Di²gital® Arch

Digital impression system

by Dr. Luis Cuadrado de Vicente

Ziacom®

Di2gital® Arch

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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 quick guide for clinicians responsible for treatment, hereafter the "user", and, therefore, is neither an alternative nor a substitute for specialized training or professional clinical experience.

Ziacom® products must be used according to a suitable treatment plan and adhering strictly to the surgical and prosthetic protocols established by the manufacturer. Read the product-specific surgical and prosthetic protocols as well as the instructions for use and maintenance before using each 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 guarantee.

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 guiding information. The handling and use of Ziacom® products is the sole responsibility of the user as it is outside the control of Ziacom Medical SL. Ziacom Medical SL, their affiliates and/or their 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 professionals 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 Medical SL Warranty Programme (available on the website or by contacting Ziacom Medical SL, their affiliates 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 15 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 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 started up on an **ambitious growth plan** with new goals of **international expansion**, broadening and **diversification** of its portfolio **of products and services** and a Corporate Identity restyle.

Ziacom® quality

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

The reason why we used 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 Medical SL is a **licensed manufacturer of medical devices** and an AEMPS (Spanish Agency for 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.

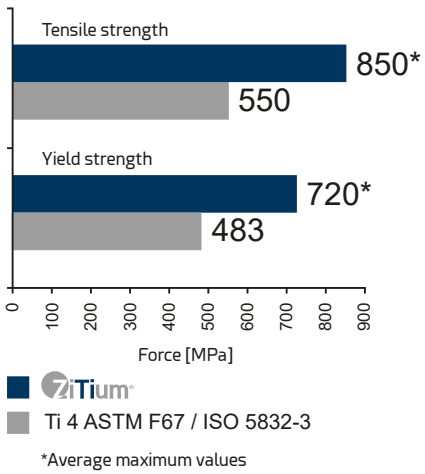
Thanks to our ceaseless endeavours to offer our clients an unsurpassable quality, all our implants have a **lifetime guarantee**.

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

Zitium® titanium

We ensure maximum quality by making all of our implants from **extra-high-strength, grade 4 Zitium® titanium,** which gives them a **substantially improved yield strength and mechanical properties**.

Properties of Zitium® titanium



*Average maximum values

Thanks to **Zitium®** titanium, our implants meet the requirements of ASTM F67 and ISO 5832-3 and are certified in accordance with Council Directive 93/42/EEC and its amendment Directive 2007/47/EC by notified body 0051.

ISO 9001 ISO 13485 0051

FDA Approved*

*See approved models

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

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

No estéril

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 ensure the best **advances in 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® around the world

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 we our products are already available** and to add **new growth 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 headquarter

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Miami, FL 33131 - USA
Phone: +1(786) 224 - 0089
info.usa@ziacom.com

Please see the up-to-date list of Ziacom® distributors at **www.ziacom.com** or email us at **export@ziacom.com**

Di2gital® Arch

Di2gital® Arch

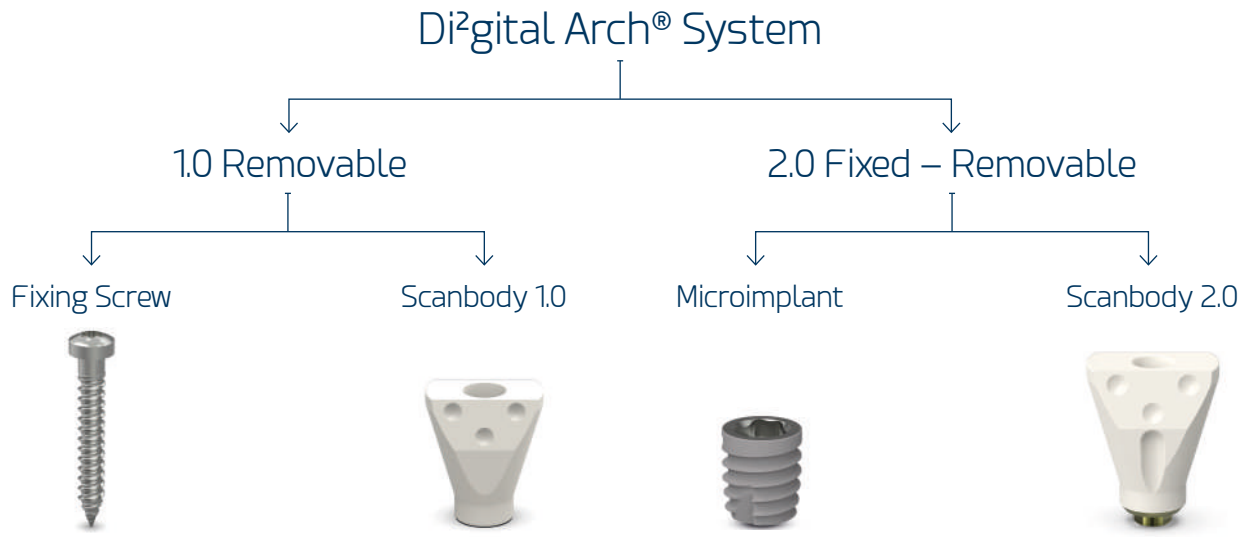
Digital impression system

by Dr. Luis Cuadrado de Vicente

Digital impression system

With the collaboration of Dr. Luis Cuadrado de Vicente, Ziacom® has designed the Di²gital Arch® digital impression system, created to be used as a reference framework to aid alignment and superimposition of the virtual files obtained using an intraoral scanner in different clinical situations in the same patient.

Primarily designed for immediate-loading procedures using an intraoral scanner and with the aim of copying or recreating the patient's prior or initial situation, the system enables the files containing the i² element to be superimposed in the same spatial position and a new faster and more accurate workflow to be achieved, both at the clinical level and in the CAD-CAM design process, as well as at the functional and cosmetic level.



Dr. Luis Cuadrado de Vicente's experience

Doctor Luis Cuadrado is a specialist in stomatology and plastic, reconstructive and cosmetic surgery and has over 24 years of clinical experience in dentistry. He has had an extensive and successful career in the field of dental implants:

- Bachelor of medicine.
- Specialist in stomatology.
- Specialist in plastic, reconstructive and cosmetic surgery.
- Director of i2 Implantología Clinic and Training Centre, Madrid.
- Head of the postgraduate programme in implant dentistry at the Open University of Madrid (UDIMA). Madrid.
- Member of AO, EAO, SEI, SECIB, SECPRE.
- Fellow of the ITI.
- Director of the Study Club ITI Madrid 3.

Di²gital® Arch

System 1.0

Di²gital Arch® 1.0 Fixing screw

The Di²gital Arch® 1.0 fixing screw is used as a reference alignment component in CAD software, virtual models scanned using an intraoral scanner on the same patient, thus being able to recreate the clinical condition of the patient prior to dental treatment.

Features

CONNECTION

- Torx connection: aids insertion and removal of the Di²gital Arch® impression screw at the end of treatment.
- Head designed to be used with the scanbody.

BODY

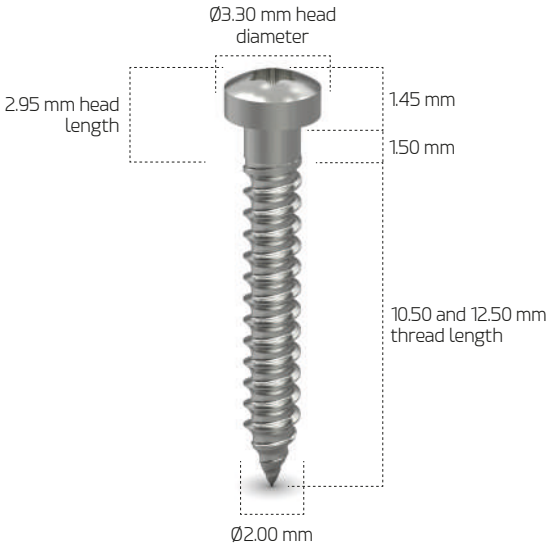
- Ø2.00 mm diameter self-tapping body that facilitates placement and improves stability.
- Length of active section: 10.50 and 12.50 mm.

TIP

- Self-piercing tip to facilitate insertion.

MANUFACTURING MATERIAL

- Grade 5 ELI titanium (medical use) Ti 6Al 4V.



Clinical Indications

The Di²gital Arch® screw is indicated to be used in digital impression taking for:

1. Copying prior clinical conditions to transmit the patient's aesthetic and function in cases of partial or full exodontia.
2. The fully digital immediate treatment of a completely edentulous patient.
3. Mock-up copying and tooth morphology wax-up for crowns, veneers and bridges on natural teeth.
4. Copying of provisional prostheses to the work file to create the final prosthesis.
5. Copying in implant rescue procedures.
6. Copying of dentures: partial, full, fixed and removable.
7. Cases of guided surgery and prostheses in completely edentulous patients.

NOTES

- The Di²gital Arch® system has been designed to be used only with intraoral scanners.
- For further information on the use of Di²gital Arch® fixing screw, please see the bibliography available at **www.ziacom.com/biblioteca**

Measurements and references

Di²gital Arch® System 1.0 fixing screws

		Anodised	Units	Body diameter	Thread length	Active part length	Total length	References
Fixing screws		Yellow	1	2.00	10.50	12.00	13.45	DI1PS12
		Galaxy blue	1	2.00	11.00	14.00	15.45	DI1PS14

IMPORTANT
Di²gital Arch® 1.0 fixing screws are supplied non-sterile.

Dimensions in mm.

Product presentation

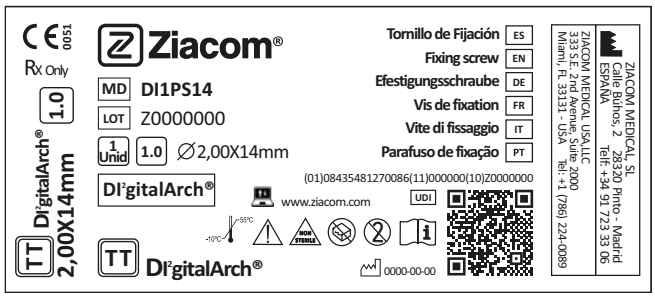
Blister packaging

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.

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

- MDD CE certification and notified body
- Name of the medical device
- Number of product batch
- Patient information website
- Unique device identification
- Sterilised using radiation
- Temperature restriction
- Caution, consult accompanying documents
- Do not resterilise
- Do not use if the packaging is damaged
- Non-reusable product
- Consult the instructions for use
- Expiry date of the product
- Date of manufacture
- Product manufacturer
- Titansure surface treatment
- Titansure Active surface treatment
- Rx Only Caution: federal law prohibits dispensing without prescription

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

Scanbody ZiaCam Di²gital Arch® 1.0

The ZiaCam Di²gital Arch® 1.0 scanbody has been specially designed to be used with Di²gital Arch® 1.0 fixing screws. It helps in achieving the correct alignment between the various digital files taken with intraoral scanning devices.

Features

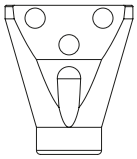
- Its optimised dimensions: aid acquisition during intraoral scanning procedures.
- Its design allows alignment between different virtual models in CAD software.

MANUFACTURING MATERIAL

- PEEK.

Dimensions and references

ZiaCam Di²gital Arch® 1.0 scanbody to implant

		Symbology	Reference
ZiaCam scanbody to implant		PEEK ROT	FNSYD1

IMPORTANT
Di²gital Arch® 1.0 scanbodies are supplied non-sterile.

Di2gital® Arch

System 2.0

Di²gital Arch® 2.0 Microimplant

The Di²gital Arch® 2.0 microimplant allows the same reference structure to be maintained when aligning the various digital models taken during the various stages of treatment, using CAD software. This allows the conditions prior to a surgical or prosthetic procedure to be recreated and aids the creation of the provisional and/or final prosthesis.

Features

CONNECTION

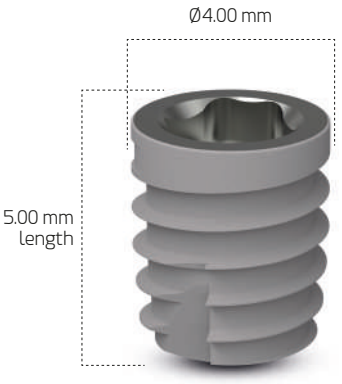
- Modified hex connection: allows the same scanbody position to be accurately reproduced.

BODY

- Reduced lengths and diameters: allow placement in various clinical conditions.
- Self-tapping threads that facilitate placement and improve stability.

MANUFACTURING MATERIAL

- Zitium® Titanium (grade 4 titanium) with Titansuresurface treatment.



Clinical Indications

The Di²gital Arch® microimplant is indicated in digital impression taking for:

1. Copying prior clinical conditions to transmit the patient's aesthetic and function in cases of partial or full exodontia.
2. The fully digital immediate treatment of a completely edentulous patient.
3. Mock-up copying and tooth morphology wax-up for crowns, veneers and bridges on natural teeth.
4. Copying of provisional prostheses to the work file to create the final prosthesis.
5. Copying in implant rescue procedures.
6. Copying of dentures: partial, full, fixed and removable.
7. Cases of guided surgery and prostheses in completely edentulous patients.

NOTES

- This system is only for use with intraoral scanners.
- For further information on the use of Di²gital Arch®, fixing screws, please see the bibliography available at **www.ziacom.com/biblioteca**

Measurements and references

Di²gital Arch® 2.0 Microimplant

		Diameter	Length	Reference
Microimplant		Ø4.00	5.00	DI24050

IMPORTANT
The Di²gital Arch® 2.0 microimplant is supplied sterile.

Dimensions in mm.

Di²gital Arch® System 2.0 cover screw

Type	Length (L)	Reference
2.0	4.70	DI2RT

Anodised RP

ROT | 1,25mm | M1,80 | Titanio Grado 5 ELI

Product presentation

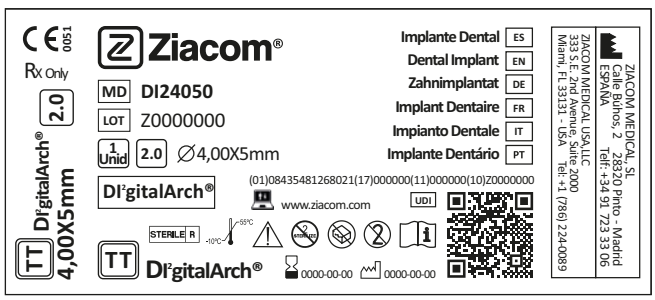
Blister packaging

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.

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.



Key to symbols

- MDD CE certification and notified body
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- Titansure surface treatment
- Titansure Active surface treatment
- Rx Only Caution: federal law prohibits dispensing without prescription

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

Scanbody ZiaCam Di²gital Arch® 2.0

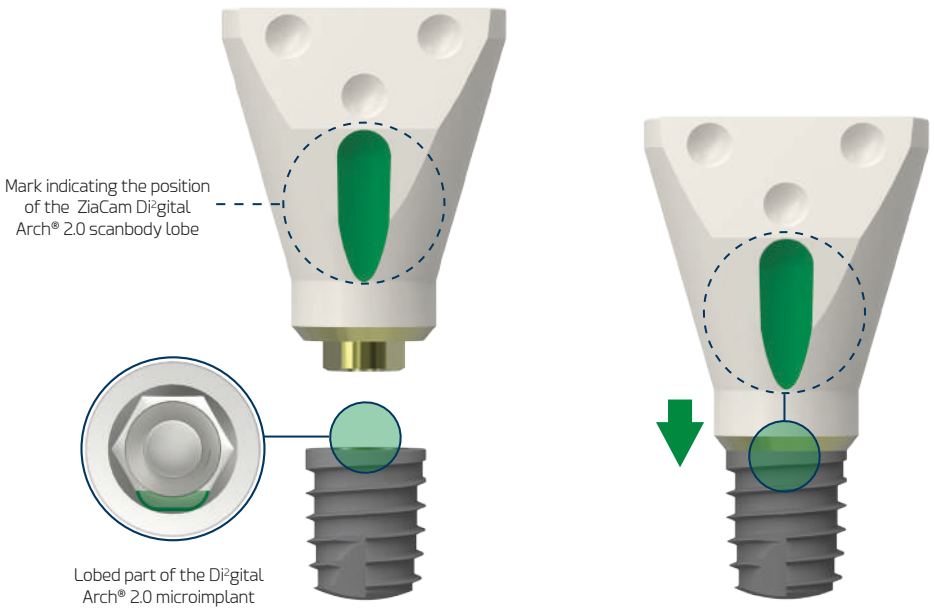
Features

- Optimised dimensions: aids acquisition during intraoral scanning procedures.
- Alignment zone: allows alignment between different virtual models in CAD software.
- Machined base for modified hex connection: allows the maximum position in the connection to be accurately reproduced.

MANUFACTURING MATERIAL

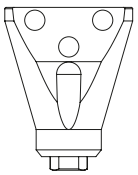
- PEEK.
- Grade 5 ELI titanium (medical use) Ti 6Al 4V

Diagram showing ZiaCam Di²gital Arch® 2.0 microimplant and scanbody coupling



Dimensions and references

ZiaCam Di²gital Arch® 2.0 scanbody to implant

		Symbology	Anodised	Reference
ZiaCam scanbody to implant		PEEK NO ROT Titanio Grado 5	Yellow	FNSYD2

IMPORTANT
Di²gital Arch® 2.0 scanbodies are supplied non-sterile.

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 our **Titansure** surface treatment, at Ziacom Medical we have obtained a 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.

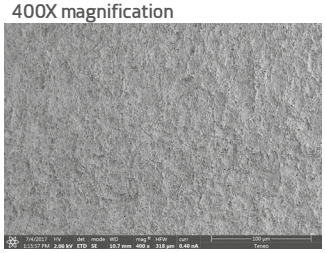
TITANSURE SURFACE ANALYSIS

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.

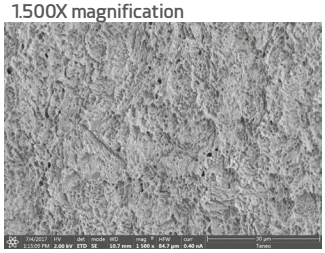
Surface morphology analysis

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.

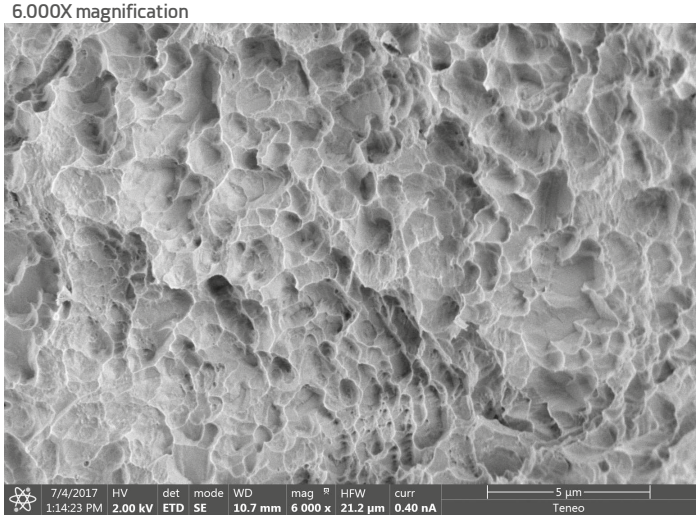
400X magnification



1.500X magnification

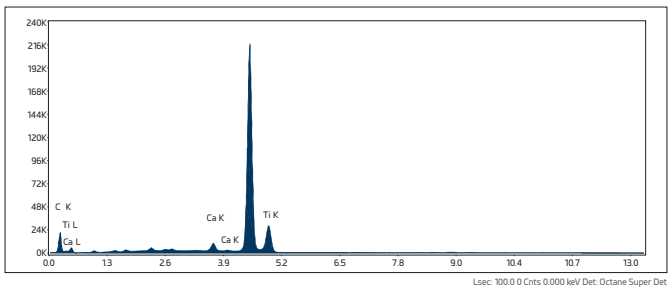


6.000X magnification



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 aluminum was detected

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

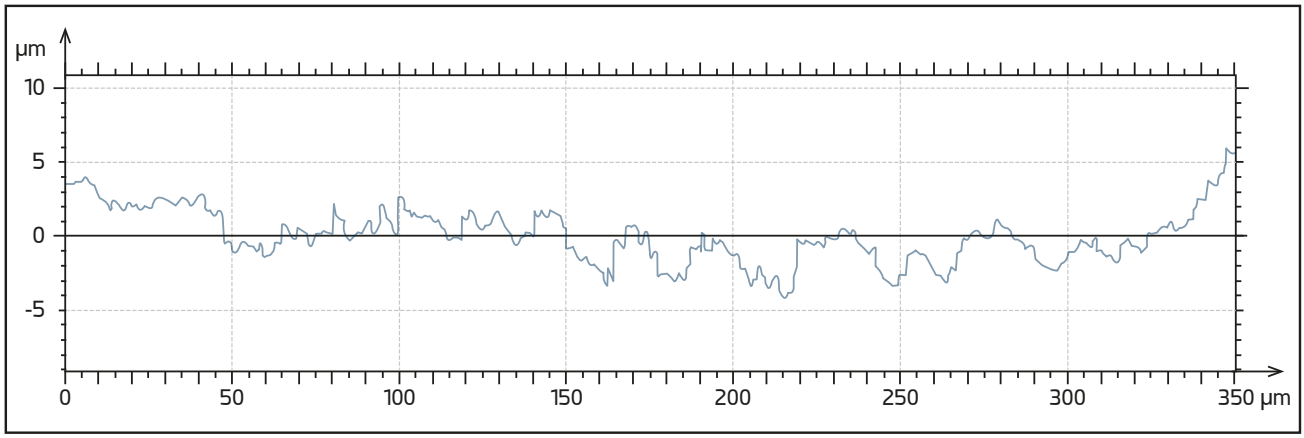
Surface roughness analysis

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

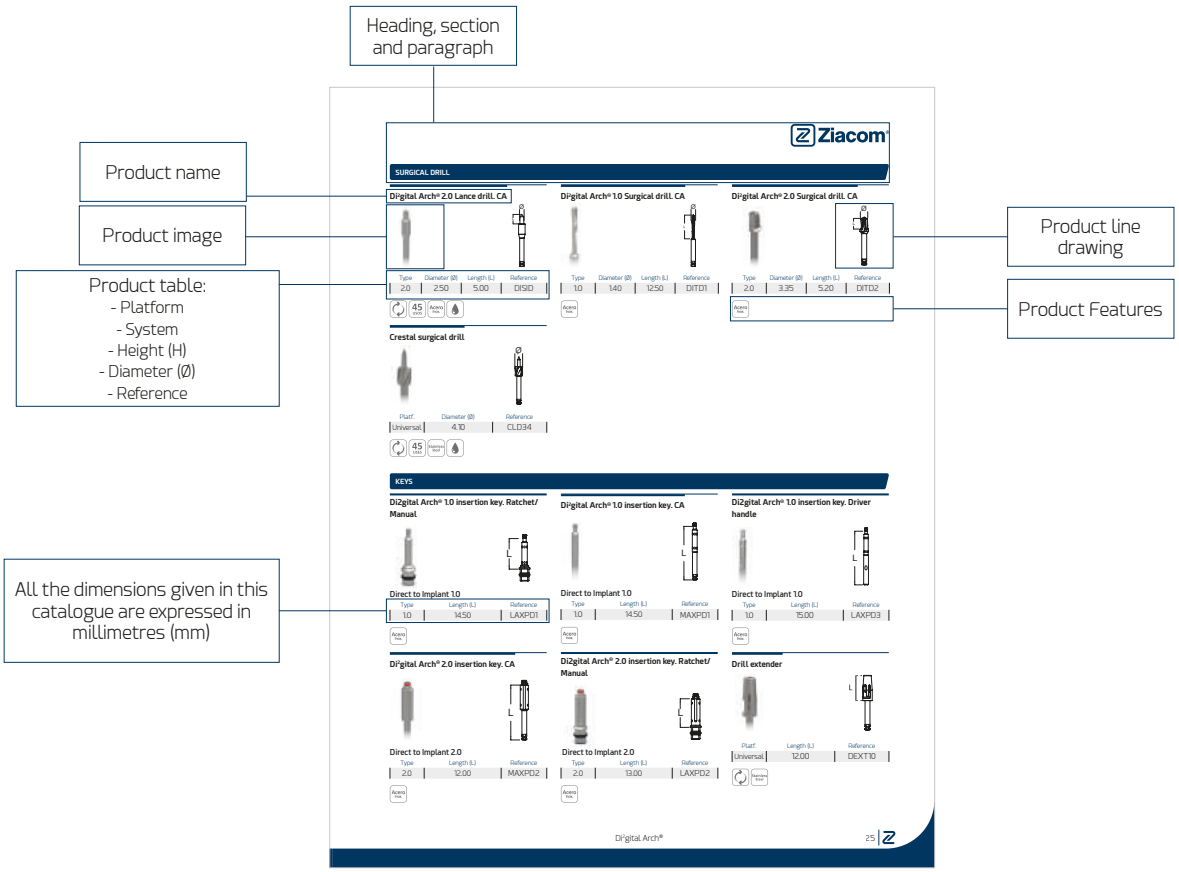
The **Titansure** surface has a three-dimensional surface structure with high peaks and broad troughs, which is known to be highly effective at promoting the coagulation cascade and the release of growth factors through platelet activation [Kim, H.; Choi, S.H.; Ryu, J.J.; Koh, S.Y.; Park, J.H.; Lee, 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 see the literature available at **www.ziacom.com/biblioteca**

How to use this catalogue

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

Surgical instruments

Surgical instruments

Di²gital Arch® System 1.0 surgical box

Di²gital Arch® boxes available

Contents	Reference
Empty	BOXDI2
Complete	BOXDI2C

134°

Material: plastic + aluminium.

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

Surgical box contents

REF	Description	BOXDI2C
DISID	Di²gital Arch® 2.0 Lance drill. Ø2.50x5 mm. CA. Stainless steel	●
DITD1	Surgical drill. Di²gital Arch® 1.0. Ø1.40X12.50 mm. CA. Stainless steel	●
DITD2	Surgical drill. Di²gital Arch® 2.0. Ø3.35x5.20 mm. CA. Stainless steel	●
CLD34	Crestal surgical drill. Ø4.10 mm	●
LAXPD1	Di²gital Arch® 1.0 insertion key. Ratchet/Manual. Stainless steel	●
LAXPD2	Di²gital Arch® 2.0 insertion key. Ratchet/Manual. Stainless steel	●
LAXPD3	Di²gital Arch® 1.0 insertion key. Driver handle. Manual. Stainless steel	●
MAXPD1	Di²gital Arch® 1.0 insertion key. CA. Stainless steel	●
MAXPD2	Di²gital Arch® 2.0 insertion key. CA. Stainless steel	●
DEXT10	Drill extender	●
MDSQ	DSQ/ZS2/Di²gital Arch® driver handle. Manual. Plastic + Stainless Steel	●
LMSD	Surgical screwdriver. Ø 1.25 mm. Long. Manual. Stainless steel	●
MPU34	Tissue punch. ZM4/ZM8/ZM1/ZM4 MT. Zinic® line. RP. CA. Stainless steel	●
TORK50	Adjustable torque wrench. 10/20/30/40/50/60/70 Ncm. Manual. Stainless steel	●

SURGICAL DRILL

Di²gital Arch® 2.0 Lance drill. CA

Type	Diameter (Ø)	Length (L)	Reference
2.0	2.50	5.00	DISID

Di²gital Arch® 1.0 Surgical drill. CA

Type	Diameter (Ø)	Length (L)	Reference
1.0	1.40	12.50	DITD1

Di²gital Arch® 2.0 Surgical drill. CA

Type	Diameter (Ø)	Length (L)	Reference
2.0	3.35	5.20	DITD2

Crestal surgical drill

Platf.	Diameter (Ø)	Reference
Universal	4.10	CLD34

KEYS

Di2gital Arch® 1.0 insertion key. Ratchet/ Manual

Direct to Implant 1.0

Type	Length (L)	Reference
1.0	14.50	LAXPD1

Di²gital Arch® 1.0 insertion key. CA

Direct to Implant 1.0

Type	Length (L)	Reference
1.0	14.50	MAXPD1

Di2gital Arch® 1.0 insertion key. Driver handle

Direct to Implant 1.0

Type	Length (L)	Reference
1.0	15.00	LAXPD3

Di²gital Arch® 2.0 insertion key. CA

Direct to Implant 2.0

Type	Length (L)	Reference
2.0	12.00	MAXPD2

Di2gital Arch® 2.0 insertion key. Ratchet/ Manual

Direct to Implant 2.0

Type	Length (L)	Reference
2.0	13.00	LAXPD2

Drill extender

Platf.	Length (L)	Reference
Universal	12.00	DEXT10

Surgical instruments

DRIVER HANDLE

Di²gital Arch® 1.0 driver handle

Type	Length (L)	Reference
1.0	110.00	MDSQ

Plástico · Acero Inox.

SCREWDRIVERS

Surgical screwdriver. Manual

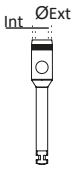
Platf.	Length (L)	Reference
Universal	14.50/Long	LMSD

⬢ Hexagonal 1.25 mm

1,25mm · Acero Inox.

SCALPELS

Tissue punch



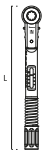
Platf.	Diameter (Ø)	Reference
■	4.50/4.95	MPU34

Surface treatment with DLC

25 USOS · Acero Inox.

RATCHET

Regulable torque wrench



Platf.	Length (L)	Reference
Universal	86.80	TORK50

■ Square 4x4 mm

Stainless Steel

Surgical protocol

Surgical protocol

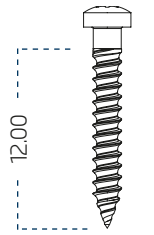
This manual is intended as a guide only. For correct use and maximum benefit, specific training is required on **i2 - Implantología / Ziacom®** courses. See your distributor for available dates.

Di²gital Arch® 1.0 steps for fixing screw placement

Fixing pin

Select the area to place the Di²gital Arch® 1.0 fixing screw, which should not interfere with roots of teeth or occupy areas where implants are to be placed.

- **EXAMPLE:**
  Di²gital Arch® 1.0
  Ø2.00x12.00mm
  fixing screws



INTRODUCTION | Material required

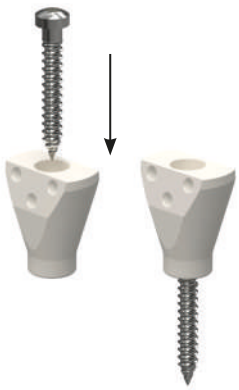
1. Di²gital Arch® 1.0 Surgical drill. (Ref. DITD1).
2. Di²gital Arch® 1.0 insertion key. Ratchet/Manual (Ref. LAXPD1).
3. Di²gital Arch® 1.0 insertion key. CA (Ref. MAXPD1).
4. Di²gital Arch® 1.0 Manual screwdriver (Ref. MDSQ).
5. Di²gital Arch® 1.0 insertion key. Driver handle. Manual (Ref. LAXPD3).

STEP 1

Prepare the bed using the Di²gital Arch® Ø1.40x12.50 mm 900 rpm surgical drill while irrigating thoroughly.

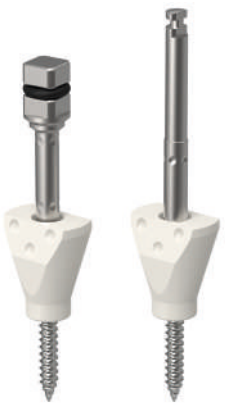
NOTE
It is advisable to use the whole length of the surgical drill in hard bone and half of the length in soft bone.

STEP 2



Insert the Di²gital Arch® fixing screw into the upper opening of the ZiaCam Di²gital Arch® 1.0 scanbody, forming one single unit for insertion.

STEP 3



Use the Di²gital Arch® 1.0 insertion key for the screw - scanbody unit, making sure that it is secure.

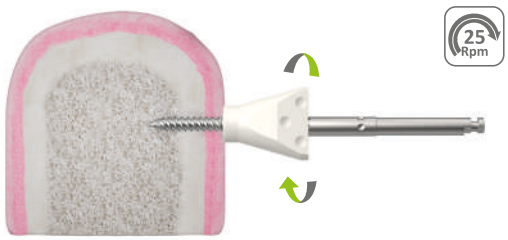
NOTE
Manual option or with the CA.

STEP 4

Insert the Di²gital Arch® 1.0 fixing screw together with the scanbody in the prepared surgical bed, at a speed of 25 rpm. The scanbody should press on the patient's mucosa until it is immovable.

Finishing with manual placement is recommended.

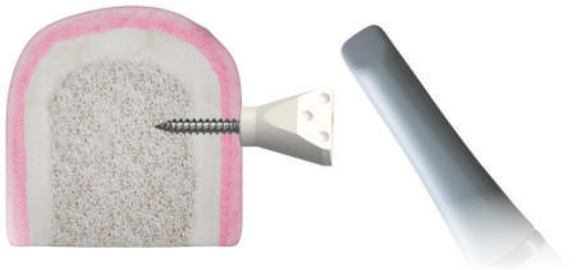
NOTE
Make sure that the flat part of the scanbody is parallel to the occlusal plane.



STEP 5

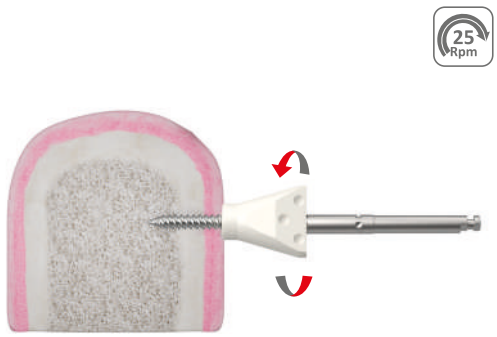
Continue with the scanning procedures with intraoral devices.

NOTE
The digital workflow will depend on the clinical situation, the prosthesis to be created, the intraoral scanning device and CAD software.



STEP 6

Once the digital workflow with the Di²gital Arch® 1.0 fixing screw is finalised, use the Di²gital Arch® 1.0 insertion key anti-clockwise, to remove the screw-scanbody unit at a speed of 25 rpm.



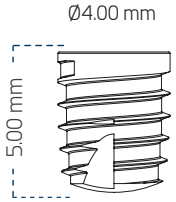
Surgical protocol

Procedure for the placement of Di²gital Arch® 2.0 microimplants

Microimplants

Select the area to place the Di²gital Arch® 2.0 microimplant, which should not interfere with roots of teeth or occupy areas where implants are to be placed. It is recommended that a clinical analysis and imaging are carried out before this.

- **EXAMPLE:**
  Di2gital Arch® 2.0
  Ø4.00x5.00mm
  Microimplant



INTRODUCTION | Material required

1. Di²gital Arch® 2.0 Lance drill (Ref. DISID).
2. Di²gital Arch® 2.0 Surgical drill (Ref. DITD2).
3. Di²gital Arch® 2.0 insertion key. Ratchet/Manual (Ref. LAXPD2).
4. Di²gital Arch® 2.0 insertion key. CA (Ref. MAXPD2).

STEP 1

Make an incision in the vestibular side of the jaw to be treated, perpendicular to the alveolar ridge and gently separate the flaps to view the receiving bone.

STEP 2

Begin the drilling sequence with the Di²gital Arch® Ø2.50x5 mm lance drill at 900 rpm irrigating thoroughly and directing it up to the limit. The direction should be parallel to the occlusal plane or tilted cranially.

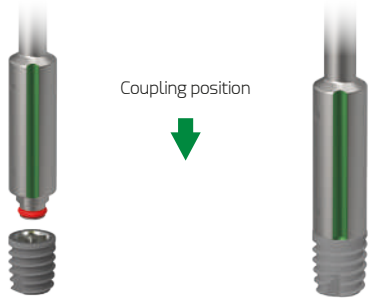
STEP 3

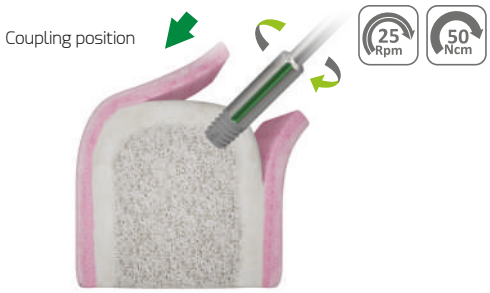
Continue the drilling sequence with the Di²gital Arch® Ø3.35x5.20 mm surgical drill up to its limit at 500 rpm, irrigating thoroughly and controlling the direction of it.

STEP 4

With the CA use the Di²gital Arch® 2.0 insertion key to seat the Di²gital Arch® 2.0 microimplant, making sure that it is secure. Insert the Di²gital Arch® 2.0 microimplant into the prepared surgical bed, at a speed of 25 rpm and with a maximum torque of 50 Ncm, leaving the implant platform at the level of the ridge.

NOTE
Make a note of the straight mark on the insertion key (marked in green on the 3D image), as this must end up parallel to the occlusal plane of the patient. Remember this position.

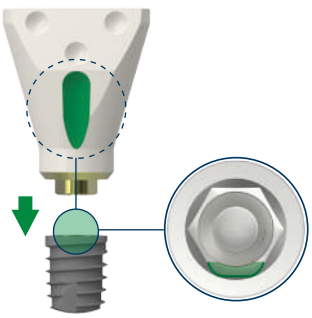


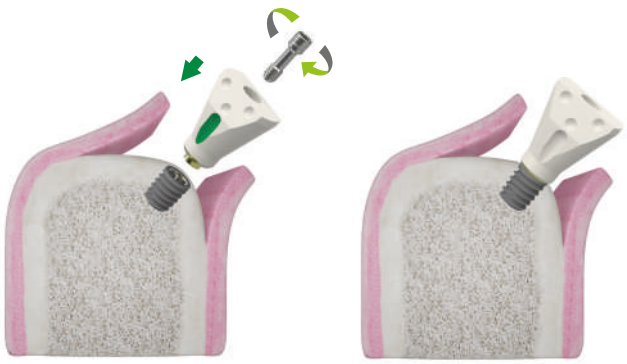


STEP 5

Place the Di²gital Arch® 2.0 scanbody into the Di²gital Arch® 2.0 microimplant, making sure that the connection fit is correct, so that the scanbody is parallel to the occlusal plane. Manually adjust the screw using the screwdriver in a clockwise direction.

NOTE
Remember the position for step 4 and place the scanbody with the lobe position mark in the same position, as both must remain parallel to the occlusal plane.





STEP 6

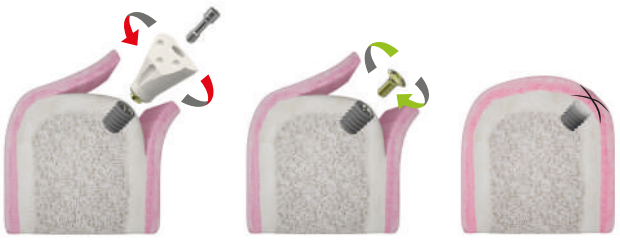
Continue with the scanning procedures with intraoral devices.

NOTE
The digital workflow will depend on the clinical situation, the prosthesis to be created, the intraoral scanning device and CAD software.

STEP 7

Having finished the first stage of treatment, remove the Di²gital Arch® 2.0 scanbody and insert the cover screw into the Di²gital Arch® 2.0 microimplant. Carefully adapt the tissues and suture.

NOTE
The Di²gital Arch® 2.0 microimplant cover screw is treated and has a yellow Anodised coating (■).



Surgical protocol

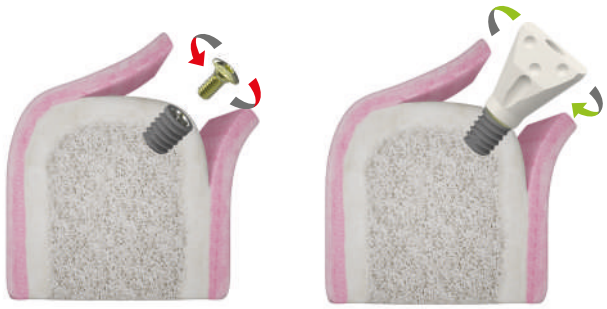
STEP 8

For the restoration stage of the treatment, make an incision perpendicular to the occlusal plane over the position of the Di²gital Arch® 2.0 microimplant; separate the flaps.

STEP 9

Turn the screwdriver anti-clockwise to remove the cover screw and place the Di²gital Arch® 2.0 scanbody back again, adjusting it properly to the connection of the Di²gital Arch® 2.0 microimplant and place the screw using the screwdriver in a clockwise direction.

The scanbody will be in the same position as the first surgical stage.



STEP 10

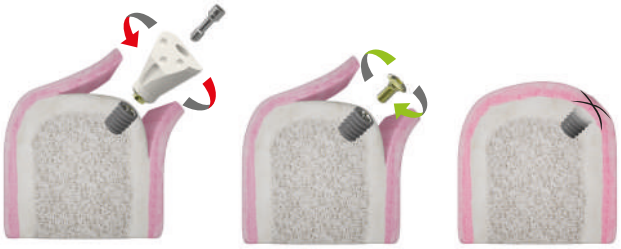
Continue with the scanning procedures with intraoral devices.

NOTE
The digital workflow will depend on the clinical situation, the prosthesis to be created, the intraoral scanning device and CAD software.

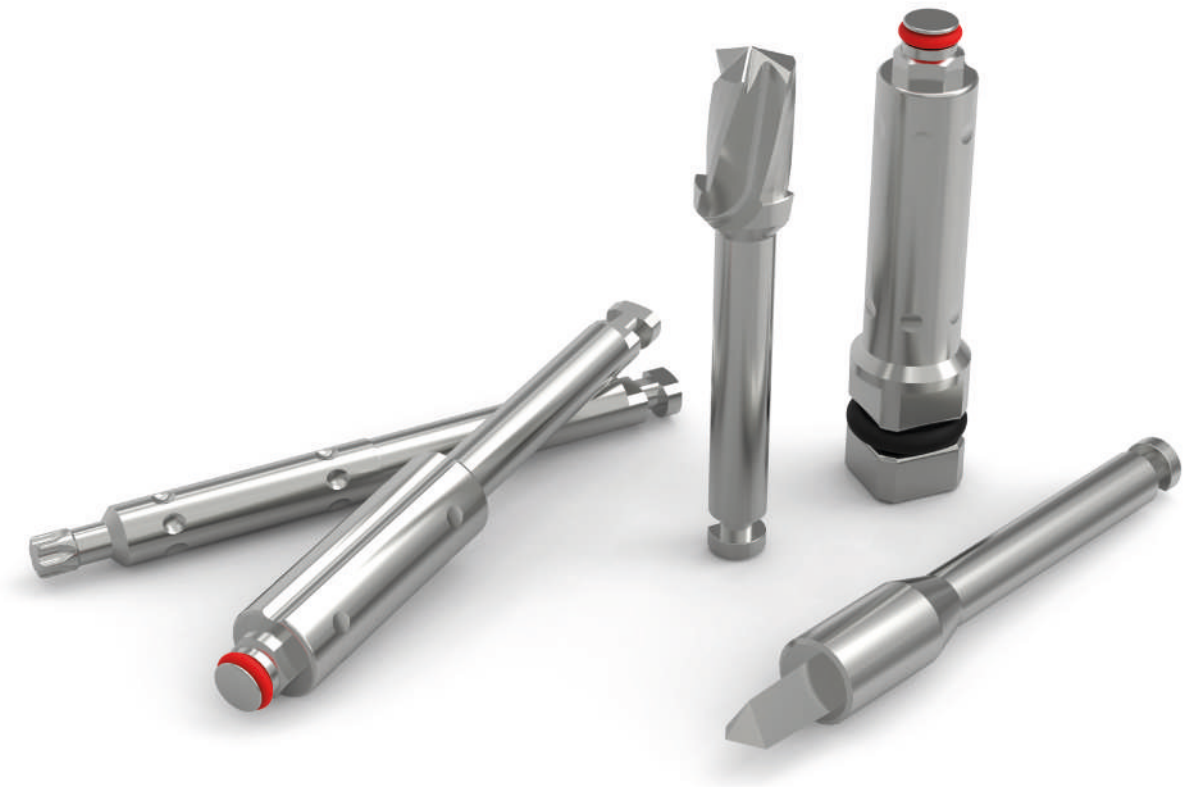
STEP 11

Once the acquisition has been made with the intraoral scanner, remove the Di²gital Arch® 2.0 scanbody using the screwdriver anti-clockwise and insert the cover screw. Close and suture the soft tissue, carefully lining up the flaps.

NOTE
It is not necessary to remove the Di²gital Arch® 2.0 microimplant, unless the clinical conditions require this.



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 here in.

Cleaning and disinfection instructions

Applicable for instruments, surgical and prosthetic boxes and plastic retainer caps.

Disassembly

1. Dismount* the appropriate instruments, for example manual ratchets, drills or drill stops.
2. Remove the various components from the surgical or prosthetic box for correct cleaning.

Cleaning and disinfection

For disinfecting instruments and surgical 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 the surgical and prosthetic boxes, always use a pH-neutral detergent and non-abrasive utensils to avoid damaging the surface of the boxes.
5. Dry the materials with disposable cellulose, lint-free clothes or compressed air.

For disinfecting plastic caps and spacers:

1. Submerge in a neat benzalkonium chloride solution for 10 minutes.
2. Rinse with distilled water.
3. Dry the caps and spacer before 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 procedure.
3. Check that the instruments and the surgical and prosthetic boxes are perfectly dry before reassembling the parts and proceeding to their sterilisation.

* See the assembly 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 autoclave

Applicable to orthodontic implants, abutments, and surgical and prosthetic instruments and boxes.

1. Introduce each material separately in individual sterilisation bags, then seal the bags. For joint sterilisation, place the instruments in their surgical box, introduce the box into a sterilisation bag and seal the bag.
2. Place the bags 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) and at 2 atm. Torque wrenches must be sterilised in 3 vacuum cycles at 132°C/270°F for a minimum of 1.5 minutes and vacuum-dried for a minimum of 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 min and with the drying time of at least 15 - 30 min.

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 bags 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.

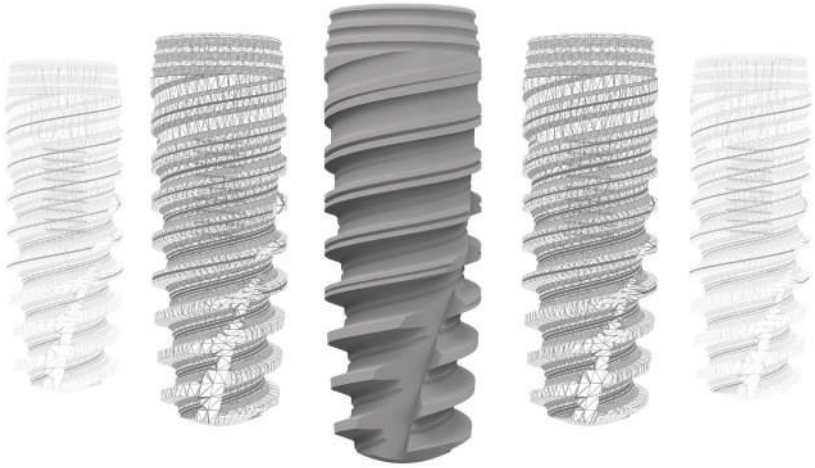
Storage of Ziacom® products

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

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.
- The 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 agent.
- The product's sterility cannot be guaranteed if the sterilisation bag is open, damaged or damp.
- Respect all stages of the sterilisation process. If the materials or sterilisation bags 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 boxes are supplied UNSTERILISED and must always be sterilised before use and cleaned and disinfected after use.
- The 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 Medical SL 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 **www.ziacom.com/biblioteca** for the latest version of the cleaning, disinfection and sterilisation instructions.



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