KYOCERA

FINESIA™

Surgical Manual

*The pictures are concept images.

・ About this manual

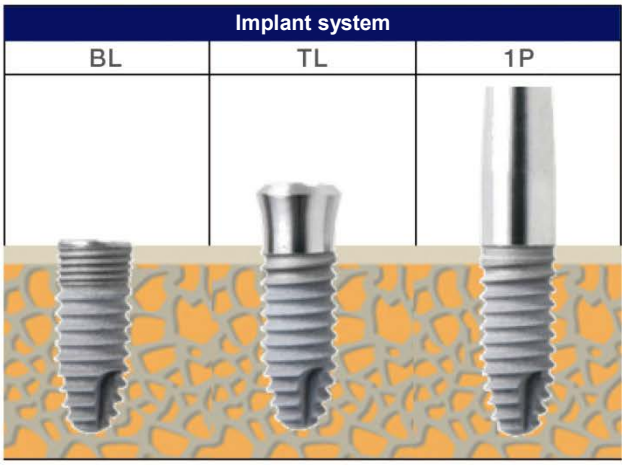
This manual describes the relevant procedures associated with surgeries involving the FINESIA Implant System.
For details on the manufacturing methods for superstructures, please refer to the “BL Implant (Prosthesis) System Manual” or “TL Implant (Prosthesis) System Manual.”

FINESIA Surgical Manual Table of Contents

1. FINESIA Implant System

1 Overview of the implant system

This system offers bone level (BL) implants, tissue level (TL) implants, and one-piece (1P) implants that can be selected according to the case.
Surgical instruments are compatible with all three types of implants and can be inserted using the same technique used for the implants.



With regard to the portion of the implant body embedded in bone, the BL implant system is available in six sizes (φ 3.2 mm, φ 3.4 mm, φ 3.7 mm, φ 4.2 mm, φ 4.7 mm, and φ 5.2 mm), the TL implant system in four sizes (φ 3.7 mm, φ 4.2 mm, φ 4.7 mm, and φ 5.2 mm), and the one-piece implant system in six sizes (φ 3.0 mm, φ 3.2 mm, φ 3.4 mm, φ 3.7 mm, φ 4.2 mm, and φ 4.7 mm). Drills are color-coded according to the diameter of the implant body.
Platforms are available in three types for the BL implant system and two types for the TL implant system. They are color-coded according to the type so that the user can easily identify related parts.

Color code

Implant body diameter (Unit: mm)

Diameter of the implant body (φ)	3.0	3.2	3.4	3.7	4.2	4.7	5.2
Color code							

Platform

Platform		NP	RP	WP
Color code	BL			
	TL	–		

(Unit: mm)

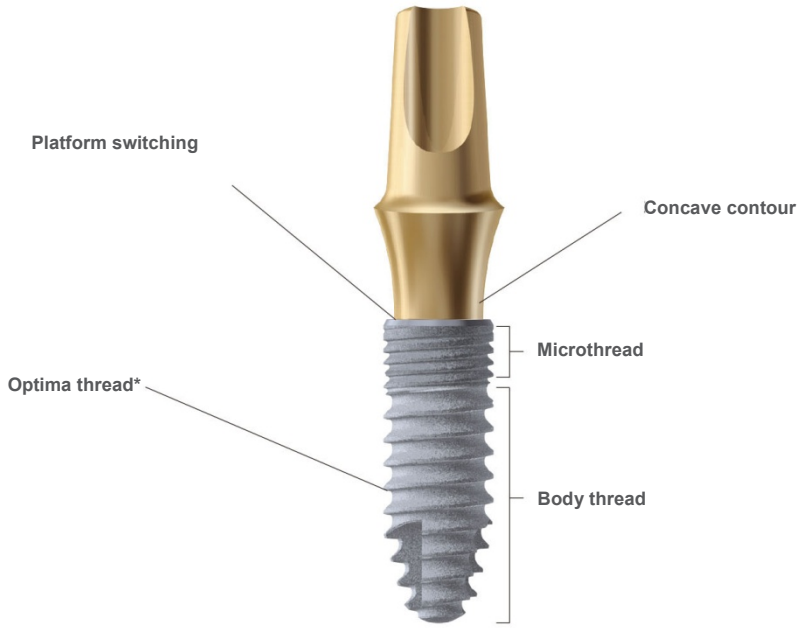
Diameter of the implant body (φ)		3.0	3.2	3.4	3.7	4.2	4.7	5.2
Implant body	BL	N/A	✓	✓	✓	✓	✓	✓
	TL	N/A	N/A	N/A	✓	✓	✓	✓
	1P	✓	✓	✓	✓	✓	✓	N/A

*Available products with HA coating have a diameter (φ) of 3.4 mm or more.

2 Implant type

2-1 Bone level (BL) implant

Bone level (BL) implants can be inserted using the nonsubmerged or submerged technique. These are particularly suitable for regions with a high esthetic demand.
BL implants exhibit a 17° tapered hex connection. The tapered or straight implant body consists of a body thread with a pitch of 0.8 mm and a microthread with a pitch of 0.4 mm.



Optima thread*

The optima thread design is suitable for both microthreads and body threads.

*The term optima thread is coined by combining the terms optimum and thread.

Platform switching

An abutment with a diameter smaller than that of the implant body provides a space that allows gingival tissues to grow faster than bones and suppresses bone resorption near the bone crest.

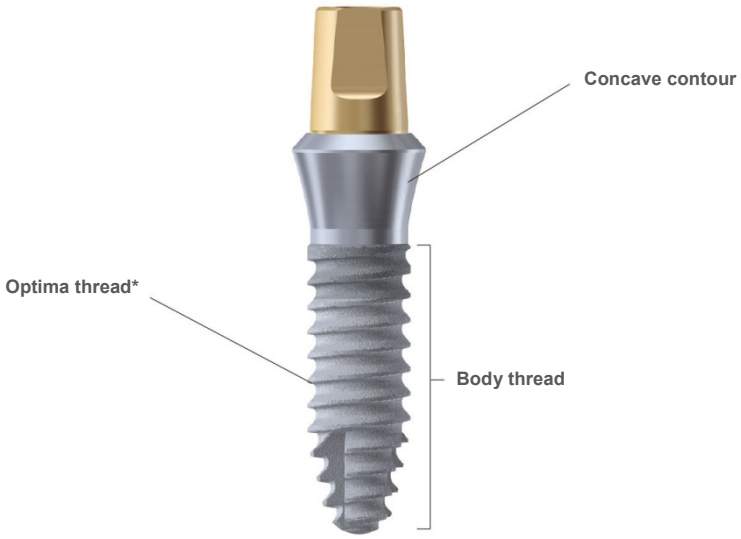
Concave contour

In light of tissue management, the abutment cuff is designed with a concave contour.

BL: Bone level TL: Tissue level 1P: One-piece

2-2 Tissue level (TL) implant

Tissue level (TL) implants are particularly suitable for single-stage surgery using the nonsubmerged technique and allows for treatment at the soft tissue level.
For TL implant, a collar measuring 2.5 mm or 3.5 mm can be selected. With regard to the collar configuration and design, TL implant is designed with focus on the maintainability; therefore, it is suitable for regions with a high prophylactic demand. TL implants exhibit a 16° tapered octa connection. The tapered or straight implant body has a body thread with a pitch of 0.8 mm.



Optima thread*

The optima thread design is suitable for body threads.

*The term optima thread is coined by combining the terms optimum and thread.

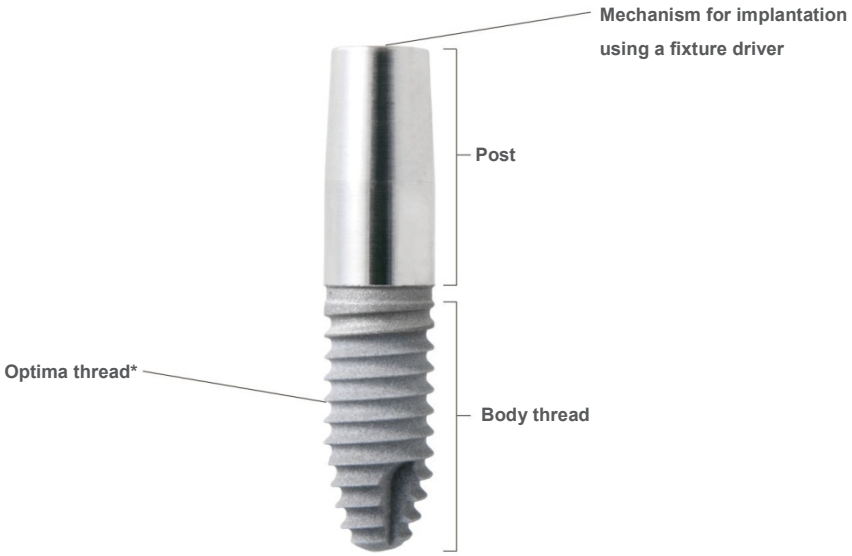
Concave contour

In light of tissue management, the implant collar is designed with a concave contour.

BL: Bone level TL: Tissue level 1P: One-piece

2-3 One-piece (1P) implant

One-piece (1P) implants can be inserted via single-stage surgery using the nonsubmerged technique. The implant body has excellent strength when integrated with an abutment; therefore, it is suitable for regions with a high strength demand.
The implant body is available in various diameters (φ) starting from 3.0 mm (except the HA type). The HA type is effective in regions with anatomical constraints such as the lack of space between the implant and adjacent teeth, e.g., the mandibular anterior region.
The tapered or straight implant body has a body thread with a pitch of 0.8 mm.



Optima thread *

The optima thread design is suitable for body threads.

*The term optima thread is coined by combining the terms optimum and thread.

Mechanism for implantation using a fixture driver

A hexalobular driver hole provided on the top surface of the post allows the operator to tighten the implant body using a fixture driver for the FINESIA system (hexalobular driver).

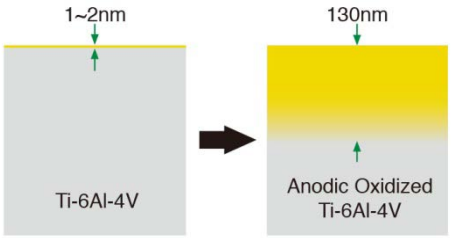
BL: Bone level TL: Tissue level 1P: One-piece

3 Surface description

The implant body, which is made of a biocompatible titanium alloy (Ti-6Al-4V ELI), is oxidized with an anode or coated with hydroxyapatite (HA).

3-1 Anode oxidizationAnode oxidization

An oxidized layer with a thickness of 130 nm is formed on the blasted surface of the implant body by anodizing. This facilitates esthetic coordination in the oral cavity.

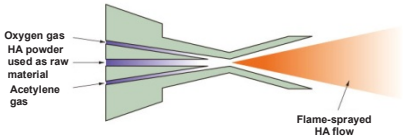


A diagrammatic sketch of a cross-section of the oxidized layer

3-2 HA coating

HA flame spraying

Hydroxyapatite (HA) decomposes during plasma spraying at a very high temperature of over 10000°C. Therefore, flame spraying, whereby HA [$Ca_{10}(PO_4)_6(OH)_2$] can be sprayed at a lower temperature of approximately 3000°C, is used for the coating.



A diagrammatic sketch showing the process of HA flame spraying

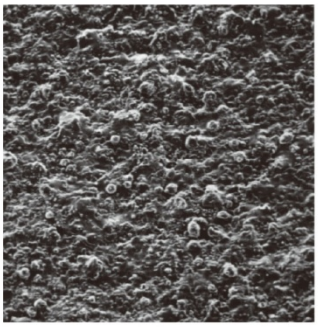
Stable HA composition

The Ca/P ratio of the flame-sprayed HA is from 1.67 to 1.76, which is very close to the theoretical value of 1.67. The coating shows a crystallinity of approximately 60% after the heat treatment, along with good quality, stability, and excellent biocompatibility.

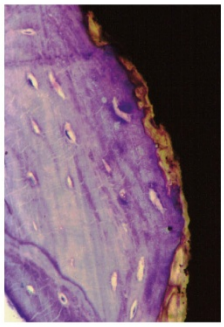
Theoretical value	HA coating
1.67	1.67 ~ 1.76

Improved strength of the HA film

Although the flame-sprayed HA layer on the rough surface of the titanium body is very thin (20-µm thickness), the strength of the film has been improved.



A standard electron microscopic image of an HA CoatingHA CoatingHA Coating surface
Data provided by: Department of Endodontics, Tokyo Dental College

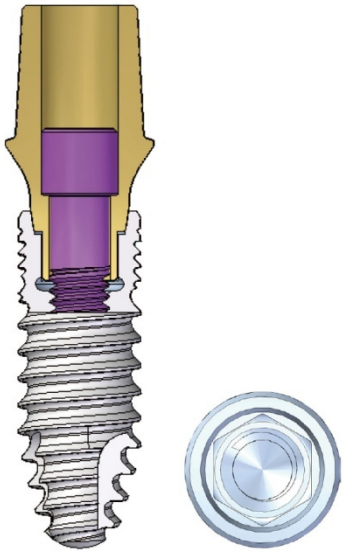


A histological image of bone tissues around the HA coating (stained with toluidine blue)

4 Connection between the implant body and superstructure parts

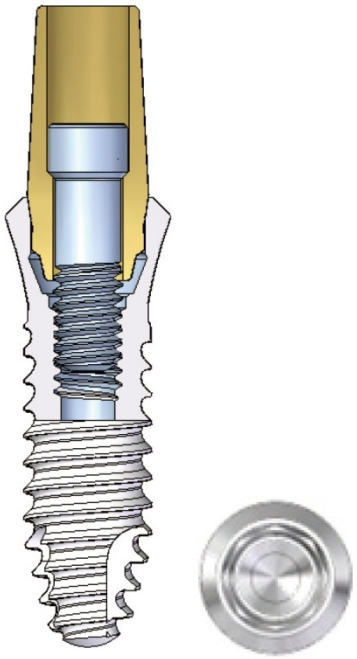
4-1 BL connection

BL implants exhibit a tapered hex connection.
This connection is designed as a 17° tapered joint (8.5° on one side) with a hexagonal antirotation mechanism.
The design promises excellent blocking performance and operability.



4-2 TL connection

TL implants exhibit a tapered octa connection.
This connection is designed as a 16° tapered joint (8° on one side) with an octagonal antirotation mechanism.



BL: Bone level TL: Tissue level 1P: One-piece

5 Implant body platform

5-1 BL implant body platform (diameter of the connection)

In BL implants, the relationship between the platform type and the diameter of the implant body is as follows: NP for implant bodies with diameters (φ) of 3.2 mm and 3.4 mm, RP for implant bodies with diameters (φ) of 3.7 mm and 4.2 mm, and WP for implant bodies with diameters (φ) of 4.7 mm and 5.2 mm. For correlated platforms, the same superstructure component can be used.

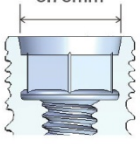
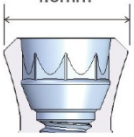
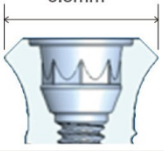
Platform	Connection diameter	Implant body diameter
NP	ϕ 2.45mm	ϕ 3.2mm
		ϕ 3.4mm
RP	ϕ 2.95mm	ϕ 3.7mm
		ϕ 4.2mm
WP	ϕ 3.75mm	ϕ 4.7mm
		ϕ 5.2mm

5-2 TL implant body platform

In TL implants, the relationship between the platform type and the diameter of the implant body is as follows: RP for implant bodies with diameters (φ) of 3.7 mm and 4.2 or 4.7mm and WP for implant bodies with diameters (φ) of 4.7 mm and 5.2 mm. For correlated platforms, the same superstructure component can be used.

Platform	Platform diameter	Implant body diameter
RP	ϕ 4.8mm	ϕ 3.7mm
		ϕ 4.2mm
		ϕ 4.7mm
WP	ϕ 6.5mm	ϕ 4.7mm
		ϕ 5.2mm

List of platform types

BL implant			TL implant	
NP	RP	WP	RP	WP
2.45mm	2.95mm	3.75mm	4.8mm	6.5mm
				

BL: Bone level TL: Tissue level 1P: One-piece

2. Indications/contraindications

1 Systemic and psychological factors

Implant treatment is indicated for the following patients:

- Patients who are not satisfied with conventional prosthetic methods and cannot achieve the minimum required masticatory strength
- Patients who experience discomfort during pronunciation or vocalization with dentures or require fixed dentures for occupational purposes
- Patients with a negative outlook because of dentures, those who cannot adapt socially because of dentures, and those who psychologically refuse to accept dentures

Implant treatment is generally contraindicated when the following conditions are present:
Depending on the individual situation, the dentist-in-charge makes a judgment based on the diagnosis of the patient by a physician or specialist.

- Metabolic diseases (diabetes, etc.)
- Endocrine dysfunction (hypothyroidism, hyperthyroidism, hypoparathyroidism, adrenal cortex disease, etc.)
- Cardiovascular diseases (angina, myocardial infarction, congestive heart failure, chronic valvular heart disease, arrhythmia, hypertension, hypotension, etc.)
- Respiratory diseases (bronchial asthma, etc.)
- Kidney diseases
- Blood diseases
- Bone diseases (osteoporosis, osteomalacia, Paget's disease, osteopetrosis, etc.)
- Collagen diseases
- Others (pregnancy, menstruation, alcohol addiction, narcotics addiction, allergic diseases, syphilis, severe hepatitis, etc.)

2 Regional factors

Implant treatment is indicated for the following patients:
Missing teeth

- Multiple or complete teeth loss
- Single tooth loss
- Freshly performed teeth extraction or the presence of a fresh extraction socket

Implant treatment is generally contraindicated for the following patients, unless the symptoms improve.

- Patients with a severe inflammatory disease
- Patients with an impacted tooth, a cyst, a tooth stump, or a tumor
- Patients with a known history of poor healing
- Patients with porous alveolar bone (buccolingual diameter and vertical direction)
- Patients with poor-quality alveolar bone (because of osteoporosis, osteomalacia, Paget's disease, etc.)
- Patients with inadequate gingiva for the placement of the implant body
- Patients with an unstable adjacent abutment tooth
- Patients with inappropriate occlusion that cannot be improved before surgery
- Patients with bruxism that cannot be improved
- Patients with bad oral habits
- Patients with oral health problems

3. Implant body position

1 Selection of an implant type and requirements for implant positioning (common for BL/TL/1P implants)

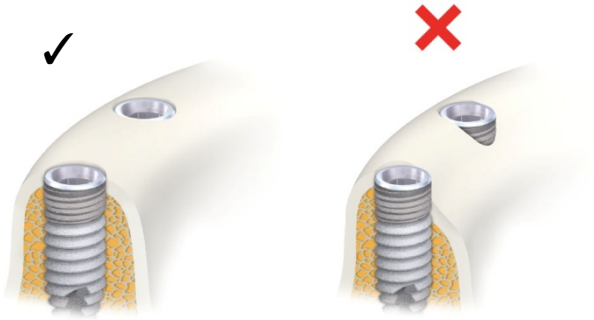
The position of the implant body should be decided after considering the final prosthetic form and ensuring adequate space for the post. While deciding the position, attention should paid to the following factors.

- Distance from the cervical region of the adjacent tooth (1.5 mm or more)
- Distance between implant bodies (3.0 mm or more)
- Distance from the tip of the implant body to the mandibular canal (3.0 mm or more)
- Bone form and substance
- Relationship with the opposing teeth
- Presence of adequate space for the placement of an implant body and impression procedures

Notes
An implant body with a diameter of 3.0, 3.2, or 3.4 mm should be used in cases with missing maxillary lateral incisors, mandibular central incisors, and mandibular lateral incisors.

2 Vertical position

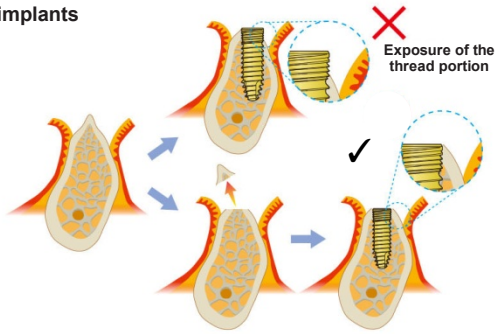
In this system, the vertical position of the implant body can be adjusted according to the anatomical characteristics, position and direction of the implant, and prosthetic technique. For the anterior teeth, the implant body should be deeply inserted in the vertical direction for esthetic reasons. Therefore, BL implants are recommended. If function is the priority and preventive factors are required for the anterior teeth, TL implants are recommended.
Basically, the implant body should be vertically inserted at a depth where the thread portion is completely embedded in bone.



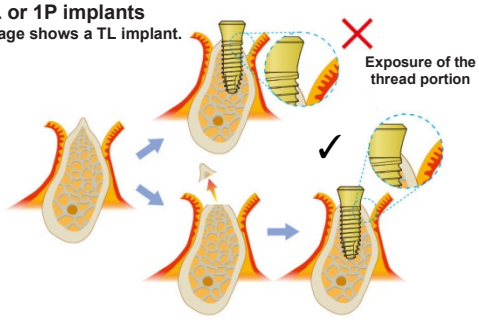
*The above figure illustrates the vertical position of a BL implant. For TL and 1P implants as well, the thread portion of the implant body should be embedded in bone.

Notes
In cases where the superior bone width is not enough, the thread portion of the implant body may be exposed even if the hole is drilled to the desirable depth. To prevent this, bone with a small buccolingual/labiolingual width should be trimmed, if possible, as shown in the figure. In addition, the bone quantity on each side at the level of the top surface of the inserted implant body should be 1.5 mm or more.
In this case, note that the remaining bone quantity relative to the length of the implant body buried in bone is reduced because of trimming. The depth of insertion of the implant body was determined using roentgen diagnosis before the surgery.
If the implant body is inserted in the molar region and is at high risk of coming close to the mandibular canal, the bone quantity must be rechecked on digital X-rays images after trimming.

For BL implants



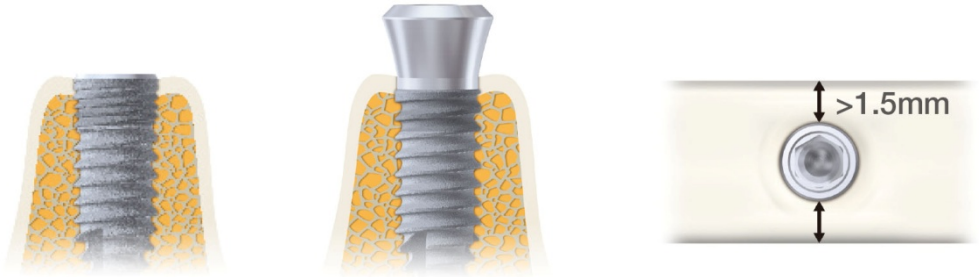
For TL or 1P implants
***The image shows a TL implant.**



BL: Bone level TL: Tissue level 1P: One-piece

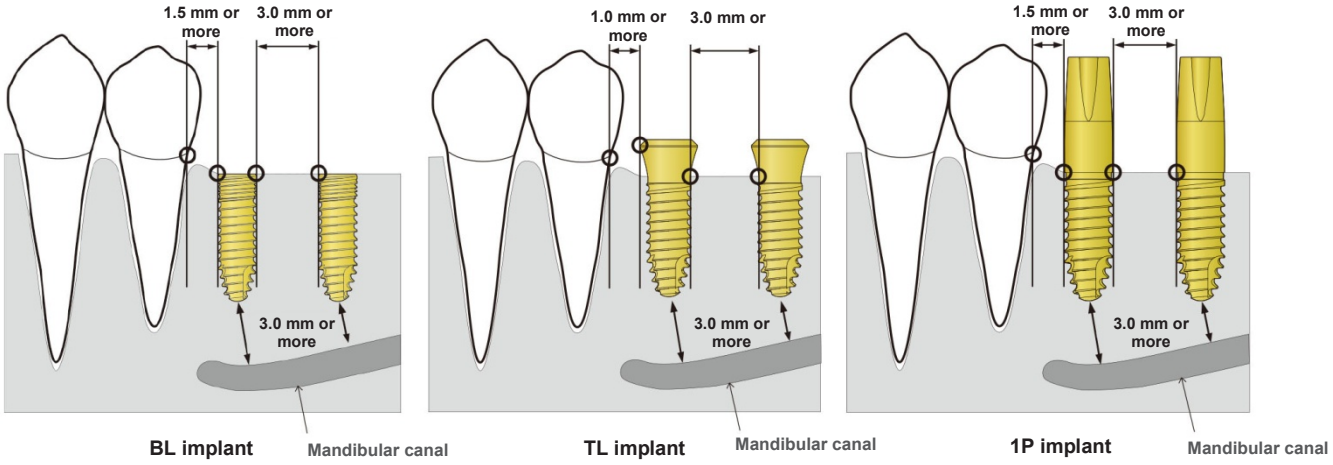
3 Buccolingual position

An adequate quantity of surrounding bone is necessary for stabilization of hard and soft tissues after the insertion of an implant body. The diameter of the implant body and the implant position should be determined such that a bone quantity of 1.5 mm or more can be ensured on the buccolingual and labiolingual sides. If a thickness of 1.5 mm cannot be ensured, or if the bone wall is missing on one or both sides, a bone regeneration procedure should be performed.



4 Mesiodistal position

The mesiodistal space is important for determining the type and diameter of the implant body and the distance between implant bodies in cases where multiple implants are required. In cases requiring BL and 1P implants, if the adjacent tooth is a natural tooth, the distance from the implant body to the natural tooth at the level of the bone margin should be at least 1.5 mm, while the distance between implant bodies should be at least 3.0 mm.
In cases requiring TL implants, if the adjacent tooth is a natural tooth, the distance from the implant body to the natural tooth at the level of the collar margin should be at least 1.0 mm, and the platform should not overlap the adjacent tooth.



BL: Bone level TL: Tissue level 1P: One-piece

4. Exploration/diagnosis

1 Informed consent

During patient counseling, it is important to inform them of the benefits of implant treatment as well as the possible risks and complications. Information regarding effects of administered drugs on general surgical procedures; possible damage to the implant body, abutment, and prosthesis; possible penetration into the maxillary antrum and nasal cavity; possible damage to the mandibular canal; infection; bone resorption; discomfort; oscillation of the implant body; involution of soft tissues; and loss of the implant body should be provided to all patients.

2 Exploratory/diagnostic procedure

3 Systemic evaluation

A general systemic evaluation should be based on self-reported symptoms, patient interviews, visual inspection, and palpation.

- The general health condition (nutrition, shortness of breath, involuntary motion, weight fluctuation, appetite, anemia, etc.) should be assessed.
- The patient's personality, degree of understanding about dental treatment, and emotions (emotional instability) should be understood.
- Vital signs (body weight, body temperature, pulse, and respiration rate) and blood pressure should be checked.
- Biochemical and urine tests should be conducted, if needed, to check for hypertension, hypotension, heart diseases, diabetes, endocrine dysfunction, blood diseases, and allergic diseases, among others.

4 Local evaluation

The anatomical features of the planned region of implant placement and the intraoral condition should be evaluated using visual inspection, palpation, dental X-ray images, panoramic X-ray images (orthopantomograms), lateral cephalograms, and preoperative study models in order to determine the feasibility of implant treatment. If possible, CT scan should be acquired to determine the three-dimensional intraosseous condition and bone form.

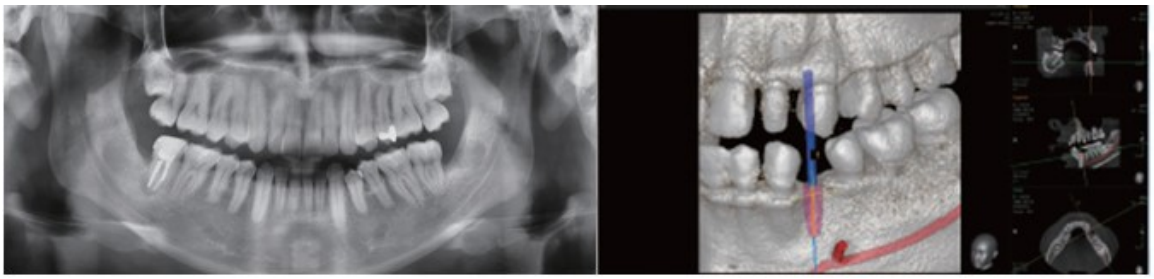
4-1 The following parameters should be assessed by direct exploration (visual inspection and

- Tooth abnormality or missing tooth
- Abnormalities in the lips, salivation, breath, buccal mucosa, palate, tongue, and tonsils
- Tongue size
- Width of the attached mucosa in the planned region of implant body insertion
- Condition of the frenum
- Aperture
- Thickness of the alveolar mucosa and volume of the bone
- Condition of existing teeth and, if needed, suitability of teeth as abutment teeth
- Bruxism and stomatognathic dysfunction (temporomandibular dysfunction, occlusal incompetence, etc.)
- Occlusion
- Condition of the ridge and relationship with the opposing teeth
- Oral health status

4-2 Diagnosis using X-ray images

The following items are explored using dental X-ray images, panoramic X-ray images (orthopantomograms), and lateral cephalograms. CT scan is very useful for three-dimensional evaluation of the bone form.

- Routine parameters, including the condition of existing teeth and the presence of tooth stumps, impacted teeth, excess impacted tooth, cysts, bone disease, and other lesions
- Alveolar crest and sinus floor, nasal cavity floor, superior margin of the mandibular canal, mental foramen, and distance between the alveolar crest and these structures
- Form of the incisive foramen
- Condition of bone, including the thickness of cortical bone and the density and orientation of bone trabeculae
- Aberrant lines representing pathologies such as bone fracture
- Condition of the tissues supporting the teeth



Panoramic X-ray image　　CT image

4-3 Evaluation using a study model

1) Relationship with the opposing teeth

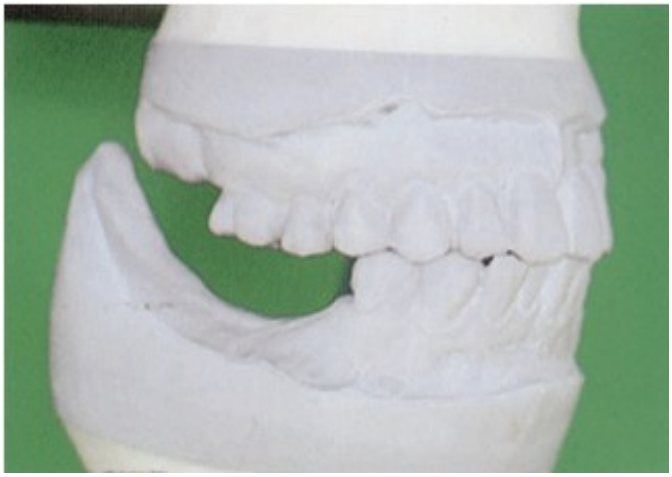
- Centric occlusion, contacts during lateral and protrusive movements
- Cuspal interference, premature contacts
- Setting of the occlusal plane
- Abutment tooth tilt
- Clearance of the tooth opposing the missing tooth

2) Existing teeth

- Distribution pattern
- Form and eruption level of crowns
- Wear

3) Ridge in the missing tooth region

- Width, height
- Form of the incisive foramen
- Form of the alveolar bone crest



Study model attached to an articulator

4) Implant body position and placement direction

- Desirable position and placement direction
- Relationship with the opposing teeth
- Direction of occlusal pressure
- Anatomical form of bone, quantity of bone surrounding the implant body
- Selection of instruments
- Relationship with the adjacent/opposing teeth

Important

During evaluation using a study model, the model should be attached to an articulator capable of reproducing mandibular movements relative to the maximum extent.

5. Treatment plan and preoperative preparation

1 Treatment plan

When a patient desires to receive implant treatment, the dentist determines whether the procedure is feasible after evaluation and diagnosis of systemic and local conditions. Then, informed consent is obtained from the patient, a treatment plan is developed, and implant treatment is initiated in the following steps.

Step 1
Treatment plan

Step 2
Preoperative diagnosis

Step 3
Selection of the implant body

Step 4
Preoperative procedures

Step 5
Preparation for implant surgery

Step 6
Placement of the implant body

Important
The patient's agreement should be obtained again with regard to the treatment duration, cost, and final prosthetic form based on the treatment plan. With implant treatment, maintenance is important, and the patient should be well educated about maintenance strategies.

2 Preoperative diagnosis

Before surgery, evaluate the bone width, bone substance, bone quantity, and hard and soft tissues at the planned region of implant placement along with systemic conditions. Also examine the rest of the oral cavity. Accordingly, determine the feasibility of implant body placement.

3 Preoperative procedures

Perform the preoperative procedures specified in the treatment plan.

[Major preoperative procedures]

- To ensure adequate attached mucosa around the planned region of implant body placement
- To perform periodontal and endodontic procedures, including treatments for dental caries in existing teeth
- To improve the occlusal condition (if the occlusion is problematic)
- To maintain satisfactory oral health

4 Preparation for implant surgery (preparation of surgical instruments)

Before a surgical procedure with this system, prepare a dedicated sterilization case and sterilize and disinfect general and dedicated surgical instruments and other necessary dental instruments in a timely manner.

- Dedicated surgical instruments
- Instruments, peripherals, and chemical agents to be prepared before surgery
- Instruments to be used by assistants
- Surgical equipment

Precautions for handling dedicated surgical instruments

- Sterilize dedicated surgical instruments before use. After thoroughly washing and drying them, store them in a dry environment.
- For instructions on cleaning, sterilizing, and storage of the contra-angle handpiece for the implanter, carefully read the instruction manual provided with the product.

5 Precautions for handling the implant body

- Read the package insert provided with the implant body before use.
- Modification of an implant body may lower the strength of the product, leading to breakage of the product after surgery. Do not modify the implant body by deforming or cutting it.
- Check that the expiration date of sterilization indicated on the outer box has not been crossed. Do not store the products in an area exposed to high temperature, humidity, or direct sunlight. An implant body dropped on the floor or contaminated by foreign material such as saliva can be infected. Please discard it immediately.
- When inserting the implant body or operating a dedicated instrument, be careful so that the patient does not accidentally swallow the abutment. In case of accidental swallowing or sucking, immediately contact a specialist physician for treatment.
- Check the package before opening it. Do not use the abutment, if the package is damaged.
- Reuse
  If the implant body is kept in an unclean environment or comes in contact with the patient's body fluids (blood, saliva, etc.) after removal from the sterilized container, it must not be reused.
- Preservation
  The implant body can be preserved as long as it is sealed in a sterilized container. Always check the sealing condition before use.
- Handling during surgery
  Prevent accidental application of excessive impact or external forces to the implant body and other instruments and parts.

6 Preparation by the operator and assistants

- Determine the roles of assistants. Take care of fingers, thoroughly wash hands, and prepare clean surgical gowns.
- Wear a surgical cap, mask, and rubber gloves.

Important

The operator and primary assistant must keep themselves completely clean from the start to the end of surgery because they directly contact the surgical site. The second assistant should carefully avoid unnecessary contamination by maintaining clean hands and fingers, like the operator. The assistants must use a sterilized instrument to pass an instrument or any material to the operator (clean field). They should not pass anything directly with their hands.

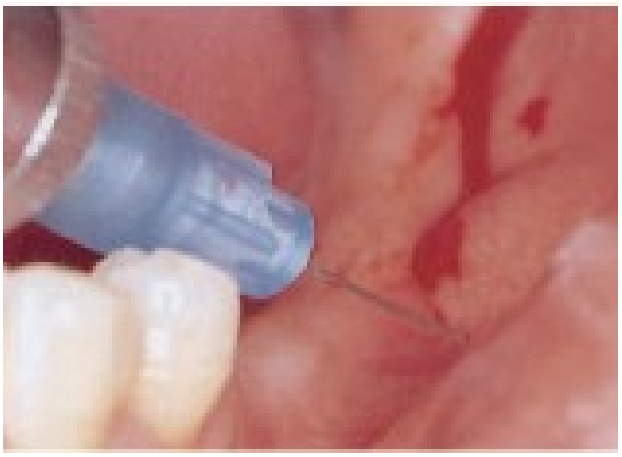
6. Primary surgery (Preparing a hole for implant body insertion and placement)

Precautions for implant body placement

Take the following precautions before implant body placement.

1) Modification of an implant body may lower the strength of the product, leading to breakage of the product after surgery. Do not modify the implant body by deforming or cutting it.
2) When inserting the implant body or operating a dedicated instrument, be careful so that the patient does not accidentally swallow the abutment.

1 Disinfection outside and within the oral cavity/topical infiltration anesthesia



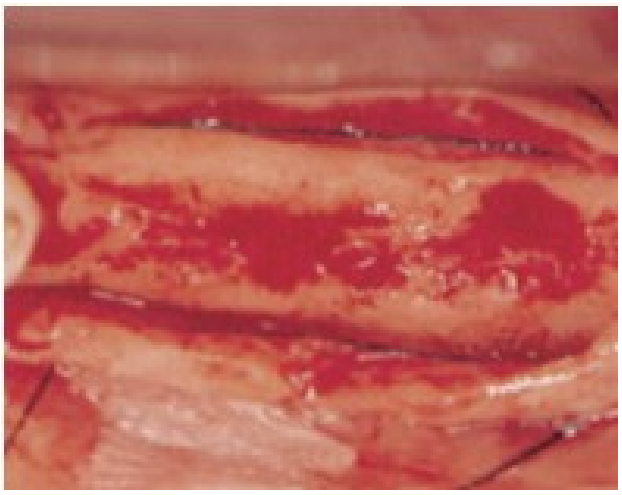
Topical infiltration anesthesia

2 Check of the position of implant body placement

Assume an incision line on the alveolar mucosa. Place a marking on the alveolar mucosa as a guide for surgery, if necessary.

3 Incision for flap preparation

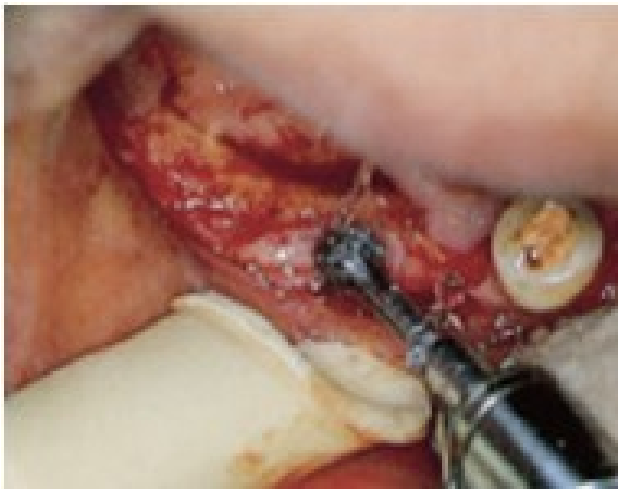
Cut open the gingiva to separate the gingival mucosa.



Incision for flap preparation

4 Trimming of the alveolar bone crest

Carefully trim the bone crest using a tool such as a round bar as needed.

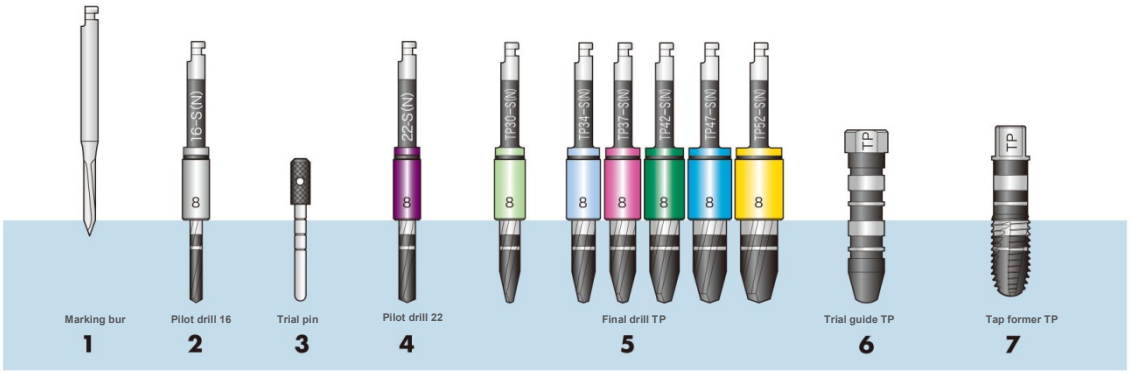


Trimming of the alveolar bone crest

5 Technique for creating a hole for implant body insertion

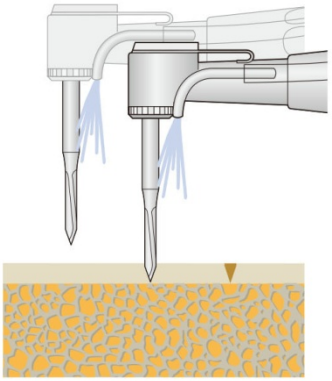
5-1 Tapered type

Technique for creating a hole for implant body insertion (e.g., 52-10TP)



5-2 Marking bur

Mark the implant position on the bone surface using a marking bur.



Reference

Drill extender

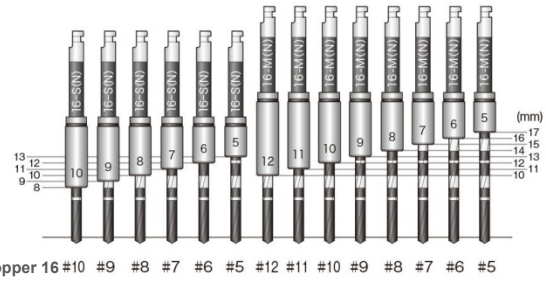
A drill extender should be attached and used if the adjacent teeth interfere with surgery or if the bone height is insufficient depending on the region.

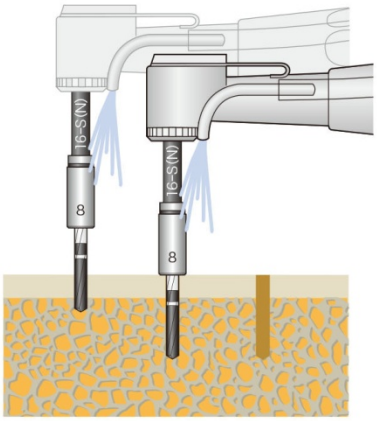
5-3 Pilot drill 16

Create a guide hole to the depth of implant body insertion using a pilot drill 16. During drilling, use the drill at 800 to 1200 rpm under adequate irrigation with water.
A pilot drill stopper 16 should be selected and attached to the pilot drill 16 as an indicator of the hole depth.

Pilot drill stopper 16

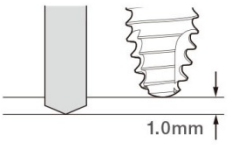
Combinations of pilot drills 16 and pilot drill stoppers 16





Notes

The blade of the pilot drill is 1.0 mm longer than the implant body.



Notes

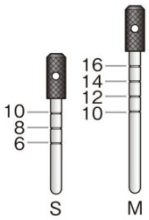
Do not use a worn-out drill. Otherwise, unnecessary heat will be generated or an incorrect cavity will be formed.

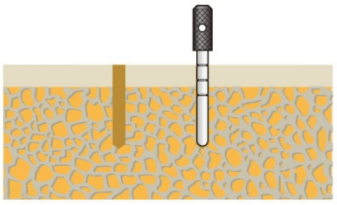
5-4 Trial pin

Check the direction and depth of the guide hole using a trial pin.

Reference

When multiple implant bodies are inserted at the same time, the implant holes should be created starting from the most distal region. At this time, parallelism of the guide hole to be created in a region can be obtained by inserting a trial pin into the guide hole created in the proximal region.





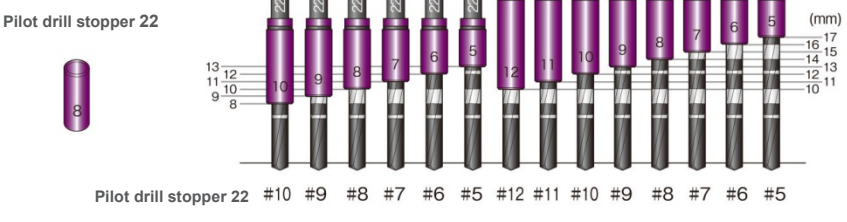
Notes

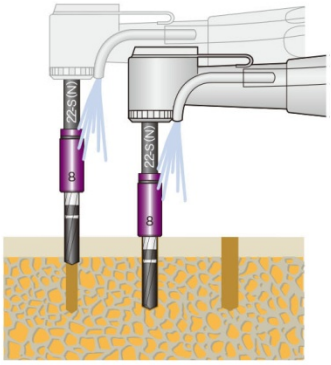
To prevent accidental swallowing during surgery, use a trial pin with a commercially available anti-swallowing tube or suture passed through the head of the pin. Confirmation on dental X-ray images is recommended.

5-5 Pilot drill 22

Combine a pilot drill stopper 22 with a pilot drill 22 and enlarge the guide hole to the depth of implant body insertion.
During drilling, use the drill at 800 to 1200 rpm under adequate irrigation with water.
The pilot drill stopper 22 should be selected and attached to the pilot drill 22 as an indicator of the hole depth.

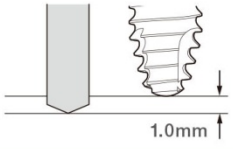
Combinations of pilot drills 22 and pilot drill stoppers 22





Notes

The blade of the pilot drill is 1.0 mm longer than the implant body.



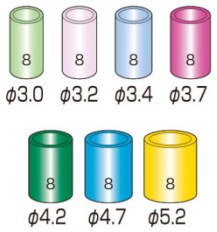
Notes

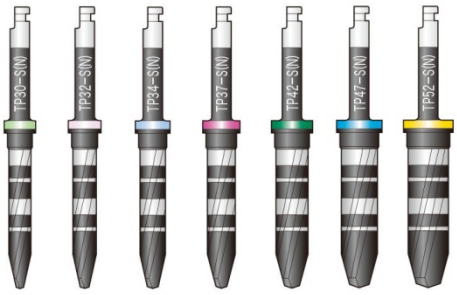
Do not use a worn-out drill. Otherwise, unnecessary heat will be generated or an incorrect cavity will be formed.

5-6 Final drill TP

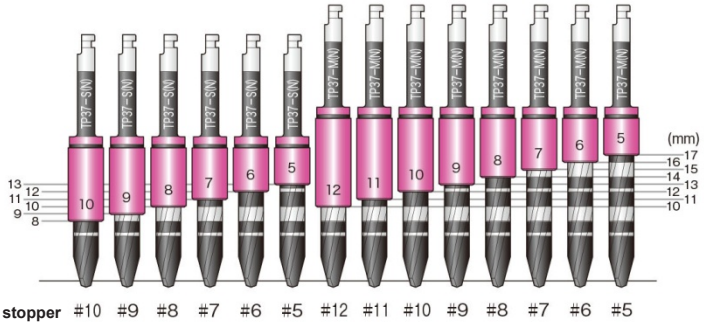
Enlarge and shape the implant hole using a final drill TP into the final hole according to the size of the implant body to be inserted.
During drilling, use the drill at 800 to 1200 rpm under adequate irrigation with water.
A final drill stopper of the corresponding size should be selected and attached to the final drill TP as an indicator of the hole depth.

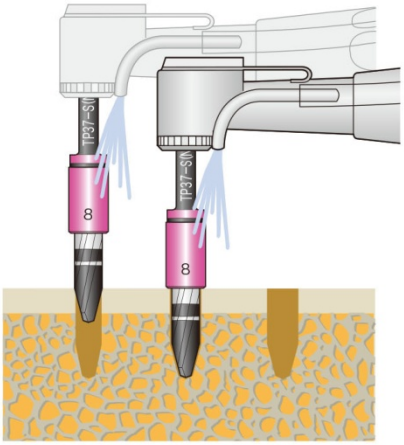
Shape of the final drill stopper
(to be attached to the final drill)



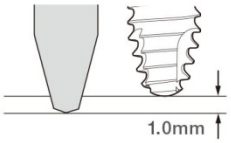


Combinations of final drills TP and final drill stoppers





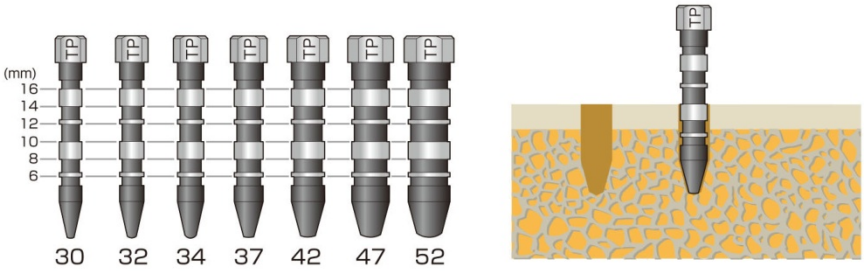
Notes
The blade of the final drill is 1.0 mm longer than the implant body.



Notes
Do not use a worn-out drill. Otherwise, unnecessary heat will be generated or an incorrect cavity will be formed.

5-7 Trial guide TP/tap former TP

Use a trial guide TP corresponding to the implant body for try-in.



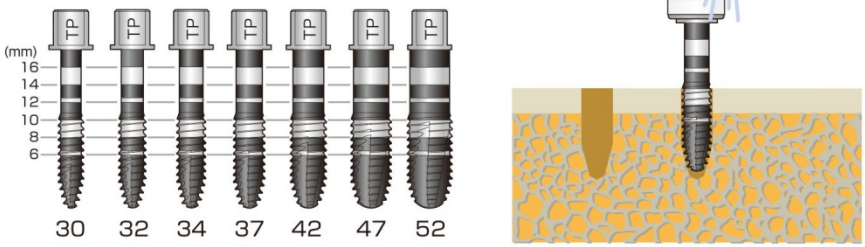
Notes

To prevent accidental swallowing, pass a suture through the hole.

When the bone substance is hard

Use an appropriate tap former TP depending on the driver holder C and the diameter of the implant body.

Use the tap former TP at **a rotation speed of up to 20 rpm** under water irrigation.



Notes

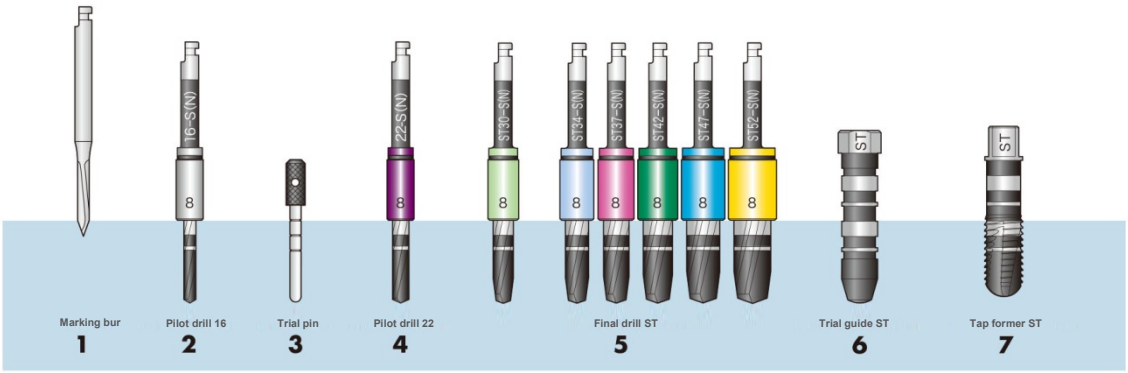
When inserting an implant body with a diameter of 5.2 mm, ensure the use of a tap former TP-52, even if the bone substance is normal.

Use the tap former TP such that it is perpendicular to the created hole.

When creating a tap, if the bone substance is hard, turn the tap former backward two to three times and create the tap again.

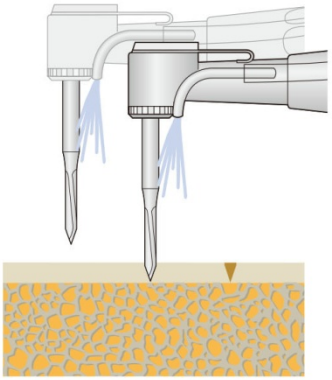
5-8 Straight-type

Technique for creating a hole for implant body insertion (e.g., 52-10ST)



5-9 Marking bur

Mark the implant position on the bone surface using a marking bur.



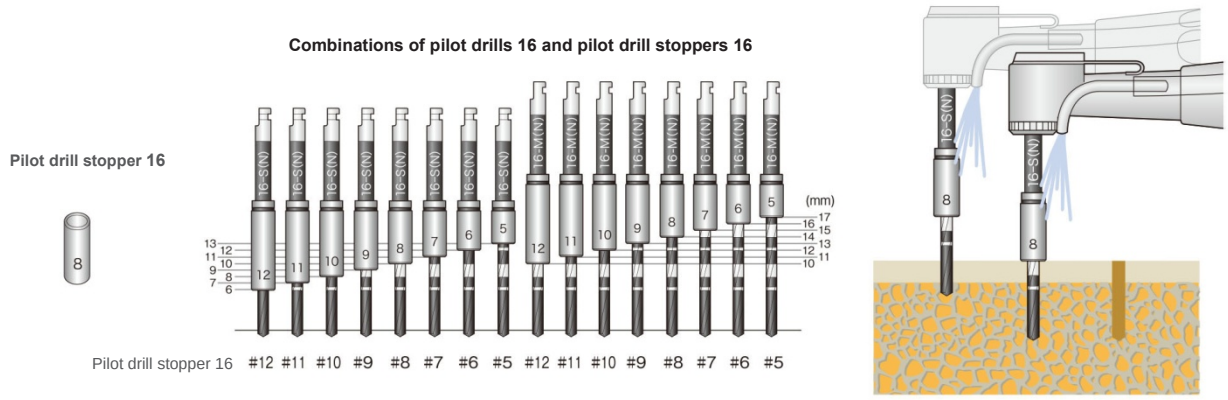
Notes

Drill extender

A drill extender should be attached and used if the adjacent teeth interfere with surgery or if the bone height is insufficient depending on the region.

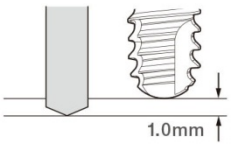
5-10 Pilot drill 16

Create a guide hole to the depth of implant body insertion using a pilot drill 16. During drilling, use the drill at 800 to 1200 rpm under adequate irrigation with water.
The pilot drill stopper 16 should be selected and attached to the pilot drill 16 as an indicator of the hole depth.



Notes

The blade of the pilot drill is 1.0 mm longer than the implant body.



Notes

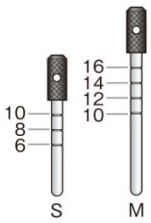
Do not use a worn-out drill. Otherwise, unnecessary heat will be generated or an incorrect cavity will be formed.

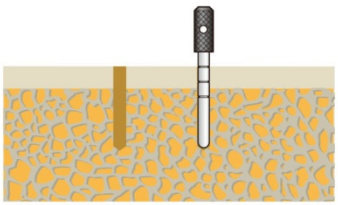
5-11 Trial pin

Check the direction and depth of the guide hole using a trial pin.

Reference

When multiple implant bodies are inserted at the same time, the implant holes should be created starting from the most distal region. At this time, parallelism of the guide hole to be created in a region can be obtained by inserting a trial pin into the guide hole created in the proximal region.





Notes

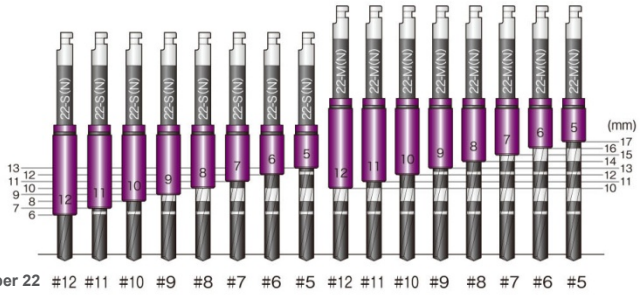
To prevent accidental swallowing during surgery, use a trial pin with a commercially available anti-swallowing tube or suture passed through the head of the pin. Confirmation on dental X-ray images is recommended.

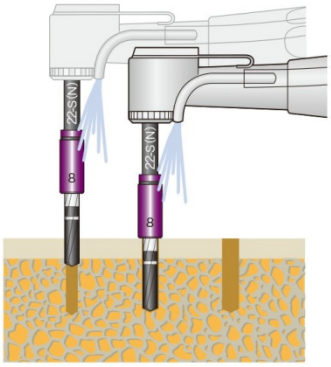
5-12 Pilot drill 22

Combine a pilot drill stopper 22 with a pilot drill 22 and enlarge the guide hole to the depth of implant body insertion.
During drilling, use the drill at 800 to 1200 rpm under adequate irrigation with water.
The pilot drill stopper 22 should be selected and attached to the pilot drill 22 as an indicator of the hole depth.

Combinations of pilot drills 22 and pilot drill stoppers 22

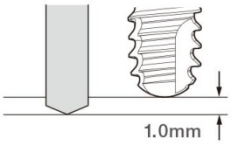
Pilot drill stopper 22





Notes

The blade of the pilot drill is 1.0 mm longer than the implant body.



Notes

Do not use a worn-out drill. Otherwise, unnecessary heat will be generated or an incorrect cavity will be formed.

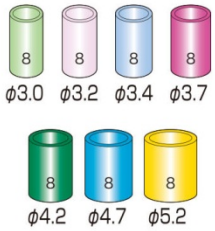
5-13 Final drill ST

Enlarge and shape the implant hole using a final drill ST in the final hole according to the size of the implant body to be inserted. During drilling, use the drill at 800 to 1200 rpm under adequate irrigation with water.

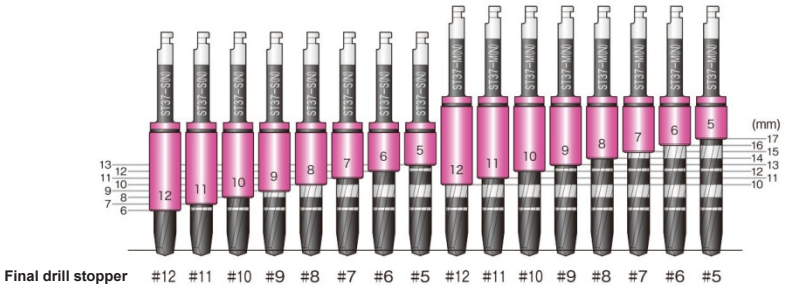
A final drill stopper of the corresponding size should be selected and attached to the final drill ST as an indicator of the hole depth.

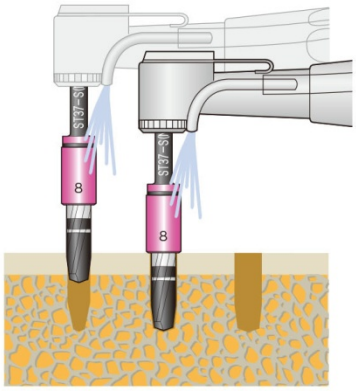
Shape of the final drill stopper

(to be attached to the final drill)



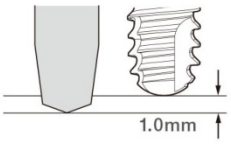
Combinations of final drills ST and final drill stoppers





Notes

The blade of the final drill is 1.0 mm longer than the implant body.

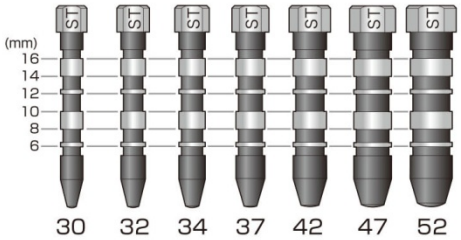


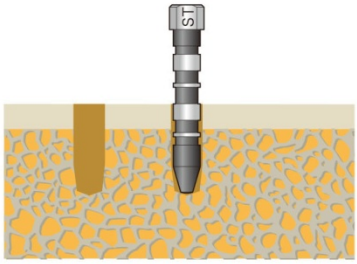
Notes

Do not use a worn-out drill. Otherwise, unnecessary heat will be generated or an incorrect cavity will be formed.

5-14 Trial guide ST/tap former ST

Use a trial guide ST corresponding to the implant body for try-in.



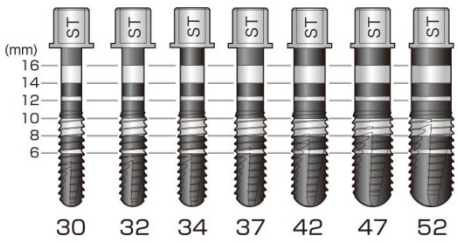


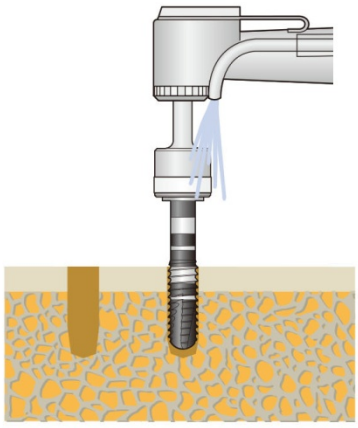
Notes

To prevent accidental swallowing, pass a suture through the hole.

When the bone substance is hard

Use an appropriate tap former ST depending on the driver holder C and the diameter of the implant body to form a tap. Use the tap former ST at a **rotation speed of up to 20 rpm** under water irrigation.





Notes

When inserting an implant body with a diameter of 5.2 mm, ensure the use of a tap former ST-52, even if the bone substance is normal.

Use the tap former ST such that it is perpendicular to the created hole.

When creating a tap, if the bone substance is hard, turn the tap former backward two to three times and create the tap again.

6 Implant body placement

The implant body is sealed in a sterilized container. As the implant body has been sterilized by γ-rays, it should be used without modification after removal from the container.

Notes

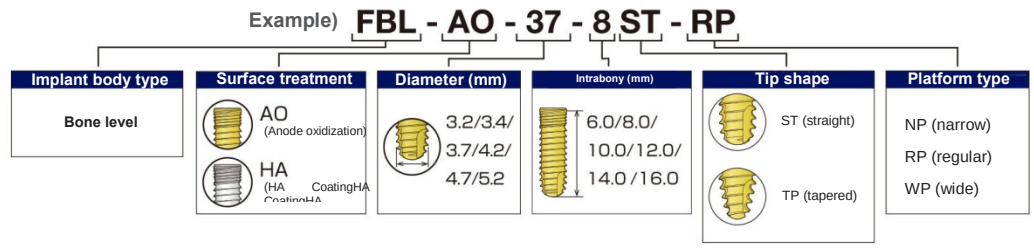
- The implant body is supplied after thorough cleaning and sterilization. Do not resterilize or reuse it.
- Check that the expiration date of sterilization indicated on the outer box has not been crossed.
- Do not store the products in an area exposed to high temperature, humidity, or direct sunlight.

6-1 Description of the implant product name

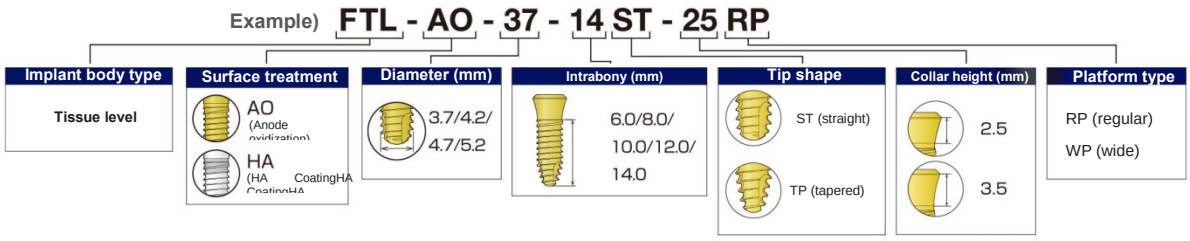
Check the type and size of the implant body on the package label and remove the case from the product box.

● Description of the product name

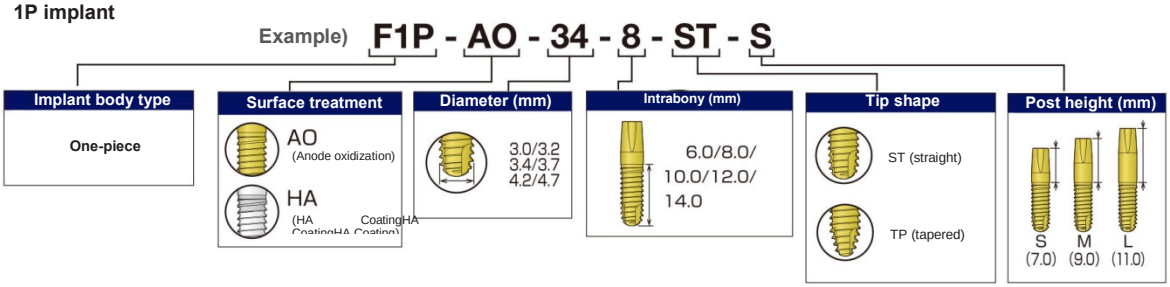
BL Implant



TL implant



1P implant



Select the optimal size using a transparent film template for X-ray images or library data supporting CT scan images.

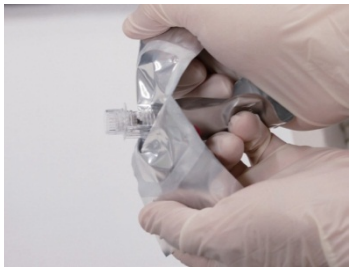
BL: Bone level TL: Tissue level 1P: One-piece

6-2 Unpacking a sterilized ampule and inserting the implant body

6-2-1 For BL implants

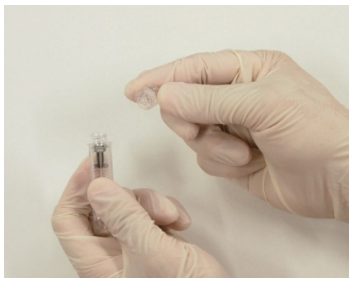
6-2-1-1

Remove the aluminum bag from the outer box.
Do not roughly fold the aluminum bag, otherwise it will have pinholes. Check the type and size of the implant body on the package label or the text printed on the aluminum bag and remove the container in a clean area.



6-2-1-2

Remove the cap from the container and remove the implant body from the container, carry it into the oral cavity, and insert it in place.
A BL implant can be inserted using a micromotor or torque wrench.
If it is difficult to visualize the part grasping the implant body, slide a part of the container to a position where it can be seen easily.



Procedure for insertion using a micromotor

Step 1: Attach the implant driver CH mounted on a micromotor to the implant body and remove the implant body from the case.

Implant driver CH

Procedure for manual insertion

Step 1: Attach an implant driver CH to the implant body using an FD adapter and remove the implant body from the case.

FD adapter

Implant driver CH

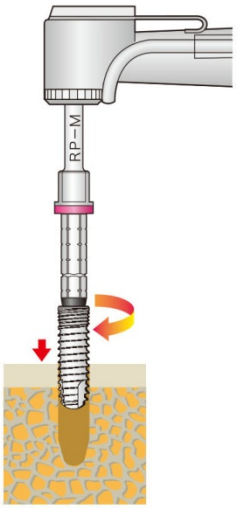
BL: Bone level TL: Tissue level 1P: One-piece

6-2-2 Implant body placement

Procedure for insertion using a micromotor

Step 2: Temporary insertion of the implant body

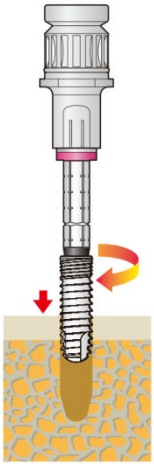
Begin inserting the implant body into the implant floor using the micromotor.



Procedure for manual insertion

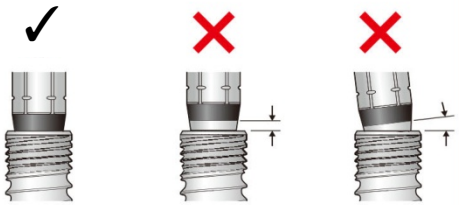
Step 2: Temporary insertion of the implant body

Begin inserting the implant body into the implant floor using the FD adapter.



Notes

When attaching an implant driver CH to the implant body, insert the driver straight into the implant body until it is seated all the way.



Notes

The grip force of FD adapter can decrease after repeated use.
Combine it with an implant driver before use to check that its grip force is maintained.

Procedure for insertion using a micromotor

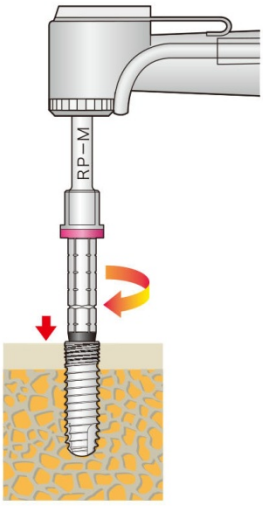
Step 3: Insertion of the implant body using a micromotor

Rotate the implant body at a rotation speed of up to 20 rpm in the positive direction and inert it to the final position.
If needed, use a torque wrench instead of the micromotor.

Notes

Maximum implant torque

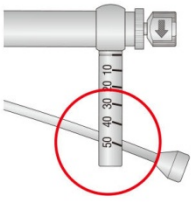
50 N·cm

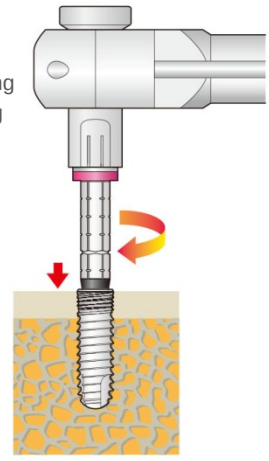


Notes

Adjustment of the final torque and tightening

If the implant body cannot be inserted to the desired depth using the motor, attempt insertion using an FD adapter and a torque wrench at a torque equal to or lower than 50 N·cm.





Procedure for manual insertion

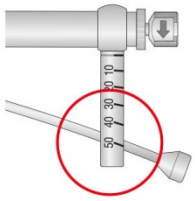
Step 3: Insertion of the implant body using a torque wrench

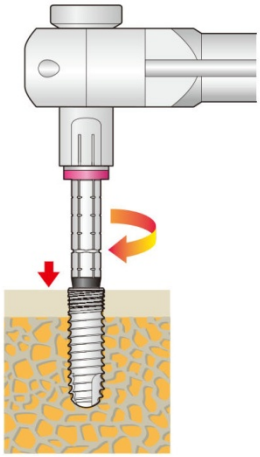
Rotate the implant body in the normal direction and inert it to the final position.

Notes

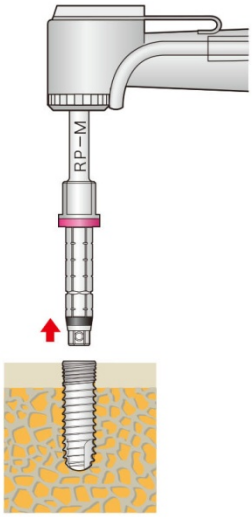
Maximum implant torque

50 N·cm

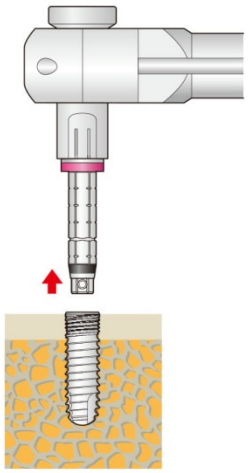




Step 4: Removal of the implant driver CH



Step 4: Removal of the implant driver CH



Notes

Precautions for implant body insertion
If the implant torque is greater than 50 N·cm, remove the implant body once. After creating a tap with the tap former, insert the implant body into the tap again.

Notes

Ensure an appropriate nonweight-bearing period after implant body placement.
(At least 3 months for the mandible and 6 months for the maxilla)

6-3-1 For TL implants

6-3-1-1

Remove the aluminum bag from the outer box.
Do not roughly fold the aluminum bag, otherwise it will have pinholes. Check the type and size of the implant body on the package label or the text printed on the aluminum bag and remove the container in a clean area.

6-3-1-2

Remove the cap, slide a part of the case body to remove the implant body from the container, and carry the implant body into the oral cavity and insert it in place.
A TL implant can be manually inserted using a micromotor or torque wrench.

Procedure for insertion using a micromotor

Step 1: Attach the driver holder C mounted on a micromotor to the implant body and remove the implant body from the case.

Driver holder C

Procedure for manual insertion

Step 1: Attach FD adapter to the implant body and remove the implant body from the case.

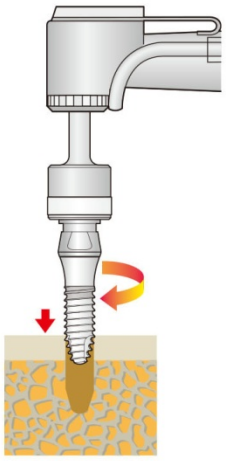
FD adapter

BL: Bone level TL: Tissue level 1P: One-piece

Procedure for insertion using a micromotor

Step 2: Temporary insertion of the implant body

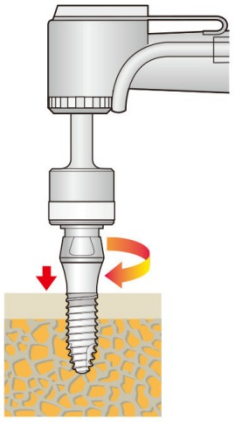
Begin inserting the implant body into the implant floor using the micromotor.



Step 3: Insertion of the implant body using a micromotor

Rotate the implant body at a rotation speed of up to 20 rpm in the positive direction and inert it to the final position.
If needed, use a torque wrench instead of the micromotor.

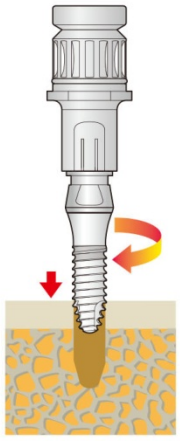
Notes
Maximum implant torque
50 N·cm



Procedure for manual insertion

Step 2: Temporary insertion of the implant body

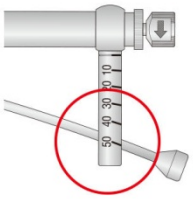
Begin inserting the implant body into the implant floor using FD adapter.

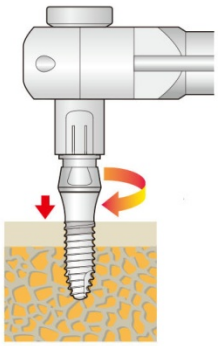


Step 3: Insertion of the implant body using a torque wrench

Rotate the implant body in the normal direction and inert it to the final position.

Notes
Maximum implant torque
50 N·cm

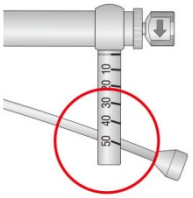


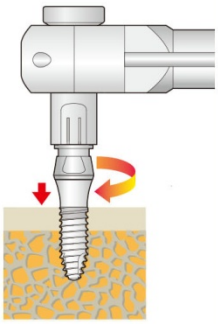


Reference

Adjustment of the final torque and tightening

If the implant body cannot be inserted to the desired implant depth using the motor, attempt insertion to the appropriate position using an FD adapter and a torque wrench at a torque equal to or lower than 50 N·cm.



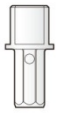


Reference

A driver extender should be attached and used if the adjacent teeth interfere with insertion or if the bone height is insufficient depending on the region.

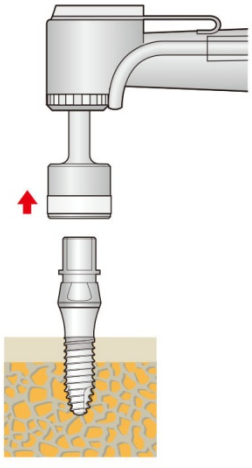
Notes

If the bone substance is hard, the mount can bite into the implant body. Therefore, stop inserting the implant body midway, remove the mount, and resume insertion using an FTL implant driver (FTL-I-DRIVER).



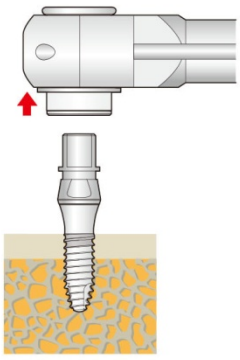
Procedure for insertion using a micromotor

Step 4: Removal of the driver holder C



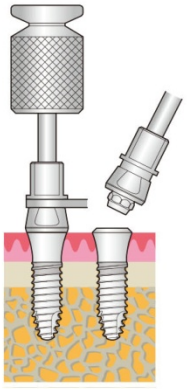
Procedure for manual insertion

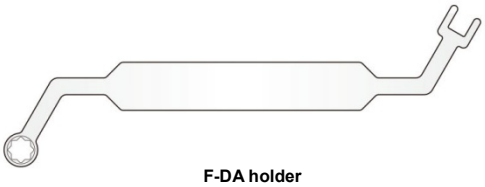
Step 4: Removal of the FD adapter



Step 5: Removal of the mount

Loosen the screw for fixing the mount using an F-DA holder and a hexalobular driver and remove the mount and screw from the implant body.
The mount can be used for recording an impression.





F-DA holder

Notes

Precautions for implant body insertion
If the implant torque is higher than 50 N·cm, remove the implant body once. After creating a tap using the tap former, insert the implant body into the tap again.

Notes

If the mount cannot be removed easily from the implant body after the screw is removed from the mount, it can be removed using the following methods.

[1] Attach an F-DA holder to the mount and lightly turn it against the normal direction of rotation to remove the mount.

[2] If the mount cannot be removed with the above method [1], reattach the removed screw to the mount using a hexalobular driver. Once the screw is fixed, lightly turn the mount against the normal direction of rotation using the F-DA holder, while ensuring that the implant body does not rotate.

Remove the screw again and remove the mount.

Notes

The mount can be used for recording an impression for the fabrication of a study model.
In this case, the following two points should be kept in mind.

[1] Do not confuse the mount screw with the abutment screw, because both have the same shape.

[2] Seal the access hole before recording an impression.

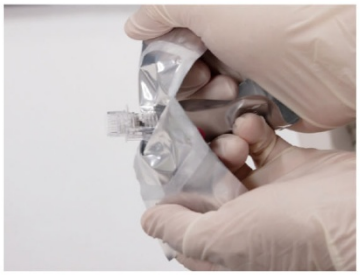
Notes

Ensure an appropriate nonweight-bearing period after implant body placement.
(At least 3 months for the mandible and 6 months for the maxilla)

6-4-1 For 1P implants

6-4-1-1

Remove the aluminum package from the outer box.
Do not roughly fold the aluminum package, otherwise it will have pinholes. Check the type and size of the implant body on the package label or the text printed on the aluminum package and remove the container in a clean area.



6-4-1-2

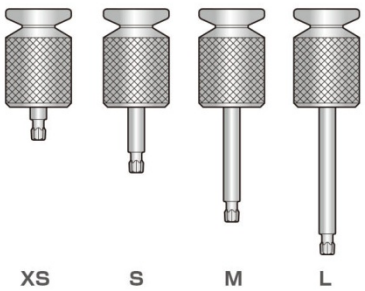
Remove the cap, grasp the implant body with a hexalobular driver CH or SH for removal from the container, and carry the implant body into the oral cavity.

If it is difficult to visualize the part grasping the implant body, slide a part of the container to a position where it can be seen easily.

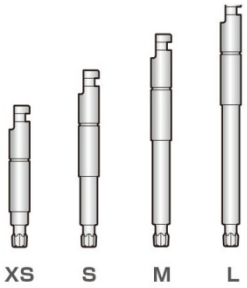
Notes

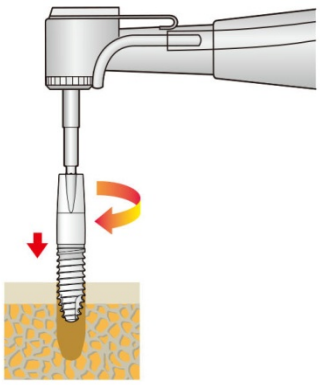
When using an XS driver, slide a part of the container body before attaching it to the implant body.
When using the XS type of hexalobular driver CH, slide a part of the container body before attaching it to the implant body.

Hexalobular driver SH



Hexalobular driver CH

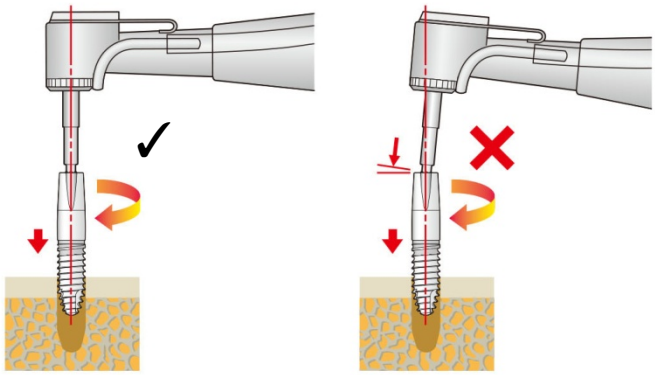




Notes

Precautions for use of a hexalobular driver for implantation

- When grasping the implant body with a hexalobular driver, align the angles of the driver bit to the corners of the pairing hexalobular hole.
- Insert the hexalobular driver all the way into the implant body and ensure that it is securely fixed.
- Ensure that the axis of the implant body driver is parallel to the axis of the implant body. Do not apply a bending load.
- Be careful not to drop the implant body.
- An implant body dropped on the floor or contaminated by foreign material such as saliva can be infected. Please discard it immediately.



Rotate the hexalobular driver to screw in the implant body. Screw in the implant body at a rotation speed of up to 20 rpm. Gradually increase the torque as needed during insertion. (Maximum toque value: 30 N·cm)

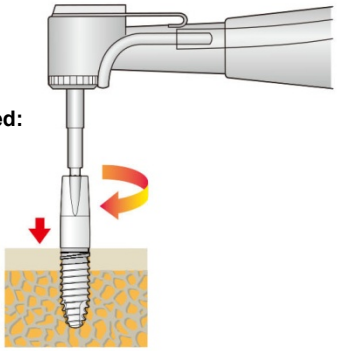
Notes

Precautions for implant body insertion

If the implant torque is higher than 50 N·cm, remove the implant body once. After creating a tap using the tap former, insert the implant body into the tap again.

Maximum torque when a hexalobular driver is used:

30 N·cm



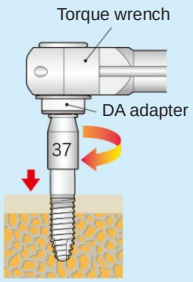
When the torque is higher than 30 N·cm, use a 1P implant driver. Screw in the implant body at a rotation speed of up to 20 rpm. Gradually increase the torque as needed during insertion. (Maximum toque: 50 N·cm)

To be manually inserted When the torque is higher than 30 N·cm

1P implant driver

Maximum torque when a 1P implant driver is used

50 N·cm



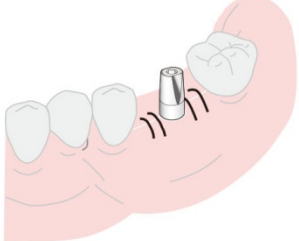
Suture

After inserting the implant body, suture the separated gingival mucosa.

Notes

Ensure an appropriate nonweight-bearing period after implant body placement.

(At least 3 months for the mandible and 6 months for the maxilla)

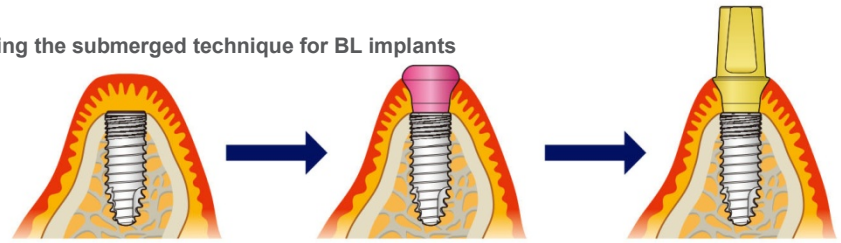


7. Management of soft tissues

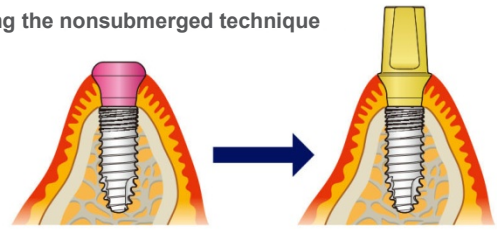
1 Management of soft tissues

Attach a cover screw or healing abutment to the inserted implant body.
For BL and TL implants, either the submerged or nonsubmerged technique can be selected. A wide range of soft tissue healing parts are available for the purpose of soft tissue management.

Basic steps for using the submerged technique for BL implants

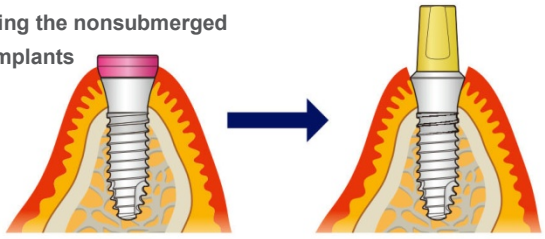


Basic steps for using the nonsubmerged technique for BL implants



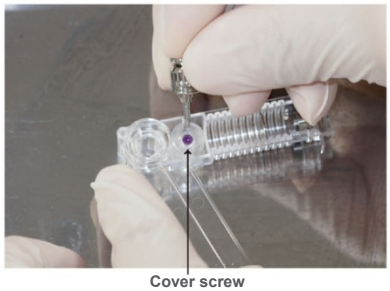
BL implant bodies are designed with importance given to esthetic quality.
The cuff of the healing abutment indicated for gingival management is available in various sizes and concave contours; this enables consistent gingival management.

Basic steps for using the nonsubmerged technique for TL implants



Notes

Before attaching the cover screw and healing abutment, thoroughly clean the inside of the implant body to remove foreign material such as blood. **The cover screw of a BL/TL implant is included in the case.** Pick up the cover screw using a hexalobular driver in a clean area.



BL: Bone level TL: Tissue level 1P: One-piece

2 Submerged technique

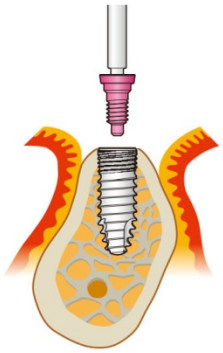
Cover screws are recommended for use of the submerged technique. The submerged technique is suitable for regions with a high esthetic demand. When the submerged technique is used, secondary surgery is required for soft tissue management.

Step 1: Attach the cover screw after the primary surgery.
Check the inside of the implant body for adhesion of blood, etc.
Tighten the cover screw with a hexalobular driver SH.

Notes
- Ensure that the tip of the driver is securely inserted in the cover screw before carrying it into the oral cavity.
- In case a bite, etc. is felt while tightening the screw, loosen it and tighten it again.

Important
Use a hexalobular driver SH to manually tighten the abutment.

BL implant



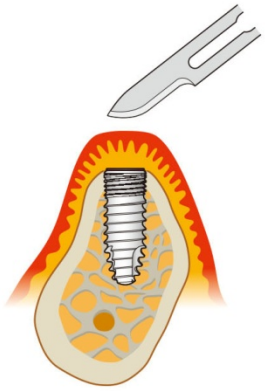
Step 2: Suturing of the mucosa
Suture the gingival mucosa using the conventional technique.

BL: Bone level TL: Tissue level 1P: One-piece

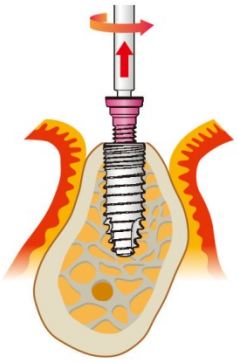
Step 3: Reincision: secondary surgery

Check the position of the implant body and cut open the mucosa to reach the cover screw.

BL implant



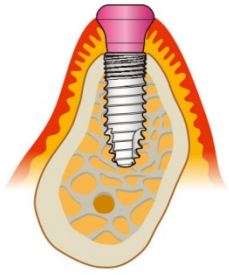
Remove the cover screw using a hexalobular driver SH.



Step 4: Attachment of a healing abutment

Attach an appropriate healing abutment to the implant body.

Close and suture the soft tissues using the conventional technique.



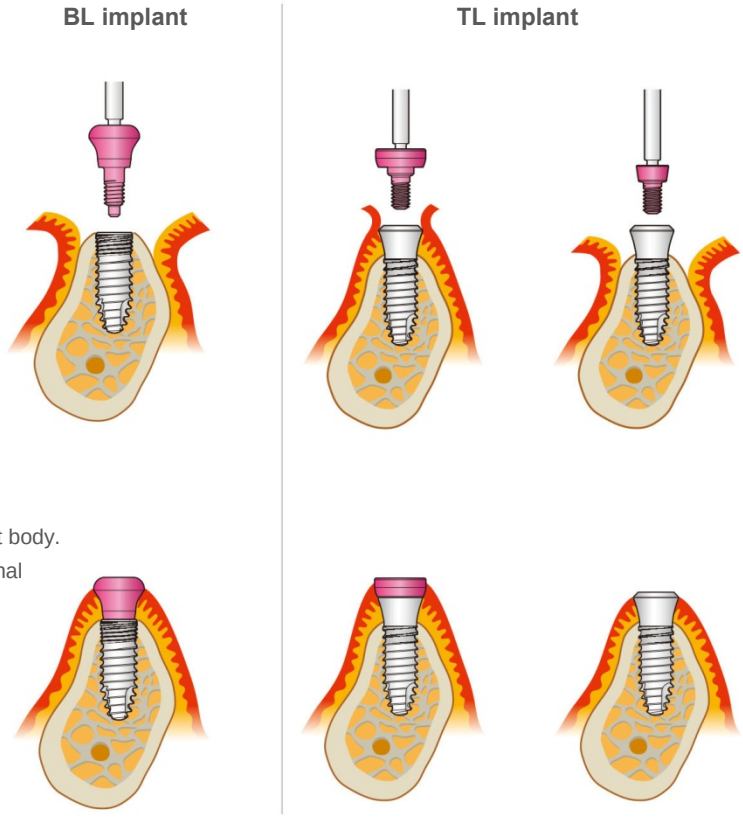
BL: Bone level TL: Tissue level 1P: One-piece

3 Nonsubmerged technique

Several types of healing abutments that support the non-submerged technique are available. After the soft tissues heal, a temporary abutment or final superstructure part is attached to the implant body.

- **After the primary surgery, attach a healing abutment (BL, TL) or cover screw (TL) to the implant body.**

After the primary surgery, attach a healing abutment to the BL implant or a cover screw or healing abutment to the TL implant. Check the inside of the implant body for adhesion of blood, etc.
Tighten the cover screw or healing abutment using a hexalobular driver SH.



- **Attachment of the healing abutment**

Attach an appropriate healing abutment to the implant body.
Close and suture the soft tissues using the conventional technique.

Common precautions

Before attaching the cover screw and healing abutment, thoroughly clean the inside of the implant body to remove foreign material such as blood.

Important

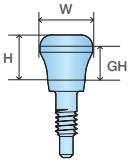
Use a hexalobular driver SH to manually tighten the abutment.

BL: Bone level TL: Tissue level 1P: One-piece

Reference table for compatibility between healing abutments and superstructure parts

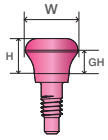
The BL implant system is designed to reproduce the gingival penetration configuration of the healing abutment when the optimal combination of the healing abutment and superstructure part is selected.

NP (Diameter of the implant body (φ): 3.2/3.4) **(Unit: mm)**

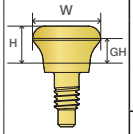
NP						Post abutment	Angle abutment	Prepable abutment	Temporary abutment	Cast-on abutment	Titanium-based abutment	Transfer coping	Impression post
		Diameter (W)		Height (H)	Cuff height (GH)								
Healing abutment		Standard	3.5	2.0	1.0	●		●	●				
				3.0	2.0	●	●	●	●	●	●		
				4.0	3.0	●	●	●	●			●	
				5.0	4.0	●	●	●	●				
				6.0	5.0	●	●	●	●			●	●
		Wide	4.0	2.0	1.0			●					
				3.0	2.0		●	●					
				4.0	3.0		●	●					
				5.0	4.0		●	●					
				6.0	5.0		●	●					
Custom healing abutment									●	●	●	●	●
Remarks										In case a healing abutment with a height of 3–6 mm is used, the gingiva may be cut open at the time of attachment.	In case a healing abutment with a height of 3–6 mm is used, the gingiva may be cut open at the time of attachment.	The emergence angles of transfer coping S and transfer coping L are the same as those of healing abutments with heights of 4.0 and 6.0 mm. respectively.	The emergence angle of the impression post is the same as that of a healing abutment with a height of 6.0 mm.

BL: Bone level TL: Tissue level 1P: One-piece

PR (Diameter of implant body (φ): 3.7/4.2) **(Unit: mm)**

RP						Post abutment	Angle abutment	Prepable abutment	Temporary abutment	Cast-on abutment	Titanium-based abutment	Splint abutment	Ball abutment	Transfer coping	Impression post
		Diameter (W)		Height (H)	Cuff height (GH)										
Custom healing abutment		Standard	4.5	2.0	1.0	●		●	●						
				3.0	2.0	●	●	●	●	●	●				
				4.0	3.0	●	●	●	●					●	
				5.0	4.0	●	●	●	●						
				6.0	5.0	●	●	●	●					●	●
		Wide	5.0	2.0	1.0	●		●							
				3.0	2.0	●	●	●							
				4.0	3.0	●	●	●							
				5.0	4.0	●	●	●							
				6.0	5.0	●	●	●							
Splint healing cap									●	●	●	●	●	●	●
Healing abutment												●			
Remarks										In case a healing abutment with a height of 3–6 mm is used, the gingiva may be cut open at the time of attachment.	In case a healing abutment with a height of 3–6 mm is used, the gingiva may be cut open at the time of attachment.	A splint abutment is used in combination with a splint healing cap during secondary surgery.	A custom healing abutment should be attached to a ball abutment.	The emergence angles of transfer coping S and transfer coping L are the same as those of healing abutments with heights of 4.0 and 6.0 mm, respectively.	The emergence angle of the impression post is the same as that of a healing abutment with a height of 6.0 mm.

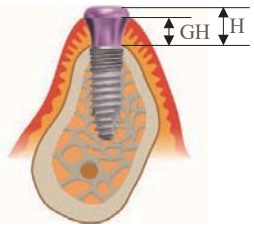
WP (Diameter of implant body (φ): 4.7/5.2) **(Unit: mm)**

WP						Post abutment	Angle abutment	Prepable abutment	Temporary abutment	Cast-on abutment	Titanium-based abutment	Splint abutment	Ball abutment	Transfer coping	Impression post
		Diameter (W)		Height (H)	Cuff height (GH)										
Healing abutment		Standard	5.5	2.0	1.0	●		●	●						
				3.0	2.0	●	●	●	●	●	●				
				4.0	3.0	●	●	●	●					●	
				5.0	4.0	●	●	●	●						
				6.0	5.0	●	●	●	●					●	●
		Wide	6.0	2.0	1.0	●		●							
				3.0	2.0	●	●	●							
				4.0	3.0	●	●	●							
				5.0	4.0	●	●	●							
				6.0	5.0	●	●	●							
Custom healing abutment									●	●	●	●	●	●	●
Splint healing cap												●			
Remarks										In case a healing abutment with a height of 3–6 mm is used, the gingiva may be cut open at the time of attachment.	In case a healing abutment with a height of 3–6 mm is used, the gingiva may be cut open at the time of attachment.	A splint abutment is used in combination with a splint healing cap during secondary surgery.	A custom healing abutment should be attached to a ball abutment.	The emergence angles of transfer coping S and transfer coping L are the same as those of healing abutments with heights of 4.0 and 6.0 mm, respectively.	The emergence angle of the impression post is the same as that of a healing abutment with a height of 6.0 mm.

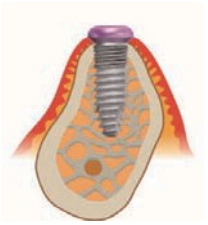
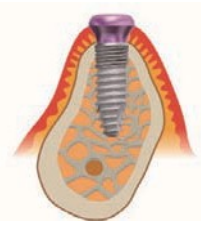
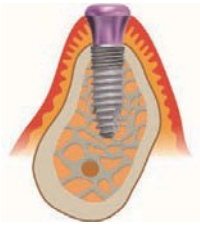
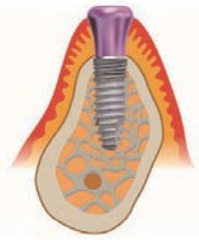
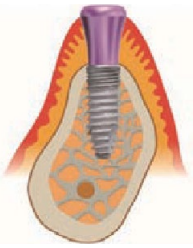
Selection of a healing abutment

The number within the product name of the healing abutment indicates the height (H).
Select the appropriate height of the healing abutment depending on the case.

Reference
Example of product name
FBL-HEAL AB-3.0-RP
Height (H)



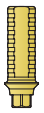
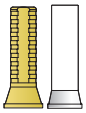
List of healing abutments for RP

Product name	FBL-HEAL AB-2.0-RP	FBL-HEAL AB-3.0-RP	FBL-HEAL AB-4.0-RP	FBL-HEAL AB-5.0-RP	FBL-HEAL AB-6.0-RP
Schematic view					
Height (H)	2.0 mm	3.0 mm	4.0 mm	5.0 mm	6.0 mm
Cuff height (GH)	1.0 mm	2.0 mm	3.0 mm	4.0 mm	5.0 mm

8. Intraoral attachment of superstructure parts

1 Intraoral attachment of superstructure parts (BL implant)

For each of the superstructure parts for BL implants, the sterilization condition, tightening method and torque, and fixture driver are specified.

Product name		Healing abutment	Custom healing abutment	Temporary abutment	Post abutment	Angle abutment	Prepable abutment	Cast-on abutment	Titanium-based abutment	Splint abutment (Straight)	Splint abutment (Angle)	Splint healing cap	Temporary abutment/ gold cylinder	Ball abutment
Product drawing														
Sterilization condition		Sterilized	Non-sterilized	Non-sterilized	Non-sterilized	Non-sterilized	Non-sterilized	Non-sterilized	Non-sterilized	Sterilized	Sterilized	Non-sterilized	Non-sterilized	Non-sterilized
Tightening method/ torque (N·cm)	NP	Manual	Manual	20	20	20	20	20	20	—	—	—	—	—
	RP			30	30	30	30	30	30	30	20	Manual	20	30
	WP													
Driver														
		Hexalobular driver SH	Hexalobular driver SH	Hexalobular driver CH	Hexalobular driver CH	Hexalobular driver CH	Hexalobular driver CH	Hexalobular driver CH	Hexalobular driver CH	Driver for splint abutment	Flex driver CH	Flex driver CH + CH adapter	Flex driver CH	Ball abutment driver

[Remarks]

*Superstructure parts with “Manual” specified as the tightening method need to be manually tightened.

Important

Before attaching a healing abutment, temporary abutment, or superstructure part to the implant body, check the tightening method and recommended tightening torque for each part.

Notes

- Before attaching unsterilized products in the oral cavity, please sterilize them.
  - Example of sterilization conditions

  (For retention temperature and time, refer to the right table, ISO 17665-2 (Sterilization of health care products - Moist heat - Part 2 : Guidance on the application of ISO 17665 Part 1 : 2006)
- For intraoral attachment of a superstructure part, fix it on the implant body at the tightening torque specified for the particular part.

Autoclave conditions

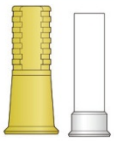
Retention temperature	Retention time
121°C	15 minutes
126°C	10 minutes
134°C	3 minutes

BL: Bone level TL: Tissue level 1P: One-piece

2 Intraoral attachment of superstructure parts (TL implant)

For each of the superstructure parts for TL implants, the sterilization condition, tightening method and torque, and fixture driver are specified.

Product name	Healing abutment	Temporary abutment	Post abutment	Direct abutment	Angle abutment	Cast-on abutment	Splint abutment
Product drawing							
Sterilization condition	Sterilized	Unsterilized	Unsterilized	Unsterilized	Unsterilized	Unsterilized	Sterilized
Tightening method/torque (N·cm)	Manual	15	35	35	35	35	35
Fixture driver							
	Hexalobular driver SH	Hexalobular driver CH	Hexalobular driver CH	Hexalobular driver CH	Hexalobular driver CH	Hexalobular driver CH	Driver for a splint abutment

Product name	Splint healing cap	Temporary/ gold cylinder	Titanium-based abutment	Ball abutment
Product drawing				
Sterilization condition	Sterilized	Unsterilized	Unsterilized	Unsterilized
Tightening method/torque (N·cm)	Manual	15	35	35
Fixture driver				
	Hexalobular driver SH	Hexalobular driver CH	Hexalobular driver CH	Ball abutment driver

[Remarks] *Superstructure parts with “Manual” specified as the tightening method need to be manually tightened.

Important

Before attaching a healing abutment, temporary abutment, or superstructure part to the implant body, check the tightening method and recommended tightening torque for each part.

Notes

- Before attaching unsterilized products in the oral cavity, please sterilize them.
- Example of sterilization conditions

(For retention temperature and time, refer to the right table, ISO 17665-2 (Sterilization of health care products - Moist heat - Part 2 : Guidance on the application of ISO 17665 Part 1 : 2006)

- For intraoral attachment of a superstructure part, fix it on the implant body at the tightening torque specified for the particular part.

Autoclave conditions

Retention temperature	Retention time
121°C	15 minutes
126°C	10 minutes
134°C	3 minutes

BL: Bone level **TL**: Tissue level **1P**: One-piece

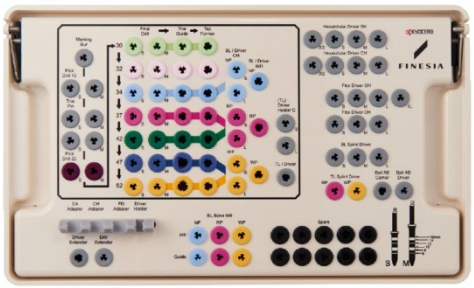
9. Related information

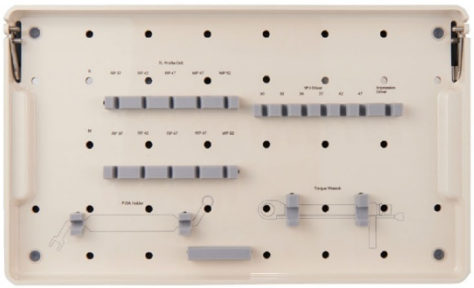
1 Instrument case

Instrument cases are designed to ensure the storage of surgical instruments and related tools for this system in a sterile condition. For the FINESIA implant system, a surgical case, surgical case S, prosthetic case (for prosthesis), and stopper case are available.

◆ Surgical case

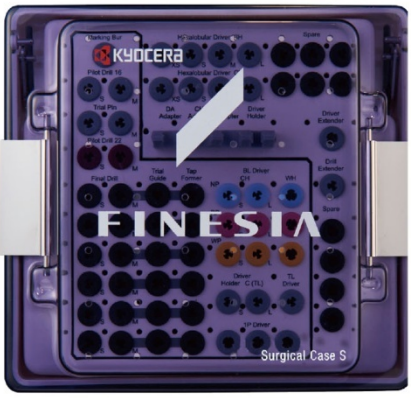
A surgical case allows for the storage of all instruments intended for use during surgery involving a tapered or straight implant body. In this case, instruments are color-coded according to the diameter and platform, and the order of use is shown by arrow marks.

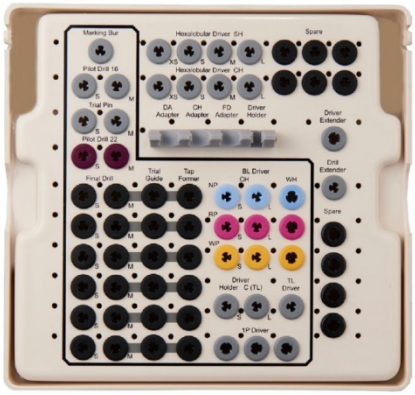


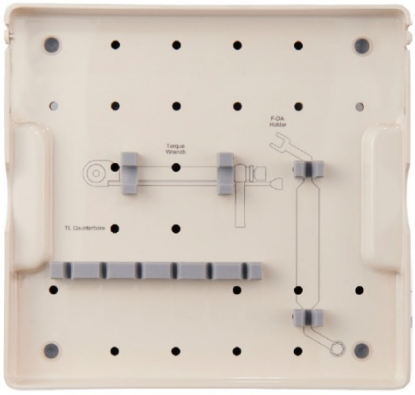


◆ **Surgical case S**

The surgical case S allows for the storage of instruments intended for frequent use during surgery involving a tapered or straight implant body.

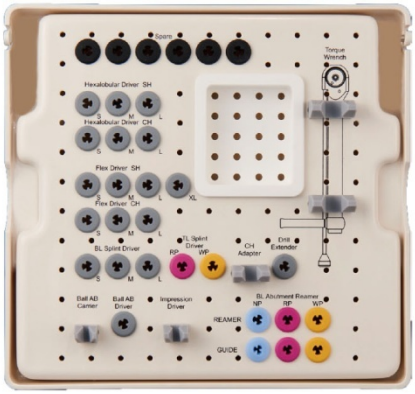






◆ **Prosthetic case (for prosthesis)**

The prosthetic case allows for the storage of instruments intended for use during secondary surgery or the attachment of superstructures.



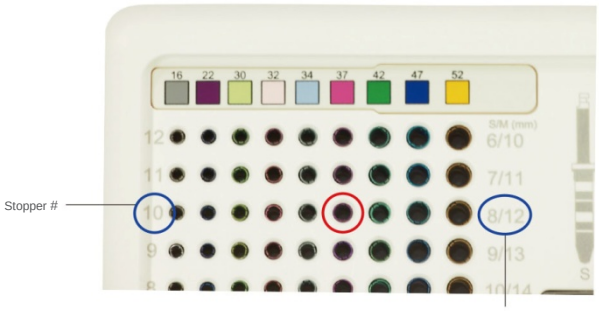
2 Drill stopper case

On the tray stored in the case, drill stoppers are arranged in a grid, with the vertical lines representing the diameters of the implant bodies to be inserted and the horizontal lines representing the heights of the stoppers.

2-1 Selection of a drill stopper

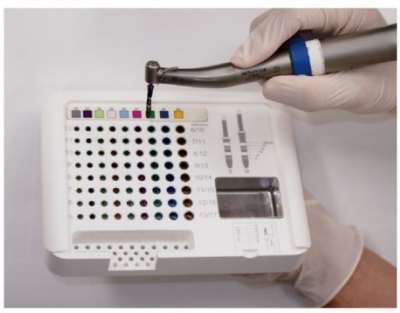
The image shows a representative implant hole with a diameter (φ) of 3.7 mm and a depth of 12 mm in bone. The hole was created using a final drill M.

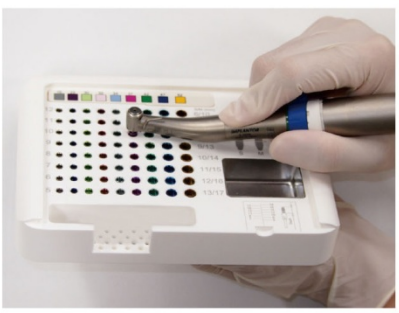
When a final drill of size M is used, a #10 stopper should be used at the point where the vertical line (φ 37 mm) and the horizontal line (8/12) intersect.

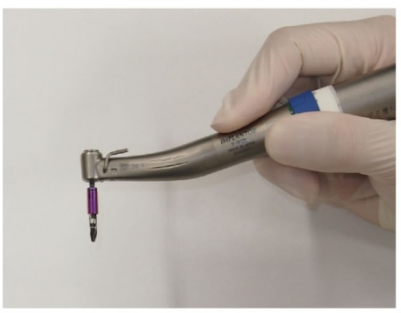


2-2 Attachment of a drill stopper to a drill

The tip of a drill should be inserted into an appropriate drill stopper in the drill stopper case until the tip is fully seated in the stopper. When the drill is pulled out, the drill stopper is attached to the tip of the drill.







3 Cleaning and care of instruments

For implant procedures, instruments with high cutting performance are indispensable. Use instruments with attention to the following points.

- Handle instruments carefully to prevent damage.
- Use instruments only for the indicated procedure.
- Wash away contaminants such as blood, saliva, tissues, and bone chips adhered to instruments immediately after each procedure. Dried contaminants on instruments cause corrosion.
- Before washing, place used instruments in an appropriate disinfectant using the conventional technique.
- Do not store moist instruments without drying.
- For the service life (number of times of use) of a drill, refer to the package insert. Replace it with a new one at the right time.

4 Surgical cases and sterilization of instruments

If the instruments are to be stored in a surgical case and then sterilized, the surgical case should be put in a sterilization pack in advance.
*Do not store moist instruments without drying. Otherwise, the instruments may corrode.
*Place the surgical case in a sterilizer in a proper manner for successful sterilization.

・ Example of sterilization conditions
For the retention temperature and time, refer to the below table, ISO 17665-2 (Sterilization of health care products - Moist heat - Part 2 : Guidance on the application of ISO 17665 Part 1 : 2006).

Autoclave conditions

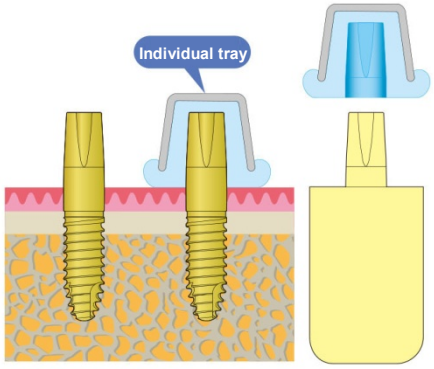
Retention temperature	Retention time
121°C	15 minutes
126°C	10 minutes
134°C	3 minutes

10. Prosthetic technique for 1P implants

1 Fabrication of the superstructure

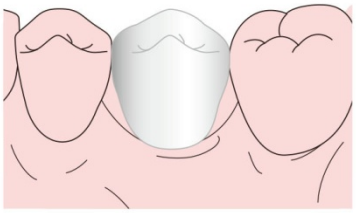
Step 1 Recording the impression and fabrication of a work model

・Record a direct impression and fabricate a work model.



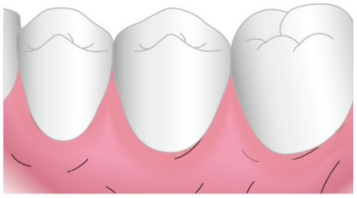
Step 2 Fabrication of the final prosthesis

・Create a wax-up on a work model to fabricate the final prosthesis.



Step 3 Attachment of the final prosthesis

・Attach the fabricated final prosthesis to the post of the implant body using cement.



BL: Bone level TL: Tissue level 1P: One-piece

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