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## Our DNA

Radhex Implants® is pleased to present to the market its PREMIUM product lines, developed based on the knowledge and experience acquired, after years of Research and Development in the dental implants sector, which allow us to offer both within the national market As in its international projection, its most evolved design options, which respond to an innovative and advanced concept, providing the highest benefits that a dental implant can offer.

Our commitment to carrying out innovative projects, the know-how of our production team and the vocation for service in our commercial team, make it possible year after year for the company to continue evolving and positioning itself as a brand with clear values and hallmarks of identity. , and if there is something in our DNA, it is our clear product vocation, with initiatives always focused on promoting and promoting the most advanced in terms of design and production and always under the protection of scientific consensus, through the approach of design optimization and new development lines, which aim to keep us constantly up to date and offer our clients the greatest possibility of existing alternatives, for the successful solution of the clinical challenges that arise case by case.

The previous years have been the basis of an experience, which lays the foundations to be able to offer our clients the most advanced concepts in the design of dental implants, their attachments and instruments, but with this our mission does not end, since we will continue working on new projects, because it is a vocation that lies in the DNA of the Company.

There will always be new challenges and developments that bring to the professional the most evolved, the most exquisite and the most technological, of the products related to the world of oral implantology, so that the most complicated, if you will, can become simpler.



# Why Radhex Premium,...

Technological advancement shows new development trends in dental implants, for different anatomical situations from a topographic point of view, as well as depending on the quality of the anatomical terrain, minimizing the technical risks of application of the devices, as well as offering higher benefits, facilitating the surgical act, improving clinical ergonomics as well as providing better solutions to patients.

In this sense, the Radhex Implants® PHIA+ Plus and PCI+ Plus lines present advanced design features with a profile of the highest self-threading, starting from an internal hexagonal or conical platform compatible, respectively, with the availability of platform switching, a progressive thread with self-threading fronts that facilitate insertion, a macro-geometry that optimizes obtaining high ranges of primary stability, together with a highly absorbent textured surface, and without failing to mention the availability of short implants, are just some of the attributes of this implant system, designed to be adaptable and versatile to all clinical situations.

PCI+ Plus from Radhex Implants® also presents a highly versatile intramucosal cervical section, which optimizes the sealing of soft tissues based on its anodized micro geometry.

This is completed with the lines of SLD cm compressive and SLD bm basal implants, equipped with a design that allows minimal invasiveness, and offering solutions that go beyond the known limits of the technique.

It is the spirit of this system to offer surgical simplicity, biological safety, and prosthetic versatility, which allow the professional to develop the highest level of surgical experience, only compatible with success.





## THE NEW APPROACH

Under the expression "Radhex versus Radhex", we have embraced a global perspective in implantology, challenging ourselves and surpassing the internal limits of our company. This self-fight has been a real challenge, a process of self-improvement driven by the innate passion that we have always had for our product, raising it to the highest levels of quality.

As a result of this dedicated work, we present two distinctive lines in our products:

- 1- QUALITY Lines: They stand out for their versatility, wide spectrum of therapeutic applications and exceptional restorative flexibility. We have 5 lines of implants that are members of this family.
- 2- PREMIUM Lines: They incorporate all the characteristics mentioned above, in addition to highly specific designs for critical clinical situations. These Premium lines offer exceptional solutions both in terms of functionality and aesthetics. We have three families of implants for this family.

Both lines offer the possibility of working conventionally or in a digital environment, with components designed for scanning, transferring and replicating models. Always having the internal, external hexagonal connection platforms or conical platform that respond to the safest and most widespread worldwide.

These products are carefully conceived to facilitate the design and manufacture of prostheses with maximum precision and aesthetics, providing our users with options adapted to the most demanding demands of modern dentistry. We are excited to share these advancements, reflecting our continued commitment to excellence and innovation in the field of dental implantology.

#### **RADHEX PREMIUM:**

THE PERFECT STRATEGY FOR EXCELLENCE.



# **PREMIUM**





# QUALITY

# A commitment to patient satisfaction

Our goal is to focus all our knowledge and experience on supporting professionals so that they can treat as many patients as possible and in the best possible way.

To do this, we focus on four fundamental pillars.

Una Elevada Calidad y Diseño en nuestros productos -High Quality and Design in our products-

Quality is our commitment, and design is our spirit.

With an always innovative attitude, we create effective, innovative products and solutions, and improve existing ones, so that professionals can provide their patients with fully functional, safe and natural-looking results.



A constant presence in training, to bring the professional the most advanced knowledge and experiences, joins a serious, dynamic and trustworthy commercial team that always proves to be the best support for the performance of the professional's work.



Tranquilidad para el Profesional -Peace of mind for the Professional-

A constant investment in research and development guarantees the professional the appropriate framework to perform their work safely.

We add to this the quality of our products and our constant support in training and technique, thereby ensuring the path to professional success.



Satisfacción para el Paciente -Patient Satisfaction-

It is the highest goal to which we wish to contribute, and for which we commit all our efforts.

A product made for oral health, with a lot of effort, and with the great satisfaction and tranquility that is felt, when things are done correctly.

# The company

Since its founding in 2004, Radhex Implants® has stood out as a leading company in the field of innovation and excellence in the field of medical implants. We are proud to be an organization committed to continuous improvement and the constant search for advanced solutions that positively impact people's health and well-being.

At Radhex Implants®, we specialize in the design, development and manufacturing of next-generation implants, backed by the most advanced technology and a team of highly qualified professionals. Our commitment to quality and precision has allowed us to earn the trust of medical professionals and patients around the world.

We stand out for our dedication to excellence, offering advanced solutions that include innovative designs such as Internal Hexagon, Morse Taper and one-piece implants, which have marked a milestone in the evolution of modern dentistry.

At Radhex Implants®, our commitment extends beyond delivering high-quality products; We are deeply committed to supporting and collaborating closely with teams of dental healthcare professionals around the world. We strive to understand the specific needs of our clients and offer solutions that not only meet, but exceed their expectations.

Research, development and innovation (R+D+i) are fundamental to our philosophy. We dedicate significant resources to ensure our products are at the forefront of technology, meeting the most rigorous standards of safety and effectiveness. At Radhex Implants®, we believe that constant innovation is essential to advance dental practice and improve patients' oral health.

Quality is the cornerstone of everything we do at Radhex Implants®. We are committed to offering products that meet and exceed the expectations of our customers and partners. We operate with integrity in all our interactions and maintain a strong commitment to corporate social responsibility.

We are proud to collaborate with medical professionals, research institutions and strategic partners around the world to advance medical science and improve people's quality of life. Together, we are building a future where innovation and a commitment to excellence transform healthcare.

At Radhex Implants®, we look to the future with enthusiasm and determination. We are committed to continuing to pioneer the development of revolutionary medical solutions that positively impact global health.

We deeply value the strong, long-lasting relationships we build with dental professionals. We strive to be a trusted partner, providing not only exceptional products but also comprehensive, personalized support.

Join us at Radhex Implants® as we continue to be a driving force in the evolution of dentistry. Your success and the well-being of your patients are our top priority.







# Our philosophy

## Mission

At Radhex Implants®, we believe in the importance of making a difference in the field of health. We are constantly looking for new ways to address medical challenges, developing products that not only meet the highest quality standards, but also exceed expectations in terms of effectiveness and durability.

# Perspective

Our vision is to position the company as a leading company, a reference in the field of oral implantology.

Always maintaining the firm commitment to quality, as a pillar of our production and the highest efficiency in service to our clients.

## **Values**

- **QUALITY**
- PRECISION
- CLINICAL SAFETY
- CUSTOMER SERVICE
- O INNOVATION
- INVESTIGATION
- O DEVELOPMENT



The work and constant investment of resources in R&D&i for the development of new products and solutions for the professional are our hallmark.







# General Technical Report

#### The Product: Raw Material

Biocompatibility and affinity with bone have made commercially pure grade 4 titanium (c.p.) and its alloy Ti6AL4V grade 5, the highest performance standard materials for the dental sector.

For over sixteen years, we have manufactured implants from chemically unmodified variants of commercially pure titanium.

For these reasons, Radhex Implants® implants are made with pure grade 4 titanium and we also have models made with grade 5 titanium alloy, Ti6AL4V, meeting high quality standards, which provides very high performance in its functional benefits, as well as maintaining conformity with the requirements of ASTM F67 and ISO 5832-2 and ASTM F136 and ISO 5832-3 respectively.

Implant models manufactured in Ti Grade 4:

PHI, PHIA, PHE, PHEA models in all their measurements, and PCI for the PCI280 and PCI350 platforms.

Implant models made of grade 5 titanium alloy, Ti6AL4V:

PCI models for PCI230 platform and all SLD line implants in all sizes.

Radhex Implants® implants are sterilized by accelerated electron irradiation (e beam).



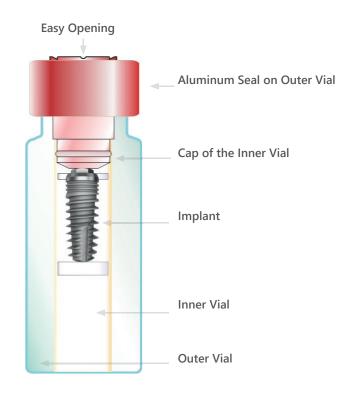
#### Packaging characteristics

#### Length encoding

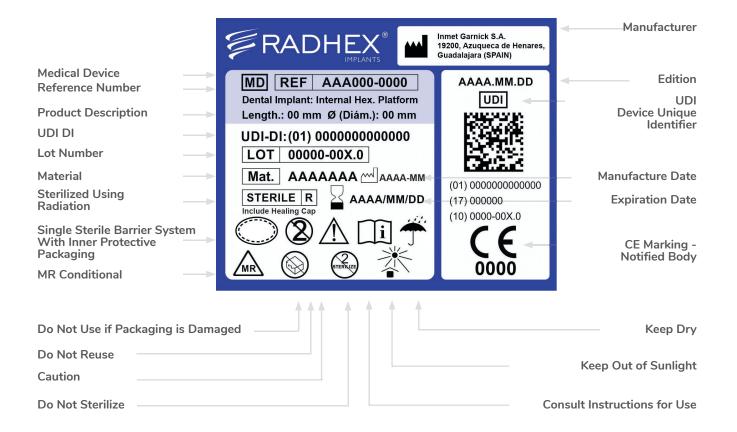
Double sterile protection vial.

- Outer Road
- Inner Road





#### **Product Labeling**



Radhex Implants® is a leading brand in implant-supported dental solutions, applying the most advanced production technology for dental implants, attachments, and implantological tools. Our philosophy is based on science and geared towards all indications.

Headquartered in Spain, our main objective is safety based on quality, education, and innovation to reduce treatment duration and improve therapeutic prospects in oral rehabilitation on implants.

Through strong collaborations with dental professionals, our advanced products and their highly precise complements fulfill our essential commitment to contribute to patient health.

#### **Comprehensive Solutions Approach**

We offer dental professionals a comprehensive range of alternatives for dental solutions, catering to different treatment concepts, with a secure supply source, thus guaranteeing high quality, flexibility, and compatibility to achieve the optimal solution for each indication.

#### Wide Selection of Materials

All our solutions are manufactured using various highly biocompatible and durable materials.

Their clinically tested safety ensures safe and predictable results, including implants made of high-purity titanium and prosthetic solutions in Grade V titanium, chrome-cobalt, and treatments such as anodizing and nitriding to optimize mechanical and tissue response.

#### **Innovative Diagnosis and Treatment Concepts**

We have developed numerous concepts designed to optimize dental restoration treatment and maximize clinical effectiveness. Key concepts focus on improving diagnosis and treatment planning, implant primary stability by design, optimizing soft tissue interaction, and orientation of implants for less invasive surgical protocols.

# 360° - A Global Perspective

#### **Implant Systems for Every Indication**

We have developed an extensive range of implants with different self-tapping design profiles, based on solid scientific concepts, ensuring an optimal level of bone and tissue response for each case. These implants are suitable for covering all therapeutic indications, including small diameter implants (Fit Implants), maintaining a wide range of lengths, and including short implants.

Additionally, we offer various prosthetic connection alternatives.

#### **Commercial Service and Customer Support**

All our standard products can be ordered directly from our headquarters or through our sales team.

Our sales representatives have extensive experience and are available to provide assistance, offering the support that every professional needs.

#### **Professional Training**

Throughout the year, we provide a wide variety of conferences, courses, and events focused on promoting the dissemination of scientific knowledge and current clinical experience, led by expert professionals. These events teach the skills necessary to integrate Radhex Implants® solutions into the field of dental clinics and laboratories.

The great things are simple. Winston Churchill.

# Security and Precision as Concepts.

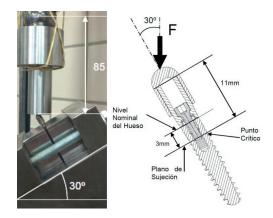
#### Designed and tested as Safe and Robust systems.

A key aspect of performance evaluation is that a system is only as strong as its weakest link and that the performance of any component depends not only on the component itself, but also on its interactions within the system.

As a result, proper testing of any component is within the system of which

For this reason, Radhex Implants® conducts research and testing not only on individual components such as implants, abutments and screws, but also on the entire system.

Only with this approach can we ensure that our solutions operate safely and reliably for many years.



#### The importance of a precise fit.

The components of our restorative systems, whether on Radhex Implants® or other implant systems, are designed for a precise fit between the abutment and the implant.

We obtain this by managing production in our plant, based on the use of specific machinery of Swiss origin, of the highest technology, for the medical implant sector, and which have the same degree of precision as that used for the high level watch industry.

The precise fit is decisive for the performance of the system as a whole, as it offers the guarantee that occlusal forces are distributed adequately and uniformly, avoiding uncontrolled maximum loads.



#### Optimizing every last detail:

The establishment of correct mechanical tolerances for the connections is essential so that the mechanics between different parts of the system maintain adequate performance and stability over time.

Radhex Implants® abutments are manufactured with tight mechanical tolerances, without the interaction of the anti-rotation elements depriving the pieces of an adequate functional fit.

In this way, the mechanical function is optimized, so that the implantabutment system of which it is a part maintains maximum efficiency in its

Although not always visible to the naked eye, the use of third-party components not designed and tested for the system can result in uncontrolled forces and may lead to failure of individual components or the entire system. Avoid complications by choosing implant restorations that are designed and tested as a safe system.





# Environmental quality control in the productive area

#### Maximum environmental control in the product packaging area.

The packaging procedure for Radhex ® dental implants is carried out within strict control of the quality and purity of the air in the environment where the process takes place.

For this we have a Clean Room, with ISO 8 quality in accordance with the established regulations, which through the application of laminar flow in the cabin, allows us to reach an ISO 5 standard in the product packaging environment. This allows maintaining a maximum level of purity control in the environment where the packaging process of dental implants takes place, a product that after this process will undergo a validated irradiation sterilization process.

This achieves the fulfillment of two main objectives:

- 1- Guarantee a rigorously controlled environment, free of contaminating particles.
- 2- Guarantee the strictest microbiological control within the application of the packaging process.

Ensuring, through the respective particle and microbiological tests, the greatest asepsis and decontamination of the work and processing area.

# Your needs and preferences covered by a wide range of products

#### A broader portfolio of products for your patients.

We offer you a single source to cover solutions for each indication, treatment protocol, patient need or treatment concepts. A 360° vision of the world of rehabilitation with dental implants. Whether single or multiple restorations up to full arches, we offer solutions that will allow you to cover all your needs, from fixed to removable prosthetic protocols, which will allow you to restore the dental functions of

Combining this concept, in a dynamic way, with constant innovation, since every day, better technologies appear to cover new needs. Therefore, we will continue to offer you new products and solutions that meet the latest and highest standards of patient care.

chewing and phonation to treat your patients with maximum efficiency.



#### From the root to the tooth.

We offer implants for all indications and preferences, with high stability body designs, cylindrical-conical with progressive thread, with machined collars, textured bodies, and with different connection options. We complement this with versatile prosthetic elements, prefabricated temporary and definitive abutments, from millable abutments and for individual screw-retained crowns to fixed and removable multi-unit and full-arch restorations, and opening up the field of digital restoration, we have everything the professional needs for optimized function and aesthetics.

And with our years of experience, we offer a full range of instruments and tools to help you carry out all treatments safely and efficiently.



#### Always present.

Our aspiration is to support, with our technology, the safest and most predictable treatment for your patients.

Therefore, you can trust that it is not only a commitment to sales, but also to information and training through our catalogs and information manuals, courses, conferences and commercial and technical advice to professionals.



# Security and Precision as Concepts.

#### Hands-on leadership from the start.

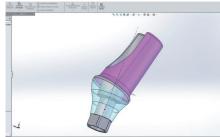
Radhex Implants® is committed to the highest level of scientific evidence, and this is the spirit of our pioneers. Our products are supported by both rigorous mechanical tests and the solidity offered by experience and clinical studies.

Today, oral rehabilitation based on dental implants sets the highest standard of care for oral health, and Radhex Implants® products are solidly supported.

Our implant today maintains an important track record in clinical use for more than 15 years.

The concepts of a self-stable, self-tapping design, with high grip and traction to a variable anatomical terrain that bone tissue can offer, are the cornerstone on which efficiency and clinical success are based.



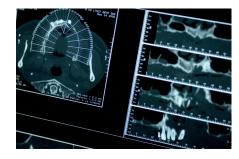


#### Not all implants are the same

The notion that all dental implants, being composed primarily of titanium, are comparable has emerged as a claim among various implant providers. Despite the similar appearance of these implants, their performance varies considerably. Clinical experience has played a crucial role in understanding this complexity, and it is not a trivial aspect.

Even subtle modifications in the macrogeometry of the implant or its components can have significant repercussions on both the biological response of the tissues and the mechanical efficiency of the product. This learning has highlighted the need to consider aspects beyond the basic composition of the implant.

The incorporation of a surface with textured microgeometry by subtraction is a notable example, as it increases the contact area up to 5 times compared to conventional surfaces. This characteristic not only optimizes the biological response of the tissues, but also guarantees maximum effectiveness in implant treatment..





#### Careful selection of materials and extensive testing.

We carefully select all manufacturing materials, whether metal or technical polymers, and they are controlled and handled with absolute care. Everything has to meet the highest standards, including bio-compatibility, strength and longevity. The commercially pure titanium used for our implants, the alloy used for the attachments, and the processes applied in manufacturing. Our products are extensively tested in accordance with ISO standards, helping to ensure that they stand the test of time.



# Systems Overview

#### PHIA+ PLUS Type La Conexión Hexagonal Interna PLUS **FRADHEX**

#### **Design of Connection Platforms:**

The classic prosthetic connection, developed by the American school under the tutelage of Dr. Gerald Niznick, reaches its maximum expression in the PHIA+ Plus model, standing out for its efficiency, performance, safety and primary stability. This design offers optimal tactile perception during threading, guaranteeing high stability and space sealing with internal hexagonal anti-rotation insert. In addition, a 45° angled seat bevel and six positioning orientations are incorporated in its axial indexing.

This model comes with:

► Platform IS 3.50 mm with 3.50 mm-3.75 mm-4.00 mm-4.50 mm-5.00 mm body.

They come in different lengths.

Internal Screw M1.8.

#### Cervical Zone Design:

Switch Platform for body diameter of 3.75 mm or greater to promote the maintenance of the turbinate bone.

Treated surface up to the platform, with the polished ring absent and 1.5 mm of micro-trunks with convergence towards the cervical, to reduce cortical stress in PHI Models.

#### **Profile Architecture:**

Self-tapping design profile with progressive thread: PHIA Models: Highly conical central core with cylindrical crest profiles equipped with a high self-tapping cut, with 6 threads to ensure maximum primary stability.

#### Threading mechanics:

Trapezoidal threads with fine crests to ensure threading ergonomics, with wide intercrestal valleys for maximum primary stability:

PHIA+ PLUS Models: two main double-helix threads and two secondary threads at the bottom of the valley, and two crest threads to ensure maximum primary stability, all with a pitch of 2.6 mm.

#### Frentes de Auto-roscado:

PHIA+ PLUS Models: Helical shear-deformation fronts. They act as anti-rotation stabilizers in the osseo-integrated implant.

#### Apical design lines:

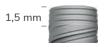
Apex of zero convexity, completely flat, which enable an aggressive entry front, which easily carves the final bed in the

This enables great maneuverability, and high effectiveness in re-directing the implant to correct its position.

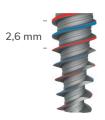
**PHIA+ 350** 















CM+ PCI300 CL+ PCI340

#### **PCI+** PLUS **Type** The Internal Conical Connection **FRADHEX**

#### **Design of Connection Platforms:**

The PCI+ PLUS lines from Radhex Implants® are the safest dual-function connection, the two prosthetic seating principles integrated into the 6° Morse taper socket on each side (12°), along with internal hexagonal locking and integrated platform change. They provide a uniform distribution of the load, with a hermetic seal of the GAP protecting the peri-implant tissues. The implant-abutment interface allows for appropriate emergence profile designs, to improve the maintenance of the level of tissue insertion with a system entirely oriented to the Switch Platform.

- Platform CS+ 2.50 mm with 3.00 mm body. M1.4 inner screw.
- Platform CM+ 3.00 mm with 3.50mm-3.75mm-4.00mm and
- 4.50mm bodies. M1.6 inner screw.
- Platform CL+ 3.40 mm with 5.00 mm and 6.00 mm bodies. M2 inner screw.

They come in different lengths.

#### 2,5 mm 3,0 mm 3,4 mm 2,0 mm 2.0 mm 2.0 mm

#### Cervical Zone Design:

Convergent Intramucosal Collar is the integrated concept within this system, to guarantee maximum protection of peri-implant tissues and bone health.

Transgingival machined and anodized section 2.0 mm high with micrometric relief to ensure gingival closure. Yellow anodized to enhance the aesthetic emergence profile.



CS+ PCI250





#### **Profile Architecture:**

Self-tapping design profile with progressive thread: Highly conical central core with cylindrical crest profiles guarantee the highest self-threading efficiency and stability, ensuring a gradual and progressive increase in forces during the progression of the threading maneuver.

#### Threading mechanics:

Thread with very fine ridges to ensure threading ergonomics, with wide inter-crestal valleys for maximum primary stability: All Models: Double Helix thread with 2.6 mm pitch.



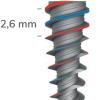
Helical shear-deformation fronts. They act as anti-rotation stabilizers once the implant has osseo-integrated.

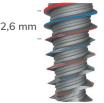
#### Apical design lines:

Apex of zero convexity, completely flat, which enable an aggressive entry front, which easily carves the final bed in the

This enables great maneuverability, and high effectiveness in re-directing the implant to correct its position.









Frente Corte Helicoidal



Frente Corte Helicoidal



Frente Corte Helicoidal







#### **SLD cm** PLUS **Type** The Monobody Implant, (One Piece), Compressive, Multi-unit Connection. FRADHEX®

#### General Design and Multi Unit Pillar:

Solid compressive one-piece implants with Multi Unit abutment, part of the Radhex Implants® SLD cm line, are an outstanding alternative for complex clinical cases with bone deficiency due to atrophy. They represent a solid paradigm in oral implantology, offering advantages such as minimally invasive surgery. With dimensions from 3.00 mm to 6.00 mm in diameter and lengths from 6 mm to 18 mm, these implants are versatile. The screwable abutment has a convergent angulation of 20° and a 3 mm anti-rotation hexagonal system, guaranteeing maximum control of the insertion torque and contributing to optimal clinical results and stability to long term.

#### Cervical Zone Design:

Cervical section of 2 mm, 3 mm and 4 mm in height, with a significant jump in diameter, (analogous concept to the switch platform for two-piece implants), to guarantee maximum protection of the turbinate bone and health of peri-implant tissues. Cervical mechanized section that extends to the body of the implant, it can be immersed in bone terrain according to the requirements of the gingival thickness of each case. With diameter of 2.05 mm up to 4 mm body diameter, for larger diameters, 2.35 mm.

#### **Profile Architecture:**

The conical body profile is harmonically combined with an equally conical bestiary profile, which provides a constant corecrestal relationship throughout the entire length of the thread. These characteristics, together with the absence of internal screwed elements in the body of the implant, ensure minimal volumetric occupation by the implant, which minimizes postoperative symptoms of inflammation and hematoma. The high taper ensures a firm entry with a sustained increase in the stability of the implant, providing the proper conditions for the immediate loading technique.

#### Threading mechanics:

The Compressive Type Progressive Conical Thread Design profile is characterized by a thread with trapezoidal openings and radiated corners, which guarantees efficiency during the insertion of the implant into the bone tissue. This configuration minimizes surgical preparation, ensuring ergonomic milling and achieving maximum primary stability. Ideal for minimally invasive techniques, it stands out for its precision and effectiveness. The thread, with a 1 mm pitch helix, reinforces the profile's ability to optimize the entry of the implant into the bone terrain, being essential in minimally invasive surgical procedures and maximum clinical effectiveness.

#### Apical design lines of "PUNTA" Technology:

Apical end self-piercing spear tip, which ensures great penetration capacity into bone tissue.

**SLD cm 1240** 

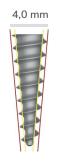




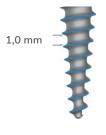
**SLD cm 1250** 

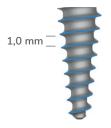
















#### SLD bm Plus Type El Implante Monocuerpo, (Una Pieza), Basal, Conexión Multi unidad. FRADHEX®

#### Diseño General y Pilar:

Los implantes sólidos Basales Radhex Implants® SLD bm. con pilar Multi Unidad, destacan como una alternativa efectiva para casos clínicos complejos, especialmente en situaciones de atrofia y reabsorción ósea. Este concepto robusto de implantología oral se presenta como una opción terapéutica mejorada, con énfasis en la cirugía de casos de extrema reabsorción ósea.

Con diámetros de 3.50 mm a 8.50 mm y longitudes de 6 mm a 18 mm, (consultar por diámetro), estos implantes ofrecen versatilidad excepcional. El pilar, atornillable y con una angulación convergente a oclusal de 20°, incluye un sistema anti rotacional hexagonal de 3 mm cara a cara, asegurando un control máximo del torque de inserción. Este diseño avanzado contribuye significativamente a optimizar resultados clínicos y estabilidad a largo plazo.

#### Diseño de Zona Cervical:

Sección cervical de alturas variables de 3 mm, 5 mm y 7 mm, con importante salto de diámetro, (concepto análogo a switcth platform de implantes de dos piezas), para garantizar la máxima protección del hueso crestal y salud de tejidos peri-implantarios. Sección mecanizada cervical que se extiende hasta el cuerpo del implante, la misma se puede sumergir en terreno óseo según la exigencia de los espesores gingivales de cada caso.

#### Arquitectura de Perfil:

El perfil de cuerpo cónico se combina armónicamente con un perfil crestal igualmente cónico, lo que otorga una relación núcleo - crestal constante en todo el recorrido de la rosca. Estas características junto a la ausencia de elementos atornillados interiores, aseguran una ocupación volumétrica mínima por parte del implante, lo que minimiza los síntoma post operatorios de inflamación y hematoma.

La alta discrepancia núcleo crestal, asegura una entrada firme con un incremento sostenido de la propia estabilidad del implante, otorgando las condiciones propias para la técnica de carga inmediata.

#### Mecánica de roscado:

Perfil de diseño con rosca amplia progresiva de tipo basal: Modalidad de rosca con calados trapezoidales de esquinas en radio, que garantiza una máxima eficiencia en la entrada del implante en el terreno óseo, minimizando la preparación quirúrgica del lecho y su fresado asegurando la ergonomía de roscado para la máxima estabilidad primaria en las Corticales óseas de hueso atrófico extremo.

#### Líneas de diseño Apical:

Extremo apical reducido, en punta, que asegura una gran capacidad de penetración en el tejido óseo.

#### **SLD bm 1245**



#### **SLD bm 1255**



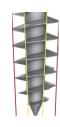


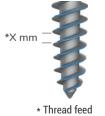




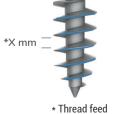
\* Thread feed with variable pitch











with variable pitch





# The "Bone Link" surface

External micro design using subtractive surface treatment using shot blasting. Creates a microrough, hydrophilic surface with high wettability and low surface tension.

Below are the images obtained by magnification optical microscopy and scanning electron microscope after the shot blasting phases with the optimal structural roughness, and from the final phase of the heat treatment, where the highly rough structure can be observed at high magnification. in the surface titanium oxide.

A proven surface, backed by more than 15 years of clinical experience.

#### General surface images



Figure 1: 10X image with full visualization of the treated surface of the sample.



Figure 2: 20X image with visualization of the apical area of the treated surface of the sample.

#### Surface Images: Ridges

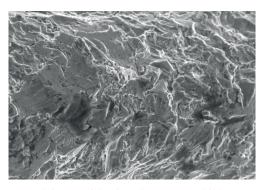


Figure 3: Image of the thread crest area 500X.

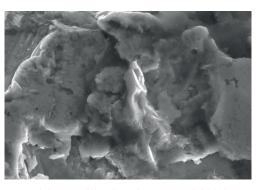


Figure 4: Image of the thread crest area 3,000X.

#### Surface Images: Valley

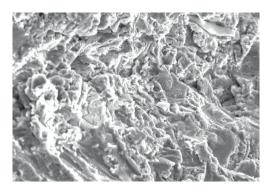


Figure 5: 1,000X image of the thread valley area.

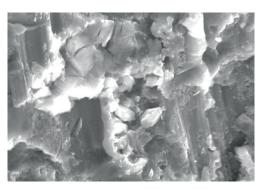


Figure 6: 6,000X image of the thread valley area.

#### Surface Images: Tip

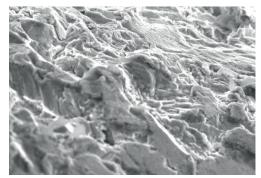


Figure 7: Image of the apical tip area 1,000X.

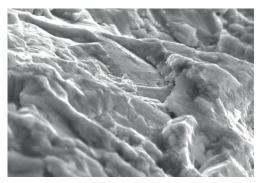


Figure 8: Image of the apical tip area 3,000X.

At the Center de Disseny d'Aliatges Lleugers i Tractaments de Superficie - Polytechnic University of Catalonia, a study of the surface roughness profiles has been carried out, determining the parameters: Ra, Rt, Rz and Rmax. The analysis has been carried out using use of a Roughness Meter - TAYLOR-HOBSON Profilometer.

The results for Ra are between 1.7 and 2.1µm.

This shows that the Radhex Implants® surface treatment considerably increases the total area of the implant.

This fact improves the stability of the dental implant, since there is a larger contact area between the implant and the bone and thus proper osseointegration is promoted.

#### Quality Processes, A Guarantee of Security

After the study and development of the surface treatment, Radhex Implants®, the Bone-link surface is brought to the dental professional, a surface currently available in all its implant lines.

The Bone-link surface is achieved through a shot peening process, with oxides of controlled granulometry, to create irregularities with micro cavities on the surface of the titanium that are then subsequently subjected to a controlled drying process using a specific temperature and time protocol.

The entire process to obtain the surface is guaranteed by exhaustive quality control, taking into account time, speed, pressure and particle size.

High wettability - Wettability to serum and blood - Low surface tension of Titanium Maximum biological affinity

# General indications for bone density

#### Implant indication table

Radhex Implants® systems are indicated for all types of bones, although due to the characteristics of the design:

For the PHIA+ PLUS model, its preferential indication is for Type 3 and Type 4 bones.

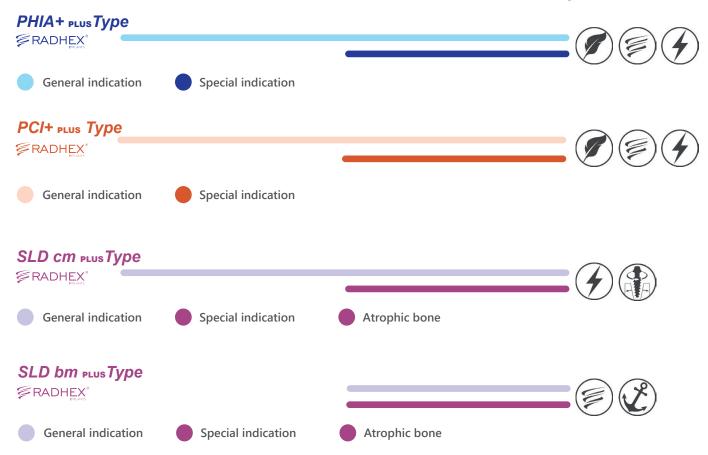
For the PCI+ PLUS model, its preferential indication is for Type 3 and Type 4 bones.

For the Compressive SLD cm model, its preferential indication is for Atrophic bones, and also Type 3 and Type 4.

For the Basal SLD bm model, its preferential indication is for bones with extreme atrophy where cortical anchorage is sought. These indications relate the preference for use, depending on the implant design and type of bone, as a review, but it is the professional who, based on his experience, must establish the final indication, because both models are fully valid to use. in any bone topography regardless of its density.



\*According Leckholm et Zarb 1985



#### All the advantages and anatomical versatility, in implant designs:









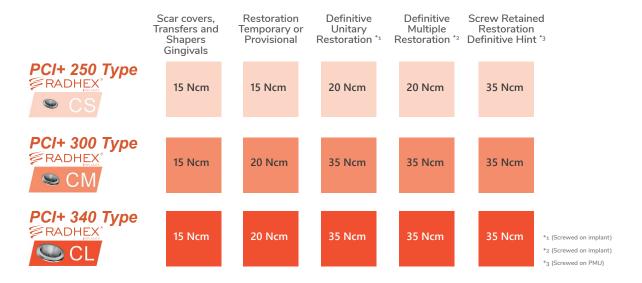


#### The connection and its adjustments: Generic Prosthetic Torques

The torques indicated in the following table are valid for the different components of Radhex Implants®, model PHIA+ PLUS. They are provided as a general recommendation, since specific indications are incorporated for each accessory.

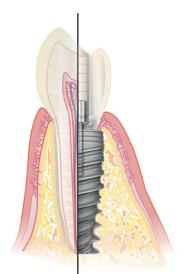


The torques indicated in the following table are valid for the different components of Radhex Implants®, PCI+ PLUS model. They are provided as a general recommendation, since specific indications are incorporated for each accessory.



The torques indicated in the following table are valid for the different components of Radhex Implants®, SLD+ PLUS Compressive cm and Basal bm models. They are provided as a general recommendation, since specific indications are incorporated for each accessory.





#### High Quality and Design in our products

Quality is our religion, and design is our spirit. With an always innovative attitude, we create effective, innovative products and solutions, and improve existing ones, so that professionals can provide their patients with fully functional, safe and natural-looking results.

## Radhex Implants® Insertion Specifications: the Switch Platform concept

The term "platform jumping", also known as "switching platform" or "shift platform", constitutes a biological concept rooted in the connection structure between a dental implant and its attachment. Its foundation lies in the variation or change in diameter that occurs at the platform level, differentiating the diameter of the implant from the diameter of its connection area.

In clinical practice, this concept is materialized through the use of a strategically designed implant system with an abutment whose emergence has a smaller diameter than the implant in its platform. The main purpose is to minimize bone resorption and stabilize the crestal bone, generating significant aesthetic benefits in the anterior region of the maxilla.

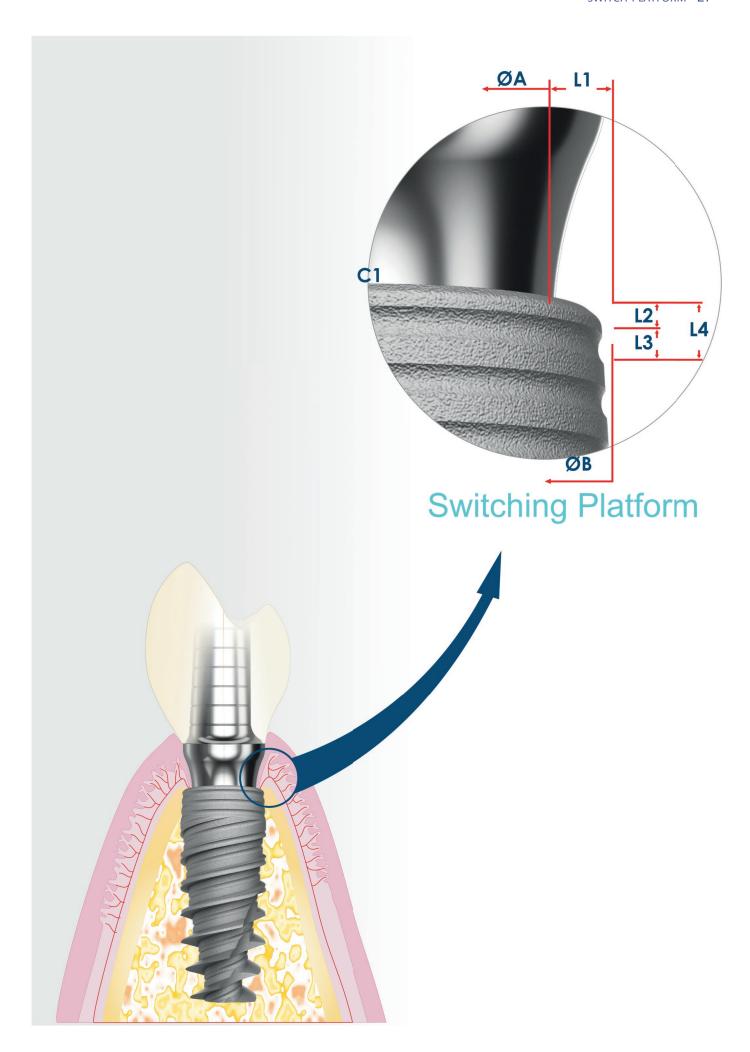
This principle of platform hopping has been carefully considered in the development of Radhex Implants® implant design, integrating it as one of the key foundations of the system architecture. This innovation contributes to optimizing implant stability, reducing bone loss and, ultimately, improving aesthetic results in the anterior sector of the oral cavity.



				Switching	PLATFORM
Model	C1	ØA	ØB	L1	L1
PHIA+ 350	Code Connection Adjuncts	Diameter Platform (seat or connection area)	Diameter of Body of Implant	Discrepancy in Diameter between Ø Body and Platform Ø seat	Discrepancy in Radius between Ø Body and Platform Ø seat
	IS	3,50	3,50	0,20	0,10
	IS	3,50	3,75	0,20	0,10
	IS	3,50	4,00	0,40	0,20
	IS	3,50	4,50	0,70	0,35
	IS	3,50	5,00	0,80	0,40
	IS	3,50	6,00	1,20	0,60

Attention: the larger the implant diameter, the higher the value for Switching platform.

<sup>\*</sup> The measurements in the table are expressed in millimeters (mm).



# PHIA+PLUS Implants

#### PHIA+ 350 Type **FRADHEX**\*



- Internal Hexagonal Connection IS type PHI350.
- Bone-link subtractive surface treatment.
- Cervical section, with micro channels converging towards the cervical.
- Absence of machined ring, surface treated until the connection.
- Platform jumping as System Architecture, (Platform switching).
- x6 threads of double Helix threads, with progressive profile, conical central core and cylindrical bestiary profile.
- Self-threading apical fronts of helical design.
- Self-drilling and redirectable apical end with high mechanical efficiency.
- Generically indicated for all types of Bones.
- Especially indicated where high primary stability is required (especially for type III and type IV).
- Milling speed: 500 to 800 rpm.
- Insertion speed: 25 rpm.
- Container with double protection vial.
- Maximum protection and easy handling.
- Includes closing cap.



# PHIA+ PLUS Lines

#### **CONNECTIVITY:**

IS = PHI350 = Plat. Hex. Interna Ø3.50 mm / Tipo Zimmer Tappered Screw Vent 3.5 IM = PHI450 = Plat. Hex. Interna Ø4.50 mm / Tipo Zimmer Tappered Screw Vent 4.5

At Radhex Implants®, we believe in the importance of offering dental professionals varied options to suit their clinical needs. The PHIA+ Plus implant has been conceived with a design focused on providing exceptional stability, even in low-density bone, always maintaining compatibility with the PHI line platform.

This implant is specially designed for those professionals who prefer internal inserts, providing efficiency and safety through the American platform originally developed by Dr. Gerald Niznick. This platform, recognized worldwide for its internal hexagonal connection, ensures a secure connection closure with a conical seat, minimizing the space at the interface between the implant and the attachment.

Professionals with deep knowledge of implantology and vast experience understand the difficulties that can arise in various topographical and structural situations of the jaws. For this reason, they especially value a design that responds to extreme situations, where the quality of the bone requires highly stable implants.

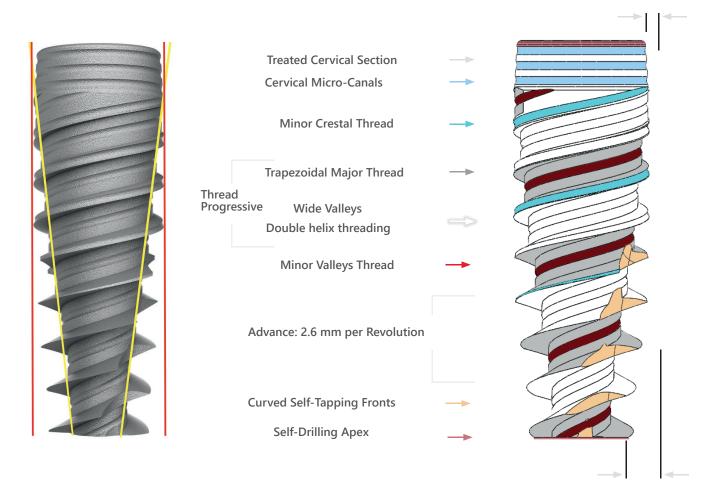
The PHIA+ Plus line conceptually addresses this need, offering an implant with a body designed to provide high stability, even in low-density bone, while always maintaining compatibility with the PHI line platform.

The IS platform, specific for PHI350, offers maximum restorative comfort by responding to a complete line of diameters and lengths with a single platform, thus facilitating clinical practice. Made of Pure Grade 4 Titanium, this implant is suitable for various situations, especially those with low bone density or irregular bone topography. The pragmatic approach permeates.

#### **Technical Data Scheme**

Very high stability thread with progressive profile

Platform Jump



Cylindrical Crestal Profile + Conical Core

Large Nucleocrestal Discrepancy Very high primary stability

Very High Primary Stability + Easy Insertion and Reorientability





#### Indication

General indication for all types of cases, presenting optimal behavior in Type I and Type II Bones (Leckholm et Zarb).

#### **Main Features**

#### CONNECTION ENGINEERING:

Compatible Hexagonal Internal Connection Platform\*. / 45° Conical Seat

The IS Platform, with a diameter of 3.50 mm, features different body diameter options, ranging from 3.50 mm to 6.00 mm, including measurements of 3.75 mm, 4.00 mm, 4.50 mm, 5.00mm and 6.00mm.

The internal seat bezel of the platform has a 45° conical fit, ensuring maximum closure, airtightness and stability. This design reduces micro-movements, optimizes load distribution and ensures an optimal biological seal in the connection space. The internal hexagonal section performs an anti-rotation and stabilizing function through a 2.40 mm faceted hexagon and an internal metric of 1.8 mm, providing a robust and resistant connection for structural and functional stability in various clinical applications.

#### **CERVICAL DESIGN:**

The coronal tapered external bevel of the implant aims to reduce bacterial infiltration. The Platform Switching concept is used to model the soft tissues and shape the emergence profile, maintaining the turbinate bone. The complete line of body diameters includes specific platform switching for the Ø 3.50 mm IS platform.

The cervical section, with a height of 1.5 mm and coronal convergence recesses, ensures bone adhesion and stability in the most mechanically and biologically critical area of the implant. The architecture of the implant allows the reduction of cortical stress due to compression, with a convergent restriction of the cervical diameter to favor the final stability of the bone tissue.

#### BODY AREA, PROFILE ARCHITECTURE:

The PHIA+ Plus Model stands out for its advanced technical design, with a self-tapping system that facilitates insertion and promotes osseointegration. Its re-addressable capacity adapts to the anatomical characteristics of the patient. The Cylindrical-Conical Anatomical Design, with cylindrical ridge profile and conical central core, offers high primary stability crucial for osseointegration. The ability to withstand Immediate Loads, together with its anatomical design and progressive thread, guarantees primary stability and allows immediate loading, providing confidence to the professional. Post-insertion selfsustainability ensures an effective healing process and long-term stability. In summary, the PHIA+ Plus is a leader in dental implants, providing advanced tools for various clinical situations.

#### MICRO DESIGN OF SURFACE:

Micro Textured Surface complete by subtractive method with micro particles of controlled granulometry incorporating thermal convection process for surface decontamination and stabilization of the surface titanium oxide layer that favors bio-compatibility. Creates a micro-roughness, hydrophilic surface with high wettability and low surface tension.

#### THREADING MECHANICS:

Active coils with reduced angles that favor BIC, (Bone Iplant Contact).

Double threading in Major Threads and double channel threading in Thread Core: they make up 2 Threads with double turns:

- Design with high traction and grip on the Bone terrain: x6, (6 threads), with double Major turn, with double microturn at the bottom of threading channels and double microturn at thread crests. Advance, (2.6 mm per Revolution).
- > Speed of insertion with reduction in surgical time while maintaining a soft touch in its threading.
- Possibility of re-direction of the implant with penetrating front. The implant literally "bites" into the bone tissue.
- Rapid feed of 2.6 mm per turn or revolution: e.g.: A 10mm implant requires approximately 4 revolutions to be fully threaded.
- ▶ Wide intercrestal valleys, ensuring high volume of bone tissue between ridges.

#### **SELF-THREADING MECHANICS:**

Helical Self-Cutting Front: It acts by causing cutting and deformation of the bone bed to carve its own thread and allows bone remains from the insertion to be collected, with an anti-rotational function after the integration of the implant.

#### APICAL FRONT DESIGN:

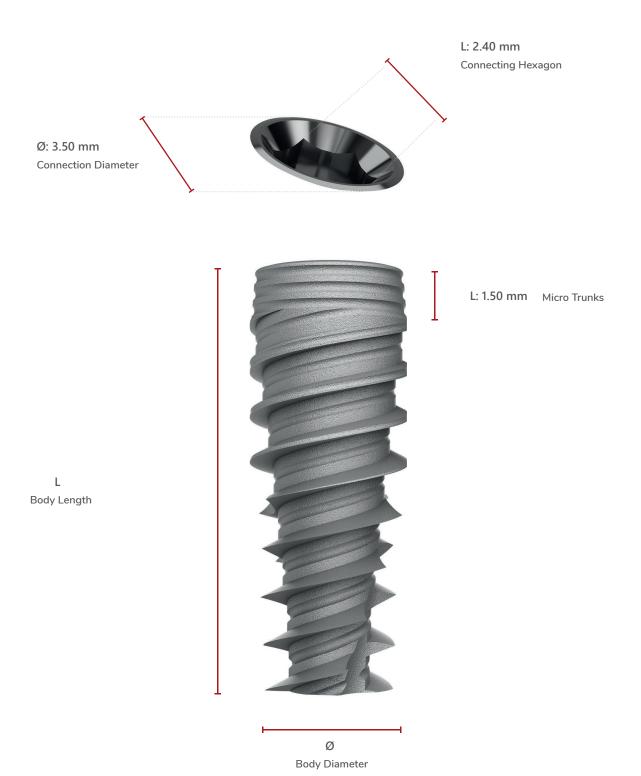
Atraumatic apex of low convexity, provides protection of anatomical risk areas.

COMPOSITION: Ti 6AI 4V: Grade 5 Titanium Alloy.

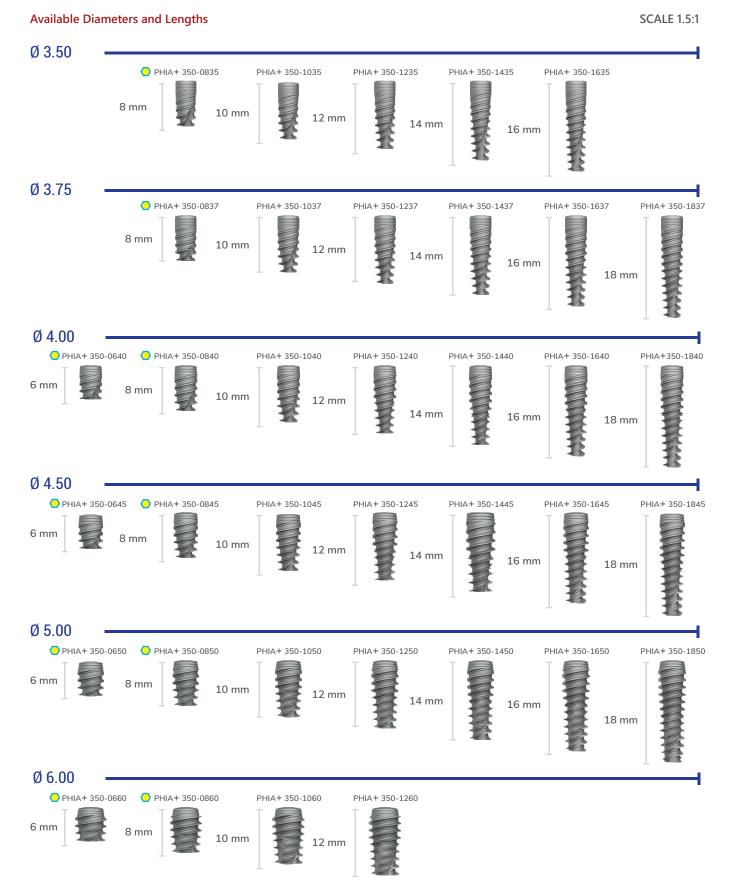
THREADING SPEED: Recommended Speed/Insertion: 25 RPM.

# PHIA+ 350 Type

#### **General Length and Diameter Measurements**

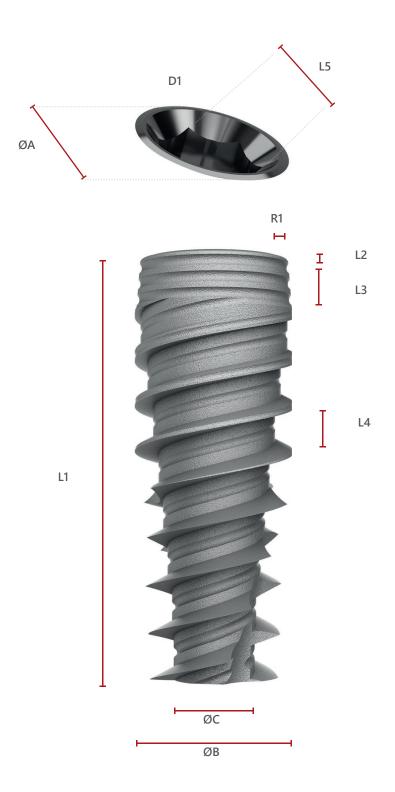


# PHIA+350: Active Plus Internal Hexagonal Platform Implants Ø 3.50. Connection Code IS.



PHIA+ 350 Type

## **General Table of Technical Details**



Model	Reference	D1	L1	L2	L3	L4	L5	ØA	ØB	ØC	R1	ID Color
		Code Connection Additives	Length Total	Height Neck Machining	Zone Height Micro Trunks	Step of Threading -Lap Advance-	Hexagon Connection Width	Diameter Platform (seat)	Diameter Body	Diameter Core Apical	Jump of Connection Switch Platform	Color Length
PHIA+350	PHIA+350 0835	IS	08,00	0,00	2,00	2,60	2,40	3,50	3,50	1,50	0,10	White
	PHIA+350 1035	IS	10,00	0,00	2,00	2,60	2,40	3,50	3,50	1,50	0,10	Yellow
	PHIA+350 1235	IS	12,00	0,00	2,00	2,60	2,40	3,50	3,50	1,50	0,10	Red
	PHIA+350 1435	IS	14,00	0,00	2,00	2,60	2,40	3,50	3,50	1,50	0,10	Blue
	PHIA+350 1635	IS	16,00	0,00	2,00	2,60	2,40	3,50	3,50	1,50	0,10	Green
	PHIA+350 0837	IS	08,00	0,00	2,00	2,60	2,40	3,50	3,75	1,50	0,10	White
	PHIA+350 1037	IS	10,00	0,00	2,00	2,60	2,40	3,50	3,75	1,50	0,10	Yellow
	PHIA+350 1237	IS	12,00	0,00	2,00	2,60	2,40	3,50	3,75	1,50	0,10	Red
	PHIA+350 1437	IS	14,00	0,00	2,00	2,60	2,40	3,50	3,75	1,50	0,10	Blue
	PHIA+350 1637	IS	16,00	0,00	2,00	2,60	2,40	3,50	3,75	1,50	0,10	Green
	PHIA+350 1837	IS	18,00	0,00	2,00	2,60	2,40	3,50	3,75	1,50	0,10	Black
	PHIA+350 0640	IS	06,00	0,00	1,50	2,60	2,40	3,50	4,00	1,80	0,20	Violet
	PHIA+350 0840	IS	08,00	0,00	1,50	2,60	2,40	3,50	4,00	1,80	0,20	White
	PHIA+350 1040	IS	10,00	0,00	1,50	2,60	2,40	3,50	4,00	1,80	0,20	Yellow
	PHIA+350 1240	IS	12,00	0,00	1,50	2,60	2,40	3,50	4,00	1,80	0,20	Red
	PHIA+350 1440	IS	14,00	0,00	1,50	2,60	2,40	3,50	4,00	1,80	0,20	Blue
	PHIA+350 1610	IS	16,00	0,00	1,50	2,60	2,40	3,50	4,00	1,80	0,20	Green
	PHIA+350 1840	IS	18,00	0,00	1,50	2,60	2,40	3,50	4,00	1,80	0,20	Black
	PHIA+350 0645	IS	06,00	0,00	1,50	2,60	2,40	3,50	4,50	2,20	0,35	Violet
	PHIA+350 0845	IS	08,00	0,00	1,50	2,60	2,40	3,50	4,50	2,20	0,35	White
	PHIA+350 1045	IS	10,00	0,00	1,50	2,60	2,40	3,50	4,50	2,20	0,35	Yellow
	PHIA+350 1245	IS	12,00	0,00	1,50	2,60	2,40	3,50	4,50	2,20	0,35	Red
	PHIA+350 1445	IS	14,00	0,00	1,50	2,60	2,40	3,50	4,50	2,20	0,35	Blue
	PHIA+350 1615	IS	16,00	0,00	1,50	2,60	2,40	3,50	4,50	2,20	0,35	Green
	PHIA+350 1845	IS	18,00	0,00	1,50	2,60	2,40	3,50	4,50	2,20	0,35	Black
	PHIA+350 0650	IS	06,00	0,00	1,50	2,60	2,40	3,50	5,00	2,80	0,40	Violet
	PHIA+350 0850	IS	08,00	0,00	1,50	2,60	2,40	3,50	5,00	2,80	0,40	White
	PHIA+350 1050	IS	10,00	0,00	1,50	2,60	2,40	3,50	5,00	2,80	0,40	Yellow
	PHIA+350 1250	IS	12,00	0,00	1,50	2,60	2,40	3,50	5,00	2,80	0,40	Red
	PHIA+350 1450	IS	14,00	0,00	1,50	2,60	2,40	3,50	5,00	2,80	0,40	Blue
	PHIA+350 1650	IS	16,00	0,00	1,50	2,60	2,40	3,50	5,00	2,80	0,40	Green
	PHIA+350 1850	IS	18,00	0,00	1,50	2,60	2,40	3,50	5,00	2,80	0,40	Black
	PHIA+350 0660	IS	06,00	0,00	1,50	2,60	2,40	3,50	6,00	3,80	0,60	Violet
	PHIA+350 0860	IS	08,00	0,00	1,50	2,60	2,40	3,50	6,00	3,80	0,60	White
	PHIA+350 1060	IS	10,00	0,00	1,50	2,60	2,40	3,50	6,00	3,80	0,60	Yellow
	PHIA+350 1260	IS	12,00	0,00	1,50	2,60	2,40	3,50	6,00	3,80	0,60	Red

Insertion Torque per implant Recommended for delayed loading protocol: 40 / 50 Ncm.\*\*
Insertion Torque per implant Recommended for immediate loading protocol: 70 / 80 Ncm.\*\*
Recommended Insertion Speed: 50 R.P.M.

<sup>\*</sup> Measurements are expressed in millimeters (mm).

 $<sup>\</sup>ensuremath{^{**}}$  Expresses indicative values, since the viability of the technique depends on multiple factors.

# PCI+PLUS Implants



- PCI+ Plus Internal Conical Connection.
- Bone-link subtractive surface treatment.
- Implants, with Anodized Mechanized Intramucosal Ring, Intraosseous or Transgingival, with Micro striae.
- Availability of Platform switching, in all references and Body diameters.
- Double Helix threads, with progressive profile, conical central core and cylindrical-conical crest profile.
- Helical design self-threading apical fronts.
- Generically indicated for all types of Bones.
- Especially indicated for low bone density, (especially for type III and type IV).
- Milling speed: 500 to 800 rpm.
- Insertion speed: 25 rpm.
- Container with double protection vial.
- Maximum protection and easy handling.
- Includes closing cap.



# PCI+ PLUS Lines

## CONNECTIVITY:

CS+ = PCI250 = Plat. Internal Conical Ø2.50 mm / Nobel Active 3.0 Type CM+ = PCI300 = Plat. Internal Conical Ø3.00 mm / Nobel Active NP Type CL+ = PCl340 = Plat. Internal Conical Ø3.40 mm / Nobel Active RP Type

Excellence in quality and design constitute the essence of Radhex®, the DNA of a dental implant manufacturing company, which is characterized by offering users the practicality derived from optimal ergonomics and designs based on the most advanced technological principles for conception. of dental implants.

We are proud to present to professionals the PCI+ Plus Lines, whose macrogeometry is based on a design that combines security and aggressiveness. With a high self-tapping profile, these lines allow a smooth, safe and firm insertion maneuver, ensuring high primary stability and rapid progression thanks to their high metric feed pitch.

This line has been designed with conical connection platforms, which not only offer high mechanical safety, but also absolute biological sealing of the GAP, achieving a "cold welding" effect. This approach becomes a maximum guarantee for the protection of the most critical area and the prevention of peri-implantitis. The conical platforms are compatible with some of the most widespread platforms worldwide, such as the Nobel Active system.

The transgingival section of these implants features an Anodized Intramucosal Ring with micro striations, ensuring maximum connection with the surrounding soft tissues for optimal implant protection.

PCI+ Plus is presented as a range of multipurpose implants that cover three platform diameter versions:

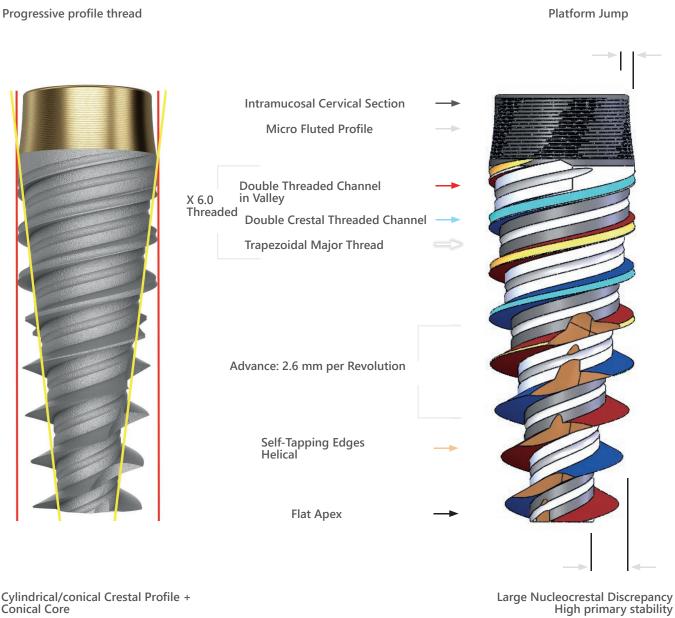
PCI 250: FIT connection, designed for diameters of 3.00 mm and 3.50 mm.

PCI 300: Highly versatile, suitable for diameters of 3.50 mm, 3.75 mm, 4.00 mm and 4.50 mm.

PCI 340: Intended for large diameter implants, with options of 4.00 mm, 4.50 mm, 5.00 mm and 6.00 mm.

At Radhex®, we extend a cordial invitation to experience maximum security and enjoy the extremely high efficiency provided by the PCI+ Plus design in the field of dental implantology.

## **Technical Data Scheme**



Cylindrical/conical Crestal Profile + Conical Core

High Primary Stability + Easy Insertion and Reorientability

#### Indication

General indication for all types of bone density, and especially in Type III and Type IV Bones. (Leckholm et Zarb).

#### Main Features

#### CONNECTION ENGINEERING:

Compatible Internal Conical Platform\*. / Morse Cone seat 12° with respect to the central axis - Nobel Active type.

CS+ platform of Ø 2.50 mm, with body diameter of 3.00 mm, (3.0 compatible).

CM+ platform of Ø 3.00 mm, with body diameters of 3.50 mm, 3.75 mm, 4.00 mm and 4.50 mm. (NP compatible).

CL+ platform of Ø 3.40 mm, with body diameters of 5.00 mm and 6.00 mm. (RP supported).

24° conical geometry insert, to obtain maximum closure, hermeticism and stability, Reduction of Micro-movements, optimally orienting the loads and ensuring the safest biological seal in the connection GAP.

Equipped with hexagonal anti-rotating geometry, with a hexagonal system, which allows indexing control every 60°.

#### CERVICAL DESIGN: THE INTRAMUCOUS COLLAR:

Platform Switching: Modeling of soft tissues and conformation of the emergence profile, with maintenance of the crestal bone. Complete line of body diameters, with platform switching for all conical platforms.

"Anodized Intramucosal Collar" with micro striations, 2.0 mm high: a plus in the preservation of soft tissue health, and the prevention of peri-implantitis in the most mechanically and biologically critical area of the implant: the connection GAP, ensuring soft tissue closure.

Cervical diameter restriction area with Micro-striation to reduce cortical stress due to compression.

The intramucosal collar can be placed in a transgingival position or can also be immersed in the subcrestal position, according to operational needs. Its height of 2.0 mm must be taken into account to calculate the risks on neighboring anatomical structures.

#### BODY AREA, PROFILE ARCHITECTURE:

The PCI+ Plus implant lines respond to a self-tapping, re-addressable design with High Primary Stability.

Anatomical Design Cylinder - Conical: Cylindrical ridge profile and conical central core with the highest core-crestal discrepancy by design in the apical area, which define a Progressive Thread with High Primary Stability Geometry especially indicated for Immediate Loading.

#### MICRO DESIGN OF SURFACE:

Micro Textured Surface by subtractive method with micro particles of controlled granulometry incorporating thermal convection process for surface decontamination and stabilization of the surface titanium oxide layer that favors bio-compatibility. Creates a micro-roughness, hydrophilic surface with high wettability and low surface tension.

Intramucosal collar with Gold Anodized surface finish, on micro-striated geometry by machining.

#### THREADING MECHANICS:

Active coils with closed angles that favor BIC, (Bone Iplant Contact). Double threading in Major Threads, double threading of the channel in the Thread Core and double threading in thread crests: total of 6 external threads:

- Design of high traction and grip on Bone terrain together with a maximum insertion speed with a Advance of 2.6 mm per Revolution, resulting in our design: "Alma 6.0" the absolute power in self-threading
- Speed of insertion with reduction in surgical time while maintaining a soft touch in its threading.
- Possibility of re-direction of the implant. The implant literally "bites" into the bone tissue.
- Rapid feed of 2.6 mm per turn or revolution: e.g.: A 10 mm implant requires less than 4 revolutions, (turns), to be fully inserted.
- Wide intercrestal valleys, ensuring high volume of bone tissue between crests.

#### **SELF-THREADING MECHANICS:**

Helical Self-Cutting Front with concave opening: It acts by causing cutting and deformation of the bone bed to carve its own thread and allows collecting bone remains from the insertion, offering anti-rotational function after the integration of the implant.

#### APICAL FRONT DESIGN:

Flat attack apex, with high penetrability into bone tissue, and stability from the first apical turn.

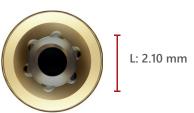
### COMPOSITION:

# PCI 250 Type

# **General Length and Diameter Measurements**



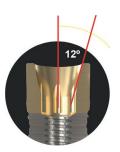
Hexalobular Geometry Interior Connection





Section Intramucosa Anodized

L: 2.00 mm

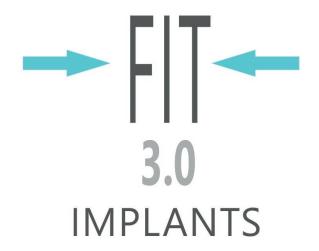


L **Body Length**  **Available Diameters and Lengths** 

**SCALE 1.5:1** 

Ø 3.00





THE NARROW DIAMETER FOR SHARP CRESTS
IN LOWER ANTERIOR SECTOR

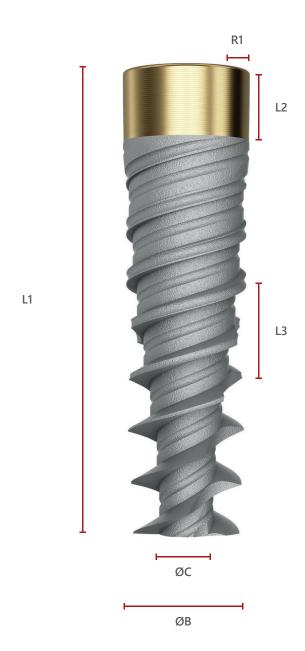
WITH THE CONICAL RADHEX ® CONNECTION, COMPATIBLE.



"The Reason for Narrow Ridges"

PCI 250 Type General Table of Technical Details





Model	Reference	D1	L1	L2	L3	L4	L5	ØA	ØB	ØC	R1	ID Color
		Code Connection Additives	Length Total	Height Neck Machining	Zone Height Micro Trunks	Step of Threading -Lap Advance-	Hexagon Connection Width	Diameter Platform (seat)	Diameter Body	Diameter Core Apical	Jump of Connection Switch Platform	Color Length
PCI+250	PCI+250 1030	CS+	10,00	2,00	2,60	2,10	2,50	24°	3,00	1,30	0,40	Yellow
	PCI+250 1230	CS+	12,00	2,00	2,60	2,10	2,50	24°	3,00	1,30	0,40	Red
	PCI+250 1430	CS+	14,00	2,00	2,60	2,10	2,50	24°	3,00	1,30	0,40	Blue
	PCI+250 1630	CS+	16,00	2,00	2,60	2,10	2,50	24°	3,00	1,30	0,40	Green
	PCI+250 1830	CS+	18,00	2,00	2,60	2,10	2,50	24°	3,00	1,30	0,40	Black
	PCI+250 0835	CS+	08,00	2,00	2,60	2,10	2,50	24°	3,50	1,45	0,40	White
	PCI+250 1035	CS+	10,00	2,00	2,60	2,10	2,50	24°	3,50	1,45	0,40	Yellow
	PCI+250 1235	CS+	12,00	2,00	2,60	2,10	2,50	24°	3,50	1,45	0,40	Red
	PCI+250 1435	CS+	14,00	2,00	2,60	2,10	2,50	24°	3,50	1,45	0,40	Blue
	PCI+250 1635	CS+	16,00	2,00	2,60	2,10	2,50	24°	3,50	1,45	0,40	Green
	PCI+250 1835	CS+	18,00	2,00	2,60	2,10	2,50	24°	3,50	1,45	0,40	Black

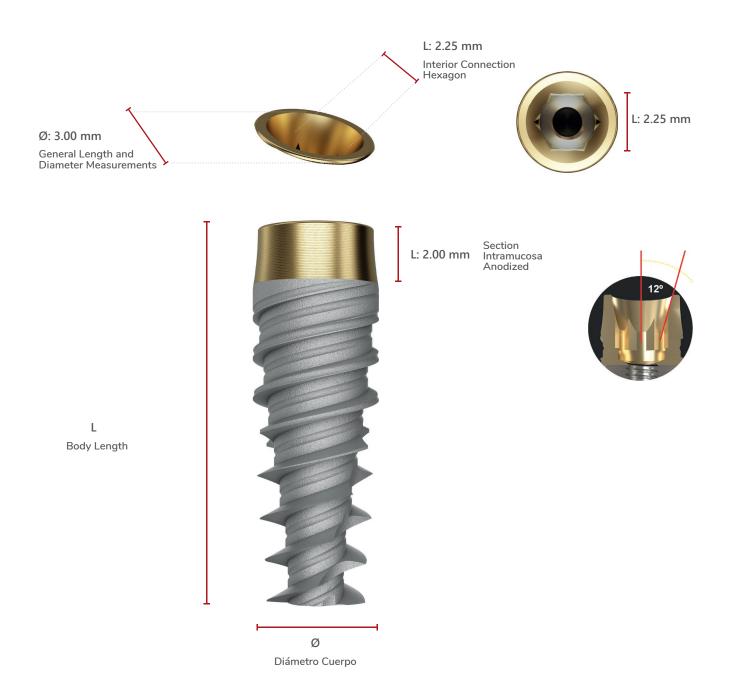
Insertion Torque per implant Recommended for delayed loading protocol: 40 / 50 Ncm.\*\* Recommended Insertion Speed: 25 R.P.M.

<sup>\*</sup> Measurements are expressed in millimeters (mm).

 $<sup>\</sup>begin{tabular}{ll} ** Expresses indicative values, since the viability of the technique depends on multiple factors. \\ \end{tabular}$ 

# PCI 300 Type

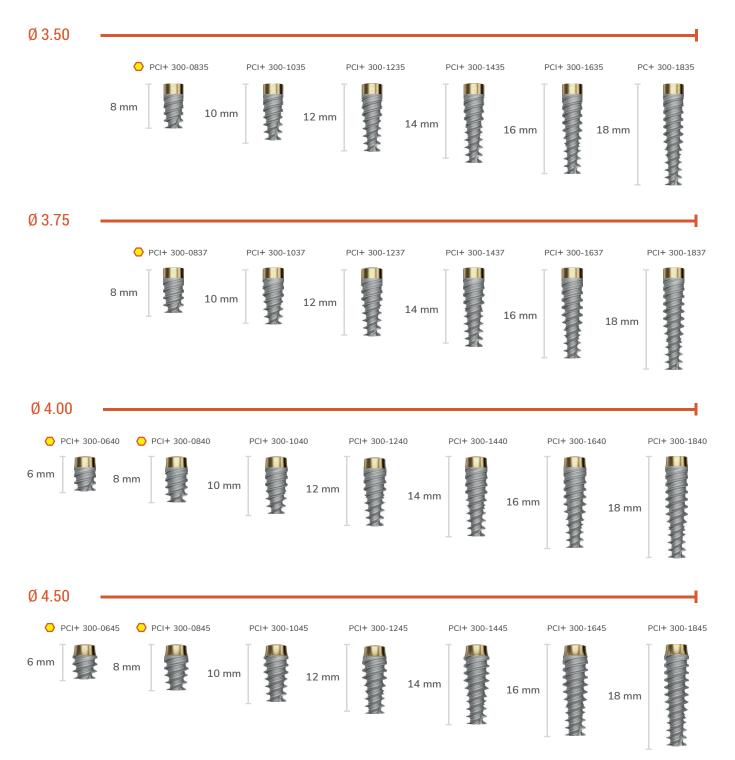
# **General Length and Diameter Measurements**



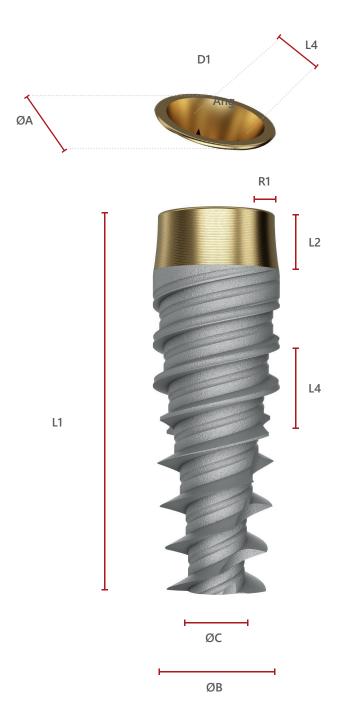
# PCI300: Implants Internal Conical Platform Plus Ø 3.00. CM+ Connection Code.

**Available Diameters and Lengths** 

**SCALE 1.5:1** 



PCI 300 Type **General Table of Technical Details** 



Model	Reference	D1	L1	L2	L3	L4	L5	ØA	ØB	ØC	R1	ID Color
		Code Connection Additives	Length Total	Height Neck Machining	Zone Height Micro Trunks	Step of Threading -Lap Advance-	Hexagon Connection Width	Diameter Platform (seat)	Diameter Body	Diameter Core Apical	Jump of Connection Switch Platform	Color Length
PCI+300	PCI+300 0835	CM+	08,00	2,00	2,60	2,25	3,00	24°	3,50	1,55	0,36	White
	PCI+300 1035	CM+	10,00	2,00	2,60	2,25	3,00	24°	3,50	1,55	0,36	Yellow
	PCI+300 1235	CM+	12,00	2,00	2,60	2,25	3,00	24°	3,50	1,55	0,36	Red
	PCI+300 1435	CM+	14,00	2,00	2,60	2,25	3,00	24°	3,50	1,55	0,36	Blue
	PCI+300 1635	CM+	16,00	2,00	2,60	2,25	3,00	24°	3,50	1,55	0,36	Green
	PCI+300 0837	CM+	08,00	2,00	2,60	2,25	3,00	24°	3,75	1,65	0,36	White
	PCI+300 1037	CM+	10,00	2,00	2,60	2,25	3,00	24°	3,75	1,65	0,36	Yellow
	PCI+300 1237	CM+	12,00	2,00	2,60	2,25	3,00	24°	3,75	1,65	0,36	Red
	PCI+300 1437	CM+	14,00	2,00	2,60	2,25	3,00	24°	3,75	1,65	0,36	Blue
	PCI+300 1637	CM+	16,00	2,00	2,60	2,25	3,00	24°	3,75	1,65	0,36	Green
	PCI+300 1837	CM+	18,00	2,00	2,60	2,25	3,00	24°	3,75	1,65	0,36	Black
	PCI+300 0640	CM+	06,00	2,00	2,60	2,25	3,00	24°	4,00	1,80	0,36	Violet
	PCI+300 0840	CM+	08,00	2,00	2,60	2,25	3,00	24°	4,00	1,80	0,36	White
	PCI+300 1040	CM+	10,00	2,00	2,60	2,25	3,00	24°	4,00	1,80	0,36	Yellow
	PCI+300 1240	CM+	12,00	2,00	2,60	2,25	3,00	24°	4,00	1,80	0,36	Red
	PCI+300 1440	CM+	14,00	2,00	2,60	2,25	3,00	24°	4,00	1,80	0,36	Blue
	PCI+300 1640	CM+	16,00	2,00	2,60	2,25	3,00	24°	4,00	1,80	0,36	Green
	PCI+300 1840	CM+	18,00	2,00	2,60	2,25	3,00	24°	4,00	1,80	0,36	Black
	PCI+300 0645	CM+	06,00	2,00	2,60	2,25	3,00	24°	4,50	2,20	0,36	Violet
	PCI+300 0845	CM+	08,00	2,00	2,60	2,25	3,00	24°	4,50	2,20	0,36	White
	PCI+300 1045	CM+	10,00	2,00	2,60	2,25	3,00	24°	4,50	2,20	0,36	Yellow
	PCI+300 1245	CM+	12,00	2,00	2,60	2,25	3,00	24°	4,50	2,20	0,36	Red
	PCI+300 1445	CM+	14,00	2,00	2,60	2,25	3,00	24°	4,50	2,20	0,36	Blue
	PCI+300 1645	CM+	16,00	2,00	2,60	2,25	3,00	24°	4,50	2,20	0,36	Green
	PCI+300 1845	CM+	18,00	2,00	2,60	2,25	3,00	24°	4,50	2,20	0,36	Black

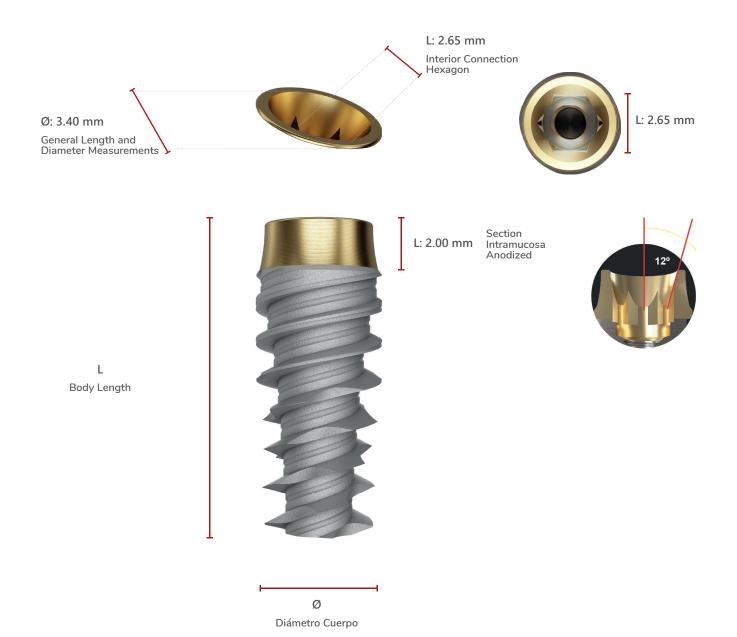
Insertion Torque per implant Recommended for delayed loading protocol: 40 / 50 Ncm.\*\*
Insertion Torque per implant Recommended for immediate loading protocol: 70 / 80 Ncm.\*\*
Recommended Insertion Speed: 25 R.P.M.

 $<sup>\</sup>mbox{\ensuremath{^{\star}}}$  Measurements are expressed in millimeters (mm).

 $<sup>\</sup>hbox{$^{**}$ Expresses indicative values, since the viability of the technique depends on multiple factors.}$ 

# PCI 340 Type

## **General Length and Diameter Measurements**



# PCI340: Implants Internal Conical Platform Plus Ø 3.4. CL+ Connection Code.

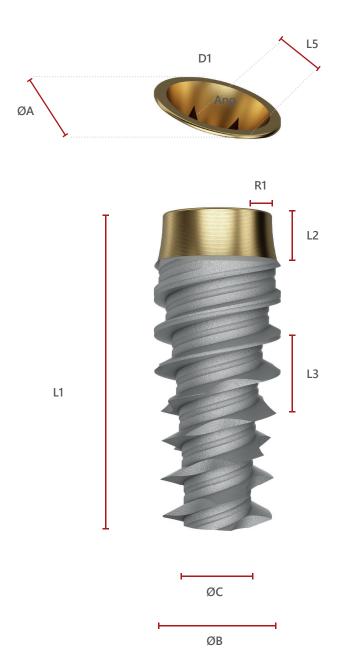
**Available Diameters and Lengths** 

**SCALE 1.5:1** 





PCI 340 Type **General Table of Technical Details** 



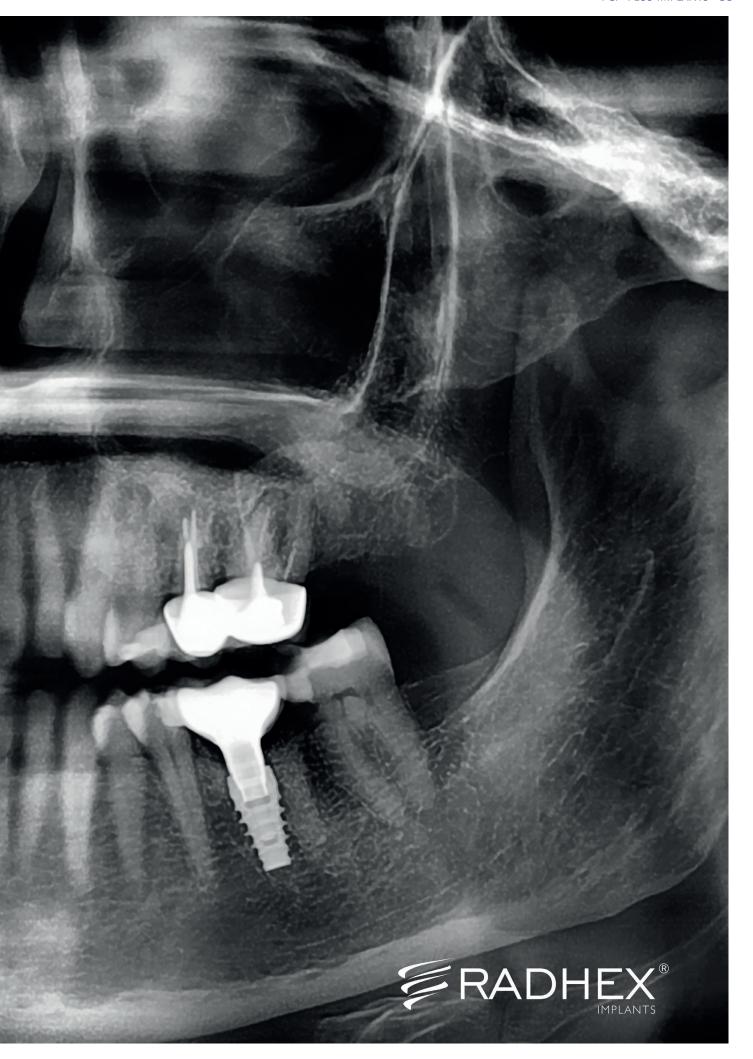
Model	Reference	D1	L1	L2	L3	L4	L5	ØA	ØB	ØC	R1	ID Color
		Code Connection Additives	Length Total	Height Neck Machining	Zone Height Micro Trunks	Step of Threading -Lap Advance-	Hexagon Connection Width	Diameter Platform (seat)	Diameter Body	Diameter Core Apical	Jump of Connection Switch Platform	Color Length
PCI+340	PCI+340 0640	CL+	06,00	2,00	2,60	2,65	3,40	24°	4,00	1,80	0,40	Violet
	PCI+340 0840	CL+	08,00	2,00	2,60	2,65	3,40	24°	4,00	1,80	0,40	White
	PCI+340 1040	CL+	10,00	2,00	2,60	2,65	3,40	24°	4,00	1,80	0,40	Yellow
	PCI+340 1240	CL+	12,00	2,00	2,60	2,65	3,40	24°	4,00	1,80	0,40	Red
	PCI+340 1440	CL+	14,00	2,00	2,60	2,65	3,40	24°	4,00	1,80	0,40	Blue
	PCI+340 1640	CL+	16,00	2,00	2,60	2,65	3,40	24°	4,00	1,80	0,40	Green
	PCI+340 1840	CL+	18,00	2,00	2,60	2,65	3,40	24°	4,00	1,80	0,40	Black
	PCI+340 0645	CL+	06,00	2,00	2,60	2,65	3,40	24°	4,50	2,20	0,40	Violet
	PCI+340 0845	CL+	08,00	2,00	2,60	2,65	3,40	24°	4,50	2,20	0,40	White
	PCI+340 1045	CL+	10,00	2,00	2,60	2,65	3,40	24°	4,50	2,20	0,40	Yellow
	PCI+340 1245	CL+	12,00	2,00	2,60	2,65	3,40	24°	4,50	2,20	0,40	Red
	PCI+340 1445	CL+	14,00	2,00	2,60	2,65	3,40	24°	4,50	2,20	0,40	Blue
	PCI+340 1645	CL+	16,00	2,00	2,60	2,65	3,40	24°	4,50	2,20	0,40	Green
	PCI+340 1845	CL+	18,00	2,00	2,60	2,65	3,40	24°	4,50	2,20	0,40	Black
	PCI+340 0650	CL+	06,00	2,00	2,80	2,65	3,40	24°	5,00	2,60	0,40	Violet
	PCI+340 0850	CL+	08,00	2,00	2,80	2,65	3,40	24°	5,00	2,60	0,40	White
	PCI+340 1050	CL+	10,00	2,00	2,80	2,65	3,40	24°	5,00	2,60	0,40	Yellow
	PCI+340 1250	CL+	12,00	2,00	2,80	2,65	3,40	24°	5,00	2,60	0,40	Red
	PCI+340 1450	CL+	14,00	2,00	2,80	2,65	3,40	24°	5,00	2,60	0,40	Blue
	PCI+340 1650	CL+	16,00	2,00	2,80	2,65	3,40	24°	5,00	2,60	0,40	Green
	PCI+340 1850	CL+	18,00	2,00	2,80	2,65	3,40	24°	5,00	2,60	0,40	Black
	PCI+340 0660	CL+	06,00	2,00	3,00	2,65	3,40	24°	6,00	3,30	0,40	Violet
	PCI+340 0860	CL+	08,00	2,00	3,00	2,65	3,40	24°	6,00	3,30	0,40	White
	PCI+340 1060	CL+	10,00	2,00	3,00	2,65	3,40	22°	6,00	3,30	0,40	Yellow

Insertion Torque per implant Recommended for delayed loading protocol: 40 / 50 Ncm.\*\* Insertion Torque per implant Recommended for immediate loading protocol: 70 / 80 Ncm.\*\* Recommended Insertion Speed: 25 R.P.M.

 $<sup>\</sup>mbox{\ensuremath{^{\star}}}$  Measurements are expressed in millimeters (mm).

<sup>\*\*</sup> Expresses indicative values, since the viability of the technique depends on multiple factors.





# SLD+PLUS Implants

SLD cm Type **FRADHEX**®







- Screwable Abutment, Radhex Multi Unit type.
- Pillar height 2.00 mm.
- Internal Metric 1.80 mm
- Hexagon 3.00 mm face to face for threading and anti-rotation function.
- Angle of Convergence to Occlusal 20° per side 40° in total
- Transgingival section Ø2.05 mm for bodies up to Ø 4.0 mm and Ø2.35 mm from bodies Ø 4.5 mm onwards.
- Body equipped with Simple Thread.
- Advance of 1.4 mm per turn for compressive models and variable for basal models.
- Compressive Trapezoidal profile thread for compressive models and Wide Trapezoidal for basal models.
- Micro Textured Intra Bone Surface.
- Compressive Implants with Macro-Conical Compressive Wedge Design.
- Basal Implants with Macro Wide spiral design for basal fixation
- Reduced Apex.
- High Stability Geometry.
- Recommended Speed/Insertion: 50 RPM.



# SLD+ PLUS Lines

**CONNECTIVITY:** SLD cm / SLD bm = PMU450 = Plat. Radhex Multi Unit Ø4.50 mm

A notable advance in the screw-retained prosthesis technique is materialized with the contribution of the Multi-Unit Abutment (PMU), to the revolutionary design of the Solid Mono-Body implant from Radhex Implants®. This component not only increases efficacy and safety, but also stands out for its unique ability to correct disparallelisms of up to 40°, marking a milestone in the correction of alignments in clinical practice.

This innovative design becomes an invaluable resource, especially in situations of extreme bone atrophy, allowing the application of highly versatile screw-retained prosthetic solutions. Obtaining maximum primary stability through threading, whether through a Compressive model with compressive wedge action or Basal with anchorage in the basal cortices, offers a substantial difference in the clinical result.

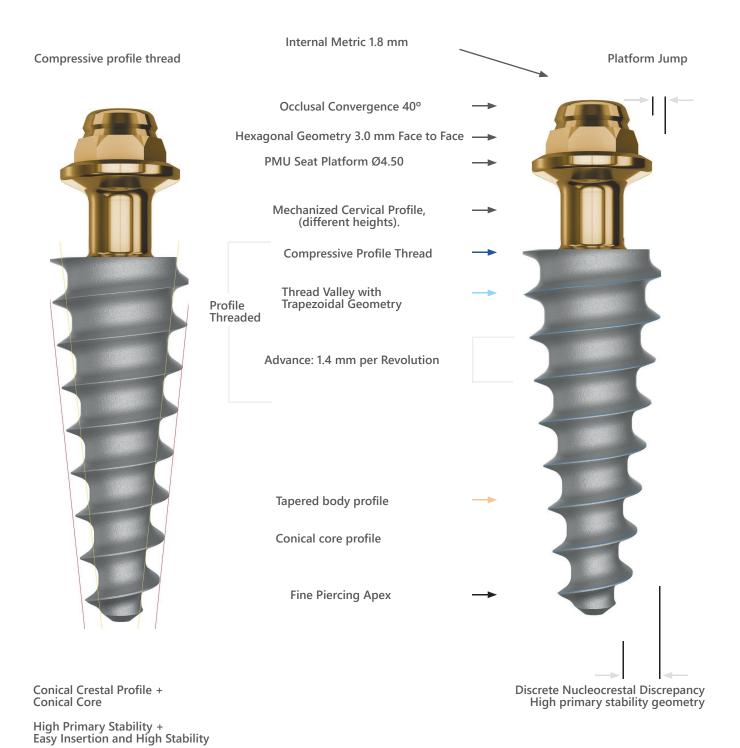
The versatility of this design is highlighted by its adaptability to both narrow bone profiles and jaws with extreme atrophy. In many cases, its versatility allows the technique to be simplified through minimally invasive procedures, thus optimizing the efficiency of the process and providing greater comfort to the patient.

In the context of bone atrophies, the trapezoidal thread configuration of the Solid Mono-Body implant not only offers notable benefits in compressive implants, facilitating a moderate and progressive compressive action, but in basal implants it provides exceptional anchorage. These features not only improve the operator's surgical experience, but also allow for smooth and comfortable insertion.

An outstanding point is the high efficiency of the Solid Mono-Body implant for immediate loading. Its structural design and ability to generate primary stability in various bone conditions position it as the preferred choice in cases that require immediate loading, providing efficiency and predictability to the dental rehabilitation process.

In summary, the Radhex Implants® Solid Single-Body implant represents an advanced technical solution, exceptionally responding to the specific demands of the most challenging cases in contemporary implantology, with special emphasis on the unique ability of the Multi-Unit Abutment to correct disparallelisms. up to 40°.

## **Technical Data Scheme**



## Indication

General indication for all types of bone density, and especially in Type III and Type IV Bones. (Leckholm et Zarb).

#### Main Features

#### CONNECTION ENGINEERING:

The Radhex Implants® Solid Mono-Body implant is characterized by its integral design, forming a single piece that incorporates a PMU type abutment. This abutment exhibits extraordinary prosthetic versatility, standing out for its unique ability to correct disparallelisms of up to 40°. The implant structure culminates in a hexagon with a face-to-face distance of 3.0 mm, which facilitates indexing control for single prostheses. Furthermore, its metric of 1.80 mm provides security and mechanical robustness to the prosthetic adjustment.

The conical seat shoulders of this implant play a crucial role in allowing adequate perimeter biological closure. This feature contributes to the health and stability of the peri-implant environment, ensuring a precise fit and secure connection between the implant and the prosthesis. In summary, the combination of the monobody structure, the highly versatile PMU abutment and the specific design features make the Solid Mono-Body implant an exceptional option in the field of dental implantology.

#### **CERVICAL DESIGN:**

Platform Switching: Soft tissue profiling and formation of the emergence profile, maintaining the integrity of the turbinate bone. We offer a complete range of body diameters, with the implementation of platform switching in all dimensions. The cervical section has a diameter restriction of 2.05 mm for bodies with diameters up to 4.0 mm, and 2.35 mm for bodies with diameters of 4.5 mm and above. Transgingival height options of 2.0 mm, 3.0 mm and 4.0 mm in Compressive models, admitting 5.0 mm and 7.0 mm options for Basal implants. This guarantees an optimal defense barrier for the gingival tissues.

#### BODY AREA, PROFILE ARCHITECTURE:

The SLD+ implant lines stand out for their design, which can be Compressive or Basal, providing high primary stability. In the conical anatomical design, a ridge profile and a conical central core are presented for the Compressive models. Meanwhile, in the cylinder-conical anatomical design, a cylindrical crest profile and a conical central nucleus are used, with the largest nucleus-crestal discrepancy, specifically designed for

These designs define a thread with a geometry of high primary stability, especially indicated for immediate loading, ensuring optimal performance in various clinical applications.

#### MICRO DESIGN OF SURFACE:

Micro Textured Surface by subtractive method with micro particles of controlled granulometry incorporating thermal convection process for surface decontamination and stabilization of the surface titanium oxide layer that favors bio-compatibility. Creates a micro-roughness, hydrophilic surface with high wettability and low surface tension.

#### THREADING MECHANICS:

In the case of Compressive models, the trapezoidal coils promote Bone-Implant Contact (BIC) in a compressive conical design. This design exhibits high traction and stability in bone terrain, combined with an optimal insertion speed of 1.4 mm per revolution. The ease of insertion not only reduces surgical time, but also provides smooth threading, allowing effective stabilization even in very thin bone ridges, where the implant literally "bites" into the bone tissue.

For the Basal models, the stabilization achieved through a design that presents a wide nucleocrestal discrepancy stands out. This feature ensures solid fixation, especially designed for situations where exceptional stability in the basal area is required, providing an effective solution for various clinical needs.

#### **SELF-THREADING MECHANICS:**

Compressive: wedge effect for compressive implants.

Basal: taking basal cortices by design of wide threads for basal affirmation.

#### APICAL FRONT DESIGN:

Fine-tipped piercing apex with exceptional penetrability into bone tissue, ensuring stability from the first apical turn.

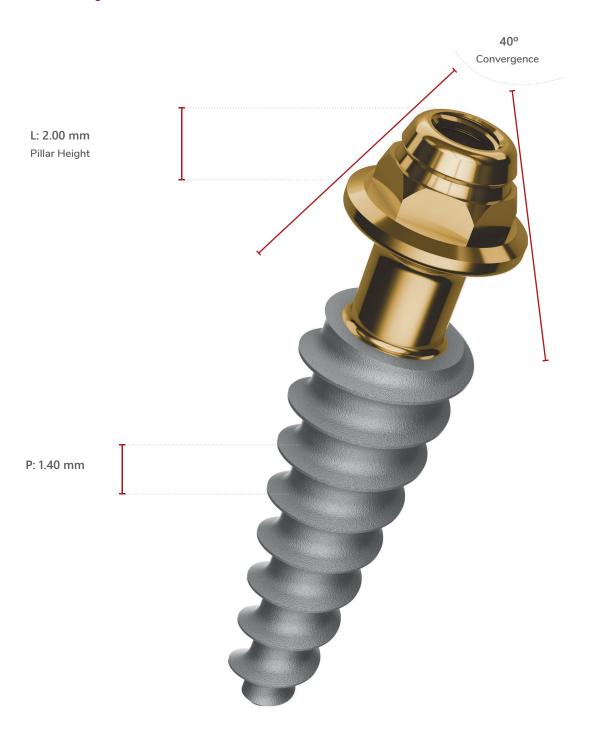
#### **COMPOSITION:**

Ti 6Al 4V: Grade 5 Titanium Alloy

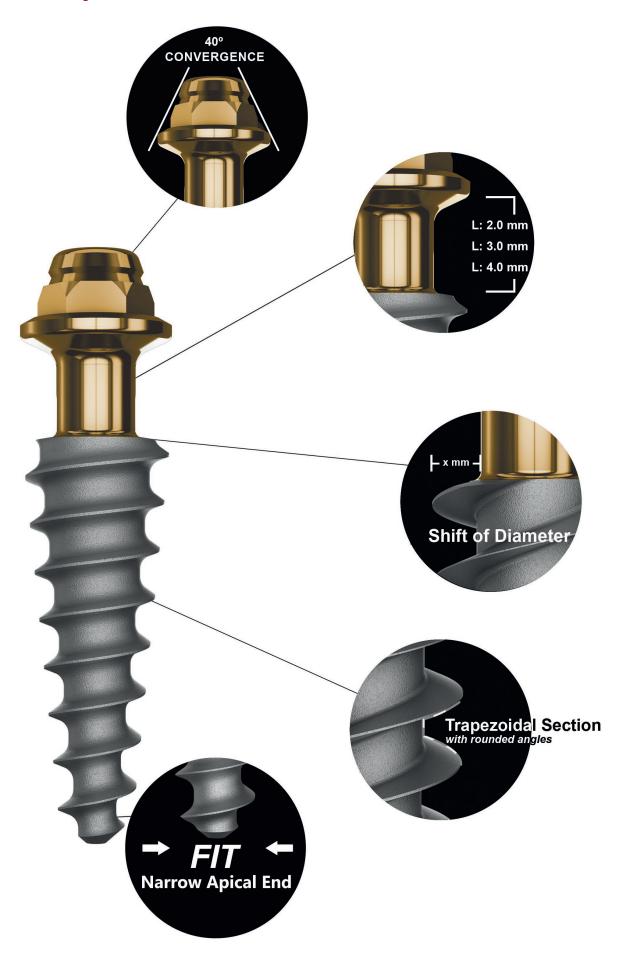
THREADING SPEED: Recommended Speed/Insertion: 50 RPM

# SLD cm Type

## **General Length and Diameter Measurements**



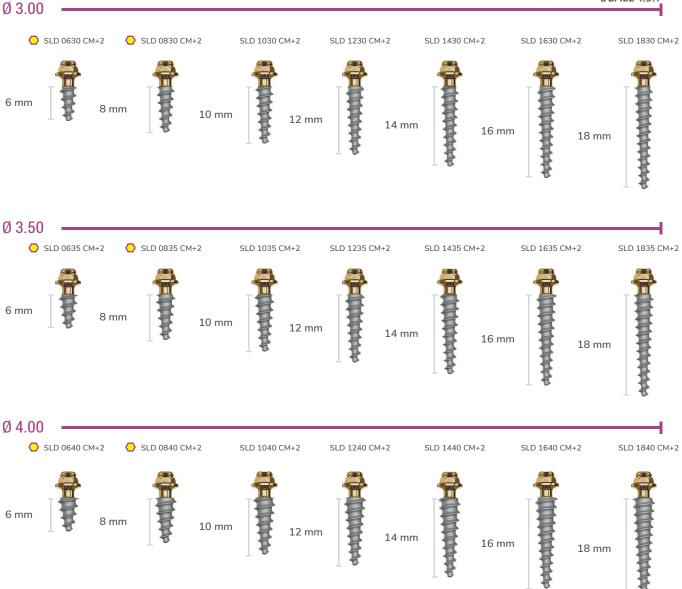
SLD cm Type **General Length and Diameter Measurements** 



SLDcm+2 Type: One-Piece Compressive Solid Implant, 2mm neck, with Screwable Pillar. PMU Connection Code.

# **Available Diameters and Lengths**





**Short Lines** Short Implants!! L 6.0 / 8.0 mm

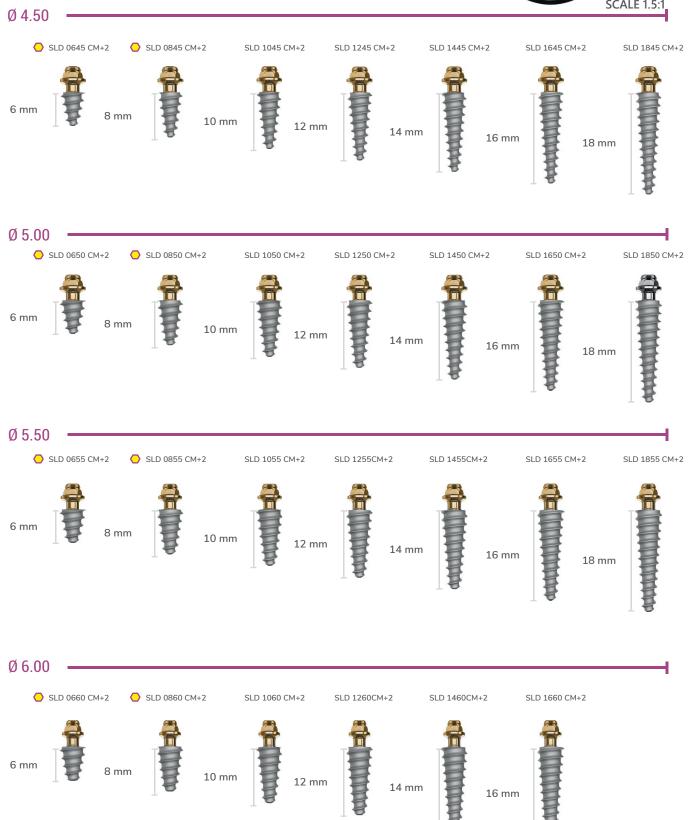
Trapezoidal profile thread with flat bottom: Maximum accommodation of bone tissue. Greater compression distribution.



SLDcm+2 Type: One-Piece Compressive Solid Implant, 2mm neck, with Screwable Pillar. PMU Connection Code.

# **Available Diameters and Lengths**

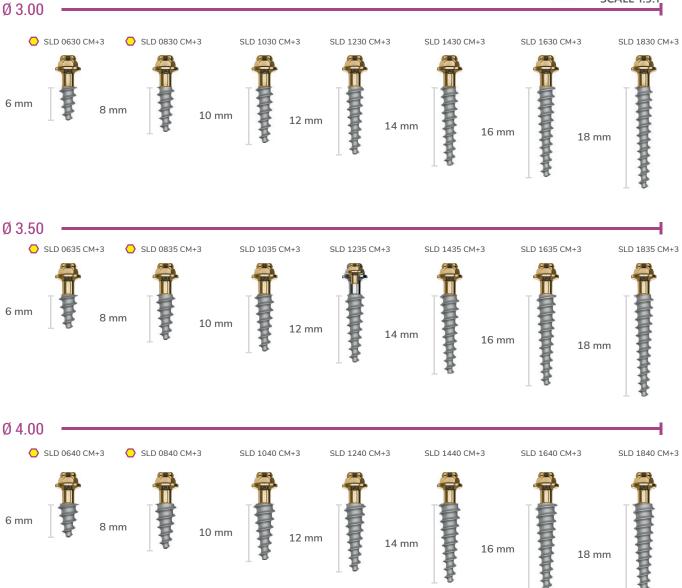




SLDcm+3 Type: One-Piece Compressive Solid Implant, 3mm neck, with Screwable Pillar. PMU Connection Code.

# **Available Diameters and Lengths**





**Short Lines** Short Implants!! L 6.0 / 8.0 mm

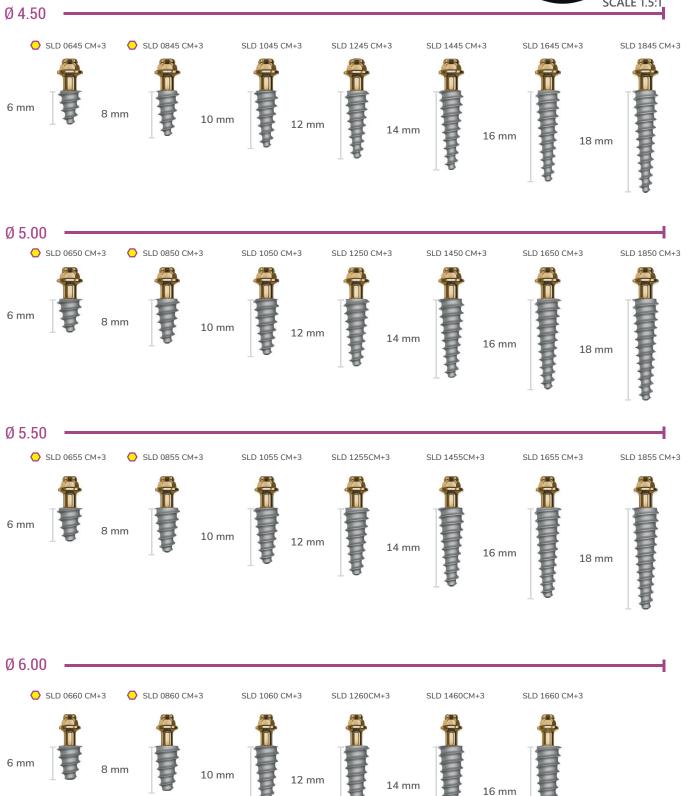
Trapezoidal profile thread with flat bottom: Maximum accommodation of bone tissue. Greater compression distribution.



SLDcm+3 Type: One-Piece Compressive Solid Implant, 3mm neck, with Screwable Pillar. PMU Connection Code.

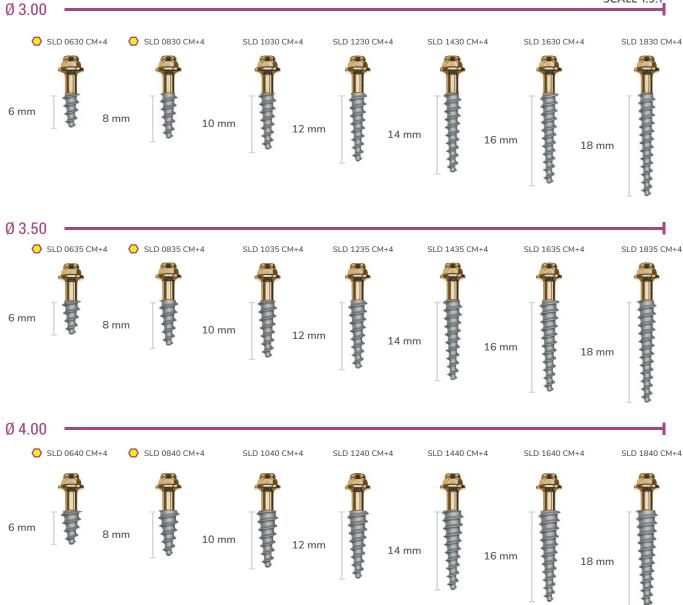
# **Available Diameters and Lengths**





# **Available Diameters and Lengths**





Short Lines Short Implants!! L 6.0 / 8.0 mm

Trapezoidal profile thread with flat bottom:

Maximum accommodation of bone tissue.

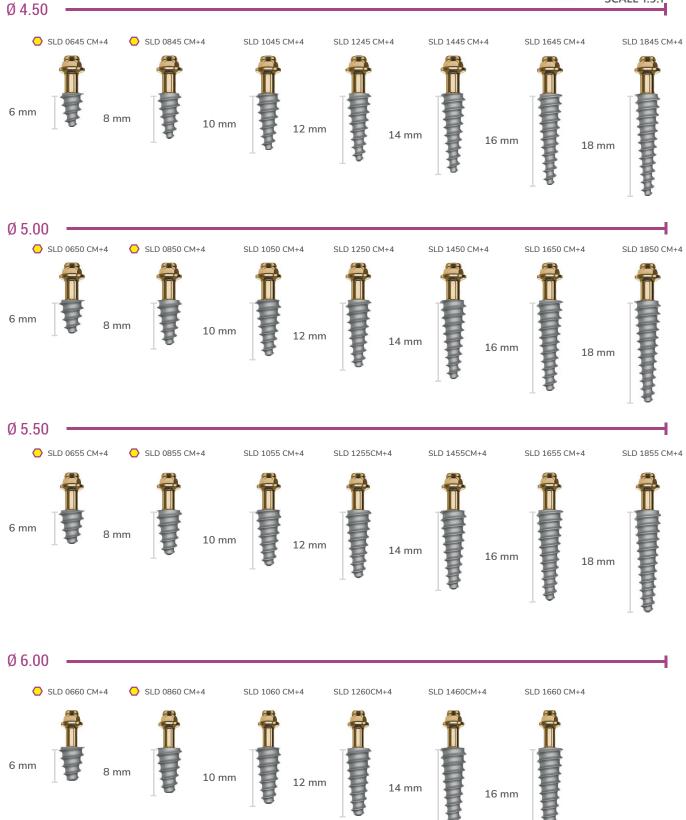
Greater compression distribution.



SLDcm+4 Type: One-Piece Compressive Solid Implant, 4mm neck, with Screwable Pillar. PMU Connection Code.

# **Available Diameters and Lengths**

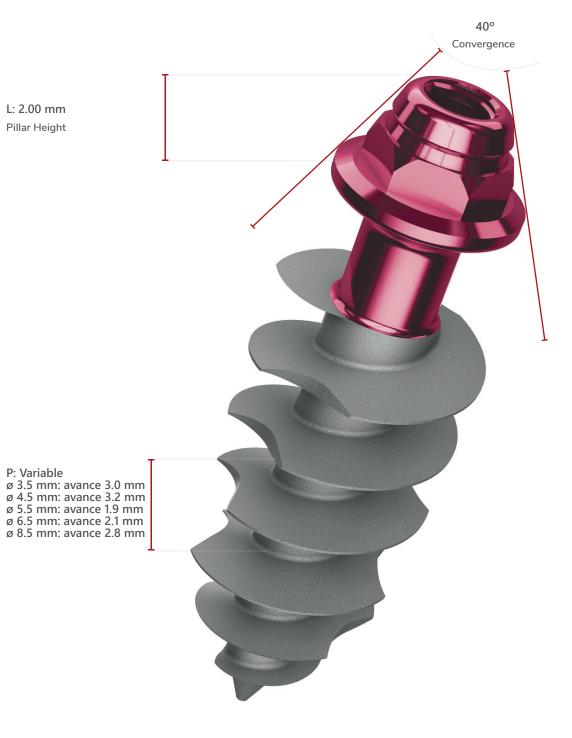




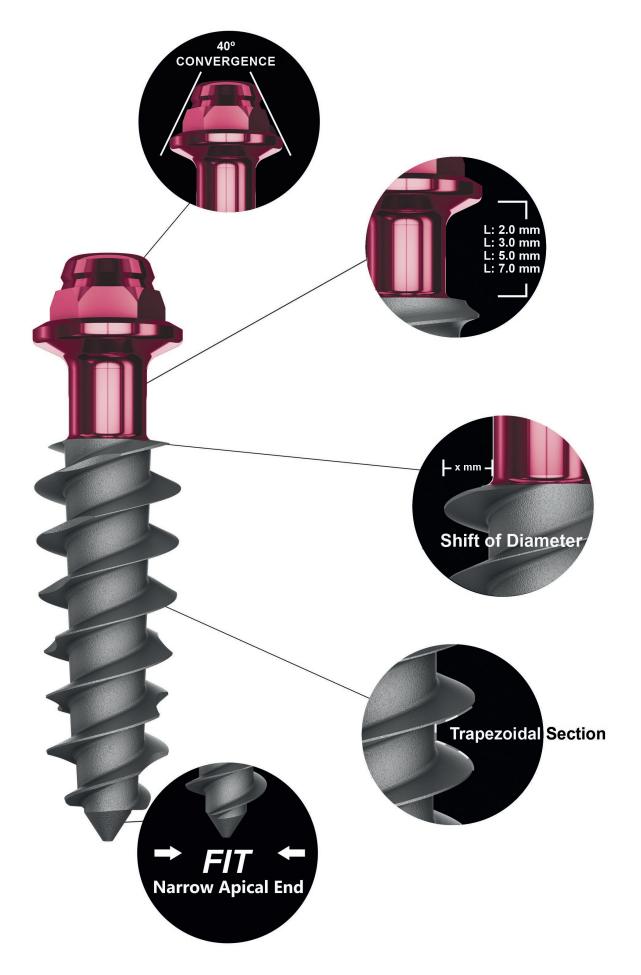
# SLD bm Type

## **General Length and Diameter Measurements**

L: 2.00 mm Pillar Height

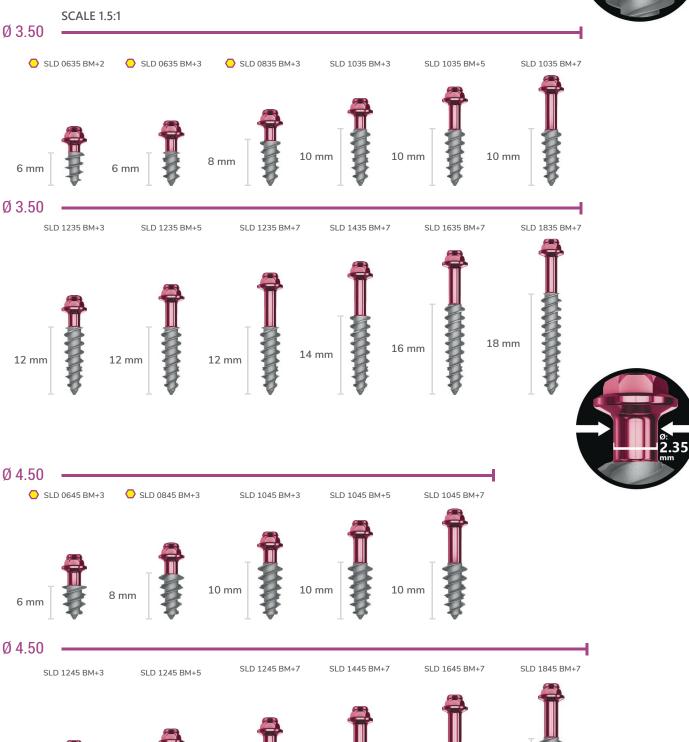


SLD bm Type **General Length and Diameter Measurements** 



SLDbm Type: One-Piece Solid Basal Implant with Screwable Abutment. PMU Prosthetic Code.

## **Available Diameters and Lengths**



18 mm

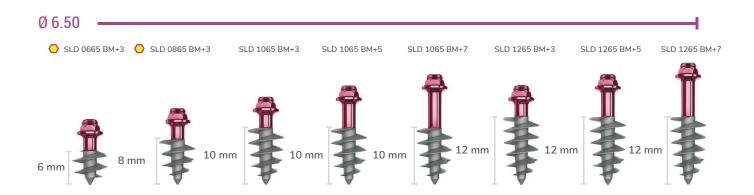
16 mm

14 mm

SLDbm Type: One-Piece Solid Basal Implant with Screwable Abutment. PMU Prosthetic Code.

## **Available Diameters and Lengths**







**Short Lines** Short Implants!! L 6.0 / 8.0 mm

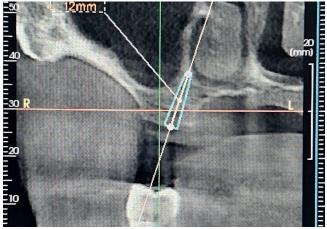
Trapezoidal profile thread with flat bottom: Maximum accommodation of bone tissue. Greater compression distribution.



# Case: Surgical Superior Postero Sector (1)



01- CBCT Virtual Planning. Position 14.15.16.17.



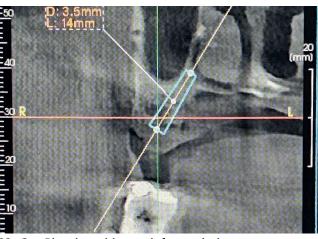
03- Support for maxillary ridge, sinus floor and nasal passages



05- Lateral view of implants placed in sector 1.



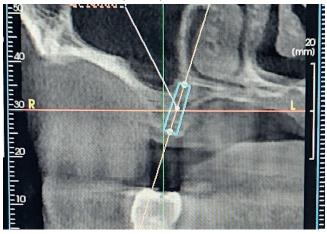
07- Cut with implant planning in atrophic area.



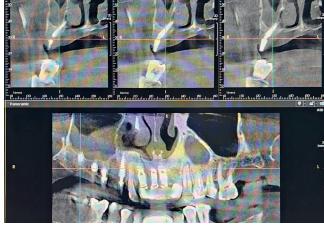
02- Cut: Planning with search for cortical supports



04- Frontal view of implants placed 14.15.16.17

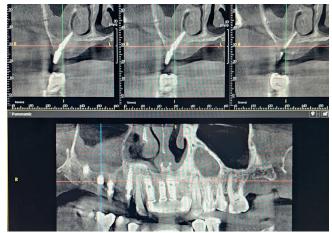


06- Cut with implant planning in atrophic area.

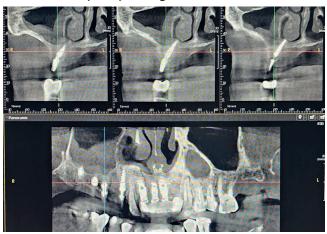


08- Cut with implant planning in Position 17.

\* Images Courtesy of Dr. Juan José Soleri Cocco. (Phd - MD - DDS - MSc - FEBOS).



09- Cut with implant planning in Position 16.



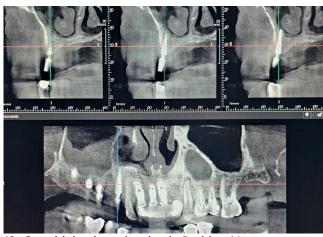
11- Cut with implant planning in Position 15.



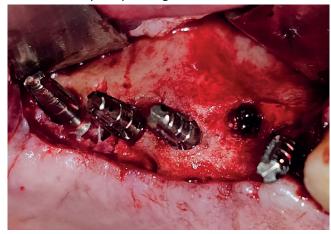
13- Clinical Surgical Vision after parallelization of pillars.



15- Positioning of resorbable collagen membrane.



10- Cut with implant planning in Position 14.



12- Post-implantation Surgical Clinical Vision.



14- Clinical Vision Prior to surgery.



16- Flap Closure.



# Surgical instruments

There is no doubt that a phase of special delicacy and importance is the manipulation developed by the professional, during all the processes of implant treatment.

This importance takes on a capital meaning, in surgical instrumentation in general and when preparing surgically the bed for the insertion of the implants, where the different levels of difficulty that can be caused by the anatomical terrain treated in each case come into play.

This is why Radhex Implants® has involved all the design efforts in optimizing the system to obtain surgical instruments with high ergonomic performance, which allow the professional to obtain high performance and comfort in handling, facilitating the performance of the technique.

This is a concept that the Radhex Implants® system assumes in special detail, and has been the guide in the development and design of instruments for surgery with implants.

Enabling agile, comfortable, practical and versatile management, whether manual or mechanical in any of the treatment stages.

This instrument, made of the highest quality surgical steel, allows for the gingival opening in the shape of a buttonhole, for the application of the "Punch" technique or minimally invasive gingival opening technique:

The design of the circular scalpels - BIC - from Radhex Implants® includes the following features:

Torque socket with universal contra angle connection.

Length markings, using micro-channels, with 2 mm intervals, to guide the operator in verifying the milling depth.

Marked with laser engraving for identification, of the Product Reference.

Sharpened perimeter of different diameter alternatives for select the appropriate size of the opening, according to the diameter of implant.

- Diameters with 0.2 mm increment with respect to diameters of available implants, to maintain a safety margin that prevents "inserting" or "dragging" soft tissue into the cavity, during threading.
- Application: connected to contra angle.
- Attention:

Check the working depth and gingival thickness.

Press with rocking movements to adapt to the natural convexity of the bony crest and ensure complete excision of the mucosal button.

Apply with abundant irrigation to avoid overheating due to friction.





L1

BIC	References:	BIC35	BIC37	BIC40	BIC45	BIC50	BIC60
Scalpels Circulars	ØA	3.70 mm	4.00 mm	4.20 mm	4.70 mm	5.20 mm	6.20 mm
	ØB	2.30 mm					
	L1	29.50 mm					
	L2	8.50 mm					
	Speed	200 RPM					

Made of high-hardness surgical steel, these drills allow the perforation of the bone cortex and the creation of an initial guide cavity for cavity formation

The design of the Radhex Implants® lanceolate burs includes the following characteristics:

- Torque socket with universal contra angle connection.
- ▶ Product presentation in 2 lengths for easy access and cavity initiation maneuver, in different anatomical situations:

Short Lanceolate Milling Cutter: FRL 001S

Long Lance Milling Cutter: FRL 001L

- ▶ Lanceolate tip with triple straight cutting edge, every 120° to ensure maximum efficiency in milling, which have a travel of 10 mm and a drilling diameter of 2.00 mm.
- ▶ Length orientation marks, using micro-channels, with 2 mm intervals, to guide the operator in the milling depth.
- Recommended work speed: 800 R.P.M.
- ► Milling must be carried out:

With intermittency, (alternating short entries and exits, to facilitate the bone chip evacuation).

With abundant irrigation: to avoid fiction and overheating that cause tissue necrosis.





L1

F	FRL	Referencias:	L1	L2	L3	L4	ØA	ØB

Spear Strawberries	FRL 001S	30,00 mm	14,00 mm	10,00 mm	2,00 mm	2,30 mm	2,00 mm
	FRL 001L	34,00 mm	18,00 mm	10,00 mm	2,00 mm	2,30 mm	2,00 mm

# PIN: Parallelism and depth meter

This auxiliary instrument allows you to verify the orientation and depth milling, allowing:

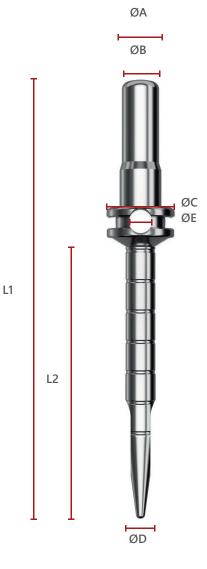
- ► Check the milling depth carried out with the lance cutters.
- Correct the parallelism between different cavity preparations.
- Control the direction of the occlusal emergencies of each cavity preparation to guide the formation of the cavity based on of prosthetic requirements.
- Diameter greater than 4.50 mm as a guide to estimate the distance between implant and implant.

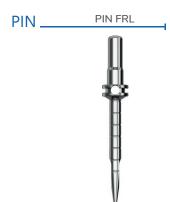
The design of the depth and parallelism verification PINs

Radhex Implants® includes the following features:

- Length markings, using micro-channels, with 2 mm intervals, to guide the operator in verifying the milling depth.
- Application: Manual.
- Security measures:

Channel for mooring with hole for fine thread, to prevent aspiration or accidental swallowing of instruments.





PIN	References:	L1	L2	ØA	ØB*	ØC	ØD	ØE

Meter of parallelism and depth	PIN FRL	29 mm	18 mm	2,80 mm	2,50 mm	4,50 mm	2,00 mm	1,50 mm
				*ØE	: Thread Channel: 1.50 r	nm		

# FRF: Final Mills - Technical Specifications

They allow the application of a simple, ergonomic, milling protocol. Safe and efficient for cavity preparation.

The special design of the Radhex Implants® final drills includes the following characteristics:

- Harmonious cavity profile design for each implant dimension, ensuring settlement with peri-implant bone compression uniform, to guarantee excellent stability of the implant
- Maximum security: One Final Drill, for each implant measurement in length and diameter.
- Fixed length stop: For each implant dimension, each final drill has its fixed limit, to determine a high level of security in the milling, limiting the depth without having to make stop changes nor adjustment thereof.
- Laser marking for reference identification: with code that contains four digits: the first two digits to indicate the Length, and the last two digits to indicate the Milling Diameter.
- Color-coded marking for strawberry length, according to the following sequence:



- Conical Profile: Favors progressive entry, simplifying the technique and the number of drills to use to make the cavity.
- ► Helical cutting profiles: Optimal cutting efficiency.
- ▶ Channels between wide cutting blades, which help evacuate the tissue cut towards the outside preventing dulling" of the instrument, (and its consequent difficulty in cutting and increase in temperature due to friction), and also allow the recovery of milled autologous bone tissue, for use in ROG techniques.
- Torque socket with universal contra-angle connection.
- Recommended work speed: 500 R.P.M.
- Milling must be carried out:

With intermittency, (alternating short entries and exits, to facilitate the bone chip evacuation).

With abundant irrigation: to avoid fiction and overheating that They cause tissue necrosis.

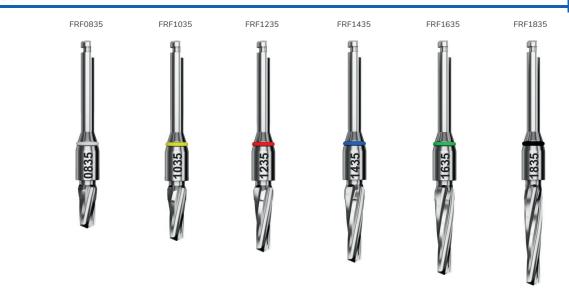


	Cavities For Implants	Reference	L1	L2	ØA	ØB	ØC	ØD	ID Color
	Ø 3,00 mm	FRF1030	35,20 mm	10,65 mm	4,20 mm	3,10 mm	2,10 mm	2,30 mm	Yellow
## ## ## ## ## ## ## ## ## ## ## ## ##		FRF1230	37,20 mm	12,65 mm	4,20 mm	3,10 mm	2,10 mm	2,30 mm	Red
0.350 mm		FRF1430	39,20 mm	14,65 mm	4,20 mm	3,10 mm	2,10 mm	2,30 mm	Blue
		FRF1630	41,20 mm	16,65 mm	4,20 mm	3,10 mm	2,10 mm	2,30 mm	Green
FFF1235	Ø 3,50 mm	FRF0835	33,20 mm	08,65 mm	4,20 mm	3,50 mm	2,60 mm	2,30 mm	White
PR   1410   1420 mm		FRF1035	35,20 mm	10,65 mm	4,20 mm	3,50 mm	2,45 mm	2,30 mm	Yellow
PFF1615		FRF1235	37,20 mm	12,65 mm	4,20 mm	3,50 mm	2,45 mm	2,30 mm	Red
### P\$FERS   \$4,20 mm		FRF1435	39,20 mm	14,65 mm	4,20 mm	3,50 mm	2,45 mm	2,30 mm	Blue
PFFEREY   31.20 mm		FRF1635	41,20 mm	16,65 mm	4,20 mm	3,50 mm	2,45 mm	2,30 mm	Green
PF9107		FRF1835	43,20 mm	18,65 mm	4,20 mm	3,50 mm	2,45 mm	2,30 mm	Black
PF9107	Ø 3 75 mm	FRF0837	33 20 mm	08 65 mm	4 50 mm	3 75 mm	2.80 mm	2 30 mm	White
PRI-1417	p 0,7 0 mm								
FFF1547		FRF1237	37,20 mm	12,65 mm	4,50 mm	3,75 mm	2,70 mm	2,30 mm	Red
### PFF1587		FRF1437	39,20 mm	14,65 mm	4,50 mm	3,75 mm	2,70 mm	2,30 mm	Blue
PRIFICATION   10.00		FRF1637	41,20 mm	16,65 mm	4,50 mm	3,75 mm	2,70 mm	2,30 mm	Green
## FFF0840   33.20 mm   08.65 mm   4.50 mm   2.30 mm   2.30 mm   7.00 mm   7		FRF1837	43,20 mm	18,65 mm	4,50 mm	3,75 mm	2,70 mm	2,30 mm	Black
## FFF0840   33.20 mm   08.65 mm   4.50 mm   2.30 mm   2.30 mm   7.00 mm   7									
FFF1040	Ø 4,00 mm	FRF0640	31,20 mm	06,65 mm	4,50 mm	3,95 mm	2,90 mm	2,30 mm	Violet
FFF1240		FRF0840	33,20 mm	08,65 mm	4,50 mm	3,95 mm	2,80 mm	2,30 mm	White
FRF1440		FRF1040	35,20 mm	10,65 mm	4,50 mm	3,95 mm	2,80 mm	2,30 mm	Yellow
FRF1640		FRF1240	37,20 mm	12,65 mm	4,50 mm	3,95 mm	2,80 mm	2,30 mm	Red
### FRF1840 ### 4,50 mm 4,50 mm 3,95 mm 2,80 mm 2,30 mm Black  #### 4,50 mm 5,00 mm 4,45 mm 3,00 mm 2,30 mm 7,00 mm 7,		FRF1440	39,20 mm	14,65 mm	4,50 mm	3,95 mm	2,80 mm	2,30 mm	Blue
## PRF0845   \$31,20 mm		FRF1640	41,20 mm	16,65 mm	4,50 mm	3,95 mm	2,80 mm	2,30 mm	Green
FRF0845   33.20 mm		FRF1840	43,20 mm	18,65 mm	4,50 mm	3,95 mm	2,80 mm	2,30 mm	Black
FRF0845   33.20 mm									
FRF1045   35,20 mm   10,65 mm   5,00 mm   4,45 mm   3,10 mm   2,30 mm   Yellow	Ø 4,50 mm								
FRF1245   37,20 mm   12,65 mm   5,00 mm   4,45 mm   3,10 mm   2,30 mm   Red									
FRF1445   39,20 mm									
FRF1645 41,20 mm 16,65 mm 5,00 mm 4,45 mm 3,10 mm 2,30 mm Green FRF1845 43,20 mm 18,65 mm 5,00 mm 4,45 mm 3,10 mm 2,30 mm Black									
FRF1845									
## PRF0650   31,20 mm   06,65 mm   5,50 mm   4,80 mm   3,70 mm   2,30 mm   Violet									
FRF0850 33,20 mm 08,65 mm 5,50 mm 4,80 mm 3,70 mm 2,30 mm White FRF1050 35,20 mm 10,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Yellow FRF1250 37,20 mm 12,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Red FRF1450 39,20 mm 14,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Blue FRF1650 41,20 mm 16,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Green FRF1850 43,20 mm 18,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Black   Ø 6,00 mm FRF0660 31,20 mm 06,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm White FRF0860 33,20 mm 08,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm White		FRF1845	43,20 mm	18,65 mm	5,00 mm	4,45 mm	3,10 mm	2,30 mm	Black
FRF0850 33,20 mm 08,65 mm 5,50 mm 4,80 mm 3,70 mm 2,30 mm White FRF1050 35,20 mm 10,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Yellow FRF1250 37,20 mm 12,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Red FRF1450 39,20 mm 14,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Blue FRF1650 41,20 mm 16,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Green FRF1850 43,20 mm 18,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Black   Ø 6,00 mm FRF0660 31,20 mm 06,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm White FRF0860 33,20 mm 08,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm White	Ø 5.00 mm	FRF0650	31.20 mm	06.65 mm	5.50 mm	4.80 mm	3.70 mm	2.30 mm	Violet
FRF1050 35,20 mm 10,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Yellow FRF1250 37,20 mm 12,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Red FRF1450 39,20 mm 14,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Blue FRF1650 41,20 mm 16,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Green FRF1850 43,20 mm 18,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Black  Ø 6,00 mm FRF0660 31,20 mm 06,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm Violet FRF0860 33,20 mm 08,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm White FRF1060 35,20 mm 10,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm Yellow	5 5,55 11111								
FRF1250 37,20 mm 12,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Red FRF1450 39,20 mm 14,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Blue FRF1650 41,20 mm 16,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Green FRF1850 43,20 mm 18,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Black  PRF1850 31,20 mm 06,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Violet FRF0860 31,20 mm 08,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm White FRF1060 35,20 mm 10,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm Yellow									
FRF1450 39,20 mm 14,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Blue FRF1650 41,20 mm 16,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Green FRF1850 43,20 mm 18,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Black  ### FRF0660 31,20 mm 06,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm Violet FRF0860 33,20 mm 08,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm Violet FRF1060 35,20 mm 10,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm Yellow									
FRF1650 41,20 mm 16,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Green FRF1850 43,20 mm 18,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Black  0 6,00 mm FRF0660 31,20 mm 06,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm Violet FRF0860 33,20 mm 08,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm White FRF1060 35,20 mm 10,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm Yellow									
FRF1850 43,20 mm 18,65 mm 5,50 mm 4,80 mm 3,50 mm 2,30 mm Black  ### 6,00 mm    FRF0660   31,20 mm 06,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm Violet   FRF0860   33,20 mm 08,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm White   FRF1060   35,20 mm 10,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm Yellow									
FRF0860 33,20 mm 08,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm White FRF1060 35,20 mm 10,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm Yellow									
FRF0860 33,20 mm 08,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm White FRF1060 35,20 mm 10,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm Yellow									
FRF1060 35,20 mm 10,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm Yellow	Ø 6,00 mm	FRF0660	31,20 mm	06,65 mm	6,50 mm	5,80 mm	4,30 mm	2,30 mm	Violet
		FRF0860	33,20 mm	08,65 mm	6,50 mm	5,80 mm	4,30 mm	2,30 mm	White
FRF1260 37,20 mm 12,65 mm 6,50 mm 5,80 mm 4,30 mm 2,30 mm Red		FRF1060	35,20 mm	10,65 mm	6,50 mm	5,80 mm	4,30 mm	2,30 mm	Yellow
		FRF1260	37,20 mm	12,65 mm	6,50 mm	5,80 mm	4,30 mm	2,30 mm	Red

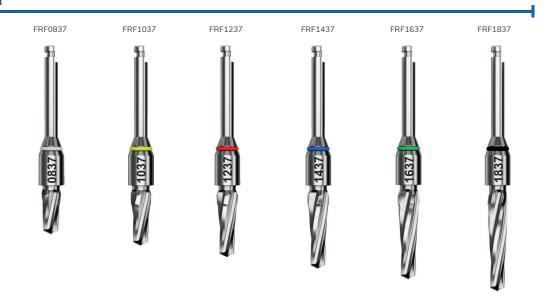
# FRF: Final Mills - Product Range

 $\star$  Ø 3.00 mm - Fit Implants: See at the end of the reference table

# Ø 3.50 mm



# Ø 3.75 mm



# Ø 4.00 mm



# FRF: Final Mills - Product Range





Ø 5.00 mm





# Ø 6.00 mm - Short Implants -



# Final Drills: Characteristics of the Cavity Profile

#### **Dimensions of Final Mills -FRF-**

#### Final Drills by implant diameter



#### **Main Features**

The final drills of the Radhex Implants® system have a conical profile, so that the widening of the cavity is progressive, as we introduce the drill into the bed that is being created.

For this reason, the technical protocol for cavity preparation is simplified, requiring fewer drill changes, so that with a minimum number of drills, cavity conformation is completed with maximum efficiency.

- Milling diameter: Milling volume equivalent to the Implant core, with tolerance for adjustment by self-threading.
- Milling length: Minimum extension of the cutting tip, increasing the milling depth by \*0.65 mm.
- \*Attention: this factor must be taken into account with respect to anatomical risk areas.

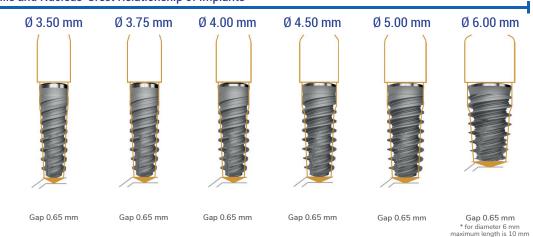
These final drills are indicated for optimal cavity dimensional finishing for type II and III bones. (Leckholm et Zarb).

- For type I bone, a bone tapping maneuver should be used.
- For Type IV Bone, it is recommended to finish the cavity with a smaller diameter bur.

Warning: it must be taken into account that the leading tip of the final drill extends the drilling length by 0.65 mm in the apical area. This must be taken into account to avoid damaging risky anatomical structures.

#### **Cavity - Implant Dimensions List:**

#### Drills and Nucleus-Crest Relationship of Implants



# TRJ: Bone Taps - Technical Specifications

Bone taps, or bone thread formers, are instruments made of surgical steel, whose purpose is to use them when the anatomical terrain is high-density bone type 1 and type 2, to carve the threads inside the cavity, making it easier to this way the subsequent implant insertion

The design of the Bone Taps (TRJ), Radhex Implants® includes the following features:

▶ Three models of taps, to adapt to the type of external thread of the implant used:

PHI and PHE implants: Taps with a single thread, with a pitch of 1 mm advance per turn.

PHIA and PHEA implants: Double thread taps, with 2.4 mm pitch of advance per turn.

PHIA+, PCI and PCI+ implants: Double thread taps, with 2.6 mm pitch of advance per turn.

Technical characteristics:

- ▶ Torque socket with 3.7 Hexagon and elastic retention.
- Straight cutting fronts, for creating the cavity thread.
- Length orientation marks, using micro-channels, with 2 mm intervals, to guide the operator in the working depth.
- Marked by laser engraving to identify the working depth, using dark bands and numerical depth coding in millimeters.
- Marked by identification laser engraving, for product reference.
- Recommended work speed: 25 R.P.M.
- ▶ Bone Tapping must be performed:

Maintaining the orientation direction chosen for the implant, with necessary entrances and exits, removing the bone mud from the cavity.

With abundant irrigation: to avoid fiction and overheating that cause tissue necrosis.



# TRJ Single threading propeller - Advance 1.0 mm/v

Ø 3.50mm	Ø 3.75mm	Ø 4.00mm	Ø 4.50mm	Ø 5.00mm
TRJ 350	TRJ 375	TRJ 400	TRJ 450	TRJ 500
33.5	33.7	34.0 18 16 14 12 10 11 11 11 11 11 11 11 11 11 11 11 11	74.5 18 16 14 12	95,0 18 16 14 12

# TRJA Double threading propeller - Advance 2.4 mm/v



TRJAA Double threading propeller - Advance 2.6 mm/v

Ø 3.00mm	Ø 3.50mm	Ø 3.75mm	Ø 4.00mm	Ø 4.50mm	Ø 5.00mm	Ø 6.00mm
TRJ 300 AA	TRJ 350 AA	TRJ 375 AA	TRJ 400 AA	TRJ 450 AA	TRJ 500 AA	TRJ 600 AA
18 16 12 10	18 16 12 10 11 11 11	18 16 12 10	18 16 12 10	18 16 12 10	18 16 12 10	18 16 12 10

# **EXP: Threaded Osteotomy Bone Expanders**

This instrument allows for cavity formation by expansion.

Radhex Implants® expanders are specific for compaction in the treatment of low-density bones, particularly in the jaw superior, especially postero-superior and also indicated in the area antero-inferior.

They allow promoting corticalization with greater bone density peri-implant level, ensuring greater stability of the implant at long term.

Its entrance allows the cavity to be expanded up to the desired diameter, performing its mechanical work through compressive expansion by progressive coinage.

The design of the Radhex Implants® brand Threaded Bone Expanders includes the following features:

- Torque socket with 3.7 Hexagon and elastic retention.
- Soft tapered walls, which ensure expansion with discharge progressive of forces, not abrupt.
- Progressive expansion sequence, with increase in diameter.
- Marked by laser engraving identification, for Reference of product.
- Application: Manual using a ratchet wrench.
- The profile of the instrument does not reproduce the implant core.
- Recommended working speed: 25 R.P.M.
- Attention

Verify the working depth during the application of the technique. Control the progression of the expansion to avoid board fractures. Control the working direction of the instrument.



Coinage action Compressive Profile Thread



# Work Instruments - Technical Specifications

#### Ratchet

The implant ratchet is an instrument developed with a high-quality stainless steel body, designed with an extension arm that allows the adequate and safe application of the threading or unscrewing maneuver.

The design of the Ratchet, (CRR), from Radhex Implants®, includes the following Technical characteristics:

- ► Mono-body design in Surgical Steel.
- Laser Engraving in Entry Position (front) or Threading Exit Position (reverse).
- Washable and Autoclavable.
- Torque socket with 3.7 Hexagon.



**CRR001** 

#### Llave Dinamométrica

The Radhex Implants® Implant System Dynamometric Wrench is an instrument developed with a high-quality stainless steel body, designed with an extension arm that allows the adequate and safe application and control of torque in the threading or unscrewing maneuver.

The design of the Radhex Implants® Torque Wrench (DIN) includes the following Technical Characteristics:

- Body design in Surgical Steel.
- Torque wrench with adjustable internal torque control.
- Torque wrench with torque display for body breakage.
- Laser Engraving in Entry Position (front) or Threading Exit Position (reverse).
- Washable and Autoclavable.
- Torque socket with 3.7 Hexagon.
- Torque control from 10Ncm to 40Ncm: 10Ncm per marking line.
- Locking function with full adjustment, acting as a Ratchet Wrench.



**DIN001** 

#### Handles and Extensions

#### Handle or tool handle

This instrument made of surgical stainless steel allows perform manual application of torque for threading and unscrewing of:

- Implants: when connecting with manual keys Drivers holder implants, being possible to take the implant for transport and start cavity threading.
- Micro-screws: manual adjustment of micro-screws for attachments.
- Manual bone expanders: for performing expansive osteotomy

It comes in two modalities and has the following characteristics:

- ► Smaller diameter head: Ø 8 mm, which allows manual application of moderate torque. (Ref. MNG002).
- Larger diameter head: Ø 14 mm, which allows manual application with a higher torque than the previous one. (Ref. MNG001).
- Torque socket with 3.7 Hexagon and suitable for elastic retention.
- ► Smaller diameter head: Ø 8 mm, which allows manual application of a moderate die, to adjust the screws of the transfers of open bucket, (MNG003).
- Washable and Autoclavable.

# Handles for Manual Screwdriving

MNG001 Major Handle





# **Open Cover Handles**

MNG003



#### **Extenders**

This instrument made of surgical stainless steel allows extend the length of other tools, when clinical circumstance

It comes in two modalities and has the following characteristics:

- ▶ Manual extensions with torque socket with 3.7 Hexagon.
- Extensions for handpiece with torque socket to handpiece motorized hand. (Ref. PRC).
- Washable and Autoclavable.



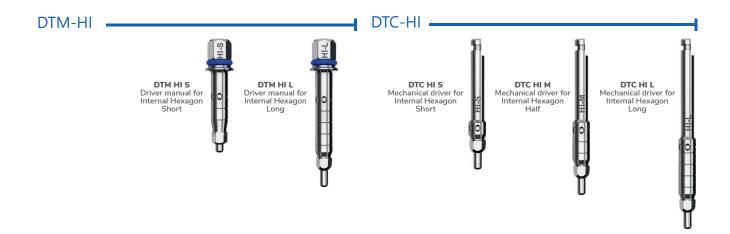
# Implant holder keys - Technical Specifications

#### PHI system implant holder keys: Hexa Grip

Instrumentation Made of surgical stainless steel, suitable for the function of taking and transporting the implant from its sterile container vial, to the operating cavity prepared for insertion, and subsequent application of the threading torque until the implant is completely inserted.

The design of the implant holder keys - Drivers - from Radhex Implants®, includes the following Technical characteristics:

- ► Surgical Steel Body
- Tension Retention Friction
- Horizontal markings for working depth orientation.
- ► Reference points for orientation of the connection indexing, in threading.
- Option of Manual wrenches with torque socket with 3.7 Hexagon.
- Wrench option For handpiece with contra-angle torque taking.
- ► Marked with identification laser engraving, for product reference.
- Washable and Autoclavable.
- Driver valid for PHI350 / PHI450 / PHIA350 / PHIA450 / PHIA+ Platforms.
- Identification Color: Blue

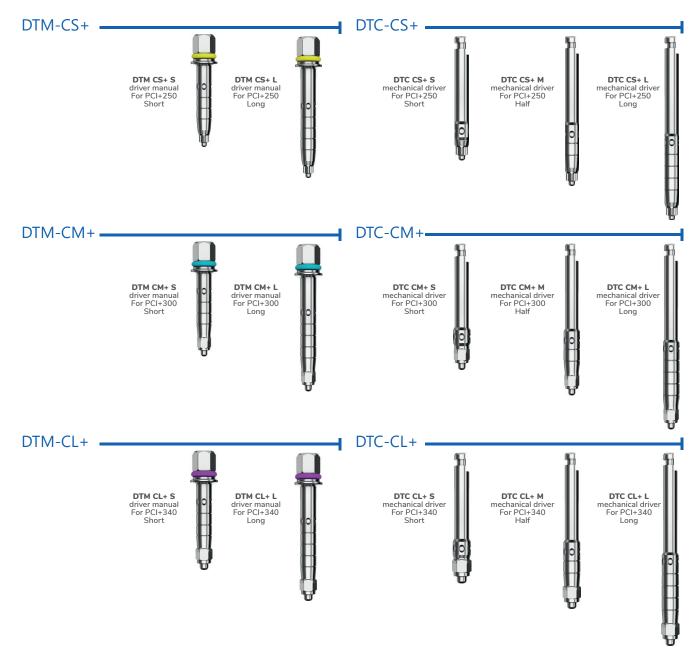


#### PCI+ system implant holder keys: Hexa Grip

Instrumentation Made of surgical stainless steel, suitable for the function of taking and transporting the implant from its sterile container vial, to the operating cavity prepared for insertion, and subsequent application of the threading torque until the implant is completely inserted.

The design of the implant holder keys - Drivers - from Radhex Implants®, includes the following Technical characteristics:

- Surgical Steel Body
- Tension Retention Friction
- Horizontal markings for working depth orientation.
- Reference points for orientation of the connection indexing, in threading.
- Option of Manual wrenches with torque socket with 3.7 Hexagon.
- Wrench option For handpiece with contra-angle torque taking.
- Marked with identification laser engraving, for product reference.
- Washable and Autoclavable.
- Driver valid for CS Platform: PCI+250. Identification color: Yellow.
- Driver valid for CM Platform: PCI+300. Identification color: SEAWATER.
- Driver valid for CL Platform: PCI+340. Identification color: Violet.



### SLD+ system implant holder keys: PMU Grip

Instrumentation Made of surgical stainless steel, suitable for the function of taking and transporting the implant from its sterile container vial, to the operating cavity prepared for insertion, and subsequent application of the threading torque until the implant is completely inserted.

The design of the implant holder keys - Drivers - from Radhex Implants®, includes the following Technical characteristics:

- ► Surgical Steel Body
- Tension Retention Friction
- Horizontal markings for working depth orientation.
- ▶ Reference points for orientation of the connection indexing, in threading.
- Option of Manual wrenches with torque socket with 3.7 Hexagon.
- Wrench option For handpiece with contra-angle torque taking.
- ► Marked with identification laser engraving, for product reference.
- Washable and Autoclavable.
- Driver valid for SLD cm/ SLD bm platforms.
- Identification color: White.



#### Implant holder key characteristics: Hexa Grip X2 type driver

Direct implant take-up, without "Pick and Place" transporter, using a double hexagonal prism body.

The safest and most robust retention by tense friction mechanism.

Absence of risk due to breakage of the conveyor or micro-screw.

Reduction of mechanical stress in the connection, preventing its deformation.

Maximum use of insertion torque.

Greater transport ergonomics, more comfort in the operating procedure and handling.

Driver with depth control marks, to verify insertion level in the same installation procedure. implant placement.

Reference points for indexing control of the implant hexagon, indicating its flat faces.

Identification color code for platform per implant system.

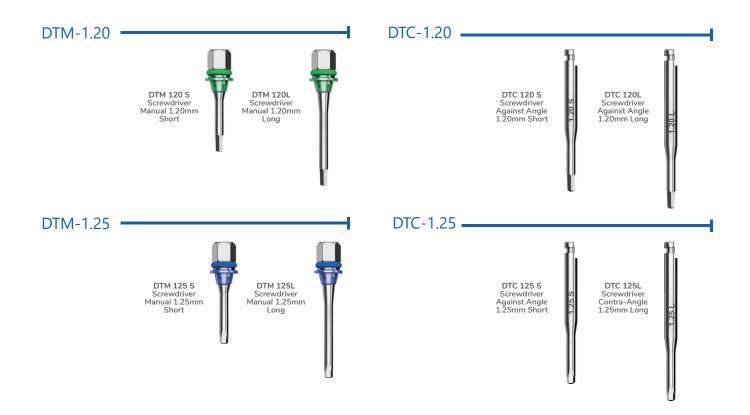
With guide bolt to maintain stability of the implant in its threading.



#### Prosthetic screwdrivers

This instrument made of surgical stainless steel allows manual or mechanical application of torque for threading and unscrewing micro-screws and direct threading attachments to the implant.

- ▶ Manually operated screwdrivers, with torque socket with 3.7 Hexagon and suitable for elastic retention.
- Mechanically driven screwdrivers, with torque socket suitable for universal handpiece.
- Marked with identification laser engraving, for product reference.
- Washable and Autoclavable.
- Identification color codes: GREEN for 1.20mm..
- Identification color codes: BLUE for 1.25mm





# **Surgical Boxes**

- Practical format for all the instruments required for implant placement: clearly organized and at hand.
- With stored Instrumental indications recorded.
- Solid materials, washable and resistant to autoclave sterilization.
- Surgical Kit Options.
- ▶ Plastic or Stainless Steel material options.
- Resistant, easy to transport and adequate volumes.
- Simple distribution: color coding of instruments.

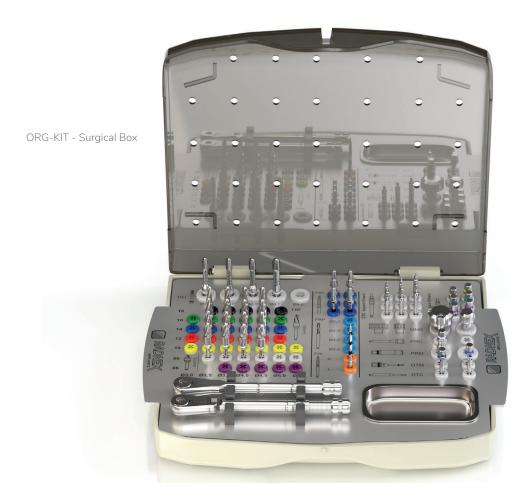
Aesthetics, presentation, order, ergonomics and simplicity in design are combined in our surgical kits as the pillars to facilitate the work of the surgeon, because we think of the professional, from the very circumstance of the surgical act, and to Therefore, we seek to facilitate your maneuvers, with elements that are easy to identify and understand, bringing the design closer to simplicity of understanding, which will always allow a more agile and dynamic performance in the interventions carried out.

For your convenience, the Radhex Implants® surgical instrument kit has the characteristic of being versatile, and can be used for any of the lines of the Radhex Implants® system in any type of surgery, with the only particularity that the only variable element in Depending on the line of implants used, they are the implant holder keys or "Drivers".

The surgical kit is designed to safely store and sterilize the surgical instruments and auxiliary components of the Radhex Implants® implant system.

In addition to the entire milling cutter kit, even in basic content configurations, it incorporates a ratchet wrench, as well as parallelizing pins that facilitate control of the milling direction.

It is completed with a series of torque handles and screwdrivers to work at the right moments. Of particular relevance are the Radhex Implants® drills with a fixed depth stop for maximum safety, designed appropriately to recover bone and be able to perform autologous grafts thanks to the biological drilling technique at low revolutions without irrigation.



# COMPLEMENTARY STRAWBERRIES\*\*\*\*

Kit Shorts:	Kit FIT:	Kit FRF Ø5.0:	Kit FRF Ø6.0:	Kit FRF L 16:	Kit FRF L 18:
FRF0640	FRF1030	FRF0850	FRF0660	FRF1635	FRF1835
FRF0645	FRF1230	FRF1050	FRF0860	FRF1637	FRF1837
FRF0650	FRF1430	FRF1250	FRF1060	FRF1640	FRF1840
FRF0660	FRF1630	FRF1450	FRF1260	FRF1645	FRF1845
				FRF1650	FRF1850

Important: Any element not contained in the description of Basic Kits must be requested separately. The Kits are not References or unique products, their configuration is based on the Basic Kits provided in this catalog. Each of the components is presented in individual packaging.



# RADEL PPSU LARGE PHE PLASTIC SURGICAL KIT - Basic Assembly -

Base Code	Description	Amount
ORG-KIT	Large Plastic Surgical Box - Stainless steel plate, (195 mm $\times$ 155 mm $\times$ 56 mm).	1
CRR001	Ratchet.	1
DIN001	Dynamometric Wrench.	1
FRL001 L	Lanceolate Strawberry.	1
FRF*	End Mill with Single Stop.	16
TRJ**	High Density Bone Taps.	4
PRM001	Short Manual Extension.	1
PRC001	Short Contra-angle Extension.	1
MNG001	Large Manual Screwdriver Handle	1
MNG002	Small Manual Screwdriver Handle	1
PIN-FRL	Parallelism PINS.	6
DTM120 S	Manual Screwdriver 1.20 Short	1
DTM120 L	Manual Screwdriver 1.20 Long	1
DTC120 S	Contra-angle Screwdriver 1.20 Short	1
DTC120 L	Contra-angle Screwdriver 1.20 Long	1
DTM-EM (S y L)	Manual Screwdriver Driver: Short and Long	2
DTC-EM (S, M y L)	Contra-angle Screwdriver Driver: Short, Medium and Long	3

<sup>\* 4</sup> Strawberry Diameters:  $\emptyset$  3.50; 3.75; 4.00 and 4.50 mm. by 4 Lengths 08, 10, 12 and 14 mm. \*\* 4 TRJ diameters:  $\emptyset$  3.50; 3.75; 4.00 and 4.50 mm.

It is possible to configure Complete Kits.

<sup>\*\*\*</sup> Short, Medium and Long versions of implant-bearing Drivers, for each platform. (PHE350 drivers sold separately).

<sup>\*\*\*\*</sup> The Complementary Kits contain one component of each reference mentioned.

# RADEL PPSU LARGE PHI PLASTIC SURGICAL KIT - Basic Assembly -

Código Base	Descripción	Cantidad
ORG-KIT	Large Plastic Surgical Box - Stainless steel plate, (195 mm $\times$ 155 mm $\times$ 56 mm).	1
CRR001	Ratchet.	1
DIN001	Dynamometric Wrench.	1
FRL001 L	Lanceolate Strawberry.	1
FRF*	End Mill with Single Stop.	16
TRJ**	High Density Bone Taps.	4
PRM001	Short Manual Extension.	1
PRC001	Short Contra-angle Extension.	1
MNG001	Large Manual Screwdriver Handle	1
MNG002	Small Manual Screwdriver Handle	1
PIN-FRL	Parallelism PINS.	6
DTM125 S	Manual Screwdriver 1.25 Short	1
DTM125 L	Manual Screwdriver 1.25 Long	1
DTC125 S	Contra-angle Screwdriver 1.25 Short	1
DTC125 L	Contra-angle Screwdriver 1.25 Long	1
DTM-HI (S y L)	Manual Screwdriver Driver: Short and Long	2
DTC-HI (S, M y L)	Contra-angle Screwdriver Driver: Short, Medium and Long	3

<sup>\* 4</sup> Diámetros de Fresas: Ø 3.50; 3.75; 4.00 y 4.50 mm. por 4 Longitudes 08, 10, 12 y 14 mm.

Es posible configurar Kits Completos.

# RADEL PPSU LARGE PCI+ Plus PLASTIC SURGICAL KIT - Basic Assembly -

Código Base	Descripción	Cantidad
ORG-KIT	Large Plastic Surgical Box - Stainless steel plate, (195 mm x 155 mm x 56 mm).	1
CRR001	Ratchet.	1
DIN001	Dynamometric Wrench.	1
FRL001 L	Lanceolate Strawberry.	1
FRF*	End Mill with Single Stop.	16
TRJ**	High Density Bone Taps.	4
PRM001	Short Manual Extension.	1
PRC001	Short Contra-angle Extension.	1
MNG001	Large Manual Screwdriver Handle	1
MNG002	Small Manual Screwdriver Handle	1
PIN-FRL	Parallelism PINS.	6
DTM125 S	Manual Screwdriver 1.25 Short	1
DTM125 L	Manual Screwdriver 1.25 Long	1
DTC125 S	Contra-angle Screwdriver 1.25 Short	1
DTC125 L	Contra-angle Screwdriver 1.25 Long	1
DTM CS (SyL)	Manual Screwdriver Driver: Long for PCI250 Platforms	1
DTC CS (S, M y L)	Driver Destornillador Contra-ángulo: Medio para Plataformas PCI250	1
DTM CM (S y L)	Contra-Angle Screwdriver Driver: Medium for PCI250 Platforms	1
DTC CM (S, M y L)	Contra-Angle Screwdriver Driver: Medium for PCI300 Platforms	1
DTM CL (S y L)	Manual Screwdriver Driver: Long for PCI340 Platforms	1
DTC CL (S, M y L)	Contra-Angle Screwdriver Driver: Medium for PCI340 Platforms	1

<sup>\* 4</sup> Strawberry Diameters: Ø 3.50; 3.75; 4.00 and 4.50 mm. by 4 Lengths 08, 10, 12 and 14 mm.

It is possible to configure Complete Kits.

<sup>\*\* 4</sup> Diámetros de TRJ: Ø 3.50; 3.75; 4.00 y 4.50 mm.

<sup>\*\*\*</sup> Versiones Cortas Medias y Largas de Drivers porta implantes, para cada plataforma. (Drivers de PHE350 se expenden aparte).

 $<sup>^{\</sup>star\star\star\star\star}$  Los Kits complementarios contienen un componente de cada referencia mencionada.

<sup>\*\* 4</sup> TRJ diameters: Ø 3.50; 3.75; 4.00 and 4.50 mm.

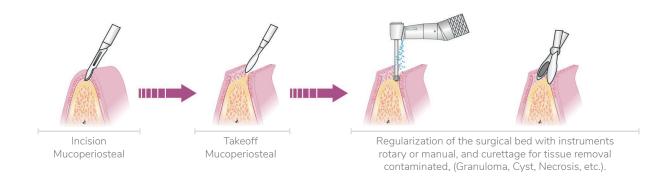
<sup>\*\*\*</sup> Short, Medium and Long versions of implant-bearing Drivers, for each platform. (PHE350 drivers sold separately).

<sup>\*\*\*\*</sup> The Complementary Kits contain one component of each reference mentioned.

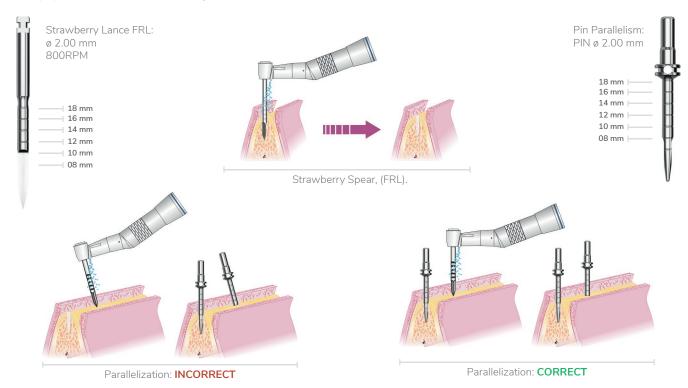
# **Technical Handling**

### Cavity Drilling and Preparation Protocol Preliminary maneuvers for cavity preparation

1- Preparation of the maxillary crest, with rotating instruments or rongeur, the cavity initiation is carried out with the FRL lance drill at 800 RPM. Pay attention to parallelism and axiality during the maneuver. Next, cavity orientation must be verified with the parallelization pins, verifying the orientation relationship with respect to present teeth, occlusal plane or other prepared cavities.



2- Use of Spear Drill, to define the orientation and working cavity depth, it must be used at 800 R.P.M. and after this it is advisable to verify the cavity orientation with the Parallelism Pins, taking as reference the dental arch, other existing implants, axial direction, occlusal and aesthetic parameters of the patient. Before passing the final drill corresponding to the cavity, it is always possible to correct the drilling direction.



Important: Avoid overheating due to friction: The recommendation, as in any implant system, is that milling be carried out:

- With abundant irrigation to allow the serum to cool the surgical steel of the drill, keeping the possible temperature rise under control.
- Intermittently, (moving forward and backward), to prevent the accumulation of bone mud in the channels between the milling blades from obstructing the cutting capacity of the milling cutter, causing friction. This is especially relevant in high-density bones, where it is even advisable to interrupt the drilling cycle to remove the bone mud contained between the blades of the drill, as the professional deems appropriate.

#### **Summary Milling Procedure:**

### Cavity Preparation.

As simple as three steps.

The cavity configuration is another characteristic of the technical simplicity of application of the Radhex Implants® system. As simple as:

- Start with bur lance with inputs and outputs, (intermittent), at 800 rpm and with abundant irrigation. Control parallelism and axiality.
- Pass final drill with inputs and outputs, (intermittent), at 500 rpm, with abundant irrigation. Attention: only when it is necessary to finish the cavity, with a drill equal to or greater than Ø 4.00 mm, incorporate the use of intermediate drills (with a smaller diameter than the final one selected).
- Insert the implant. Insertion Speed: 50 RPM for PHI, PHE models. 25 RPM for PHIA, PHEA and PCI models.









There are only 2 possible variables depending on the bone:

A- Low density: finish the cavity with a drill with a smaller diameter than the implant.

B- High density: Attention: the Radhex Implants® FRF final drills have a finish adjusted to the core of the implant, and to ensure correct insertion until the end, always finish the cavity with a tap. (Bone Thread Former).

<sup>\*</sup>The milling must always be progressive, because the milling cutters have a conical profile.

<sup>\*</sup>The milling protocols described in this catalog are applicable for PHE models; PHI and PCI.

#### Recommendations on milling depth

Recommendations Regarding the selection of milling cutter to establish the milling depth:

Regarding the drilling depth, there is a broad consensus, which indicates taking into account at least a safety margin of 2 mm, in order to protect, preventing any injury or damage, to any relevant or risk anatomical structure. (For example: inferior dental nerve, floor of nasal passages, etc.).

The depth of bone available for the cavity must be measured with the help of diagnostic imaging technologies, and the safety margin is a premise that must be respected.

In this sense, the Final Drills (FRF), from Radhex Implants®, have a very high level of safety, because they all have a fixed stop for each implant measurement.

A special mention must be made to the leading edge of the Final Drills (FRF), since they increase the length by 0.65 mm with respect to the reference length of the drill, (verify the accuracy of these measurements in the description section of Final Strawberries - FRF-).

However, in certain cases, and as long as there is NO risk of damage or injury to a relevant anatomical structure, it is advisable to drill with a drill of greater length, immediately following that of the implant you wish to use, especially if any of the following situations:

- Sinuous ridges with anatomical surface irregularities, which slow down the drill stop, before reaching the level at which the surgeon wishes to position the implant platform.
- 2 Regular crest, in which the surgeon decides to perform a subcrestal positioning, at the level of the implant platform, whether for aesthetic, prosthetic or biological reasons.
- When faced with situations of high bone density (Type I), it is advisable to reduce the stress and apical compression of the implant (ischemia), reducing the possibility of necrosis due to over-compression with the subsequent risk created for the osseointegration of the implant, and facilitating inserting the implant to the desired level.
- 4 \*Search for bicortical anchorage: for example: Anchorage in the floor cortex of the maxillary sinuses, or floor of the nasal cavities, these bone cortices provide high stability to the implant, and if the surgeon decides to address them, they must be milled to allow the passage of the implant and that its apical thread is firmed and stabilized in these cortices. If these cortices are not milled, and the apex of the implant reaches them, there is a risk that the cortex itself will slow down the advancement of the implant, causing all the advancement effort to fall on the threaded perimeter bone, in which the implant is affirmed, which in the face of a high torque, and due to apical resistance in its advancement, can destabilize the implant by "falsification" of the bone thread, with the subsequent risk of not introducing the implant at the desired positional level, and with risk of failure in its bone-integration.

\*It is a maneuver that requires adequate surgical skill, so it should only be approached by professionals with training and experience in these techniques.

5 For any reason the surgeon sees fit to extend the drilling to a greater depth.



Irregular Crest: Ensure immersion of the Implant



Regular Crest: aesthetic reasons, prosthetics, etc.



High bone density: decrease of apical compression



Bi-Cortical Stabilization

Mylo-hyoid balcony: Stabilization in two bone cortices.

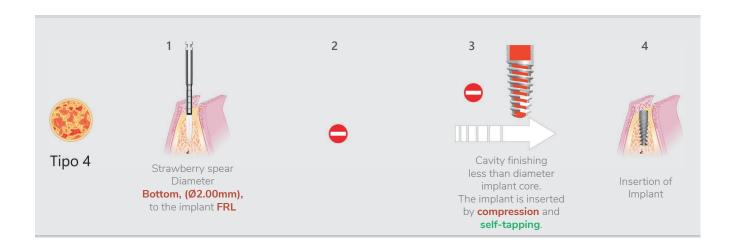


Cortical Floor of Sinus: Stabilization in two bone cortices.

#### Detailed procedure by bone density, for diameter 3.00 mm\*

# Implant cavity Ø 3.00mm

	FRL	FRF	Cavity Finish Threading	Insertion
Speed- R.P.M.	800 R.P.M.	500 R.P.M.		25-50 R.P.M.
Diameter	Ø 2,00mm	Ø 3,00mm		25-50 R.P.M.

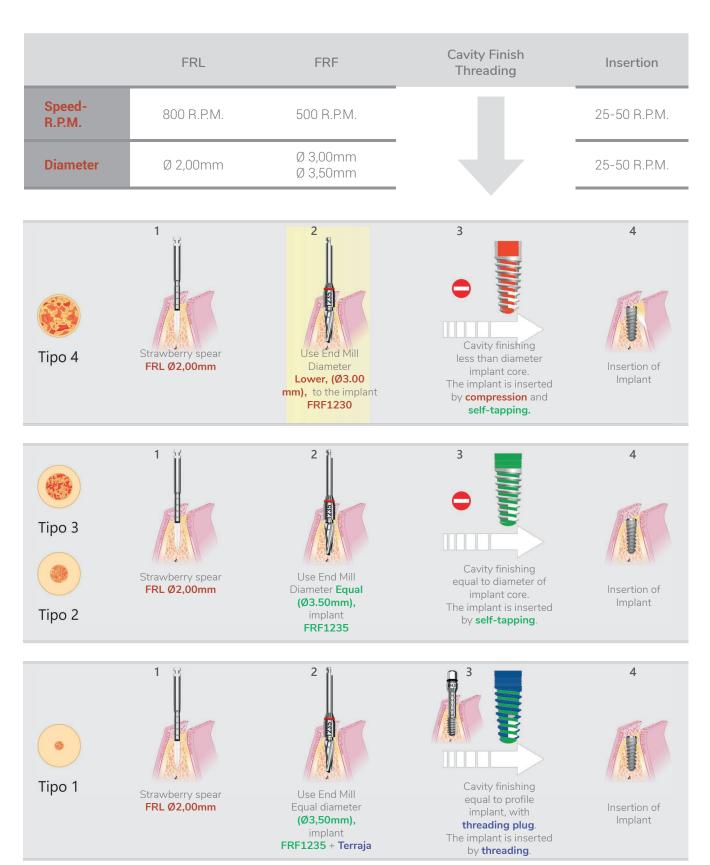




<sup>\*</sup> The cavity preparation procedure for a diameter of 3 mm is only applicable to the PCI implant model. The milling sequence is demonstrated in this example with a final drill of length 12 mm. The drilling procedure recommended by Radhex Implants® cannot replace the experience or judgment of the surgeon. The surgeon must interpret and definitively decide the dimensions and quantities of drills to make the cavity in each case.

#### Detailed procedure by bone density, for diameter 3.50 mm\*

#### Implant cavity Ø 3.50mm



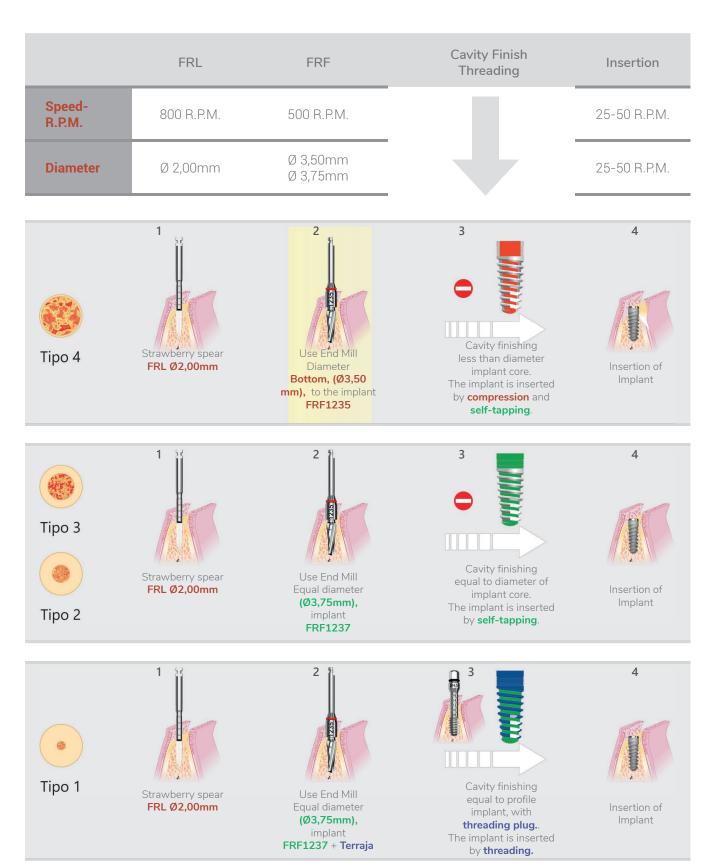
The milling sequence is demonstrated in this example with a final drill of length 12 mm.

The drilling procedure recommended by Radhex Implants® cannot replace the experience or judgment of the surgeon.

The surgeon must interpret and definitively decide the dimensions and quantities of drills to make the cavity in each case.

#### Detailed procedure by bone density, for diameter 3.75 mm\*

#### Implant cavity Ø 3.75mm



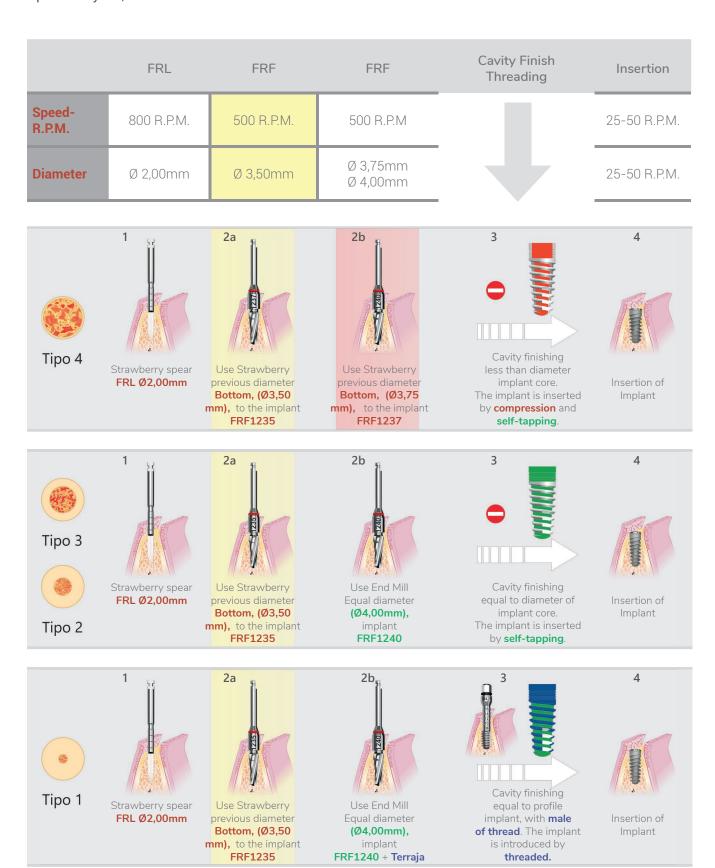
The milling sequence is demonstrated in this example with a final drill of length 12 mm.

The drilling procedure recommended by Radhex Implants® cannot replace the experience or judgment of the surgeon.

The surgeon must interpret and definitively decide the dimensions and quantities of drills to make the cavity in each case.

# Detailed procedure by bone density, for diameter 4.00 mm\*

#### Implant cavity Ø 4,00mm



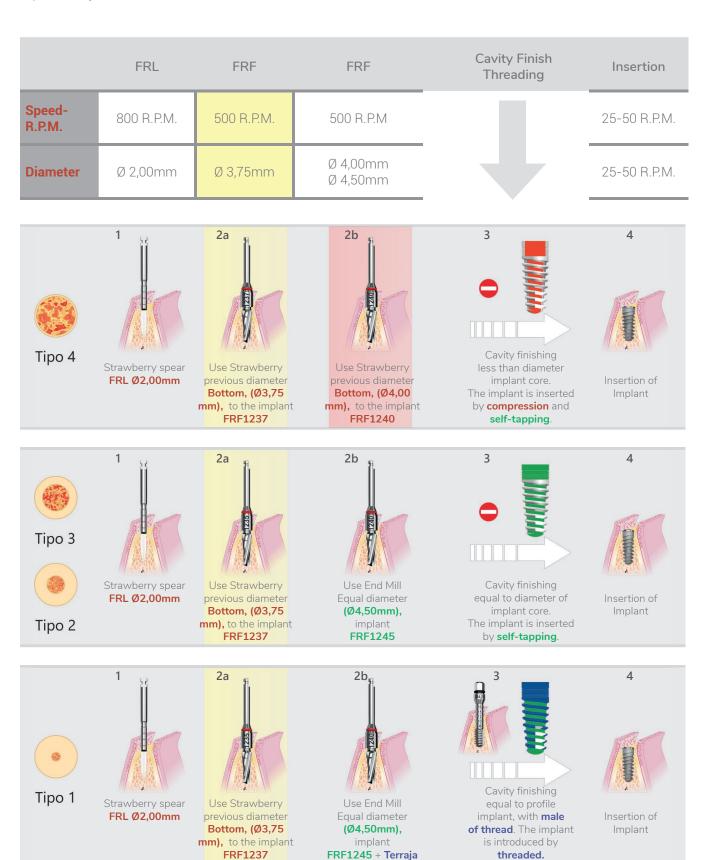
The milling sequence is demonstrated in this example with a final drill of length 12 mm.

The drilling procedure recommended by Radhex Implants® cannot replace the experience or judgment of the surgeon.

The surgeon must interpret and definitively decide the dimensions and quantities of drills to make the cavity in each case.

#### Detailed procedure by bone density, for diameter 4,50 mm\*

# Implant cavity Ø 4,50mm



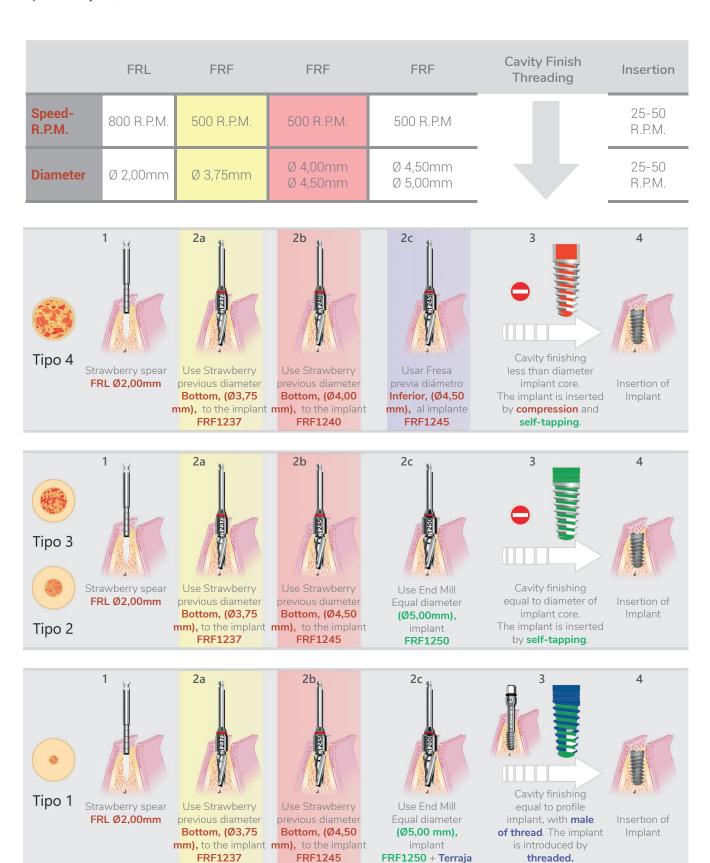
The milling sequence is demonstrated in this example with a final drill of length 12 mm.

 $The \ drilling \ procedure \ recommended \ by \ Radhex \ Implants @ \ cannot \ replace \ the \ experience \ or \ judgment \ of \ the \ surgeon.$ 

The surgeon must interpret and definitively decide the dimensions and quantities of drills to make the cavity in each case.

#### Detailed procedure by bone density, for diameter 5,00 mm\*

#### Implant cavity Ø 5,00mm



The milling sequence is demonstrated in this example with a final drill of length 12 mm.

The drilling procedure recommended by Radhex Implants® cannot replace the experience or judgment of the surgeon.

The surgeon must interpret and definitively decide the dimensions and quantities of drills to make the cavity in each case.

#### Detailed procedure by bone density, for diameter 6,00 mm\*

#### Implant cavity Ø 6,00mm

	FRL	FRF	FRF	FRF	Cavity Finish Threading	Insertion
Speed- R.P.M.	800 R.P.M.	500 R.P.M.	500 R.P.M.	500 R.P.M		25-50 R.P.M.
Diameter	Ø 2,00mm	Ø 4,00mm	Ø 4,50mm Ø 5,00mm	Ø 4,50mm Ø 6,00mm		25-50 R.P.M.

<sup>\*</sup>La guía para cavidades de elevado diámetro, (Ø 6,00 mm), asume un carácter orientativo, siendo el profesional el que determinará la secuencia definitiva para establecer el fresado cavitario.







The milling sequence is demonstrated in this example with a final drill of length 10 mm.

The drilling procedure recommended by Radhex Implants® cannot replace the experience or judgment of the surgeon.

The surgeon must interpret and definitively decide the dimensions and quantities of drills to make the cavity in each case.

# **ANNOTATIONS**

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# Premium

PHIA+ plus PCI+ plus SLD+ plus





