

PRO SYSTEM

dental implant



permedica
MANUFACTURING

PRO SYSTEM ADVANCE

internal hexagon dental implants



MATERIALS USED

The label of each device contains data relevant to the types of materials/coatings used.

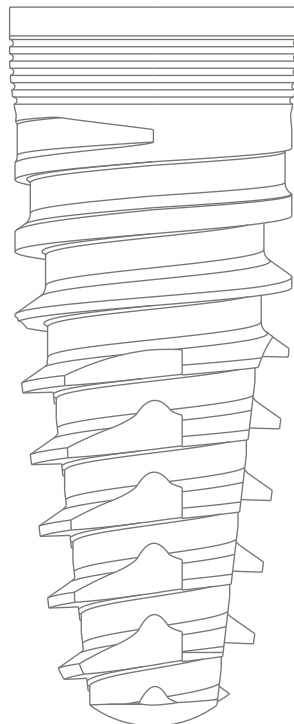
The materials used for implantable devices produced by permedica are the following:

- > Pure Titanium 4 gr. (ISO standard 5832/2)
- > Alloy Ti 6Al4V (ISO standard 5832/3)

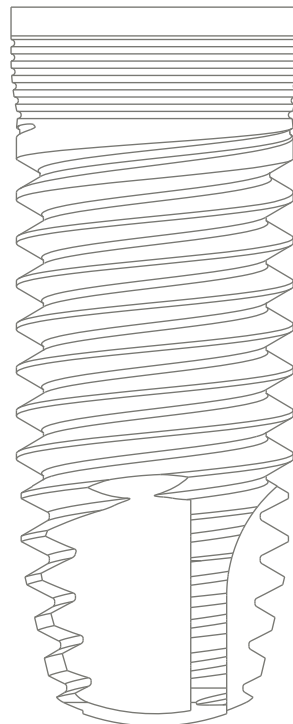
The materials used for the prosthesis part are the following:

- > Alloy Ti 6Al4V (ISO standard 5832/3)
- > Alloy Ti 6Al4V (ISO standard 5832/3) + TiN coating
- > Alloy AuPtPdIr (ISO standard 22674)
- > PEEK (polyetheretherketone)
- > PMMA (polymethylmethacrylate)

CONICAL
IMPLANT



CYLINDRICAL
IMPLANT



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01 / THE COMPANY

Founded in 1986 as company involved in the distribution of medical products, today "permedica s.p.a." has become one of the leading manufacturers in the field of Orthopaedic Surgery.

Located in Merate, on the green hills of Brianza, permedica's production area - one of the largest and most modern in Europe - is dedicated to promoting innovation and the continuous growth of medical devices.

Since its birth, permedica has attributed a role of fundamental importance to Research & Development by establishing close working relationships with both the clinical world and university and research institutes, using the most sophisticated computerised systems and applying its experience spanning over twenty years in the field of implantable orthopaedics.

permedica is structured to meet all the design requirements of the Metal Implant sector thanks to an advanced technological and innovation level applied to all the production stages: designing, prototyping and engineering of the final product.

All production processes are performed by highly qualified staff, with the help of CNC automated systems.

Years of experience in manufacturing orthopaedic prostheses, very high production and control standards and a high technological know-how are parameters that permedica also uses to produce its line of dental implants.

Young talented staff, technicians and engineers allow permedica to respond quickly to market changes and to the needs of the dental world. Commitment and excellence in the Research & Development of high-quality products, and in their subsequent production and marketing, are the basis for the company's continuous expansion.

permedica's willingness to make its mark at the international level is not only the foundation of its commercial success; it also results primarily in the development of innovative products supported by a broad exchange of information, which only a strong international cooperation can ensure.

permedica's policy is to offer the utmost assistance and expertise to its customers: quality, price and service are the key to achieve continuous improvements.

We are not alone in this challenge: a special 'thank you' goes to all our partners for supporting our growth!

The success of
permedica's implantology
systems is the result of
extensive studies on
design and production
technologies.



02 / SURFACE TREATMENTS

PS (PERMEDICA SANDBLASTED)

It has been widely demonstrated that the micro-roughness closest to the size of the fibroblasts:

- Promotes cellular behaviour.
- Increases platelet activation in relation to a smooth surface.
- Stimulates the process of repair and osseointegration.

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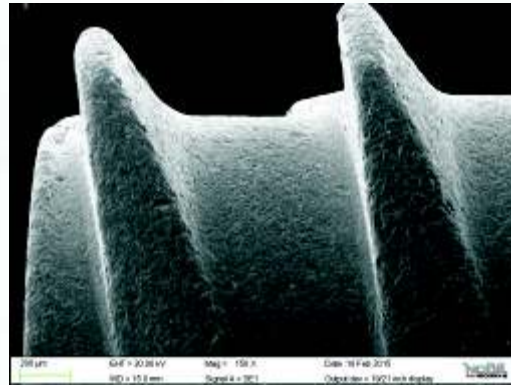
permedica submits the body of the implant to a PS treatment that greatly increases the bone-implant contact surface.

This is a last generation surface obtained from sandblasting with calcium carbonate and magnesium that, as well as offering an optimal roughness, also guarantees the absence of particular process residues that could interfere with appropriate osseointegration.

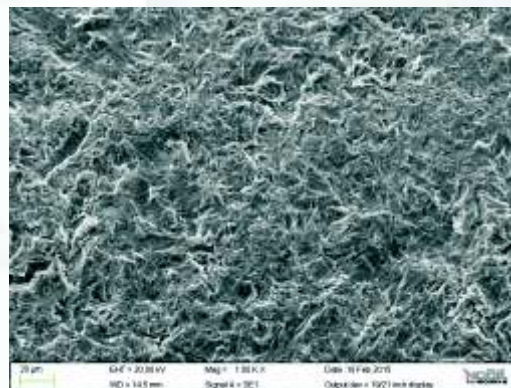
This type of roughness and the morphology of the surface help the regrowth of bone tissue.

Figures 1, 2, 3 show the PS surface at 5,000 magnifications via scanning electron microscope, highlighting the macro and micro roughness levels obtained through surface treatment.

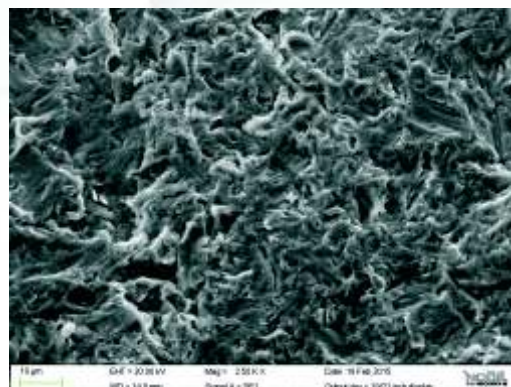
1



2



3



02 / SURFACE TREATMENTS

PLASMA DECONTAMINATION OF SURFACE (PLASMA CLEANING)

Cleaning the surfaces of the implants is a rather complex operation. In a standard process, after the cleaning steps to remove contaminants with various washing cycles with appropriate solvents also of high quality, traces of those products may remain on the fixture.

The microscopic impurities left or the molecules of the decontaminated products may have combined with the surface, leaving physiological impurities.

The ideal cleaning tool should not react chemically to the implant's material and have a very effective action in removing contaminants.

permedica is one of the few companies in Italy that uses decontamination procedures of a high technological and qualitative level, which, in addition to a high degree of cleanliness, also guarantee the high wettability of the fixture documented both by the immediate "inks tests" as well as by specific tests to measure the angle of contact, which are carried out at our internal laboratory.

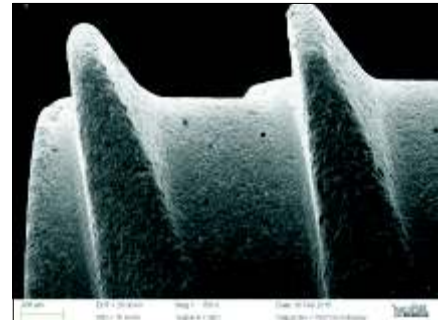
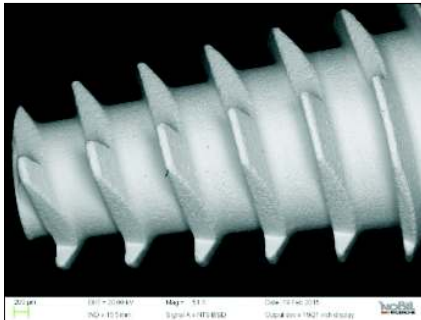
The plasma decontamination process of argon allows for an effective decontamination and generates the maximum degree of surface cleaning.

The plasma, generated inside a reactor, consists of ions of heavy gases and acts on the surface of the implant by removing any contaminants.

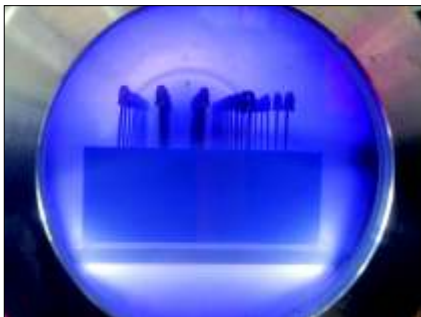
In fact, during treatment with argon (an inert gas that does not react with the titanium surface), the partially ionised atoms of the gas bombard and "sweep" the surface of the implant violently, removing the organic contaminants and thus obtaining a surface free from further traces and residues.

Another important step is represented by the class "C" cleanroom, according to GMP, which ensures the packaging of the dental implants in an environment where the concentration and quality of the particles in the air are kept constantly at the levels pre-set by the regulations in force in the medical field.

1. Implant before decontamination treatment.

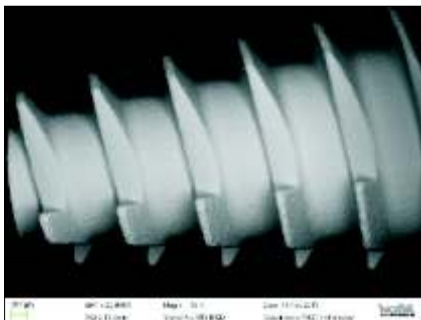


2. Surface decontamination of implants: plasma reactor running.



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3. Implant after decontamination treatment.



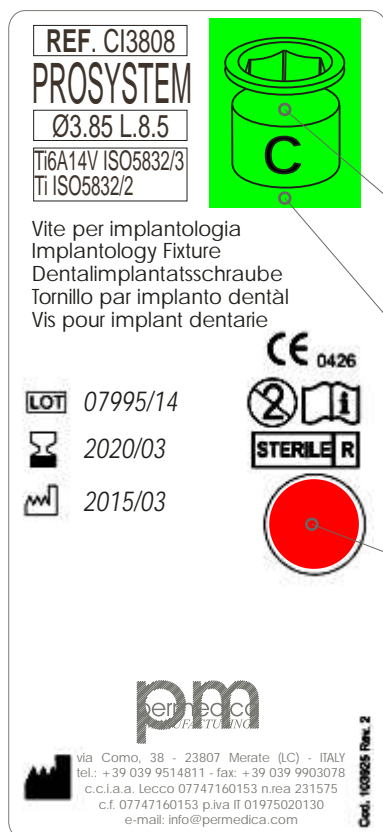
STERILISATION

The sterilisation process is the final step of the decontamination treatment and is carried out by beta ray irradiation. Sterilisation has a Quality Management System in compliance with UNI EN ISO 13485 standards and provides a guarantee of the product's sterility (certified duration of 5 years).

PACKAGING

The packaging of permedica's dental implantology components is designed to facilitate the rapid identification of the product contained and make it easy to match it with specific components.

The implants are packaged in an ampoule and inserted into a vacuum-packed heat-sealed wrap. They are then placed in the packaging box, which is protected by a resistant but easy to open film.



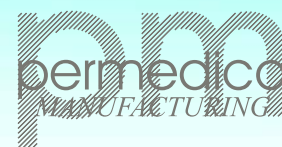
LABELLING

It includes all the information necessary to identify the item.

The diagram layout of the system identifies the (cylindrical or conical) methodology.

The background colour of the label identifies the colour code assigned to each coupling platform.

The toning label (adhesive sticker in a material susceptible to the nuclear rays of the sterilisation cycle) is placed both on the heat-sealed sachet and on the outer packaging, to ensure that irradiation is verified under all conditions.



DENTAL IMPLANT PASSPORT

Each package contains a special clinical document called Dental Implant Passport.

This document is completed by the surgical operator who is responsible for entering all the patient data required and applying the removable labels in the spaces provided to ensure the identification of the implant.

The Dental Implant Passport is then delivered to the patient with all the instructions that must be followed after surgery.



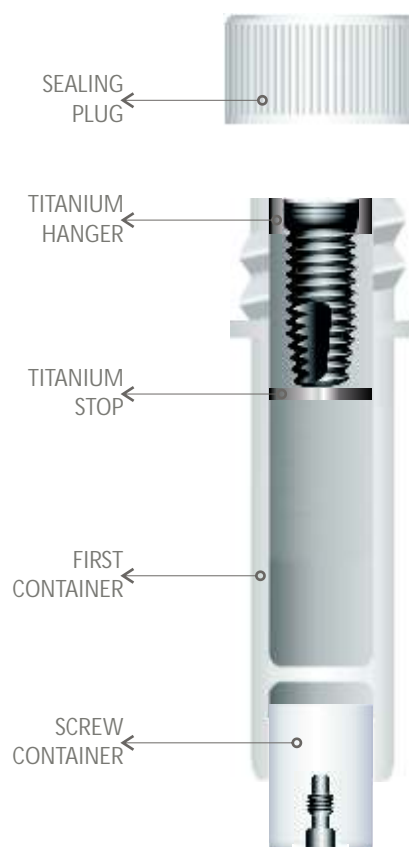
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IMPLANT CONTAINER

The sterile container of the implant maintains the implant and the cover screw stable in position and ready to be taken for use.

The implant is supported in the package by a titanium cover that protects, during the extraction phase, from any risk of contamination from contact or rubbing.

The cover screw is placed on the back of the implant's package and can also be easily removed.



04 / INTERNAL HEXAGON IMPLANTS

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GUIDELINES FOR SELECTING THE IMPLANT

In implantology treatments, it is preferable to use implants whose diameter is proportionate to the size of the missing element, optimising the aesthetic and biomechanical result.

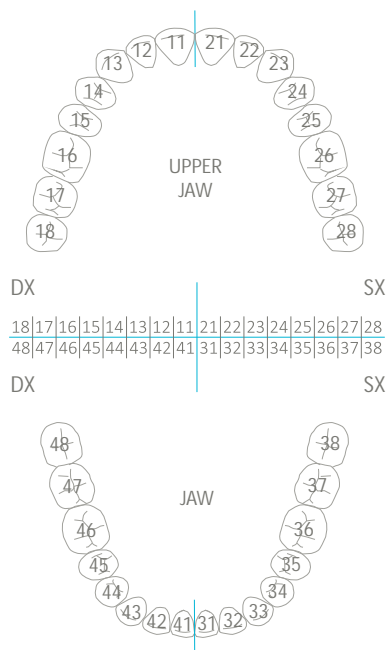
Cylindrical implants can be used for any quadrant, especially in bone classes with density D1-D2, where the thread facilitates insertion into a very compact bone.

Conical implants are indicated in bone classes D3-D4 for their stabilisation ability that is higher in cases of reduced primary stability due to bone density.

The use of conical implants is recommended in the upper jawbone in order not to generate resistance (Over-Torque) and not to create excessive compression and overheating.

In the following table, according to the tooth to be replaced, the type and diameter of the implants are recommended and shown:

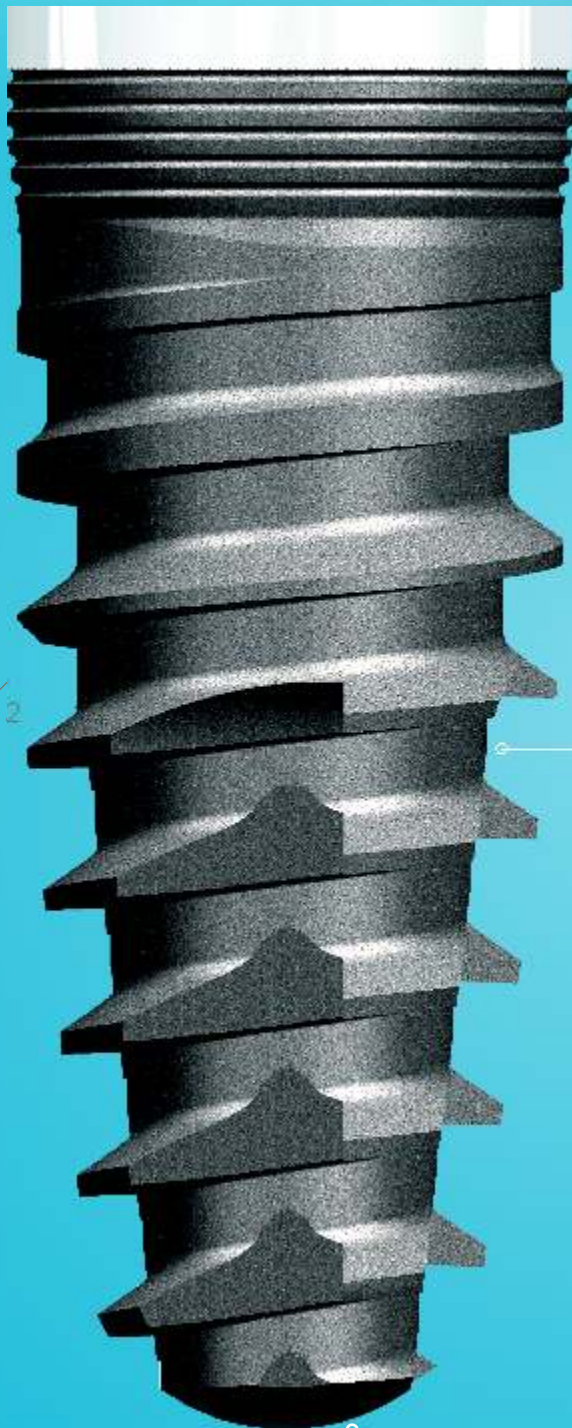
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Upper Jaw	Cylindrical Implant Ø	Conical Implant Ø
Central incisors	4.1 / 4.75	4.0 / 4.75
Lateral incisors	3.3 / 3.85 / 4.1	4.0
Canines	4.1 / 4.75	4.0 / 4.75
Premolars	4.1 / 4.75 / 5.25	4.0 / 4.75 / 5.25
Molars	4.75 / 5.25	4.75 / 5.25

Raw	Cylindrical Implant Ø
Central incisors	3.3 / 3.85
Lateral incisors	3.3 / 3.85
Canines	4.1 / 4.75
Premolars	4.75 / 5.25
Molars	4.75 / 5.25

04.1 / CONICAL IMPLANT INTERNAL HEXAGON



Retentive Micro Caves

Decrease in
crestal resorption

Balanced load
distribution



Conical Shape

High primary stability

Efficient management
of post-extraction cavity

Precise positioning

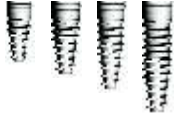
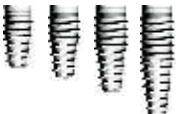

Ideal under conditions
of adverse bone quantity
and density



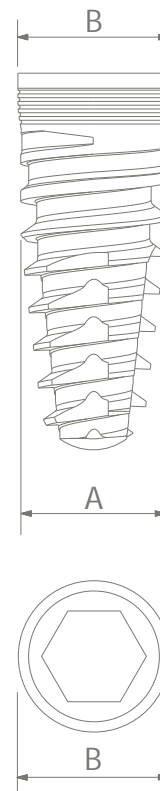
Atraumatic round-bottomed conical apex

Reduction in
risk of trauma
of the vital
structures



		H mm	A mm	B mm	CODE
\emptyset 4.00 		8,5	\emptyset 3.85	\emptyset 4.0	KI 4008S
		10	\emptyset 3.85	\emptyset 4.0	KI 4010S
		12	\emptyset 3.85	\emptyset 4.0	KI 4012S
		15	\emptyset 3.85	\emptyset 4.0	KI 4015S
\emptyset 4.75 		8,5	\emptyset 4.6	\emptyset 4.0	KI 4708S
		10	\emptyset 4.6	\emptyset 4.0	KI 4710S
		12	\emptyset 4.6	\emptyset 4.0	KI 4712S
		15	\emptyset 4.6	\emptyset 4.0	KI 4715S
\emptyset 5.25 		8,5	\emptyset 5.1	\emptyset 5.0	KI 5208S
		10	\emptyset 5.1	\emptyset 5.0	KI 5210S
		12	\emptyset 5.1	\emptyset 5.0	KI 5212S
		15	\emptyset 5.1	\emptyset 5.0	KI 5215S

A final tightening not exceeding 45 N-cm is recommended



COVER SCREW

TRANSMUCOSAL SCREW

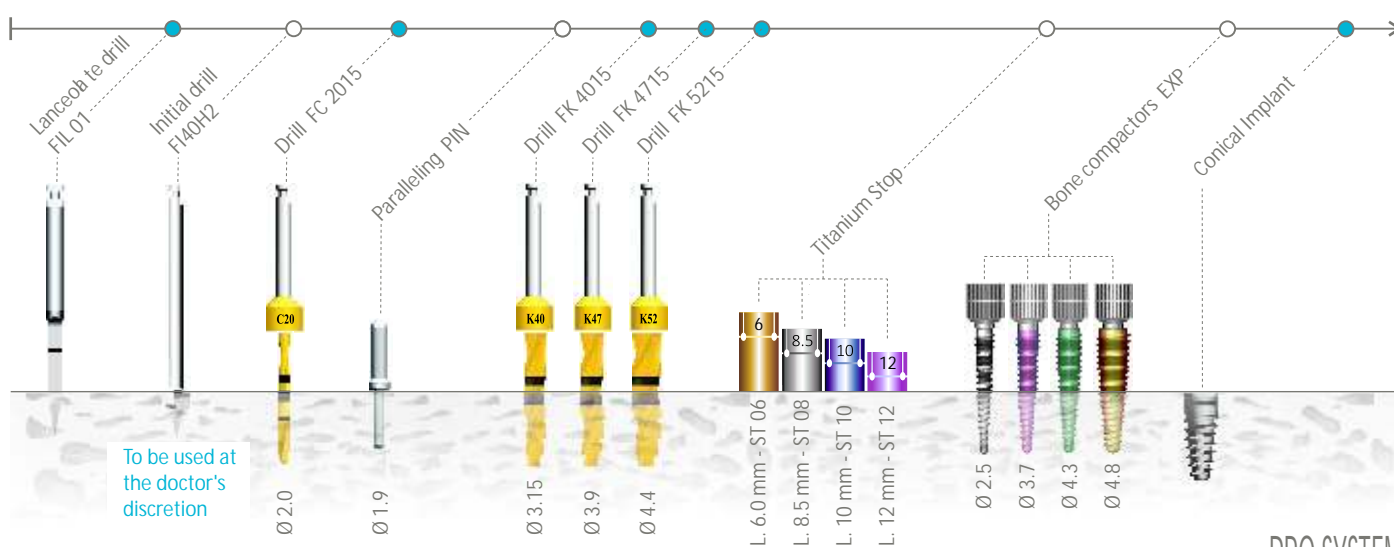
A final tightening not exceeding 20 N-cm is recommended

 <p>Provided for in the dental implant package.</p>						
	\emptyset 5.00	\emptyset 5.00	\emptyset 5.00	\emptyset 6.00	\emptyset 6.00	
	H 2.00	H 4.00	H 6.00	H 3.00	H 5.00	
	PI 402	PI 404	PI 406	PI 503	PI 505	

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SURGICAL SEQUENCE DIAGRAM (For the various surgical sequences see pages 42 and 43 of this catalogue).

● Required as per surgical protocol ○ Optional



04.2 / CYLINDRICAL IMPLANT INTERNAL HEXAGON

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Retentive Micro Caves

Decrease in
crestal resorption

Balanced load
distribution



Cylindrical Shape

High primary stability

Ampia superficie per
osteointegrazione

Double principle

Easy insertion



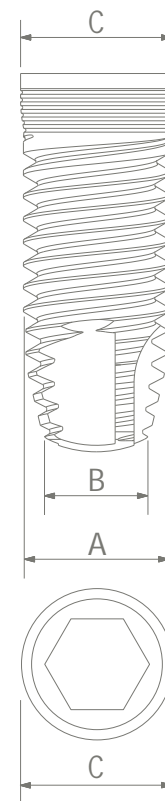
Atraumatic round-bottomed conical apex

Regular
penetration

Reduction in
risk of trauma

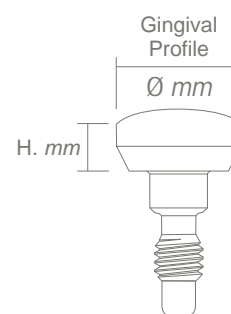


		H mm	A mm	B mm	C mm	CODE
Ø 3.30		8,5	Ø 3.3	Ø 2.4	Ø 4.0 ●	CI 3308S
		10	Ø 3.3	Ø 2.4	Ø 4.0 ●	CI 3310S
		12	Ø 3.3	Ø 2.4	Ø 4.0 ●	CI 3312S
		15	Ø 3.3	Ø 2.4	Ø 4.0 ●	CI 3315S
Ø 3.85		8,5	Ø 3.85	Ø 2.8	Ø 4.0 ●	CI 3808S
		10	Ø 3.85	Ø 2.8	Ø 4.0 ●	CI 3810S
		12	Ø 3.85	Ø 2.8	Ø 4.0 ●	CI 3812S
		15	Ø 3.85	Ø 2.8	Ø 4.0 ●	CI 3815S
Ø 4.10		6,0	Ø 4.1	Ø 3.1	Ø 4.0 ●	CI 4106S
		8,5	Ø 4.1	Ø 3.1	Ø 4.0 ●	CI 4108S
		10	Ø 4.1	Ø 3.1	Ø 4.0 ●	CI 4110S
		12	Ø 4.1	Ø 3.1	Ø 4.0 ●	CI 4112S
		15	Ø 4.1	Ø 3.1	Ø 4.0 ●	CI 4115S
Ø 4.75		8,5	Ø 4.75	Ø 3.6	Ø 4.0 ●	CI 4808S
		10	Ø 4.75	Ø 3.6	Ø 4.0 ●	CI 4810S
		12	Ø 4.75	Ø 3.6	Ø 4.0 ●	CI 4812S
		15	Ø 4.75	Ø 3.6	Ø 4.0 ●	CI 4815S
Ø 5.25		8,5	Ø 5.25	Ø 4.1	Ø 5.0 ●	CI 5208S
		10	Ø 5.25	Ø 4.1	Ø 5.0 ●	CI 5210S
		12	Ø 5.25	Ø 4.1	Ø 5.0 ●	CI 5212S



A final tightening not exceeding 45 N-cm is recommended

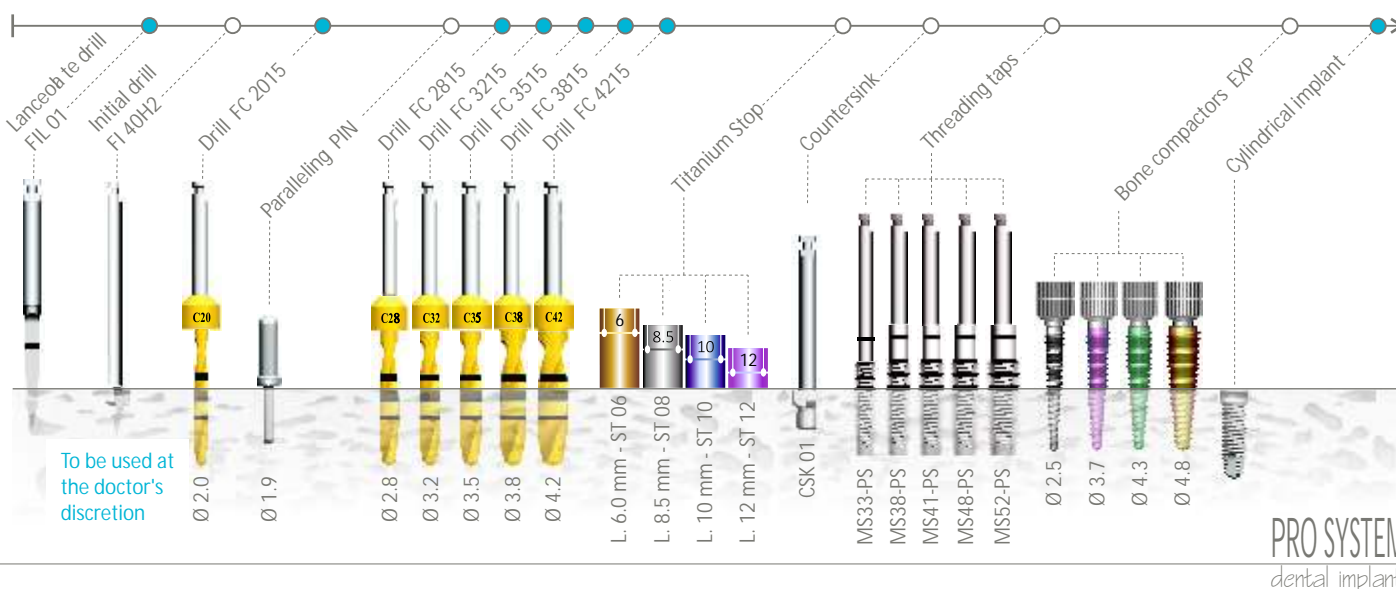
COVER SCREW	TRANSMUCOSAL SCREW				
<p>Provided for in the dental implant package.</p>					
	Ø 5.00	Ø 5.00	Ø 5.00	Ø 6.00	Ø 6.00
	H 2.00	H 4.00	H 6.00	H 3.00	H 5.00
	PI 402	PI 404	PI 406	PI 503	PI 505



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SURGICAL SEQUENCE DIAGRAM (For the various surgical sequences see pages 42 and 43 of this catalogue).

● Required as per surgical protocol ○ Optional



05 / PROSTHETIC PART

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TITANIUM ABUTMENTS

A final tightening of the prosthetic screw at 30-35 N-cm is recommended.

Straight abutment

Code

H 2.0 mm - gingival profile Ø 5.0 mm	PI 408	●
H 4.0 mm - gingival profile Ø 5.0 mm	PI 409	●
H 3.0 mm - gingival profile Ø 6.0 mm	PI 508	●

Angled abutment

Code

15° - H 2.0 mm - gingival profile Ø 5.0 mm	PI 415	●
25° - H 2.0 mm - gingival profile Ø 5.0 mm	PI 425	●
15° - H 2.0 mm - gingival profile Ø 6.0 mm	PI 515	●
25° - H 2.0 mm - gingival profile Ø 6.0 mm	PI 525	●

Abutment screw

Code

Spare screw for TiN-coated abutment	PI VTG
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These pre-formed components ensure maximum precision and quality of mechanical-biological response.

In the drilling step, it is recommended that you should not remove the Titanium Nitride coating from the transgingival portion, as it is very functional and useful to the aesthetic maintenance of prosthetic subgingival emergence.

05/ PROSTHETIC PART



CALCINABLE AND PEEK ABUTMENTS

A final tightening of the prosthetic screw at 30-35 N-cm is recommended.

Temporary abutment

Code

Anti-rotational Ø 4.0 mm	PIT 01	●
Anti-rotational Ø 5.0 mm	PIT 03	●
Rotating Ø 4.0 mm	PIT 02	●
Rotating Ø 5.0 mm	PIT 04	●

Temporary anti-rotational abutments are indicated in making provisional or final superstructures.

Temporary rotating abutments help insertion also in the presence of disparallelism.



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Cast-on titanium abutment

Code

Gingival profile Ø 5.0 mm	PI SF01	●
Gingival profile Ø 6.0 mm	PI SF02	●

Indicated for the manufacture of prosthetic components via the cast-on process by maintaining the dimensional characteristics of the prosthetic connection.



Calcinable abutments

Code

Anti-rotational - gingival profile Ø 5.0 mm	PI 410	●
Anti-rotational - gingival profile Ø 6.0 mm	PI 510	●
Rotating - gingival profile Ø 5.0 mm	PI 411	●

Anti-rotational abutments are indicated for making individual abutments and individual crowns.

The rotating abutments are indicated for making mesostructures joining a number of components.



Temporary aesthetic abutment (PEEK)

Code

H 3.0 mm - gingival profile Ø 5.0 mm	PI 440	●
H 3.0 mm - gingival profile Ø 6.0 mm	PI 540	●

These components are indicated for the prosthetic development during the period of provisional healing, with good aesthetic results and ease of handling.



WARNING: The dentist must inform the patient that these devices have a purely aesthetic value.

COMPONENTS FOR BAR SOLUTIONS

A final tightening of the prosthetic screw at 30-35 N-cm is recommended.

Gingival adapter for bar

Code

Adapter H 2.0 mm	PIB 01	●
Adapter H 4.0 mm	PIB 02	●
Adapter H 6.0 mm	PIB 03	●



Abutment for bar

Code

Titanium abutment	PIB 21	●
Calcinable abutment	PIB 22	●



Analogue to abutment for bar

Code

Analogue	PIB 11	●
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This range of abutments can be used for the restoration structures of the entire arch.

They are used for all the restorations involving the use of an OVD (Overdenture) prosthesis anchored to a CAD/CAM milled bar or melted from calcinable components or for a Toronto prosthesis or intraorally welded bars.

05 / PROSTHETIC PART



OVERDENTURE PILLARS

A final tightening of the prosthetic screw at 30-35 N-cm is recommended.

Spherical abutment

Code

H 1.0 mm - gingival profile Ø 4.5 mm

PI 421



H 2.0 mm - gingival profile Ø 4.5 mm

PI 422



H 4.0 mm - gingival profile Ø 4.5 mm

PI 424



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These components are indicated to make Overdenture-type prostheses.

For an effective anchoring, the prosthesis must be supported by at least two implants.

The choice of the degree of retention must be evaluated according to the prosthetic needs of the individual patient.



1. The diameter of the sphere is equal to 2.5 mm.
2. Compatible with the retentive elastic caps of equal diameter.
3. Different gingival heights.



EQUATOR® PILLAR

(Product manufactured by RHEIN83)

A final tightening of the prosthetic screw at 30-35 N-cm is recommended.

Equator® Pillar

Code

H 2.0 mm - gingival profile Ø 4.0 mm	PIEQT 02	●
H 4.0 mm - gingival profile Ø 4.0 mm	PIEQT 04	●
H 6.0 mm - gingival profile Ø 4.0 mm	PIEQT 06	●
Contra-angle connection	PIEQT 001	●



The EQUATOR® system makes it possible to attach the prosthesis conveniently and securely to the patient through the use of elastic retention clips.

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It is equipped with different retentive caps to be able to exert the desired retention force on the matrices.

Tightening the pillars must be carried out manually, with force, all the way up to stop, by repeating this operation two/three times to get a good adaptation of the male thread with the female component.

For the application of the prosthesis in the patient's mouth, please refer to the instructions for use of the manufacturer.

Retentive cap kit

Color

High retention cap	Violet
Standard retention cap	White
Light retention cap	Pink
Extra-light retention cap	Yellow
Stainless steel shell	-



05 / PROSTHETIC PART

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CPA ABUTMENTS

A final fixing of the prosthesis
on the abutment of 15 N-cm max
straight CPA 30 N-cm and angled CPA 20 N-cm max.

CPA Abutments	Code
Straight CPA H1	PICPA 001
Straight CPA H2	PICPA 002
Straight CPA H4	PICPA 003
Angled CPA 17° H2	PICPA 004
Angled CPA 17° H3	PICPA 005
Angled CPA 30° H3	PICPA 007
Angled CPA 30° H4	PICPA 006
CPA Analogue	PCPA 105
Transfer for CPA	PCPA 104
Protective guard	PCPA 103
Temporary cylinder in CPA titanium	PCPA 101
CPA calcinable cylinder	PCPA 102
Screw	PCPA 106
CPA ratchet screwer	PCPA 501
CPA for contra-angle screwer	PCPA 502



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WARNING:

All the CPA components are screwed with the standard screwdrivers code DM01 / DM02 with the exception of straight CPAs that use the specific screwdriver code PCPA501 / PCA502.

ALL ON 4-6 SOLUTION

This methodology entails resolving the total lack of teeth or other situations in which the teeth are compromised, inserting only 4 implants (in some cases there may be 6 implants) in the anterior region of the jawbones and/or mandible. The All on Four technique allows for the placement of a prosthesis for immediate loading called Toronto with a minimum of 10 teeth and then, after six months, to rehabilitate the patient with a definitive prosthesis, with a titanium structure, of 12 teeth.



1. Insert the CPA abutments into the implant by using the dynamometric ratchet and the tightening key, ensuring that the prosthetic axis is parallel. Tighten the fixing screw of the CPA Abutment manually with the screwdriver. Carry out the final tightening with the torque wrench.

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Once all the straight and angled CPAs have been inserted, it is recommended that an X-ray should be performed to verify that the implants are properly connected.



2. Screw a Transfer for CPA on each abutment and take the impression with a single open tray.



3. Drill holes in the impression-tray according to the individual restoration so that the positioning screw of the impression-tray is protruding. Take the impression.

ALL ON 4-6 SOLUTION



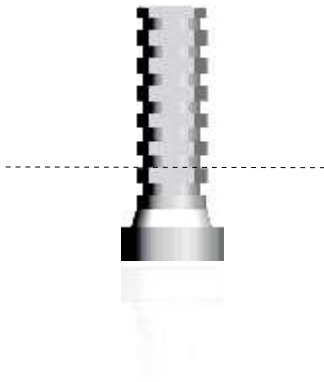
4. The dental laboratory can create the mould by using the CPA-Analogues that perfectly reproduce the conical head of CPA abutments.



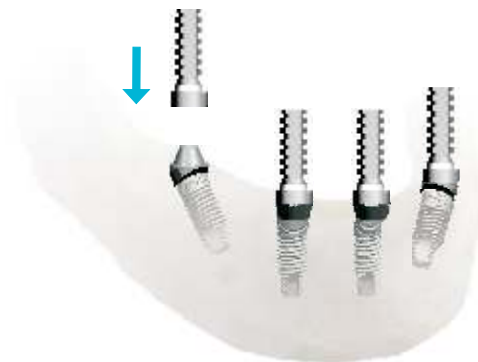
5. Unscrew the Transfers from the pillar. During the temporary laboratory phases, it is possible to place the protective guard to maintain the soft tissues.

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After the removal of the guard, it is necessary to verify that the CPA abutments are properly connected with the implants by the tightening with the Dynamometric Ratchet.



6. The temporary prosthesis can be made by using the temporary Cylinders in CPA titanium. The CPA cylinders must not be cut below the first ring from the bottom. Tightening with the Dynamometric Ratchet at 20 N·cm.



7. To make the permanent prosthesis, use the CPA Calcinable Cylinders. The permanent prosthesis must not be tightened with the torque higher than 20 N·cm.

05/ PROSTHETIC PART

COMPONENTS FOR IMPRESSION TECHNIQUE

Precision Transfer

Code

Transfer Ø 4.0 mm

PIOT 02



Transfer Ø 5.0 mm

PIOT 03



Screw

PI VTL

Indicated for taking precise impressions through single impression-tray also in the case of implants with disparallel axes.



MTA (Mounter Transfer Abutment)

Code

Gingival profile Ø 5.0 mm

PIM TA



Gingival profile Ø 6.0 mm

PIM TA 6



Screw for Mounter

PI VT

It is used for the tear-off technique.



Abutment for impression and Fast Cap

Code

Gingival profile Ø 4.0 mm

PIFC 02



Gingival profile Ø 5.0 mm

PIFC 03



Indicated for taking impressions with a high level of precision by using the tear-off technique for single impressions or up to a maximum of three implants whose disparallelism is not greater than 8°.



Laboratory analogue

Code

Analogue H 16 mm

PI 400



It reproduces the position of the implant in the plaster mould.





IMPRESSION TRANSFERRING TECHNIQUE

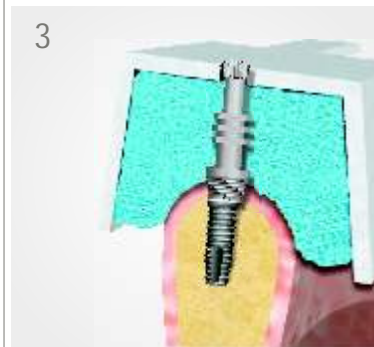
Whit Transfer



1 After the healing period, remove the transmucosal screw.



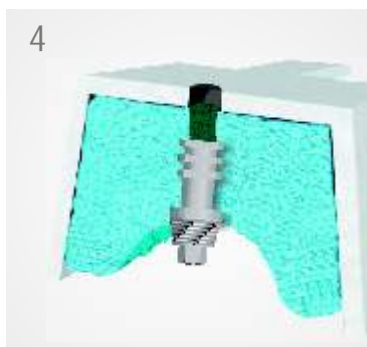
2 Place the precision Transfer on the mould and check the precision of the connection between the Transfer and the implant.



3 Take the impression with a single impression-tray.

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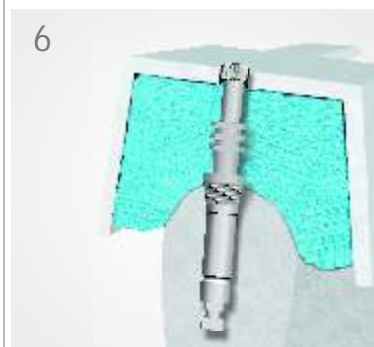
It is advisable to perform x-rays to check that the connection between implant and Transfer is effective.



4 When the impression material has hardened, unscrew the fixing screw and remove the impression. The Transfer remains in the impression.



5 Wash and check the impression. Connect the Analogue of the implant to the Transfer with the fixing screw. It is important to avoid applying force while fastening the screws.



6 Around the Transfer-Analogue connection, apply a soft material for the impression.*

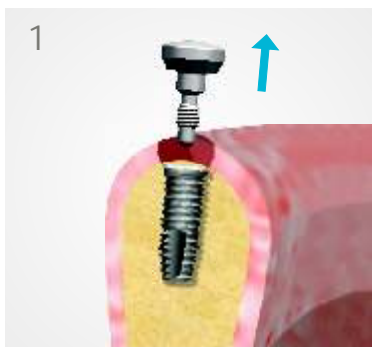
* During this phase, through different techniques, it is suggested that you should apply soft material that simulates the gum to facilitate the removal of the prosthesis part of the hardened mould, which will allow you to reproduce the soft tissue profile.

05 / PROSTHETIC PART



TEAR-OFF IMPRESSION TRANSFERRING TECHNIQUE

With Abutment and Fast Cap



1 After the healing period, remove the trans mucosal screw.



2 Place the Abutment for the impression on the implant and check that they have been connected precisely. Place the Fast Cap on the coronal part of the abutment, applying slight pressure.



3 Take the impression with a single or standard impression-tray.

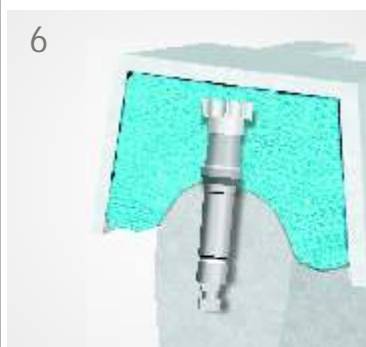
It is advisable to carry out x-rays to check that the connection between implant and Abutment is effective.



4 When the impression material has hardened, remove the impression from the oral cavity. The Fast Cape remains in the impression.



5 Unscrew the abutment from the implant. Wash and check the impression. Insert the joined abutment - Analogue into the impression.



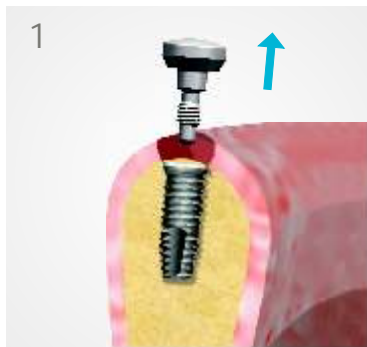
6 Around the abutment-Analogue connection, apply a soft material for the impression.*

* During this phase, through different techniques, it is suggested that you should apply soft material that simulates the gum to facilitate the removal of the prosthesis part of the hardened mould, which will allow you to reproduce the soft tissue profile.



CLOSED-TRAY IMPRESSION TRANSFERRING TECHNIQUE

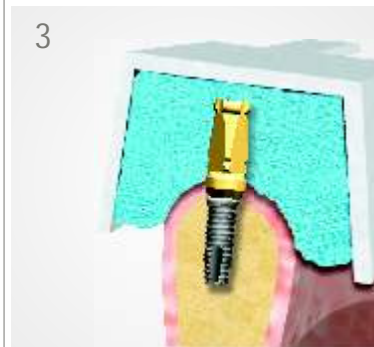
With Mounter



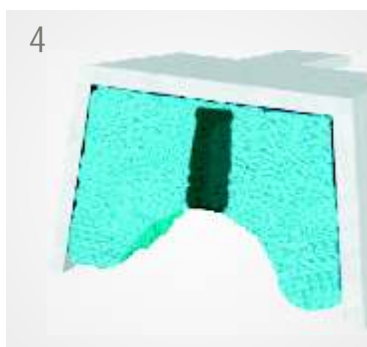
1 After the healing period, remove the transmucosal screw.



2 Place the Mounter on the mould and check that the Transfer is joined precisely with the implant.*



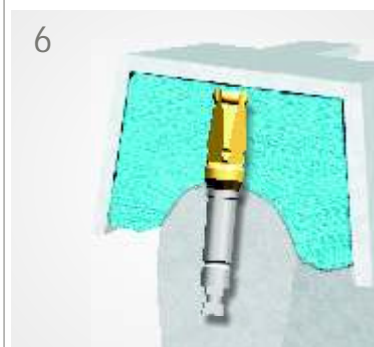
3 Take the impression with a single or standard impression-tray.



4 When the impression material has hardened, remove the impression from the oral cavity.



5 Unscrew the Mounter from the implant. Wash and check the impression. Insert the joined Mounter-Analogue into the impression.



6 Around the Mounter-Analogue connection, apply a soft material for the impression.**

**During this phase, through different techniques, it is suggested that you should apply soft material that simulates the gum to facilitate the removal of the prosthesis part of the hardened mould, which will allow you to reproduce the soft tissue profile.

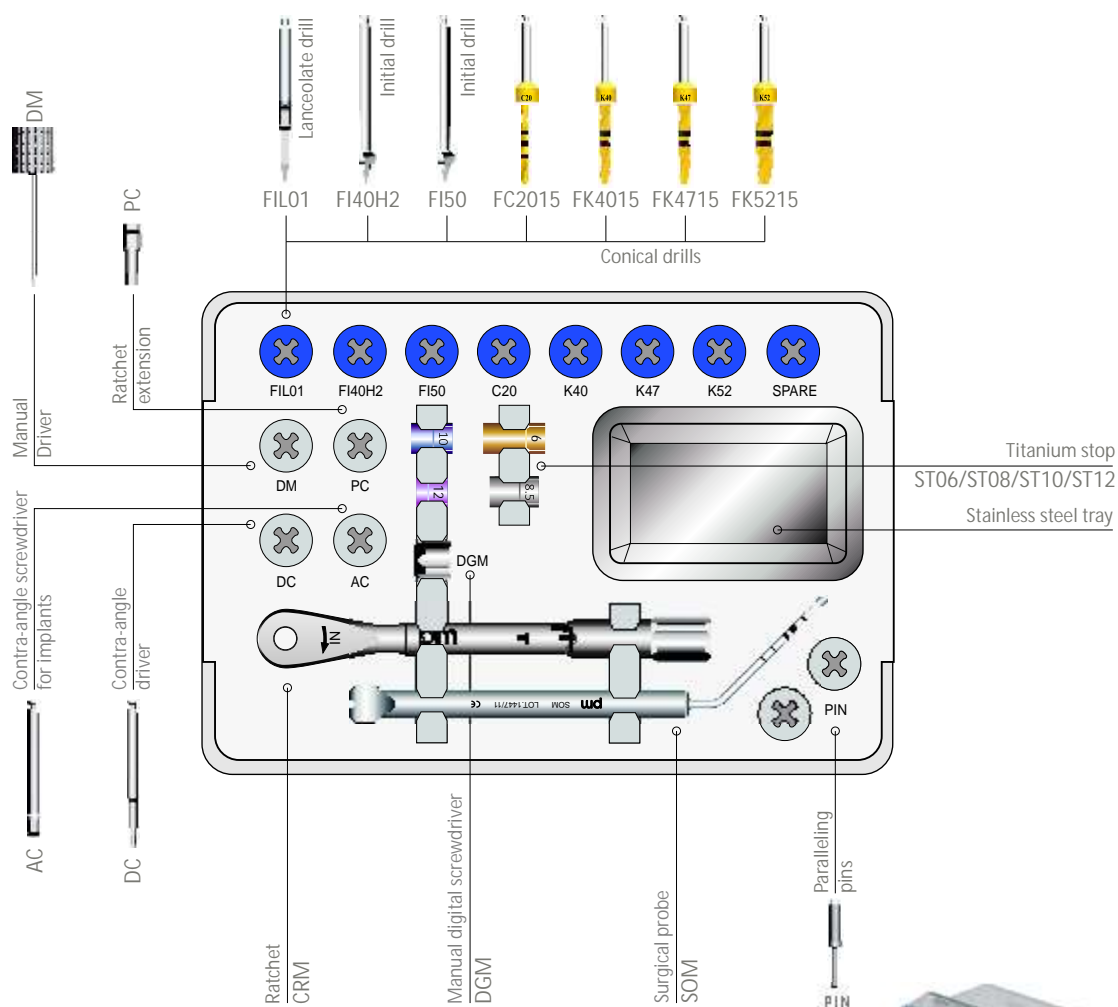
06 / SURGICAL KIT



KIT FOR CONICAL IMPLANTS

Surgical box made of thermoplastic material that can be sterilised and is autoclavable.

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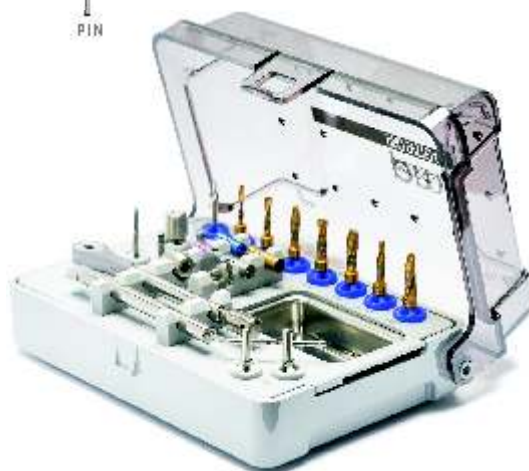
Instruments

Code

Instruments Box PRO SYSTEM for conical implant

KT - 106 K

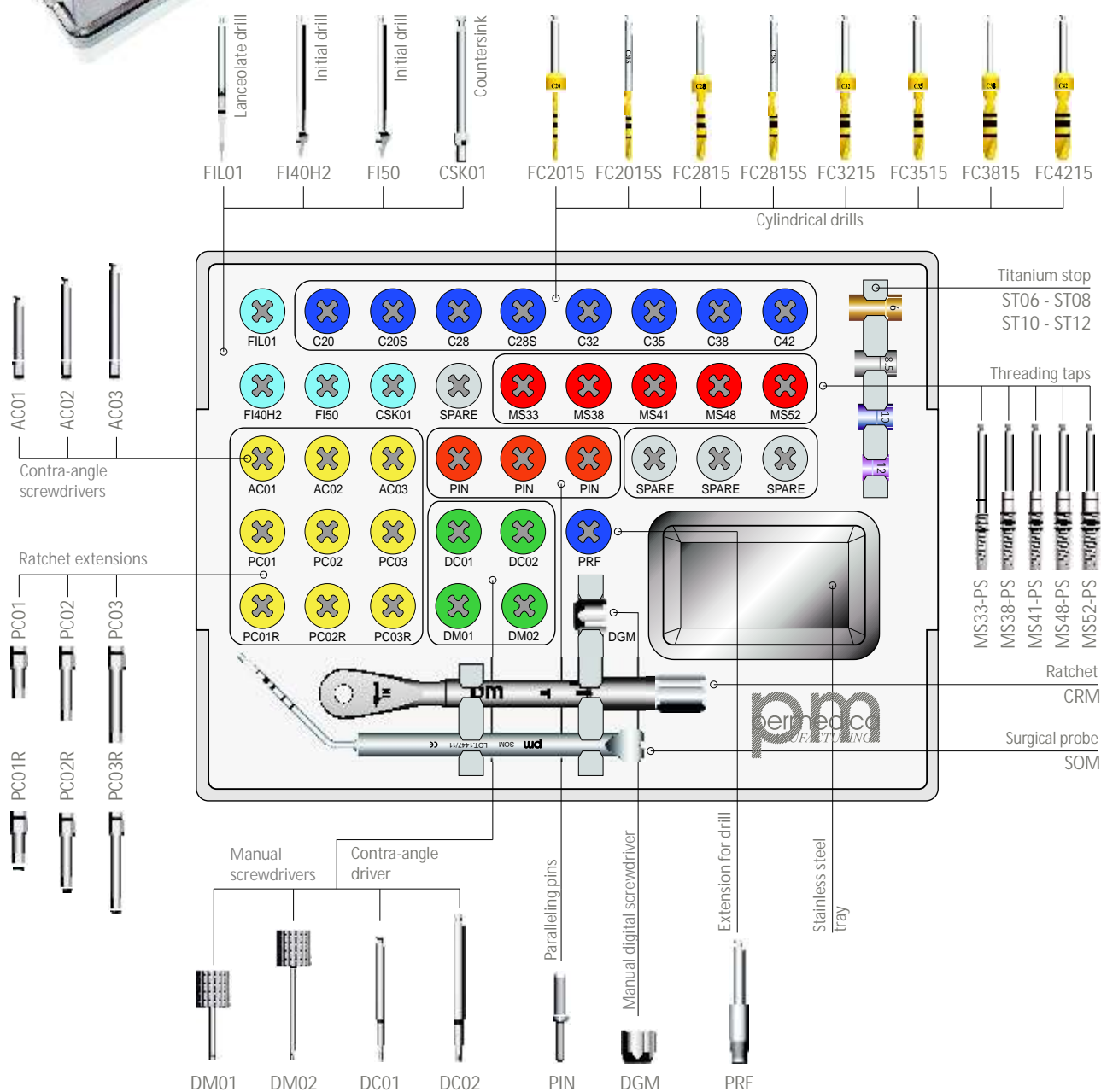
PRO SYSTEM
dental implant





KIT FOR CYLINDRICAL IMPLANTS

Surgical box made of thermoplastic material that can be sterilised and is autoclavable.



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Instruments

Code

Instruments Box PRO SYSTEM for cylindrical implant

KT - 106 C

07/ INSTRUMENTS

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SURGICAL DRILLS

Lanceolate drill

Code

Drill

FIL 01

It is used to mark the position of the receptor site in the cortical bone for the following burs.

Number of turns recommended 800 - 1000 g/m - Saline 140 ml/min.

Initial drill (Optional)

Code

Initial drill Ø 4.0 mm

FI 40H2

Initial drill Ø 5.0 mm

FI 50

It is used to mark the position of the receptor site by keeping it centred between the two corticals.

The bur, after the first section, has a cutting body of the size of the implant collar.

It can thus be used also as shoulder preparer.

Number of turns recommended 800 - 1200 g/m - Saline 140 ml/min.

NOTE: Sink the shoulder preparer up to a sufficient depth in relation to the implant collar.

Cylindrical drill

Code

Drill Ø 2.0 mm L.15 mm

FC 2015

Drill Ø 2.0 mm L.15 mm without stop

FC 2015S

You can insert the Titanium Stop with a length as required by the implant plan (codes ST06, ST08, ST10, ST12).

Number of turns recommended 600 - 800 g/m - Saline 140 ml/min.

The stop-less drill is to be used in cases where there is little space, by using the laser notches as a reference for depth.



SURGICAL DRILLS

Cylindrical and conical preparation drills

Code

Cylindrical drill Ø 2.8 mm L.15 mm	FC 2815
Cylindrical drill Ø 2.8 mm L.15 mm senza stop	FC 2815S
Cylindrical drill Ø 3.2 mm L.15 mm	FC 3215
Cylindrical drill Ø 3.5 mm L.15 mm	FC 3515
Cylindrical drill Ø 3.8 mm L.15 mm	FC 3815
Cylindrical drill Ø 4.2 mm L.15 mm	FC 4215

Conical drill Ø 3.15 mm L.15 mm	FK 4015
Conical drill Ø 3.9 mm L.15 mm	FK 4715
Conical drill Ø 4.4 mm L.15 mm	FK 5215

CYLINDRICAL DRILLS



CONICAL DRILLS



The conical and cylindrical burs are used in a sequence with a progressively increasing diameter to ream the implant site up to the chosen diameter.

For both, verify that the insertion axis is correct, and complete the drilling to the required depth, gradually enlarging the hole with burs of a growing diameter up to reaching the desired size.

Countersink

Code

Shoulder preparer drill	CSK 01
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It is advisable that you should use the shoulder preparation bur in all cases for a more comfortable positioning of the implant in the cortical, without causing tensions in the implant site.



SURGICAL ACCESSORIES

Titanium Stops Code

Titanium Stop L. 6.0 mm	ST 06
Titanium Stop L. 8.5 mm	ST 08
Titanium Stop L. 10 mm	ST 10
Titanium Stop L. 12 mm	ST 12



They are used both for cylindrical and conical drills.
Enter the Titanium Stop of the length specified by the implant plan.

Threading tap Code

Threading tap Ø 3.3 mm	MS 33-PS
Threading tap Ø 3.85 mm	MS 38-PS
Threading tap Ø 4.1 mm	MS 41-PS
Threading tap Ø 4.75 mm	MS 48-PS
Threading tap Ø 5.25 mm	MS 52-PS



It is used before insertion of the implant to help the action of inserting the implant.

It is not necessary to use it in a bone that is not very compact.

The maximum usage rate is about 15/20 g/m under external irrigation.

Kits of bone expanders and compactors Code

Kits with Ø progressivi 2.5 - 3.7 - 4.3 - 4.8 mm	EXP
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Indicated for the horizontal expansion technique of a poor quality bone (D4) and the Split-Crest technique of the jawbones.



07/ INSTRUMENTS

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SURGICAL ACCESSORIES

Paralleling pins

Code

Double diameter: Small 1.9 mm / Large 3.1 mm

PIN

It is used immediately after the pilot drill.

By introducing the working part in the newly drilled hole, it is possible to verify the insertion axis of the implant.



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Millimetric surgical probe

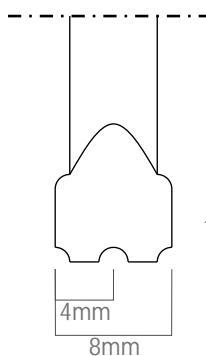
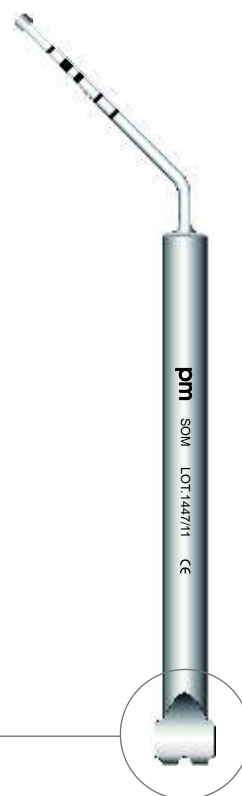
Code

Probe 6.0 - 8.5 - 10 - 11 - 12 - 15 mm

SOM

Suitable for controlling the implant site and the soft anatomical tissues.

It is used during the surgical phase to detect the exact depth of the site and evaluate the consistency of the bone tissue.



SURGICAL ACCESSORIES

Manual driver Code

Manual driver 1.25 - Short	DM 01
Manual driver 1.25 - Long	DM 02

Manual screwdriver for all surgical and prosthetic components.
It is used to screw or unscrew all the screws: cap screws, healing screws, transfers for screwed in prosthesis, screws connecting abutments.



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Driver contrangolo Code

Contra-angle Screwdriver 1.25 - Short	DC 01
Contra-angle Screwdriver 1.25 - Long	DC 02

Hexagonal screwdriver for handpiece.
They are to be used once mounted on the handpiece for screwing and unscrewing all the implant cap screws, healing screws and abutment connection screws.



Contra-angle screwdriver for implants Code

Screwdriver - Short	AC 01
Screwdriver - Medium	AC 02
Screwdriver - Long	AC 03

Contra-angle screwdriver connects to the implant and mounter hexagon.



SURGICAL ACCESSORIES

Ratchet extension

Code

Short extension	PC 01
Medium extension	PC 02
Long extension	PC 03

Manuals screwdrivers to be used in conjunction with the DGM screwdriver or the CRD ratchet.



Retentive ratchet extension

Code

Short extension	PC 01R
Medium extension	PC 02R
Long extension	PC 03R

Manuals screwdrivers to be used in conjunction with the DGM screwdriver or the CRD ratchet.



Digital manual screwer for implants

Code

Digital screwdriver	DGM
---------------------	-----

Manual screwdriver that connects to the implant combined with the specific extensions.



SURGICAL ACCESSORIES

Extension for drills

Code

Extension for burs

PRF

It connects securely to any contra-angle bur.



Manual ratchet

Code

Dynamometric ratchet

CRM

It is used for the manually screwing the implants in combination with the extensions.

In case of uses where surgical residues are generated (blood, secretions, tissue residues), the key must always be removed, and then positioned in an adequate disinfectant solution.

This operation simplifies cleaning because dried residues are the cause of corrosion.

After cleaning, thoroughly rinse the parts in water and, by using a nylon brush, brush the inner and outer surfaces of the different parts of the key.

During the cleaning step, avoid any contact between the various parts of the key.



1. Completely unscrew the adjustment ring of the control lever.



2. Unscrew the screw of the fixing cover of the ratchet unit by using the adjustment ring that acts as a screwdriver.



3. Wash all parts.



4. Re-assemble.

NOTE:

This tool is not a measuring device.

RECOMMENDATIONS FOR THE TREATMENT OF DEVICES DURING AND AFTER SURGERY

Place the instruments used during surgery on a tray containing distilled water.

After surgery, the reusable devices must be rinsed to promptly remove the organic residues.

Wash all parts that make up the devices; disassemble the devices only where it is required.

The reusable devices must be thoroughly cleaned with a plastic toothbrush with stiff bristles that must not be made of metal. Use brushes and cleaners that have in turn been decontaminated, washed and sterilised.

Perform decontamination by immersing each device in a disinfectant solution suitable for the type of material. Rinse all devices with running water, possibly demineralised, to eliminate residual traces of detergent.

Dry them, which is necessary not to compromise the sterilisation process, with a clean soft cloth or with compressed and filtered air.

Immediately prior to sterilisation, the devices must be packaged with a suitable material.

Saturated steam autoclaving sterilising:

The devices, thoroughly dried after cleaning, must be suitably packaged and autoclaved according to the validated sterilisation process and according to the instructions provided by the manufacturer of the autoclave.

The effectiveness of saturated-steam autoclaving sterilisation was verified at 121°C at 1 pressure atmosphere.

Preparation of sterile devices:

Pack the individual instruments.

Put the instruments in the appropriate tray.

Pack the surgical tray.

Add a label with an indication of sterility.

Add a label with the expiration of sterility.

Recommendations

Fully immerse the surgical trays in the decontaminating solutions and subsequently in the detergent solutions.

Use only detergents at PH 5-9 (higher or lower PH values destroy the layer of anodised aluminium and any writings or symbols).

Always verify the correct functioning of the equipment for sterilisation.

Storage

After sterilisation, the devices must remain in the wraps used for sterilisation and can only be opened immediately before use.

The storage period of the sterilised items inside the wraps must not exceed the expiration of sterility.

WARNINGS

Never let the organic residues dry.

Do not put instruments of different metals in the ultrasound device.

Do not let sharp tools come into contact.

Do not use metal brushes.

After disinfection, rinse the instruments very thoroughly with running water.

Inspect the instruments that are not damaged and test their functionality.

Devices that are not perfectly clean may contain residues left on the surface of the instruments and make sterilisation ineffective.

The parts provided in the NON-STERILE package, including also those that transit for a short amount of time in the oral cavity, must be disinfected by using specific products for medical devices and STERILISED (autoclaved) consistently with the instructions for use provided by the manufacturer of the device.

08 / SURGICAL TECHNIQUE

SURGICAL SEQUENCES

All implants of the PRO SYSTEM ADVANCE line share the initial burs and the cylindrical bur Ø2 with the corresponding Stops for Drills.

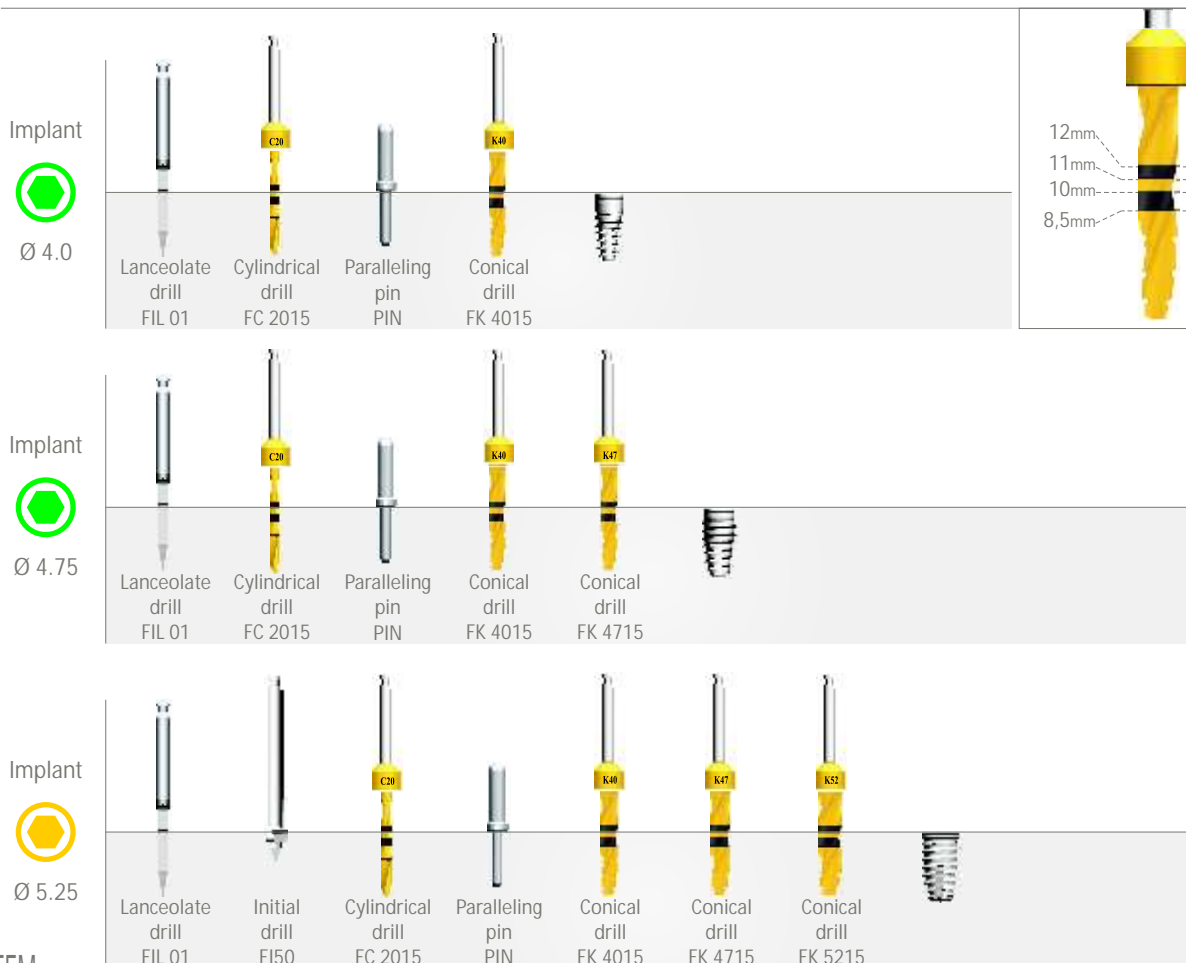
Based on the type of implant to be inserted, specific intermediate and final burs are provided for: conical and cylindrical.

All drills are made of surgical stainless steel with TiN coating to optimise their cutting capability. To avoid overheating the bone, use the burs under abundant sterile saline but do not exceed 800 rpm.


The following diagrams represent the exact sequence of burs to be used on the basis of the implant to be inserted, be this conical or cylindrical, and their diameters.

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CONICAL IMPLANTS



CYLINDRICAL IMPLANT

Implant Ø 3.30								
Implant Ø 3.85								
Implant Ø 4.10								
Implant Ø 4.75								
Implant Ø 5.25								

08 / SURGICAL TECHNIQUE

PROCEDURE FOR INSERTING THE IMPLANT

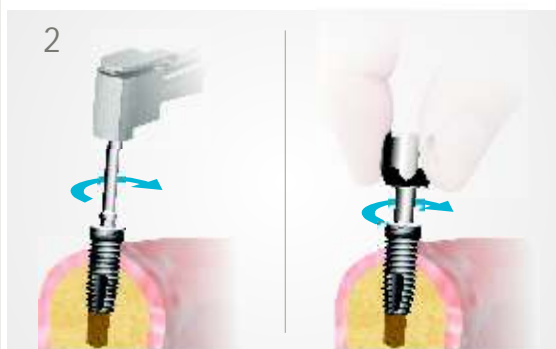
Torque of 50 N-cm max - Speed 25 - 55 rpm.

Open the primary package and take out the sterile wrap. Once you have opened it, drop the container of the implant onto the sterile sheet of the operating table.



1. Removing the implant

Once you have opened the screw cap of the container, remove the implant directly from the package with the contra-angle or manual screwdriver.



2. Inserting the implant

Before inserting the implant, wash the receiving site and let it bleed. Inserting the implant can be done by using the contra-angle screwdrivers or manually with the specific tool.



3. Final screw-tightening

Insert in the predetermined position. It is possible to use the dynamometric manual ratchet to finalise the position of the implant.

ATTENTION:

If you exceed the screwing threshold of 45 N-cm, excessive pressure may cause apical ischemia and lack of nourishment. In addition, the mechanical hexagonal male-female components could become deformed irreversibly.



4. Final cover

Before its positioning, wash the head of the implant and the surrounding areas with saline solution, and aspirate thoroughly.

Then position the cover screw and tighten it manually with the appropriate driver.

Alternatively, place the healing screw or any other prosthetic restoration chosen by using the specific clamping force.

QUALITY ASSURANCE



permedica s.p.a. has a Quality Management System that complies with the requirements of the European Directive 93/42/EEC (as subsequently amended and supplemented) relating to medical devices and certified by the certifying agency Italcert according to international standard ISO 13485.

The Quality Management System pays particular attention to the application of the directive and the specific regulations on medical devices, to guarantee absolute control over all phases of planning, production and sale.

Our processes are subject to continuous updates and innovations, for the purpose of constant improvement.

This catalogue provides users with a guide to optimise the preparation of an implant site and the insertion of the implants of the PRO SYSTEM line

This must not to be understood as an alternative to the doctor's training and professional experience.

This catalogue incorporates, without replacing it, the Instructions for Use sheet that accompanies each permedica s.p.a. device.

Each device is identified and can be ordered by using the item code listed in this catalogue.

For further information or clarifications please contact your local dealer or manufacturer.



SISTEMA DI GESTIONE
CERTIFICATO

ITALCERT

UNI EN ISO 13485

