ZMK · ZMR

Special connection onepiece implants

Ziacom®
A Ziacom Group Company

ZMK · ZMR

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Ziacom®

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, 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 counties. Check availability in your country.

Together for **health**

Index

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.

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.

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.

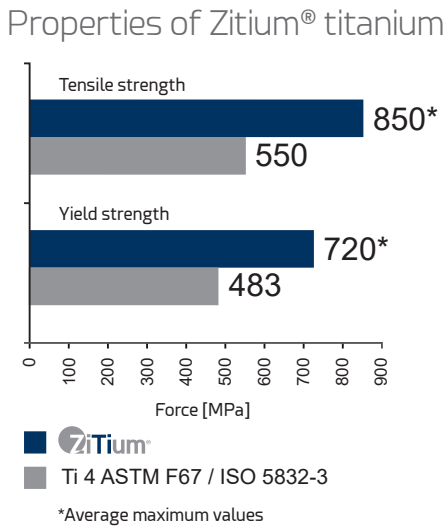
Ziacom Implants SLU is a **licensed manufacturer of medical devices** and an **AEMPS (Spanish Agency of Medicines and Medical Devices)** 6425-PS marketing authorisation holder. Our **quality management system is certified** in accordance with the requirements of ISO standards 9001:2015 and 13485:2018. 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.

Zitium® titanium

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



*Average maximum values

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.

Non sterile

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**.

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.

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.

Regional headquarters

Ziacom Implants

Madrid - SPAIN
Calle Búhos, 2 - 28320 Pinto
+34 91 723 33 06

Subsidiaries

Ziacom Lusobionic

Av. Miguel Bombarda, 36 - 5° 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** or email us at **export@ziacom.com**

ZMK characteristics

SURGICAL PHASE

- Minimally invasive surgery: simplifies drilling protocol and reduces surgical time.
- Single surgical phase, transmucosal: surgical simplicity and mostly asymptomatic postoperative.
- Non second surgery needed: shorter tissue healing time.
- Reduced diameter: allows implant placement in reduced M-D spaces.

PROSTHETIC SIMPLICITY

- Kirator abutment included.
- No abutment screws: non loosening or deterioration due to micro-movements.
- Overdentures: reduction of costs by including abutment (processing pack not included).

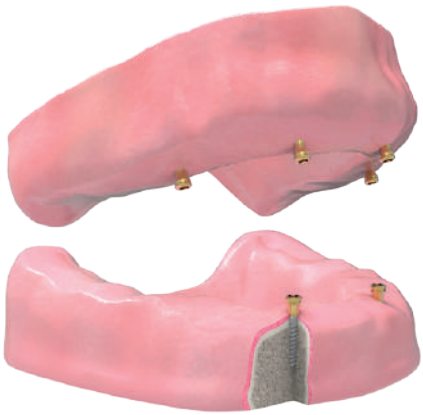
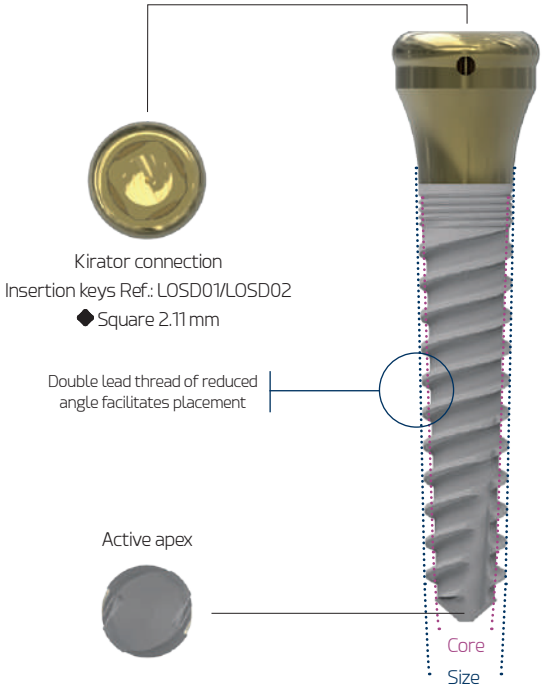
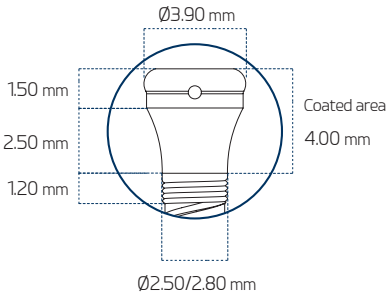


Image of a clinical case for rehabilitation with bimaxillary muco-supported implant-retained overdenture



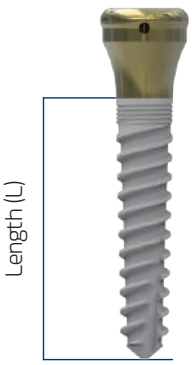
Implant coronal area measurements



ZMK diameters and lengths

		LENGTH (L)		
Ø DIAMETER	Ø PLATFORM	10	11.5	13
▲ RP 2.50	3.90			
▲ RP 2.80				

Dimensions in mm.



ZMR · ZMR S characteristics

SURGICAL PHASE

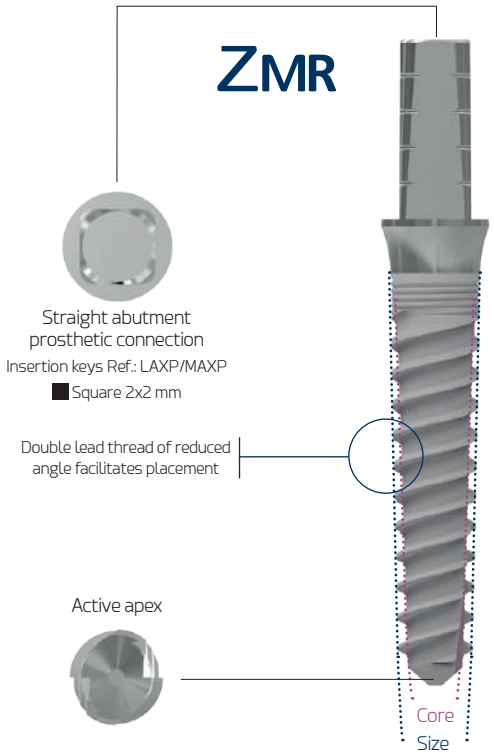
- Minimally invasive surgery: simplifies drilling protocol and reduces surgical time.
- Single surgical phase, transmucosal: surgical simplicity and mostly asymptomatic postoperative.
- Non second surgery needed: shorter tissue healing time .
- Reduced diameter: allows implant placement in reduced M-D spaces.

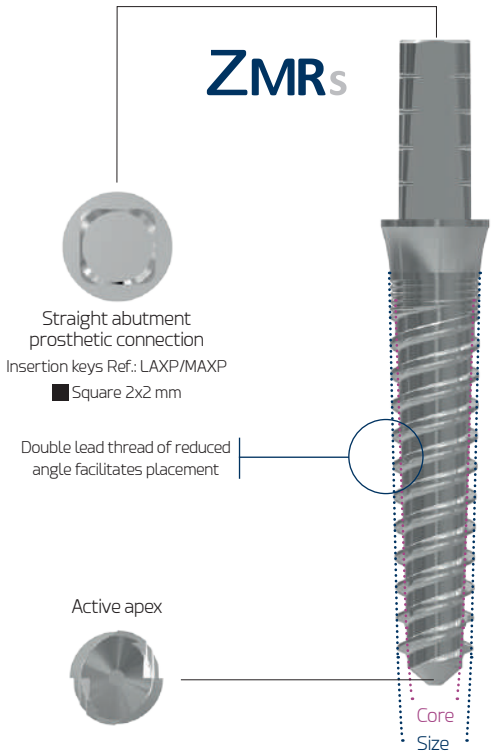
PROSTHETIC SIMPLICITY

- Scuptable straight abutment: makes impression easy. Immediate function.
- No abutment screws: non loosening or deterioration due to micro-movements.

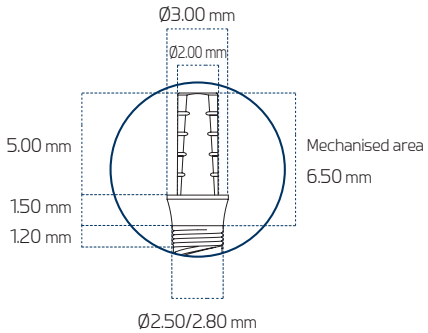
TWO TYPES

- Non surface treatment models as a trasitional implant for provisional immediate loading are available (only in Ø2.5mm)

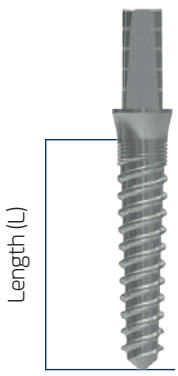




Implant coronal area measurements



ZMR · ZMR S diameters and lengths



Ø DIAMETER	Ø PLATFORM	LENGTH (L) 10	11.5	13
▲ RP 2.50	3.00			
▲ RP 2.80				

Dimensions in mm.

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.

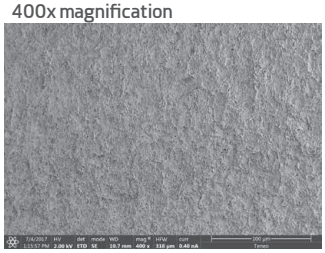
ANALYSIS OF THE TITANSURE SURFACE TREATMENT

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.

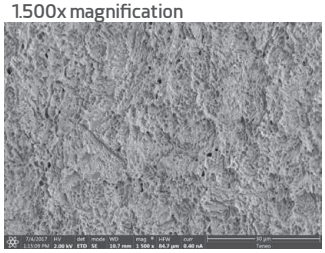
Surface morphology analysis

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

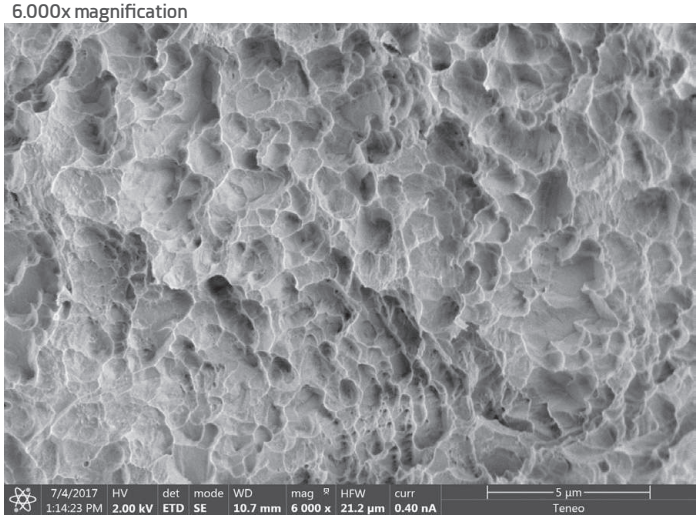
400x magnification



1.500x magnification

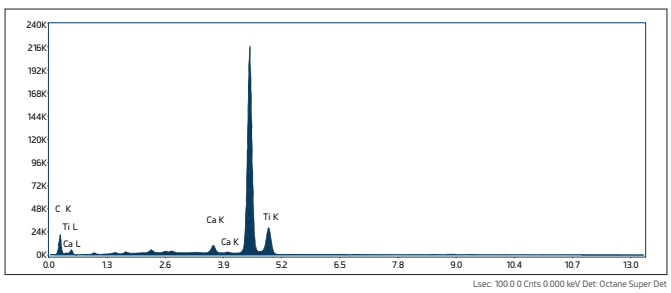


6.000x magnification



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 (%)).

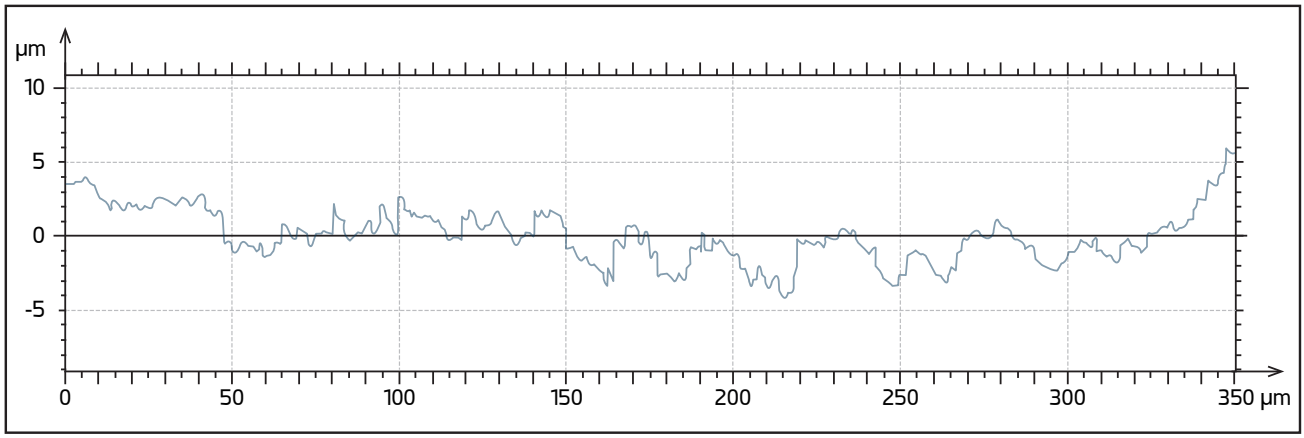
Surface roughness analysis

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 (µm) (SD)	Rq (µm) (SD)	Rp (µm) (SD)	Rv (µm) (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 (µm) (SD)	Sq (µm) (SD)	Sp (µm) (SD)	Sv (µm) (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 Guehennec, 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**

Product presentation

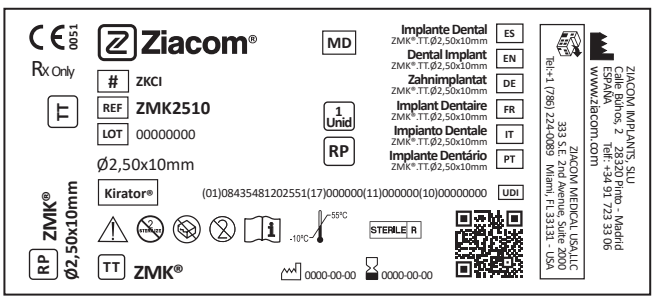
Blister packaging

Available for implants with **Titansure** surface treatment. Blister packs are heat sealed and include product labels in order to be able to trace products correctly and a flap for easy opening in the clinic but while preventing accidental opening.

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

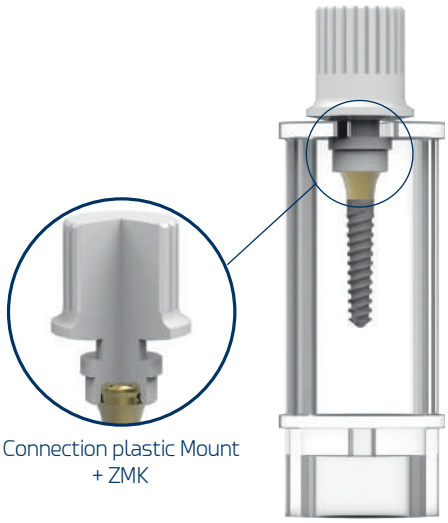
For full details on the product presentation and instructions for use (IFU), go to **www.ziacom.es/ifus** or scan the QR code on the box.

Plastic Mount

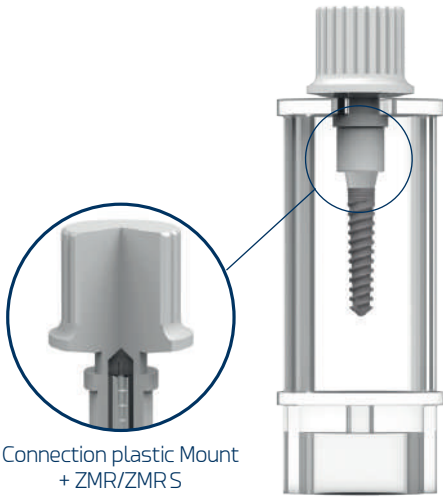
The packaging option of the one-piece implant with a **plastic mount** allows a comfortable and quick manual insertion of the implant in the surgical site.

Its advantages include:

- Convenient initial insertion in the implant site.
- Higher retention area for manual use.
- Higher length: facilitates its use with adjacent teeth.
- Higher resistance to torsion.

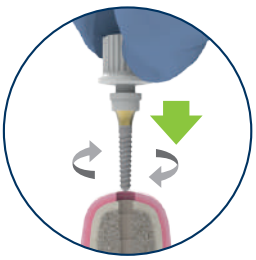


Connection plastic Mount + ZMK

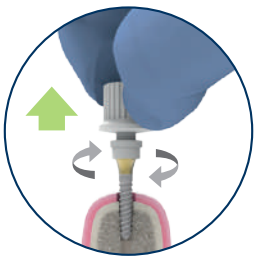


Connection plastic Mount + ZMR/ZMR S

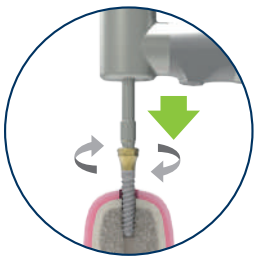
Insert steps



Step 1: insert the implant manually by turning clockwise



Step 2: separate the plastic Mount at the same time as you perform the insertion



Step 3A: final implant position with CA (Ref. LOSD02)

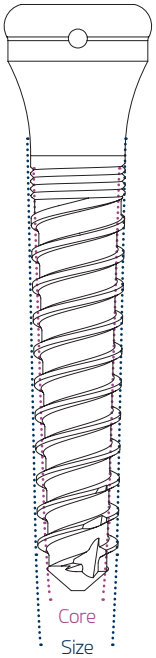
Step 3B: final implant position with ratchet (Ref. LOSD01)

For more information on the use of surgical instruments, see the "Surgical protocol" section on pages 36 to 40 of this catalogue.

ZMK · ZMR · ZMR S references

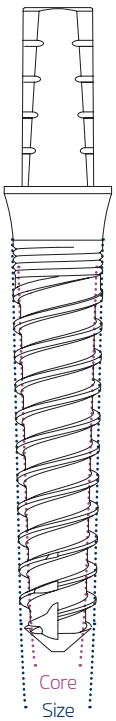
IMPLANT

	Ø (mm)	Ø Core (mm)	Length	Ref. Titansure	
ZMK	2.50	2.10/1.50	10.0 mm	ZMK2510	
			11.5 mm	ZMK2511	
			13.0 mm	ZMK2513	
	2.80	2.40/1.75	10.0 mm	ZMK2810	
			11.5 mm	ZMK2811	
			13.0 mm	ZMK2813	



IMPLANT

	Ø (mm)	Ø Core (mm)	Length	Ref. Titansure	
ZMR	2.50	2.10/1.50	10.0 mm	ZMR2510	
			11.5 mm	ZMR2511	
			13.0 mm	ZMR2513	
	2.80	2.40/1.75	10.0 mm	ZMR2810	
			11.5 mm	ZMR2811	
			13.0 mm	ZMR2813	



IMPLANT

	Ø (mm)	Ø Core (mm)	Length	References	
ZMRs	2.50	2.10/1.50	10.0 mm	ZMR2510S	
			11.5 mm	ZMR2511S	
			13.0 mm	ZMR2513S	

Recommendations for use

All implant planning must respect the natural biomechanical stability of the oral cavity and allow natural emergence of the dental crown through the soft tissue by means of an implant with a prosthetic platform that has a diameter that is proportionally smaller than the emergence diameter of the tooth to be restored. 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 reconstruction possibility. The triangles identified with letters on the periodontal chart represent the implant diameters and platforms recommended for those tooth positions.

These recommendations are valid for replacing teeth with single-unit restorations, bridges or partial or complete implant-retained, tissue-supported dentures.

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 of the drill.
- **DRILLING TECHNIQUE:** we have developed various drilling protocols to enable you to deal with different situations that arise in a schematic way when performing implant surgery.

For more information on implant size selection see the literature available at **www.ziacom.com/biblioteca**

Periodontal chart

ZMK

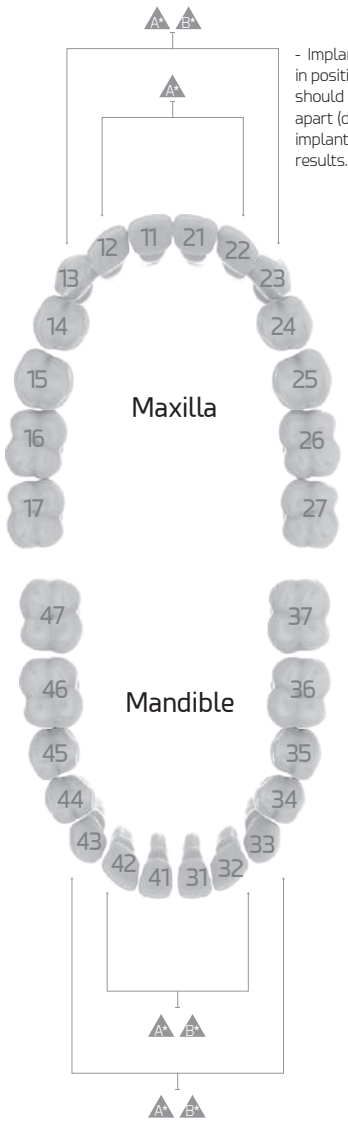
Implant diameter(1)

▲ RP Ø2.50 mm
▲ RP Ø2.80 mm

(1) Diameters available for analogue platforms

Implant crown diameter

▲ RP Ø2.50 mm
▲ RP Ø2.80 mm



- Implants with overdenture in positions marked "*" should be placed 22-27 mm apart (distance between implant centres) for optimal results.

Recommendations for use

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These recommendations are valid for replacing teeth with single-unit restorations, bridges or partial or complete implant-retained, tissue-supported dentures.

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 of the drill.
- **DRILLING TECHNIQUE:** we have developed various drilling protocols to enable you to deal with different situations that arise in a schematic way when performing implant surgery.

For more information on implant size selection see the literature available at **www.ziacom.com/biblioteca**

Periodontal chart

ZMR · ZMRs

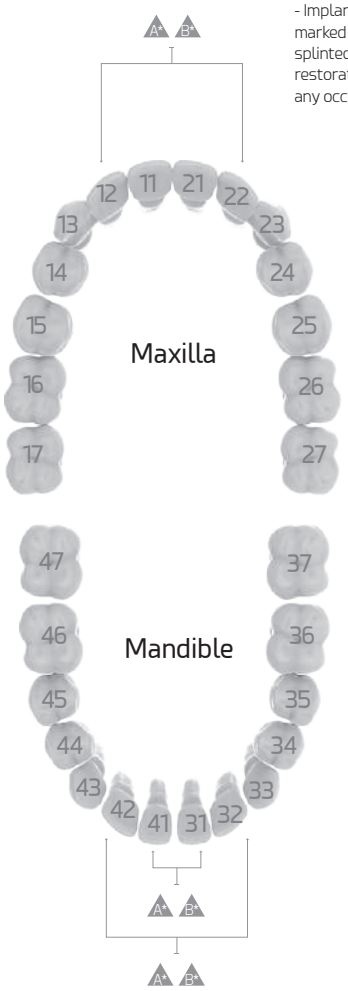
Implant diameter(1)

▲ RP Ø2.50 mm ▲ RP Ø2.80 mm

(1) Diameters available for analogue platforms

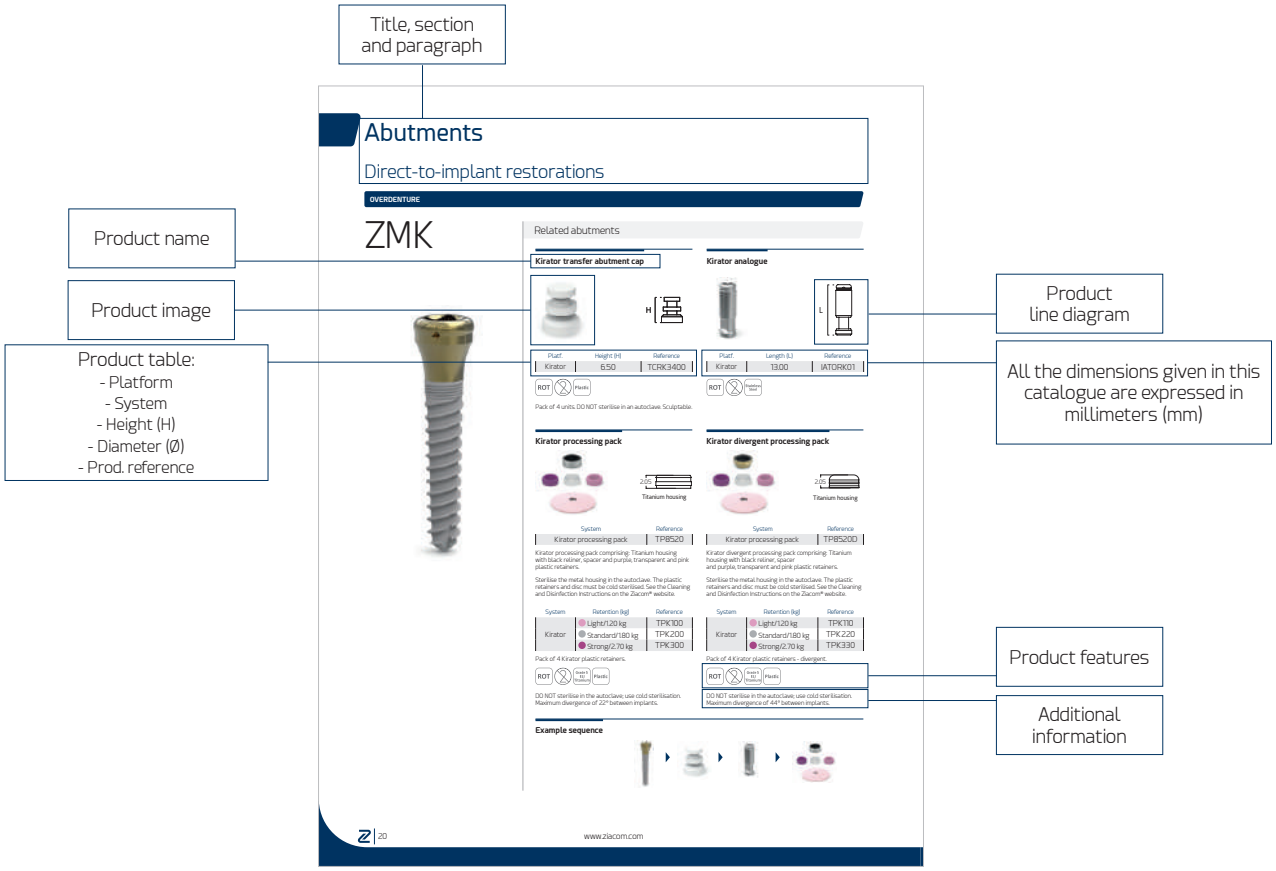
Implant crown diameter

▲ RP Ø2.50 mm ▲ RP Ø2.80 mm



- Implants in positions marked "*" should be splinted or, in single-unit restorations, alleviated of any occlusal loads.

Product sheet



Symbology

Symbol	Meaning
ROT	Rotatory element
NO ROT	Non-rotatory element
	Use with manual torque
XX Ncm	Maximum operating torque
Ncm 10 20 30 40 50 60 70	Ratchet torque range
Galaxy	Galaxy connection
1,25mm	Screw connection
Kirator	Kirator connection
Basic	Basic connection
XDrive	XDrive connection

Symbol	Meaning
	Tx30 connection
MX,XX	Size in millimeters
45°	45° screw support
90°	90° screw support
	Use in rotation with a CA
XX Rpm	Maximum rotation speed
XX USES	Maximum number of uses
	Single-use product
Grade 5 ELI Titanium	Made from grade 5 ELI (extra-low interstitial) titanium
Stainless Steel	Made from stainless steel

Symbol	Meaning
Co-Cr +castable	Made from cobalt chromium + castable plastic
Cobalt Chromium	Made from cobalt chromium
PEEK	Made from PEEK
Full castable	Made from castable plastic
Plastic	Made from plastic
XX°	Recommended sterilisation temperature
Non sterile	Unsterilised product
	Use with abundant irrigation
XX°	Maximum angle

ZMK · ZMR

Abutments

Direct-to-implant restorations

Abutments

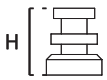
Direct-to-implant restorations

OVERDENTURE

ZMK

Related abutments

Kirator transfer abutment cap

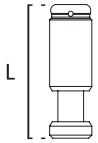


Platf.	Height (H)	Reference
Kirator	6.50	TCRK3400

ROT · Plastic

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

Kirator analogue



Platf.	Length (L)	Reference
Kirator	13.00	IATORK01

ROT · Stainless Steel

Kirator processing pack

System	Reference
Kirator processing pack	TP8520

Kirator processing pack comprising: Titanium housing with black reliner, spacer and purple, transparent and pink plastic retainers.

Sterilise the metal housing in the autoclave. The plastic retainers and disc must be cold sterilised. See the Cleaning and Disinfection Instructions on the Ziacom® website.

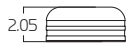
System	Retention (kg)	Reference
Kirator	Light/1.20 kg	TPK100
	Standard/1.80 kg	TPK200
	Strong/2.70 kg	TPK300

Pack of 4 Kirator plastic retainers.

ROT · Grade 5 ELI Titanium · Plastic

DO NOT sterilise in the autoclave; use cold sterilisation. Maximum divergence of 22° between implants.

Kirator divergent processing pack



System	Reference
Kirator processing pack	TP8520D

Kirator divergent processing pack comprising: Titanium housing with black reliner, spacer and purple, transparent and pink plastic retainers.

Sterilise the metal housing in the autoclave. The plastic retainers and disc must be cold sterilised. See the Cleaning and Disinfection Instructions 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 Kirator plastic retainers - divergent.

ROT · Grade 5 ELI Titanium · Plastic

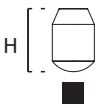
DO NOT sterilise in the autoclave; use cold sterilisation. Maximum divergence of 44° between implants.

Example sequence

ZMR · ZMR S

Related abutments

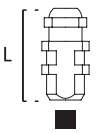
Healing abutment

Platf.	Height (H)	Reference
▲	6.00	HABA05

NO ROT · PEEK

Snap-On transfer abutment cap

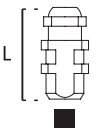
Platf.	Length (L)	Reference
▲	9.70	NUXP01

NO ROT · Plastic

Pack of 4 units. Make sure the plastic transfer abutment cap is seated properly on the abutment before taking the impression. DO NOT sterilise in an autoclave. Sculptable.

Also acts as an UCLA abutment

UCLA

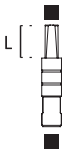
Platf.	Length (L)	Reference
▲	9.70	NUXP01

NO ROT · Plastic

Pack of 4 units. Make sure the UCLA abutment is properly engaged on the abutment before waxing. DO NOT sterilise in an autoclave. Sculptable.

Also acts as a Snap-On transfer abutment cap.

Implant analogue

Platf.	Length (L)	Reference
▲	5.00	IAXP02

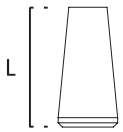
NO ROT · Stainless Steel

3D implant analogue

Platf.	Length (L)	Reference
▲	5.00	IAXP02D

NO ROT · Stainless Steel

Provisional abutment

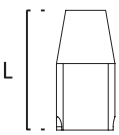



Platf.	Length (L)	Reference
▲	7,00	NURT10

NO ROT · Grade 5 ELI Titanium

ZIACOR® CAD-CAM

ZiaCam to implant scanbody

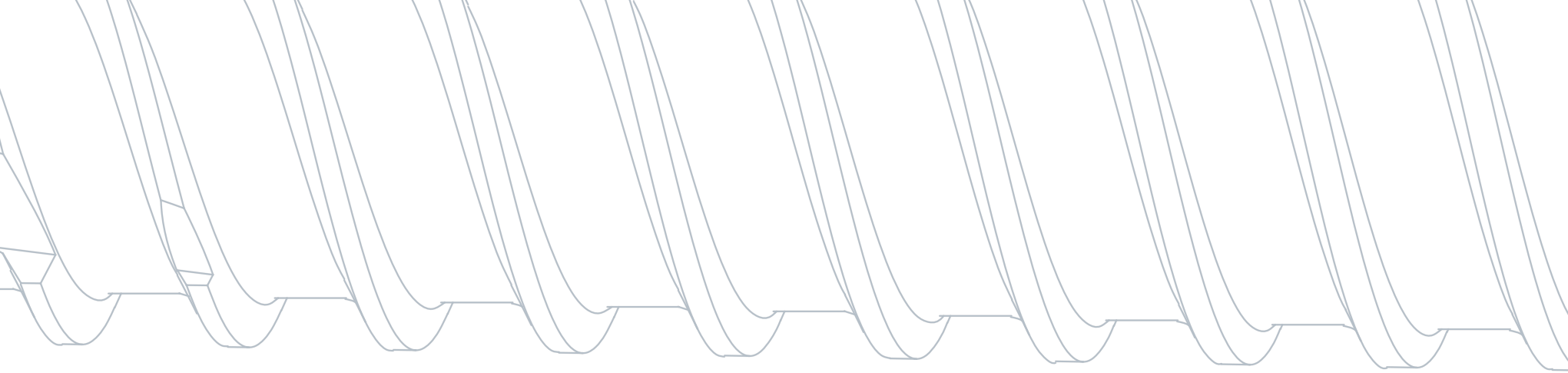



Platf.	Length (L)	Reference
▲	9.00	FNSY2341

NO ROT · 1,25mm · PEEK

Example sequence

Prosthetic modelling

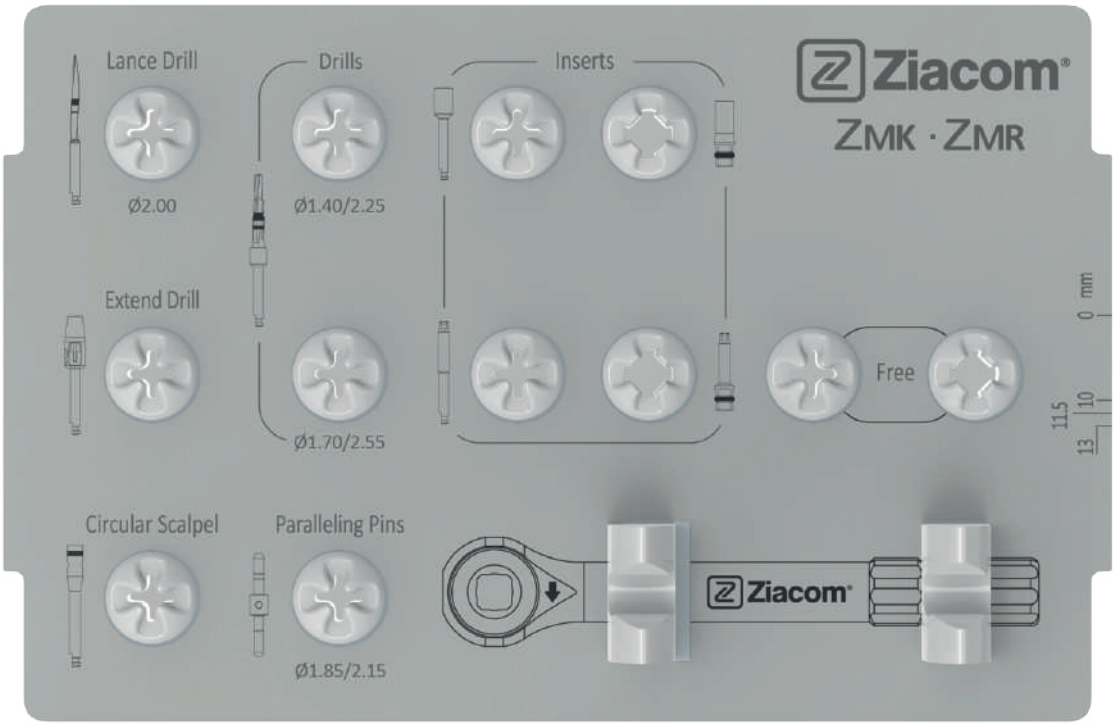


ZMK · ZMR

Surgical instruments

Surgical instruments

Surgical boxes



■ Available ZMK boxes

Platf.	Contents	Reference
▲	Empty	BOX600X
	Basic, manual. Surgical ratchet	BOX600KXS
	Basic, manual. Torque wrench	BOX600KXSK
	Basic, CA. Surgical ratchet	BOX600KMXS
	Basic, CA. Torque wrench	BOX600KMXSK
	Complete. Surgical ratchet	BOX600KXC
	Complete. Torque wrench	BOX600KXCK

■ Available ZMR boxes

Platf.	Contents	Reference
▲	Empty	BOX600X
	Basic, manual. Surgical ratchet	BOX601XS
	Basic, manual. Torque wrench	BOX601XSK
	Basic, CA. Surgical ratchet	BOX600MXS
	Basic, CA. Torque wrench	BOX600MXSK
	Complete. Surgical ratchet	BOX601XC
	Complete. Torque wrench	BOX601XCK

■ Available ZMR S boxes

Platf.	Contents	Reference
▲	Empty	BOX600
	Basic, manual. Surgical ratchet	BOX600RXS
	Basic, manual. Torque wrench	BOX600RXSK
	Basic, CA. Surgical ratchet	BOX600RMXS
	Basic, CA. Torque wrench	BOX600RMXSK
	Complete. Surgical ratchet	BOX600RXC
	Complete. Torque wrench	BOX600RXCK

134°

Material: Radel.

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

Contents of surgical boxes

REF	Description
MSID02	Lance drill. ZMK/ZMR. Ø2.00mm. Millimeter. Stainless steel
OTD18ZM	Stepped surgical drill. ZMK/ZMR. Ø1.80mm. Millimeter. Stainless steel
OTD20ZM	Stepped surgical drill. ZMK/ZMR. Ø2.00mm. Millimeter. Stainless steel
DEXT10	Drill extender. Stainless steel
PARA70	Double paralleling pin. ZMK/ZMR. Ø1.80/2.15mm. Grade 5 ELI titanium
LAXP	Implant adaptor. Ratchet/Manual. Stainless steel
MAXP	Implant adaptor. CA. Stainless steel
LOSD02	Kirator/ZMK adaptor. CA. Stainless steel
LOSD01	Kirator/ZMK adaptor. Ratchet/Manual. Stainless steel
RATC50	Implant ratchet. Stainless steel
MPU10	Tissue punch. RP. CA. Stainless steel
TORK50	Adjustable torque wrench. 10/20/30/40/50/60/70 Ncm. Stainless steel

Surgical instruments

SURGICAL DRILLS

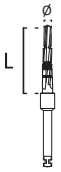
Lance drill

Platf.	Diameter (Ø)	Length (L)	Reference
▲	2.00	19.70	MSID02

Millimeter: 10/11.5/13

45 USES · Stainless Steel

Stepped surgical drill

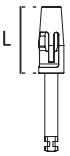


Platf.	Diameter (Ø)	Length (L)	Reference
▲	1.40/2.25	17.00	OTD18ZM
▲	1.70/2.55	17.00	OTD20ZM

Millimeter: 10/11.5/13

45 USES · Stainless Steel

Drill extender

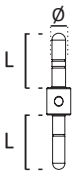


Platf.	Length (L)	Reference
Universal	13.50	DEXT10

Stainless Steel

PROBES

Double paralleling pin



Platf.	Diameter (Ø)	Length (L)	Reference
▲	1.85/2.15	8.00	PARA70

Grade 5 ELI Titanium

KEYS

ZMR insertion key. Ratchet/Manual

Platf.	Length (L)	Reference
Universal	6.80	LAXP

■ Square - 2x2 mm
■ Square - 4x4 mm

Stainless Steel

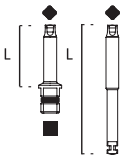
ZMR insertion key. CA

Platf.	Length (L)	Reference
Universal	6.30	MAXP

■ Square 2x2 mm

Stainless Steel

Kirator insertion key



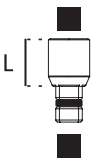
Platf.	Length (L)	Reference
Kirator	13.60/Manual	LOSD01
	20.00/CA	LOSD02

◆ Square 2.11 mm / ■ Square 4x4 mm

Kirator · Stainless Steel

ADAPTERS

Universal adapter. Ratchet/Manual

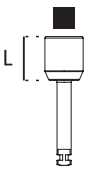


Platf.	Length (L)	Reference
Universal	7.20	LAEX

■ Square 4x4 mm

Stainless Steel

Universal adapter, CA

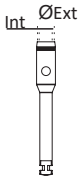


Platf.	Length (L)	Reference
Universal	7.20	MAEX

■ Square 4x4 mm

Stainless Steel

Tissue punch



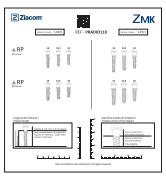
Platf.	Diameter (Ø)	Reference
▲	2.80/3.30	MPU10

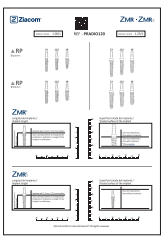
DLC surface treatment

25 USES · Stainless Steel

RADIOGRAPHIC TEMPLATE

ZMK and ZMR/ZMR S radiographic templates





Platf.	Model	Reference
▲	ZMK	PRADI0110
▲	ZMR - ZMR S	PRADI0120

Scales 1:1 and 1:1.25
Material: transparent acetate. Non-sterilisable material

See the literature available at
www.ziacom.com/biblioteca

RATCHETS

Implant ratchet

Platf.	Length (L)	Reference
Universal	69.80	RATC50

■ Square 4x4 m

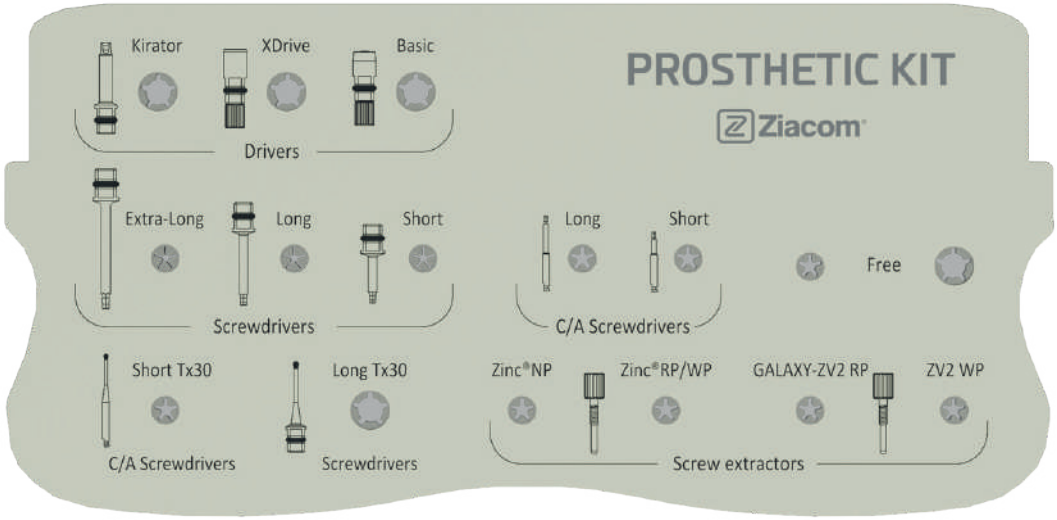
Stainless Steel · Grade 5 ELI Titanium

ZMK · ZMR

Prosthetic instruments

Prosthetic instruments

Prosthetic box



Contents of prosthetic boxes available

Contents	Reference
Empty	BOXPN
Basic	BOXPSN
Complete	BOXPCN

134°

Material: Radel.

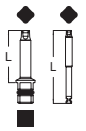
Ensure boxes do not touch the walls of the autoclave to avoid damage.

Contents of prosthetic boxes

REF	Description	BOXPSN	BOXPCN
LOSD01	Kirator insert key. Ratchet	●	●
MABA100	Basic insert key. Short. Ratchet. Grade 5 ELI titanium	●	●
MABA200	XDrive insert key. Short. Ratchet. Grade 5 ELI titanium	●	●
MADW10	Screwdriver adapter handle. 4x4. Manual	●	●
SMSD1	Screwdriver tip. Ø1.25 mm. Short. Ratchet	●	●
LMSD1	Screwdriver tip. Ø1.25 mm. Long. Ratchet	●	●
XLMSD1	Screwdriver tip. Ø1.25 mm. Extralong. Ratchet		●
MESD	Screwdriver tip. Ø1.25 mm. Long. CA.	●	●
MESD01	Screwdriver tip. Ø1.25 mm. Short. CA.	●	●
MESDTX	Tx30 screwdriver tip. Long. CA.	●	●
LMSD1TX	Tx30 screwdriver tip. Long. Ratchet	●	●
EDSZ20 *	ZPlus extractor screw. Zinic®. NP. Grade 5 ELI titanium		●
EDSZ34 *	ZPlus extractor screw. Zinic®. RP/WP. Grade 5 ELI titanium		●
EDSG34 *	Abutment extractor screw. Galaxy/ZV2. RP. Grade 5 ELI titanium		●
EDSG50 *	Abutment extractor screw. ZV2. WP. Grade 5 ELI titanium		●
TORK50	Regulable torque wrench. 10/20/30/40/50/60/70 Ncm	●	●

*** Product not included in the ZMK · ZMR system.**

Kirator insertion key



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

◆ Square 2.11 mm / ■ Square 4x4 mm

Kirator · Stainless Steel

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

Basic insertion key. Ratchet

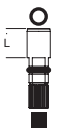
System	Length (L)	Reference
Basic	5.00/Short	MABA100
	13.00/Long	MABA110 *

✱ Basic / ■ Square 4x4 mm

Basic · Grade 5 ELI Titanium · Stainless Steel

*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

XDrive · Grade 5 ELI Titanium · Stainless Steel

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

Nature insertion key. Ratchet

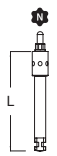
System	Length (L)	Reference
Nature	5.00/Short	MANA100*
	15.00/Long	MANA110*

Ⓝ Nature / ■ Square 4x4 mm

Nature · Stainless Steel

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

Nature insertion key. CA



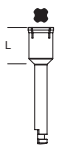
System	Length (L)	Reference
Nature	20.50	MANA120*

Ⓝ Nature

Nature · Stainless Steel

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

Basic insertion key. CA



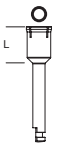
System	Length (L)	Reference
Basic	7.00	MABA120*

✱ Basic

Basic · Stainless Steel

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

XDrive insertion key CA



System	Length (L)	Reference
XDrive	7.00	MABA220*

○ XDrive

XDrive · Stainless Steel

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

Prosthetic instruments

SCREWDRIVERS

Screwdriver adapter handle

Platf.	Length (L)	Reference
Universal	12.90	MADW10

■ Square 4x4 mm

Stainless Steel

Screwdriver tip. Ratchet

Platf.	Length (L)	Reference
Universal	9.50/Short	SMSD1
	14.50/Long	LMSD1
	27.00/Extralong	XLMSD1

■ Square 4x4 mm

1,25mm · Stainless Steel

Screwdriver tip. CA

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

1,25mm · Stainless Steel

Tx30 screwdriver tip. CA

System	Length (L)	Reference
Tx30	26.00/Short	MESD01TX *
	32.00/Long	MESDTX

Stainless Steel

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

■ Square 4x4 mm

Stainless Steel

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*

Stainless Steel

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 *

Anodised ■ NP ■ RP/WP

1,25mm · M1,60 · M1,80 · Grade 5 ELI Titanium

Galaxy/ZV2 abutment extractor screw

Platf.	Length (L)	Reference
▼	25.00	EDSG34 *
▼	26.80	EDSG50 *

Anodised ■ RP ■ WP

1,25mm · M1,60 · M2,00 · Grade 5 ELI Titanium

* Product not included in the ZMK · ZMR system.

RATCHET

Regulable torque wrench

Platf.	Length (L)	Reference
Universal	86.80	TORK50

■ Square 4x4 mm

Ncm 10 20 30 40 50 60 70 · Stainless Steel

Complementary instruments

CA to ratchet adaptor

Platf.	Length (L)	Reference
Universal	12.00	MC10Z

■ Square 4x4 mm

Stainless Steel

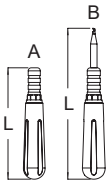
NOT included in the prosthetic box

Retentive joints instruments

Platf.	Dimensions	Reference
Universal	2x1	RREI0030

Pack of 10 units.

Extractor + Retainer inserter handle

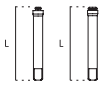


Platf.	A Length (L)	B Length (L)	Reference
Kirator ZM-Equator	81.50	110.40	MBEI3610

Plastic Stainless Steel

NOT included in the prosthetic box

Retainer inserter



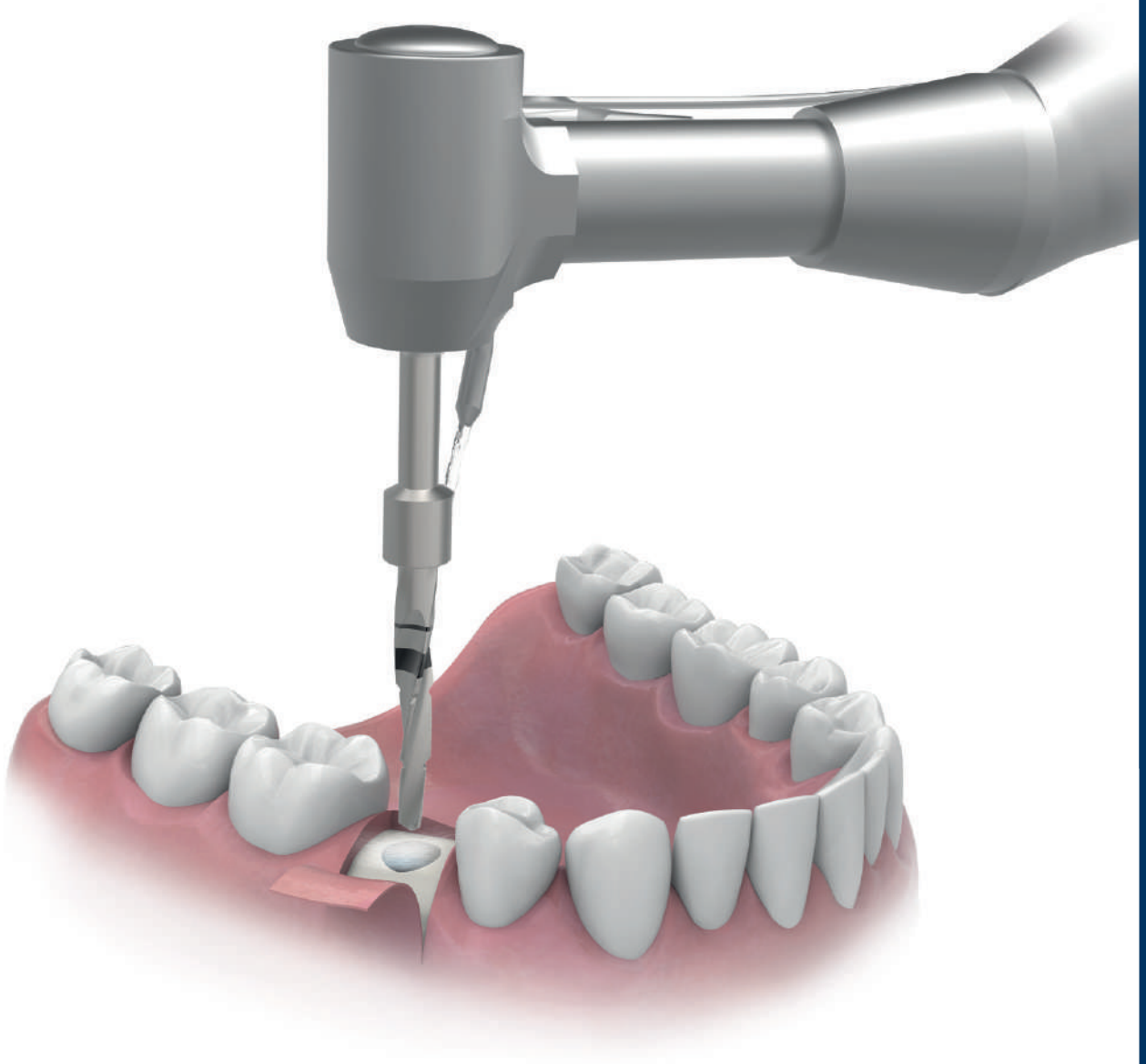
Platf.	Length (L)	Reference
Kirator	32.00	MBEI3602
ZM-Equator	32.00	MBEI3603

Stainless Steel

Kirator / ZM-Equator plastic cap insertion tool
NOT included in the prosthetic box

ZMK · ZMR

Surgical protocols

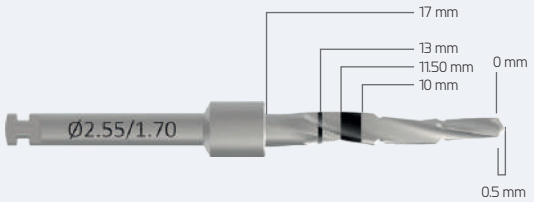


Surgical protocol

Characteristics of the ZMK · ZMR · ZMR S drilling system

Ziacom® drill system

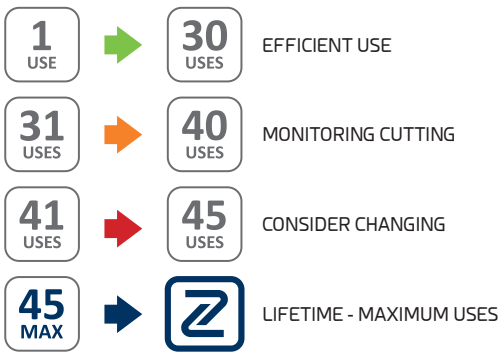
Ziacom® implant system drills are made from stainless steel. A laser marking on the bur's shank identifies its inner and outer diameters and its length, while the horizontal laser marked bands on the active section corresponds to the different lengths of the implants (drills graduated in mm). The bur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



ZIACOM® DRILLS EFFICIENCY GUARANTEE

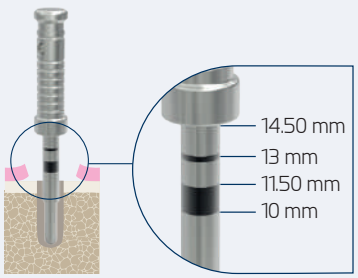
Surgical drills for ZMK - ZMR implants from Ziacom® (**cortical drills, lance drill, initial drill, pilot drills and final drills**), have a **lifetime of up to 45 uses**. It is advisable to monitor the cutting status at all times, especially when reaching around 31 to 40 uses, since after 41 uses it is necessary to consider changing the drills before reaching 45 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.



Probes

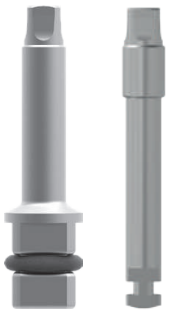
Check the depth of the surgical site, especially when not using drill stops. To check the surgical bed axis, the paralleling pins are available in different diameters according to the drilling sequence.



Double paralleling pin

Short and long insertion tools for ratchets and contra-angle handpieces

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



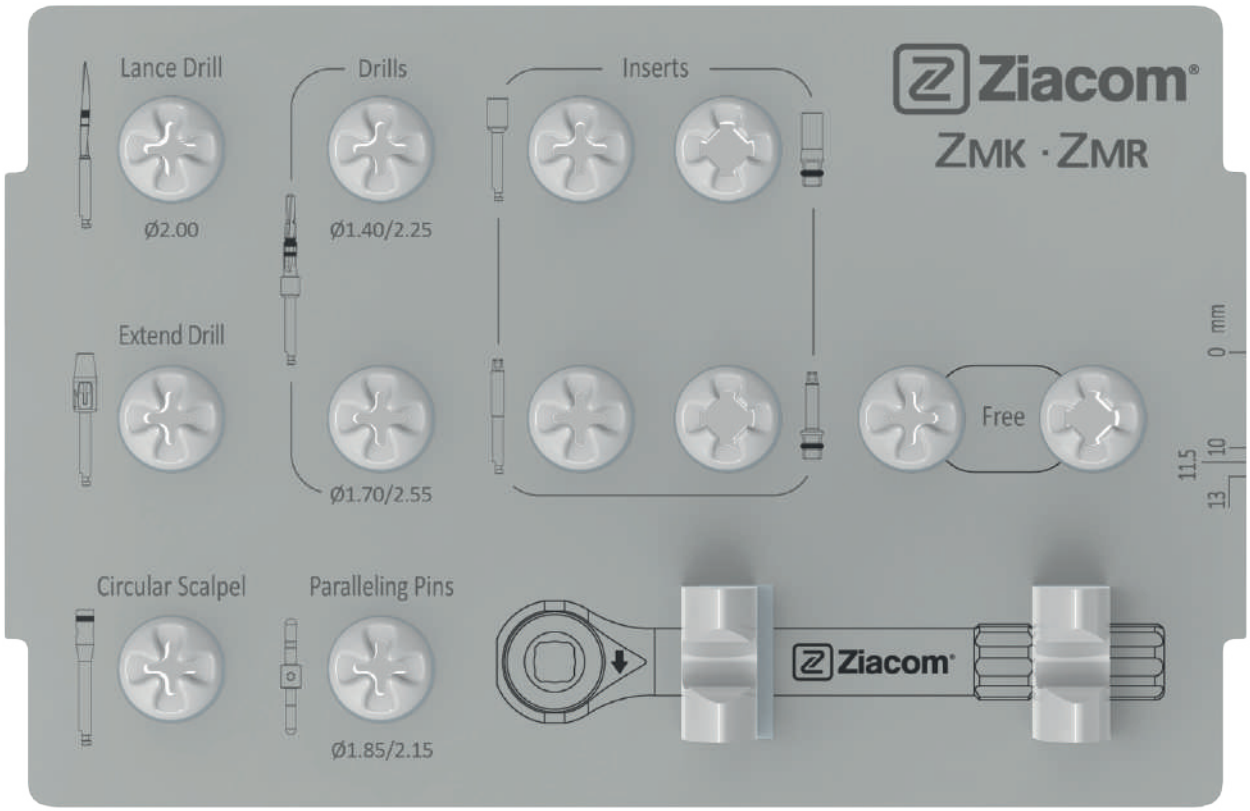
ZMK

ZMR · ZMR S

Surgical protocol

Features of the ZMK · ZMR · ZMR S drilling system

Internal view of the surgical box



Recommendations on the maximum implant insertion torque

50 Ncm

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

To avoid deforming the key 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:

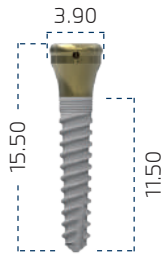
- Irreversible deformations in the implant's internal connection.
- Irreversible deformations in the implant insertion instruments.
- Difficulty or impossibility in dismounting the instrument/implant assembly.

Steps of drilling protocol

ZMK implant

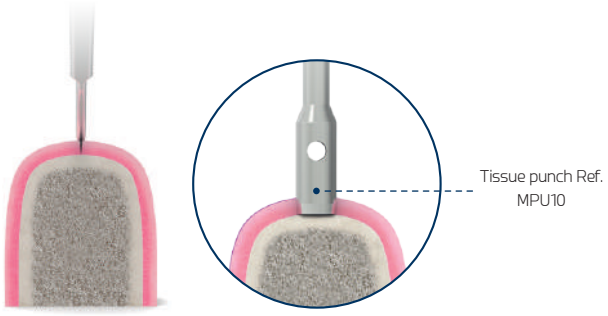
ZMK

- **EXAMPLE:**
  ZMK implant
  Ø2.50x11.50mm
  RP (Ø2.50mm)
  Ø platform 3.90mm



PRELIMINARY STEP | Opening the gum

Make an incision and lift the flap or use tissue punch Ref. MPU10 on the soft tissue.



STEP 1 | Lance drill

Start the implant site drilling sequence using mm-graduated lance drill Ref. MSID02. 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 | Stepped surgical drill Ø1.40/2.25

Continue the drilling sequence using stepped surgical drill Ref. OTD18ZM until the length of the chosen implant is reached. Use the length-indicating laser mark on the drill. 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 3 | Double paralleling pin Ø1.85/2.15

Check the parallelism between implants using double paralleling pin Ref. PARA70. Repeat this step as many times as necessary during the surgery.

STEP 4 | Probe

Check the depth of the surgical site by inserting probe Ref. MURE40.

Repeat this step as many times as necessary during the surgery.

Surgical protocol

Implant insertion using plastic mount ZMK | **Titansure**

ZMK plastic mount

Surface treatment

Titansure

STEP 1 | Unpacking the implant

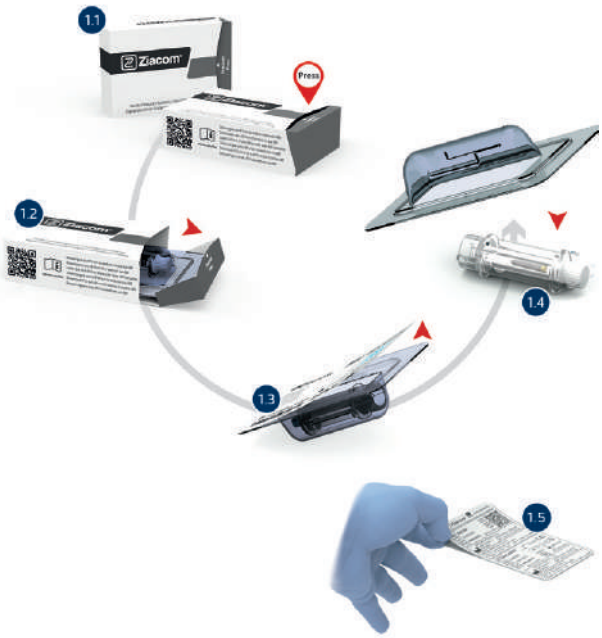
1.1 Press the word "PRESS" and open the carton.

1.2 Remove the top of the carton and take out the blister pack.

1.3 Carefully remove the seal from the blister pack.

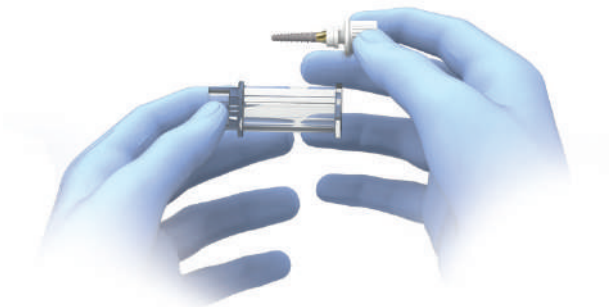
1.4 Turn the vial containing the implant onto a sterile cloth in the operating area.

1.5 Remember to remove the label from the implant and to adhere it to the patient's records to ensure that the product is traceable.



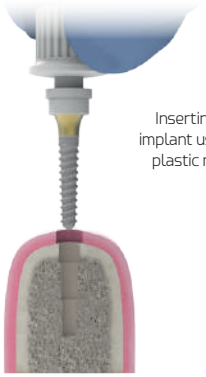
STEP 2 | Removing the implant from its vial

Hold the vial containing the implant in one hand and the ZMK plastic mount in the other. Remove the implant-mount assembly by lifting it vertically out of the vial.

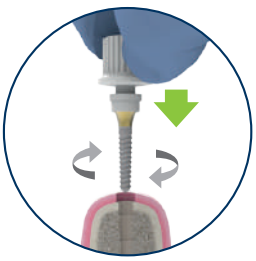


STEP 3 | Inserting the implant - ZMK plastic mount

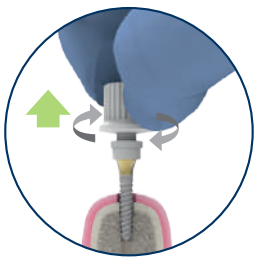
Insert the implant into the surgical site, controlling both the direction and angle of the implant.When inserting the implant with a contra-angle, use a maximum speed of 25 rpm. The recommended insertion torque ranges from 35 to 50 Ncm, according to each case, and is not limited to a single torque. If resistance is met during insertion, turn the implant anti-clockwise and then continue to insert after waiting a few seconds. Repeat this process as many times as necessary.



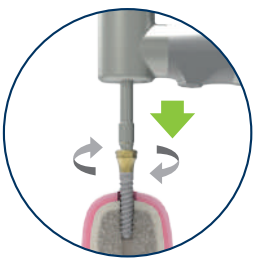
Inserting the implant using the plastic mount



Step 1: inserting the implant by hand by turning it clockwise



Step 2: disengage the plastic mount while turning it to insert it



Step 3A: final positioning of implant using CA (Ref. LOSD02)

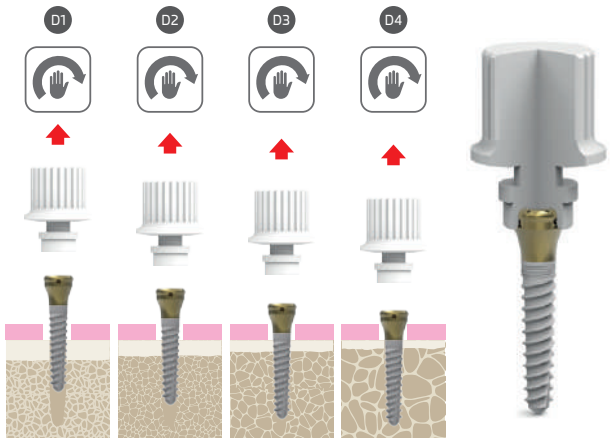
Step 3B: final positioning of implant using ratchet (Ref. LOSD01)

STEP 4 | Removing the ZMK plastic mount

Remove the ZMK implants from the vial in the blister pack and insert them into the surgical site by hand using the plastic mount until sufficient mechanical anchorage is achieved for its removal.

Disengage the plastic mount while turning it to insert it. Do not fully insert the implant with the plastic mount. The point of insertion at which the ZMK plastic mount should be removed will depend on the bone type.

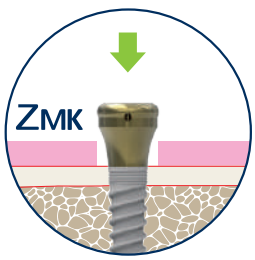
After removing the mount, use the ratchet or contra-angle drivers to insert the implant platform to the position indicated in the protocol.



STEP 5 | Crestal placement of the implant

The drilling protocols are described so that the platform for the Ziacom® implants should be placed at the supracrestal level.

RECOMMENDED supracrestal position



Surgical protocol

Implant insertion using plastic mount ZMR/ZMR S | **Titansure**

ZMK
plastic mount

Surface treatment

Titansure

STEP 1 | Unpacking the implant

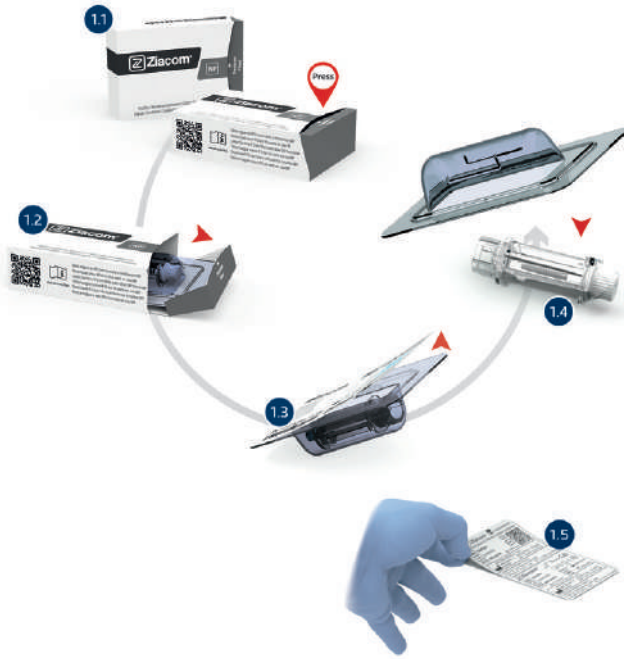
1.1 Press the word "PRESS" and open the carton.

1.2 Remove the top of the carton and take out the blister pack.

1.3 Carefully remove the seal from the blister pack.

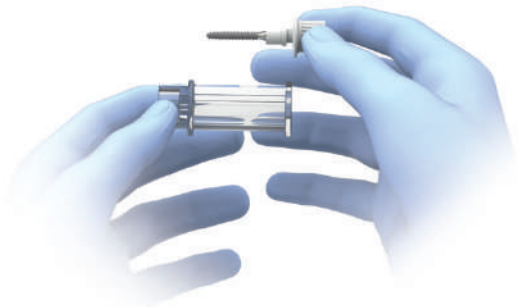
1.4 Turn the vial containing the implant onto a sterile cloth in the operating area.

1.5 Remember to remove the label from the implant and to adhere it to the patient's records to ensure that the product is traceable.



STEP 2 | Removing the implant from its vial

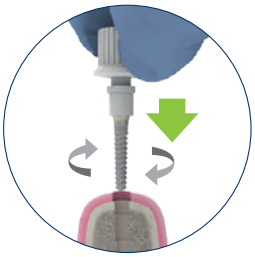
Hold the vial containing the implant in one hand and the ZMR · ZMRS plastic mount in the other. Remove the implant-mount assembly by lifting it vertically out of the vial.



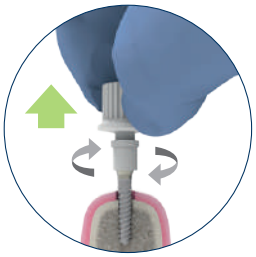
STEP 3 | Inserting the implant - ZMR • ZMRS plastic mount

Insert the implant into the surgical site, controlling both the direction and angle of the implant. When inserting the implant with a contra-angle, use a maximum speed of 25 rpm. The recommended insertion torque ranges from 35 to 50 Ncm, according to each case, and is not limited to a single torque. If resistance is met during insertion, turn the implant anti-clockwise and then continue to insert after waiting a few seconds. Repeat this process as many times as necessary.

Inserting the implant using the plastic mount



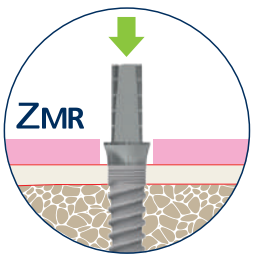
Step 1: inserting the implant by hand by turning it clockwise

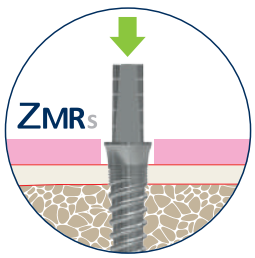


Step 2: disengage the plastic mount while turning it to insert it

Step 3A: final positioning of implant using CA (Ref. MAXP)

Step 3B: final positioning of implant using ratchet (Ref. LAXP)





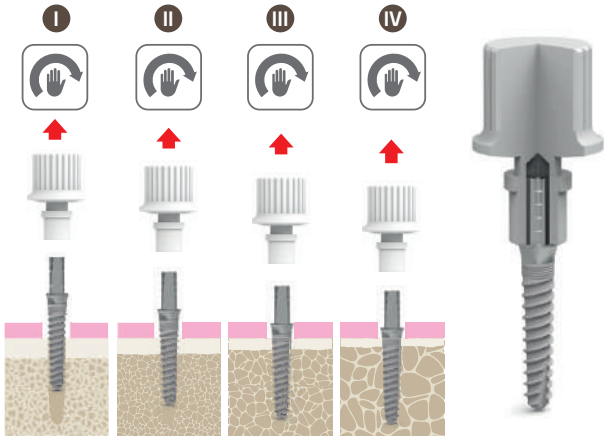
Step 4: crestal placement

STEP 4 | Removing the ZMR • ZMRS plastic mount

Remove the ZMR · ZMRS implants from the vial in the blister pack and insert them into the surgical site by hand using the plastic mount until sufficient mechanical anchorage is achieved for its removal.

Disengage the plastic mount while turning it to insert it. Do not fully insert the implant with the plastic mount. The point of insertion at which the ZMR· ZMRS plastic mount should be removed will depend on the bone type.

After removing the mount, use the ratchet or contra-angle drivers to insert the implant platform to the position indicated in the protocol.



Surgical protocol

ZMR implant insertion

Soft tissue conditioning

STEP 1 | Placing the ZMR • ZMRS healing abutment

Place healing abutment Ref. HABA05 on the straight abutment of the ZMR · ZMRS implant until it is engaged properly.

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 .

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.

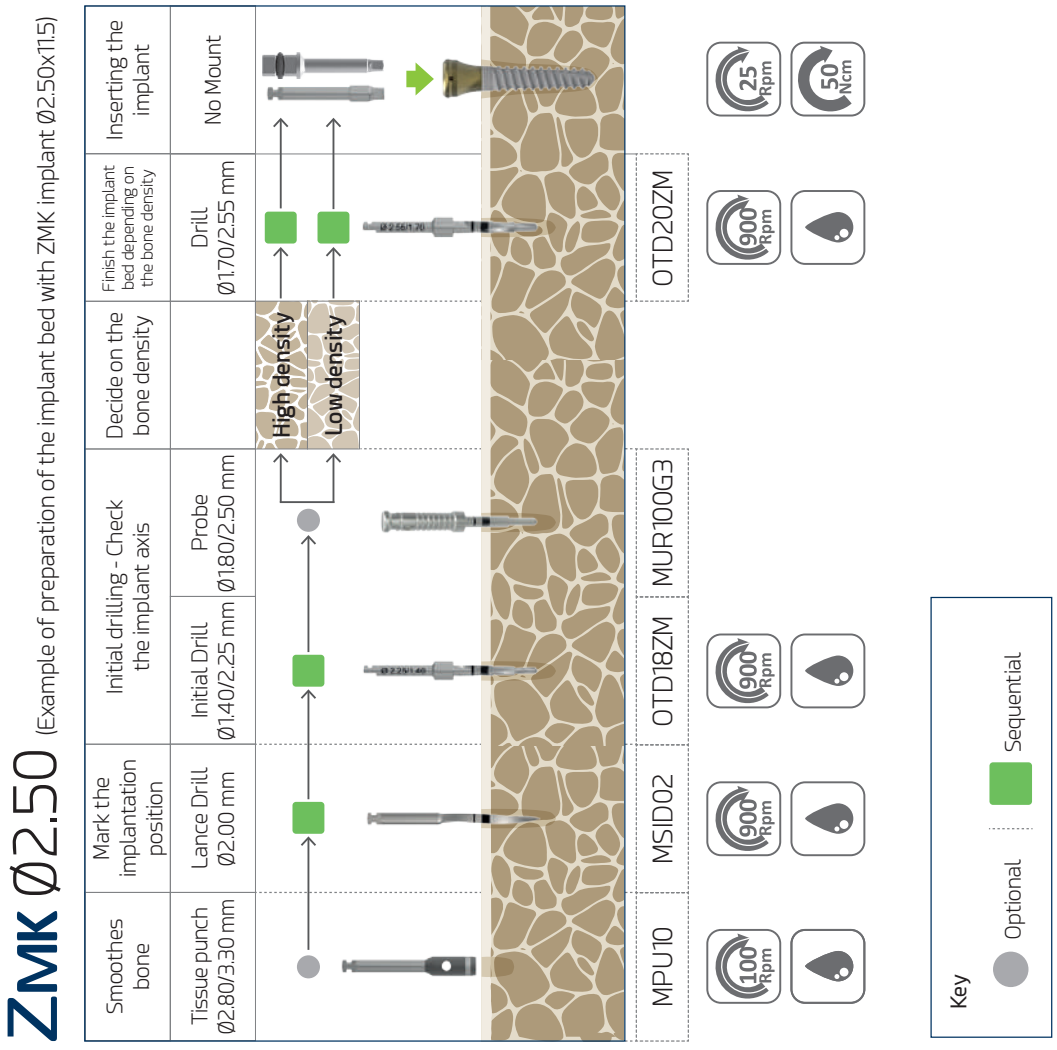
Simplified surgical protocol

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

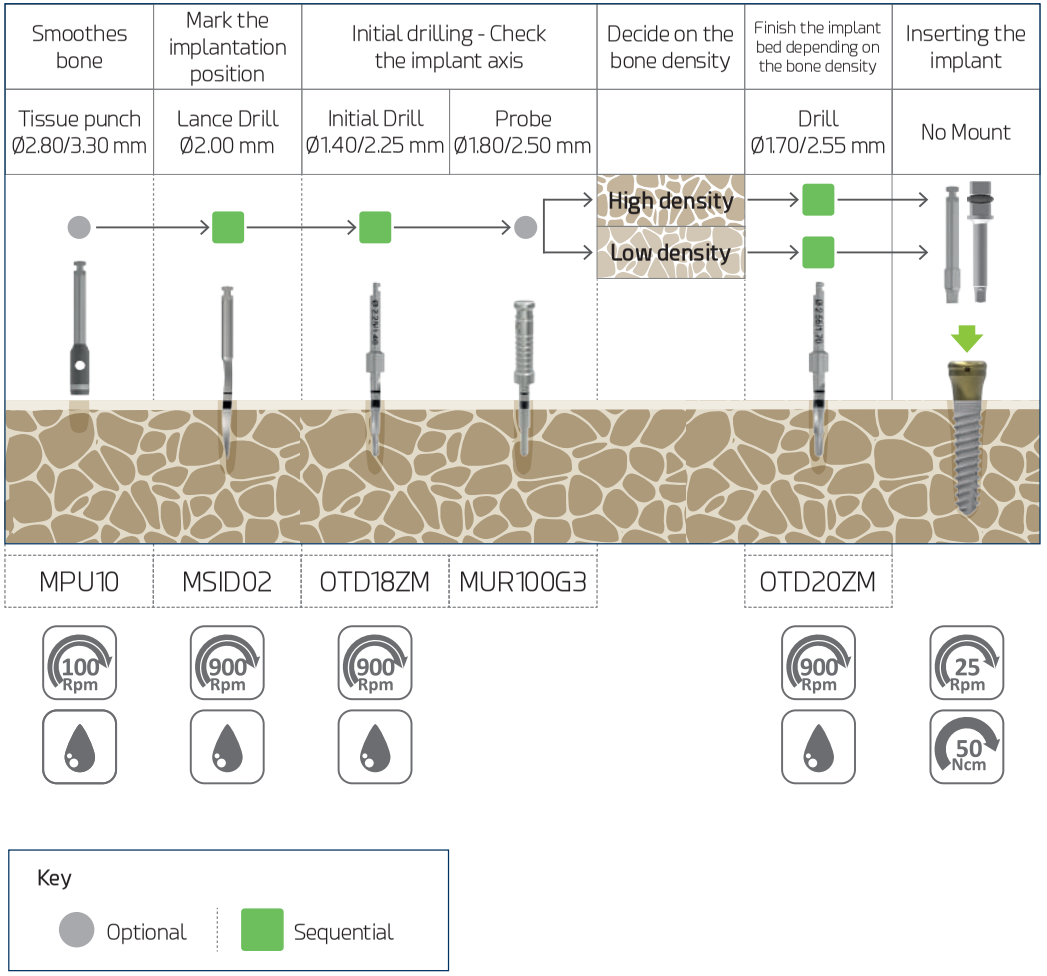
Drilling protocol - ZMK

Rotation | Irrigation required | Ø Drill diameter | Torque

Detailed speeds are recommended



ZMK Ø2.80 (Example of preparation of the implant bed with ZMK implant Ø2.80x11.5)



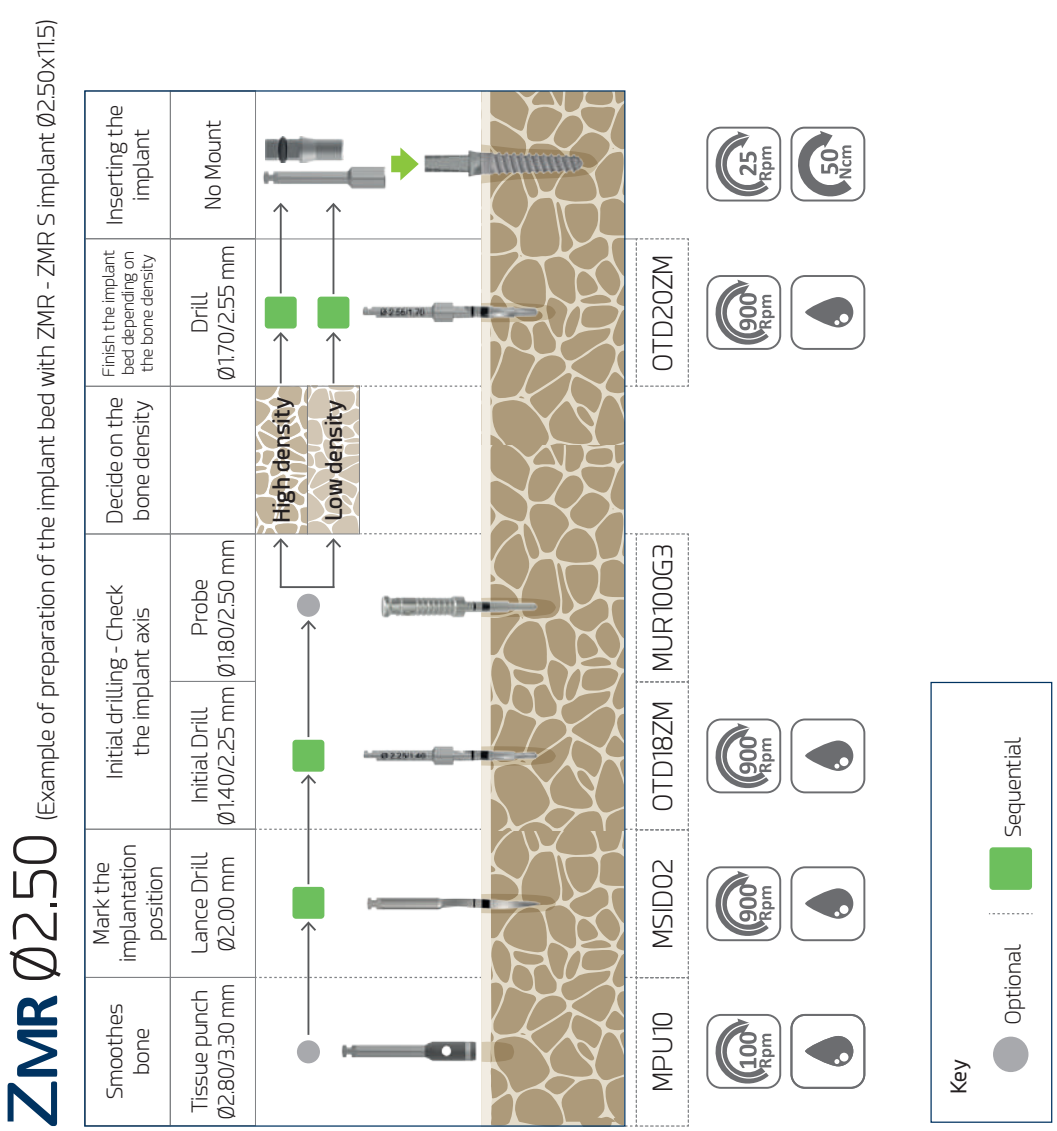
Simplified surgical protocol

Drilling protocol - ZMR · ZMR S

Rotación | Requiere irrigación | Ø Diámetro fresa | Torque

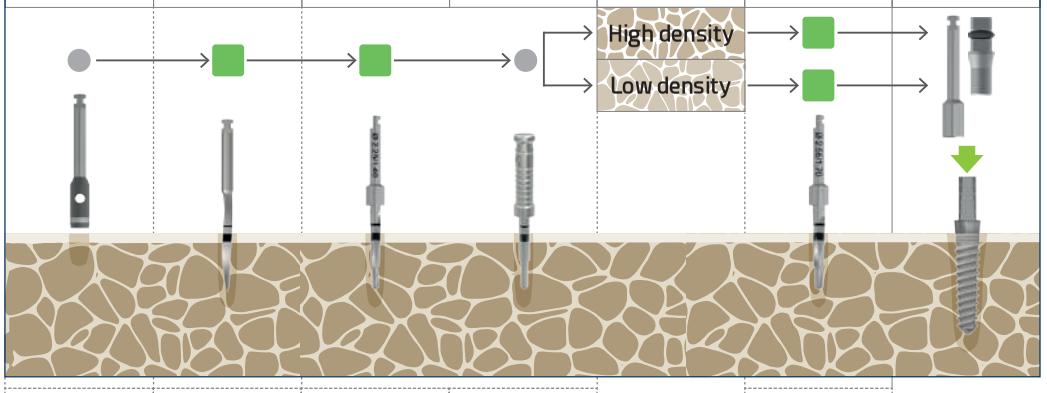
Las velocidades detalladas son las recomendadas

ZMR Ø2.50 (Example of preparation of the implant bed with ZMR - ZMR S implant Ø2.50x11.5)



ZMR Ø2.80 (Example of preparation of the implant bed with ZMR - ZMR S implant Ø2.80x11.5)

Smoothes bone	Mark the implantation position	Initial drilling - Check the implant axis		Decide on the bone density	Finish the implant bed depending on the bone density	Inserting the implant
Tissue punch Ø2.80/3.30 mm	Lance Drill Ø2.00 mm	Initial Drill Ø1.40/2.25 mm	Probe Ø1.80/2.50 mm		Drill Ø1.70/2.55 mm	No Mount



MPU10	MSID02	OTD18ZM	MUR100G3	OTD20ZM	
100 Rpm	900 Rpm	900 Rpm		900 Rpm	25 Rpm
					50 Ncm

Key

Optional | Sequential

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** which explain the procedures, protocols and instructions for use before using the Ziacom® ZMK · ZMR · ZMR S 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**

** 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 132ºC/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.

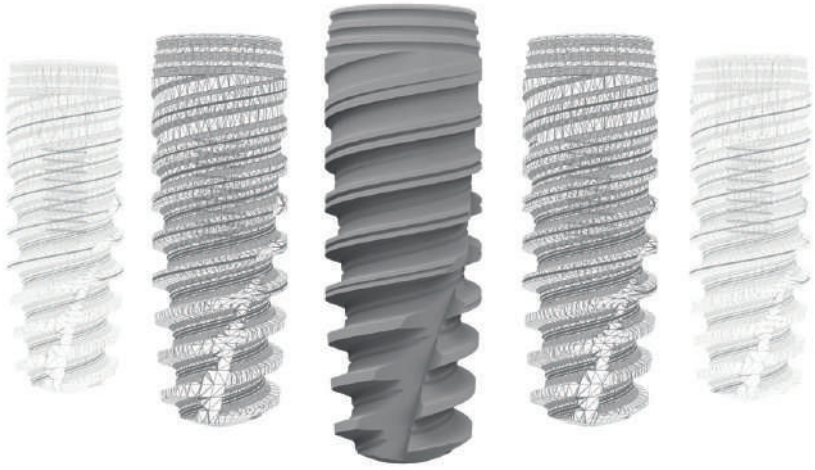
Storage of Ziacom® products

- 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

- 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, disfection and sterilisation instructions at **www.ziacom.com/biblioteca**



Ziacom®

See the updated general conditions of sale at **www.ziacom.com**.

Check the availability of each product in your country.

See the latest version of the catalogues at **www.ziacom.com**.

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