

Vulkan® External Hex. Implant System



AVAILABLE IMPLANT SYSTEMS









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Vulkan® External Hex. Implant System

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Designed and made in Barcelona, one of the most advanced cities in the world in biotechnology





About us

Vulkan® is a modern, cutting-edge European dental implant brand, established in Barcelona (Spain) in 2013.

Vulkan® was born out of our long and recognized expertise in the field of dental implantology. Also, because of our links with highly regarded companies and professionals in the sector and our close ties with the strong and world-renowned local biotechnological network.

As a manufacturer of implants and dental prosthetic solutions, our added value is based on the **high quality and reliability** of our processes and products. As well as the innovative capacity of our team of scientists, engineers and dental professionals.

In Vulkan® we carefully monitor and control all our processes of R+D+i, design, production and quality to be able to guarantee 100% the success of our products.

Our mission is to improve and facilitate the experience of the patients and dental health professionals by designing, manufacturing and making more accessible the most up-to-date dental implant technology.

Innovation:

The constant improvement and the desire to find the best solutions for the patients place us as an innovative and reliable company.

Quality:

Quality and seeking perfection are golden rules for everything we do.

Commitment:

Our commitment with the patients: solutions that improve their quality of life. Our commitment with the industry professionals: innovations to improve their clinical experience.

Added value:

The engine that moves us forward is the motivation to always offer more and better solutions.

Sustainability:

For us sustainability is a core value in our decision making process, to enable our values and our brand to last over time.

Vulkan[®] Internal Hex., the most innovative design with the latest technology in each area of the implant

Polished coronal region

Polished and beveled surface of 0.5 mm.

Aids the **proper healing** of the perimplantary mucogingival tissue, promoting the **hygiene** in the supracrestal area.

Hinders the adhesion of bacterial plaque.

Diminishes the risk of perimplantitis.

Micro-slot in cortical area

High primary stability at the cortical level.

Suitable for immediate loading treatments with bone types III and IV.

Decrease of occlusal loading stress.

Reduces the risk of cortical bone resorption.

Double thread

High advance of 1.8 mm per revolution.

Easy insertion.

Precise conicity to enable **gradual** condensation of the bone, **facilitating primary stability**.

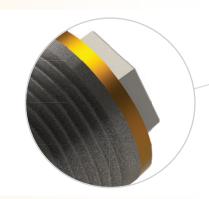
Cutting notches

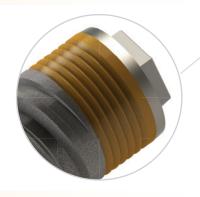
Self-tapping.

Optimal channeling of the detached tissue during implantation.

Anti-rotational function after osseointegration.

Reduce excessive pressure on the alveolar bone during insertion.



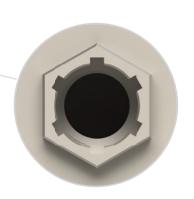








External Hexagon Connection



Wide compatibility.

Maximum simplicity.

Prosthetic comfort.

Trapezoidal thread profile



Optimal load distribution.

Facilitates **self-tapping** function.

Extensive bone contact surface.

Atraumatic tapered apex



Facilitates self-tapping to improve maneuverability.

Blunt tip **minimizes the risk of injuring** anatomical structures.

Simulates the natural tooth root.

VLA® Surface treatment

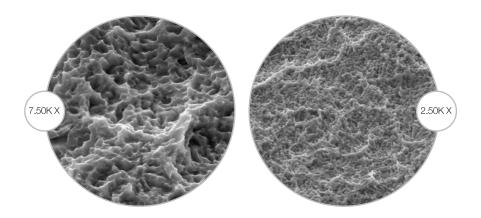


Proven Guarantee of Success

The Vulkan® EXT·HEX implant has been subjected to a treatment consisting of sandblasting + double acid etching creating a surface with optimum roughness of 1.4 μ m.

This is a widely studied surface that provides a microstructure that stimulates the osseointegration of the implant.

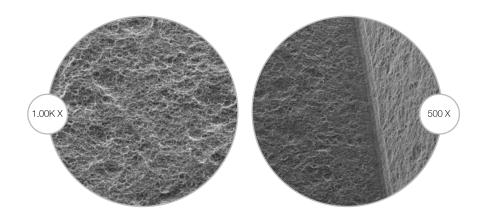
The VLA® surface treatment presents success rates of 98%-99%. This microstructure also ensures a large contact area between implant and bone, providing the maximum BIC (Bone Implant Contact).



The Cleanest Implant

In addition, an **innovative final cleaning technique** is applied using a **plasma** cleaning system that strikes the surface of the implant, subjecting it to an intensive blasting causing the detachment and **complete elimination of any possible remaining contaminants**.

Finally, the implant is subjected to a strict sterilization by gamma rays.



Vulkan® External Hex.,

the cutting-edge implant that meets all your needs

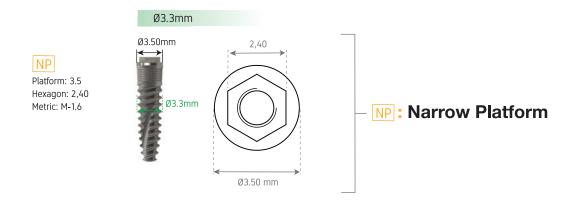


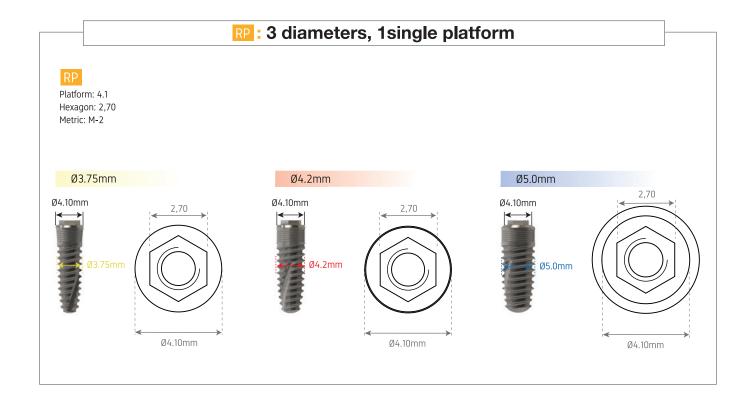


	Ø3.3 NP							
			3.30x08	3.30x10	3.30x11,5	3.30x13	3.30x15	
NP	7							
	Ø3.75 RP		EXT3308	EXT3310	EXT33115	EXT3313	EXT3315	
			3.75x08	3.75x10	3.75x11,5	3.75x13	3.75x15	3.75x18
RP	I				1			
			EXT37508	EXT37510	EXT375115	EXT37513	EXT37515	EXT37518
	Ø4.2 RP							
		4.20x06	4.20x08	4.20x10	4.20x11,5	4.20x13	4.20x15	4.20x18
20			-		0	0		ī
RP			4		7		1	
		EXT4206	EXT4208	EXT4210	EXT42115	EXT4213	EXT4215	EXT4218
	Ø5.0 RP							
		5.00x06	5.00x08	5.00x10	5.00x11,5	5.00x13	5.00x15	
				-		60		
RP				Z				
		EXT5006	EXT5008	EXT5010	EXT50115	EXT5013	EXT5015	
		12 11 21 2	22	• • (48)		R	(38)••	• Ø3.30
	• 13		23 •	• 47 (>	3	Ē	37 ••	• Ø3.75
	•• 14 •• 15	MAXILLARY	24 • • 25 • •	• 46	3	W	36 ••	Ø4.20
	• 16		26	• 45	JA	34 × 34	35 ••	• Ø5.00
	•• 17		27	- 4	43	<u></u>		
	• (18)		(28)	••	42 41	31 32		

^{*} All Vulkan® External Hex. Implants include the Cover Screw VEXTNTC (NP) or VEXTRTC (RP) in the same pack.

Technical specifications Vulkan® External Hex.







Technical specifications

Vulkan® Internal Hex.

The best titanium for the most advanced implant

In general, scientifically-proven dental implants are made of Titanium Grade 4. This material is known for providing better biocompatibility than Titanium Grade 5, because it has more pure titanium. However, although Titanium Grade 5 is less biocompatible, it has superior mechanical properties than Titanium Grade 4. This is the reason why Titanium Grade 5 is most commonly used in prosthetic components and Titanium Grade 4 in implants.

The determining factor in choosing between one material or another is their biocompatibility. However, it is also very important that the material contains mechanical properties that provide tensile/shear resistance, elasticity and enough strength/hardness to withstand the prosthetic process satisfactorily. That is why, in Vulkan we use an innovative material that provides the same biocompatibility than Titanium Grade 4 and the same mechanical properties than Titanium Grade 5.

How do we manage to obtain the best of both materials in one?

Technically, the composition of our Titanium is Grade 4. However, when forming it we use a "Cold Forming" technique. This process to form the material is what provides our implants their superior mechanical properties.

Using this innovative technique, we manage to produce our implants for maximum biocompatibility and the best possible mechanical properties.

Vulkan® Grade 4 titanium "Cold forming"

- √ Higher strength
- √ Greater Biocompatibility
- √ Advanced Mechanical Properties

Comparison of the different compositions of titanium

Titanium		Mechanical characteris	stics
Description State	Tensile strength N/mm²	0,2% Yield point N/mm² min.	Elongation %
Grade 2	345	230	20
Grade 3	450	300	18
Grade 4	550	440	15
Grade 4 MCW Medical Cold Worked	800-900	> 700	> 10

Surgical Protocol

Vulkan® Internal Hex.

These indications have been made for guidance (only). Bone drilling must be done carefully and taking into account the different bone density characteristics (Type I-IV).

Important considerations (to be taken) during bone drilling

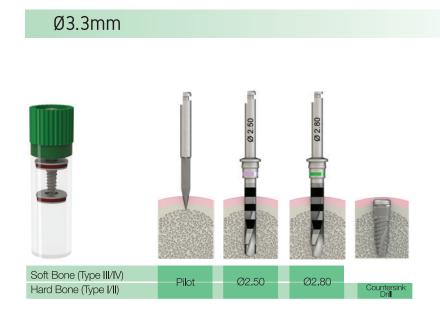
- · Use copious/profuse external irrigation of pre-refrigerated NaCl at 5°C solution.
- Prepare the implant bed site with sequential drilling (straight up-and-down motion during osteotomy).
- · Drill the osteotomy using light pressure.

Recommended drill speed:

(Must be individualised based on the bone density type)

Pilot Drill	850 r.p.m.
Drill 2.5	800 r.p.m.
Drill 2.8	750 r.p.m.
Drill 3.2	650 r.p.m.
Drill 3.65	650 r.p.m.
Drill 4.60	550 r.p.m.
Countersink Drill	350 r.p.m.

Drilling Sequence



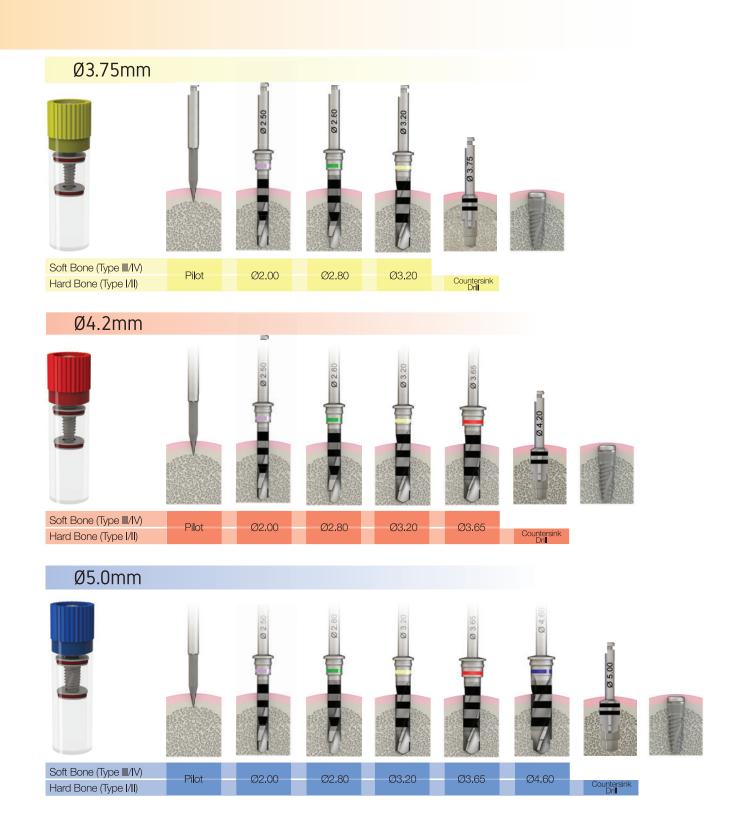


Drills are 1mm longer than the implants



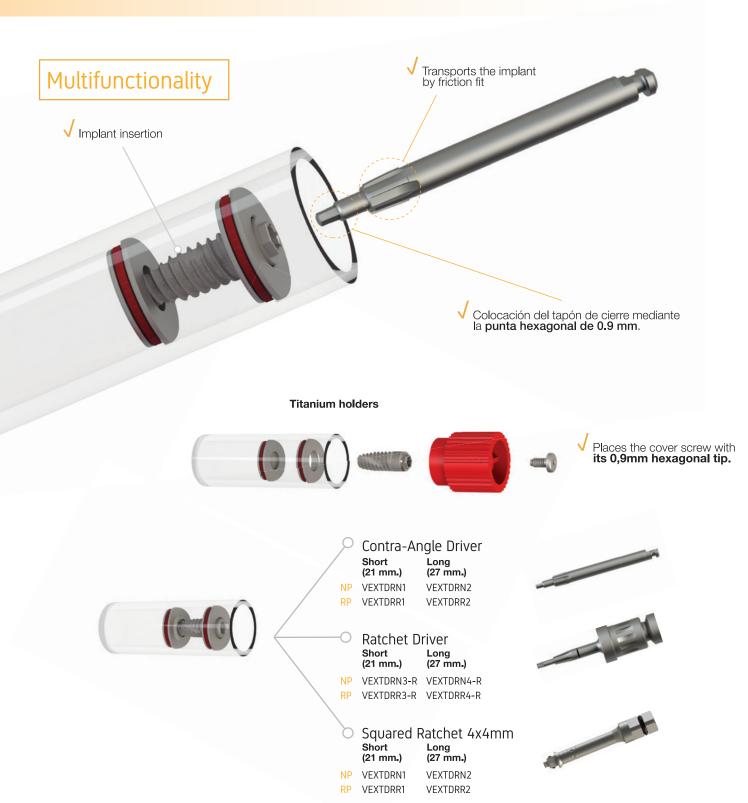
Surgical Protocol

Vulkan® Internal Hex.



Smart Implant Driver

Vulkan® External Hex.





Step-by-Step Implant Placement

Vulkan® Internal Hex.

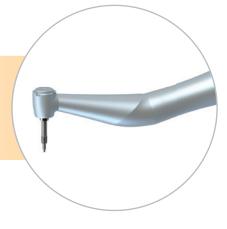


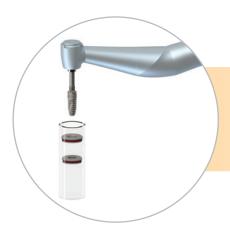
STEP 1

Lift off the coloured cap to open the vial containing the implant. Place the cap into a sterile field. The implant cover screw comes attached to the top of the cap.



Attach the implant driver to the contra angle.



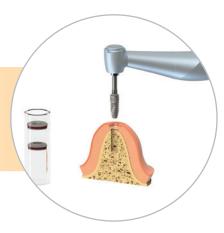


STEP 3

Connect the contra angle driver to the implant by exerting slight axial pressure. They will remain attached because the driver presents an elastic retention feature (rubber dots) in the area that connects to the implant. Remove the implant from the vial and carry it to the implant bed.

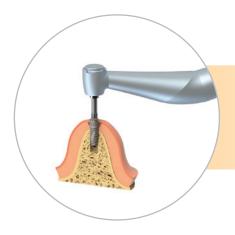
STEP 4

Begin inserting th implant with the contra angle seteted at low speed 10-15 rpm at 30-35 Ncm



Step-by-Step Implant Placement

Vulkan® Internal Hex.

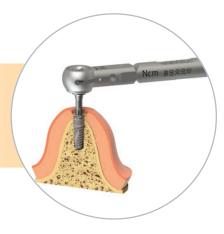


STEP 5

Insert the implant 75%of it's lengthts, maximum torque 30-35 Ncm



Finalize the implant installation manually, preferably with the dynamometric ratchet at maximum torque set to 40-45 Ncm



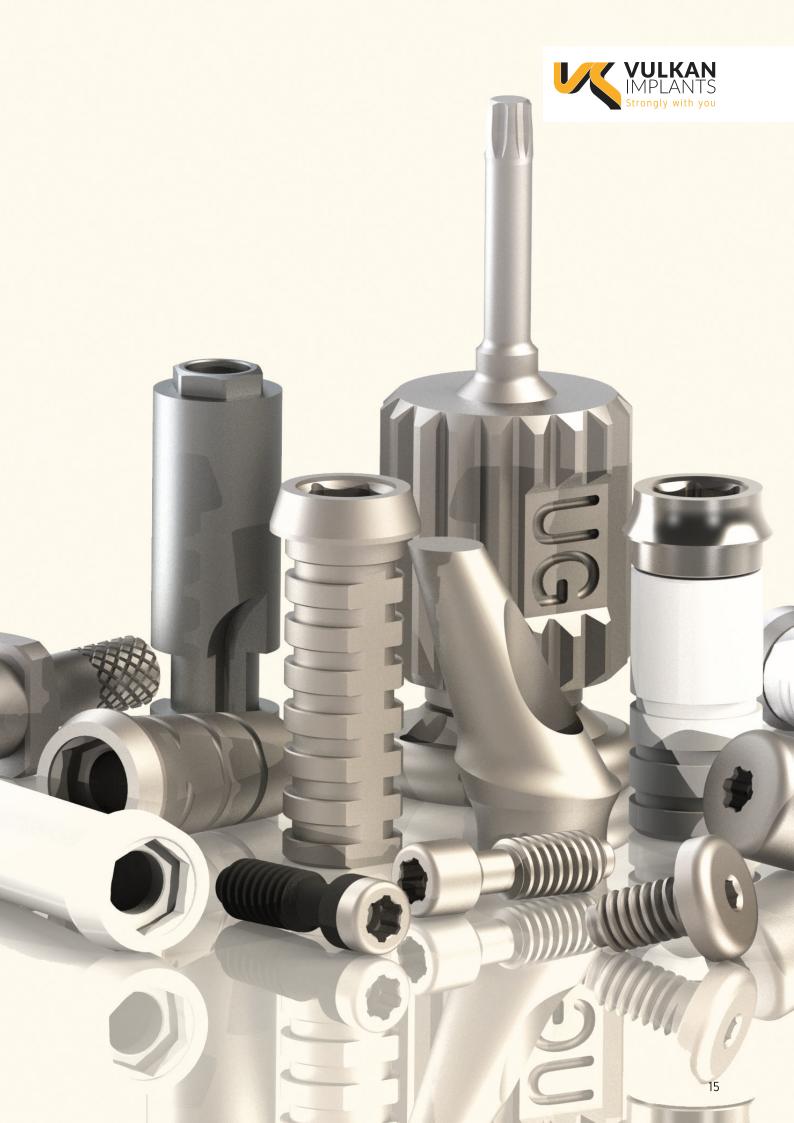
STEP 7

Remove the cover screw from the vial cap with the Unigrip hand driver.

STEP 8

Hand-tight the Cover screw into the implant manually It is recommended not to exceed a torque of 10 Ncm.





Vulkan® Internal Hex.,

Prosthetic Solutions and Tools

Introduction

Reliable and innovative prosthetic solutions ensure the perfect fit and maximum robustness.

As a result of our advanced manufacturing process, we obtain a tolerance of only 5 μ m, guaranteeing a perfect and extremely accurate sealed connection of the prosthetic components.

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Prosthetic Solutions and Tools

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Single Prosthetic Driver

All Vulkan® External Hex prosthetic components work with the Unigrip Hand or Contra-Angle Driver (except for the Straight Multi-Use® Abutment and the VulkanLoc® system).

Main Prosthetic Components





Healing

Healing Cap (Grade 5 Titanium)

10 Ncm (max.)

20 Ncm (max.)



NP VEXTNTC

RP VEXTRTC

Healing Cap Ø3.5 (NP) - Ø4.1 (RP) (Grade 5 Titanium)

h2.0 mm

NP

RP VEXT01R2041

h3.0 mm

VEXT01N3035 VEXT01R3041



h4.0 mm

VEXT01R4041



h5.0 mm

VEXT01N5035 VEXT01R5041

Healing Cap Ø4.5 (NP) - Ø5.0 (RP) (Grade 5 Titanium)



h2.0 mm

NP

RP VEXT01R2050



h3.0 mm

VEXT01N3045 VEXT01R3050



h4.0 mm

VEXT01R4050



h5.0 mm

VEXT01N5045 VEXT01R5050

Impression

Impression Coping (Grade 5 Titanium)



Open Tray VEXT02N0001

VEXT02R0001



Close Tray

VEXT02R0002

Analog (Stainless steel)



NP VEXTO3N0000

RP VEXT03R0000

Screw Retained Restoration



Cemented Restoration





Non-Engaging - 30°

1- VCHA300001

2- VEXT05R0003

Engaging - 30°

1- VCHA300001

2- VEXT05R0004

Transepithelial Multi-Use®





Multi-Use® Abutments

Straight Multi-Use® Abutment (Grade 5 Titanium)



h1.0 mm VEXT10N1000 VEXT10R1000

30 Ncm (max.)



h2.0 mm VEXT10N2000 VEXT10R2000



h3.0 mm VEXT10N3000 VEXT10R3000



h4.0 mm VEXT10R4000



h5.0 mm

VEXT10R5000

Angled Multi-Use® Abutments (Grade 5 Titanium)



17º h2.0 mm NP

VEXT10R2017



17º h3.0 mm VEXT10R3017



17º h4.0 mm VEXT10R4017



30° h3.0 mm VEXT10R3030



30° h4.0 mm

VEXT10R4030



30° h5.0 mm

VEXT10R5030

Healing

RP

Healing Cap for Multi-Use®



(Integrated Srew)

Titanio MU0102

Impression

Impression Coping for Multi-Use® (Grade 5 Titanium)



Close Tray MU0202

Multi-Use® Analog (Stainless steel)



MU03

Open Tray MU0211

Screw Retained Restoration

Castable

Cobalt-Chrome Castable Multi-Use® (POM C) Multi-Use® (CrCo + POM C)

Temporary Abutment Multi-Use®





MU0402



MU0502



Titanium MU0602



MU0602P

15 Ncm (max.)



Titanium DLC MU0905T



MU0905

Prosthesis Screwed Angled Multi-Use®



Non-Engaging - 17° 1- VCHA170001 2- MU0504



Non-Engaging - 30° 1- VCHA300001 2- MU0504

Angled Clinical Screw Multi-Use®

15 Ncm (max.)

Tetralobular Conection

Titanium MU0900-TLB



Medium VSDTLB-2

Long VSDTLB-3

Straight Driver Multi-Use®



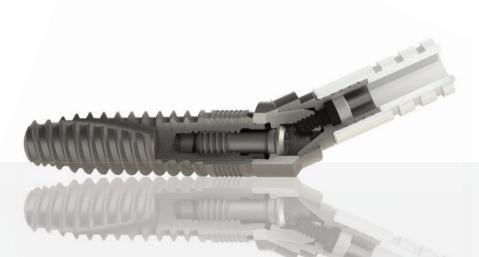
Contra-Angle VDMU-1



Ratchet VDMU-2



Straight Mounter Multi-Use® VDMU-4



Overdenture VulkanLoc®





VulkanLoc® Abutment (Grade 5 Titanium + TiN Coating)











6mm

Soft Tissue

h1.0 mm VEXT11N1000 VEXT11R1000

NP

h2.0 mm VEXT11N2000 VEXT11R2000

h3.0 mm VEXT11N3000 VEXT11R3000

h4.0 mm VEXT11N4000 VEXT11R4000

h5.0 mm VEXT11N5000 VEXT11R5000

-VEXT11R6000

Retentions VulkanLoc®



VulkanLoc® Processing Package



L0100

Housing with Black Retainer



L0409 X4

VulkanLoc® Analog



Mounter for VulkanLoc®



Spacer Ring



Smart Tool VulkanLoc®



VDVL-3 Multi Functional Tool for VulkanLoc® System

VulkanLoc® Driver



Contra-Angle VDVL-1

Ratchet VDVL-2

Imp. Coping for VulkanLoc®



L0202

CAD-CAM Components

* Libraries Available: www.vulkanimplants.com





Ti-Base



Non - Engaging

NP h0.5 mm - VEXT08N0501

RP h1.5 mm - VEXT08R1501 h2.5 mm - VEXT08R2501

h3.5 mm - VEXT08R3501



Engaging

h0.5 mm - VEXT08N0502

h1.5 mm - VEXT08R1502

h2.5 mm - VEXT08R2502 h3.5 mm - VEXT08R3502





Extraoral

NP VEXT13N0002 RP VEXT13R0002





NP VEXTO3N0010 RP VEXTO3R0010

Ti-Base for transepithelial Multi-Use®



MU080502

ScanBody Multi-Use® Titanium



Intraoral MU13R02 Analog Multi-Use® (Stainless Steel.)



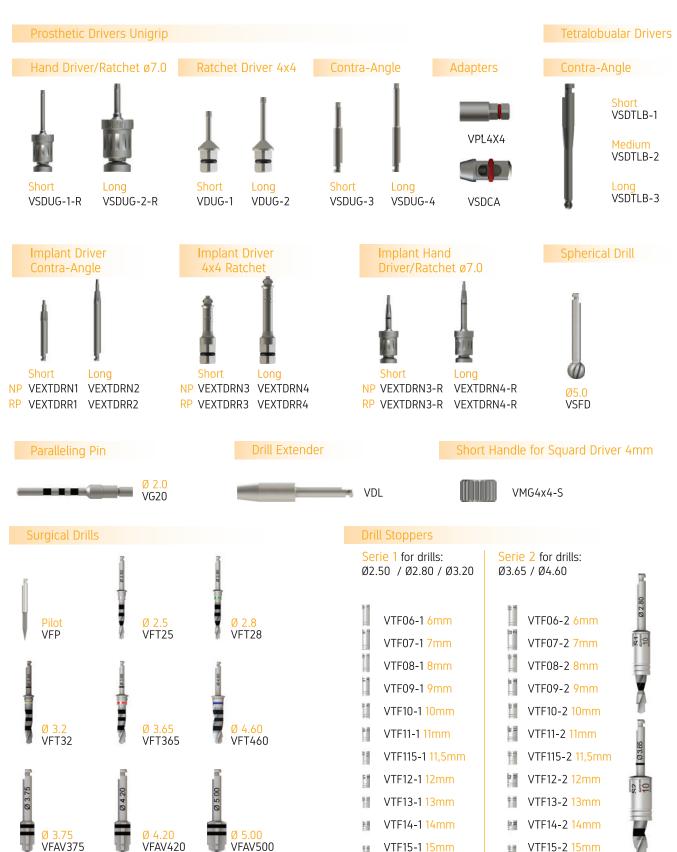
MU0310



Surgical and Prosthetic Tools







Surgical and Prosthetic Tools







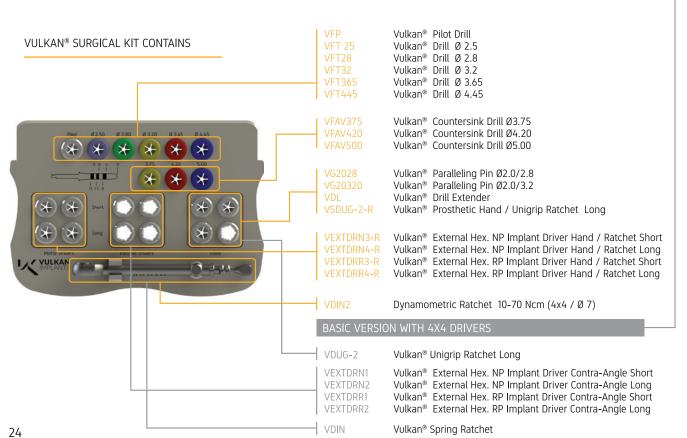
VSK-EXT-T Dynamometric ratchet VDIN2 Drivers Ø7 connection Drill Stoppers included



VSK2-EXT Dynamometric ratchet VDIN Drivers 4x4 connection Drill Stoppers not included VSK2-EXT-T Dynamometric ratchet VDIN Drivers 4x4 connection Drill Stoppers included











R&D+i

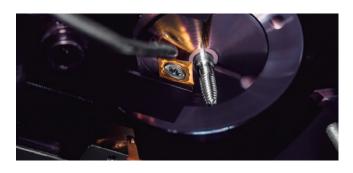
Our Research, Development and Innovation team is made up of **engineers and doctors** with long, extensive and successful experience in the development of dental implants and prosthetic components.

Together, they investigate and design the Vulkan® Implants innovative products according to user needs under the most advanced protocols of Medical Engineering and in accordance with UNE 166002.

STATE-OF-THE-ART-TECHNOLOGY

Vulkan® products are known for their high precision, quality and robustness. This is possible, among other things, thanks to the *skillfulness of our specialists*, experts in dental technology, and the latest CNC machinery which allow us to guarantee tolerances of only $5~\mu m$.

We can proudly say that our products are manufactured with the most accurate technological system in the world.



BEST QUALITY GUARANTEED

Our Quality Control Department applies the more rigorous control system and has been certified under the most strict European quality standards. Robotized computer machines with artificial vision analyze and ensure the precise measurement of each implant and prosthetic component. Also, through an innovative optical laser technology, we inspect up to the most micrometric detail of the implants or prosthetic components.

Finally, to ensure the perfect functionality of our product, our team physically check the perfect fit of each item. 100% unitary control.

European Quality Standards

ISO 9001

ISO 13485

IQNet

CE Marking

AEMPS Licence













Vulkan®, Committed to Science

- $\sqrt{}$ Scientific collaboration with universities.
- √ Clinical cases with private collaborators demonstrate our reliability and effectiveness.
- √ Scientific committee made up of prestigious doctors:



Dr. Samir Aboul-Hosn Maxillofacial Surgery Specialist

Dr. Samir Aboul-Hosn, medical specialist in Maxillofacial Surgery, obtained the degree of Doctor of Medicine with "Excellent Cum Laude" for his work on "3D technology applied to Orthognathic Surgery" at the International University of Catalonia. Currently, he is the Scientific Director of Vulkan Implants, supervising and collaborating closely on product design. In the healthcare field, he is the Head of the Oral and Maxillofacial Surgery Unit at Plató Hospital in Barcelona. Dr. Aboul-Hosn works intensively at the International University of Catalonia where he is a hired Professor, a position that gives him the title of a Degree subject, the Co-Direction of the International Master in Oral Surgery (IMOS) and the direction of various research studies. The European Council of Oro-Maxillo-Facial Surgery (EBOMFS) should also be highlighted on his CV as recognition of European level specialist degree, as well as the publication of several scientific articles in national and international journals.



Dr. Manuel Piñera Implantology and dental prosthetics

Dr. Manuel Piñera has proven experience in implant surgery and prosthetics. His meritorious professional career is distinguished by his dedication to teaching and research in different universities such as the UB and the UIC for more than 20 years. At the same time, he has worked as an oral surgeon in private practice, becoming a professional of reference.



Dr. Octavi Ortiz Puigpelat Implantology and dental prosthetics

Dr. Octavi Ortiz is a modern professional expert in Implantology and dental prosthetics who practices in prestigious private clinics in Barcelona. Author of publications and papers at national and international level, his work extends to the academic field, being Associate Professor of the International Master of Oral Surgery (UIC).



CASE CCVINH1501



After



4 month after surgery



1 year after surgery

CASE CCVINH1502





After

4 month after surgery





1 year after surgery

After

CASE CCVINH1503

Before



After



4 month after surgery

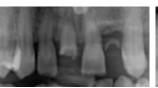


1 year after surgery

CASE CCVINH1601

Before





2 month after surgery

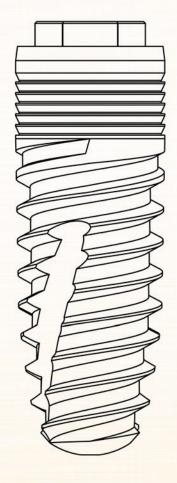




8 month after surgery

⁺ Information, please visit www.vulkanimplants.com







www.vulkanimplants.com

Vulkan® External Hex.















