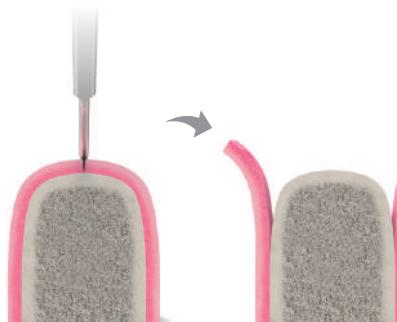
- **EXAMPLE:**  
ZM1 implant  
Ø 4.00x11.50mm  
■ **RP** (Ø 4.00 mm)  
Platform Ø 4.10 mm



## High-density drilling protocol steps (D1 - D2\*)

### PRELIMINARY STEP | Opening the gum

Make an incision and raise the flap.



### STEP 1 | Lance drill

Start the implant site drilling sequence using the Lance Drill Ref. SID001M. Be aware of the laser marking on the drill to indicate the length, or use drill stop Ref. ZMPD115. Control the direction and angle of drilling by applying intermittent pressure vertically, taking care not to exert too much pressure on the bone. If necessary, use drill extender Ref. DEXT10.



### STEP 2 | Initial drill

Continue the drilling sequence using Initial Drill Ref. OSPD20M until the total length of the chosen implant is reached. Be aware of the laser marking on the drill that indicates the length, or use the drill stop Ref. ZMPD115. Monitor the direction and inclination of the drilling, exerting pressure intermittently, always in a vertical direction, taking care not to generate excessive pressure on the bone. If necessary, use drill extender Ref. DEXT10.



### STEP 3 | Initial Drill Probe/Paralleling pin

Check the depth of the surgical site and the insertion axis by inserting the Initial Drill Probe/Paralleling pin Ref. MUR101MT. Repeat this step as many times as necessary during the surgery.



# Surgical protocol

## STEP 4 | Pilot drill 1



Continue the drilling sequence using Pilot Drill 1 Ref. OTD201C, until the full length of the chosen implant is reached. Be aware of the laser marking on the drill to indicate the length, or use drill stop Ref. ZMPD115. Control the direction and angle of drilling by applying intermittent pressure vertically, taking care not to exert too much pressure on the bone. If necessary, use drill extender Ref. DEXT10.



### NOTE

Once this step has been completed, to fit an implant with diameter:  
• Ø3.30 mm > Final drill 1 Ref. OTD203C + Tap MTAP33MC  
• Ø3.60 mm > Final drill 2 Ref. OTD303C + Tap MTAP36MC

## STEP 5 | Pilot Probe/Paralleling pin 1



Check the depth of the surgical site and the insertion axis by inserting the Pilot Probe/Paralleling pin 1 Ref. MUR201MT. Repeat this step as many times as necessary during the surgery.

## STEP 6 | Pilot drill 2



Continue the drilling sequence using Pilot Drill 2 Ref. OTD301C, until the full length of the chosen implant is reached. Be aware of the laser marking on the drill to indicate the length, or use drill stop Ref. ZMPD115. Control the direction and angle of drilling by applying intermittent pressure vertically, taking care not to exert too much pressure on the bone. If necessary, use drill extender Ref. DEXT10.



### NOTE

Once this step has been completed, to fit an implant with diameter:  
• Ø4.00 mm > Final Drill 3 Ref. OTD403C + Tap MTAP40MC  
• Ø4.40 mm > Final Drill 4 Ref. OTD503C + Tap MTAP44MC

## STEP 7 | Pilot Probe/Paralleling pin 2



Check the depth of the surgical site and the insertion axis by inserting the Pilot Probe/Paralleling pin 2 Ref. MUR301MT. Repeat this step as many times as necessary during the surgery.

## STEP 8 | Final Drill 3



Continue the drilling sequence using Pilot Drill 3 Ref. OTD403C up to the length corresponding to the cortical bone thickness, according to individual clinical case. Control the direction and angle of drilling by applying intermittent pressure vertically, taking care not to exert too much pressure on the bone. If necessary, use drill extender Ref. DEXT10.



## STEP 9 | Surgical tap Ø4.00



Place the Ø4.00 mm surgical tap, Ref. MTAP40MC in the surgical site. Apply firm pressure and start to turn slowly. Once threads engage, continue to screw the tap in without pressure to the planned depth. If excessive resistance is met, turn 90° anti-clockwise after each complete turn. To remove the tap, turn it anti-clockwise. While using the tap, it is recommended that you pass it along the entire length of the implant.



## ■ Important notes: Type D2\* Bone Density

In the case of type D2 bone density, the surgical drilling protocol indicated for type D1 bone density should be followed, leaving out the use of the Surgical Tap on any of the implant diameters. Nevertheless, it is up to the discretion of the professional to decide on full or partial use the Surgical Tap, based on their clinical experience and the identification of the density of the existing bone at the site. This is particularly relevant in cases where the bone density varies significantly along the length of the osteotomy for the implant.

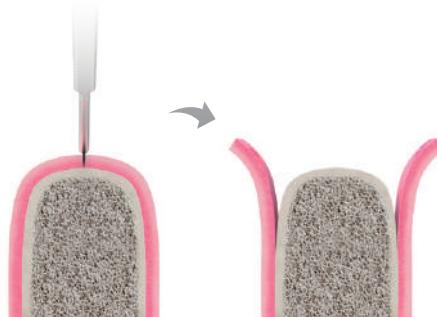


# Surgical protocol

## Low-density drilling protocol steps (D3 - D4\*\*)

### PRELIMINARY STEP | Opening the gum

Make an incision and raise the flap.



### STEP 1 | Lance Drill



Start the implant site drilling sequence using the Lance Drill Ref. SID001M. Be aware of the laser marking on the drill to indicate the length, or use drill stop Ref. ZMPD115. Control the direction and angle of drilling by applying intermittent pressure vertically, taking care not to exert too much pressure on the bone. If necessary, use drill extender Ref. DEXT10.



### STEP 2 | Initial drill



Continue the drilling sequence using Initial Drill Ref. OSPD20M until the total length of the chosen implant is reached. Be aware of the laser marking on the drill that indicates the length, or use the drill stop Ref. ZMPD115. Monitor the direction and inclination of the drilling, exerting pressure intermittently, always in a vertical direction, taking care not to generate excessive pressure on the bone. If necessary, use drill extender Ref. DEXT10.



#### NOTE

Once this step has been completed, to fit an implant with diameter:

- Ø3.30 mm > Final Drill 1 Ref. OTD203C
- Ø3.30 mm > Final Drill 2 Ref. OTD303C

### STEP 3 | Initial Drill Probe/Paralleling pin



Check the depth of the surgical site and the insertion axis by inserting the Initial Drill Probe/Paralleling pin Ref. MUR101MT. Repeat this step as many times as necessary during the surgery.

### STEP 4 | Pilot drill 1



Continue the drilling sequence using Pilot Drill 1 Ref. OTD201C, until the full length of the chosen implant is reached. Be aware of the laser marking on the drill to indicate the length, or use drill stop Ref. ZMPD115. Control the direction and angle of drilling by applying intermittent pressure vertically, taking care not to exert too much pressure on the bone. If necessary, use drill extender Ref. DEXT10.



#### NOTE

Once this step has been completed, to fit an implant with diameter:

- Ø3.30 mm > Final Drill 3 Ref. OTD403C
- Ø4.40 mm > Final Drill 4 Ref. OTD503C

### STEP 5 | Pilot Probe/Paralleling pin 1



Check the depth of the surgical site and the insertion axis by inserting the Pilot Probe/Paralleling pin 1 Ref. MUR201MT. Repeat this step as many times as necessary during the surgery.

## STEP 7 | Final Drill 3



Continue the drilling sequence using Pilot Drill 3 Ref. OTD403C up to the length corresponding to the cortical bone thickness, according to individual clinical case. Control the direction and angle of drilling by applying intermittent pressure vertically, taking care not to exert too much pressure on the bone. If necessary, use drill extender Ref. DEXT10.

**■ Important notes: Type D4\*\* Bone Density**

In the case of type D4 bone density, the surgical drilling protocol indicated for type D3 bone density should be followed, leaving out the use of the last Final Drill for each of the implant diameters. Nevertheless, it is up to the discretion of the professional to decide to use the last Final Drill fully or partially, based on their clinical experience and the identification of the density of the existing bone at the site. This is particularly relevant in cases where the bone density varies significantly along the length of the osteotomy for the implant.

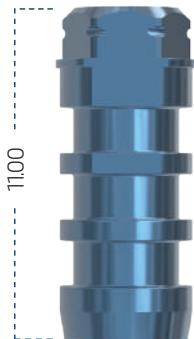
# Surgical protocol

## Implant placement with ZPlus Mount | **Titansure**

### ZPlus Mount

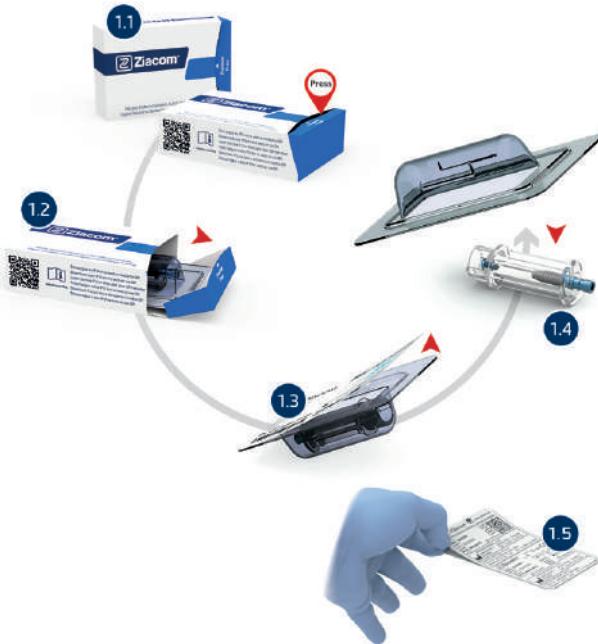
Surface treatment

**Titansure**



### STEP 1 | Unpacking the implant

- 11 Press the word "PRESS" and tear open the box.
- 12 Remove the top of the carton and take out the blister pack.
- 13 Carefully remove the seal from the blister pack.
- 14 Turn the vial containing the implant out onto a sterile cloth in the operating area.
- 15 Remember to remove the label from the implant and to stick it onto the patient's implant card and clinical records to ensure that the product is traceable.



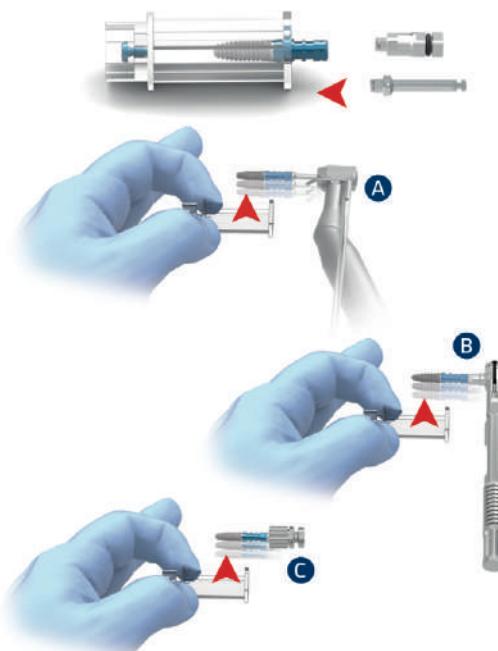
### STEP 2 | Choosing the right insertion instrument

Based on the specific clinical situation and access to the surgical site, one of three different instruments can be selected to insert the implant:

- A Contra-angle:** use the ZPlus insertion key. CA driver of the desired length Ref. 01MMIN / 02MMIN and insert it into the contra-angle.
- B Torque wrench Ref. TORK50:** use the ZPlus insertion key. Ratchet/Manual of the desired length Ref. XSMIN / TSMIN / TLMIN and insert it into the ratchet set to function "IN", which is identified with an arrow.
- C Screwdriver handle 4x4 Ref. MADW10:** use the ZPlus insertion key. Ratchet/Manual of the desired length Ref. XSMIN / TSMIN / TLMIN and insert it into the screwdriver handle.

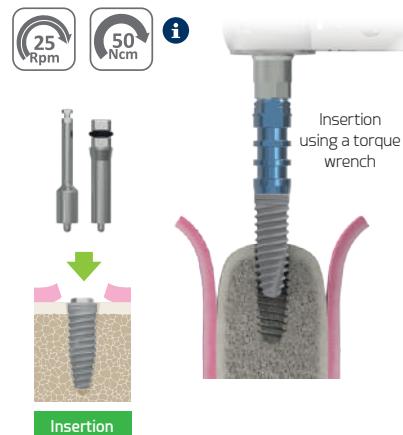
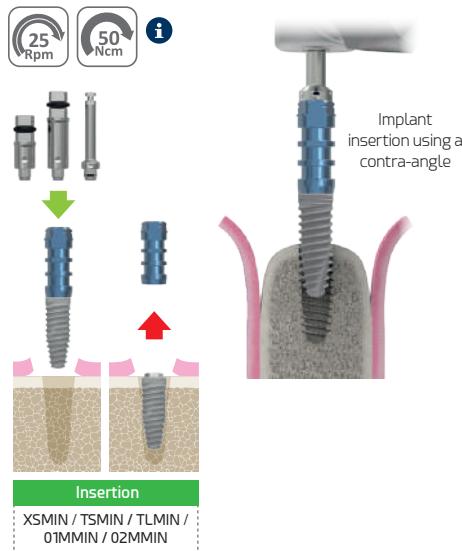
### STEP 3 | Removing the implant from its vial

Hold the vial containing the implant in one hand and insert the selected ZPlus insertion key with the other hand. Remove the implant-mount assembly by lifting it vertically out of the vial.



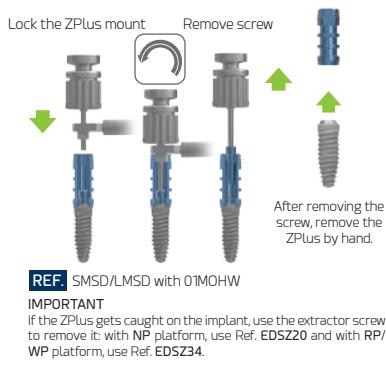
# ZM1 implant insertion with ZPlus Mount

## STEP 4 | Inserting the implant



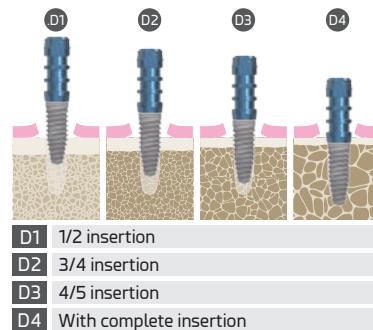
## STEP 5A | Extracting the ZPlus Mount

Lock the ZPlus mount using block key Ref. 01MOHW and remove the screw using manual surgical screwdriver Ref. SMSD / LMSD. After removing the screw, remove the ZPlus by hand.



## STEP 5B | Extracting the ZPlus Mount

In order to prevent the ZPlus mount from warping or cold welding with the implant, the point of insertion at which the mount should be extracted will depend on the type of bone.

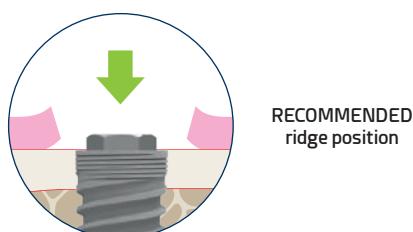


### IMPORTANT

The maximum insertion torque for the dental implants is 50 Ncm. Exceeding the maximum insertion torque for the implants may cause severe damage to the dental implant, its connection, the Mount and the clinical screw included. Check the specifications in the surgical protocol for removal of the Mount, according to the type of implant connection and the bone type.

## STEP 6 | Crestal placement of the implant

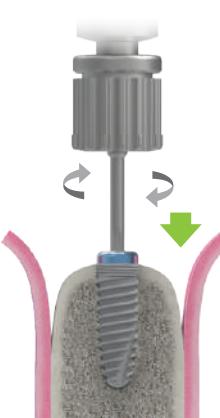
The Ziacom® ZM1 implant platform should be placed at bone ridge level.



# Surgical protocol

## ■ Soft tissue conditioning

### STEP 1 | Placing the cover screw



Remove the cover screw anti-clockwise using manual surgical screwdriver Ref. SMSD / LMSD. Move the cover screw towards the implant while taking care not to drop it and cause its accidental ingestion. Insert the screw into the implant until it locks, applying manual torque in a clockwise direction. Placement of the cover screw during the first surgical phase requires that, after the osseointegration period, the second surgical phase should be performed or the implant should be exposed to fit the chosen abutment.

Based on each individual case, you can choose not to place a cover screw but instead to directly attach a healing abutment.



### STEP 2 | Closing the soft tissue

Close and suture the soft tissue, carefully lining up the flaps.



### STEP 3 | Exposing and extracting the cover screw



Locate the implant and make an incision to expose the cover screw or use tissue punch Ref. MPU34 on the soft tissue. Remove the screw using manual surgical screwdriver Ref. SMSD or LMSD.



### STEP 4 | Placing the healing abutment



Insert the chosen healing abutment using manual surgical screwdriver Ref. SMSD or LMSD.

The choice of healing abutment will depend on each individual case. It should match the implant platform and also the height of the gingival tissue in order to prevent occlusion of the abutment. If the abutment is too tall, it may subject the implant to premature loading, compromising the osseointegration process.



## ■ Bone types

Misch classification (1988)



TYPE D1 BONE

- Dense cortical and dense trabecular bone.
- > 1250 HU



TYPE D2 BONE

- Porous cortical and dense trabecular bone.
- 850 - 1250 HU



TYPE D3 BONE

- Porous cortical and fine trabecular bone.
- 350 - 850 HU



TYPE D4 BONE

- Thin crestal cortical and fine trabecular bone.
- 150 - 350 HU

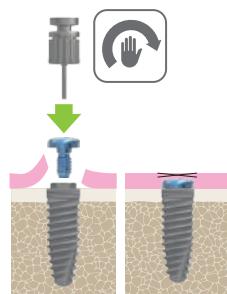
HU = Hounsfield Units

### IMPORTANT

In order to simplify the surgical drilling protocols, we have created quick drilling guides, in which the criteria for bone types are amalgamated, with D1-D2 treated as "High-Density" bone, and D3-D4 bone types as "Low-Density" bone.

## ■ Handling of cover screw

Place the cover screw in the screwdriver. Move the cover screw towards the implant while taking care not to drop it and cause its accidental ingestion. Insert it into the implant applying manual torque in a clockwise direction.



## ■ Considerations for temporisation and immediate loading

Immediate temporisation and immediate loading are procedures that involve the placement of the prosthesis within 72 hours after implant surgery. The fundamental difference between these procedures is whether or not the prosthesis will have a functional load.

Adequate primary stability of the implant at the time of insertion is crucial to consider placing a provisional or immediately loaded prosthesis. This stability can be objectively measured by the insertion torque, which must be equal to or greater than 40-45 Ncm or by analysing the resonance frequency (ISQ value), which should be greater than or equal to 70.

### ■ IMMEDIATE TEMPORISATION

Immediate temporisation involves thorough monitoring of occlusion, both in central (closed) position, and during lateral or dynamic movements that occur during mastication. By freeing the provisional from any contact in these situations, the transfer of forces to the implant is prevented.

The main objectives of immediate temporisation are:

- Immediate closure of edentulous spaces in aesthetic areas.
- Guided regeneration of the gingival emergence profile due to the presence of the provisional crown or bridge.

### ■ IMMEDIATE LOADING

The principle of immediate loading involves the controlled transfer of contact from the moment of placement of the restoration while the restoration is in occlusion; therefore we distinguish between:

- Progressive immediate loading, using an acrylic provisional restoration as the initial restoration (released in dynamic occlusion).
- Definitive immediate loading, with rigid material and active occlusion from day one.

Both processes involve risks to the success of the osseointegration of the implant, so it is up to the practitioner, based on clinical experience and the case in question, whether or not to place an immediate provisional restoration and/or immediate loading.

# Surgical protocol

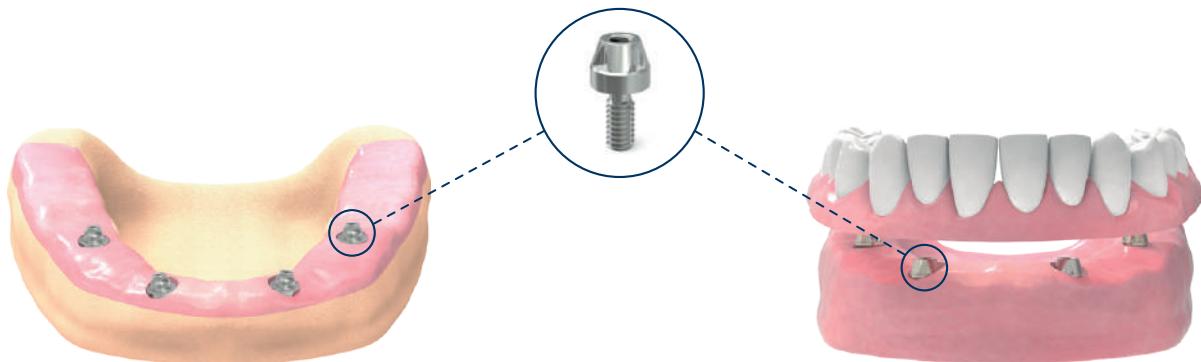
## Restorations using transepithelials

### ■ Transepithelial abutments

- Allows the peri-implant tissue to form from the initial 8 weeks.
- One abutment-one time, allows gingival adhesion to its surface as repeated detachments are not necessary.
- Avoids bone and soft tissue loss as there is no mechanical rupture of the peri-implant interface.
- The prosthetic working area is above the gingival level, making the soft tissue adhesive behaviour more predictable, maintaining a good seal.
- Less formation of micro-gaps at the implant-prosthesis junction.
- Increased crestal bone preservation.
- Prosthetic try-ins and definitive placement without anaesthesia.
- If the recommended torques are exceeded, the screw suffers the fracture at transepithelial level and not inside the implant.

### ■ Abutment heights

- Greater abutment height means more marginal bone is preserved in cement-retained prostheses.
- Higher abutments ( $\geq 2$ mm) provide better soft tissue adaptation.
- Short abutments ( $< 2$  mm) can compromise the soft tissues, resulting in more crestal bone loss.
- Marginal bone loss will differ depending on the clinical decision on the abutment height. Generally, prosthetic abutments  $\geq 2$ mm will lead to better preservation of crestal bone.



## Simplified surgical protocol

These surgical guides have been designed with a simplified surgical protocol to perform simple and efficient drilling of the surgical site.

## ZPlus - Drilling Protocol



Detailed speeds are recommended

## ZM1 Ø3.30 (Example of preparation of the implant bed with ZM1 implant Ø3.30x115)

Example of preparation of the implant bed with ZM1 implant  $\varnothing 3.30 \times 11.5$



Key	Optional	Sequential
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# Surgical protocol

**Inserting the implant**

**Smoothes bone**

**Drill Ø 4.10 mm**

**Mark the implantation position**

**Initial drilling - Check the implant axis**

**Initial Drill Ø 16.0/2.00 mm**

**Paralleling pin Ø 16.0/2.00 mm**

**Decide on the bone density**

**High density**

**Low density**

**Pilot drill 1**

**Final drill 2**

**Tap**

**Mount**

**Finish the implant bed Depending on the bone density**

**CLD34**

**CLD001M**

**OSPD20M**

**MUR101MT**

**OTD201C**

**OTD303C**

**MTAP36MC**

**Key**

**Optional**

**Sequential**

Tool	Sequence	Optional	Optional with Note
CLD34	Sequential	900 Rpm	
CLD001M	Sequential	900 Rpm	
OSPD20M	Sequential	900 Rpm	
MUR101MT	Sequential		
OTD201C	Sequential	900 Rpm	
OTD303C	Sequential	500 Rpm	
MTAP36MC	Sequential	25 Rpm	

**ZM1** Ø4.00 (Example of preparation of the implant bed with ZM1 implant Ø4.00x115)

Example of preparation of the implant bed with ZM1 implant Ø4.00x11.5

Smoothes bone

Mark the implantation position

Initial drilling - Check the implant axis

Decide on the bone density

Pilot drill 1

Pilot drill 2

Final drill 3

Tap

Mount

Inserting the implant

Finish the implant bed  
Depending on the bone density

High density

Low density

Drill Ø 4.10 mm

Lance Drill, Ø 2.00 mm

Initial Drill Ø 16.0/2.00 mm

Parallelizing pin Ø 16.0/2.00 mm

OTD34

SD00IM

OSPD20M

MUR01MT

OTD201C

OTD301C

OTD401C

OTD403C

MTAP40MC



# Simplified surgical protocol

## ZM1 Ø4.40 (Example of preparation of the implant bed with ZM1 implant Ø4.40x15)

(Example of preparation of the implant bed with ZM1 implant Ø4.40x11.5)



Key	Optional	Sequential
	●	■

**ZM1** Ø4.80 (Example of preparation of the implant bed with ZM1 implant Ø4.80x115)

(Example of preparation of the implant bed with ZM1 implant Ø4.80x11.5)

The diagram illustrates the sequential steps of implant surgery:

- Smoothes bone**: The process begins with smoothing the bone surface.
- Mark the implantation position**: The implant position is marked on the bone.
- Initial drilling - Check the implant axis**: An initial drill is used to create a pilot hole, with a paralleling pin  $\varnothing 1.60/2.00$  mm inserted to ensure proper orientation.
- Decide on the bone density**: The bone density is assessed as either **High density** or **Low density**.
- Pilot drill 1**: A pilot drill is used to create the initial hole.
- Pilot drill 2**: A second pilot drill is used to refine the hole.
- Pilot drill 3**: A third pilot drill is used to further refine the hole.
- Final drill 5**: A final drill is used to create the final implant site.
- Tap**: A tap is used to prepare the implant site for the implant.
- Mount**: The implant is mounted onto the surgical template.
- Finish the implant bed Depending on the bone density**: The final step is to finish the implant bed based on the determined bone density.
- Inserting the implant**: The final step is to insert the implant into the prepared site.

Legend for tools and components:

- Green arrows: Pilot drill 1, Pilot drill 2, Pilot drill 3, Final drill 5, Tap.
- Blue arrow: Inserting the implant.
- Red arrow: Mount.
- Grey circle: Initial drill,  $\varnothing 1.60/2.00$  mm.
- Grey box: Paralleling pin  $\varnothing 1.60/2.00$  mm.
- Grey box: High density.
- Grey box: Low density.
- Grey box: Mount.

Timeline:

Step	Tool	Time
Smoothes bone	Smoothes bone	OTD201C
Mark the implantation position	Marking tool	OTD301C
Initial drilling - Check the implant axis	Initial drill, $\varnothing 1.60/2.00$ mm; Paralleling pin $\varnothing 1.60/2.00$ mm	OTD301C
Decide on the bone density	Assessment	OTD401C
Pilot drill 1	Pilot drill	OTD603C
Pilot drill 2	Pilot drill	OTD603C
Pilot drill 3	Pilot drill	OTD603C
Final drill 5	Final drill	OTD603C
Tap	Tap	OTD603C
Mount	Mount	OTD401C
Finish the implant bed Depending on the bone density	Finishing tools	OTD401C
Inserting the implant	Implant	OTD48MC



Key	Optional	Sequential
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# Simplified surgical protocol

## General recommendations

### ■ Points to consider during the procedure

**1**

Surgical drills must be inserted into the contra-angle handpiece with the motor stopped, ensuring that they are seated and rotate properly before starting drilling. Treat drills with the utmost care; the slightest damage to the tips could compromise their effective operation.

**2**

Damaged instruments must be disposed of according to local regulations.

**3**

Implantologists should keep one of the identification labels supplied with the product in the patient's records so that the product can be traced correctly.

**4**

Each instrument must only be used for the specific use recommended by the manufacturer.

Always consult the surgical and prosthetic protocols published in this catalogue, as well as the other documents available in the "Reference literature" section of our website [www.ziacom.com/biblioteca](http://www.ziacom.com/biblioteca) which explain the procedures, protocols and instructions for use before using the Ziacom ZM1 system.



Cleaning,  
disinfection  
and sterilisation



# Cleaning, disinfection and sterilisation

The protocols described in this section must only be carried out by personnel qualified to clean, disinfect and sterilise the dental materials specified herein.

## Cleaning and disinfection instructions

Applicable for surgical and prosthetic instruments and boxes.

### ■ Disassembly

1. Disassemble\* the instruments that need to be cleaned and disinfected, such as manual ratchets, drills or drill stops.
2. Remove all the different components from the surgical or prosthetic kit box for correct cleaning.

### ■ Cleaning and disinfection

For disinfection of instruments and surgical kit boxes:

1. Submerge the instruments in a detergent/disinfectant solution\*\* suitable for dental instruments to help eliminate any adhered biological residues. If an ultrasound bath is available\*\*\*, confirm that the detergent/disinfectant solution is indicated for use with this type of equipment.
2. Manually remove any biological residues with a non-metallic brush and pH-neutral detergent.
3. Rinse with copious water.
4. When cleaning surgical and prosthetic kit boxes, always use a pH-neutral detergent and non-abrasive tools to avoid damaging the surface of the boxes.
5. Dry the materials with disposable, lint-free, cellulose cloths or compressed air.

For disinfection of plastic caps and the protective disk:

1. Submerge for 10 minutes in a neat benzalkonium chloride solution.
2. Rinse with distilled water.
3. Dry the caps and disk prior to use.

### ■ Inspection

1. Check that the instruments are perfectly clean; if not, repeat the cleaning and disinfection steps.
2. Discard any instruments with imperfections and replace them before the next surgery.
3. Check that the instruments and surgical and prosthetic kit boxes are perfectly dry before reassembling the parts and proceeding with sterilisation.

\* See the assembly and disassembly manuals at [www.ziacom.com/biblioteca](http://www.ziacom.com/biblioteca)

\*\* Follow the instructions from the disinfectant's manufacturer to determine the correct concentrations and times.

\*\*\* Follow the instructions from the ultrasound bath's manufacturer to determine the correct temperature, concentration and times.

## Sterilisation instructions for steam autoclaves

Applicable to orthodontic implants, abutments, kit, surgical and prosthetic boxes, pins, fixing screws and mesh membranes.

1. Place the material in individual sterilisation pouches and seal the pouches. For joint sterilisation, place the instruments in their surgical kit box, place the box in a sterilisation pouch and seal the pouch.
2. Place the pouches to be sterilised in the autoclave.
3. Sterilise in a steam autoclave at 134°C/273°F (max. 137°C/276°F) for 4 min (minimum) at 2 atm. Dynamometric torque wrenches must be sterilised in 3 vacuum cycles at 132°C/270°F for at least ≥ 4 minutes and vacuum dried for at least 20 minutes.

**For the United States only:** The validated and recommended sterilisation cycle for the US must be performed in a steam autoclave at 132°C/270°F for at least 15 minutes with a drying time of at least 15–30 minutes.

#### IMPORTANT

Make sure the drying stage is allowed to run to completion, otherwise the products may be damp.

Check the sterilisation equipment if the materials or sterilisation pouches are damp at the end of the sterilisation cycle.

Perform the necessary maintenance actions on the autoclave according to the established periodicity and following the manufacturer's instructions.

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## Storage of Ziacom® products

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- Store the products in their original packaging in a clean, dry place until they are to be used.
- After sterilisation, keep the products in the sealed sterilisation pouches in a clean, dry location.
- Never exceed the use by date indicated by the manufacturer of the sterilisation pouches.
- Always follow the instructions of the manufacturer of the sterilisation pouches.

## General recommendations

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- Never use damaged or dirty material; never reuse single-use products. The user is responsible for following the instructions described in this document correctly.
- Pay attention to piercing or sharp elements. Gloves should be worn when cleaning the materials to avoid accidents during handling.
- Follow the safety instructions indicated by the manufacturer of the disinfectant.
- The product's sterility cannot be guaranteed if the sterilisation pouch is open, damaged or damp.
- Respect all stages of the sterilisation process. If the materials or sterilisation pouches contain traces of water or moisture, check the autoclave and repeat the sterilisation.
- Orthodontic abutments and implants are supplied UNSTERILISED and must always be sterilised before use.
- Instruments and surgical and prosthetic kit boxes are supplied UNSTERILISED and must always be sterilised before use and cleaned and disinfected after use.
- Sterilisation, cleaning and disinfection processes gradually deteriorate the instruments. Inspect the instruments thoroughly to detect any signs of deterioration.
- Avoid contact between products made from different materials (steel, titanium, etc.) during the cleaning, disinfection and sterilisation processes.
- Ziacom Implants SLU recommends these instructions are implemented for the correct maintenance and safety of their products; accordingly, the company refuses any liability for any damage to the products that could arise if the user applies alternative cleaning, disinfection and sterilisation procedures.

See the latest version of  
the cleaning, disinfection and  
sterilisation instructions at  
[www.ziacom.com/biblioteca](http://www.ziacom.com/biblioteca)





See the updated general conditions of sale at [www.ziacom.com](http://www.ziacom.com).

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