COWELL Implant Solution

Ver.30

Help your daily practice superior

Ver.30

www.cowellmedi.com

Cowellmedi Co., Ltd.
Floor 6, Blue Fin Tower 42, Seochojungang ro, Seoul 06643, Korea
Tel. +82 2 3453 5085 | Telefax. +82 2 3453 5086 | Email. isp2@cowellmedi.com

Cowellmedi R&D Institute
48, Hakgam-daero 221beon-gil, Sasang-gu, Busan 46986, Korea

Cowellmedi USA Inc.
218 Trianon Ln, Villanova, PA 19085, USA

Cowellmedi
The Pioneers in Dental Implant and E.rhBMP-2

COWELL IMPLANT SOLUTION

www.cowellmedi.com

COWELL® Implant Solution 30 Since 1994

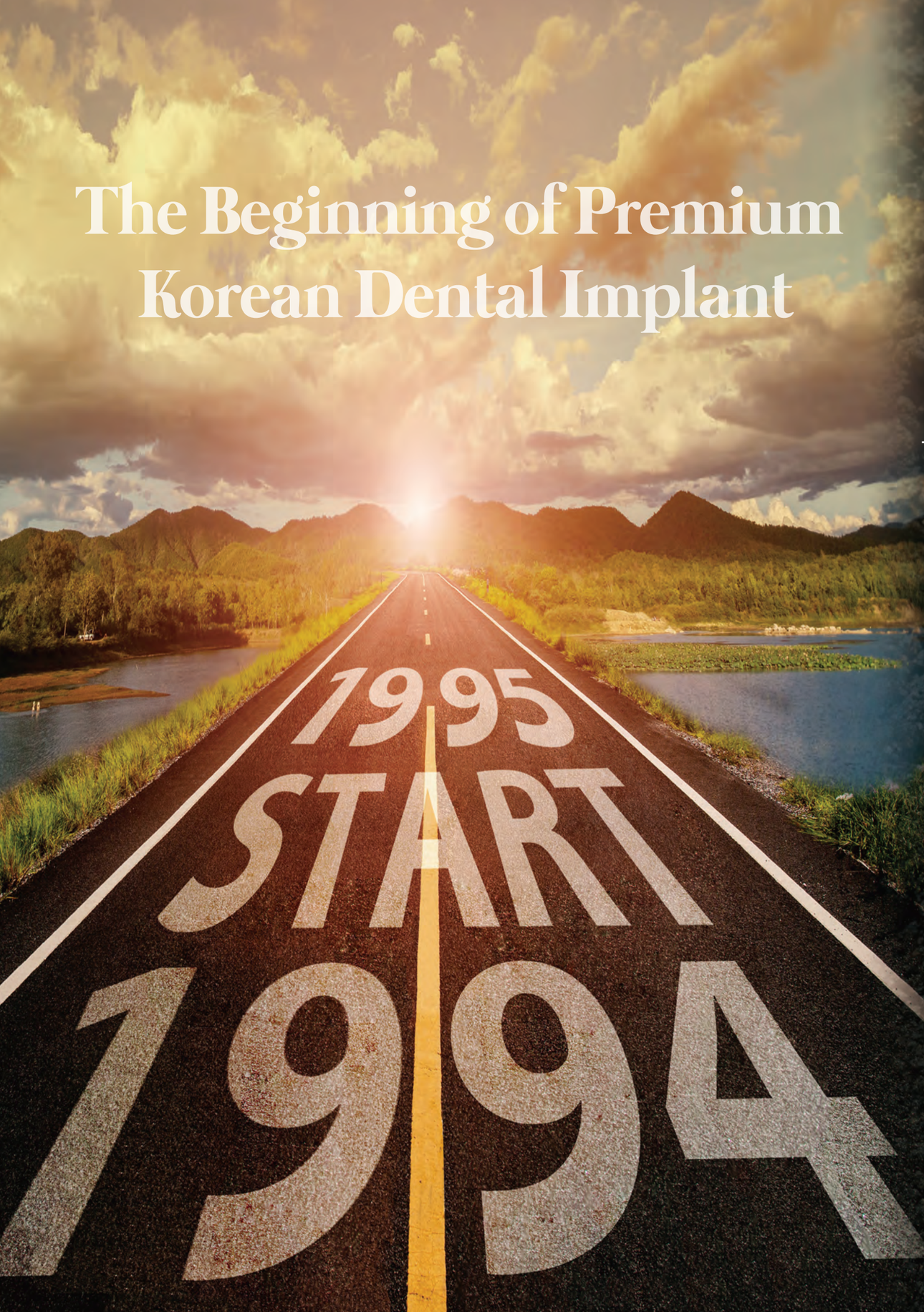
COWELL
Implant Solution

Help your daily practice superior

Ver.30

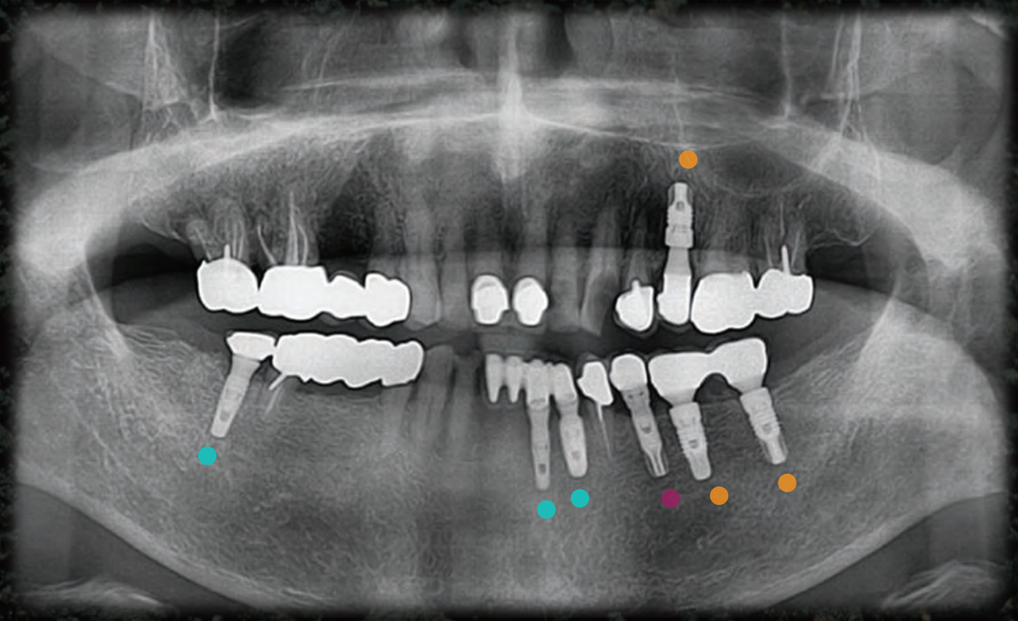
Cowellmedi
The Pioneers in Dental Implant and E.rhBMP-2

The Beginning of Premium Korean Dental Implant



SINCE
1994

THE OLDEST IMPLANT CASE IN KOREA



#35: BIOPLANT, 1st generation of the COWELL Implant, Korea's first dental implant developed in 1994.
#25, 36 & 37: ATLAS Implant System, 3rd generation of the COWELL Implant, Korea's first ASD treated Implant.
#32, 33 & 47: INNO Implant System, Cowellmedi's 4th generation implant surface, SLA-SH treated implant.

Contents

COWELLMEDI HISTORY

For the first time in Korea,

Beginning with Korea's First Dental Implant, the COWELLMEDI has been leading the way to the future biomedical industry with the fusion technology to its E.rhBMP-2 developed for the first time in the world.

1994
- Developed KOREA'S FIRST DENTAL IMPLANT, BIOPLANT.
- Succeed in localizing DENTAL IMPLANT FOR THE FIRST TIME IN KOREA.

1998
- Founded Asrahi Medical.

1999
- Established R&D corporation with PNU's Oral and Biotechnology Research Center.

2000
- Converted to COWELLMEDI corporation (Cowellmedi Co., Ltd.).
- Obtained ISO9001 certificate.

2002
- Developed ASD surface treatment technology for dental implant for the first time in Korea.

2003
- Obtained US FDA approval for the BIOPLANT Implant System.

2004
- Medaled for contribution of developing KOREA'S FIRST DENTAL IMPLANT from Korean Government.

2005
- Obtained GMP, ISO13485 and CE certificate.
- Obtained US FDA approval for the ATLAS Implant System.

2006
- Established COWELLMEDI USA and COWELLMEDI Taiwan.
- Established COWELLMEDI Tissue Engineering Institute for Growth Factors.

2007
- Obtained a KR patent for dental implants coated with E.rhBMP-2, E.Coli derived Recombinant Human Bone Morphogenetic Protein type 2, developed for THE FIRST TIME IN THE WORLD.

2008
- Completed preclinical trials on E.rhBMP-2 (COWELL BMP).

2009
- Obtained MFDS approval for clinical trials on the COWELL BMP.

2010
- Obtained MFDS manufacturing and sales approval for the COWELL BMP.
- Held the 1st WORLD BMP Symposium in Seoul, Korea.

2011
- Obtained a US patent for E.rhBMP-2 Coated Implant.

2012
- Obtained MFDS Approval for E.rhBMP-2 Spinal Fusion Clinical Test Plan.
- Launched the INNO Implant System.

2013
- Obtained US FDA approval for the the INNO Implant System.

2014
- Established a R&D and Education Organization, REID (Research & Education in Implant Dentistry).

2015
- Developed SUPER-HYDROPHILIC implant surface, SLA-SH. **(Sandblasted, Large-grit, Acid-etched, and Super-Hydrophilised)**

2016
- Established COWELLMEDI China.
- Established educational cooperation with MMS (Miami Medical Seminars).

2017
- Launched the Sonator 80's System, an implant-supported overdenture system.

2018
- Launched the InnoGenic Wifi-Mesh, a non-resorbable membrane.
- Appointed as a global IP(Intellectual Property) star enterprise.

2019
- Published "20 YEARS OF OUTCOMES, 20 YEARS OF CLINICAL EVIDENCE OF COWELL Implant System", a clinical case collection with a record of COWELL Implant System for over 20 years.

2020
- Obtained MDSAP certificate.

2021
- Obtained CE certificate for the InnoGenic Wifi-Mesh and PTFE-Mesh.
- Obtained Health Canada approval for the INNO Implant System.

2022
- Obtained a new factory site for Cowellmedi Global Innovation Centre in Busan.

Research and Education in Implant Dentistry.

The REID is a global institute, standing for Research and Education in Implant Dentistry.

The REID has been dedicated to researching technology and knowledge for implant dentistry, creating more predictable concepts of treatment, and developing cutting-edge products in implant dentistry and related fields as its first objective of the establishment.

As its second objective of the establishment, the REID also has been committed to training dental professionals with world-class clinicians, lecturers, and education curricula.

The REID is now reaching more clinicians with easier access to a variety of clinical solutions and open discussions where everyone can attend.

Should you have any to share with us to achieve our mission together, be a part of us.
The REID is always open for you.

MISSION

To improve how the world dental community treats implant dentistry by providing dental professionals with internationally multidisciplinary education service and state of the art treatment concepts as well as comprehensive quality research for the benefit of patients.

VISION

- Constructing the future of implant dentistry and related fields.
- The world-class education provider and research institute.
- Sharing more know-hows to have better ideas by expanding a worldwide network of members.
- Providing training systems accessible to any dental professional across the globe.

Process Flow Chart

CNC Machining

Precise machining process using state of the art computer numerical control system fused to the COWELL Class 1000, operated by a world-class technical unit.

Surface Treatment

The SLA-SH Surface treatment with biologically active materials to achieve the ideal osseointegration.

Inspection

Absolutely accurate test and quality control system with cutting edge equipment such as optical profiling measurer, stereoscopic microscope, micrometer scope, and other specialized devices for dental implant manufacturing.

Cleansing

The cleansing process by ultrasonic wave using the 3rd distilled water, vacuum dry, and heating dry sterilization leaves no residue and ultimately sterilizes the products.

Packing and Sterilization

Sanitarily packed products at cleanrooms are sterilized by gamma-ray using radiation isotope.

Shipping Warehouse

The finished products are sorted and stored at warehouses for immediate delivery.

COWELL Warranty

*** For more details, visit our website at www.cowellmedi.com**

1. Guarantee beneficiary and scope

Products	Period	Conditions	Remarks
Implant	Lifetime	Replacement with equivalent Implant	The period shall begin from the sale date

2. Scope of Warranty

1) Quality benefits
> In case the product material or the manufacturing process is flawed.
2) Surgical benefits
> In case implants fail to be grafted to the bone.

3. Claim Procedure

1) In case certain faults occur after transplanting implants (procedure), the staff in charge shall be contacted within 30 days thereafter.
2) When such contact is made, the Customer Complaint Report shall be written out and shall be submitted together with the concerned product.

4. Exclusions from Warranty Service

1) In case implants are transplanted onto patients with diabetes and alcohol addiction.
2) In case implants are transplanted onto patients for whom surgical procedures are difficult to perform due to the history of the systemic disease.
3) In case implants are transplanted onto patients who depend on habitual medications.
4) In case the procedure is not conducted according to the protocol of the COWELLMEDI.
5) In case the procedure is not performed in compliance with biological indication : (E.g. distance between the buccal wall and implant should be at least 2mm).
6) In case the procedure is conducted using contaminated surgical devices.
7) In case implants are transplanted onto patients who sustain or are infected with cell issue contamination.
8) In case other materials from other companies are mix-used with Implants, prosthetic parts and instruments of the COWELLMEDI.
9) In case the result of investigations by COWELL R&D Institute, Div. of QA and QC shows the issue is not related to the products manufactured and provided by the COWELLMEDI.
10) Store at room temperature and in a dry place, and care should be taken from contamination after the product is opened.
11) In case the information hereby requested, especially, product Lot no., Serial no. or X-ray photos, is missing.
12) In case that the concerned products are not returned.
13) In case the product is damaged due to negligence of handling.
14) In case the product is opened and fails to remain sterilized.
15) In case that the expiry date of the concerned product (not opened products only) is not longer than 1/4.

Package System

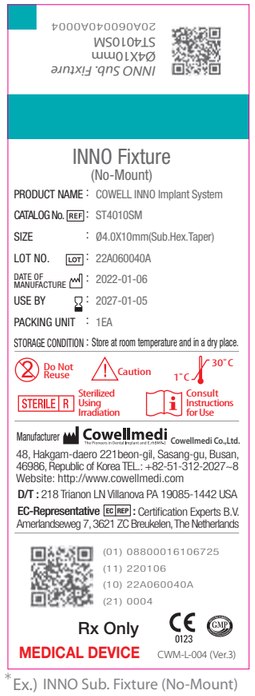
1. Color classification (Coding) by fixture type and external label marking

A. Color classification by fixture type

Fixture type	Submerged (Sub.)	Submerged Short (Sub.)	Submerged Narrow (Sub-N.)	Internal (Int.)	External (Ext.)	Mini Cement (1P-C.)	Mini Ball (1P-B.)
Package							
Connection	SUB. HEXAGON SYSTEM Blue		SUB-N. HEXAGON SYSTEM Emerald	INT. OCTAGON SYSTEM Orange	EXT. HEXAGON SYSTEM Green	MINI Plus IMPLANT SYSTEM Pink	

B. External label marking and color coding by fixture diameter & fixture type

> Color coding by diameter on the external label.
> Reuse is prohibited after opening as the product is sterilized.
> After the ampule is opened, care should be taken from dropping, which may be caused by incomplete fastening.
> Store at room temperature and in a dry place, and care should be taken from contamination after the product is opened.
> Discard expired products.



* Ex.) INNO Sub. Fixture (No-Mount)
Dimension: Ø4.0X10mm

Fixture Type(abbr.) \ Diameter	Ø2.5	Ø3.0	Ø3.1	Ø3.3	Ø3.5	Ø4.0	Ø4.5	Ø5.0	Ø5.5	Ø6.0
	Bisque	Green	Burgundy	Orange	Yellow	Emerald	Red	Pink	Violet	Gray
Submerged (Sub.)	–	–	–	–	✓	✓	✓	✓	–	✓
Submerged Short (Sub.)	–	–	–	–	–	✓	✓	✓	✓	✓
Internal (Int.)	–	–	–	–	✓	✓	✓	✓	–	✓
External (Ext.)	–	–	–	–	✓	✓	✓	✓	–	✓
Submerged Narrow (Sub-N.)	–	–	✓	✓	–	–	–	–	–	–
Mini Cement (1P-C.)	✓	✓	–	–	–	–	–	–	–	–
Mini Ball (1P-B.)	✓	✓	–	–	–	–	–	–	–	–

2. Fixture user guide (Embedded in the packaging)

COWELL IMPLANT SYSTEM Instructions for Use

1. Device Description
The COWELLMEDI implant system includes a variety of precision-machined fixtures manufactured from titanium. These implants are surgically inserted into a mandible (the lower jawbone) or a maxillary bone (the upper jawbone) and serve as a replacement for a patient's tooth root providing a stable foundation for restoration.

2. Intended for use
To support dental prosthesis as a dental device, which is implanted into alveolar bone to recover masticatory function and give better esthetics in patients with partially or full edentulous jaws.

3. Directions for use
1) Surgery - The first stage
a. According to the patient's condition, appropriate dental cleaning operations may be performed and preventive antibiotics may be administered prior to implant operation.
b. Clean and disinfect the operative site, administer local anesthesia in the area and expose the alveolar bone by making appropriate incisions and reflecting the gingival tissues along the alveolar crest in the area from where teeth were extracted.
c. Drill into the gum in order to implant a fixture into the planned place with various dental operation tools. The speed of the revolution of the drill should be adjusted by the condition of the bone and the kinds of operation tools. Saline solution should be poured onto the area so that necrosis doesn't occur by heating of the bone (The speed for all drilling should be less than 1,200 rpm).
d. Remove the external sterile package cover sheet: open the cap of the ampule: affix the Fixture Driver (in case of No-mount Fixture) or the Mount Driver (in case of Pre-mount Fixture) to the Hand-piece and connect it to the fixture: move the assembled piece to the osteotomy site for the implant using care to prevent the assembled piece from being separated or contaminated with foreign materials.
e. A fixture is implanted into the bone as planned depth by turning (25~30 rpm) a hand-piece clockwise with 15~50 N.cm torque. In event that it is hard to insert, extend the width of bone by Tap Drill or Countersink (less than 1,200 rpm) in order to facilitate better implantation.
f. After finishing implantation, the treated part should be sutured by using a hex driver to connect to the Cover Screw with torque 5 N.cm to prevent the intrusion of a foreign substance in the fixture.
2) Surgery - The second stage
a. Incise gingival of the upper part of fixture subsequent to bone fusion and remove Cover Screw, tighten up Healing Abutment and start gingival curing for a prosthesis.
b. In general, surgery is done by a method that makes prosthesis.

4. Contraindication
The operation should be reconsidered when the patient has any of the following conditions.
a. Patient with oral infection or inflammation.
b. In the case of low-quality bone which will result in an unstable implant.
c. Patients who have a drinking problem or mental disease or substance or medicine abuse.
d. Internal diseases such as hematodyscrasia or diabetes and undernourishment.
e. Any patient who is not suitable for operation.

5. Warnings
Implant surgery and restoration involve complex dental procedures. For safe and effective use of the COWELLMEDI fixtures, it is strongly suggested that specialized training be undertaken since the surgical techniques required to place dental implants are highly specialized and complex procedures. Improper patient selection and technique can contribute to fixture failure and/or loss of supporting bone. the COWELLMEDI fixtures are intended for use only in the indicated applications. Dental fixtures must not be altered in any way. The use of electro-surgical instruments or lasers around metallic fixtures and their abutments is not recommended due to the risk of electric shock and/or burns. Fixture mobility, bone loss, or chronic infection may indicate fixture failure. The treatment should be done in an aseptic condition by an operator who wears an aseptic costume. If the fixture becomes contaminated by the patient's body fluids in any way, the fixture cannot be used in any other patient.

6. Precautions
The surgical techniques required to place endosseous dental fixtures require specialized and complex procedures. Formal training for the placement of fixtures is recommended.
Important: Determine local anatomy and suitability of the available bone for fixture placement. Thorough screening of prospective fixture candidates must be performed. Visual inspection as well as panoramic and periapical radiographs are essential to determine anatomical landmarks, occlusal conditions, periodontal status, and adequacy of bone. Lateral cephalometric radiographs, CT scans and tomograms may also be beneficial. Adequate radiographs, direct palpation and visual inspection of the fixture site are necessary prior to treatment, planning and use of the COWELLMEDI fixtures.

7. Adverse Effects
Some of the complications (loss of fixture anchorage, prosthesis etc.) are possible occurrences after surgery. Lack of quantity or poor quality of remaining bone, infections, poor patient oral hygiene or cooperation, patient discomfort, fixture mobility, local soft tissue degeneration, and unfavorable fixture placement or alignment are some potential causes for loss of anchorage.

8. Surgical complications
The implant procedure has risks, including localized swelling, dehiscence, tenderness of short duration, edema, hematoma or bleeding. Numbness of the lower lip and chin region following lower jaw surgery, and of the tissue beside the nose following upper jaw surgery, is a possible side-effect of the surgery. Though it would most probably be of a temporary nature, in very rare cases, the numbness has been permanent. Gingival mucosal (gum tissue) ulceration, tissue reaction, or infection may occur, but generally responds to local care.

9. Post-implant Management
a. The upper jaw requires a healing period of 6-8 months depending on the bone quality, and the lower jaw requires a healing period of 3-5 months, again depending on the bone quality. If pressure is applied to the fixture during the healing period, such as in mastication, early fixation may not be achieved or osseointegration of the fixture may not occur within the healing period.
b. Once the operator clinically determines that sufficient osseointegration has been achieved, he/she should begin producing the dental prosthesis.
c. The Lot Number Identification Tag and the X-ray film should be attached to the patient's chart, to track the product when needed.
d. The operator should determine the osseointegration status of the implant through X-ray and clinical methods such as percussion and/or reverse torquing.

10. Storage / Sterilization and Handling
a. Store the product at room temperature and in a dry place.
b. The fixture, fixture mount, and cover screw have been cleaned and sterilized through radiation (gamma irradiation) and are ready for use.
c. The product packages should be opened just before their use during the operation. Expired products should not be used.
d. Only appropriate sterilized surgical tools made specifically for dental implants should be used during the operation.

11. Expiration date
The expiration date of the product is 5 years from manufacturing.

12. Cleaning & Sterilization
Cleaning of surgical instruments supplied non-sterile should be performed according to current dental standard practices. Select a suitable method of cleaning that removes all visible contamination from the product in sterilized and distilled water. After cleaning, package the product appropriately and then sterilized by autoclave at the minimum condition of 250°F (121°C/15 mins).

13. Caution
a. As this product is sterilized by Gamma radiation, it should not be used under any circumstances if open.
b. Every product is disposable. It should not be reused.

COWELLMEDI Co., Ltd.
48, Hakgam-daero 221beon-gil, Sasang-gu, Busan, 617-801, Republic of Korea
Tel. +82-51-312-2027~8 Fax. +82-51-316-2628
https://www.cowellmedi.com
D/T
COWELLMEDI USA INC. 218 Trianon LN Villanova PA 19085-1442 USA
Tel. +1-623-939-1344 Fax. +1-623-939-1472
EC-REPRESENTATIVE
Certification Experts B.V. Amerlandseweg 7, 3621 ZC Breukelen, The Netherlands

CE 0123 GMP | Do Not Reuse | 1°C 30°C | Caution | STERILE R Sterilized Using Irradiation | Consult Instructions for Use

2021. 09. 02 / CWM-I-007 (Ver.4)

3. Fixture packaging opening and the sequence of the product extraction

Taking out the ampule

1 Press the upper dotted area to open, and take out the sterilized blister pack.

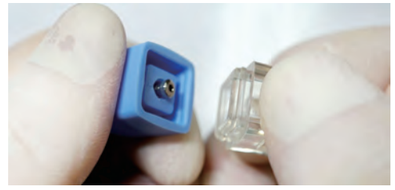
2 Remove the moisture-resistant paper on the back of the blister pack, and drop the ampule lightly on the palm of a practitioner or surgical clothes.

Fixture separation

1 Hold the ampule with both hands and twist it 45 degrees to separate the middle part. Care should be taken to prevent the fixture from falling off.

2 Fixtures are fastened in two ways.
1) No-Mount -> Fasten with the Fixture Driver.
2) Pre-Mount -> Fasten with the Mount Driver.

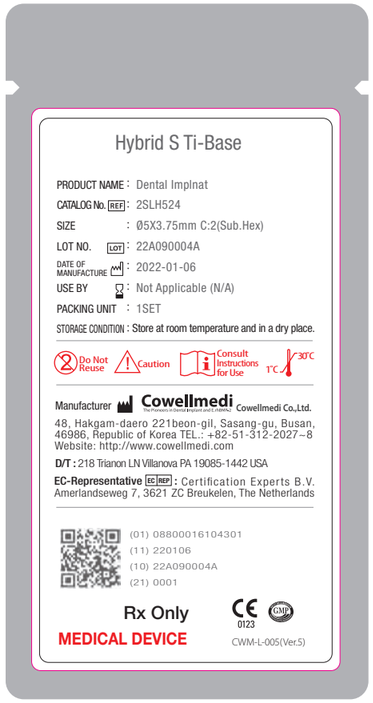
Cover Screw separation



1 Separate the upper part of the ampule.

2 Fasten the Hex Driver to the Cover Screw completely. Care must be taken to prevent the patient from swallowing the Cover Screw at the time of placing.

4. Abutment packaging and external label marking



Hybrid S Ti-Base

PRODUCT NAME : Dental Implnat
CATALOG No. REF : 2SLH524
SIZE : Ø5X3.75mm C:2(Sub.Hex)
LOT NO. LOT : 22A090004A
DATE OF MANUFACTURE : 2022-01-06
USE BY : Not Applicable (N/A)
PACKING UNIT : 1SET
STORAGE CONDITION : Store at room temperature and in a dry place.

Do Not Reuse | Caution | Consult Instructions for Use | 1°C ~ 30°C

Manufacturer Cowellmedi Cowellmedi Co.,Ltd.
48, Hakgam-daero 221beon-gil, Sasang-gu, Busan, 46986, Republic of Korea TEL.: +82-51-312-2027~8
Website: http://www.cowellmedi.com
D/T : 218 Trianon LN Villanova PA 19085-1442 USA
EC-Representative EC REP **:** Certification Experts B.V. Amerlandseweg 7, 3621 ZC Breukelen, The Netherlands

(01) 08800016104301
(11) 220106
(10) 22A090004A
(21) 0001

Rx Only
CE 0123
MEDICAL DEVICE
CWM-L-005(Ver.5)

5. Surgical Kit packaging and external label marking

INNO Sub. Full Kit

PRODUCT NAME : Reusable Surgical Instrument
CATALOG No. REF : KCA010F
SIZE : INNO (Full / Sub.)
LOT NO. LOT : 22A090004A
DATE OF MANUFACTURE : 2022-01-06
USE BY : Not Applicable (N/A)
PACKING UNIT : 1SET
STORAGE CONDITION : Store at room temperature and in a dry place.

Caution | Consult Instructions for Use | 1°C ~ 30°C

Manufacturer Cowellmedi Cowellmedi Co.,Ltd.
48, Hakgam-daero 221beon-gil, Sasang-gu, Busan, 46986, Republic of Korea TEL.: +82-51-312-2027~8
Website: http://www.cowellmedi.com
D/T : 218 Trianon LN Villanova PA 19085-1442 USA
EC-Representative EC REP **:** Certification Experts B.V. Amerlandseweg 7, 3621 ZC Breukelen, The Netherlands

(01) 08800016103113
(11) 22106
(10) 22A090004A
(21) 0001

Rx Only
CE GMP
MEDICAL DEVICE
CWM-L-006 (Rev.4)

Implant Innovation

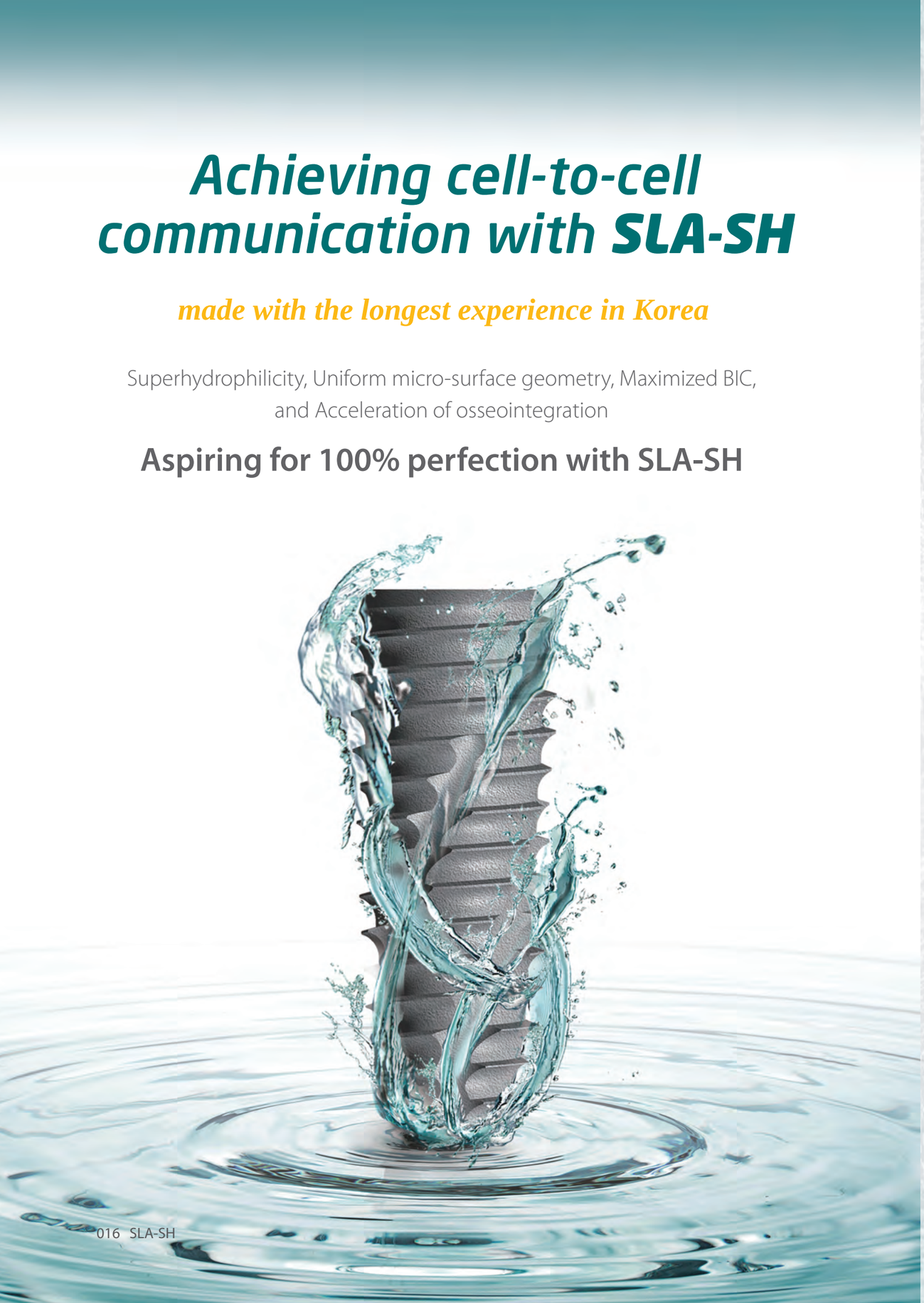
When INNOVATION meets Dental Implant.

*Achieving cell-to-cell communication with **SLA-SH***

made with the longest experience in Korea

Superhydrophilicity, Uniform micro-surface geometry, Maximized BIC,
and Acceleration of osseointegration

Aspiring for 100% perfection with SLA-SH



SLA-SH Surface Treatment

Achieving cell-to-cell communication

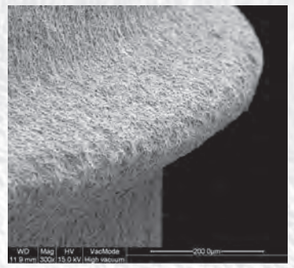
SLA-SH :

Sandblasted, Large-grit, Acid-etched, and Super-Hydrophilised

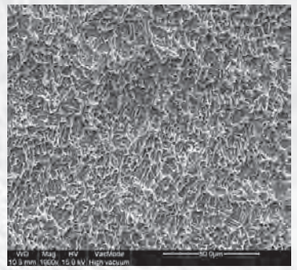
> Long-lasting super-hydrophilic activation by special soaking technology.
> Al_2O_3 free, sandblasted with biocompatible grits unlike the majority of other implants sold in the market.
> Macro-pore & micro-pore of Ti-oxide layer mimicking the etched enamel rod of the tooth.
> Even distribution of roughness through the whole portion of the implant surface.
> No destruction or alteration of the surface is caused even with torque force of 120 N.cm.
> Acceleration of osseointegration and maximization of BIC.

1. Evaluation using SEM (Scanning Electron Microscope) Images

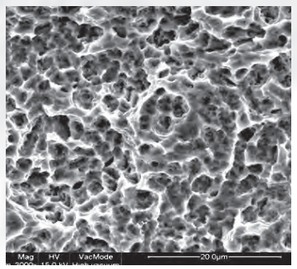
A. SLA-SH Surface magnified X300, 1,000 and 3,000



X300

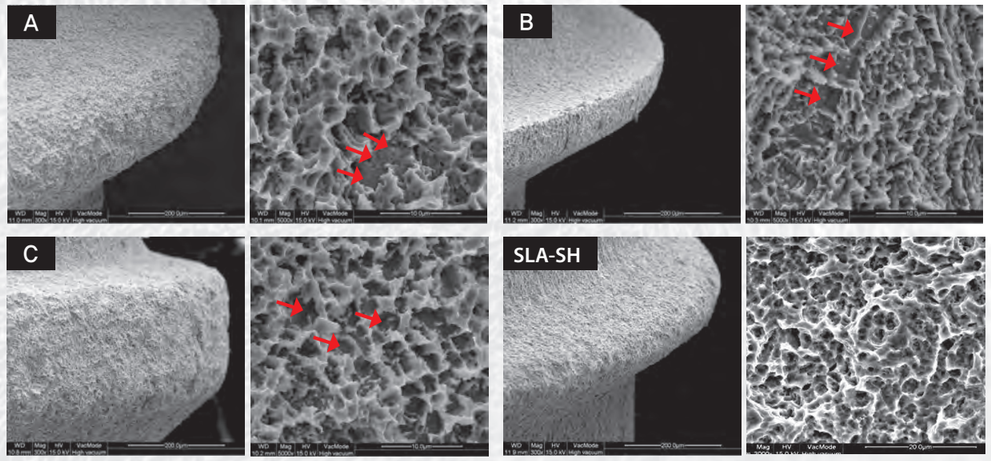


X1,000



X3,000

B. Comparison to other SLA treated implants currently sold in the market



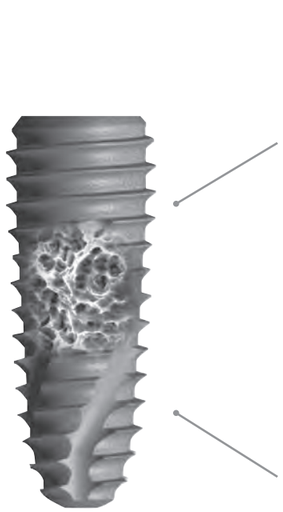
> Surface treatment patterns were observed on electron microscope photographs of 5,000 magnifications for top parts of the implants.

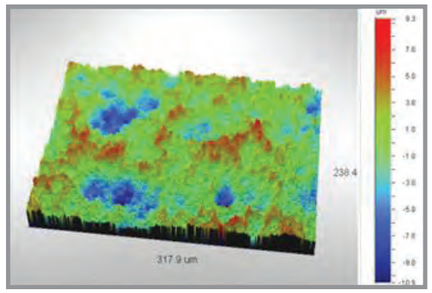
> Sand-blasted surface conditions were observed in the product A, B, and C due to insufficient acid etching patterns in deep parts as the SLA-SH is sandblasted with biocompatible grits with even particle size unlike others are done with alumina.

> The entire surface of the SLA-SH treated implant showed uniform acid etching patterns. This implies that the acid etching of the SLA-SH surface is perfect.

2. Evaluation using SSEM (Stereo Scanning Electron Microscope) 3D images

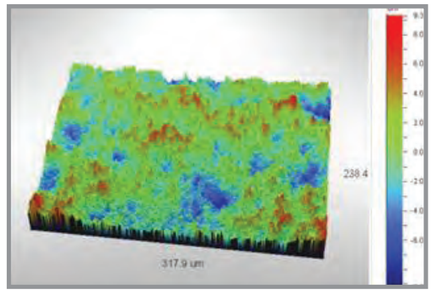
A. SLA-SH Surface





Surface Stats
Ra : 1.80 ㎛
Rq : 2.27 ㎛
Rt : 18.49 ㎛

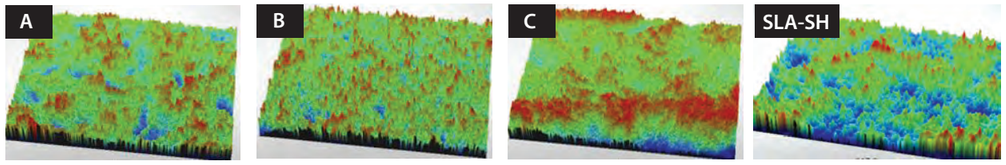
Measurement Info
Magnification : 19.93
Measurement Mode : VSI
Sampling : 496.74 nm
Array Size : 640 X 480



Surface Stats
Ra : 1.95 ㎛
Rq : 2.52 ㎛
Rt : 19.83 ㎛

Measurement Info
Magnification : 19.93
Measurement Mode : VSI
Sampling : 496.74 nm
Array Size : 640 X 480

B. Comparison to other SLA treated implants currently sold in the market



Upper Ra : 2.47㎛
Lower Ra : 3.11㎛
Deviation : 0.64㎛

Upper Ra : 1.07㎛
Lower Ra : 1.13㎛
Deviation : 0.06㎛

Upper Ra : 2.65㎛
Lower Ra : 2.09㎛
Deviation : 0.56㎛

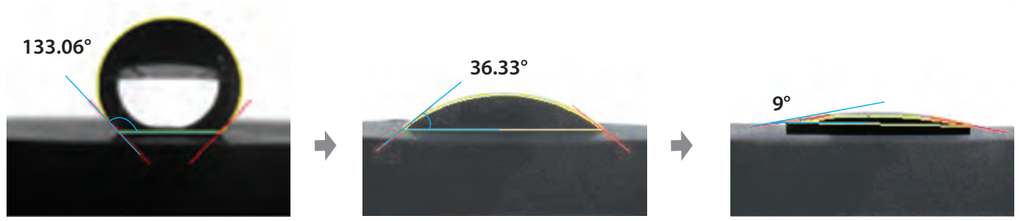
Upper Ra : 1.80㎛
Lower Ra : 1.95㎛
Deviation : 0.15㎛

> Uniform distribution of Macro-pore and micro-pore.

> Roughness of the SLA-SH showed 1.90um while the others were 1.07 to 3.11um.

3. The surface activity increased due to the great surface wetness

A. Contact angle measurement evaluation result for the saline solution



After SLA treatment (133.06°)

After hydrophilic activation treatment (36.33°)

After super-hydrophilic activation treatment (9°)

After the hydrophilic and super-hydrophilic activation by special soaking technology, the sample became extremely hydrophilic and the surface energy increased, which facilitated the expedition of osteoblast activation to fuse to the bone faster.

Capillarity in the actual clinical setting, which accelerated the penetration of blood.

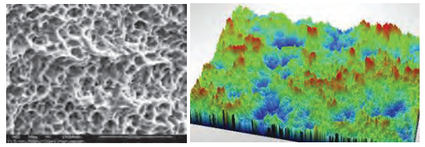
※ **Quoted from the website of Cowellmedi Clinical Research Group (www.e-cowellmedi.com)**

Blood Friendly

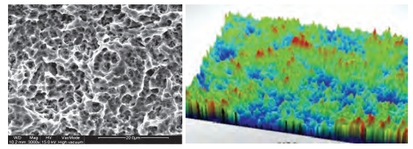
WATCH NOW

Scan or click to see how hydrophilic SLA-SH is

B. Relation between surface wetness and roughness



After SLA treatment (Ra: 1.78㎛)



After super-hydrophilicity activation treatment (Ra: 1.90㎛)

> There was almost no difference in surface roughness and micro-geometry, and the difference of surface wetness took place in the same physicochemical properties as surface energy increased by hydrophilic activation treatment.

C. Physicochemical alteration of surface by hydrophilic activation treatment

Name	Start BE	Peak BE	End BE
C1s	290	284.6	280.5
O1s	535.3	530.42	525.6
Ti2p	468.1	458.78	450.4

After SLA treatment

Name	Start BE	Peak BE	End BE
C1s	290.46	284.6	284.6
O1s	538.8	533.73	529.3
Ti2p	468.2	456.76	453.4

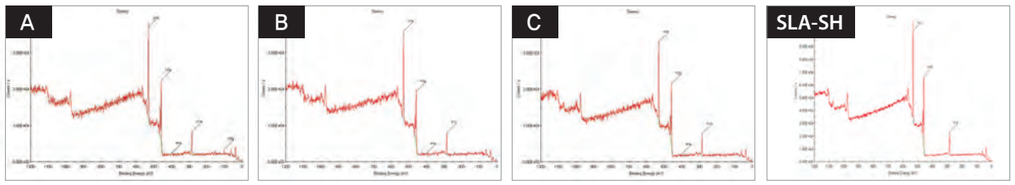
After hydrophilicity activation treatment

> Surface wetness was improved by the increased surface energy of C1s, O1s and Ti2p after hydrophilic activation treatment.

> To maintain and even to enhance surface wetness, super-hydrophilic activation treatment was carried out and contamination by carbon in the atmosphere is prevented during packing and sterilization.

4. Its safety has been proven through perfect cleaning with an automated system

A. Comparison of surface element tests through X-ray diffraction



> Cutting-edge automated system that produces the 3rd distilled water.

B. Comparison of surface element tests (X-ray Photo-electron Spectroscopy, XPS)

Unit : %

Sample	C1s	O1s	Ti2p	Si2p	N1s
A	34.12	45.05	15.11	5.24	0.47
B	31.84	46.49	15.22	4.87	1.57
C	32.19	47.58	17.58	2.65	N.D
SLA-SH	27.19	50.81	17.61	N.D	N.D

> Quantitative analysis of each surface element found 30% carbon, 47% oxygen, 16% titanium, and 4% silicon in all products.

> For the SLA-SH , they only consisted of carbons(C1s), oxygen(O1s), and titanium(Ti2p).

> Sodium hydroxide, the main element of the alkali washing solution, combined with silicon(Si) to form water-soluble $Na_2SiO_2(OH)_2{\cdot}4H_2O$(water glass), which removed the other elements.

C. Comparison of elution tests using combustion ion chromatography

Unit : ppm

Sample	F^-	Cl^-	NO_2^-	SO_4^{2-}	Br^-	NO_3^-	PO_4^{3-}
A	N.D	0.024	0.027	0.002	N.D	0.031	N.D
B	N.D	0.027	0.019	0.002	N.D	0.030	N.D
C	N.D	0.071	0.020	N.D	N.D	0.023	N.D
SLA-SH	N.D	N.D	N.D	N.D	N.D	0.032	N.D

> Similar ions were detected in all the products, but they are not harmful to humans because their elements and quantities do not affect the human body and those have been proven in many studies.

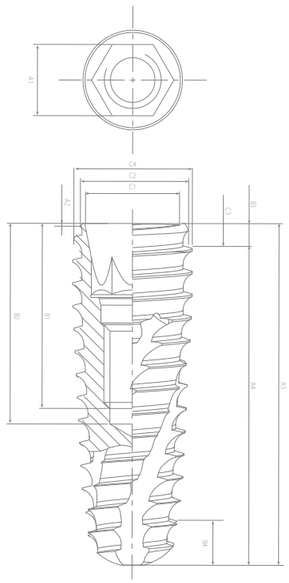
> For the SLA-SH , no other elements except for NO_3^- were detected. Alkali washing completely removed the SO_4^{2-} and Cl^- ions of sulfuric acid and hydrochloric acid, which are used for heated acid etching because they form water-soluble salts of Na_2SO_4 and NaCl.

> No elements that interfere with osteo anagenesis were found from both the surface and elution elements, which shows that the cleansing process was perfectly carried out.

COWELL CLASS 1000

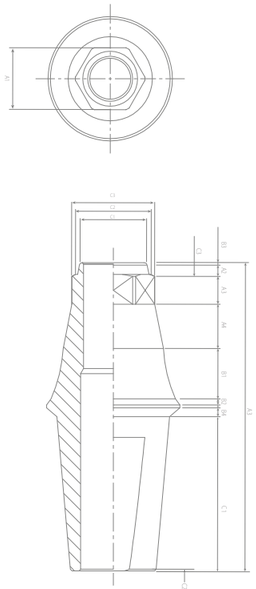
A SUBTLE DIFFERENCE MAKES THE DENTAL IMPLANT OR NOT

1. Fixture manufacturing tolerance evaluation



Evaluation Item	Manufacturing Tolerance				
Method	a. The specimen was fixed in Jig. b. Each dimensional difference of 3 inner hexagonal connection sides (Hex-1, Hex-2, Hex-3) of 5 specimens was measured.				
Used Equipment	Measuring Microscope and Jig				
Criteria	Each dimensional difference of 3 inner hexagonal sides is no more than ±0.001mm (1.000㎛) from 2.500mm.				
Specimen	INNO Submerged Fixture (5 Pieces of ST4510S)				
	#1	#2	#3	#4	#5
Hex-1	2.499	2.500	2.500	2.500	2.500
Hex-2	2.500	2.500	2.501	2.500	2.500
Hex-3	2.500	2.500	2.500	2.501	2.499
Average	2.500	2.500	2.500	2.500	2.500
Total Average	**2.500**				
Result (Pass/Fail)	**Pass**				
Manufacturing Tolerance	**No more than ±0.001mm (1.000㎛)**				

2. Prosthetic component manufacturing tolerance evaluation



Evaluation Item	Manufacturing Tolerance				
Method	a. The specimen was fixed in Micro-Measuring Instrument. b. Each dimensional difference of 3 outer hexagonal connection sides (Hex-1, Hex-2, Hex-3) of 5 specimens was measured.				
Used Equipment	Micro-Measuring Instrument				
Criteria	Each dimensional difference of 3 outer hexagonal connection sides is no more than ±0.001mm (1.000㎛) from 2.490mm.				
Specimen	INNO Sub. Cemented Abutment (5 Pieces of 2SCH4515)				
	#1	#2	#3	#4	#5
Hex-1	2.489	2.490	2.490	2.490	2.490
Hex-2	2.490	2.490	2.490	2.490	2.490
Hex-3	2.490	2.490	2.490	2.490	2.491
Average	2.490	2.490	2.490	2.490	2.490
Total Average	**2.490**				
Result (Pass/Fail)	**Pass**				
Manufacturing Tolerance	**No more than ±0.001mm (1.000㎛)**				

COWELL IMPLANT SYSTEM

Help your daily practice superior

COWELL IMPLANT SYSTEM

Meta G UCLA Abutment
Castable abutment with a metal base that can be modified into angulated, telescopic, and custom abutment.

Easy Temporary Abutment
Temporary restoration for the anterior esthetic zone that offers a simpler, speedier, and safer chair-side process.

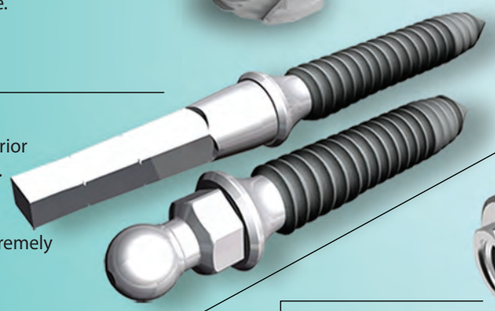
Angulated Abutment
A simple solution for the anterior esthetic zone.

Milling Abutment
Block abutment to customize contouring.

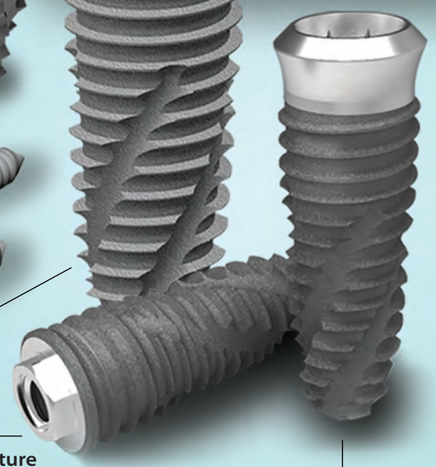
Volume-up Healing Abutment
Devised to prevent food penetration and form aesthetic cervical areas by restoring the contracted buccal alveolar bone and gingiva to their original shape and width.

INNO Submerged Narrow Fixture
Designed for the anterior esthetic zone with the narrow alveolar ridge. Double tapered threads acquire higher primary stability through a wedge action.

INNO Submerged Short Fixture
Designed for severe bone resorption. Wide and deep upper threads prevent the compressive necrosis of the cortical bone.



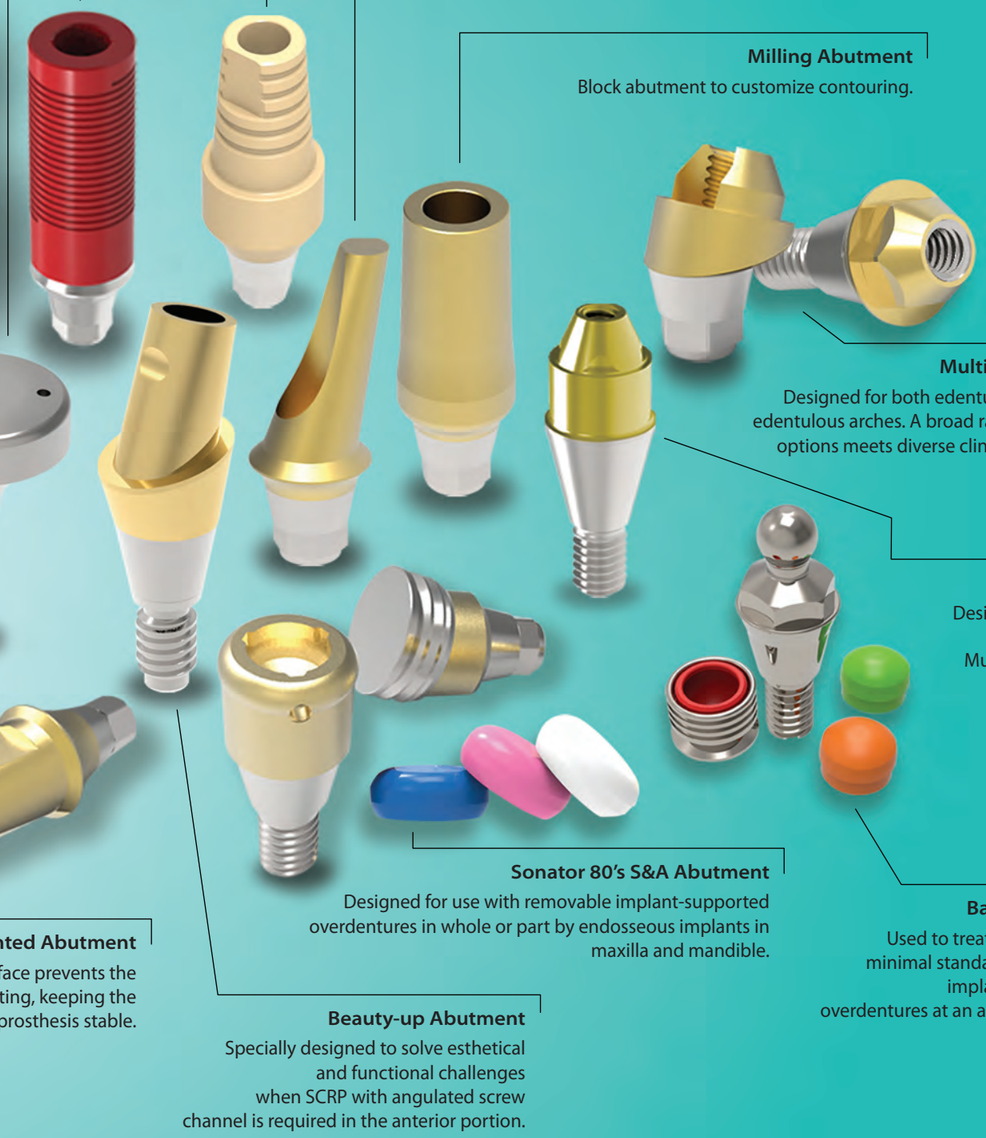
Miniplus Fixture
Designed for mandible anterior spaces and edentulous arch. Semi-permanent or temporary solution for anterior spaces with the extremely narrow ridge.



INNO External Fixture
The platform neck with open thread aids in the stable engraftment of the periosteum at the bone-implant interface.

INNO Submerged Fixture
Designed for all clinical cases, including immediate implant placement, immediate loading, implant depth adjustment, maxillary sinus, etc. Simply doing all for your implant treatment.

INNO Internal Fixture
4 spiral round cutting edges maximize the efficiency of self-tapping with a sharp edge and accommodate bone chips as ideal cutting edge pocket space.



Cemented Abutment
The anti-rotational face prevents the prosthesis from rotating, keeping the prosthesis stable.

Beauty-up Abutment
Specially designed to solve esthetical and functional challenges when SCRP with angulated screw channel is required in the anterior portion.

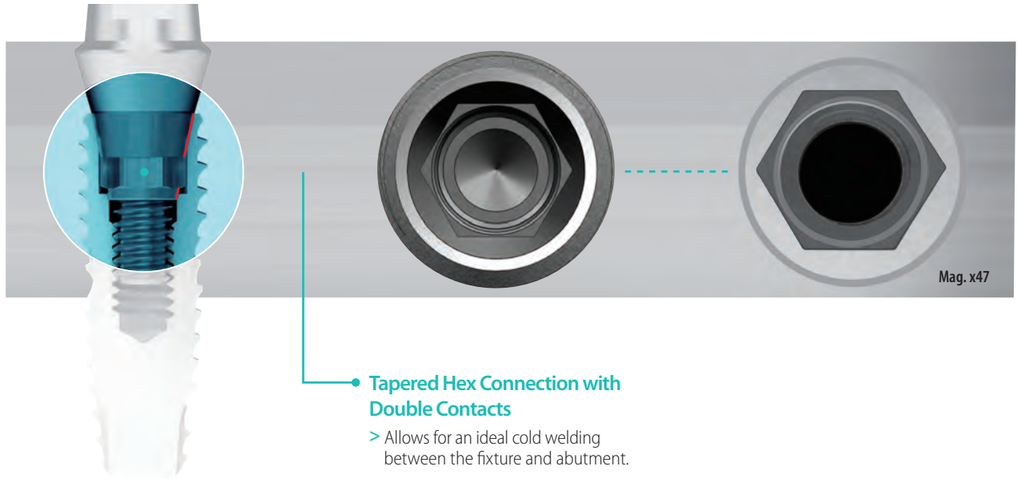
Sonator 80's S&A Abutment
Designed for use with removable implant-supported overdentures in whole or part by endosseous implants in maxilla and mandible.

Multi S&A Abutment
Designed for both edentulous and partially edentulous arches. A broad range of prosthetic options meets diverse clinical requirements.

Lock Abutment
Designed for the same purpose as the Multi S&A Abutment, but for prosthetic restorations in narrow ridges.

Ball Abutment
Used to treat patients with minimal standards of care for implant-supported overdentures at an affordable cost.

INNO Implant System : Fixture Design



Tapered Hex Connection with Double Contacts

> Allows for an ideal cold welding between the fixture and abutment.

> Prevents micro-sinking of the abutment.

> Minimizes micromovement and distribute stress against loading.

Wide and Deep Upper Threads

> Prevent the compressive necrosis of the cortical bone.

> Minimize the need for countersink drills.

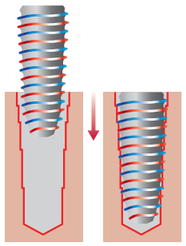
> Increase the mechanical strength by reinforcing the thickness.

Double Tapered Threads

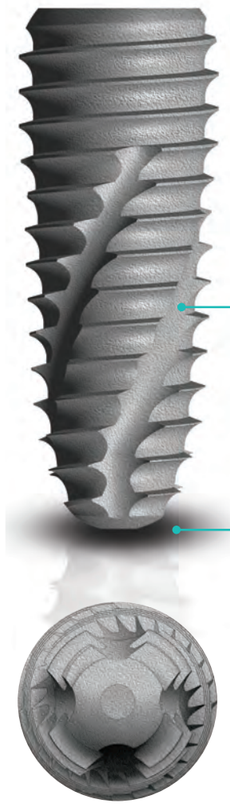
> Ensure initial stability even in areas with poor bone quality or alveolar socket.

> Allow the fixture inserted more than half its length into the drilled hole to be placed in only 2 to 4 turns.

> Achieve higher primary stability with wedge action, even with an additional half turn.



Shortens the placement time with 5mm or more of already entered depth as well as double thread.



Platform Neck

> Enables stable engraftment of the periosteum at the interface between bone and implant.

Open Threads

> Allow the fixture to be placed deeper without additional drilling.

4 spiral round cutting edges

> Maximize the efficiency of self-tapping with sharp edges.

> Allow for smooth placement of the fixture but provide higher initial stability (see test table below).

Concave Apex Threads with Sharp Cutting Edges

> Prevent Schneiderian membrane from being ripped.

> Enhance initial stability of the fixture in extraction sockets.

※ Comparison of the average placement torque force of 4 different fixtures (4pcs each) with dimensions of Ø4.5X10mm in 5.0 and 5.5mm deep holes of type 2 bone quality test block.

Classification	INNO	A	B	C
Depth 5.0mm	26.2 N.cm	29.2 N.cm	26.8 N.cm	28.4 N.cm
Depth 5.5mm	44.0 N.cm	38.0 N.cm	34.4 N.cm	38.5 N.cm

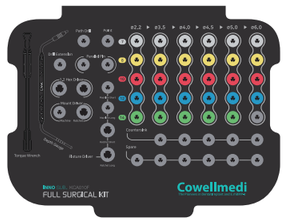
Advantageous design for all clinical cases such as immediate implant placement and loading, implant placement & immediate loading, implant depth adjustment, maxillary sinus, and etc.

Fixture type	Submerged (Sub.)	Submerged Short (Sub.)	Submerged Narrow (Sub-N.)	Internal (Int.)	External (Ext.)
Fixture Design					
Connection	SUB. HEXAGON SYSTEM		SUB-N. HEXAGON SYSTEM	INT. OCTAGON SYSTEM	EXT. HEXAGON SYSTEM

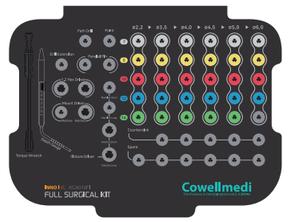
Simpler, Speedier, and Safer Surgical Kits

Providing dedicated kits for different types of fixtures.

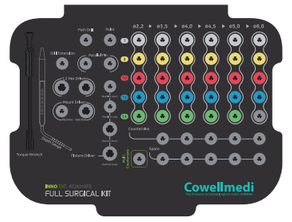
Sub. Full KCA010F



Int. Full KCA010FI



Ext. Full KCA010FE



Sub. Smart KSA002

Sub. Short KSI001

Sub-N. Narrow KNA001

All in One Drill: Minimal drilling frequency with Initial and Final Drill

Chair time for implantation is shortened because the fixture can be implanted with just three times of drilling for general bone quality (Fixture Ø3.5 to 4.5).

Abutment Prosthetic Protocol

> For digital procedure, refer to the COWELL Digital Products (Refer to the page 166 to 187).

1. Fixture Level Impression - Prosthesis Fabrication

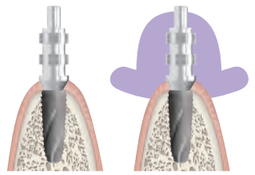
*** Two Piece Screw Retained Abutment**

Submerged & Submerged Short : Temporary | Easy Temporary
External : Temporary

*** Two Piece Screw-Cement Retained / Cement Retained Abutment**

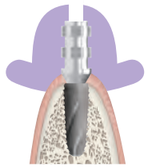
Submerged & Submerged Short : Cemented | Angulated | Beauty-up | Milling | Meta G UCLA | Plastic UCLA | Hybrid S | Hybrid L | Hybrid A | Ti-Block
Submerged Narrow : Cemented | Angulated | Temporary | Meta G UCLA | Hybrid S | Hybrid L | Hybrid A
Internal : Cemented | Angulated | Meta G UCLA | Hybrid S | Hybrid L
External : Cemented | Angulated | Temporary | Meta G UCLA | Plastic Sleeve

Pick up (Open Tray)

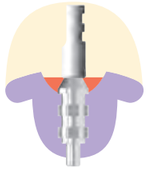


Connect the Pick-up Impression Coping & Guide Pin and take the impression with open tray.

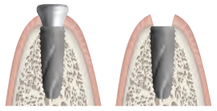
Single Crown : Hex / Octa Type
Bridge: Non-Hex / Non-Octa Type



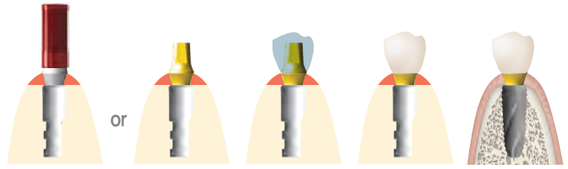
Remove the Guide Pin.



Connect the Replica with the Impression Coping positioned in the impression body, form the gum and pour stone into the tray for working cast.



Remove the Healing Abutment.



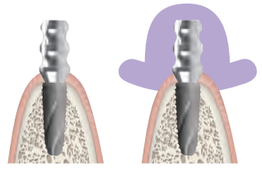
Connect the abutment with replica in the working cast.

Wax build-up on the abutment.

Complete final prosthesis.

Try-in final prosthesis with the fixture.

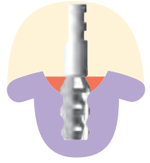
Transfer (Closed Tray)



Connect the Transfer Post & Guide Pin and take the impression with closed tray.

Single Crown : Hex / Octa Type
Bridge: Non-Hex / Non-Octa Type

Connect the Replica with the Transfer Post removed from the impression body.



Interlock the Transfer Post into the impression body, form the gum and pour stone into the tray for working cast.

2. Abutment Level Impression - Prosthesis Fabrication

*** Two / One Piece Screw Retained Abutment**

Submerged & Submerged Short : Multi S | Multi A | Lock
Submerged Narrow : Multi S | Multi A

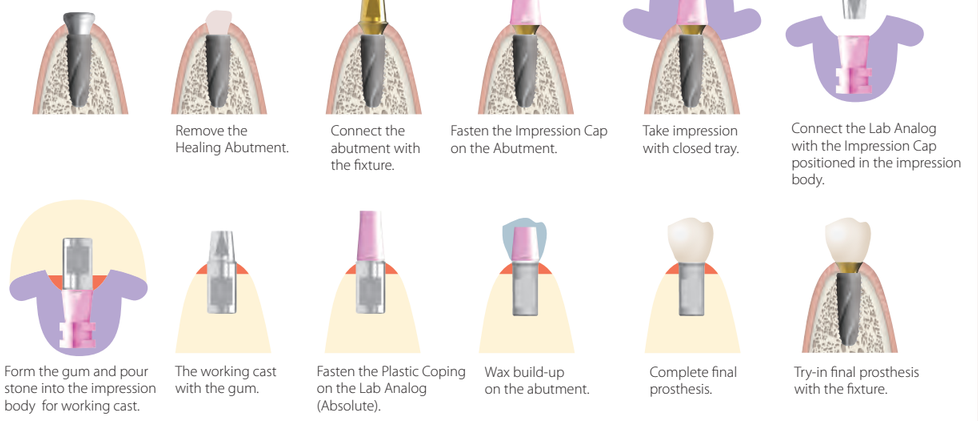
*** One Piece Cemented Retained Abutment**

Submerged & Submerged Short : Absolute | Straight (Direct)
Submerged Narrow : Straight
Internal : Solid | Shoulder
External : Shoulder

*** Two / One Piece Attachment Retained Abutment**

Submerged & Submerged Short : Sonator S | Sonator A | Ball
Internal : Sonator S | Ball
External : Ball

Indirect Impression Technique (No Abutment Modification Applied)



Remove the Healing Abutment.

Connect the abutment with the fixture.

Fasten the Impression Cap on the Abutment.

Take impression with closed tray.

Connect the Lab Analog with the Impression Cap positioned in the impression body.

Form the gum and pour stone into the impression body for working cast.

The working cast with the gum.

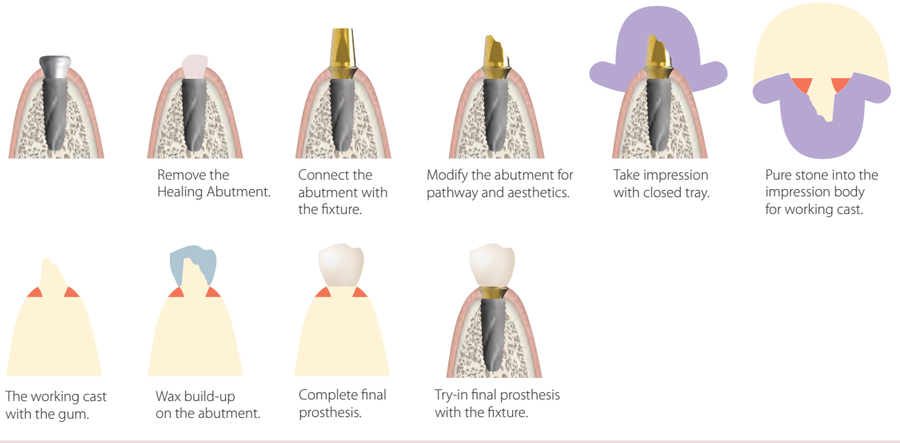
Fasten the Plastic Coping on the Lab Analog (Absolute).

Wax build-up on the abutment.

Complete final prosthesis.

Try-in final prosthesis with the fixture.

Direct Impression Technique (Abutment Modification Applied)



Remove the Healing Abutment.

Connect the abutment with the fixture.

Modify the abutment for pathway and aesthetics.

Take impression with closed tray.

Pure stone into the impression body for working cast.

The working cast with the gum.

Wax build-up on the abutment.

Complete final prosthesis.

Try-in final prosthesis with the fixture.

INNO SUBMERGED IMPLANT (Sub.)

System Flow

Fixture

Abutment

Prosthetic Procedure I

Prosthetic Procedure II

Prosthetic Procedure III

Prosthetic Procedure IV

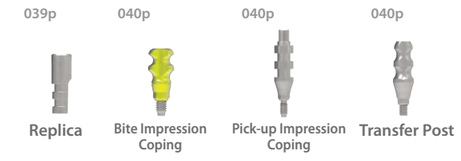
Prosthetic Procedure V

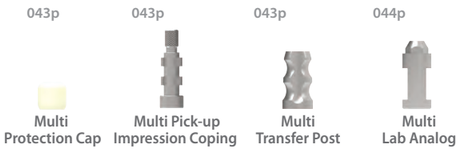
Prosthetic Procedure VI

Prosthetic Procedure VII

Fixture Level Impression

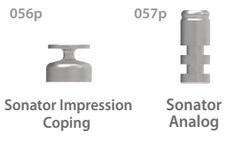
Impression





Abutment Level Impression

Direct Impression

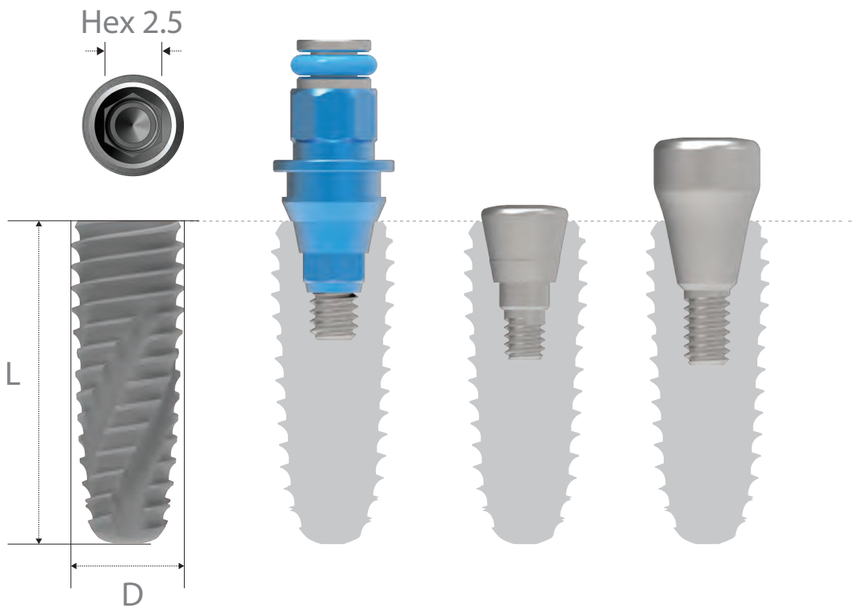


INNO Submerged Implant

SUB. HEXAGON SYSTEM

Submerged Fixture
Surface Treatment: **SLA-SH**

> Interchangeable with hexagonal morse tapered fixture
> Internal hex connection (Taper 11°/ Hex 2.5)



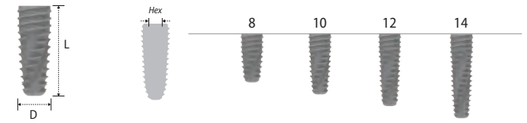
INNO Fixture Code

S	T	40	10	S		M	
Type	body	Diameter	Length	Surface Treatment		Mount	*Ex.)
Submerged	**T**aper	Ø**4.0**	**10**mm	**S**LA		No-**M**ount	SLA No-Mount ST4010**SM**

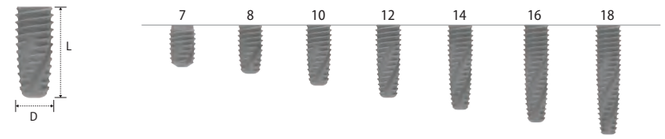
S	T	40	10	S			
Type	body	Diameter	Length	Surface Treatment		Mount	*Ex.)
Submerged	**T**aper	Ø**4.0**	**10**mm	**S**LA		Pre-Mount	SLA Pre-Mount ST4010**S**

No-Mount > Packing unit: 1 Fixture + 1 Cover Screw.

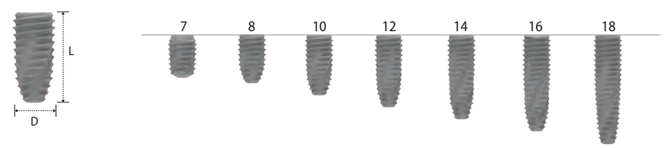
Length \ Diameter	Ø3.5
7	-
8	ST3508**SM**
10	ST3510**SM**
12	ST3512**SM**
14	ST3514**SM**



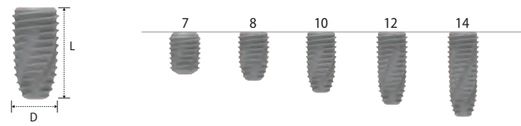
Length \ Diameter	Ø4.0
7	ST4007**SM**
8	ST4008**SM**
10	ST4010**SM**
12	ST4012**SM**
14	ST4014**SM**
16	ST4016**SM**
18	ST4018**SM**



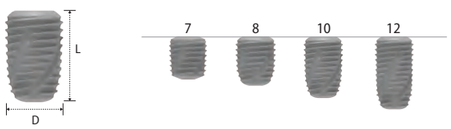
Length \ Diameter	Ø4.5
7	ST4507**SM**
8	ST4508**SM**
10	ST4510**SM**
12	ST4512**SM**
14	ST4514**SM**
16	ST4516**SM**
18	ST4518**SM**



Length \ Diameter	Ø5.0
7	ST5007**SM**
8	ST5008**SM**
10	ST5010**SM**
12	ST5012**SM**
14	ST5014**SM**



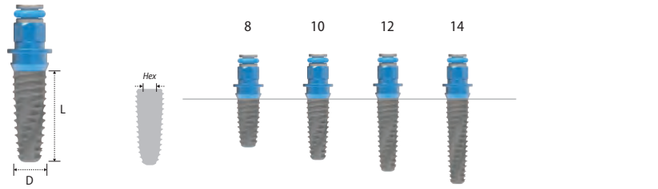
Length \ Diameter	Ø6.0
7	ST6007**SM**
8	ST6008**SM**
10	ST6010**SM**
12	ST6012**SM**
14	-



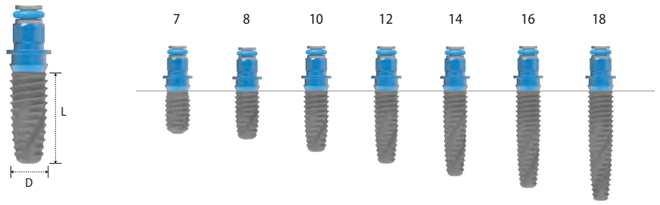
Pre-Mount

> Packing unit: 1 Fixture + 1 Cover Screw + 1 Mount.

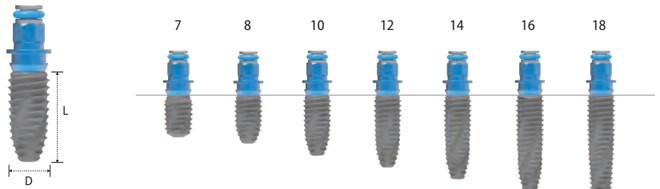
Length \ Diameter	Ø3.5
7	-
8	ST3508S
10	ST3510S
12	ST3512S
14	ST3514S



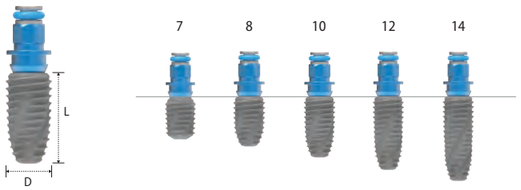
Length \ Diameter	Ø4.0
7	ST4007S
8	ST4008S
10	ST4010S
12	ST4012S
14	ST4014S
16	ST4016S
18	ST4018S



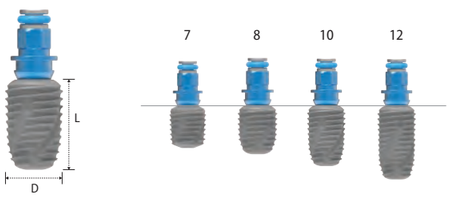
Length \ Diameter	Ø4.5
7	ST4507S
8	ST4508S
10	ST4510S
12	ST4512S
14	ST4514S
16	ST4516S
18	ST4518S



Length \ Diameter	Ø5.0
7	ST5007S
8	ST5008S
10	ST5010S
12	ST5012S
14	ST5014S



Length \ Diameter	Ø6.0
7	ST6007S
8	ST6008S
10	ST6010S
12	ST6012S
14	-

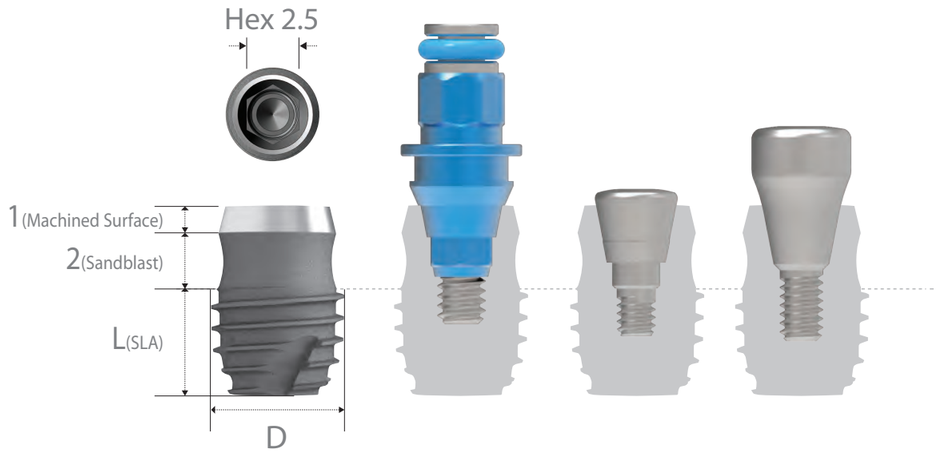


INNO Submerged Short Implant

SUB. HEXAGON SYSTEM

Submerged Short Fixture
Surface Treatment: **SLA-SH**

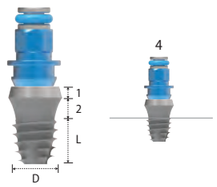
> Interchangeable with Hexagonal Morse Tapered Fixture.
> Internal hex connection (Taper 11°/ Hex 2.5).



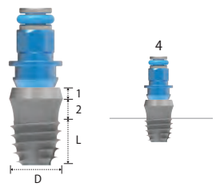
Pre-Mount

> Packing Unit: 1 Fixture + 1 Cover Screw + 1 Mount.

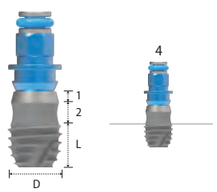
Length \ Diameter	Ø4.0
4	2ST4004S



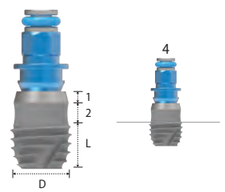
Length \ Diameter	Ø4.5
4	2ST4504S



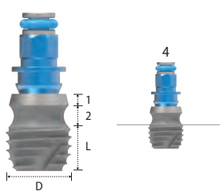
Length \ Diameter	Ø5.0
4	2ST5004S



Length \ Diameter	Ø5.5
4	2ST5504S



Length \ Diameter	Ø6.0
4	2ST6004S



Fixture Mount

Length	5.4
	2SMHR001

> Packing unit: 1 Mount + 1 Mount Screw.
> Tightened with the Hex Driver.
> Tightening torque force: 5~10N.cm.

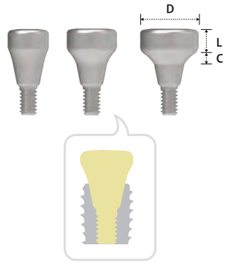
Cover Screw

Length \ *Diameter*	Ø3.35	Ø3.75	Ø4.15
3	2SCS000		
4.2		* 2SCS001	
5.2			* 2SCS002

*Extra Product

> Packing unit: 1 Cover Screw.
> To seal the conical interface of the fixture.
> The longer Cover Screw for the deeply inserted fixture.
> Tightened with the Hex Driver.
> Tightening torque force: 5~10N.cm.

Healing Abutment

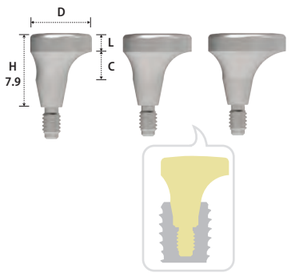


Diameter	Ø4.5		Ø5.5		Ø6.5	
Length \ *Cuff*	1	2	1	2	1	2
1	2HS4511		2HS5511		2HS6511	
2		2HS4522		2HS5522		2HS6522
3		2HS4532		2HS5532		2HS6532
4		2HS4542		2HS5542		2HS6542
5		2HS4552		2HS5552		2HS6552
7		2HS4572		2HS5572		2HS6572

Diameter	Ø7.5	Ø8.5	Ø9.5
Length \ *Cuff*	2	2	2
3	2HS7532	2HS8532	2HS9532

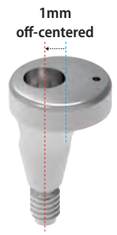
> Packing unit: 1 Healing Abutment.
> For remodeling gingival contour during soft tissue healing.
> Select the abutment according to gingival height and abutment type.
> Tightened with the Hex Driver.
> Tightening torque force: 5~10N.cm.

Volume-up Healing Abutment



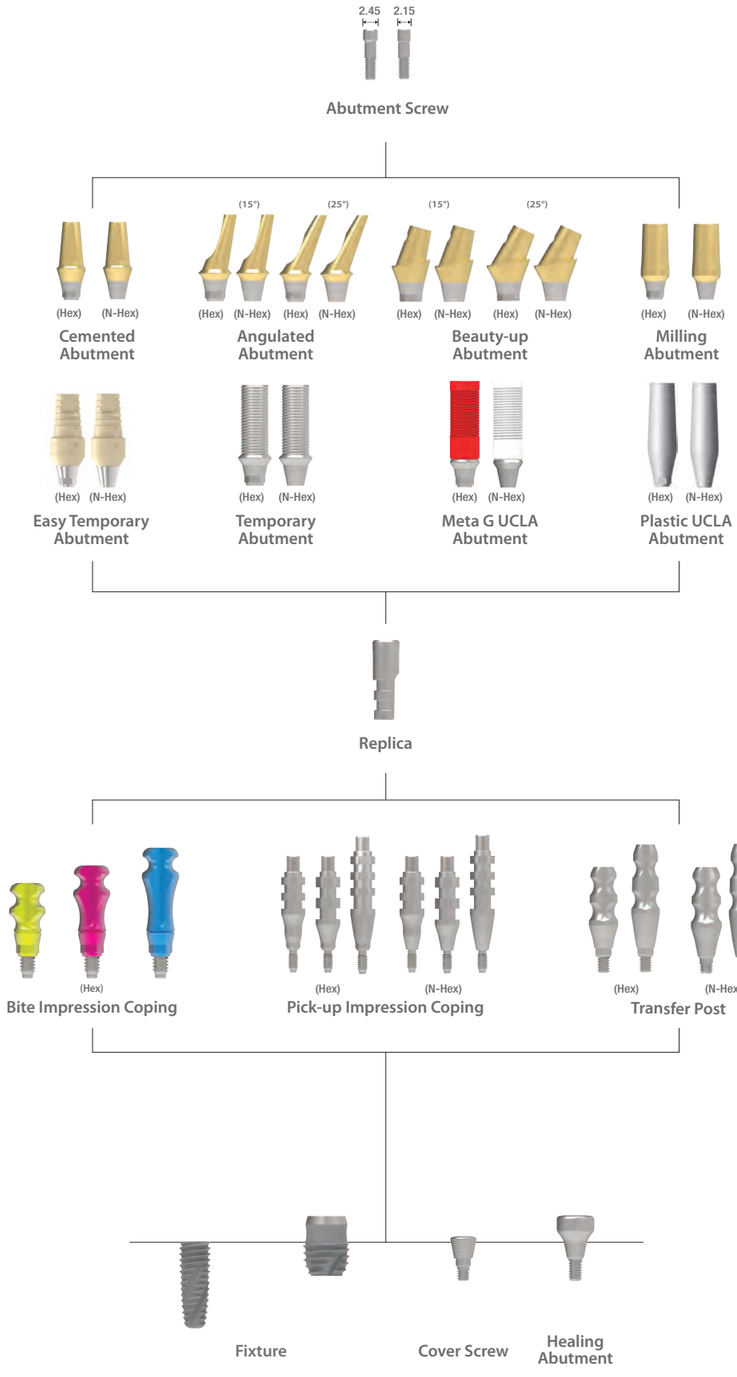
Diameter	Ø6.5	Ø7.5	Ø8.5
Length \ *Cuff*	2	2	2
3	VUHN6532	VUHN7532	VUHN8532

> Packing unit: 1 Volume-up Healing Abutment (Inbuilt Abutment Screw).
> Used for an implant procedure to form the gingival tissue and alveolar bone in the form of natural teeth and gums by prevention or minimizing the food penetration.
> Extremely effective when used with the COWELL BMP.
> Recommended to use with the Volume-up Guide System.
> Select the abutment according to gingival height and abutment type.
> Tightened with the Hex Driver.
> Tightening torque force: 25~35N.cm.

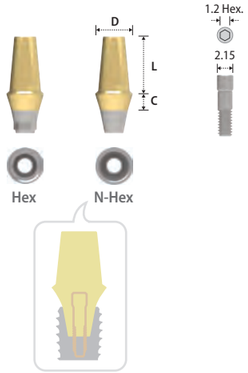


Prosthetic Procedure I

Components Selection Guide for Cemented and UCLA Abutment



Cemented Abtument

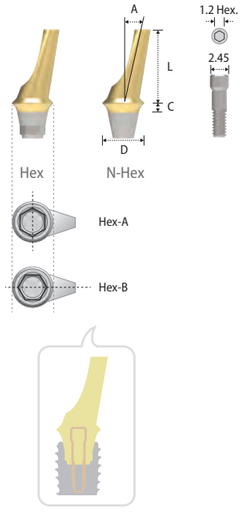


Type	Hex								
Diameter	Ø4.5			Ø5.5			Ø6.5		
Length / Cuff	4	5.5	7	4	5.5	7	4	5.5	7
1	2SCH4514	2SCH4515	2SCH4517	2SCH5514	2SCH5515	2SCH5517	2SCH6514	2SCH6515	2SCH6517
2	2SCH4524	2SCH4525	2SCH4527	2SCH5524	2SCH5525	2SCH5527	2SCH6524	2SCH6525	2SCH6527
3	2SCH4534	2SCH4535	2SCH4537	2SCH5534	2SCH5535	2SCH5537	2SCH6534	2SCH6535	2SCH6537
4	2SCH4544	2SCH4545	2SCH4547	2SCH5544	2SCH5545	2SCH5547	2SCH6544	2SCH6545	2SCH6547
5	2SCH4554	2SCH4555	2SCH4557	2SCH5554	2SCH5555	2SCH5557	2SCH6554	2SCH6555	2SCH6557

Type	N-Hex								
Diameter	Ø4.5			Ø5.5			Ø6.5		
Length / Cuff	4	5.5	7	4	5.5	7	4	5.5	7
1	2SCN4514	2SCN4515	2SCN4517	2SCN5514	2SCN5515	2SCN5517	2SCN6514	2SCN6515	2SCN6517
2	2SCN4524	2SCN4525	2SCN4527	2SCN5524	2SCN5525	2SCN5527	2SCN6524	2SCN6525	2SCN6527
3	2SCN4534	2SCN4535	2SCN4537	2SCN5534	2SCN5535	2SCN5537	2SCN6534	2SCN6535	2SCN6537
4	2SCN4544	2SCN4545	2SCN4547	2SCN5544	2SCN5545	2SCN5547	2SCN6544	2SCN6545	2SCN6547
5	2SCN4554	2SCN4555	2SCN4557	2SCN5554	2SCN5555	2SCN5557	2SCN6554	2SCN6555	2SCN6557

> Packing unit: 1 Cemented Abutment + 1 Abutment Screw.
> For Screw-Cement or Cement Retained Prosthesis.
> Cutting surface for anti-rotation of the prosthesis.
> Gold color for more translucent restoration.
> Library available for EXOCAD®, 3Shape® & Others.
> Connected with the Abutment Screw (2SSHR200).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Use the Scanbody for 3D Work.
> Fixture level impression.

Angulated Abtument

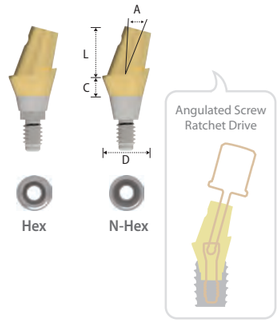


Type	Hex-A				Hex-B			
Diameter(Angle)	Ø4.5(15°)	Ø4.5(25°)	Ø5.5(15°)	Ø5.5(25°)	Ø4.5(15°)	Ø4.5(25°)	Ø5.5(15°)	Ø5.5(25°)
Length / Cuff	8	8	8	8	8	8	8	8
1	2SAH45151	2SAH45251	2SAH55151	2SAH55251	2SAH45151B	2SAH45251B	2SAH55151B	2SAH55251B
2	2SAH45152	2SAH45252	2SAH55152	2SAH55252	2SAH45152B	2SAH45252B	2SAH55152B	2SAH55252B
3	2SAH45153	2SAH45253	2SAH55153	2SAH55253	2SAH45153B	2SAH45253B	2SAH55153B	2SAH55253B
4	2SAH45154	2SAH45254	2SAH55154	2SAH55254	2SAH45154B	2SAH45254B	2SAH55154B	2SAH55254B

Type	N-Hex			
Diameter(Angle)	Ø4.5(15°)	Ø4.5(25°)	Ø5.5(15°)	Ø5.5(25°)
Length / Cuff	8	8	8	8
1	2SAN45151	2SAN45251	2SAN55151	2SAN55251
2	2SAN45152	2SAN45252	2SAN55152	2SAN55252
3	2SAN45153	2SAN45253	2SAN55153	2SAN55253
4	2SAN45154	2SAN45254	2SAN55154	2SAN55254

> Packing unit: 1 Angulated Abutment + 1 Abutment Screw.
> For Screw-Cement or Cement Retained Prosthesis.
> Solution for the anterior esthetic zone.
> Connected with the Abutment Screw (2SSHR100).
> Gold color for more translucent restoration.
> Select Hex-A or Hex-B according to the case.
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Fixture level impression.

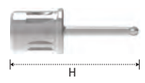
Beauty-up Abutment



Type	Hex	N-Hex	Hex	N-Hex
Diameter(Angle)	Ø3.8 (15°)	Ø3.8 (15°)	Ø3.8 (25°)	Ø3.8 (25°)
Length / Cuff	5	5	5	5
2	2SBH381525	2SBN381525	2SBH382525	2SBN382525

> Packing unit: 1 Beauty-up Abutment (Inbuilt Abutment Screw).
> For Screw-Cement Retained Prosthesis with angulated screw channel.
> The ultimate solution for the anterior esthetic zone.
> The gingival line of the Beauty-up Abutment allows more esthetic prosthesis.
> Oval design allows lower incisal application (Mesiodistal diameter: 3.8mm).
> Tightened with the Torx A Ratchet Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Library available for EXOCAD®, 3Shape® & Others.
> Use the Scanbody for 3D Work.
> Fixture level impression.

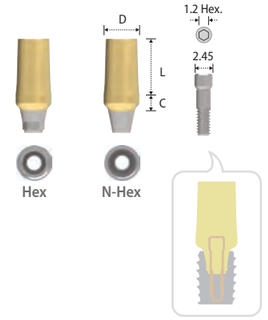
* Torx A Ratchet Driver



Height / Type	Ratchet
24(Short)	KRBUD15
29(Long)	KRBUD20

> Stable to internal slip or fracture due to wide contact area of the Torx A Driver and the dedicated Stargrip Abutment Screw.
> Tightening torque force: 30N.cm (50N.cm Max.).

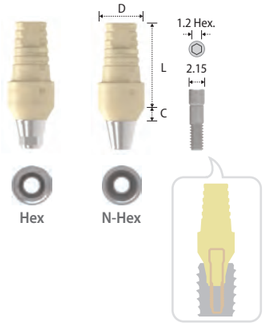
Milling Abutment



Type	Hex			N-Hex		
Diameter	Ø4.5	Ø5.5	Ø6.5	Ø4.5	Ø5.5	Ø6.5
Length / Cuff	7	7	7	7	7	7
2	2SMH4527	2SMH5527	2SMH6527	2SMN4527	2SMN5527	2SMN6527
4	2SMH4547	2SMH5547	2SMH6547	2SMN4547	2SMN5547	2SMN6547

> Packing unit: 1 Milling Abutment + 1 Abutment Screw.
> For Screw-Cement or Cement Retained Prosthesis.
> Block abutment for customized contouring.
> Gold color for more translucent restoration.
> Connected with the Abutment Screw (2SSHR100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Fixture level impression.

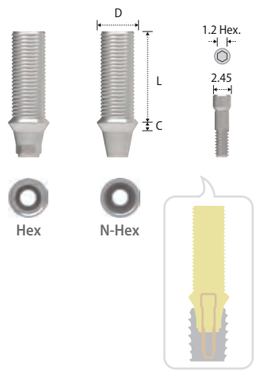
Easy Temporary Abutment



Type	Hex		N-Hex	
Diameter	Ø4.5	Ø5.5	Ø4.5	Ø5.5
Length / Cuff	10	10	10	10
2	2STHA45C	2STHA55C	2STNA45C	2STNA55C

> Packing unit: 1 Easy Temporary Abutment + 1 Abutment Screw.
> For Screw Retained Prosthesis.
> For simpler and speedier chair-side process.
> Venerable polymer material.
> Temporary restoration for the anterior esthetic zone.
> Titanium core for strength.
> Connected with the Abutment Screw (2SSHR200).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20N.cm.
> Fixture level impression.

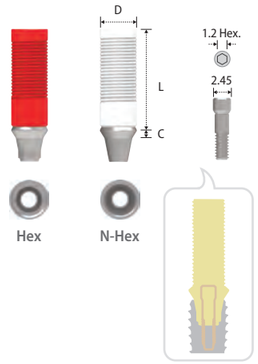
Temporary Abutment



Type	Hex	N-Hex
Diameter	Ø4.5	Ø4.5
Cuff \ *Length*	10	10
1	2**STHA**45	2**STNA**45

> Packing unit: 1 Temporary Abutment + 1 Abutment Screw.
> For Screw-Cement Retained Prosthesis.
> For provisional restoration.
> Connected with the Abutment Screw (2SSHR100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20N.cm.
> Fixture level impression.

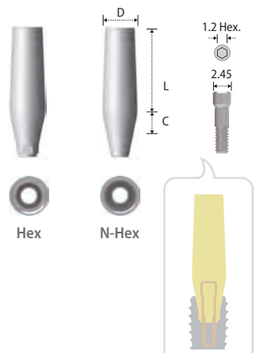
Meta G UCLA Abutment



Type	Hex	N-Hex
Diameter	Ø4.5	Ø4.5
Cuff \ *Length*	12	12
1	2**SGH**45**N**	2**SGN**45**N**
2	2**SGH**452**N**	2**SGN**452**N**
3	2**SGH**453**N**	2**SGN**453**N**

> Packing unit: 1 Meta G UCLA Abutment + 1 Abutment Screw.
> For Screw-Cement or Screw Retained Prosthesis.
> Modification to the angulated abutment, customized abutment, and telescopic abutment.
> CCM alloy core for precise connection.
> Cast with non-precious metal or gold alloy.
> Connected with the Abutment Screw (2SSHR100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Fixture level impression.

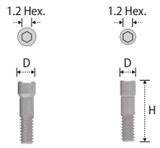
Plastic UCLA Abutment



Type	Hex		N-Hex	
Diameter	Ø4.5	Ø5.5	Ø4.5	Ø5.5
Cuff \ *Length*	11	11	11	11
3	2**SPHR**001	2**SPHW**001	2**SPNR**001	2**SPNW**001

> Packing unit: 1 Plastic UCLA Abutment + 1 Abutment Screw.
> Same purpose of use as the Meta G UCLA Abutment but the low accuracy of connection during lab procedure.
> PMMA material.
> Connected with the Abutment Screw (2SSHR100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: Finger light force during wax pattern fabrication, 30N.cm after casting.
> Fixture level impression.

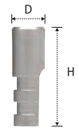
Abutment Screw



Height \ *Diameter*	Ø2.45	Ø2.15
8.5	2**SSHR**100	2**SSHR**200

> Packing unit: 1 Abutment Screw.
> 2SSHR100: Angulated, Milling, Temporary, Meta G UCLA, and Plastic UCLA Abutment.
> 2SSHR200: Cemented and Easy Temporary Abutment.
> Tightened with the Hex Driver and Torque Wrench.

Replica



Height \ *Diameter*	Ø4.0
12	2**SRHR**001

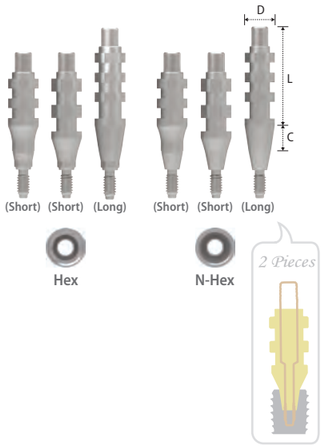
> Packing unit: 1 Replica.
> Mimicking of the conical interface of the fixture.
> Analog of fixture for the working cast.

Bite Impression Coping

Type	Hex(Short)	Hex(Long)	Hex(X-Long)
Diameter	Ø4.5	Ø4.5	Ø4.5
Length \ *Cuff*	2	4	6
4.0	2SBIC45S	2SBIC45L	2SBIC45X

> Packing unit: 1 Bite Impression Coping (Inbuilt Guide Pin).
> Designed to simultaneously take bite and impression.
> For closed tray impression (Bite Impression).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

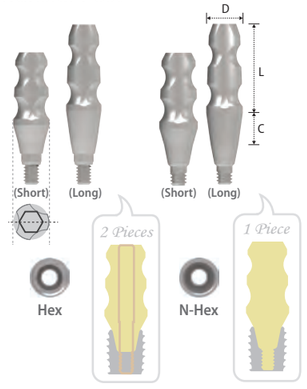
Pick-up Impression Coping



Type	Hex			N-Hex		
Length / Cuff \ *Diameter*	Ø4.5	Ø5.5	Ø6.5	Ø4.5	Ø5.5	Ø6.5
12 (Short) / 4	2SIH454S	2SIH554S	2SIH654S	2SIN454S	2SIN554S	2SIN654S
14 (Short) / 2	2SIH45S	2SIH55S	2SIH65S	2SIN45S	2SIN55S	2SIN65S
16 (Long) / 4	2SIH45L	2SIH55L	2SIH65L	2SIN45L	2SIN55L	2SIN65L

> Packing unit: 1 Pick-up Impression Coping + 1 Guide Pin.
> For open tray impression.
> Connected with the Guide Pin (2SISR001SS / 2SISR001SL).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

Transfer Post

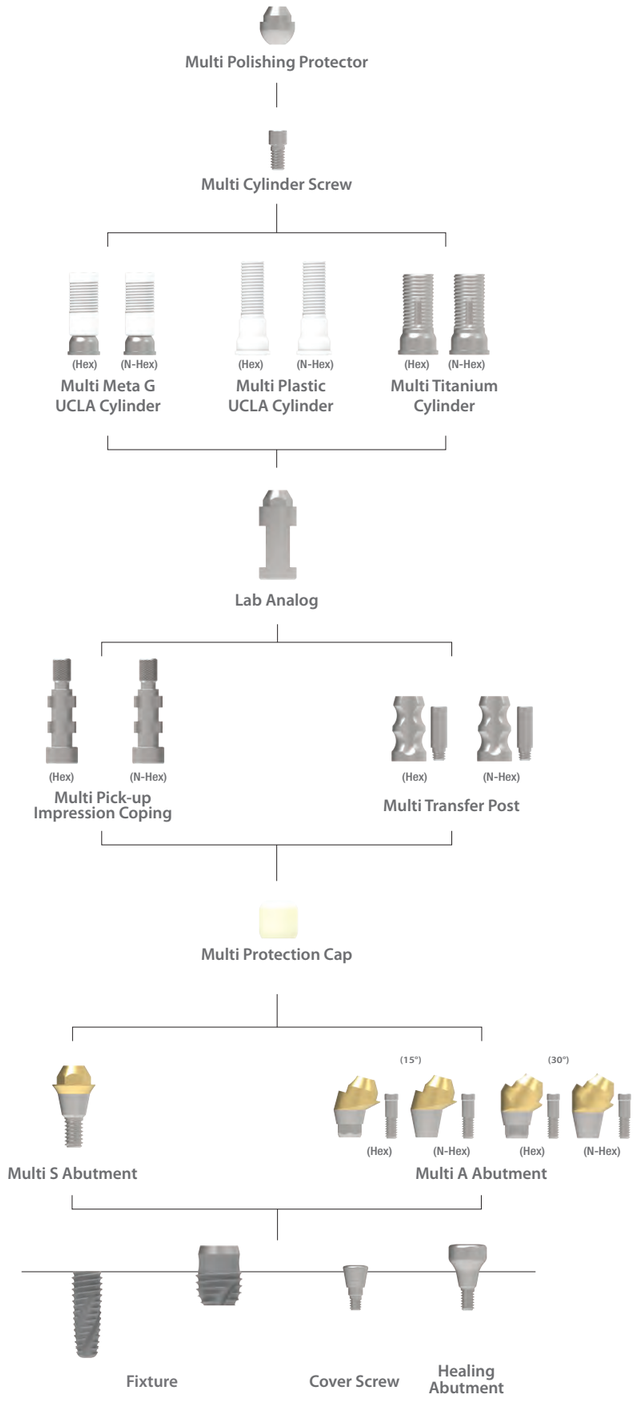


Type	Hex			N-Hex		
Length / Cuff \ *Diameter*	Ø4.5	Ø5.5	Ø6.5	Ø4.5	Ø5.5	Ø6.5
9 (Short) / 2	2STH45S	2STH55S	2STH65S	2STN45S	2STN55S	2STN65S
11 (Long) / 4	2STH45L	2STH55L	2STH65L	2STN45L	2STN55L	2STN65L

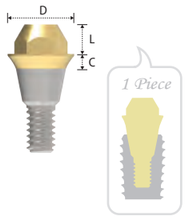
> Packing unit: Hex - 1 Transfer Post + 1 Guide Pin / N-Hex - 1 Transfer Post (Solid Type).
> For closed tray impression.
> Connected with the Guide Pin (2STH001SS / 2STH001SL).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

Prosthetic Procedure II

Component Selection Guide for Multi S&A Abutment



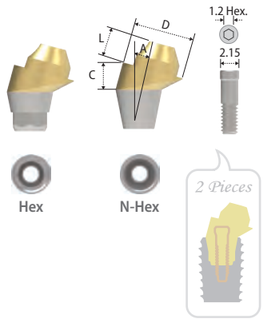
Multi S Abutment



Diameter / Cuff \ Length	Ø4.5	Ø5.5
	2	2
1	2SMS451	2SMS551
2	2SMS452	2SMS552
3	2SMS453	2SMS553
4	2SMS454	2SMS554
5	2SMS455	2SMS555

> Packing unit: 1 Multi S Abutment.
> For Screw-Retained Prosthesis.
> Titanium base for the cylinders.
> Gold color for more translucent restoration.
> Integrated with screw and abutment.
> Library available for EXOCAD®, 3Shape® & Others.
> Use the S Holder for a more stable position.
> Tightened with the S Machine & S Ratchet Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Abutment level impression.

Multi A Abutment

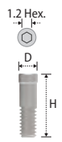


Type	Hex			
Diameter(Angle) / Cuff \ Length	Ø4.5(15°)	Ø4.5(30°)	Ø5.5(15°)	Ø5.5(30°)
	2	2	2	2
2	● 2SMAH45152			
3	★ 2SMAH45153	● 2SMAH45303	★ 2SMAH55153	★ 2SMAH55303
4	★ 2SMAH45154	★ 2SMAH45304	★ 2SMAH55154	★ 2SMAH55304
5			★ 2SMAH55155	★ 2SMAH55305

Type	N-Hex			
Diameter(Angle) / Cuff \ Length	Ø4.5(15°)	Ø4.5(30°)	Ø5.5(15°)	Ø5.5(30°)
	2	2	2	2
2	● 2SMAN45152			
3	★ 2SMAN45153	● 2SMAN45303	★ 2SMAN55153	★ 2SMAN55303
4	★ 2SMAN45154	★ 2SMAN45304	★ 2SMAN55154	★ 2SMAN55304
5			★ 2SMAN55155	★ 2SMAN55305

> Packing unit: 1 Multi A Abutment + 1 Abutment Screw.
> For Screw-Retained Prosthesis.
> Titanium base for the cylinders.
> Gold color for more translucent restoration.
> Library available for EXOCAD®, 3Shape® & others.
> Use the A Holder for a more stable position.
> Connected with the Abutment Screw (2SSHR300: ★ / 2SSHR400: ●).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Use the Multi Scanbody for digital flow.
> Abutment level impression.

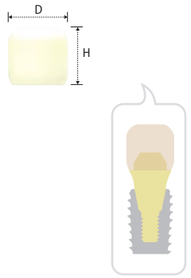
Abutment Screw



Diameter \ Height	7.5	6.5
2.15	★ 2SSHR300	● 2SSHR400

> Packing unit: 1 Abutment Screw.
> To connect the Multi A Abutment.
> Tightened with the Hex Driver and Torque Wrench.

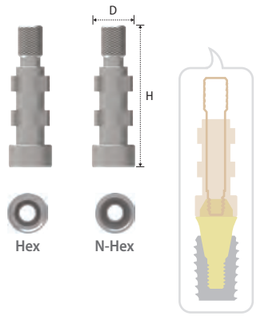
Multi Protection Cap



Multi S & A Abutment Diameter / Height \ Diameter	Ø4.5	Ø5.5
	Ø5.2	Ø6.2
5	2SMPC45	2SMPC55

> Packing unit: 1 Multi Protection Cap.
> Protection from cheek and tongue for gingival healing period.
> Gingival retraction for prosthodontic margin of the abutment.
> Alternative usage for sub-structure of the temporary prosthesis.
> Tightened with the Hex Driver.
> Tightening torque force: 5~10N.cm.

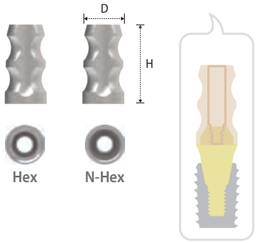
Multi Pick-up Impression Coping



Type	Hex		N-Hex	
Multi S & A Abutment Diameter / Height \ Diameter	Ø4.5	Ø5.5	Ø4.5	Ø5.5
	Ø4.65	Ø5.65	Ø4.65	Ø5.65
16	2SMIH45	2SMIH55	2SMIN45	2SMIN55

> Packing unit: 1 Multi Pick-up Impression Coping + 1 Guide Pin.
> For open tray impression.
> Connected with the Guide Pin (2SMGP012).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

Multi Transfer Post



Type	Hex		N-Hex	
Multi S & A Abutment Diameter / Height \ Diameter	Ø4.5	Ø5.5	Ø4.5	Ø5.5
	Ø4.5	Ø5.5	Ø4.5	Ø5.5
8.5	2SMTH45	2SMTH55	2SMTN45	2SMTN55

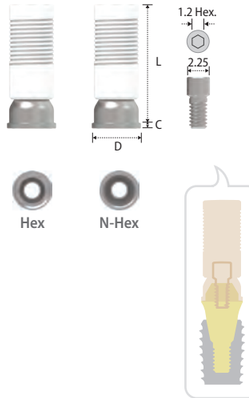
> Packing unit: 1 Multi Transfer Post + 1 Guide Pin.
> For closed tray impression.
> Connected with the Guide Pin (2SMTHS100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

Multi Lab Analog

Multi S & A Abutment Diameter	Ø4.5	Ø5.5
Length \ Diameter	Ø4.5	Ø5.5
2	2SMA45	2SMA55

> Packing unit: 1 Multi Lab Analog.
> Replacement of abutment shape in working cast.
> Choose by abutment size.

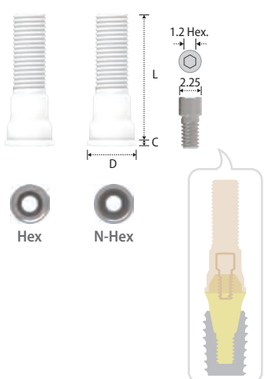
Multi Meta G UCLA Cylinder



Type	Hex		N-Hex	
Multi S & A Abutment Diameter	Ø4.5	Ø5.5	Ø4.5	Ø5.5
Diameter	Ø4.5	Ø5.5	Ø4.5	Ø5.5
Length \ Cuff	10.9	10.9	10.9	10.9
0.5	2SCCH45	2SCCH55	2SCCN45	2SCCN55

> Packing unit: 1 Multi Meta G UCLA Cylinder + 1 Multi Cylinder Screw.
> For Screw, Cement, or Screw-Cement Retained Prosthesis.
> Modification to various types of abutments.
> CCM alloy core for precise connection.
> Cast with non-precious metal or gold alloy.
> Connected with the Multi Cylinder Screw (2SMCS100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20N.cm.

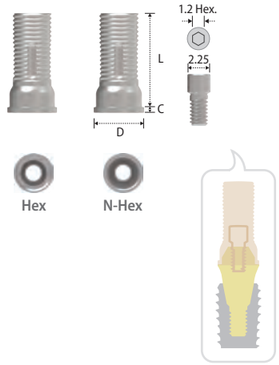
Multi Plastic UCLA Cylinder



Type	Hex		N-Hex	
Multi S & A Abutment Diameter	Ø4.5	Ø5.5	Ø4.5	Ø5.5
Diameter	Ø4.5	Ø5.5	Ø4.5	Ø5.5
Length \ Cuff	11.5	11.5	11.5	11.5
0.5	2SMPH45	2SMPH55	2SMPN45	2SMPN55

> Packing unit: 1 Multi Plastic UCLA Cylinder + 1 Multi Cylinder Screw.
> For Screw, Cement or Screw-Cement Retained Prosthesis.
> Same purpose of use as the Meta G UCLA Cylinder but the low accuracy of connection.
> PMMA material.
> Connected with the Multi Cylinder Screw (2SMCS100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20N.cm.

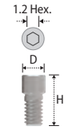
Multi Titanium Cylinder



Type	Hex		N-Hex	
Multi S & A Abutment Diameter	Ø4.5	Ø5.5	Ø4.5	Ø5.5
Diameter	Ø4.5	Ø5.5	Ø4.5	Ø5.5
Length \ Cuff	8.5	8.5	8.5	8.5
0.5	2STCH45	2STCH55	2STCN45	2STCN55

> Packing unit: 1 Multi Titanium Cylinder + 1 Multi Cylinder Screw.
> For Screw, Cement or Screw-Cement Retained Prosthesis.
> Connected with the Multi Cylinder Screw (2SMCS100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20N.cm.

Multi Cylinder Screw



Height \ Diameter	Ø2.25
5	2SMCS100

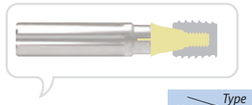
> Packing unit: 1 Multi Cylinder Screw.
> Connected with the Meta G UCLA, Plastic UCLA, and Titanium Cylinder.
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20N.cm.

Multi Polishing Protector

Type	Hex	
Multi S & A Abutment Diameter	Ø4.5	Ø5.5
Diameter \ Length	Ø4.5	Ø5.5
2	2SMPP45	2SMPP55

> Packing unit: 1 Multi Polishing Protector.
> To protect margin of the prosthesis while polishing procedure.

Multi Holder



S Holder

Height \ Type	Hand
20	KMHS01

> Packing unit: 1 Multi S Holder.
> To position the Multi S Abutment more stably.

A Holder

Height \ Type	Hand
32	KMHA01

> Packing unit: 1 Multi A Holder.
> To position the Multi A Abutment more stably.

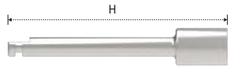
① Connect the Multi A Holder with the Multi A Abutment with its Abutment Screw in it and match the direction of holes of the abutment and the holder.

② Hold the handle of the Multi A Holder and bend it according to the placement position in the oral cavity.

③ Connect the assembled body with the fixture.

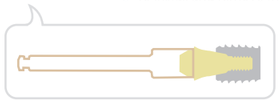
④ Tighten the Multi Abutment with the Hex Driver and Torque Wrench.

Multi S Machine Driver

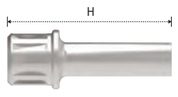


Height \ Type	Machine
27.5	KMMSD21L

> Packing unit: 1 Multi S Machine Driver.
> To install and remove the Multi S Abutment by machine.

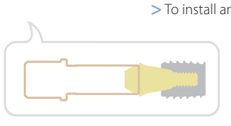


Multi S Ratchet Driver



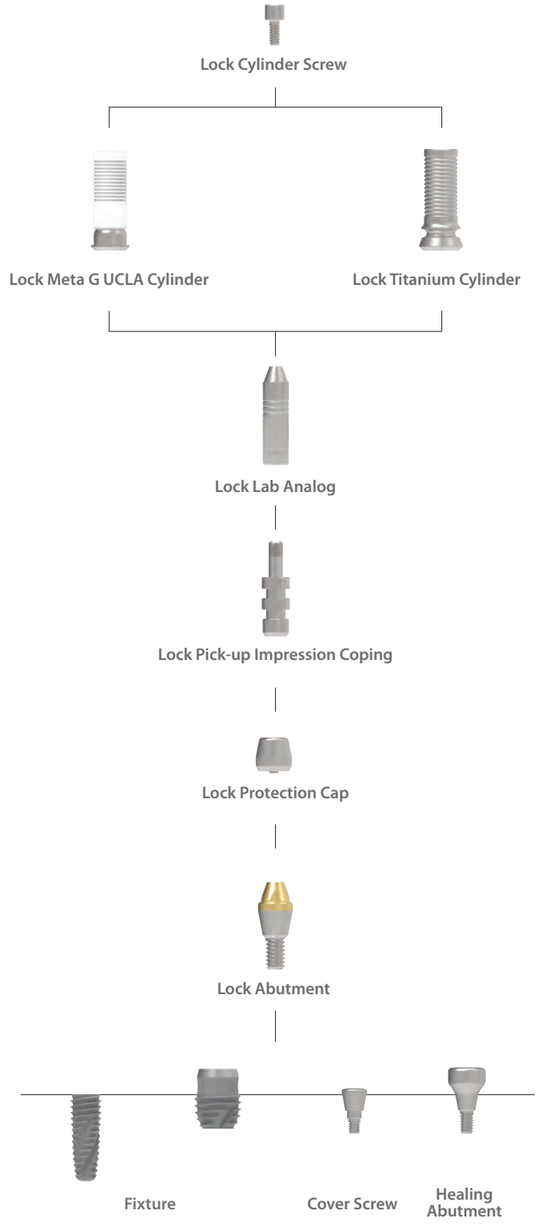
Height \ Type	Ratchet
22	KRMSD15L

> Packing unit: 1 Multi S Ratchet Driver.
> To install and remove the Multi S Abutment with the Torque Wrench.

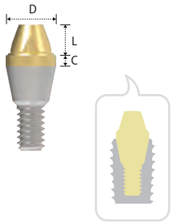


Prosthetic Procedure III

Component Selection Guide for Lock Abutment



Lock Abutment



Diameter	Ø3.5
Cuff \ Length	2.15
0.5	2SLA400
1	2SLA410
2	2SLA420
3	2SLA430
4	2SLA440

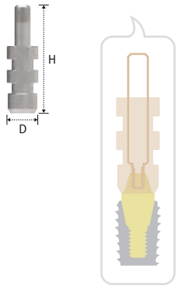
> Packing unit: 1 Lock Abutment.
> For Screw-Retained Prosthesis.
> Titanium base for the cylinders.
> Gold color for more translucent restoration.
> Integrated with screw and abutment.
> Tightened with the Lock Ratchet Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Abutment level impression.

Lock Protection Cap

Lock Abutment Diameter	Ø3.5
Height \ Diameter	Ø4.3
4	2SLP45

> Packing unit: 1 Lock Protection Cap.
> Protection from cheek and tongue for gingival healing period.
> Gingival retraction for prosthodontic margin of the abutment.
> Tightened with the Hex Driver.
> Tightening torque force: 5~10N.cm.

Lock Pick-up Impression Coping



Lock Abutment Diameter	Ø3.5
Height \ Diameter	Ø4.3
16	2SLIH45

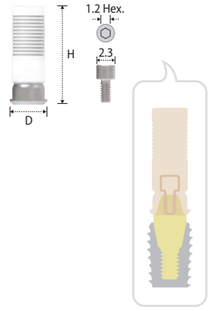
> Packing unit: 1 Lock Pick-up Impression Coping + 1 Guide Pin.
> Connected with the Guide Pin (2SLIH45S).
> For open tray impression.

Lock Lab Analog

Lock Abutment Diameter	Ø3.5
Length \ Diameter	Ø3.5
2.15	2SLA45

> Packing unit: 1 Lock Lab Analog.
> Replacement of abutment shape in working cast.
> Tightened with the Hex Driver and Torque Wrench.

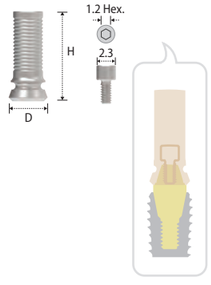
Lock Meta G UCLA Cylinder



Lock Abutment Diameter	Ø3.5
Height \ Diameter	Ø4.3
11.2	2SLCH45

> Packing unit : 1 Lock Meta G UCLA Cylinder + 1 Lock Cylinder Screw.
> For Screw, Cement, or Screw-Cement Retained Prosthesis.
> Modification to various types of abutments.
> CCM alloy core for precise connection.
> Cast with non-precious metal or gold alloy.
> Connected with the Lock Cylinder Screw (2SLCS200).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.

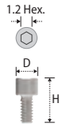
Lock Titanium Cylinder



Lock Abutment Diameter	Ø3.5
Height \ Diameter	Ø4.3
10	2SLTH45

> Packing unit: 1 Lock Titanium Cylinder + 1 Lock Cylinder Screw.
> For Screw, Cement, or Screw-Cement Retained Prosthesis.
> Connected with the Lock Cylinder Screw (2SLCS200).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force : 30N.cm.

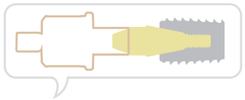
Lock Cylinder Screw

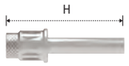


Height \ Diameter	Ø2.3
4.8	2SLCS200

> Packing unit: 1 Lock Cylinder Screw.
> Connected with the CCM Cylinder and Titanium Cylinder.
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.

Lock Ratchet Driver





Height \ Type	Ratchet
14.2	KRLRD18
28.5	KRLRD28

> Packing unit: 1 Lock Ratchet Driver.
> To install and remove the Lock Abutment with the Torque Wrench.

Prosthetic Procedure IV

Component Selection Guide for Absolute Abutment

Absolute Plastic Coping

Absolute Lab Analog

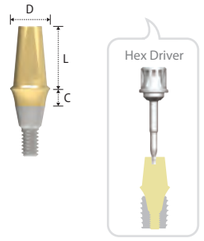
Absolute Impression Cap

Absolute Protection Cap

Absolute Abutment

Fixture | Cover Screw | Healing Abutment

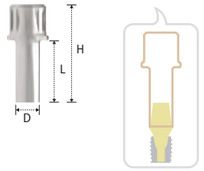
Absolute Abutment



Diameter	Ø4.5			Ø5.5			Ø6.5		
Cuff \ Length	4	5.5	7	4	5.5	7	4	5.5	7
1	2SAC4514	2SAC4515	2SAC4517	2SAC5514	2SAC5515	2SAC5517	2SAC6514	2SAC6515	2SAC6517
2	2SAC4524	2SAC4525	2SAC4527	2SAC5524	2SAC5525	2SAC5527	2SAC6524	2SAC6525	2SAC6527
3	2SAC4534	2SAC4535	2SAC4537	2SAC5534	2SAC5535	2SAC5537	2SAC6534	2SAC6535	2SAC6537
4	2SAC4544	2SAC4545	2SAC4547	2SAC5544	2SAC5545	2SAC5547	2SAC6544	2SAC6545	2SAC6547
5	2SAC4554	2SAC4555	2SAC4557	2SAC5554	2SAC5555	2SAC5557	2SAC6554	2SAC6555	2SAC6557

> Packing unit: 1 Absolute Abutment + 1 Protection Cap.
> For Cement Retained Prosthesis.
> Cutting surface for anti-rotation of the prosthesis.
> Integrated with the Screw and Abutment.
> Tightened with the Hex Driver or the Absolute Rachet Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Abutment level impression.

Absolute Ratchet Driver



Diameter	Ø4.6		Ø5.6		Ø6.6	
Height \ Length	12	19	12	19	12	19
19	KRAD4512S		KRAD5512S		KRAD6512S	
26		KRAD4519L		KRAD5519L		KRAD6519L

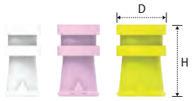
> Packing unit: 1 Absolute Ratchet Driver.
> To install and remove the Absolute with the Torque Wrench.

Absolute Protection Cap

Absolute Abutment Diameter	Ø4.5	Ø5.5	Ø6.5
Height \ Diameter	Ø5.0	Ø6.0	Ø7.0
6	2SHPC454	2SHPC554	2SHPC654
7.5	2SHPC455	2SHPC555	2SHPC655
9	2SHPC457	2SHPC557	2SHPC657

> Packing unit: 1 Absolute Protection Cap.
> Protection from cheek and tongue for gingival healing period.
> Gingival retraction for prosthodontic margin of the abutment.
> Alternative usage for sub-structure of the temporary prosthesis.

Absolute Impression Cap



Absolute Abutment Diameter	Ø4.5	Ø5.5	Ø6.5
Height \ Diameter	Ø5.5	Ø6.5	Ø7.5
10.3	2SIC45	2SIC55	2SIC65

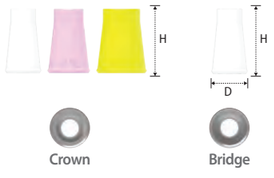
> Packing unit: 1 Absolute Impression Cap.
> Confirm locking with abutment by rotation of clockwise and anti-clockwise direction.

Absolute Lab Analog

Absolute Abutment Diameter	Ø4.5	Ø5.5	Ø6.5
Length \ Diameter	Ø4.5	Ø5.5	Ø6.5
4.1	2SHLA454	2SHLA554	2SHLA654
5.6	2SHLA455	2SHLA555	2SHLA655
7.1	2SHLA457	2SHLA557	2SHLA657

> Packing unit: 1 Absolute Lab Analog.
> Replacement of abutment shape in working cast.
> Choose according to width and length of the abutment.

Absolute Plastic Coping (Burn Out Cylinder)



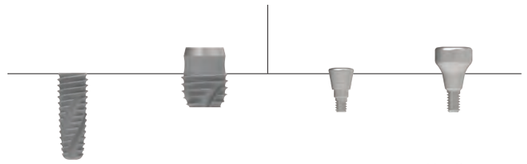
Type	Crown			Bridge		
Absolute Abutment Diameter	Ø4.5	Ø5.5	Ø6.5	Ø4.5	Ø5.5	Ø6.5
Height \ Diameter	Ø5.1	Ø6.1	Ø7.1	Ø5.1	Ø6.1	Ø7.1
10	2SHBC45	2SHBC55	2SHBC65	2SHBB45	2SHBB55	2SHBB65

> Packing unit: 1 Absolute Plastic Coping.
> Connected with the Lab Analog.
> Burn out and casting for the metal framework.

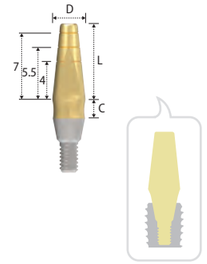
Prosthetic Procedure V

Component Selection Guide for Straight Abutment

Straight Abutment



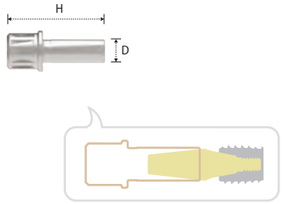
Straight Abutment



Diameter	Ø3.5	Ø4.5
Cuff \ Length	8	8
0.5	2SSCM308	2SSCR408
1	2SSCM318	2SSCR418
2	2SSCM328	2SSCR428
3	2SSCM338	2SSCR438
4	2SSCM348	2SSCR448

> Packing unit: 1 Straight Abutment.
> For Cement Retained Prosthesis.
> Integrated with screw and abutment.
> Tightened with the Shoulder Driver.
> Tightening torque force: 30N.cm.
> Direct impression.

Shoulder Ratchet Driver

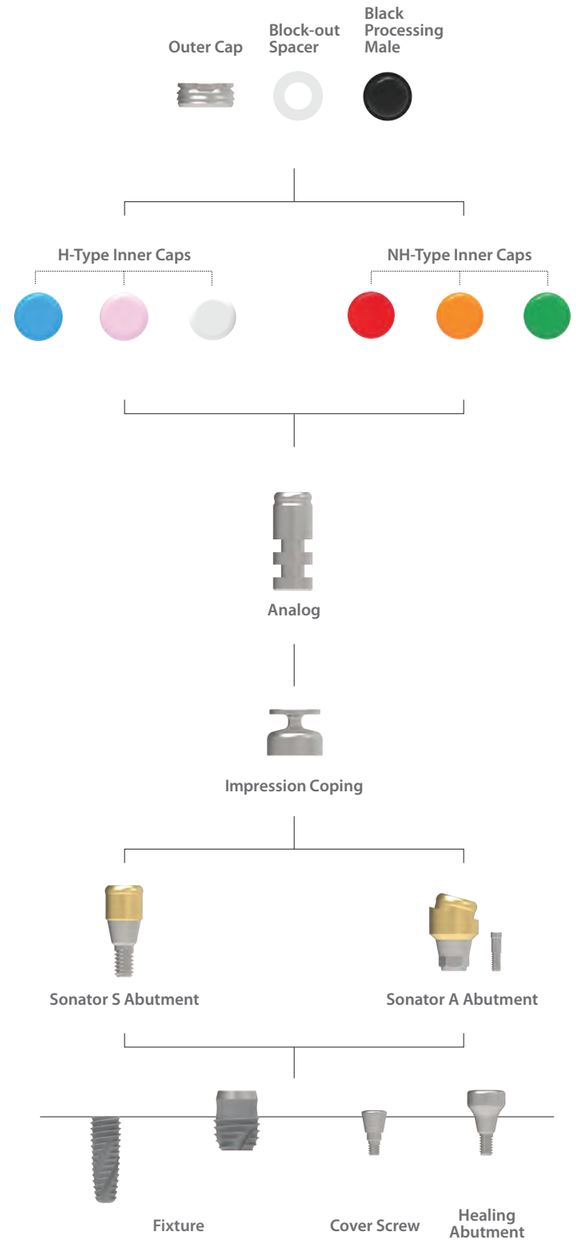


Height \ Diameter	Ø4.5
19	KRR19L

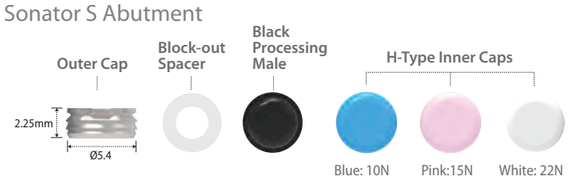
> Packing unit: 1 Shoulder Ratchet Driver
> To install and remove the Straight Abutment with the Torque Wrench.

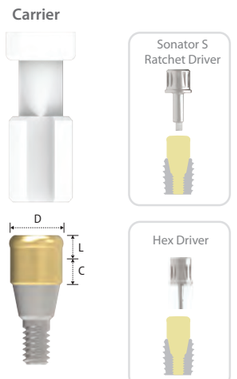
Prosthetic Procedure VI

Component Selection Guide for Sonator S&A Abutment



Sonator S Abutment

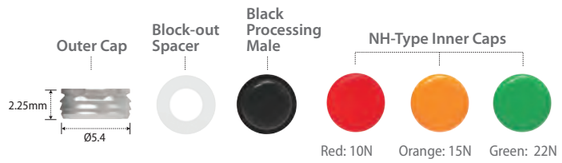


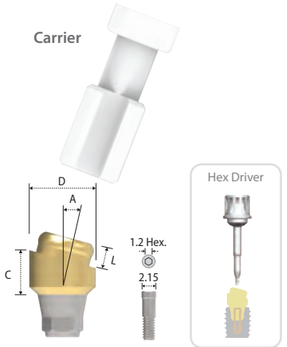


Diameter	Ø4.0					
Length \ *Cuff*	1	2	3	4	5	6
1.5	SONS401	SONS402	SONS403	SONS404	SONS405	SONS406

> Packing unit: 1 Sonator S Abutment + 1 Carrier + 3 H-Type Inner Caps + 1 Outer Cap + 1 Block-out Spacer + 1 Black Processing Male.
> For Implant-Supported Overdenture Prosthesis.
> Stable with low vertical height.
> 6 kinds of Inner Caps give various holding force (Both, H and NH-Type Inner Caps are used for the Sonator S Abutment).
> Path compensation up to 20° based on 2 implants.
> Carrier: Used for delivery of the abutment.
> Tightened with the Sonator S Ratchet Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Abutment level impression.

Sonator A Abutment

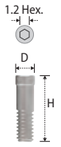




Diameter	Ø4.0	
Length	1.5	3.0
Angle \ *Cuff*	3	3
15°	SONA415	SONA430

> Packing unit: 1 Sonator A Abutment + 1 Abutment Screw + 1 Carrier + 3 NH-Type Inner Caps + 1 Outer Cap + 1 Block-out Spacer + 1 Black Processing Male.
> For Implant-Supported Overdenture Prosthesis.
> Stable with low vertical height.
> 6 kinds of Inner Caps give various holding force (Both, H and NH-Type Inner Caps are used for the Sonator A Abutment).
> Path compensation up to 40° based on 2 Implants.
> Connected with the Abutment Screw (2SSHR300).
> Carrier: Used for delivery of the abutment.
> Tightened with the Hex Driver and Torque wrench.
> Tightening torque force: 30N.cm.
> Abutment level impression.

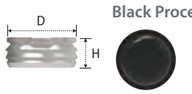
Abutment Screw



Height \ *Diameter*	Ø2.15
7.5	2SSHR300

> Packing unit: 1 Abutment Screw.
> To connect the Sonator A Abutment.
> Tighten with the Hex Driver and Torque Wrench.

Outer Cap



Black Processing Male

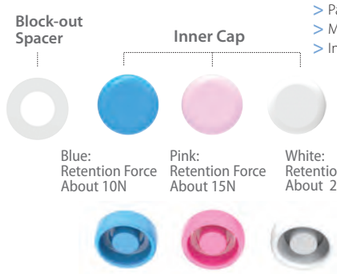
Height \ Diameter	Ø5.4
2.25	SONOC01

> Packing unit: 2 Outer Caps and 2 Black Processing Males.
> Black Processing Male: Inserted and removed with the I&R Driver.

H-Type Inner Cap

Code	SONIC01

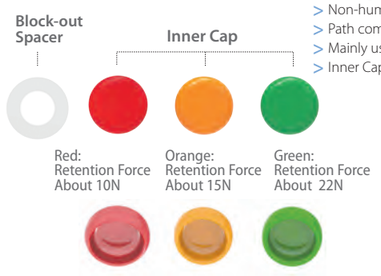
> Packing unit: 3 Block-out Spacers + 3 Inner Caps (1 Blue, 1 Pink, and 1 White).
> Path compensation up to 20° based on 2 implants.
> Mainly used for the Sonator S Abutment.
> Inner Caps: Inserted and removed with the I&R Driver.



NH-Type Inner Cap

Code	SONIC02

> Packing unit: 3 Block-out Spacers + 3 Inner Caps (1 Red, 1 Orange, and 1 Green).
> Non-humped design.
> Path compensation up to 40° based on 2 implants.
> Mainly used for the Sonator A Abutment.
> Inner Caps: Inserted and removed with the I&R Driver.



Sonator Impression Coping

Black Processing Male

Length \ Diameter	Ø4.8
3	SONIP04

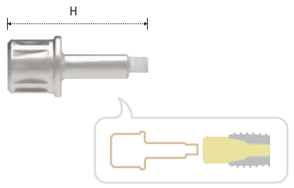
> Packing unit: 4 Sonator Impression Copings and 4 Black Processing Males.
> Connected over the Sonator S&A Abutment after placing the Block-out Spacer.
> For close tray impression.

Sonator Lab Analog

Length \ Diameter	Ø4
1.4	SONLA04

> Packing unit: 4 Sonator Lab Analogs.
> Replacement of abutment shape in working cast.

Sonator S Ratchet Driver

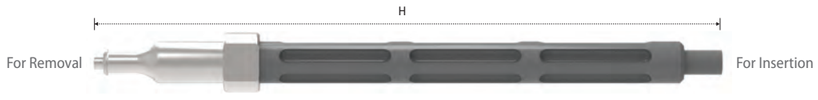


Height \ Type	Ratchet
18	SONRD19L

> Packing unit : 1 Sonator S Ratchet Driver.
> To install and remove the Sonator S Abutment with the Torque Wrench.

Sonator I&R Driver

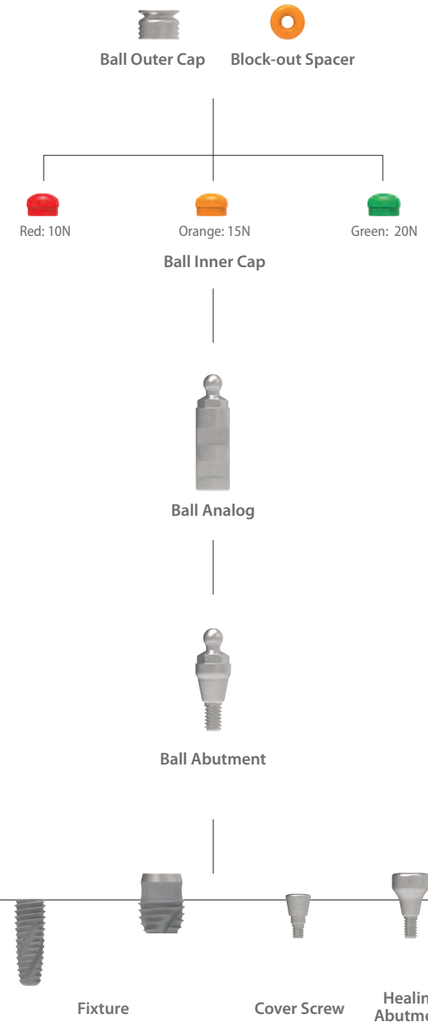
Height	95.4
	SONIR002



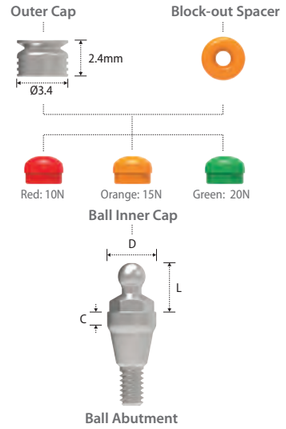
> Packing unit: 1 Sonator I&R Driver.
> Used to insert and remove the Inner Caps and Block Processing Male.

Prosthetic Procedure VII

Component Selection Guide for Ball Abutment



Ball Abutment



Diameter / Length / Cuff	Ø4.0
	4
1	2SBAT414R
2	2SBAT424R
3	2SBAT434R
4	2SBAT444R
5	2SBAT454R

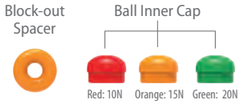
> Packing unit: 1 Ball Abutment + 3 Inner Caps (1 per each colour) + 1 Block-out Spacer + 1 Outer Cap.
> For Implant-Supported Overdenture Prosthesis.
> Tightened with the Ball Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Direct impression.

Ball Outer Cap

Height / Diameter	Ø3.4
2.4	BATC003C

> Packing unit: 2 Outer Caps.

Ball Inner Cap



BATC003I

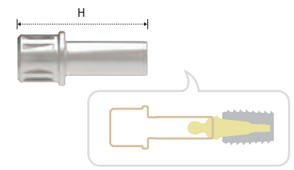
> Packing unit: 2 Block-out Spacers + 6 Inner Caps (2 per each color).
> Retention force: Red 10N, Orange 15N & Green 20N.

Ball Analog

Length / Diameter	Ø4.0
4	SBAL400

> Packing unit: 4 Lab Analogs.
> Replacement of abutment shape in working cast.

Ball Ratchet Driver



Height / Type	Ratchet
19	KRB19L

> Packing unit: 1 Ball Ratchet Driver
> To install and remove the Ball Abutment with the Torque Wrench.

*Extra Product

Ball I&R Driver

Height	100
	KBIR01

> Packing unit: 1 Ball I&R Driver.
> Used to insert and remove the Inner Caps into and out of the Outer Cap.

INNO SUBMERGED NARROW IMPLANT (Sub-N.)

System Flow

Fixture		Abutment		Impression	
	Prosthetic Procedure I	065p  Cemented Abutment	065p  Angulated Abutment	065p  Temporary Abutment	066p  Meta G UCLA Abutment
	Prosthetic Procedure II	063p  Multi S Abutment	063p  Multi A Abutment	071p  Multi Meta G ULCA Cylinder	071p  Multi Plastic UCLA Cylinder
	Prosthetic Procedure III	074p  Straight Abutment			

Fixture Level Impression

Impression		
066p  Replica	067p  Pick-up Impression Coping	067p  Transfer Post

Abutment Level Impression

Impression			
070p Multi Protection Cap	070p  Multi Pick-up Impression Coping	070p  Multi Transfer Post	071p  Multi Lab Analog
Direct Impression			

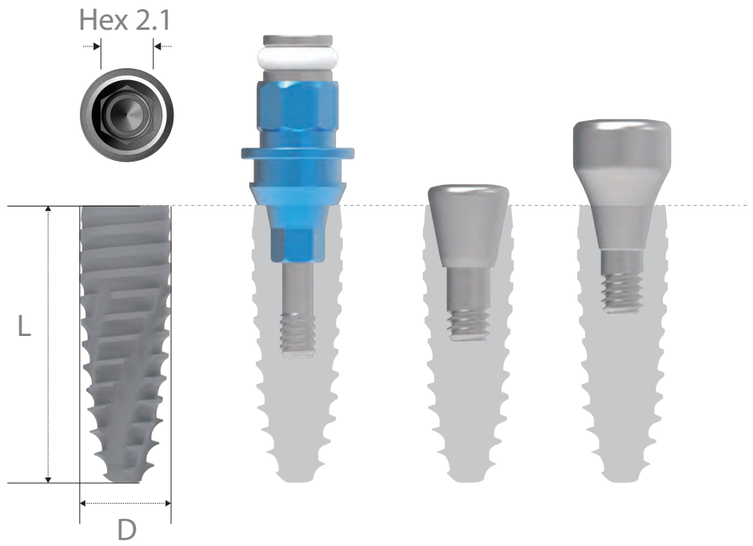
INNO Submerged Narrow Implant (Sub-N.)

SUB-N. HEXAGON SYSTEM

Submerged Fixture

Surface Treatment: **SLA-SH**

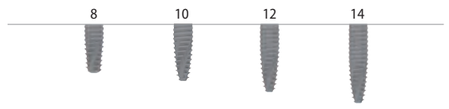
> Interchangeable with hexagonal morse tapered fixture
> Internal hex connection (Taper 11°/ Hex 2.1)



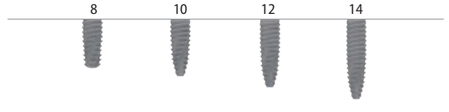
No-Mount

> Packing unit: 1 Fixture + 1 Cover Screw.

Length \ Diameter	Ø3.1
8	SR3108NSM
10	SR3110NSM
12	SR3112NSM
14	SR3114NSM



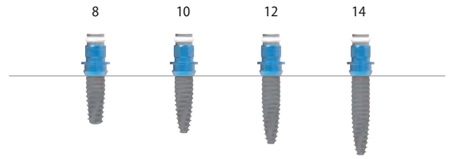
Length \ Diameter	Ø3.3
8	SR3308NSM
10	SR3310NSM
12	SR3312NSM
14	SR3314NSM



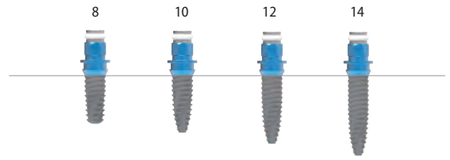
Pre-Mount

> Packing unit: 1 Fixture + 1 Cover Screw + 1 Mount.

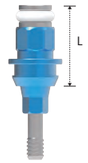
Length \ Diameter	Ø3.1
8	SR3108NS
10	SR3110NS
12	SR3112NS
14	SR3114NS



Length \ Diameter	Ø3.3
8	SR3308NS
10	SR3310NS
12	SR3312NS
14	SR3314NS



Fixture Mount



Length	5.4
	RSM001

> Packing unit: 1 Mount + 1 Mount Screw.
> Tightened with the Hex Driver.
> Tightening torque force: 5~10N.cm.

Cover Screw

Length \ *Diameter*	Ø2.85	Ø3.25	Ø3.6
1.7	RCS000		
2.7		RCS001	
3.7			RCS002

> Packing unit: 1 Cover Screw.
> To seal the conical interface of the fixture.
> The longer the Cover Screw for the deeply inserted fixture.
> Tightened with the Hex Driver.
> Tightening torque force: 5~10N.cm.

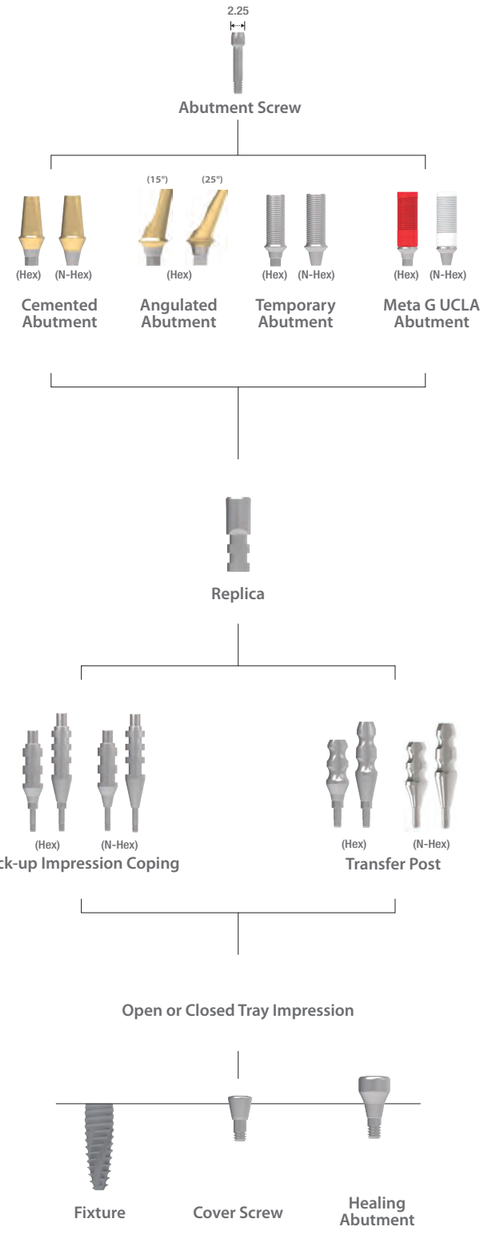
Healing Abutment

Diameter	Ø3.5		Ø4.5	
Cuff \ *Length*	1	2	1	2
0.5	HR3501			
1	HR3511		HS4511N	
2		HR3522		HS4522N
3		HR3532		HS4532N
4		HR3542		HS4542N
5				HS4552N
7				HS4572N

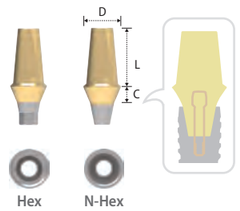
> Packing unit: 1 Healing Abutment.
> For remodeling gingival contour during soft tissue healing.
> Select the abutment according to gingival height and abutment type.
> Tightened with the Hex Driver.
> Tightening torque force: 5~10N.cm.

Prosthesis Procedure I

Components Selection Guide for Cemented and UCLA Abutment



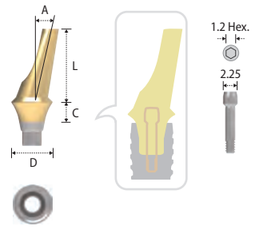
Cemented Abutment



Type	Hex			N-Hex		
Diameter	Ø4.5			Ø4.5		
Cuff \ *Length*	4	5.5	7	4	5.5	7
1	SCH4514N	SCH4515N	SCH4517N	SCN4514N	SCN4515N	SCN4517N
2	SCH4524N	SCH4525N	SCH4527N	SCN4524N	SCN4525N	SCN4527N
3	SCH4534N	SCH4535N	SCH4537N	SCN4534N	SCN4535N	SCN4537N
4	SCH4544N	SCH4545N	SCH4547N	SCN4544N	SCN4545N	SCN4547N
5	SCH4554N	SCH4555N	SCH4557N	SCN4554N	SCN4555N	SCN4557N

> Packing unit: 1 Cemented Abutment + 1 Abutment Screw.
> For Screw-Cement or Cement Retained Prosthesis.
> Cutting surface for anti-rotation of the prosthesis.
> Gold color for more translucent restoration.
> Library available for EXOCAD®, 3Shape® & Others.
> Connected with the Abutment Screw (SSHR100N).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20~25N.cm.
> Use the Scanbody for 3D Work.
> Fixture level impression.

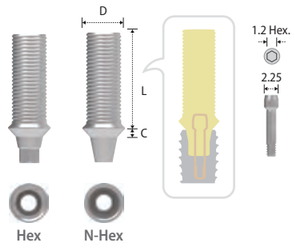
Angulated Abutment



Type	Hex	
Diameter(Angle)	Ø4.5(15°)	Ø4.5(25°)
Cuff \ *Length*	8	8
1	SAH45151NA	SAH45251NA
2	SAH45152NA	SAH45252NA
3	SAH45153NA	SAH45253NA
4	SAH45154NA	SAH45254NA

> Packing unit: 1 Angulated Abutment + 1 Abutment Screw.
> For Screw-Cement or Cement Retained Prosthesis.
> Solution for the anterior esthetic zone.
> Gold color for esthetics.
> Connected with the Abutment Screw (SSHR100N).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20~25N.cm.
> Fixture level impression.

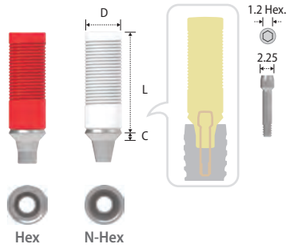
Temporary Abutment



Type	Hex	N-Hex
Diameter	Ø4.5	Ø4.5
Cuff \ *Length*	10	10
1	STHA45N	STNA45N

> Packing unit: 1 Temporary Abutment + 1 Abutment Screw.
> For Screw-Cement Retained Prosthesis.
> For provisional restoration.
> Connected with the Abutment Screw (SSHR100N).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20~25N.cm.

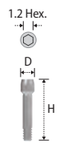
Meta G UCLA Abutment



Type	Hex	N-Hex
Diameter	Ø4.5	Ø4.5
Length / Cuff	12	12
1	SGH45N	SGN45N
2	SGH452N	SGN452N
3	SGH453N	SGN453N

> Packing unit: 1 Meta G UCLA Abutment + 1 Abutment Screw.
> For Screw Retained Prosthesis.
> Modification to the angulated abutment, customized abutment and telescopic abutment.
> CCM alloy core for precise connection.
> Cast with non-precious metal or gold alloy.
> Connected with the Abutment Screw (SSHR100N).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20~25N.cm.
> Fixture level impression.

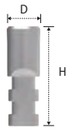
Abutment Screw



Height \ *Diameter*	2.25
10.2	SSHR100N

> Packing unit: 1 Abutment Screw.
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20~25N.cm.

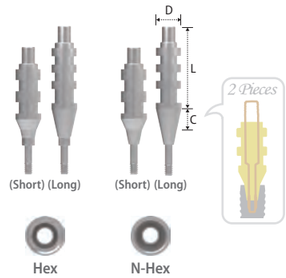
Replica



Height \ *Diameter*	Ø4.0
12.1	SRHR001N

> Packing unit: 1 Replica.
> Mimicking of the conical interface of the fixture.
> Analog of fixture for the working cast.

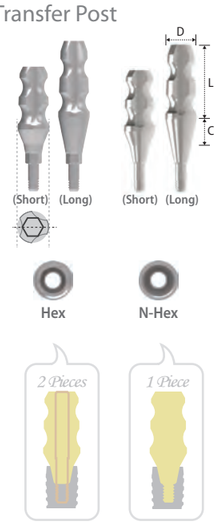
Pick-up Impression Coping



Type	Hex	N-Hex
Diameter / *Length / Cuff*	Ø4.5	Ø4.5
14 (Short) / 2	SIH45SN	SIN45SN
16 (Long) / 4	SIH45LN	SIN45LN

> Packing unit: 1 Pick-up Impression Coping + 1 Guide Pin.
> For open tray impression.
> Connected with the Guide Pin (SIS001SN / SIS001LN).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15Ncm.

Transfer Post

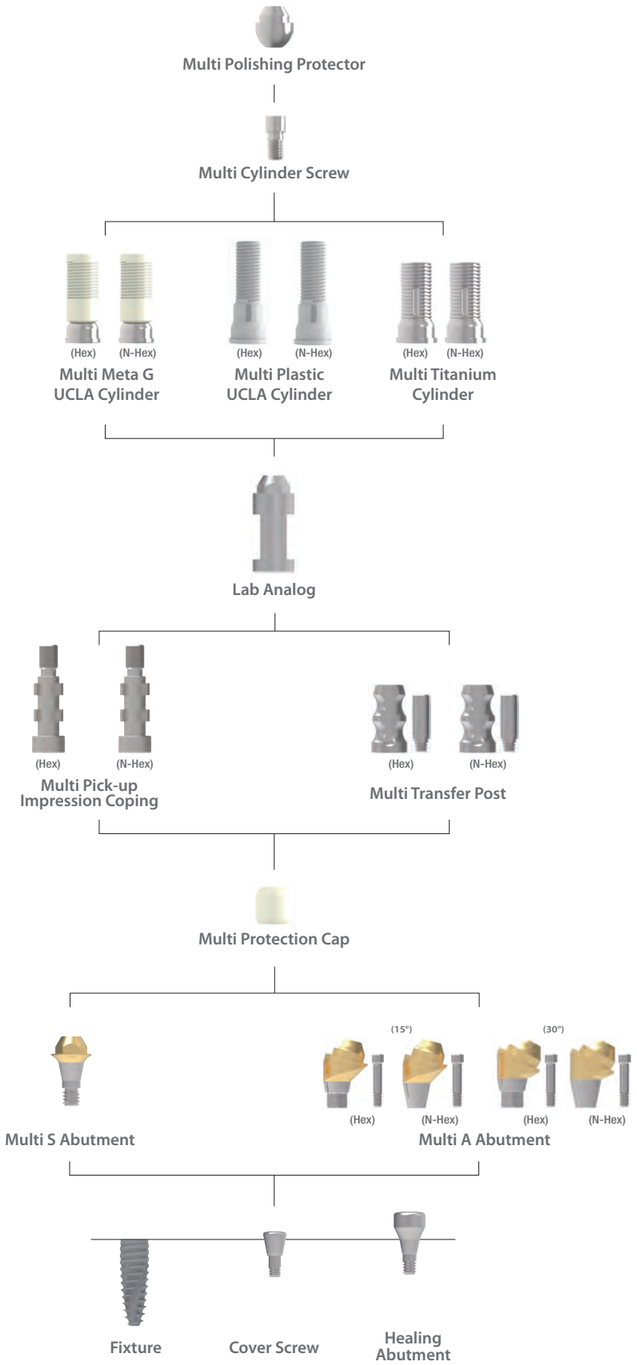


Type	Hex	N-Hex
Diameter / *Length / Cuff*	Ø4.5	Ø4.5
9 (Short) / 2	STH45SN	STN45SN
11 (Long) / 4	STH45LN	STN45LN

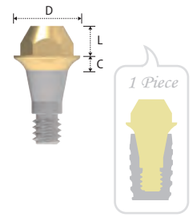
> Packing unit: Hex - 1 Transfer Post + 1 Guide Pin / N-Hex - 1 Transfer Post (Solid Type).
> For closed tray impression.
> Connected with the Guide Pin (STH001SN / STH001LN).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15Ncm.

Prosthesis Procedure II

Component Selection Guide for Multi S&A Abutment



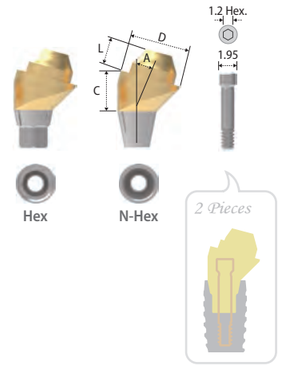
Multi S Abutment



Diameter	Ø4.5
Cuff \ Length	2
1	SMS451N
2	SMS452N
3	SMS453N
4	SMS454N

> Packing unit: 1 Multi S Abutment.
> For Screw-Retained Prosthesis.
> Titanium base for the cylinders.
> Gold color for more translucent restoration.
> Integrated with screw and abutment.
> Library available for EXOCAD®, 3Shape® & Others.
> Use the S Holder for a more stable position.
> Tightened with the S Machine & S Ratchet Driver and Torque Wrench.
> Tightening torque force: 20~25N.cm.
> Abutment level impression.

Multi A Abutment

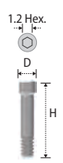


Type	Hex	
Diameter(Angle)	Ø4.5(15°)	Ø4.5(30°)
Cuff \ Length	2	2
2	★ SMAH45152N	
3	● SMAH45153N	★ SMAH45303N
4	● SMAH45154N	● SMAH45304N

Type	N-Hex	
Diameter(Angle)	Ø4.5(15°)	Ø4.5(30°)
Cuff \ Length	2	2
2	★ SMAN45152N	
3	● SMAN45153N	★ SMAN45303N
4	● SMAN45154N	● SMAN45304N

> Packing unit: 1 Multi A Abutment + 1 Abutment Screw.
> For Screw-Retained Prosthesis.
> Titanium base for the cylinders.
> Gold color for more translucent restoration.
> Library available for EXOCAD®, 3Shape® & Others.
> Use the A Holder for a more stable position.
> Connected with the Abutment Screw (SSHR200N: ★ / SSHR300N: ●).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20~25N.cm.
> Abutment level impression.

Abutment Screw



Height \ Diameter	8.7	9.3
Ø1.95	★ SSHR200N	● SSHR300N

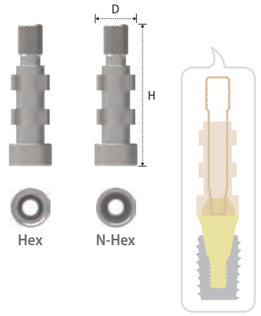
> Packing unit: 1 Abutment Screw.
> To connect the Multi A Abutment.
> Tightened with the Hex Driver and Torque Wrench.

Multi Protection Cap

Multi S & A Abutment Diameter / Diameter / Height	Ø4.5
5	2SMPC45

> Packing unit: 1 Multi Protection Cap.
> Protection from cheek and tongue for gingival healing period.
> Gingival retraction for prosthodontic margin of the abutment.
> Alternative usage for sub-structure of the temporary prosthesis.
> Tightened with the Hex Driver.
> Tightening torque force: 5~10N.cm.

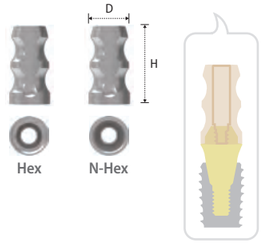
Multi Pick-up Impression Coping



Type / Multi S & A Abutment Diameter / Diameter / Height	Hex	N-Hex
	Ø4.5	Ø4.5
	Ø4.65	Ø4.65
16	2SMIH45	2SMIN45

> Packing unit: 1 Multi Pick-up Impression Coping + 1 Guide Pin.
> For open tray impression.
> Connected with the Guide Pin (2SMGP012).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

Multi Transfer Post



Type / Multi S & A Abutment Diameter / Diameter / Height	Hex	N-Hex
	Ø4.5	Ø4.5
	Ø4.5	Ø4.5
8.5	2SMTH45	2SMTN45

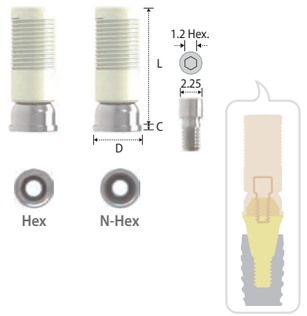
> Packing unit: 1 Multi Transfer Post + 1 Guide Pin.
> For closed tray impression.
> Connected with the Guide Pin (2SMTHS100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

Multi Lab Analog

Multi S & A Abutment Diameter / Diameter / Length	Ø4.5
	Ø4.5
2	2SMA45

> Packing unit: 1 Multi Lab Analog.
> Replacement of abutment shape in working cast.

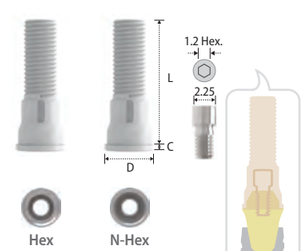
Multi Meta G UCLA Cylinder



Type / Multi S & A Abutment Diameter / Diameter / Length / Cuff	Hex	N-Hex
	Ø4.5	Ø4.5
	Ø4.5	Ø4.5
	10.9	10.9
0.5	2SCCH45	2SCCN45

> Packing unit: 1 Multi Meta G UCLA Cylinder + 1 Multi Cylinder Screw.
> For Screw, Cement, or Screw-Cement Retained Prosthesis.
> Modification to various types of abutments.
> CCM alloy core for precise connection.
> Cast with non-precious metal or gold alloy.
> Connected with the Multi Cylinder Screw (2SMCS100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20N.cm.

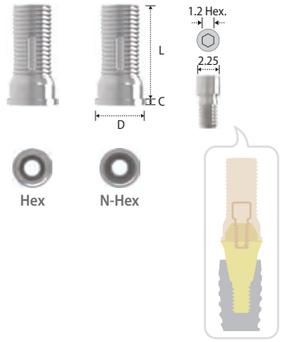
Multi Plastic UCLA Cylinder



Type / Multi S & A Abutment Diameter / Diameter / Length / Cuff	Hex	N-Hex
	Ø4.5	Ø4.5
	Ø4.5	Ø4.5
	11.5	11.5
0.5	2SMPH45	2SMPN45

> Packing unit: 1 Multi Plastic UCLA Cylinder + 1 Multi Cylinder Screw.
> For Screw, Cement or Screw-Cement Retained Prosthesis.
> Same purpose of use as the Meta G UCLA Cylinder but the low accuracy of connection.
> PMMA material.
> Connected with the Multi Cylinder Screw (2SMCS100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20N.cm.

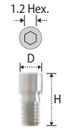
Multi Titanium Cylinder



Type	Hex	N-Hex
Multi S & A Abutment Diameter	Ø4.5	Ø4.5
Diameter	Ø4.5	Ø4.5
Length / Cuff	8.5	8.5
0.5	2STCH45	2STCN45

> Packing unit: 1 Multi Titanium Cylinder + 1 Multi Cylinder Screw.
> For Screw, Cement or Screw-Cement Retained Prosthesis.
> Connected with the Multi Cylinder Screw (2SMCS100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20N.cm.

Multi Cylinder Screw



Height / Diameter	Ø2.25
5	2SMCS100

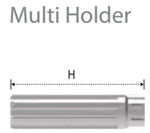
> Packing unit: 1 Multi Cylinder Screw.
> Connected with the Meta G UCLA, Plastic UCLA, and Titanium Cylinder.
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20N.cm.

Multi Polishing Protector

Type	Hex
Multi S & A Abutment Diameter	Ø4.5
Diameter / Length	Ø4.5
2	2SMPP45

> Packing unit: 1 Multi Polishing Protector.
> To protect margin of the prosthesis while polishing procedure.

Multi Holder



S Holder

Height / Type	Hand
20	KMHS01

> Packing unit: 1 Multi S Holder.
> To position the Multi S Abutment more stably.

A Holder

Height / Type	Hand
32	KMHA01

> Packing unit: 1 Multi A Holder.
> To position the Multi A Abutment more stably.

① Connect the Multi A Holder with the Multi A Abutment with its Abutment Screw in it and match the direction of holes of the abutment and the holder.

② Hold the handle of the Multi A Holder and bend it according to the placement position in the oral cavity.

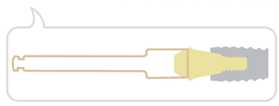
③ Connect the assembled body with the fixture.

④ Tighten the Multi A Abutment with the Hex Driver and Torque Wrench.

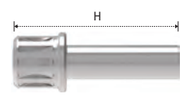
Multi S Machine Driver

Height / Type	Machine
27.5	KMMSD21L

> Packing unit: 1 Multi S Machine Driver.
> To install and remove the Multi S Abutment by machine.

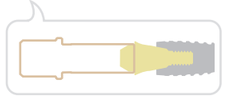


Multi S Ratchet Driver



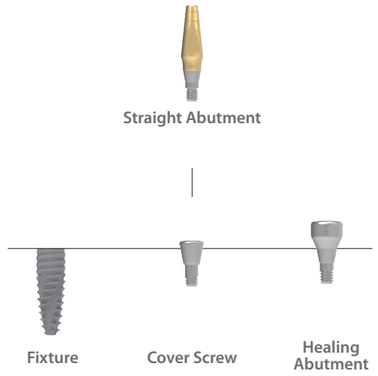
Height / Type	Ratchet
22	KRMSD15L

> Packing unit: 1 Multi S Ratchet Driver.
> To install and remove the Multi S Abutment with the Torque Wrench.

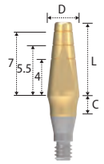


Prosthesis Procedure III

Component Selection Guide for Straight Abutment



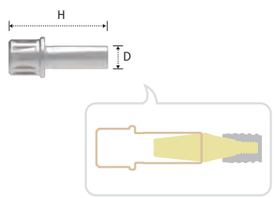
Straight Abutment



Diameter	Ø3.5				
Length [Cuff]	8 [0.5]	8 [1]	8 [2]	8 [3]	8 [4]
	SR308	SR318	SR328	SR338	SR348

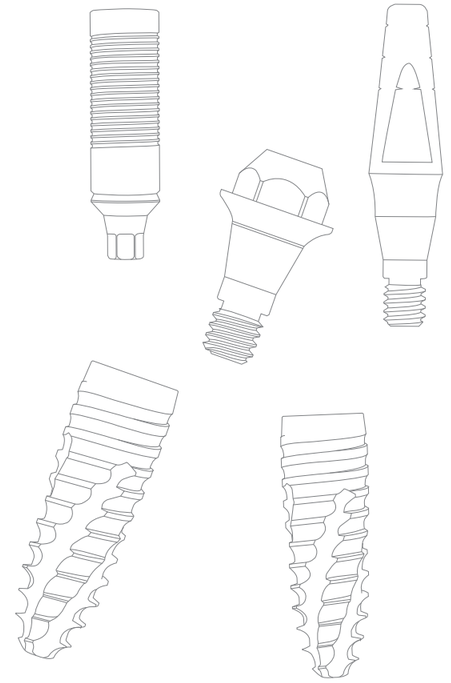
> Packing unit: 1 Straight Abutment.
> For Cement Retained Prosthesis.
> Integrated with screw and abutment.
> Tightened with the Shoulder Driver.
> Tightening torque force: 20~25N.cm.
> Direct impression.

Shoulder Ratchet Driver



Height \ *Diameter*	Ø4.5
19	KRR19L

> Packing unit: 1 Shoulder Ratchet Driver
> To install and remove the Straight Abutment with the Torque Wrench.



INNO INTERNAL IMPLANT (Int.)

System Flow

Fixture

Abutment

Prosthetic Procedure I

083p

Cemented Extension Abutment

083p

Angulated Abutment

083p

Meta G UCLA Abutment

Prosthetic Procedure II

086p

Solid Abutment

Prosthetic Procedure III

089p

Shoulder Abutment

Prosthetic Procedure IV

091p

Sonator S Abutment

Prosthetic Procedure V

095p

Ball Abutment

Fixture Level Impression

Abutment Level Impression

Impression

Prosthetic Procedure I

084p

Replica

084p

Pick-up Impression Coping

084p

Transfer Post

Prosthetic Procedure II

086p

Solid/Shoulder Protection Cap

086p

Solid/Shoulder Impression Cap

086p

Solid Positioning Cylinder

087p

Solid Lab Analog

087p

Solid Plastic Coping

Prosthetic Procedure III

089p

Solid/Shoulder Protection Cap

089p

Solid/Shoulder Impression Cap

089p

Shoulder Positioning Cylinder

089p

Shoulder Lab Analog

Prosthetic Procedure IV

092p

Impression Coping

092p

Sonator Analog

Prosthetic Procedure V

095p

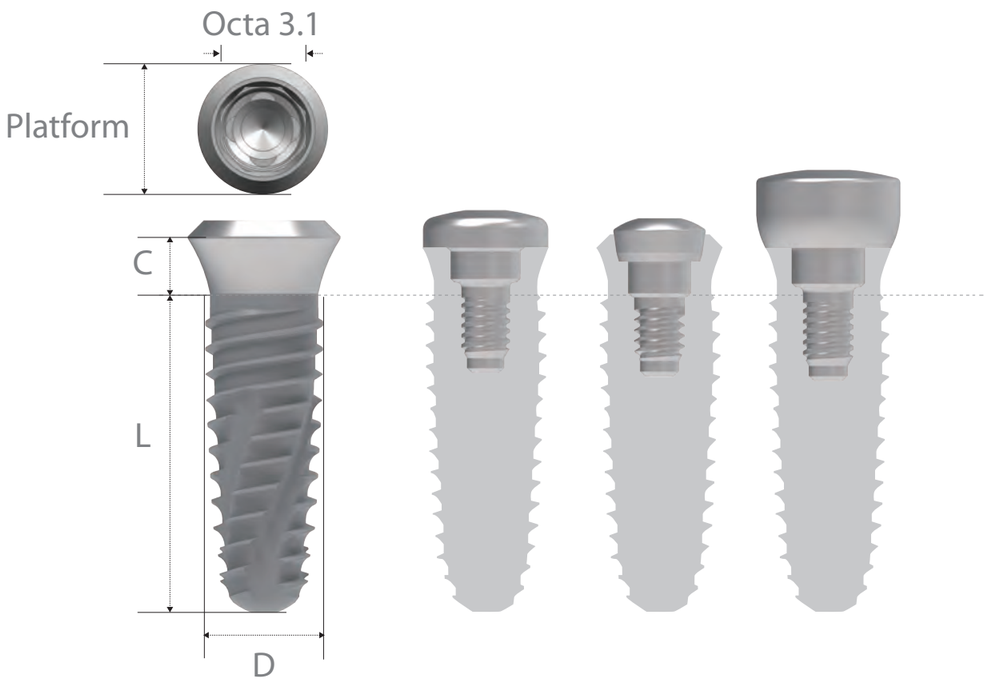
Ball Analog

INNO Internal Impant (Int.)

INT. OCTAGON SYSTEM

Internal Fixture
Surface Treatment: **SLA-SH**

> Interchangeable with 1 staged internal fixture
> Internal Octa Connection (Taper 8°/ Octa 3.1)
> No-Mount type



INNO Fixture Code

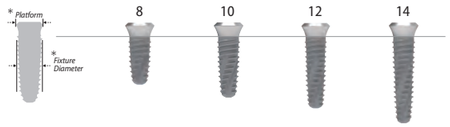
I	P	T	40	10	S	M	
Type **I**nternal	**P**=Cuff 1.8	body **T**aper	Diameter Ø**4.0**	Length **10**mm	Surface Treatment **S**LA	Mount No-**M**ount	*Ex.) SLA Cuff 1.8 No-Mount IPT4010SM

I		T	40	10	S	M	
Type **I**nternal	Cuff 2.4	body **T**aper	Diameter Ø**4.0**	Length **10**mm	Surface Treatment **S**LA	Mount No-**M**ount	*Ex.) SLA Cuff 2.4 No-Mount IT4010SM

No-Mount *Cuff 1.8mm fixture* > Packing unit: 1 Fixture + 1 Cover Screw.

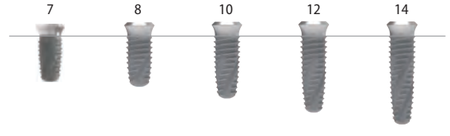
Length \ * Diameter	Ø3.5
7	-
8	IPT3508SM
10	IPT3510SM
12	IPT3512SM
14	IPT3514SM

* Platform: Ø4.8



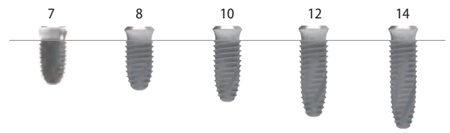
Length \ * Diameter	Ø4.0
7	IPT4007SM
8	IPT4008SM
10	IPT4010SM
12	IPT4012SM
14	IPT4014SM

* Platform: Ø4.8



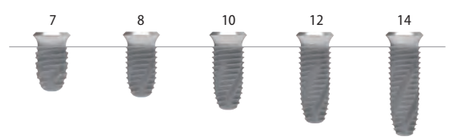
Length \ * Diameter	Ø4.5
7	IPT4507SM
8	IPT4508SM
10	IPT4510SM
12	IPT4512SM
14	IPT4514SM

* Platform: Ø4.8



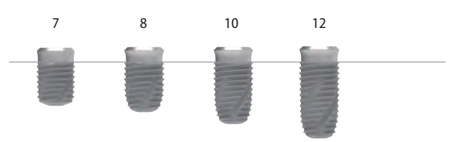
Length \ * Diameter	Ø5.0
7	IPT5007SM
8	IPT5008SM
10	IPT5010SM
12	IPT5012SM
14	IPT5014SM

* Platform: Ø5.9



Length \ * Diameter	Ø6.0
7	IPT6007SM
8	IPT6008SM
10	IPT6010SM
12	IPT6012SM
14	-

* Platform: Ø5.9

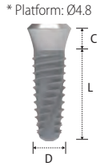


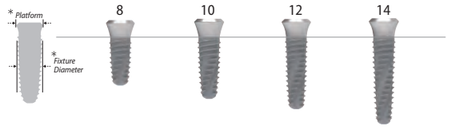
No-Mount *Cuff 2.4mm fixture*

> Packing unit: 1 Fixture + 1 Cover Screw.

* Diameter / Length	Ø3.5
7	-
8	IT3508SM
10	IT3510SM
12	IT3512SM
14	IT3514SM

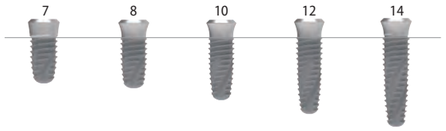
* Platform: Ø4.8





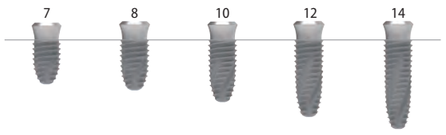
* Diameter / Length	Ø4.0
7	IT4007SM
8	IT4008SM
10	IT4010SM
12	IT4012SM
14	IT4014SM

* Platform: Ø4.8



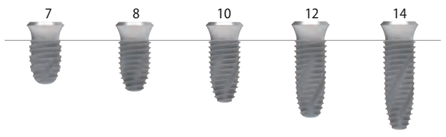
* Diameter / Length	Ø4.5
7	IT4507SM
8	IT4508SM
10	IT4510SM
12	IT4512SM
14	IT4514SM

* Platform: Ø4.8



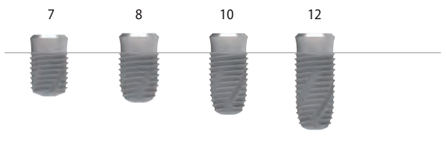
* Diameter / Length	Ø5.0
7	IT5007SM
8	IT5008SM
10	IT5010SM
12	IT5012SM
14	IT5014SM

* Platform: Ø5.9

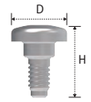


* Diameter / Length	Ø6.0
7	IT6007SM
8	IT6008SM
10	IT6010SM
12	IT6012SM
14	-

* Platform: Ø5.9



Cover Screw



Platform [Fixture Dia.]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]
Height \ Diameter	Ø5.0	Ø6.0
6.5	ICVR002	ICVW002

> Packing unit: 1 Cover Screw.
> To seal the conical interface of the fixture.
> Tightened with the Hex Driver.
> Tightening torque force: 5~10N.cm.

Headless Screw

Height \ Diameter	Ø3.5
6	ICVR001

> Packing unit: 1 Headless Screw.
> For narrow mesiodistal distance.
> Tightened with the Hex Driver.
> Tightening torque force: 5~10N.cm.

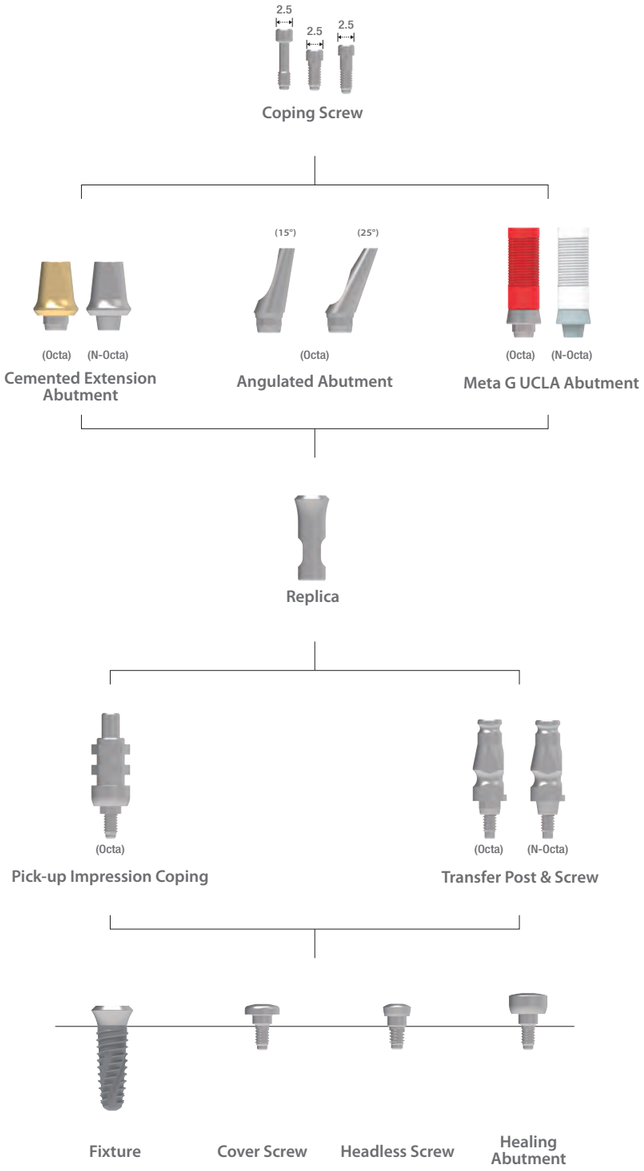
Healing Abutment

Platform [Fixture Dia.]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]
Length \ Diameter	Ø5.5	Ø6.6
2	IHCR020	IHCW020
3	IHCR030	IHCW030
4.5	IHCR045	IHCW045

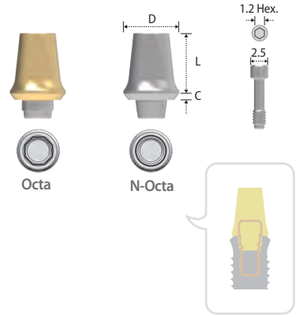
> Packing unit: 1 Healing Abutment.
> For remodeling gingival contour during soft tissue healing.
> Select the abutment according to gingival height and abutment type.
> Tightened with the Hex Driver.
> Tightening torque force: 5~10N.cm.

Prosthetic Procedure I

Component Selection Guide for Cemented & UCLA Abutment



Cemented Extension Abutment

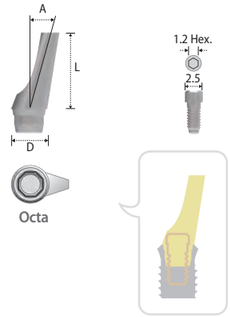


Type	Octa			
Platform [Fixture Dia.]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]		Ø5.9 [Ø5.0 / Ø6.0]	
Diameter	Ø4.8	Ø5.8	Ø5.9	Ø6.9
Cuff \ *Length*	6	6	6	6
0.5	IECR406		IECW506	
1		IECR416		IECW516
2		IECR426		IECW526
3		IECR436		IECW536

Type	N-Octa			
Platform [Fixture Dia.]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]		Ø5.9 [Ø5.0 / Ø6.0]	
Diameter	Ø4.8	Ø5.8	Ø5.9	Ø6.9
Cuff \ *Length*	6	6	6	6
0.5	IENR406		IENW506	
1		IENR416		IENW516
2		IENR426		IENW526
3		IENR436		IENW536

> Packing unit: 1 Cemented Extension Abutment + 1 Abutment Screw.
> For Cement Retained or Screw-Cement Retained Prosthesis.
> Cutting surface for anti-rotation of the prosthesis.
> Connected with the Abutment Screw (ISHR110).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Fixture level impression.

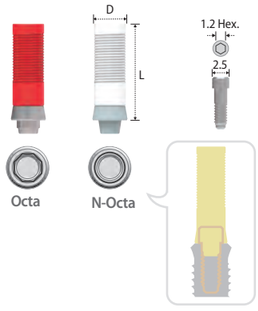
Angulated Abutment



Type	Octa	
Platform [Fixture Dia.]	Ø4.8 & Ø5.9 [Ø3.5 / Ø4.0 / Ø4.5 / Ø5.0 / Ø6.0]	
Diameter(Angle) \ *Length*	3.8 (15°)	3.8 (25°)
8	IAAR158A	IAAR258A

> Packing unit: 1 Angulated Abutment + 1 Abutment Screw.
> For Cement Retained or Screw-Cement Retained Prosthesis.
> Solution for the anterior esthetic zone.
> Connected with the Abutment Screw (ISHR100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Fixture level impression.

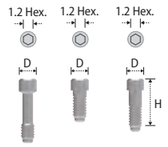
Meta G UCLA Abutment



Type	Octa		N-Octa	
Platform [Fixture Dia.]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]
Diameter \ *Length*	Ø5	Ø6	Ø5	Ø6
12	IGOR400N	IGOW500N	IGNR400N	IGNW500N

> Packing unit: 1 Meta G UCLA Abutment + 1 Abutment Screw.
> For Screw-Cement or Screw Retained Prosthesis.
> Modification to the angulated abutment, customized abutment and telescopic abutment.
> CCM alloy core for precise connection.
> Cast with non-precious metal or gold alloy.
> Connected with the Abutment Screw (ISHR120).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Fixture level impression.

Abutment Screw



Height \ Diameter	Ø2.5	Ø2.5	Ø2.5
6.3		ISHR100	
7.8			ISHR120
9.2	ISHR110		

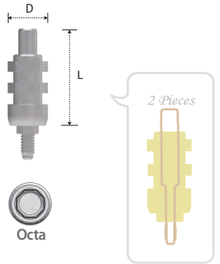
> Packing unit: 1 Abutment Screw.
> ISHR110: Cemented Abutment.
> ISHR100: Angulated Abutment.
> ISHR120: Meta G UCLA Abutment.
> Tightened with the Hex Driver and Torque Wrench.

Replica

Platform [Fixture Dia.]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]
Height \ Diameter	Ø4.8	Ø5.9
12	IROR001	IROW001

> Packing unit: 1 Replica.
> Mimicking of the conical interface of the fixture.
> Analog of fixture for the working cast.

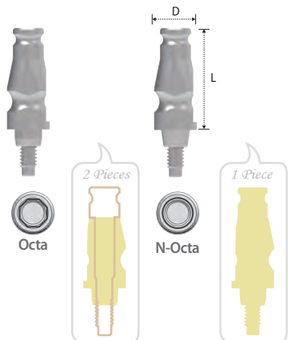
Pick-up Impression Coping



Type	Octa	
Platform [Fixture Dia.]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]
Length \ Diameter	Ø5.5	Ø6.6
13.7	IIOR001	IIOW001

> Packing unit: 1 Pick-up Impression Coping + 1 Guide Pin.
> For open tray impression.
> Connected with the Guide Pin (IIOR001S).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

Transfer Post

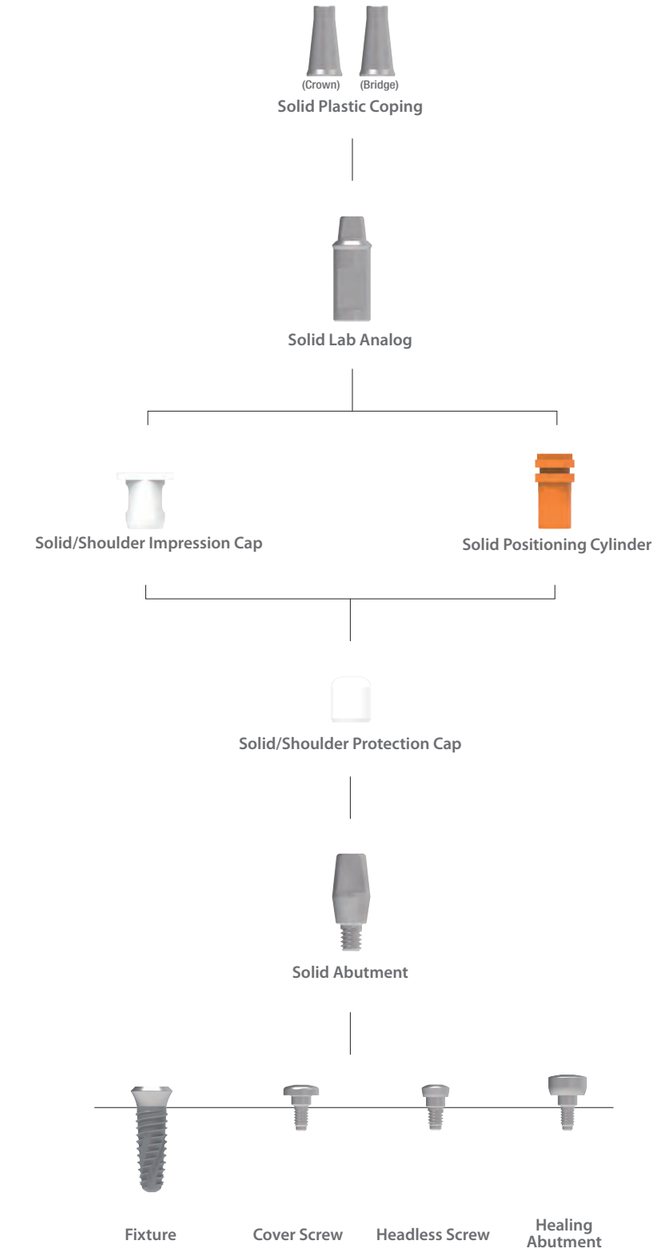


Type	Octa		N-Octa	
Platform [Fixture Dia.]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]
Length \ Diameter	Ø4.85	Ø5.95	Ø4.85	Ø5.95
11.6	ITOR400	ITOW500	ITNR400	ITNW500

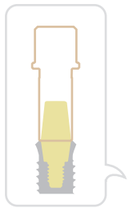
> Packing unit: Octa - 1 Transfer Post + 1 Guide Pin / N-Octa - 1 Transfer Post (Solid Type).
> For closed tray impression.
> Connected with the Guide Pin (Regular: ITOR400S / Wide: ITOW500S).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

Prosthetic Procedure II

Component Selection Guide for Solid Abutment



Solid Abutment



Platform [Fixture Dia.]	Ø4.8 & Ø5.9 [Ø3.5 / Ø4.0 / Ø4.5 / Ø5.0 / Ø6.0]			
Diameter	Ø3.5			
Length	3	4	5.5	7
	IASR030	IASR040	IASR055	IASR070

> Packing unit: 1 Solid Abutment + 1 Protection Cap.
> For Cement Retained Prosthesis.
> Cutting surface for anti-rotation of the prosthesis.
> Integrated with screw and abutment.
> Tightened with the Shoulder Ratchet Driver.
> Tightening torque force: 30N.cm.
> Abutment level impression:
Impression cap in platform Ø4.1 fixture and direct impression in platform Ø5.8 fixture.


Shoulder Ø4.5 KRR19L

Solid/Shoulder Protection Cap

Solid Abutment Diameter	Ø3.5
Height \ *Diameter*	Ø5.4
5.2	IASR130
6.2	IASR140
7.7	IASR155
9.2	IASR170

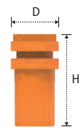
> Packing unit: 1 Solid/Shoulder Protection Cap.
> Protection from cheek and tongue for gingival healing period.
> Alternative usage for sub-structure of the temporary prosthesis.

Solid/Shoulder Impression Cap

Solid Abutment Diameter	Ø3.5
Height \ *Diameter*	8
8	IICR001

> Packing unit: 1 Solid/Shoulder Impression Cap.
> Connected with the Solid Positioning Cylinder.
> Confirm locking with abutment by rotation of clockwise and anti-clockwise direction.

Solid Positioning Cylinder



Solid Abutment Diameter	Ø3.5
Height \ *Diameter*	Ø5.7
10.2	IPCR001

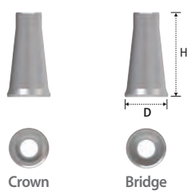
> Packing unit: 1 Solid Positioning Cylinder.
> Inner cutting surface for anti-rotation on the abutment.
> Insert into the Impression Cap.

Solid Lab Analog

Solid Abutment Diameter	Ø3.5			
Diameter	Ø4.8			
Length	3	4	5.5	7
	ILSR030	ILSR040	ILSR055	ILSR070

> Packing unit: 1 Solid Lab Analog.
> Replacement of abutment shape in working cast.
> Choose according to length of the abutment.

Solid Plastic Coping



Type	Crown	Bridge
Solid Abutment Diameter	Ø3.5	Ø3.5
Height \ *Diameter*	Ø5.0	Ø5.0
10	IPCC001	IPCB001

> Packing unit: 1 Solid Plastic Coping.
> Connect with the Lab Analog.
> Burn out and casting for the metal framework.

Prosthetic Procedure III

Component Selection Guide for Shoulder Abutment

(Octa) (N-Octa)

Shoulder Lab Analog

Solid/Shoulder Impression Cap

Shoulder Positioning Cylinder

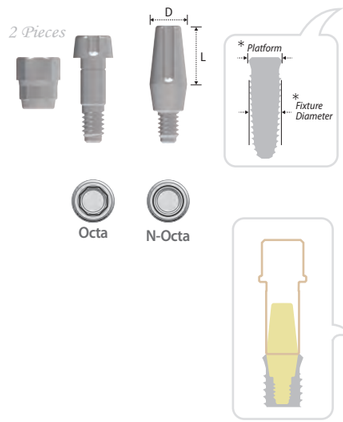
Solid/Shoulder Protection Cap

(Octa) (N-Octa)

Shoulder Abutment

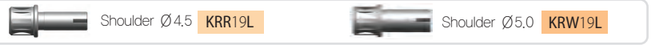
Fixture **Cover Screw** **Headless Screw** **Healing Abutment**

Shoulder Abutment



Type	Octa		N-Octa	
* *Platform [Fixture Dia.]*	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]
Length \ *Diameter*	Ø3.5	Ø4.5	Ø3.5	Ø4.5
4	ISAC404	ISAC504	ISAB404	ISAB504
5.5	ISAC405	ISAC505	ISAB405	ISAB505
7	ISAC407	ISAC507	ISAB407	ISAB507

> Packing unit: 1 Shoulder Abutment + 1 Protection Cap.
> For Cement Retained Prosthesis.
> Dual anti-rotation grip with a single crown for prevention of screw loosening.
> Integrated with the Screw and Abutment.
> Tightened with the Shoulder Ratchet Driver.
> Tightening torque force: 30N.cm.
> Abutment level impression.



Solid/Shoulder Protection Cap

Shoulder Abutment Diameter	Ø3.5	Ø4.5
Height \ *Diameter*	Ø5.4	Ø5.4
6.2	IASR140	IASW140
7.7	IASR155	IASW155
9.2	IASR170	IASW170

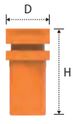
> Packing unit: 1 Solid/Shoulder Protection Cap.
> Protection from cheek and tongue for gingival healing period.
> Alternative usage for sub-structure of the temporary prosthesis.

Solid/Shoulder Impression Cap

Shoulder Abutment Diameter	Ø3.5	Ø4.5
Height \ *Diameter*	8	9
8	IICR001	IICW001

> Packing unit: 1 Solid/Shoulder Impression Cap.
> Connected with the Shoulder Positioning Cylinder.
> Confirm locking with abutment by rotation of clockwise and anti-clockwise direction.

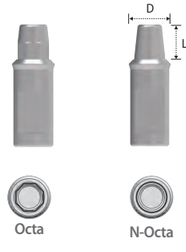
Shoulder Positioning Cylinder



Shoulder Abutment Diameter	Ø3.5	Ø4.5
Height \ *Diameter*	5.7	6.8
10.7	SAPR001	SAPW001

> Packing unit: 1 Shoulder Positioning Cylinder.
> Inner cutting surface for anti-rotation on the abutment.
> Insert into the Impression Cap.

Shoulder Lab Analog

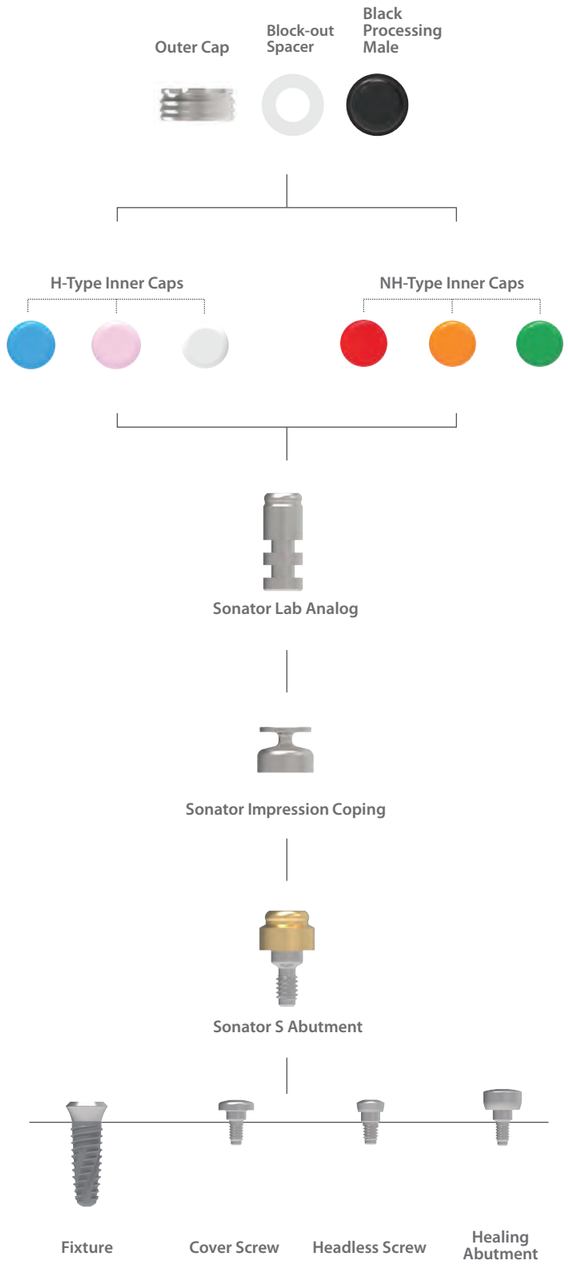


Type	Octa		N-Octa	
Shoulder Abutment Diameter	Ø3.5	Ø4.5	Ø3.5	Ø4.5
Length \ *Diameter*	Ø4.8	Ø5.9	Ø4.8	Ø5.9
4	SLCR040	SLCW040	SLBR040	SLBW040
5.5	SLCR055	SLCW055	SLBR055	SLBW055
7	SLCR070	SLCW070	SLBR070	SLBW070

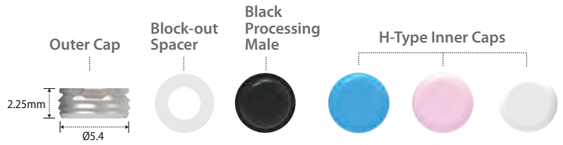
> Packing unit: 1 Shoulder Lab Analog.
> Replacement of abutment shape in working cast.
> Choose according to width and length of the abutment.

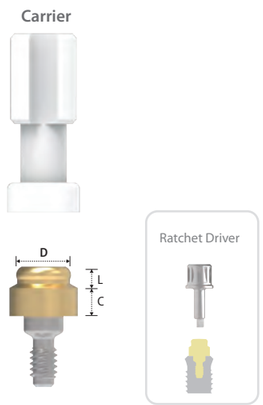
Prosthetic Procedure IV

Component Selection Guide for Sonator S&A Abutment



Sonator S Abutment

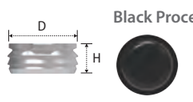




Diameter / *Length* *Cuff*	Ø4.0			
	0.6	2	3	4
1.5	IONS401	IONS402	IONS403	IONS404

> Packing unit: 1 Sonator S Abutment + 1 Carrier + 3 H-Type Inner Caps + 1 Outer Cap + 1 Block-out Spacer + 1 Black Processing Male.
> For Implant-Supported Overdenture Prosthesis.
> Stable with low vertical height.
> 6 kinds of Inner Caps give various holding force (Both, H and NH-Type Inner Caps are used for the Sonator S Abutment).
> Path compensation up to 20° based on 2 implants.
> Carrier: Used for delivery of the abutment.
> Tightened with the Ratchet Driver and Torque wrench.
> Tightening torque force: 30N.cm.
> Abutment level impression.

Outer Cap



Height / *Diameter*	Ø5.4
2.25	SONOC01

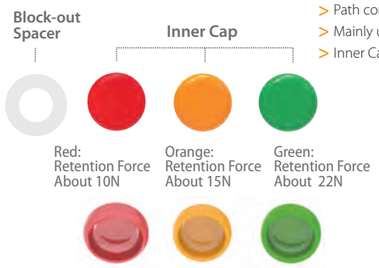
> Packing unit: 2 Outer Caps and 2 Black Processing Males.
> Black Processing Male: Inserted and Removed with the I&R Driver.

H-Type Inner Cap

Code	SONIC01

> Packing unit: 3 Block-out Spacers + 3 Inner Caps (1 Blue, 1 Pink, and 1 White).
> Path compensation up to 20° based on 2 implants.
> Mainly used for the Sonator S Abutment.
> Inner Caps: Inserted and Removed with the I&R Driver.

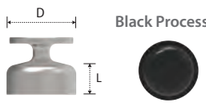
NH-Type Inner Cap



Code	SONIC02

> Packing unit: 3 Block-out Spacers + 3 Inner Caps (1 Red, 1 Orange, and 1 Green).
> Path compensation up to 40° based on 2 implants.
> Mainly used for the Sonator A Abutment.
> Inner Caps: Inserted and Removed with the I&R Driver.

Sonator Impression Coping



Length \ *Diameter*	Ø4.8
3	SONIP04

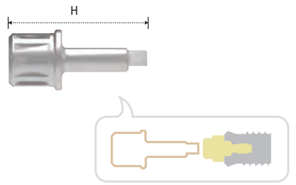
> Packing unit: 4 Impression Copings and 4 Black Processing Males.
> Abutment level pick-up impression.
> Connected over the Sonator Abutment after placing the Block-out Spacer.
> For close tray impression.

Sonator Lab Analog

Length \ *Diameter*	Ø4
1.4	SONLA04

> Packing unit: 4 Sonator Lab Analogs.
> Replacement of abutment shape in working cast.

Sonator S Ratchet Driver

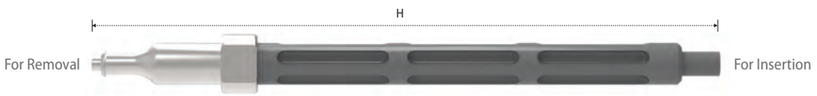


Height \ *Type*	Ratchet
18	SONRD19L

> Packing unit: 1 Sonator S Ratchet Driver.
> To install and remove the Sonator S Abutment with the Torque Wrench.

Sonator I&R Driver

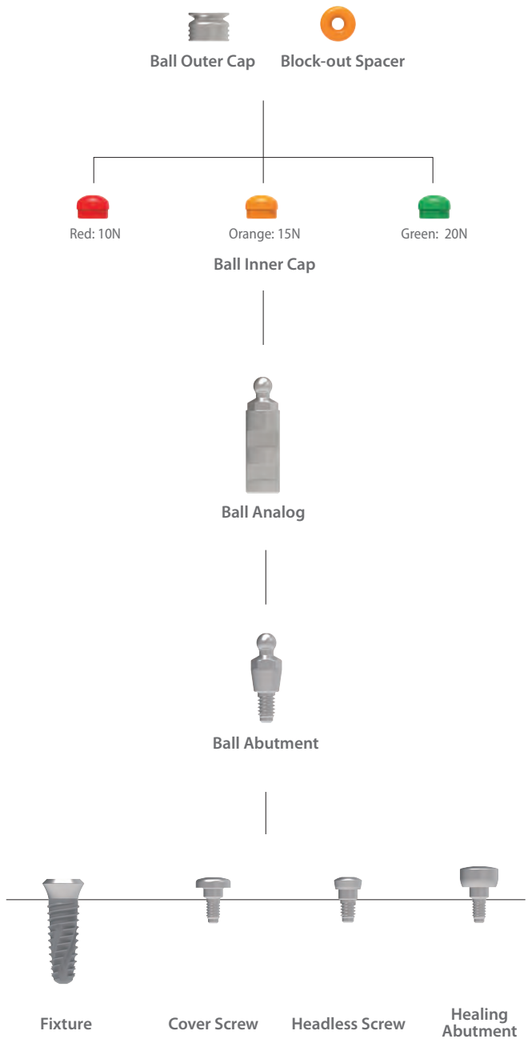
Height	95.4
	SONIR002



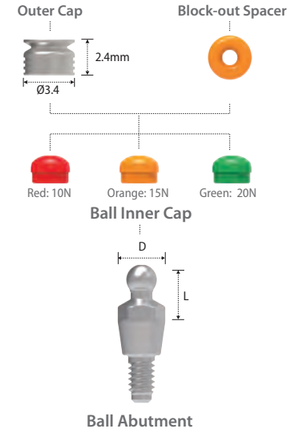
> Packing unit: 1 Sonator I&R Driver.
> Used to insert and remove the Inner Caps and Block Processing Male.

Prosthetic Procedure V

Component Selection Guide for Ball Abutment



Ball Abutment



Length \ Diameter	Ø3.5
4	IBAT404R

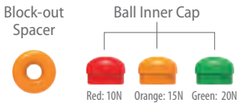
> Packing unit: 1 Ball Abutment + 3 Inner Caps (1 per each color) + 1 Block-out Spacer + 1 Outer Cap.
> For Implant-Supported Overdenture Prosthesis.
> Tightened with the Ball Ratchet Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Direct impression.

Ball Outer Cap

Height \ Diameter	Ø3.4
2.4	BATC003C

> Packing unit: 2 Outer Caps.

Ball Inner Cap



	BATC003I

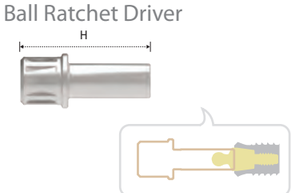
> Packing unit: 2 Block-out Spacers + 6 Inner Caps (2 per each color).
> Retention force: Red 10N, Orange 15N & Green 20N.

Ball Lab Analog

Length \ Diameter	Ø4.0
4	SBAL400

> Packing unit: 4 Ball Lab Analogs.
> Replacement of abutment shape in working cast.

Ball Ratchet Driver



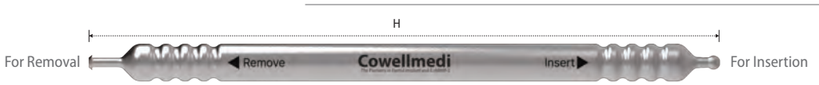
Height \ Type	Ratchet
19	KRB19L

*Extra Product

> Packing unit: 1 Ball Ratchet Driver.
> To install and remove the Ball Abutment with the Torque Wrench.

Ball I&R Driver

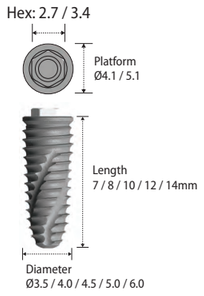
Height	100
	KBIR01



> Packing unit: 1 Ball I&R Driver.
> Used to insert and remove the Inner Caps into and out of the Outer Cap.

INNO EXTERNAL IMPLANT (Ext.)

System Flow

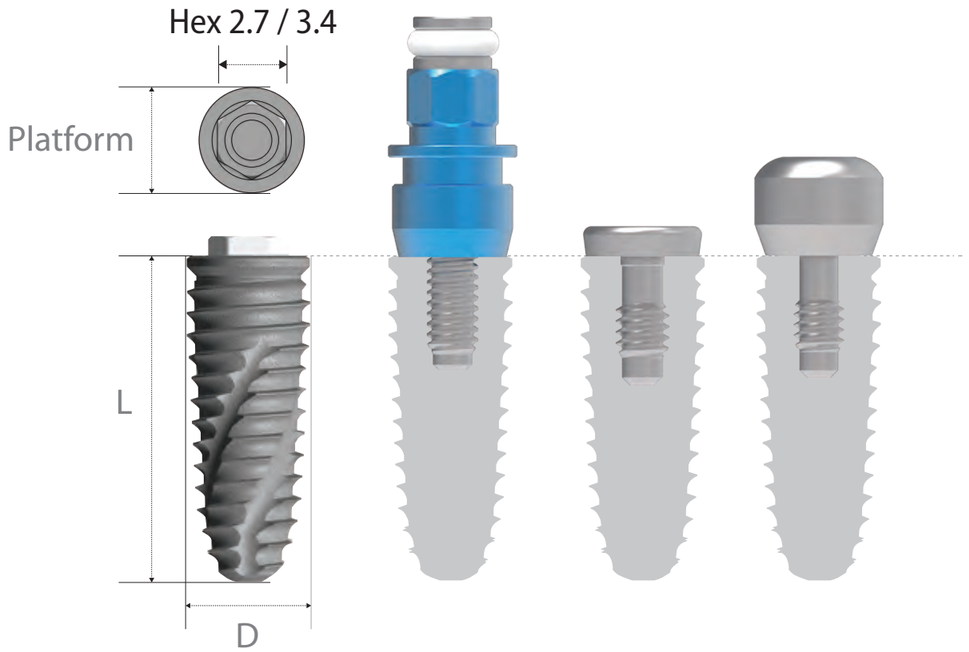
Fixture		Abutment		Impression
	Prosthetic Procedure I	102p  Cemented Abutment 102p  Angulated Abutment 102p  Temporary Abutment 103p  Meta G UCLA Abutment 103p  Plastic UCLA Abutment	Fixture Level Impression	104p  Replica 104p  Pick-up Squared Impression Coping 104p  Transfer Post
	Prosthetic Procedure II	106p  Shoulder Abutment	Abutment Level Impression	106p Solid/Shoulder Protection Cap 107p Solid/Shoulder Impression Cap 107p  Shoulder Positioning Cylinder 107p  Shoulder Lab Analog
	Prosthetic Procedure III	109p  Ball Abutment		109p  Ball Analog

INNO External Implant (Ext.)

EXT. HEXAGON SYSTEM

External Fixture
Surface Treatment: **SLA-SH**

> Interchangeable with external hexagonal fixture.
> External hex connection (Hex 2.7 / 3.4).



INNO Fixture Code

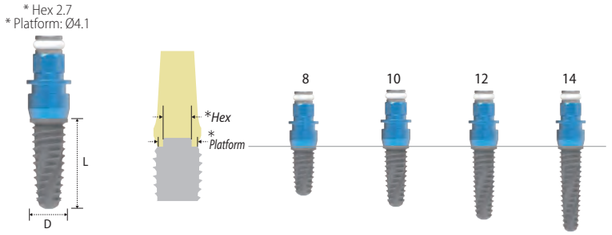
E	T	40	10	S		
Type	body	Diameter	Length	Surface Treatment		Mount
External	**T**aper	Ø**4.0**	**10**mm	**S**LA		Pre-Mount

*Ex.)
SLA Pre-Mount ET4010S

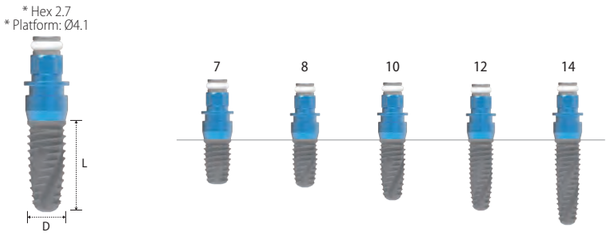
Pre-Mount

> Packing unit: 1 Fixture + 1 Mount + 1 Mount Screw.

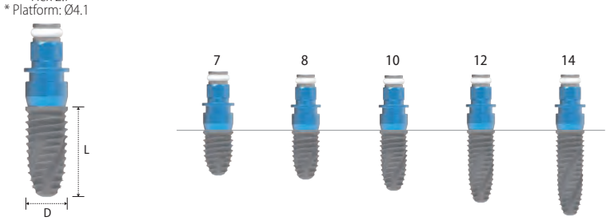
Length \ * Diameter	Ø3.5
7	-
8	ET3508S
10	ET3510S
12	ET3512S
14	ET3514S



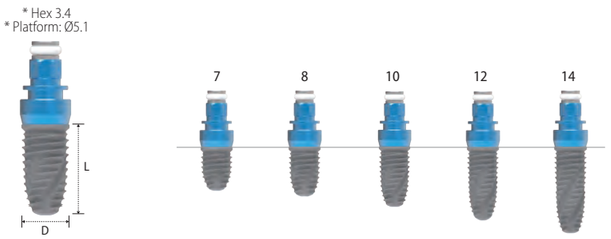
Length \ * Diameter	Ø4.0
7	ET4007S
8	ET4008S
10	ET4010S
12	ET4012S
14	ET4014S



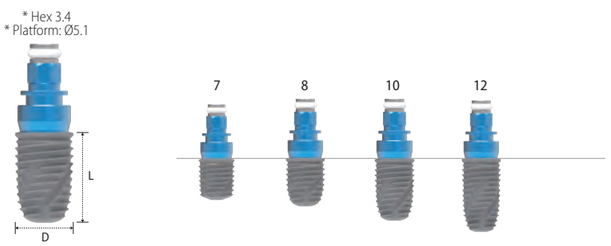
Length \ * Diameter	Ø4.5
7	ET4507S
8	ET4508S
10	ET4510S
12	ET4512S
14	ET4514S



Length \ * Diameter	Ø5.0
7	ET5007S
8	ET5008S
10	ET5010S
12	ET5012S
14	ET5014S



Length \ * Diameter	Ø6.0
7	ET6007S
8	ET6008S
10	ET6010S
12	ET6012S
14	-

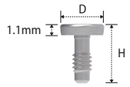


Fixture Mount

Hex	Hex2.7	Hex3.4
Platform [Fixture Dia.]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.1 [Ø5.0 / Ø6.0]
Diameter / Length	Ø4.9	Ø5.5
7.2	MER001	MEW002

> Packing unit: 1 Mount + 1 Mount Screw.
> Tightened with the Hex Driver.
> Tightening torque force: 5~10N.cm.

Cover Screw



Hex	Hex2.7	Hex3.4
Platform [Fixture Dia.]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.1 [Ø5.0 / Ø6.0]
Diameter / Height	Ø4.3	Ø5.4
5.8	VNR001	VNW001

> Packing unit: 1 Cover Screw.
> To seal the conical interface of the fixture.
> Tightened with the Hex Driver.
> Tightening torque force: 5~10N.cm.

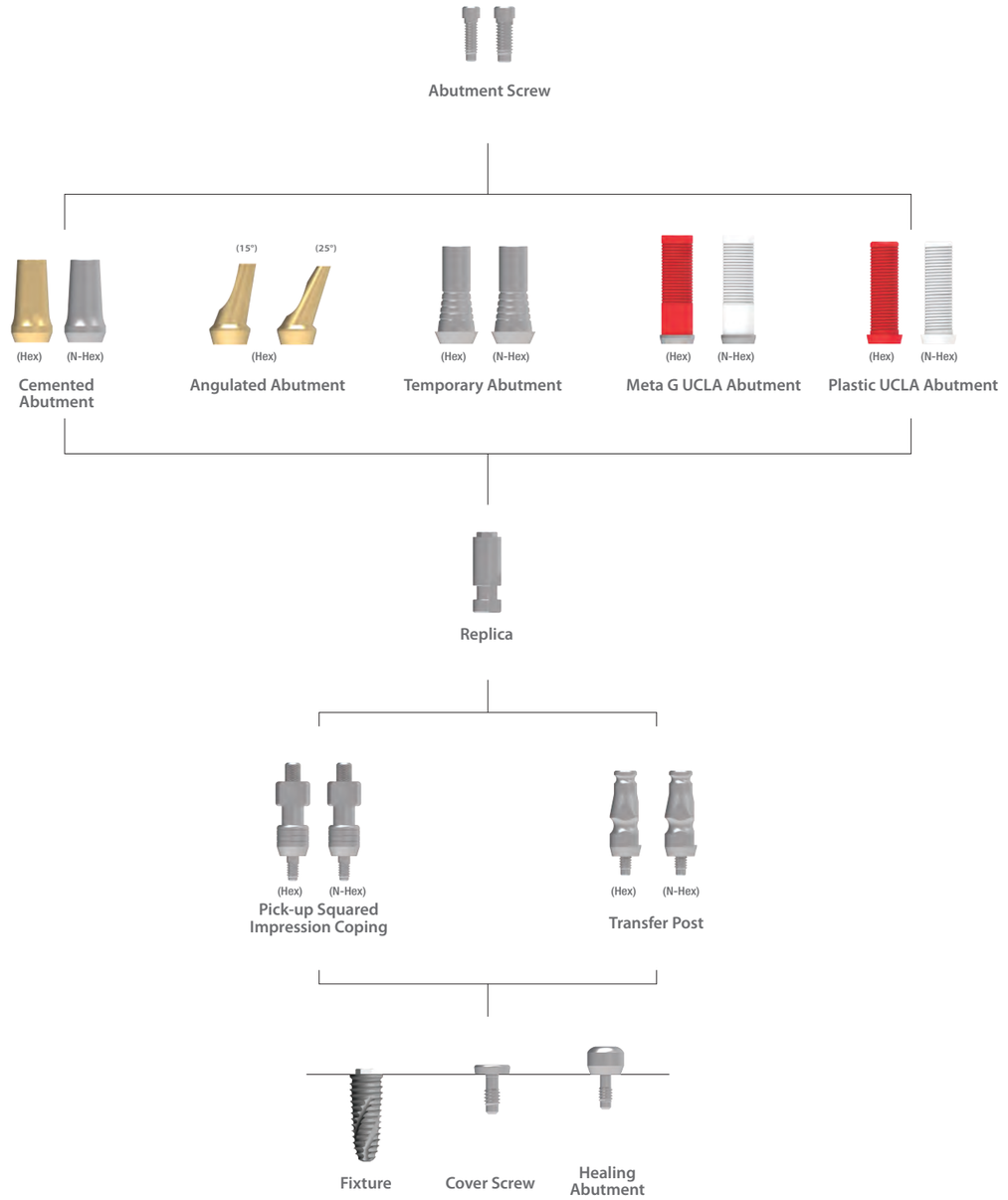
Healing Abutment

Hex	Hex2.7	Hex3.4
Platform [Fixture Dia.]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.1 [Ø5.0 / Ø6.0]
Diameter / Length	Ø5.0	Ø6.0
2.8	HNR502	HNW602
3.8	HNR503	HNW603
4.8	HNR504	HNW604
5.8	HNR505	HNW605
6.8	HNR506	HNW606
7.8	HNR507	HNW607

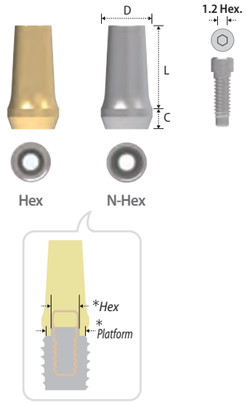
> Packing unit: 1 Healing Abutment.
> For remodeling gingival contour during soft tissue healing.
> Select the abutment according to gingival height and abutment type.
> Tightened with the Hex Driver.
> Tightening torque force: 5~10N.cm.

Prosthetic Procedure I

Component Selection Guide for Cemented & UCLA Abutment



Cemented Abutment

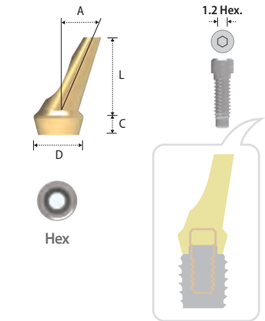


*Type[Hex]	Hex[2.7]		Hex[3.4]	
*Platform [Fixture Dia.]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]		Ø5.1 [Ø5.0 / Ø6.0]	
Diameter	Ø5.0		Ø6.0	
Length / Cuff	6	8	6	8
1	CHR516	CHR518	CHW616	CHW618
2	CHR526	CHR528	CHW626	CHW628
3	CHR536	CHR538	CHW636	CHW638
4	CHR546	CHR548	CHW646	CHW648

Type[Hex]	N-Hex			
Platform [Fixture Dia.]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]		Ø5.1 [Ø5.0 / Ø6.0]	
Diameter	Ø5.0		Ø6.0	
Length / Cuff	6	8	6	8
1	CNR516	CNR518	CNW616	CNW618
2	CNR526	CNR528	CNW626	CNW628
3	CNR536	CNR538	CNW636	CNW638
4	CNR546	CNR548	CNW646	CNW648

> Packing unit: 1 Cemented Abutment + 1 Abutment Screw.
> For Cement Retained and Screw-Cement Retained Prosthesis.
> Cutting surface for anti-rotation of the prosthesis.
> Connected with the Abutment Screw.
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm
> Fixture level impression.

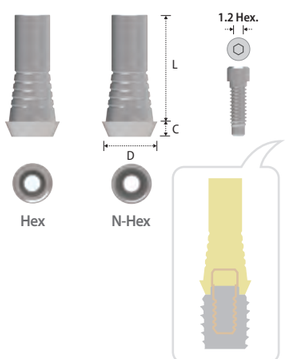
Angulated Abutment



Type[Hex]	Hex[2.7]	Hex[3.4]	Hex[2.7]	Hex[3.4]
Platform [Fixture Dia.]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.1 [Ø5.0 / Ø6.0]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.1 [Ø5.0 / Ø6.0]
Diameter (Angle)	Ø5 (15°)	Ø6 (15°)	Ø5 (25°)	Ø6 (25°)
Length / Cuff	8	8	8	8
2	AAR152	AAW152	AAR252	AAW252
3	AAR153	AAW153	AAR253	AAW253
4	AAR154	AAW154	AAR254	AAW254

> Packing unit: 1 Angulated Abutment + 1 Abutment Screw.
> For Screw-Cement or Cement Retained Prosthesis.
> Solution for the anterior esthetic zone.
> Connected with the Abutment Screw.
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Fixture level impression.

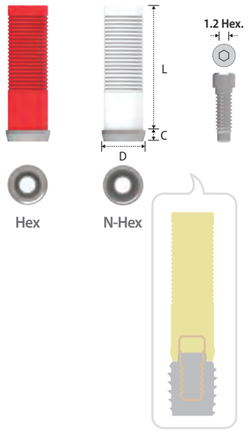
Temporary Abutment



Type[Hex]	Hex[2.7]	Hex[3.4]	N-Hex	N-Hex
Platform [Fixture Dia.]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.1 [Ø5.0 / Ø6.0]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.1 [Ø5.0 / Ø6.0]
Diameter	Ø5.4	Ø5.95	Ø5.4	Ø5.95
Length / Cuff	12	12	12	12
1.5	THR001	THW001	TNR001	TNW001

> Packing unit: 1 Temporary Abutment + 1 Abutment Screw.
> For Screw-Cement Retained Prosthesis.
> For provisional restoration.
> Connected with the Abutment Screw.
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20N.cm.

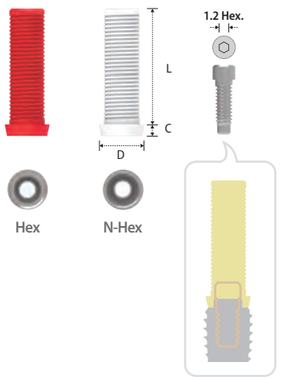
Meta G UCLA Abutment



Type[Hex]	Hex[2.7]	Hex[3.4]	N-Hex	N-Hex
Platform [Fixture Dia.]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.1 [Ø5.0 / Ø6.0]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.1 [Ø5.0 / Ø6.0]
Diameter	Ø4.5	Ø5.5	Ø4.5	Ø5.5
Length / Cuff	13	13	13	13
1.2	GHR001N	GHW001N	GNR001N	GNW001N

> Packing unit: 1 Meta G UCLA Abutment + 1 Abutment Screw.
> For Screw-Cement or Screw Retained Prosthesis.
> Modification to the angulated abutment, customized abutment and telescopic abutment.
> CCM alloy core for precise connection.
> Cast with non-precious metal or gold alloy.
> Connected with the Abutment Screw.
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Fixture level impression.

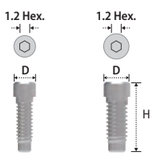
Plastic UCLA Abutment



Type[Hex]	Hex[2.7]	Hex[3.4]	N-Hex	N-Hex
Platform [Fixture Dia.]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.1 [Ø5.0 / Ø6.0]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.1 [Ø5.0 / Ø6.0]
Diameter	Ø4.5	Ø5.5	Ø4.5	Ø5.5
Length / Cuff	11.8	11.8	11.8	11.8
1.2	PHR001	PHW001	PNR001	PNW001

> Packing unit: 1 Plastic UCLA Abutment + 1 Abutment Screw.
> Same purpose of use as Meta G UCLA Abutment but the low accuracy of connection.
> PMMA material.
> Connected with the Abutment Screw.
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: Finger light force during wax Pattern fabrication, 30N.cm after casting.

Abutment Screw



Type[Hex]	Hex[2.7]	Hex[3.4]
Platform [Fixture Dia.]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.1 [Ø5.0 / Ø6.0]
Height / Diameter	Ø2.5	Ø3.0
8	SHR100	SHW100

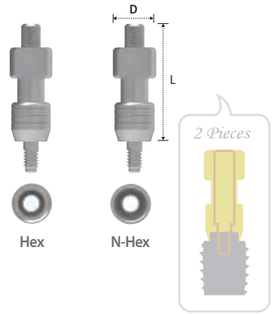
> Packing unit: 1 Abutment Screw.
> Tightened with the Hex Driver and Torque Wrench.

Replica

Type[Hex]	Hex[2.7]	Hex[3.4]
Platform [Fixture Dia.]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.1 [Ø5.0 / Ø6.0]
Height \ *Diameter*	Ø4.1	Ø5.1
12	LHR001	LHW001

> Packing unit: 1 Replica.
> Mimicking of the conical interface of the fixture.
> Analog of fixture for the working cast.

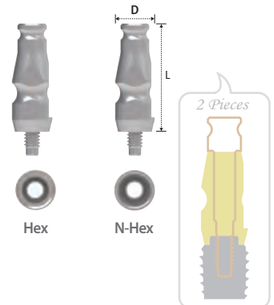
Pick-up Squared Impression Coping



Type[Hex]	Hex[2.7]	Hex[3.4]	N-Hex	N-Hex
Platform [Fixture Dia.]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.1 [Ø5.0 / Ø6.0]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.1 [Ø5.0 / Ø6.0]
Length \ *Diameter*	Ø5.0	Ø5.8	Ø5.0	Ø5.8
17	IHR500	IHW600	INR500	INW600

> Packing unit: 1 Pick-up Squared Impression Coping + 1 Guide Pin.
> Connected with the Guide Pin (Regular: UHR115 / Wide: UHW115).
> For open tray impression.
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

Transfer Post



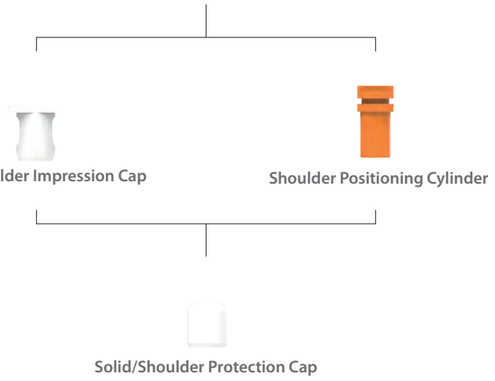
Type[Hex]	Hex[2.7]	Hex[3.4]	N-Hex	N-Hex
Platform [Fixture Dia.]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.1 [Ø5.0 / Ø6.0]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.1 [Ø5.0 / Ø6.0]
Length \ *Diameter*	Ø4.8	Ø5.8	Ø4.8	Ø5.8
13.1	IHR510	IHW610	INR510	INW610

> Packing unit: 1 Transfer Post + 1 Guide Pin.
> Connected with the Guide Pin (Regular: IHR510S, IHR610S / Wide: IHW610S).
> For closed tray impression.
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

Prosthetic Procedure II

Component Selection Guide for Shoulder Abutment

Shoulder Lab Analog

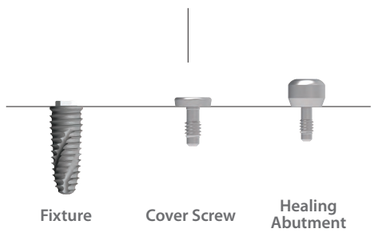


Solid/Shoulder Impression Cap

Shoulder Positioning Cylinder

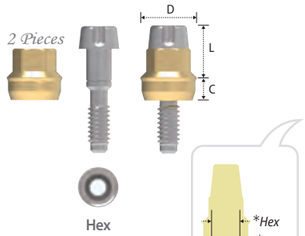
Solid/Shoulder Protection Cap

Shoulder Abutment

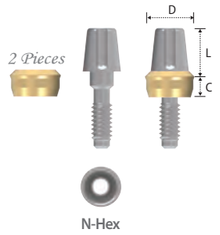


Fixture **Cover Screw** **Healing Abutment**

Shoulder Abutment

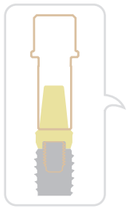


Type[Hex]	Hex[2.7]			Hex[3.4]		
**Platform [Fixture Dia.]*	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]			Ø5.1 [Ø5.0 / Ø6.0]		
Diameter	Ø4.8			Ø5.9		
Cuff \ *Length*	4	5.5	7	4	5.5	7
1	SAC414	SAC415	SAC417	SAC514	SAC515	SAC517
2	SAC424	SAC425	SAC427	SAC524	SAC525	SAC527
3	SAC434	SAC435	SAC437	SAC534	SAC535	SAC537
4	SAC444	SAC445	SAC447	SAC544	SAC545	SAC547



Type[Hex]	N-Hex			N-Hex		
Platform [Fixture Dia.]	Ø4.1 [Ø3.5 / Ø4.0 / Ø4.5]			Ø5.1 [Ø5.0 / Ø6.0]		
Diameter	Ø4.8			Ø5.9		
Cuff \ *Length*	4	5.5	7	4	5.5	7
1	SAB414	SAB415	SAB417	SAB514	SAB515	SAB517
2	SAB424	SAB425	SAB427	SAB524	SAB525	SAB527
3	SAB434	SAB435	SAB437	SAB534	SAB535	SAB537
4	SAB444	SAB445	SAB447	SAB544	SAB545	SAB547

> Packing unit: 1 Shoulder Abutment.
> For Cement Retained Prosthesis.
> Dual anti-rotation grip with a single crown for prevention of screw loosening.
> Integrated with screw and abutment.
> Tightened with the Shoulder Ratchet Driver.
> Tightening torque force: 30N.cm.
> Abutment level impression: Impression cap in platform Ø4.1 fixture and direct impression in platform Ø5.8 fixture.




Shoulder Ø4.5 **KRR**19L


Shoulder Ø5.0 **KRW**19L

Solid/Shoulder Protection Cap

Shoulder Abutment Diameter	Ø4.8	Ø5.9
Height \ *Diameter*	Ø5.4	Ø6.5
6.2	IASR140	IASW140
7.7	IASR155	IASW155
9.2	IASR170	IASW170

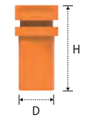
> Packing unit: 1 Solid/Shoulder Protection Cap.
> Protection from cheek and tongue for gingival healing period.
> Alternative usage for sub-structure of the temporary prosthesis.

Solid/Shoulder Impression Cap

Shoulder Abutment Diameter	Ø4.8	Ø5.9
Height \ *Diameter*	8	9
8	IICR001	IICW001

> Packing unit: 1 Solid/Shoulder Impression Cap.
> Connected with the Shoulder Positioning Cylinder.
> Confirm locking with abutment by rotation of clockwise and anti-clockwise direction.

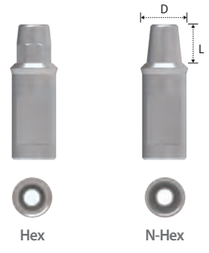
Shoulder Positioning Cylinder



Shoulder Abutment Diameter	Ø4.8	Ø5.9
Height \ *Diameter*	Ø4.4	Ø5.5
10.7	SAPR001	SAPW001

> Packing unit: 1 Shoulder Positioning Cylinder.
> Inner cutting surface for anti-rotation on the abutment.
> Insert into the Impression Cap.

Shoulder Lab Analog

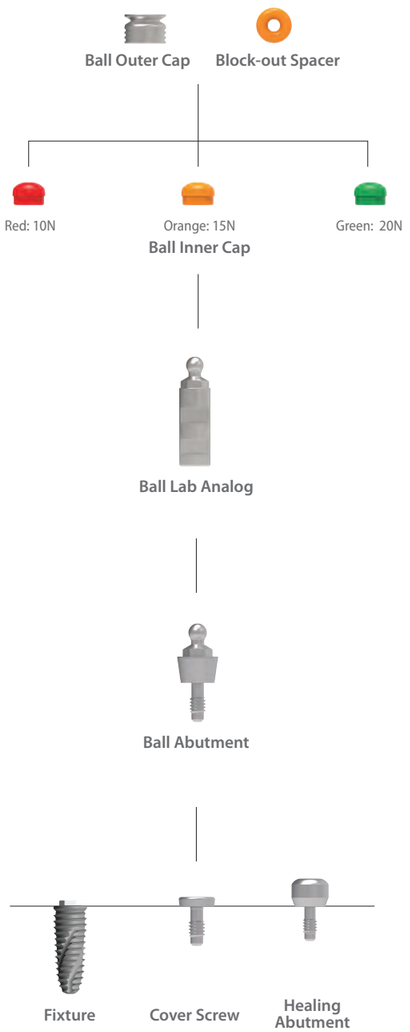


Type[Hex]	Hex[2.7&3.4]		N-Hex	
Shoulder Abutment Diameter	Ø4.8	Ø5.9	Ø4.8	Ø5.9
Length \ *Diameter*	Ø4.8	Ø5.9	Ø4.8	Ø5.9
4	SLCR040	SLCW040	SLBR040	SLBW040
5.5	SLCR055	SLCW055	SLBR055	SLBW055
7	SLCR070	SLCW070	SLBR070	SLBW070

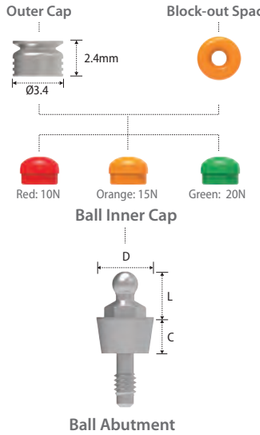
> Packing unit: 1 Shoulder Lab Analog.
> Replacement of abutment shape in working cast.
> Choose according to width and length of the abutment.

Prosthetic Procedure III

Component Selection Guide for Ball Abutment



Ball Abutment



Diameter / Length / Cuff	Ø5.0	Ø6.0
	4	4
1	EBAT411R	EBAT511R
2	EBAT412R	EBAT512R
3	EBAT413R	EBAT513R
4	EBAT414R	EBAT514R

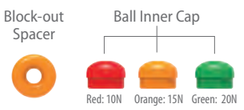
> Packing unit: 1 Ball Abutment + 3 Inner Caps (1 per each color) + 1 Block-out Spacer + 1 Outer Cap.
> For Implant-Supported Overdenture Prosthesis.
> Tightened with the Ball Ratchet Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Direct impression.

Ball Outer Cap

Height / Diameter	Ø3.4
2.4	BATC003C

> Packing unit: 2 Outer Caps.

Ball Inner Cap



BATC003I

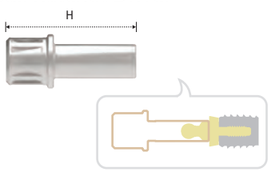
> Packing unit: 2 Block-out Spacers + 6 Inner Caps (2 per each color).
> Retention force: Red 10N, Orange 15N & Green 20N.

Ball Lab Analog

Length / Diameter	Ø4.0
4	SBAL400

> Packing unit: 4 Ball Lab Analogs.
> Replacement of abutment shape in working cast.

Ball Ratchet Driver



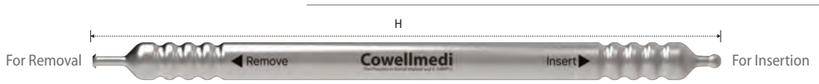
Height / Type	Ratchet
19	KRB19L

*Extra Product

> Packing unit: 1 Ball Ratchet Driver.
> To install and remove the Ball Abutment with the Torque Wrench.

Ball I&R Driver

Height	100
	KBIR01

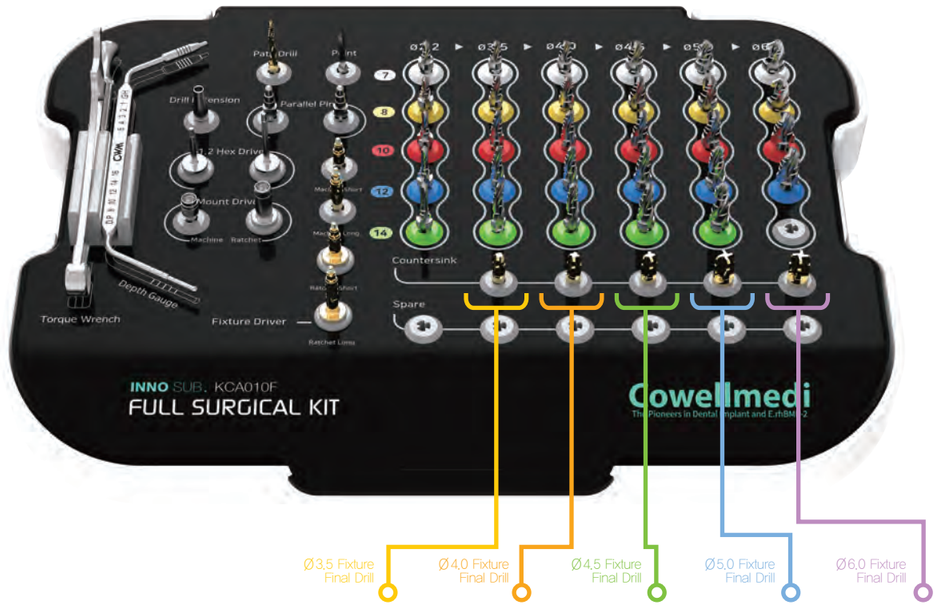


> Packing unit: 1 Ball I&R Driver.
> Used to insert and remove the Inner Caps into and out of the Outer Cap.

INNO SUB. FULL SURGICAL KIT [KCA010F]

SUB. HEXAGON SYSTEM

> For INNO Submerged Implant System (Sub.).
> All components are for Sub. / Int. / Ext. except for the Fixture Drivers and the Depth Gauge used for Sub. exclusively.



Path Drill 2KTD18	Point Drill KPD01S	Ø2.2 X 7 KPSD2207	Ø3.5 X 7 2KTD3707	Ø4.0 X 7 2KTD4007	Ø4.5 X 7 2KTD4507	Ø5.0 X 7 2KTD5007	Ø6.0 X 7 2KTD6007
Parallel Pin KPP002	Parallel Pin KPP002	Ø2.2 X 8 KPSD2208	Ø3.5 X 8 2KTD3708	Ø4.0 X 8 2KTD4008	Ø4.5 X 8 2KTD4508	Ø5.0 X 8 2KTD5008	Ø6.0 X 8 2KTD6008
1.2 Hex Driver L KHD1221	1.2 Hex Driver XL KHD1227	Ø2.2 X 10 KPSD2210	Ø3.5 X 10 2KTD3710	Ø4.0 X 10 2KTD4010	Ø4.5 X 10 2KTD4510	Ø5.0 X 10 2KTD5010	Ø6.0 X 10 2KTD6010
M. Mount Driver. L KMMD06L	R. Mount Driver. L KRMD19L	Ø2.2 X 12 KPSD2212	Ø3.5 X 12 2KTD3712	Ø4.0 X 12 2KTD4012	Ø4.5 X 12 2KTD4512	Ø5.0 X 12 2KTD5012	Ø6.0 X 12 2KTD6012
Sub. Fixture Driver							
M. Fixture Driver. S 2KMMS01S	R. Fixture Driver. L 2KHDS01L	Ø2.2 X 14 KPSD2214	Ø3.5 X 14 2KTD3714	Ø4.0 X 14 2KTD4014	Ø4.5 X 14 2KTD4514	Ø5.0 X 14 2KTD5014	
M. Fixture Driver. L 2KMMS01L	R. Fixture Driver. XL 2KHDS01X	Drill Extension KDE002	Ø3.5 Countersink 4KCS35	Ø4.0 Countersink 4KCS40	Ø4.5 Countersink 4KCS45	Ø5.0 Countersink 4KCS50	Ø6.0 Countersink 4KCS60

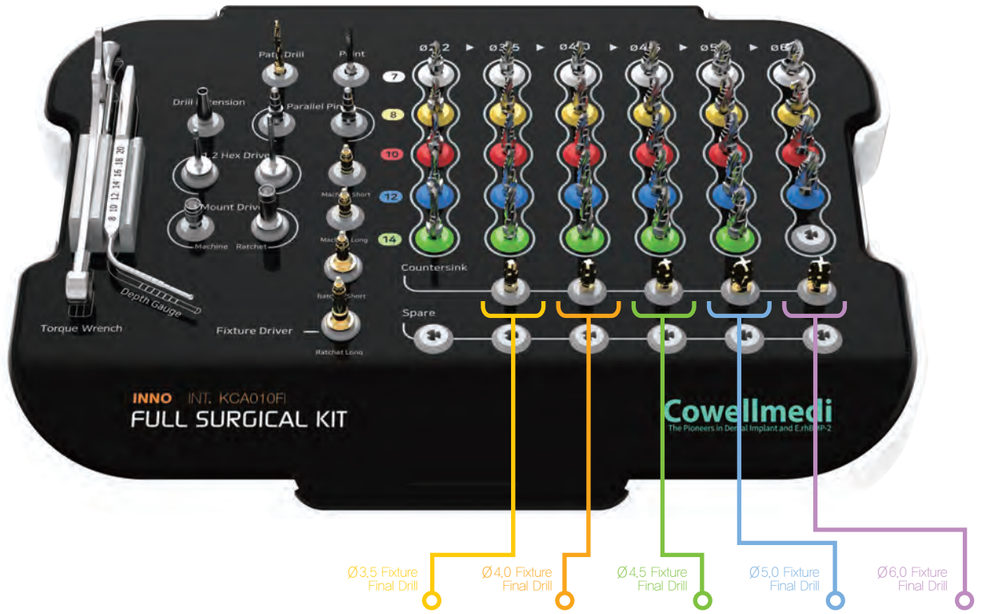
Torque Wrench KTW001	Depth Gauge KDG004

* A common tool for Sub. / Int. / Ext.
An exclusive tool by type

INNO INT. FULL SURGICAL KIT [KCA010FI]

INT. OCTAGON SYSTEM

> For the INNO Internal Implant System (Int.).
> All components are for Sub. / Int. / Ext. except for the Fixture Drivers used for Int. exclusively.



Path Drill 2KTD18	Point Drill KPD01S	Ø2.2 X 7 KPSD2207	Ø3.5 X 7 2KTD3707	Ø4.0 X 7 2KTD4007	Ø4.5 X 7 2KTD4507	Ø5.0 X 7 2KTD5007	Ø6.0 X 7 2KTD6007
Parallel Pin KPP002	Parallel Pin KPP002	Ø2.2 X 8 KPSD2208	Ø3.5 X 8 2KTD3708	Ø4.0 X 8 2KTD4008	Ø4.5 X 8 2KTD4508	Ø5.0 X 8 2KTD5008	Ø6.0 X 8 2KTD6008
1.2 Hex Driver L KHD1221	1.2 Hex Driver XL KHD1227	Ø2.2 X 10 KPSD2210	Ø3.5 X 10 2KTD3710	Ø4.0 X 10 2KTD4010	Ø4.5 X 10 2KTD4510	Ø5.0 X 10 2KTD5010	Ø6.0 X 10 2KTD6010
M. Mount Driver. L KMMD06L	R. Mount Driver. L KRMD19L	Ø2.2 X 12 KPSD2212	Ø3.5 X 12 2KTD3712	Ø4.0 X 12 2KTD4012	Ø4.5 X 12 2KTD4512	Ø5.0 X 12 2KTD5012	Ø6.0 X 12 2KTD6012
Int. Fixture Driver							
M. Fixture Driver. S KMMI01S	R. Fixture Driver. S KHDI01S	Ø2.2 X 14 KPSD2214	Ø3.5 X 14 2KTD3714	Ø4.0 X 14 2KTD4014	Ø4.5 X 14 2KTD4514	Ø5.0 X 14 2KTD5014	
M. Fixture Driver. L KMMI01L	R. Fixture Driver. L KHDI01L	Drill Extension KDE002	Ø3.5 Countersink 4KCS35	Ø4.0 Countersink 4KCS40	Ø4.5 Countersink 4KCS45	Ø5.0 Countersink 4KCS50	Ø6.0 Countersink 4KCS60

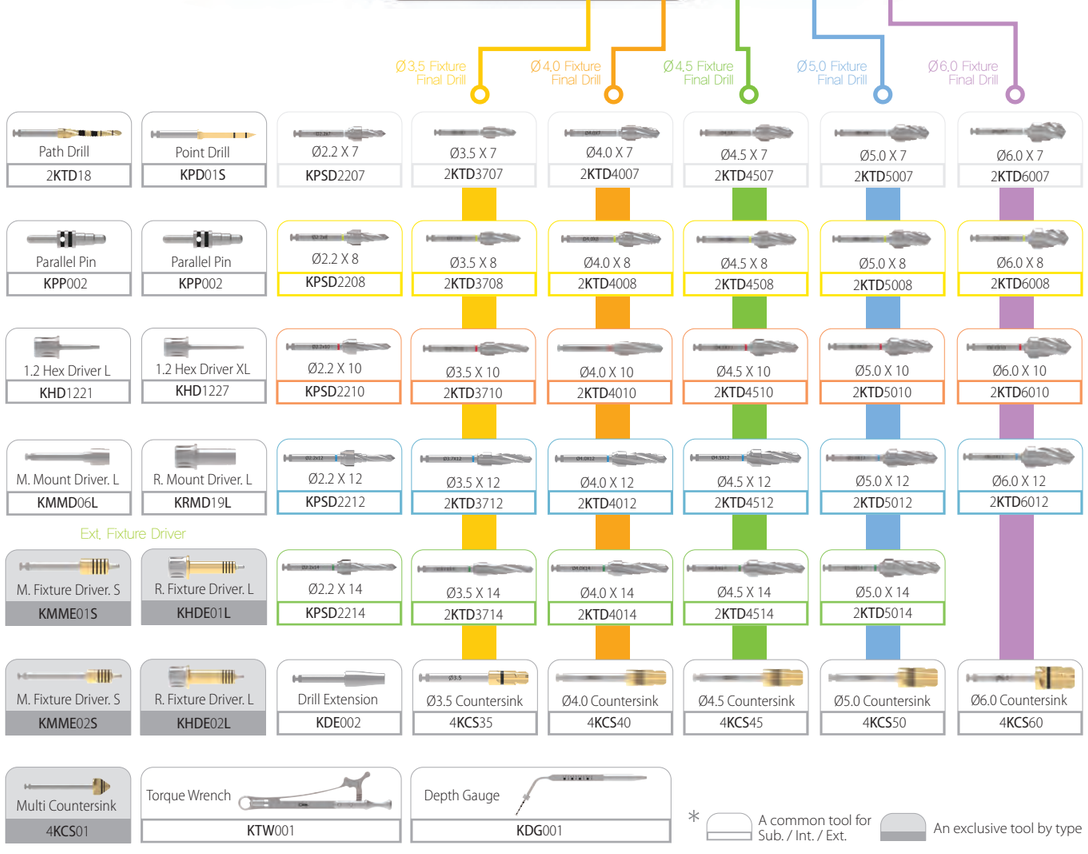
Torque Wrench KTW001	Depth Gauge KDG001

* A common tool for Sub. / Int. / Ext.
An exclusive tool by type

INNO EXT. FULL SURGICAL KIT [KCA010FE]

EXT. HEXAGON SYSTEM

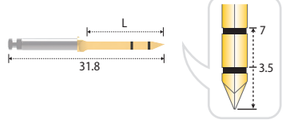
> For the INNO External Implant System (Ext.).
> All components are for Sub. / Int. / Ext. except for the Fixture Drivers and the Multi Countersink used for Ext. exclusively.



01 Drill / Surgical Tool

SUB. HEXAGON SYSTEM · INT. OCTAGON SYSTEM · EXT. HEXAGON SYSTEM

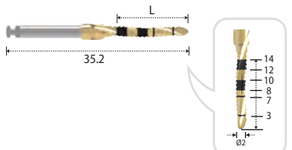
Point Drill



> Primarily used to mark the implant recipient site and determine the spacing.
> The point drill has a unique pointed tip, making this an excellent drill for starting the osteotomy through the hard cortical plate.

Length	15
	KPD01S

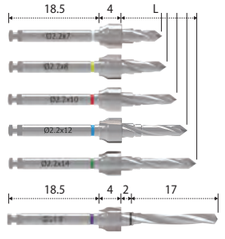
Path Drill



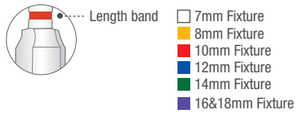
> Used for the case that path modification is required.
> Excellent ablation force that does not slip in slanted bone.
> Easy to drill even in extraction socket without slipping.

Length	15
	2KTD18

Initial Drill

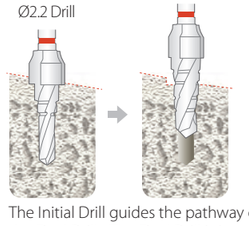


> Initial stepped drill - Ø2.2, Ø2.8, and Ø3.3mm stepped drilling at the Ø1.8 drilled site.

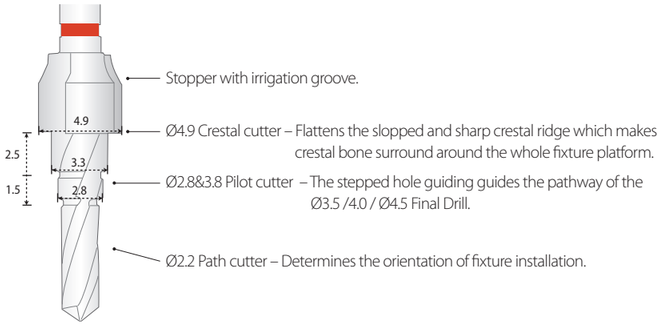


Length	8	9	11	13	15	17&19
	KPSD2207	KPSD2208	KPSD2210	KPSD2212	KPSD2214	*KPSD2218

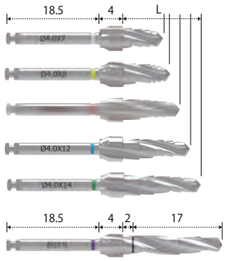
*Extra product



The Initial Drill guides the pathway of the Final Drills. The Final Drill is inserted a half into the hole created by the Initial Drill without additional drilling.



Final Drill

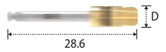


> Ø3.5 / 4.0 / 4.5 / 5.0 / 6.0 fixture's Final Drill.
> 7 / 8 / 10 / 12 / 14 / 16 / 18mm fixture's Final Drill.

Length \ Fixture Dia.	Ø3.5	Ø4.0	Ø4.5	Ø5.0	Ø6.0
8	2KTD3707	2KTD4007	2KTD4507	2KTD5007	2KTD6007
9	2KTD3708	2KTD4008	2KTD4508	2KTD5008	2KTD6008
11	2KTD3710	2KTD4010	2KTD4510	2KTD5010	2KTD6010
13	2KTD3712	2KTD4012	2KTD4512	2KTD5012	2KTD6012
15	2KTD3714	2KTD4014	2KTD4514	2KTD5014	
17&19	*2KTD3718	*2KTD4018	*2KTD4518		

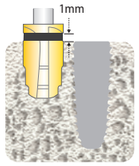
*Extra product

Countersink



> Used to prevent compressive necrosis of dense cortical bone by decreasing torque force (Ø4.0 Fixture: 80N.cm -> 45N.cm / Ø5.0 Fixture: 150N.cm -> 45N.cm).
> Bone quality 1: high compressive placement of fixtures induces the failure of osseointegration and bone loss.

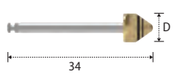
Fixture Dia.	Ø3.5	Ø4.0	Ø4.5	Ø5.0	Ø6.0
Diameter	Ø3.7	Ø4.2	Ø4.6	Ø5.1	Ø6.0
	4KCS35	4KCS40	4KCS45	4KCS50	4KCS60



The lower margin of the depth marking indicates exactly the level of the fixture platform.

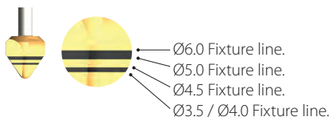
The upper margin of the depth marking indicates 1 mm higher than the level of fixture platform.

Multi Countersink



Diameter	Ø6.5
	4KCS01

> Only for the Ext.



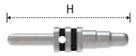
Tap Drill

> Selectively used for hard bones with bone quality 1 or higher.

Fixture Dia.	Ø3.5	Ø4.0	Ø4.5	Ø5.0	Ø6.0
	*3KMTD35A	*3KMTD40A	*3KMTD45A	*3KMTD50A	*3KMTD60A

*Extra product

Parallel Pin

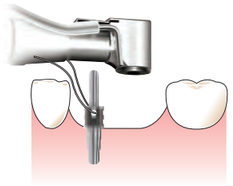


> Insert the Parallel Pin after the Ø2.2 or 3.5 Drill to check the drilling path.
> In order to prevent losing Parallel Pin in the patient's mouth, be sure to tie floss through the hole in the Parallel Pin.

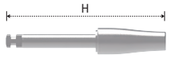
Height	21
	KPP002


After the Ø2.2 Initial Drill.

After the Ø3.5 Final Drill.

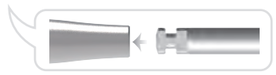


Drill Extension

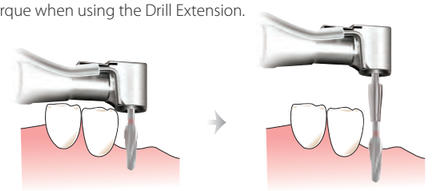


> Used for lengthening the Drill when using a Hand-piece.
> Do not go over recommended torque when using the Drill Extension.

Height	27.5
	KDE002



The triangle mark indicates the cutting surface of the drill shaft.

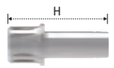


Mount Driver

> Used to install Pre-Mount type fixtures.
> The Machine Drivers are used with a contra-angle, while the Ratchet Drivers are used with the Torque Wrench.

Type / Height	Machine
20.5(Short)	* KMMD06S
26.3(Long)	KMMD06L
32.3(X-Long)	* KMMD12X

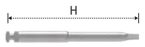
*Extra product



Type / Height	Ratchet
12(Short)	* KRMD12S
19(Long)	KRMD19L

*Extra product

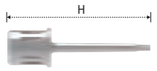
Hex Driver



> Used to install or remove the Cover Screw, Healing Abutment, and Abutment Screw, etc.
> The Machine Drivers are used with contra angle, while the Ratchet Drivers are used with the Torque Wrench.

Type / Height	Machine	
	Hex 0.9	Hex 1.2
22(Short)	* KMD09S	* KMD12S
28(Long)	* KMD09L	* KMD12L

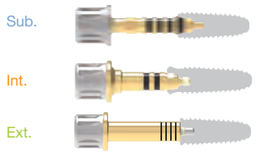
*Extra product



Type / Height	Ratchet	
	Hex 0.9	Hex 1.2
12(X-Short)	-	* KHD1212
17(Short)	* KHD0915	* KHD1215
23(Long)	* KHD0921	KHD1221
29(X-Long)	* KHD0927	KHD1227

*Extra product

Fixture Driver



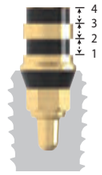
> Used to install No-Mount type fixtures.
> The Machine Drivers are used with a contra-angle, while the Ratchet Drivers are used with the Torque Wrench.

Type / Length / System	Machine			
	Sub.	Int.	Ext.(Hex 2.7)	Ext.(Hex 3.4)
28.1 / 26.3 / 26.4 (Short)	2KMMS01S	KMMI01S	KMME01S	KMME02S
33.3 / 30.5 / 31.4 (Long)	2KMMS01L	KMMI01L	* KMME01L	
40.3 / 35.5 / 36.4 (X-Long)	* 2KMMS01X	* KMMI01X	* KMME01X	

*Extra product

Type / Length / System	Ratchet			
	Sub.	Int.	Ext.(Hex 2.7)	Ext.(Hex 3.4)
20.7 / 19.5 / 19.9 (Short)	* 2KHDS01S	KHDI01S	* KHDE01S	
25.7 / 24.5 / 24.9 (Long)	2KHDS01L	KHDI01L	KHDE01L	KHDE02L
30.7 / 29.5 / 29.9 (X-Long)	2KHDS01X	* KHDI01X	* KHDE01X	

*Extra product



Torque Wrench

> Used to control torque force in the fixture and abutment placement.
> Torque force 10, 25, 30 & 35N.cm are able to be controlled by pulling the elastic bar.
> Maximal torque force 120N.cm with pulling the rigid main bar.

Code	KTW001

Depth Gauge

> Used to measure the drilling depth with the scale rod.
> The flat end on the other side measures the 5mm space between adjacent fixtures.

Code	KDG001

> One side of the Depth Gauge measures the drilling depth and the other side measures the gingival height from the top of the fixture.

Code	KDG004

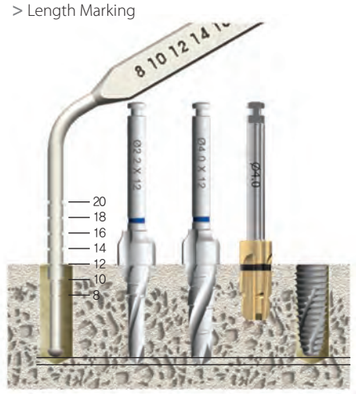
※ Exclusive for the Sub.

02 *Drilling Sequence*

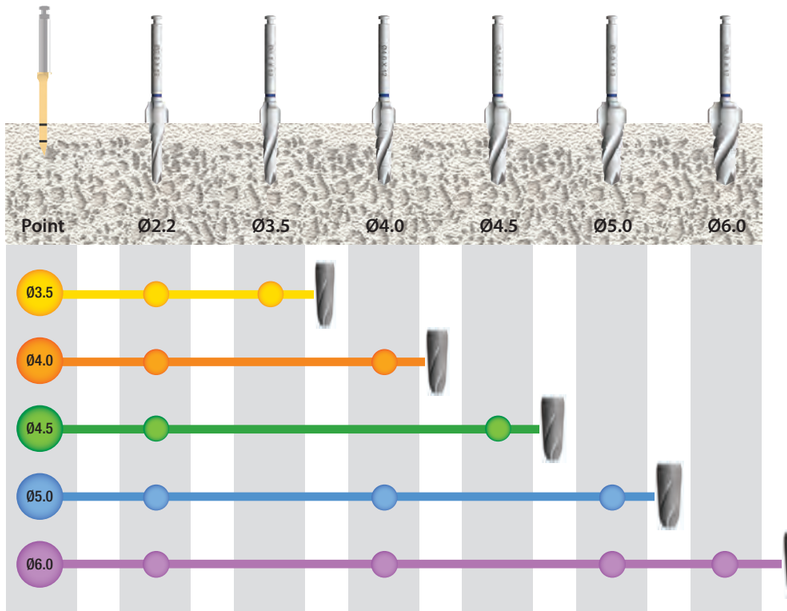
E.g. 12mm Fixture

> Minimal drilling sequence with the Point Drill, Initial Drill and Final Drills (Ø3.5, Ø4.0 and Ø4.5 Fixtures).

> Length Marking

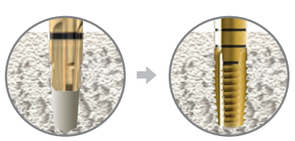


Actual length of the Drill: Fixture + 1mm



> Ø5.0 fixture: a series of the Point Drill, Initial Drill, Ø4.0 Final Drill, and Ø5.0 Final Drill.
> Ø6.0 fixture: a series of the Point Drill, Initial Drill, Ø4.0 Final Drill, Ø5.0 Final Drill, and Ø6.0 Final Drill.

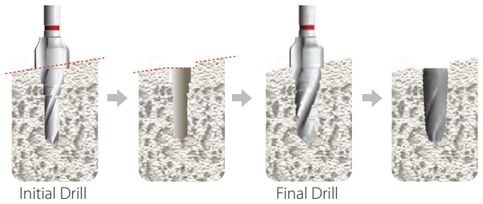
※ The Countersink and Tap Drill should be used in hard bone quality.



*Extra product

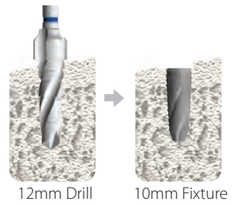
※Sloped edentulous ridge adjacent to tooth

> Use the crestal cutter of the Initial Drill and Final Drill.
> Longer drill than fixture's length can be used as well.



Initial Drill Final Drill

Crestal flatting

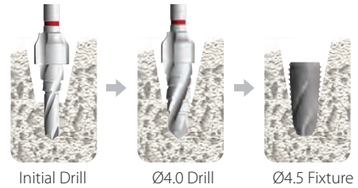


12mm Drill 10mm Fixture

Longer Final Drill

※Wide extraction socket

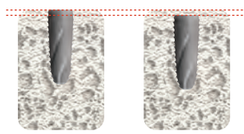
> Absence of the cortical bone & spongy bone.
> Use the drill with narrower diameter than the fixture's diameter.



Initial Drill Ø4.0 Drill Ø4.5 Fixture

※Torque force control

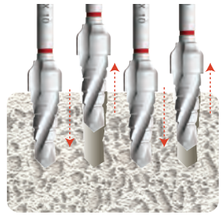
> 0.5mm deeper placement increases the initial torque force of the fixture.



0.5mm deeper level.

Fixture placement level						
Level	Crestal Level			0.5mm Deeper Level		
Density	D1	D2	D3	D1	D2	D3
Torque	34.1	29	15.5	44.4	38.4	19.1

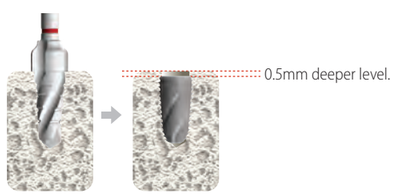
> The pumping action while drilling removes the bone chip in the hole.
> In dense bone, the debridement removal decreases the torque force.



Pumping action while final drilling			
Density	D1	D2	D3
Non-Debridement	34.1	29	19.6
Debridement	30	25	15.5

※In maxillary tuberosity with bone quality 4

> No pumping action.
> 0.5mm deeper placement of the fixture.
> Wider fixture than the Final Drill.



0.5mm deeper level.

Ø4.5 Drill Ø5.0 Fixture

Level	Crestal level		0.5mm Deeper Level	
Debridement	with	without	with	without
Ø4.5 Fixture	4.4	10.2	-	12.9
Ø5.0 Fixture	11.6	19.9	14.1	24.5

INNO SUB. SMART SURGICAL KIT [KSA002]

SUB. HEXAGON SYSTEM

> For the INNO Submerged Implant System (Sub. / Diameter: 3.5, 4.0, 4.5 & 5.0mm / Length: 8, 10, 12 & 14mm).
> A simper surgical kit mainly used with the Drills and Stoppers.

Point Drill

Point Drill
KPD01S

Initial Drill

Initial Drill
2KTD22

Final Drill

Ø3.5 Final Drill
2KTD35

Ø4.0 Final Drill
2KTD40

Ø4.5 Final Drill
2KTD45

Ø5.0 Final Drill
2KTD50

Stopper

8 Drill Stopper
KSDS08S

10 Drill Stopper
KSDS10S

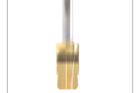
12 Drill Stopper
KSDS12S

Countersink

Ø3.5 Countersink
4KCS35

Ø4.0 Countersink
4KCS40

Ø4.5 Countersink
4KCS45



Ø5.0 Countersink
4KCS50

Drill Extension

Drill Extension
KDE002

Fixture Driver

M. Fixture Driver L
2KMMS01L

Hex Driver

R. Fixture Driver L
2KHDS01L

1.2 Hex Driver L
KHD1221

1.2 Hex Driver XL
KHD1227

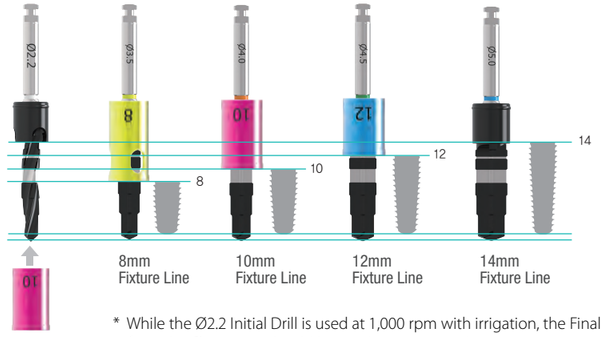
Torque Wrench

KTW001

* For Pre-Mount type of fixtures, use the Mount Drivers (*Extra product).

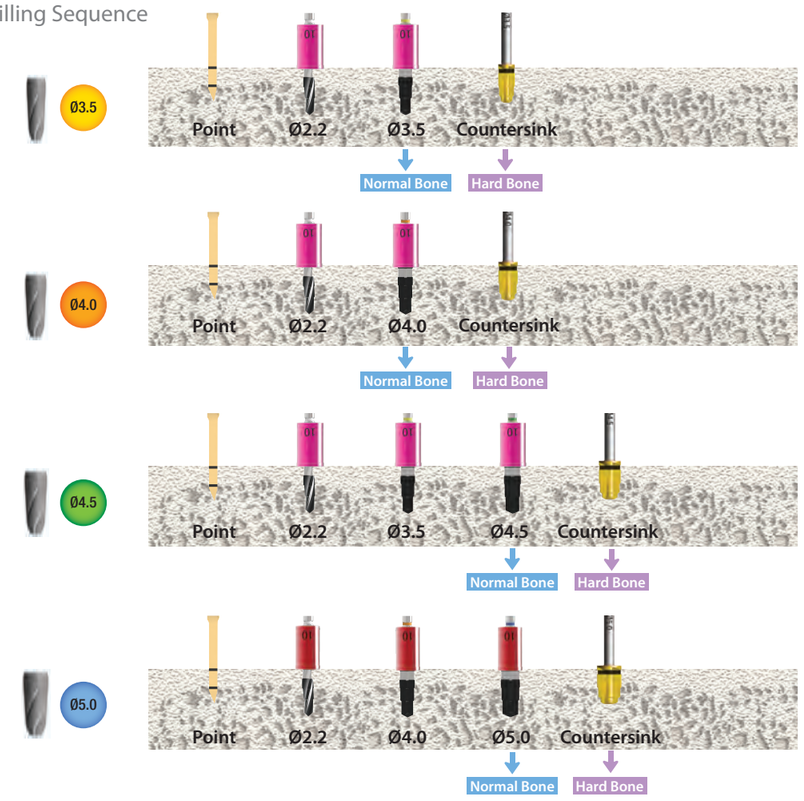
Length Marking & Stopper

Actual length of the Drill: Fixture length + 1mm



* While the Ø2.2 Initial Drill is used at 1,000 rpm with irrigation, the Final Drills from the Ø3.5 to 5.0 should be used at 50 rpm without irrigation.

Drilling Sequence



INNO SUB. SHORT SURGICAL KIT [KSI001]

SUB. HEXAGON SYSTEM

> For the INNO Submerged Short Implant System (Sub.).

Point Drill

Point Drill
KPD01S

Step Drill

Ø2.0 Step Drill
KSSD2004

Ø4.0 Step Drill
KSSD4004

Ø4.5 Step Drill
KSSD4504

Ø5.0 Step Drill
KSSD5004

Ø5.5 Step Drill
KSSD5504

Ø6.0 Step Drill
KSSD6004

Stopper

4mm Drill Stopper
SIDS04

5.5mm Drill Stopper
SIDS05

7mm Drill Stopper
SIDS07

Countersink

Ø4.0 Countersink
4KCS40S

Ø4.5 Countersink
4KCS45S

Ø5.0 Countersink
4KCS50S

Ø5.5 Countersink
4KCS55S

Ø6.0 Countersink
4KCS60S

Mount Driver

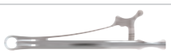
M. Mount Driver. L
KMMD06L

R. Mount Driver. L
KRMD19L

Hex Driver

1.2 Hex Driver L
KHD1221

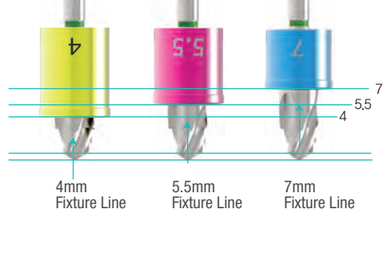
Torque Wrench

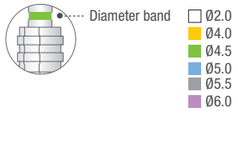


KTW001

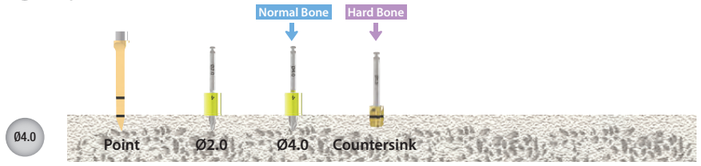
Length Marking & Stopper

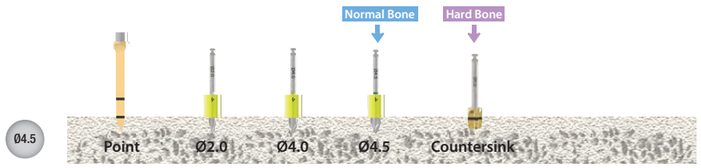
Actual length of drill: Fixture + 0.5mm.

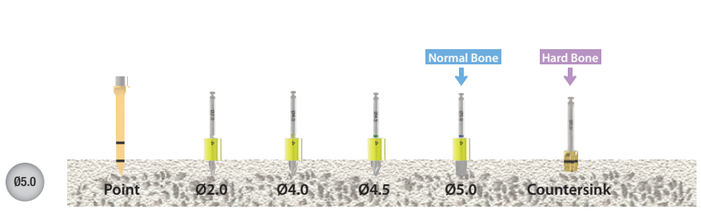


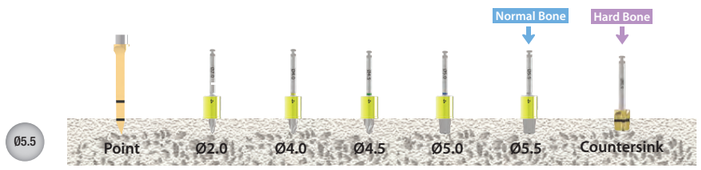


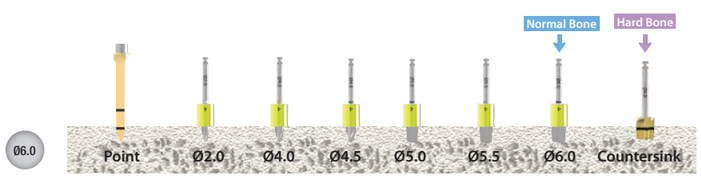
Drilling Sequence











INNO SUB. NARROW SURGICAL KIT [KNA001]

SUB-N. HEXAGON SYSTEM

> For the INNO Submerged Narrow Implant System (Sub-N).

Point Drill

Point Drill
KNPD20

Twist Drill

Ø2.2 Twist Drill
KNSD22L

Ø2.6 Twist Drill
KNSD26L

Ø3.1 Twist Drill
KNSD31L

Ø3.3 Twist Drill
KNSD33L

Stopper

8 Drill Stopper
KNDS08

10 Drill Stopper
KNDS10

12 Drill Stopper
KNDS12

Countersink

Ø3.1 Countersink
4KCS31N

Ø3.3 Countersink
4KCS33N

Fixture Driver

Fixture Driver(Ratchet)
KHDS01XN

Fixture Driver(Machine)
KMMS01XN

Parallel Pin

Parallel Pin
KPP003

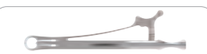
Hex Driver

1.2 Hex Driver L
KHD1221

Depth Gauge

KDG001

Torque Wrench



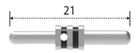
KTW001

Fixture Driver

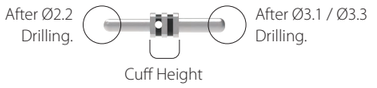
Type	Machine	Ratchet
	KMMS01XN	KHDS01XN

> Used to install No-Mount type fixtures.
> The Machine Driver is used with a contra-angle, while the Ratchet Driver is used with the Torque Wrench.
> For Pre-Mount type of fixtures, use the Mount Drivers (*Extra product).

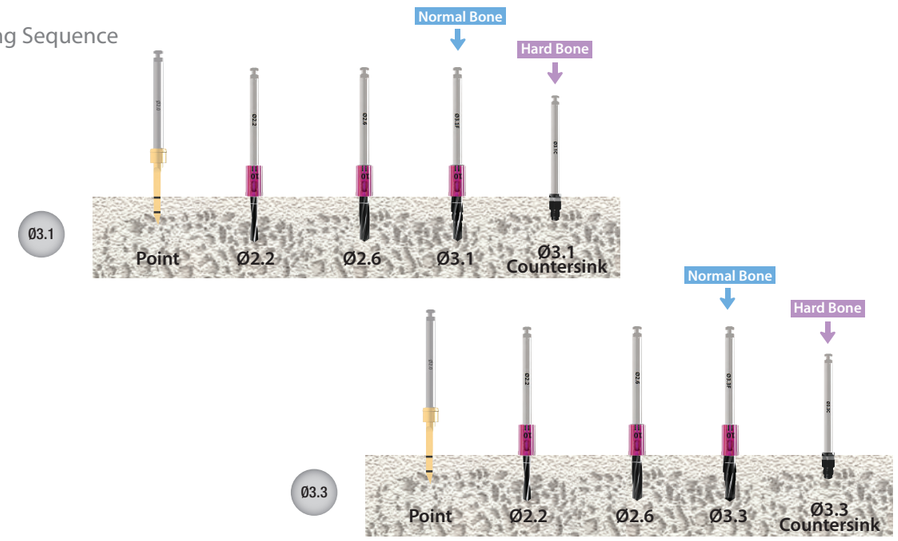
Parallel Pin



Code	KPP003



Drilling Sequence

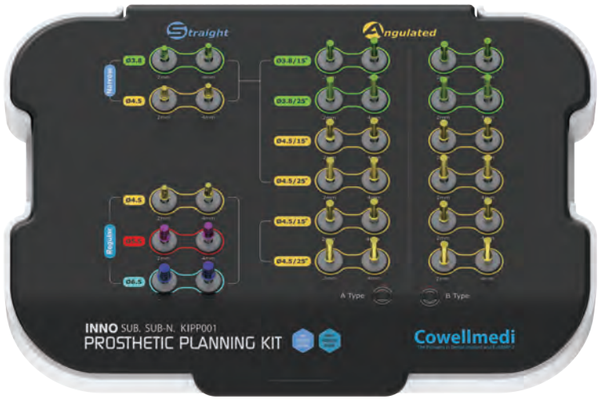


INNO PROSTHETIC PLANNING KIT [KIPP001]

SUB. HEXAGON SYSTEM

SUB-N. HEXAGON SYSTEM

> Exclusive for the INNO Submerged and Submerged Narrow Implant System.
> Try-in Kit for determining abutment specifications.
> Insert the Abutment Gauge after INNO Submerged and Submerged Narrow fixture fixation to check the abutment size.



Straight

> Predicting Straight Type Diameter, Cuff, and Length to help select the correct size abutment and crown.
Cemented I Absolute I Straight Abutment

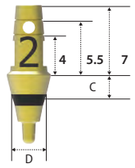
Breakaway Stopper
Prevents breakaway from intraoral cavity by connection silk.

Cuff Marking
Marked Cuff 2 or 4.

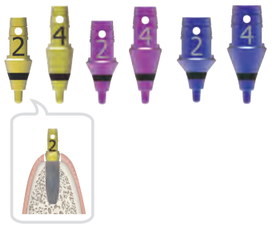
Cuff Height
Select Cuff 2 or 4 according to the case.

Diameter
Colored by diameter.

Ø3.8 Green | Ø4.5 Yellow | Ø5.5 Purple | Ø6.5 Blue



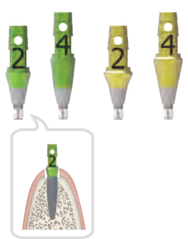
Abutment Gauge



Type	Regular		
Diameter	Ø4.5	Ø5.5	Ø6.5
Cuff \ Length	7		
2	P2SCH4527	P2SCH5527	P2SCH6527
4	P2SCH4547	P2SCH5547	P2SCH6547

> Packing unit: 1 Abutment Gauge.
> Solution for the straight type abutment.
> Connected with the INNO Submerged Fixture.
> Select Ø4.5/5.5/6.5 according to the case.

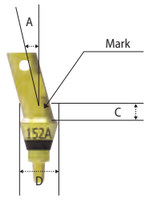
Abutment Gauge-N



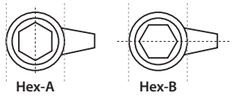
Type	Narrow	
Diameter	Ø3.8	Ø4.5
Cuff \ Length	7	
2	PSCH3827N	PSCH4527N
4	PSCH3847N	PSCH4547N

> Packing unit: 1 Abutment Gauge-N.
> Solution for the straight type abutment.
> Connected with the INNO Submerged Narrow Fixture.
> Select Ø3.8 or 4.5 according to the case.

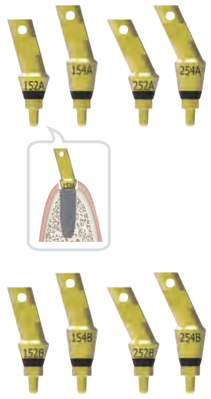
Angulated



> Predicting Angulated Type Diameter, Cuff, and Length to help select the correct size abutment and crown.
Angulated I Beauty-up™ Abutment



Abutment Gauge



Type	Hex-A	
Diameter(Angle)	Ø4.5(15°)	Ø4.5(25°)
Cuff \ Length	8	
2	P2SAH45152A	P2SAH45252A
4	P2SAH45154A	P2SAH45254A

Type	Hex-B	
Diameter(Angle)	Ø4.5(15°)	Ø4.5(25°)
Cuff \ Length	8	
2	P2SAH45152B	P2SAH45252B
4	P2SAH45154B	P2SAH45254B

> Packing unit: 1 Abutment Gauge.
> Solution for the anterior esthetic zone.
> Connected with the INNO Submerged Fixture.
> Select 15° or 25° according to the case.
> Select Hex-A or Hex-B according to the case.

Abutment Gauge-N

Type	Hex-A			
Diameter(Angle)	Ø3.8(15°)	Ø3.8(25°)	Ø4.5(15°)	Ø4.5(25°)
Cuff \ Length	8			
2	PSAH38152NA	PSAH38252NA	PSAH45152NA	PSAH45252NA
4	PSAH38154NA	PSAH38254NA	PSAH45154NA	PSAH45254NA

Type	Hex-B			
Diameter(Angle)	Ø3.8(15°)	Ø3.8(25°)	Ø4.5(15°)	Ø4.5(25°)
Cuff \ Length	8			
2	PSAH38152NB	PSAH38252NB	PSAH45152NB	PSAH45252NB
4	PSAH38154NB	PSAH38254NB	PSAH45154NB	PSAH45254NB

> Packing unit: 1 Abutment Gauge-N.
> Solution for the anterior esthetic zone.
> Connected with the INNO Submerged Narrow Fixture.
> Select 15° or 25° according to the case.
> Select Hex-A or Hex-B according to the case.

INNO PROSTHETIC INSTRUMENT KIT [KPA004]

SUB. HEXAGON SYSTEM | SUB-N. HEXAGON SYSTEM | INT. OCTAGON SYSTEM | EXT. HEXAGON SYSTEM

> All-in-one kit for all types of the INNO Implant System (Sub. Sub-N. Int. Ext.)

1.2 Hex Driver

12mm	17mm	23mm	29mm	39mm	Short	Long
KHD1212	KHD1215	KHD1221	KHD1227	KHD1239	KMD12S	KMD12L
				Ratchet		Machine

Angulated Screw Driver

Short	Long
KRBUD15	KRBUD20

Multi Driver and Holder

Ratchet	Machine	Multi S	Multi A
KRMSD15L	KMMSD21L	KMHS01	KMHA01
Multi S Driver		Holder	

Straight/Solid/Shoulder Driver

Short	Long	Short	Long
KRR12S	KRR19L	KRW12S	KRW19L
Regular		Wide	

Lock Driver

Short	Long
KRLRD18	KRLRD28

Absolute Driver

Short	Long	Short	Long	Short	Long
KRAD4512S	KRAD4519L	KRAD5512S	KRAD5519L	KRAD6512S	KRAD6519L
Ø4.5		Ø5.5		Ø6.5	

Sonator

S Ratchet Driver	I&R Driver
SONRD19L	SONIR002

Ball

Driver	I&R Driver
KRB19L	KBIR01

Torque Wrench

KTW001

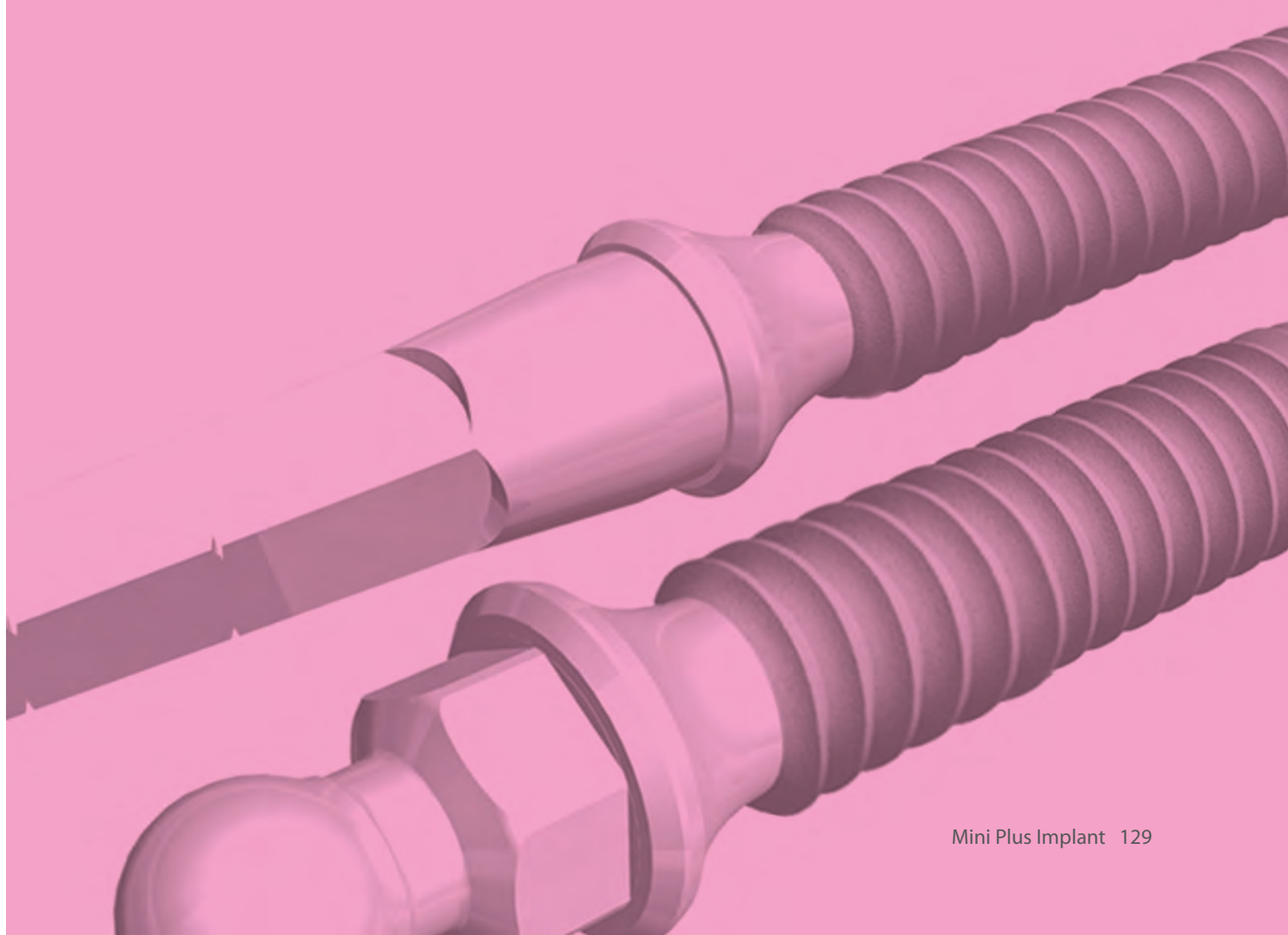
Mini Plus Implant system

Mini Plus Implant

Cement Type

Ball Type

Surgical kit

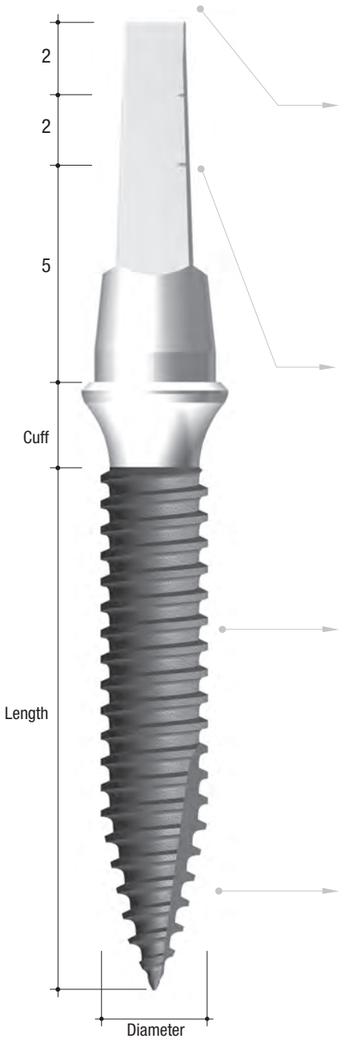


DESIGN OF MINI PLUS FIXTURE (1P-C.)

Cement Type

> For mandible anterior spaces and edentulous arch.

> For semi-permanent or temporary solution.



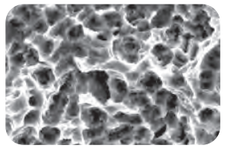
Top Anti-Rotation Square

> Promotes firm attachment to the prosthesis.

> Direct impression is recommended when modified/altered.

Cutting Groove

> Two cutting grooves at 5mm and 7mm facilitate prosthetic height alteration.



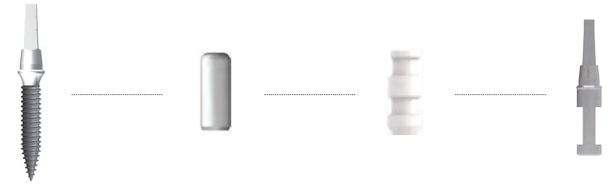
Surface Treatment: SLA-SH

> Uniform micro-surface geometry, increased BIC and improved surface wetness.

Cutting Edge

> Maximizes self-tapping function.

System Flow



Fixture — Protection Cap — Impression Coping — Lab Analog

Fixture

Diameter / Length \ Cuff	Ø2.5	
	2.0mm	4.0mm
10mm	AMC2210S	AMC2410S
12mm	AMC2212S	AMC2412S
14mm	AMC2214S	AMC2414S

> Packing unit: 1 Fixture.

> Abutment level impression.

Diameter / Length \ Cuff	Ø3.0	
	2.0mm	4.0mm
10mm	AMC3210S	AMC3410S
12mm	AMC3212S	AMC3412S
14mm	AMC3214S	AMC3414S

> Packing unit: 1 Fixture.

> Abutment level impression.

Impression Coping / Lab Analog

Impression Coping

AMCI001

Lab Analog

AMCL001

Impression Coping

> Packing unit: 1 Impression Coping.

> Used for impression taking of the post of the fixture.

> Direct impression is recommended when modified/altered.

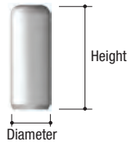
Lab Analog

> Packing unit: 1 Lab Analog.

> The same adjustment must be made for the Lab Analog when the abutment portion of the fixture is modified/altered.

> Replacement of the cement post shape in working cast.

Protection Cap



Diameter / Height	Ø4.0
7mm	AMCC001
9mm	AMCC002
11mm	AMCC003

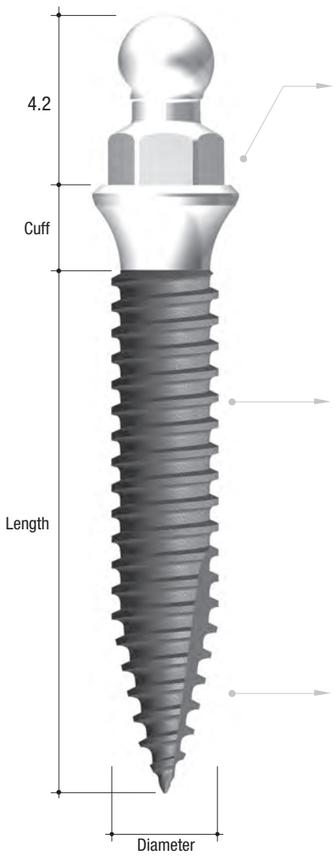
> Packing unit: 1 Protection Cap.

> Provides temporary protection from mucosa, gingiva, and tongue after implantation.

DESIGN OF MINI PLUS FIXTURE (1P-B.)

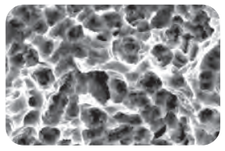
Ball Type

> For semi-permanent or temporary solution for overdenture prosthesis.



2.4mm Hex

> Easy delivery using the Ball Type Fixture Drivers.



Surface Treatment: SLA-SH

> Uniform micro-surface geometry, increased BIC and improved surface wetness.

Cutting Edge

> Maximizes self-tapping function.

System Flow

Fixture

Diameter / Length \ Cuff	Ø2.5	
	2.0mm	4.0mm
10mm	AMB2210S	AMB2410S
12mm	AMB2212S	AMB2412S
14mm	AMB2214S	AMB2414S

> Packing unit: 1 Fixture.

Diameter / Length \ Cuff	Ø3.0	
	2.0mm	4.0mm
10mm	AMB3210S	AMB3410S
12mm	AMB3212S	AMB3412S
14mm	AMB3214S	AMB3414S

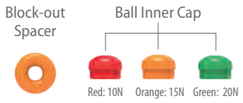
> Packing unit: 1 Fixture.

Ball Outer Cap

Height / Diameter	Ø3.4
2.4	BATC003C

> Packing unit: 2 Outer Caps.

Ball Inner Cap



Code
BATC003I

> Packing unit: 2 Block-out Spacers + 6 Inner Caps (2 per each color).
> Retention force: Red 10N, Orange 15N & Green 20N.

Impression Coping / Lab Analog

Impression Coping
AMBI001

Lab Analog
AMBL001

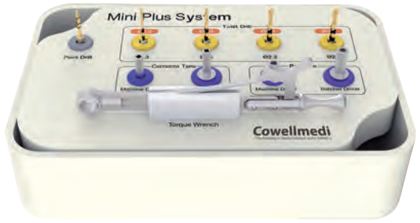
Impression Coping

> Packing unit: 1 Impression Coping.
> Used for impression taking of the post of the fixture.

Lab Analog

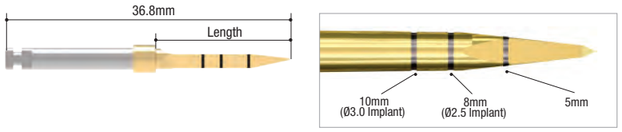
> Packing unit: 1 Lab Analog.
> Replacement of the ball post shape in working cast.

SURGICAL KIT [KMA003]



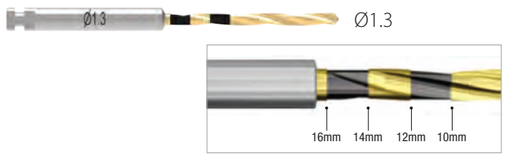
Point Drill

KPD03L



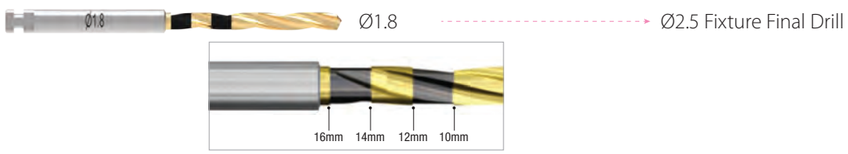
Ø1.3 Twist Drill

KTWD13S



Ø1.8 Twist Drill

KTWD18S

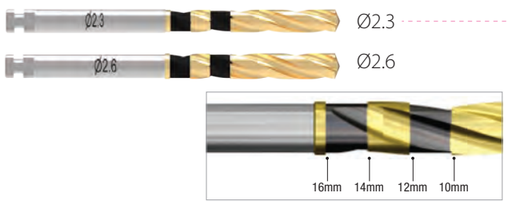


Ø2.5 Fixture Final Drill

Ø2.3 / Ø2.6 Twist Drill

KTWD23S

KTWD26S



Ø3.0 Fixture Final Drill

Driver

Cement Type

Machine KMDC31L

Ratchet KRDC19L

Ball Type

Machine KMDB27L

Ratchet KRDB19L

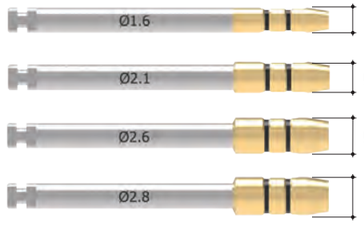
Tissue Punch *Extra product

KTP16

KTP21

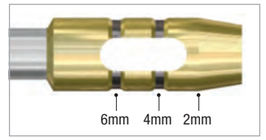
KTP26

KTP28



Ø2.85(Ø2.5 Fixture)

Ø3.35(Ø3.0 Fixture)



> Easy removal of soft tissue for flapless surgery.

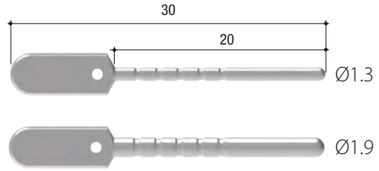
> 0.3mm wider than fixture diameter allows more predictable results.

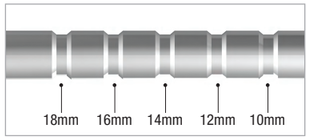
Multi Gauge *Extra product

> Allows precise measurement of drilling depth and path.

KDGP13

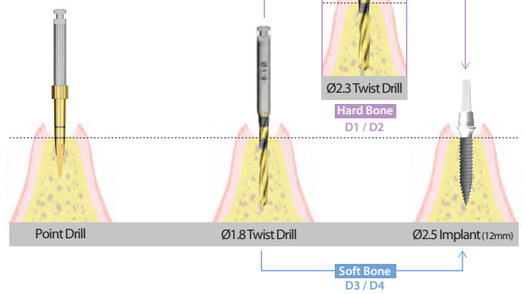
KDGP19



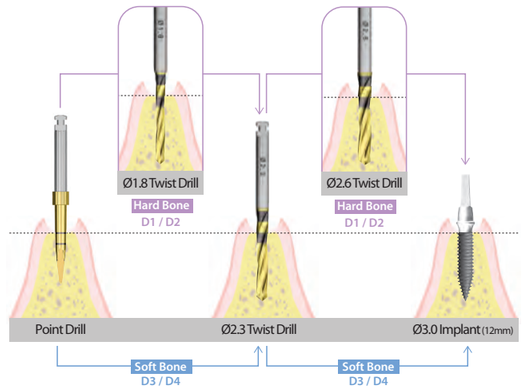


Drilling Sequence

Ø2.5



Ø3.0



※ For bone quality 4, the Mini Plus fixtures should be self-tapped and placed by making proper adjustments in drilling as they have self-tapping characteristics, and their diameter is narrow.

COWELL DIGITAL PRODUCTS

Drive yourself to COWELLMEDI's Digital Transformation

Digital Guided Surgery Kits

InnoFit Lodestar Plus Kit

InnoFit Lodestar Kit

InnoFit Lodestar Plus Kit

Exclusive for the INNO Submerged and Submerged Narrow Implant System.

InnoFit Lodestar Kit

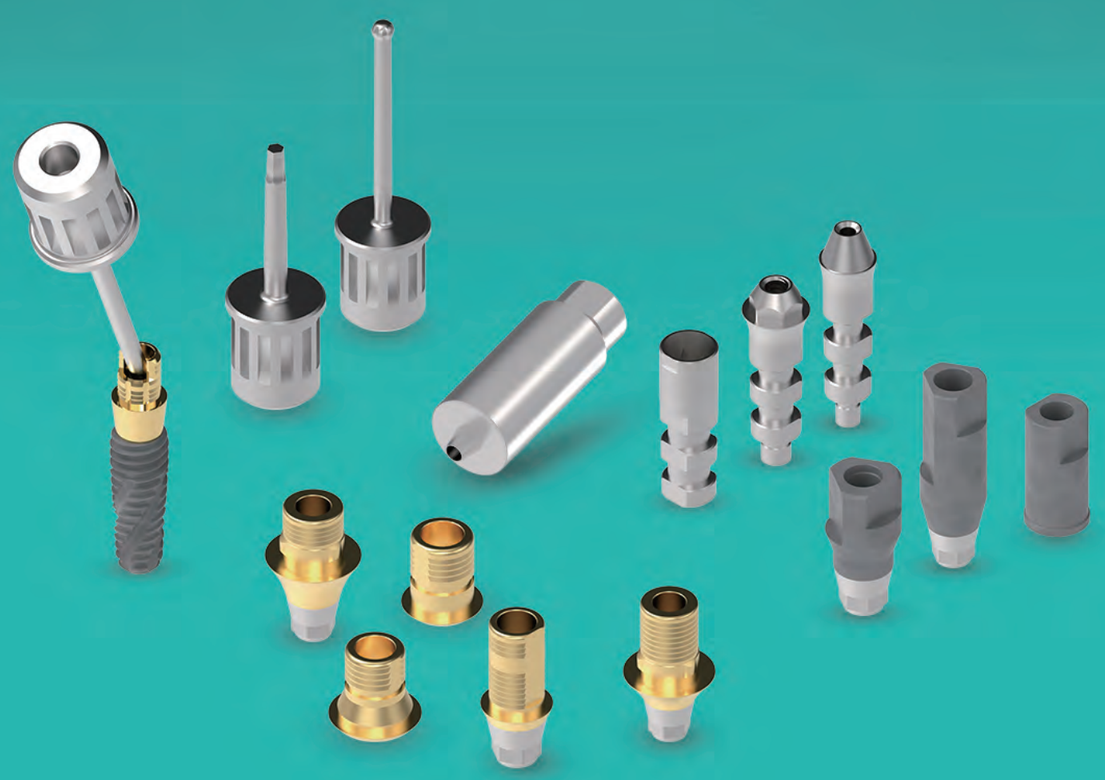
Universal to any implant system.

COWELL
DIGITAL
PRODUCTS

Digital Prosthesis

InnoFit Hybrid Ti-Base System

- Sub. Hybrid Ti-Base System
- Sub. & Sub-N. Multi Hybrid Ti-Base System
- Sub. Lock Hybrid Ti-Base System
- Sub-N. Hybrid Ti-Base System
- Int. Hybrid Ti-Base System



InnoFit Lodestar Plus Kit [KLSP001]

> A total guided surgery solution applicable to various types of clinical cases.
> Exclusive for the INNO Submerged and Submerged Narrow Implant System.

Pilot Drill (Ø3.1/3.3)

KLPPD3307 KLPPD3308 KLPPD3310 KLPPD3312 KLPPD3314

Pilot Drill (Ø3.5)

KLPPD3507 KLPPD3508 KLPPD3510 KLPPD3512 KLPPD3514

Pilot Drill (Ø4.0)

KLPPD4007 KLPPD4008 KLPPD4010 KLPPD4012 KLPPD4014

Pilot Drill (Ø4.5)

KLPPD4507 KLPPD4508 KLPPD4510 KLPPD4512 KLPPD4514

Pilot Drill (Ø5.0)

KLPPD5007 KLPPD5008 KLPPD5010 KLPPD5012 KLPPD5014

Implant Adapter

KLPF01R KLPF02R KLPF01N KLPF02N

Tissue Punch

KLPTP01

Bone Flattening Drill

KLPBF01

Initial Drill (Ø2.8)

KLPID06S

Fixture Driver

KLPFD21

Torque Wrench

KTW001LP

Drill Extension

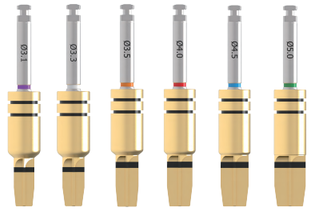
KDE002

1.2 Hex Ratchet Driver

KLPHD1214 KLPHD1220

V Anchor

KLPVA00I KLPVA00B



Countersink

KLPCS31 KLPCS33 KLPCS35 KLPCS40 KLPCS45 KLPCS50

Adapter Extension

KLPRE08S KLPRE12L KLPME08S KLPME12L

Abutment Profiler

KLPAP10 KLPAP12 KLPAP14

Workflow

Consultation & Scan

Dental Clinic

- Fully digital procedure
- Partially digital procedure

Patient CT Scanning

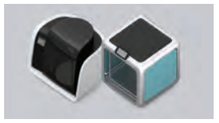
Intraoral Scanning

Model Scanning

▼

Implant Simulation

Dental Lab



Fabrication - 3D Printing & CAD/CAM

Abutment & crown design

Implant simulation & surgical guide template

▼

Fabrication

Dental Lab

Surgical guide template

Temporary crown

Customized abutment

▼

Surgery

Dental Clinic

Preparation before Operation

Disinfection of surgical guide template

Disinfection must be done before the operation. Immerse the surgical guide template into the alcohol and chlorhexidine solution in a ratio of 9:1 or disinfection fluids such as Cidex OPA, betadine, etc. for more than 20 minutes. Then rinse with the saline solution and install in patient's oral cavity.

Installation of surgical guide template

- Check if inward of the surgical guide template and outward of teeth are accurately contacted through the windows of mounted surgical guide template. In case of insufficient scan data, delete and adjust the inner side of the surgical guide template to contact precisely.
- Install the surgical guide template while scanning CT to check implantation path and precision before the operation (Implantation path may also be checked in post operation by scanning CT with installation of the surgical guide template).

Verification of dental implant

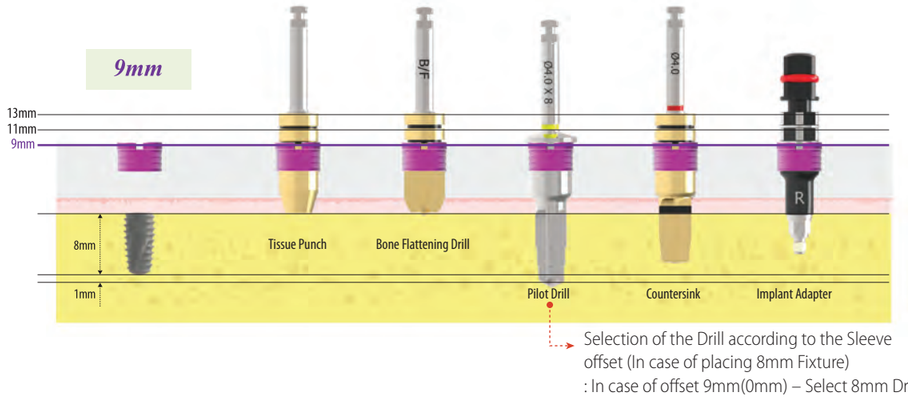
Check if the marked dental implant is in the surgical report.

Confirmation of protocol

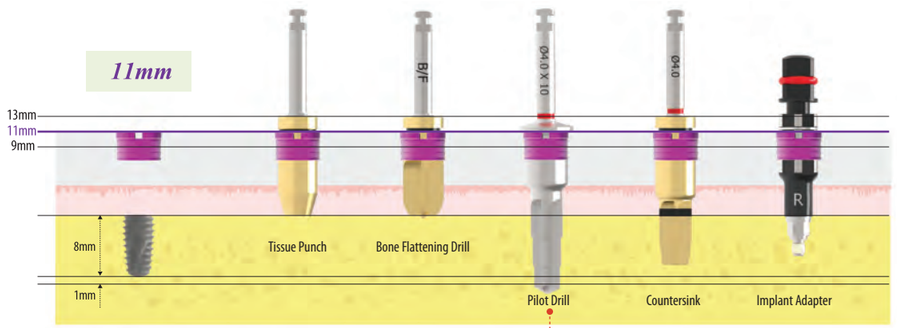
Confirm the surgical report and surgical protocol for sure.

Comprehension and Usage of Offset

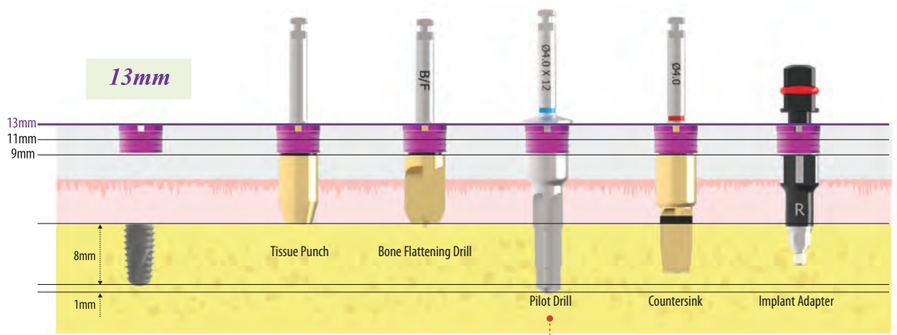
> The basic length is 9mm from the fixture platform to the top of the Sleeve.
> In case the gingiva is thick or fixture needs to be placed deeper due to low bone density, use the Sleeve 2 or 4mm upright to the top.
> The higher the offset value, the less accurate it is, so use 9mm if possible.



Selection of the Drill according to the Sleeve offset (In case of placing 8mm Fixture)
: In case of offset 9mm(0mm) – Select 8mm Drill.



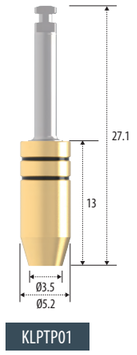
Selection of the Drill according to the Sleeve offset (In case of placing 8mm Fixture)
: In case of offset 11mm(2mm) – Select 10mm Drill.



*** Caution**
Please note that the actual depth of drilling is 1mm longer than the Drill mark.
Ex) Ø4.0 X 8mm Drill - Drilling depth: 9mm.

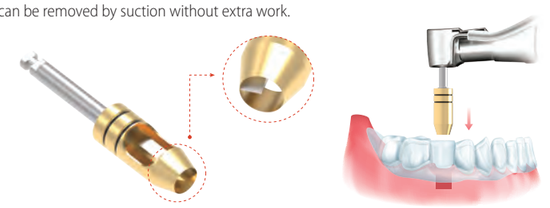
Selection of the Drill according to the Sleeve offset (In case of placing 8mm Fixture)
: In case of offset 13mm(4mm) – Select 12mm Drill.

Tissue Punch



> Used for soft tissue elimination (the gingiva in the position where the implant is to be placed can be incised in a circular shape).
> Hemostatic effect, small scar, or fast wound healing effect occurs after the operation due to the small diameter of tissue punch.
> Able to apply offset (9mm, 11mm, 13mm).
> 50rpm without irrigation.

Double blade
The internal cutting edge of the Tissue Punch cuts the gingiva into small pieces so that those can be removed by suction without extra work.



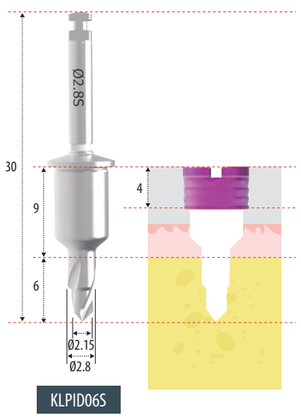
*** Caution** The Tissue Punch must be kept clean. Otherwise, it may cause rust or damage on the blade due to residual gingival pieces or others in the Tissue Punch after the operation (remove the residual gingiva piece by explorer, steam etc.).

Bone Flattening Drill

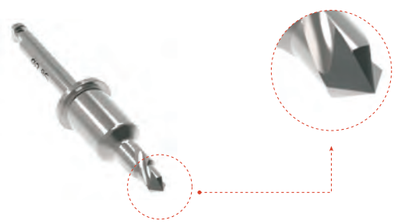
> Flattens the bone level of the operation site.
> Inclined bone level may glide the Drill and can not drill as planned.
> Eliminates the soft tissue after using the Tissue Punch.
> The point in the middle of the Drill guides the position of the Drill and helps to the drill in an accurate site.
> Able to apply offset (9mm, 11mm, 13mm).
> 400rpm without irrigation / 800rpm with irrigation.

The point in the middle of the Drill guides the position of the Drill and helps to the drill in an accurate site.

Initial Drill



> High speed, 1,000rpm with irrigation.

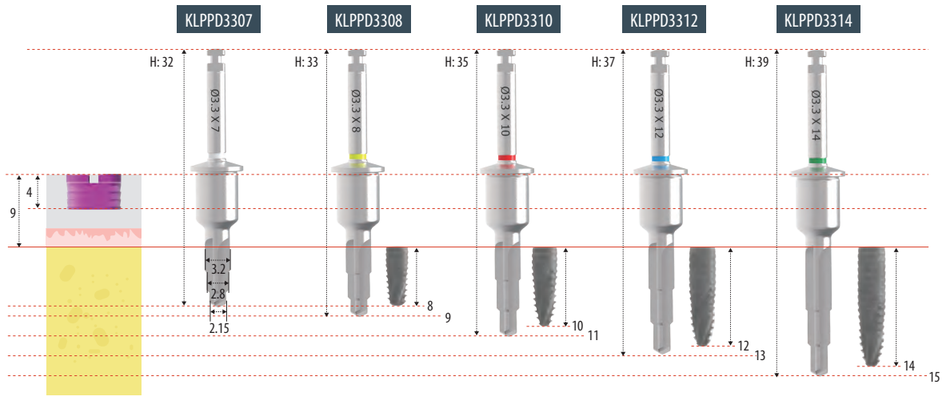


Point
Creates the hole on the bone surface so that the axis of the next step Drill is not moved and it guides the Drill position by preventing slip even at the inclined bone level.

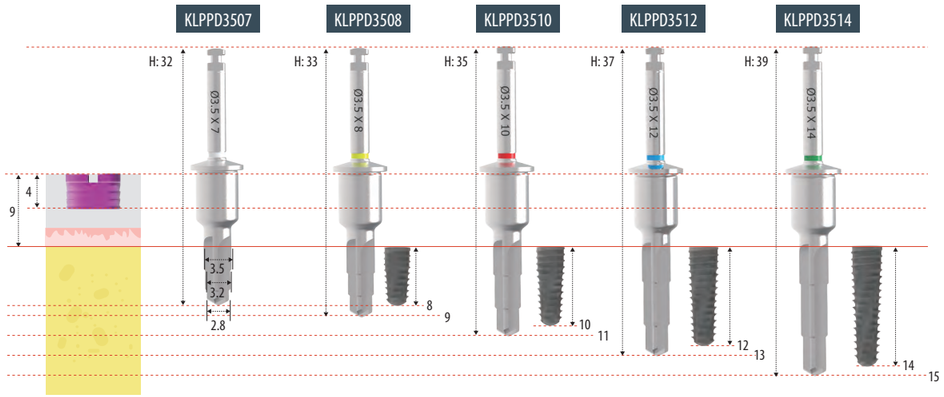
Pilot Drill

> Low speed, 50rpm without irrigation / 50N.cm

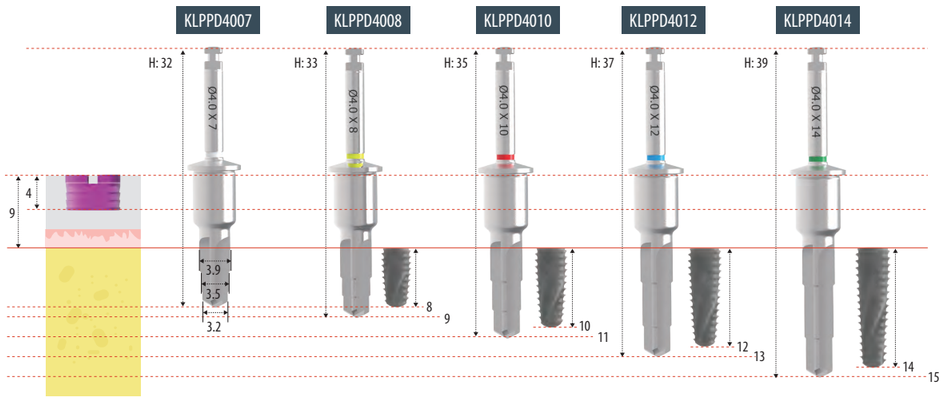
Ø3.1/Ø3.3 Fixture



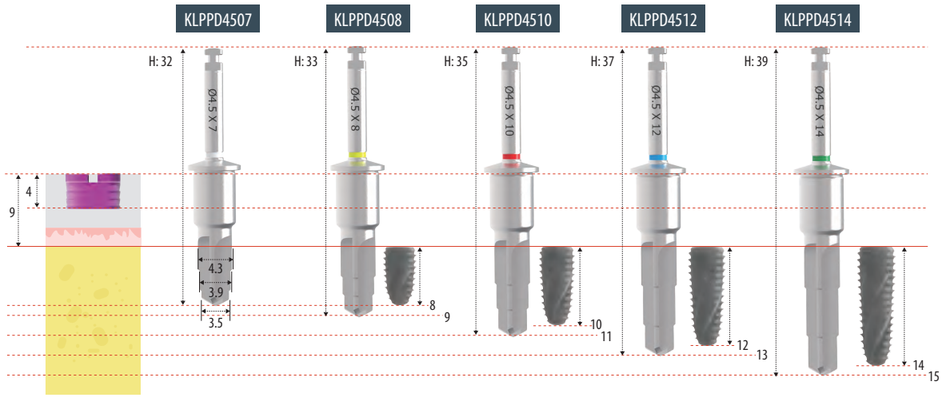
Ø3.5 Fixture



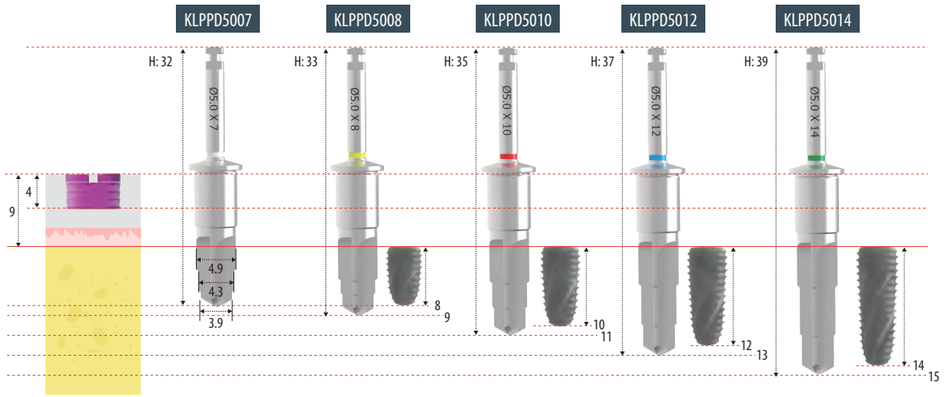
Ø4.0 Fixture



Ø4.5 Fixture

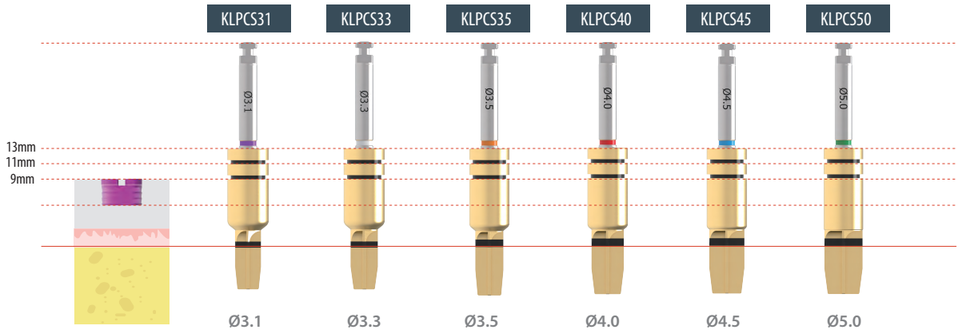


Ø5.0 Fixture



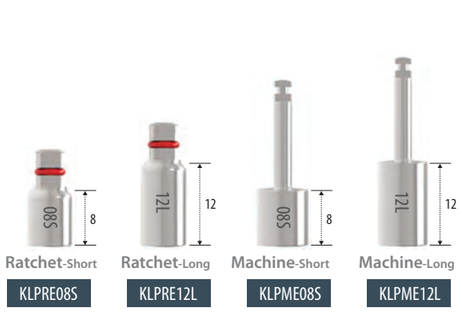
Countersink

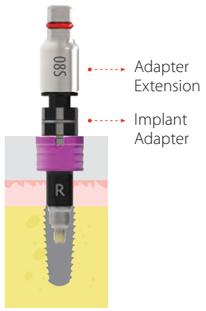
> Expands the cortical bone in D1/D2 bone to prevent excessive implantation of the fixture.
> Able to apply offset (9mm, 11mm, 13mm).
> 50rpm without irrigation.



Adapter Extension

> In case the Implant Adapter is too short to use, connect the Ratchet or Machine Adapter Extension to place the fixture.



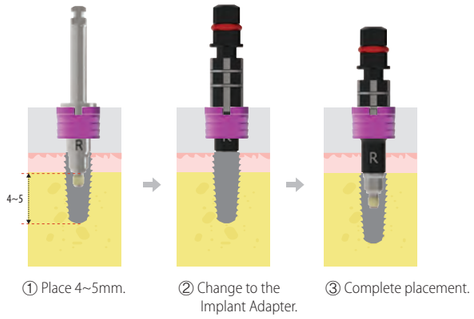


Implant Adapter

> Moves fixture to the Sleeve to implant safely.
> Matches the depth of laser marks of the Sleeve offset and the Implant Adapter.
> When implanting the fixture, the direction of the Implant Adapter and directional identification groove of the Sleeve are matched, and it lines with the hex direction of the temporary abutment.
> In case the Implant Adapter can not be removed by cold welding after placing the fixture, hang the crown remover on the groove to remove.

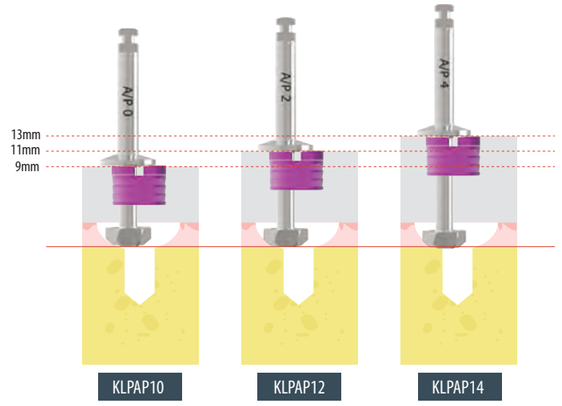
Fixture Driver - Molar

> Used in case the Implant Adapter can not be used due to the low occlusal height.
> After implanting 4~5mm, change to the Implant Adapter to complete the placement.



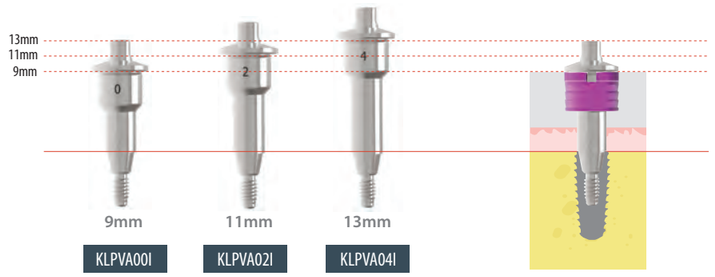
Abutment Profiler

> Used for the elimination of the alveolar bone that interferes with the accurate connection of abutment. Remove residual bone by rotating and drilling 360°.
> In case of thick cortical bone, drill higher rpm with irrigation (within 100rpm).



V Anchor - Fix Fixture

> Used with the 1.2 Hex Driver to fix the surgical guide template to the fixture in such cases as edentulous teeth.



KLPVA00I | KLPVA02I *Extra* | KLPVA04I *Extra*

*** Caution**

> Install by aligning to the Sleeve offset of the placed fixture.
> The V Anchors for the offset 11 and 13mm in length are extra products.

V Anchor - Fix Bone

> Used with the Torque Wrench to fix the surgical guide template into the hole of the bone created after initial drilling in such cases as edentulous teeth.

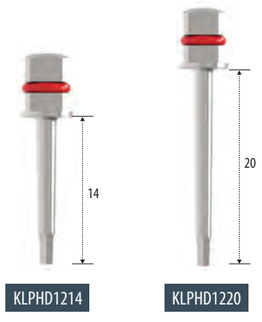
KLPVA00B | KLPVA02B *Extra* | KLPVA04B *Extra*

*** Caution**

> Install by aligning to the Sleeve offset of the placed fixture.
> The V Anchors for the offset 11 and 13mm in length are extra products.

1.2 Hex Ratchet Driver

> Used to install or remove the Cover Screw, and Healing Abutment.



KLPHD1214 | KLPHD1220

Connect the Adapter Extension if necessary.

Torque Wrench(Square)

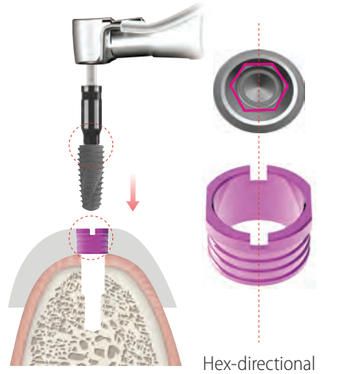
> Used to control torque force in the fixture and abutment placement.
> Used with the Implant Adapter, 1.2 Hex Driver, and V Anchor, etc.
> Torque force 10, 25, 30 & 35N.cm are able to be controlled by pulling the elastic bar.
> Maximal torque force 120N.cm with pulling the rigid main bar.

KTW001LP

Sleeve *Extra*

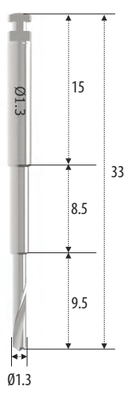
Closed Sleeve
KLPS01
* Packing Unit: 5 Sleeves

Open Sleeve
KLPS02
* Packing Unit: 5 Sleeves

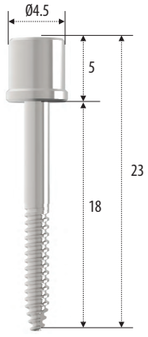


Hex-directional identification groove.

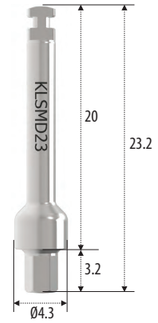
Anchor System *Extra*



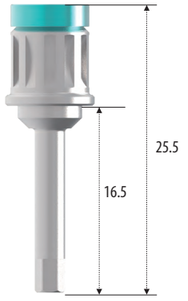
Anchor Drill
KLSAD13



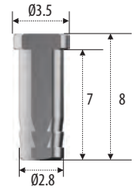
Anchor Screw
KLSAS18



Anchor Driver
KLSMD23



Anchor Driver
KLSRD16

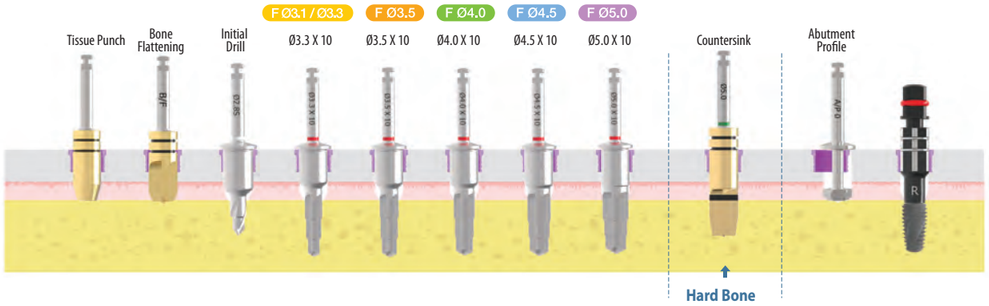


Anchor Sleeve
KLSAS01

* Packing Unit: 5 Sleeves

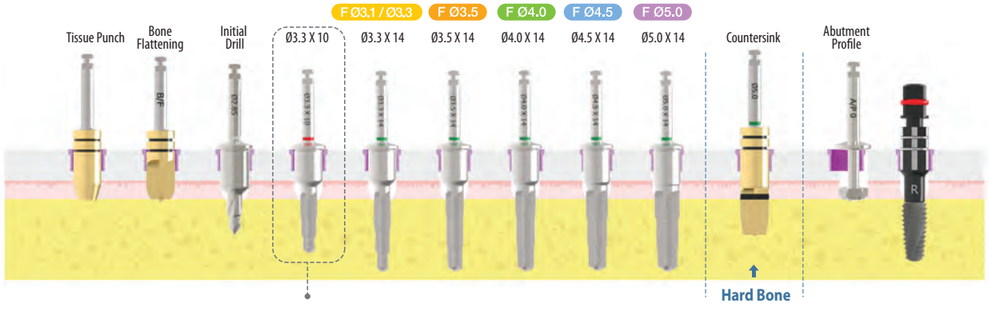
Drilling Sequence (7~10mm)

INNO Sub Fixture Ø5 x 10mm



Drilling Sequence (12~14mm)

INNO Sub Fixture Ø5 x 14mm



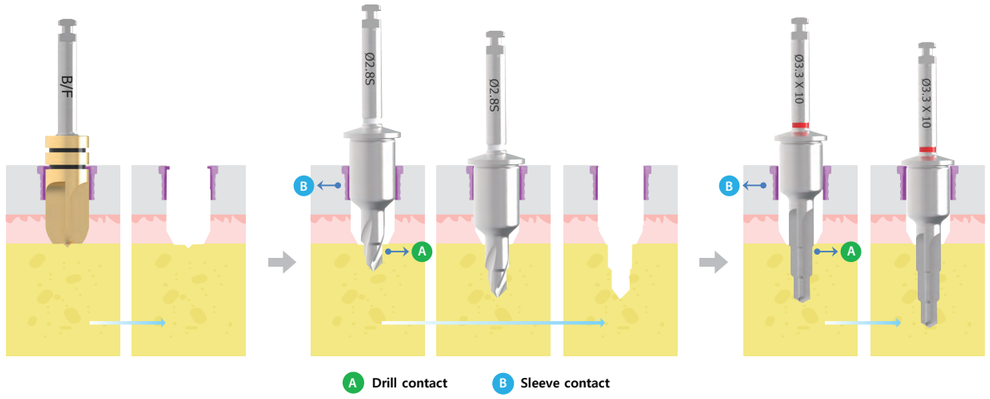
8~10mm drilling should be done in advance for the sleeve contact.

*** Drilling method**

> Make sure with drilling in the desired direction without a change in the path through the primary drill contact (A) with the hole created by the previous drilling and the secondary contact (B) with the sleeve.

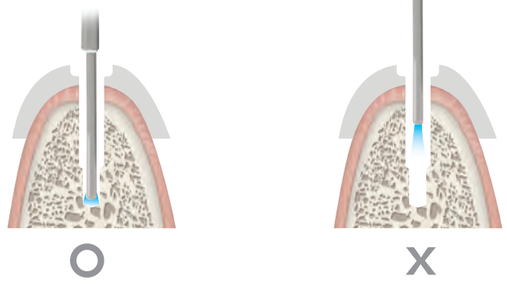
> Create the hole using the initial drill and insert the next drill into the hole made during the previous step and drill after achieving the drill and sleeve contact (A&B).

> If drilling only with the sleeve contact (B) without the drill contact (A), the path may not be correct.



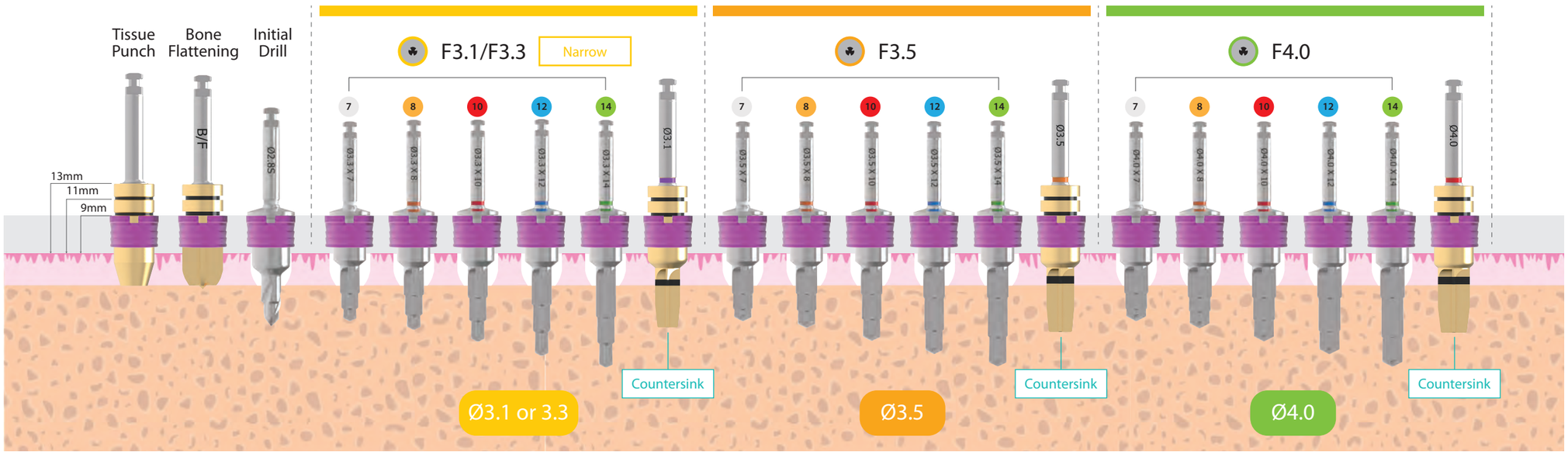
*** Precaution when irrigating**

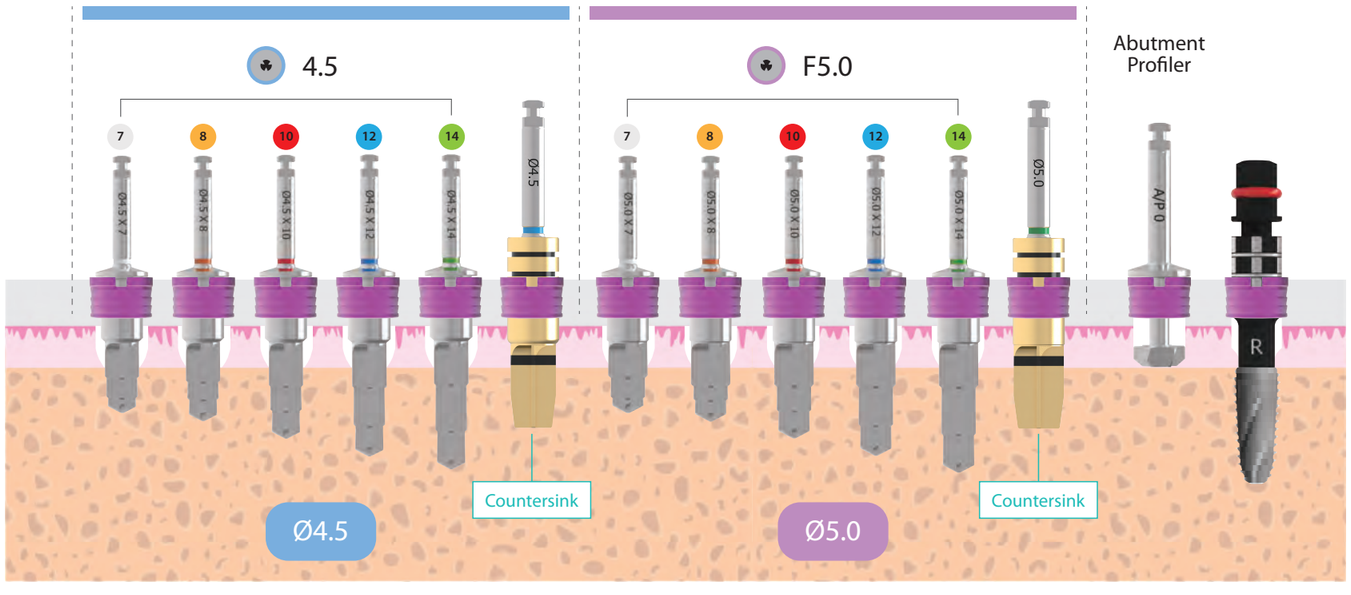
> Irrigate enough to the end of the drill hole.



Drilling Sequence

> Total drilling sequence with the Tissue Punches, Bone Flattening Drills, Initial Drills, and Pilot Drills, Abutment Profilers, and Implant Adapters.





InnoFit Lodestar Kit [KLS001]

> A cost-effective guided surgery solution applicable to various types of clinical cases.
> Universal to any implant system.

Ø2.0 X 7 Ø2.0 X 8 Ø2.0 X 10 Ø2.0 X 12 Ø2.0 X 14

Pilot Drill(Ø2.0)

KLSPD2007 KLSPD2008 KLSPD2010 KLSPD2012 KLSPD2014

Ø2.7 X 7 Ø2.7 X 8 Ø2.7 X 10 Ø2.7 X 12 Ø2.7 X 14

Pilot Drill(Ø2.7)

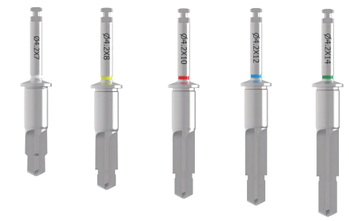
KLSPD2707 KLSPD2708 KLSPD2710 KLSPD2712 KLSPD2714

Ø3.4 X 7 Ø3.4 X 8 Ø3.4 X 10 Ø3.4 X 12 Ø3.4 X 14

Pilot Drill(Ø3.4)

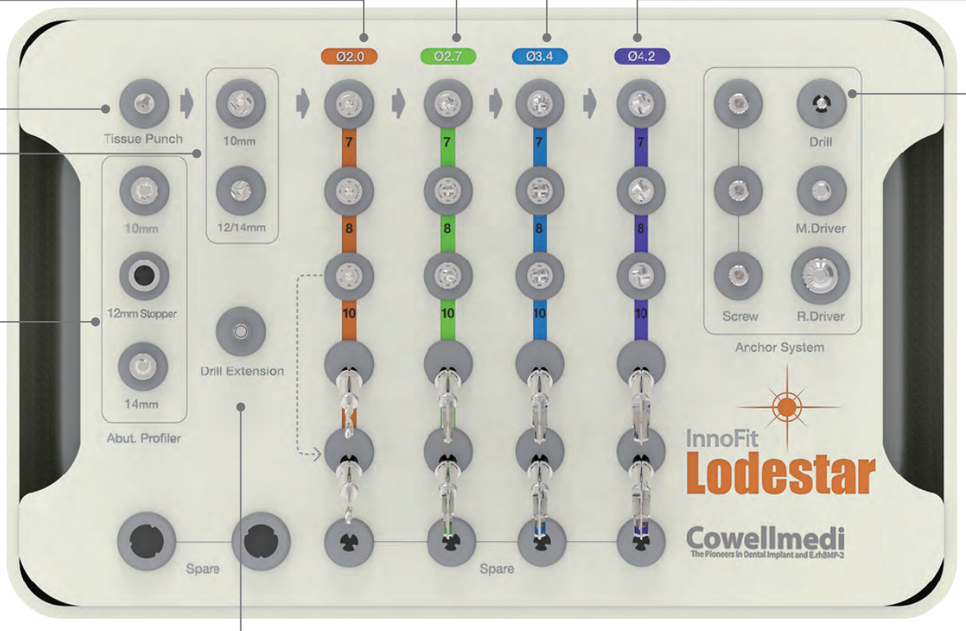
KLSPD3407 KLSPD3408 KLSPD3410 KLSPD3412 KLSPD3414

Ø4.2 X 7 Ø4.2 X 8 Ø4.2 X 10 Ø4.2 X 12 Ø4.2 X 14



Pilot Drill(Ø4.2)

KLSPD4207 KLSPD4208 KLSPD4210 KLSPD4212 KLSPD4214



Tissue Punch

KLSTP45

10mm 12,14mm

Initial Drill

KLSID18 KLSID18L

10mm 12mm Stopper 14mm

Abut. Profiler

KLSPD10 KLSPD12S KLSPD14

Drill Extension

KDE002

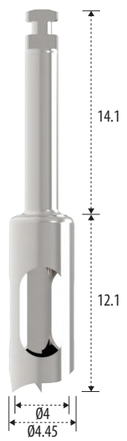
Anchor System

KLSAD13 KLSAS18 KLSMD23 KLSRD16

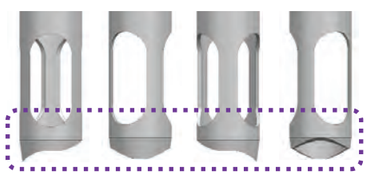
Anchor Drill Anchor Screw Anchor Driver

Tissue Punch

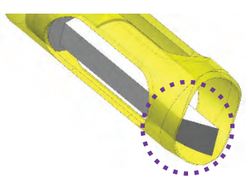
> The gingiva in the position where the implant is to be placed can be incised in a circular shape and can also be used in inclined bones (50rpm without irrigation).



KLSTP45



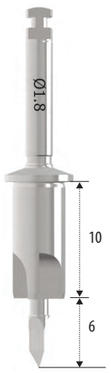
The gingiva can be incised in a circular shape although the bone level is inclined or not parallel.



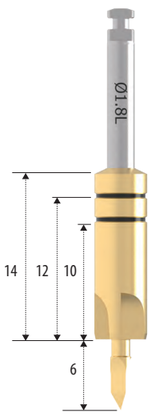
The internal cutting edge of the Tissue Punch cuts the gingiva into small pieces so that those can be removed by suction without extra work.

Initial Drill

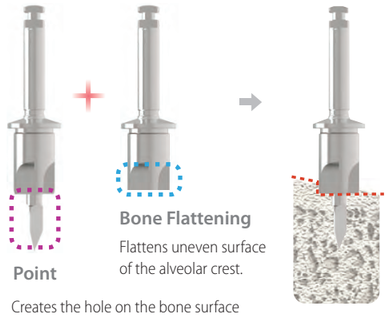
> The Drill combined with Bone Flattening Drill and Point Drill which no separate Bone Flattening Drill is required provides a simpler procedure and shorter chair time (1,000rpm with irrigation).



KLSID18



KLSID18L



Point

Creates the hole on the bone surface so that the axis of the next step Drill is not moved and it guides the Drill position by preventing slip even at the inclined bone level.

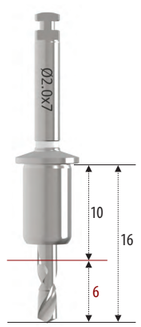
Bone Flattening

Flattens uneven surface of the alveolar crest.

Pilot Drill

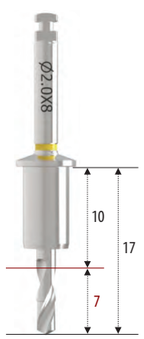
> Ø2.0 / Ø2.7 / Ø3.4 / Ø4.2.

Ø2.0: High Speed - 600rpm



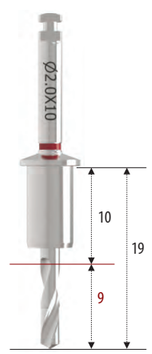
Pilot Drill 16mm(**6mm**)

KLSPD2007



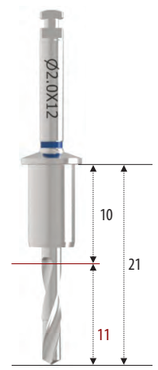
Pilot Drill 17mm(**7mm**)

KLSPD2008



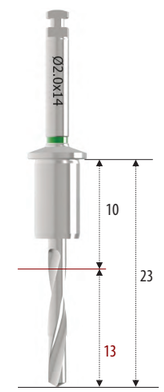
Pilot Drill 19mm(**9mm**)

KLSPD2010



Pilot Drill 21mm(**11mm**)

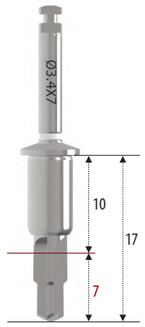
KLSPD2012



Pilot Drill 23mm(**13mm**)

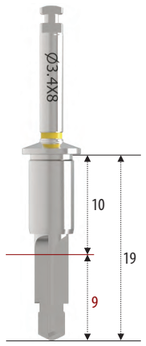
KLSPD2014

Ø2.7 / Ø3.4 / Ø4.2: Low Speed - 50~200rpm / 50N.cm



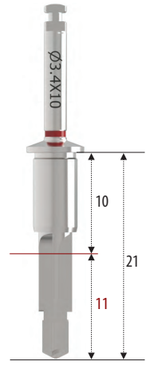
Pilot Drill 17mm(**7mm**)

KLSPD2707
KLSPD3407
KLSPD4207



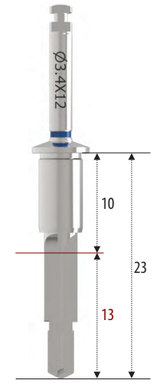
Pilot Drill 19mm(**9mm**)

KLSPD2708
KLSPD3408
KLSPD4208



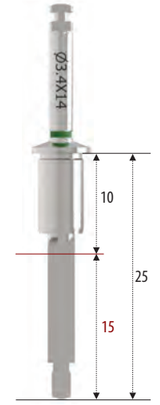
Pilot Drill 21mm(**11mm**)

KLSPD2710
KLSPD3410
KLSPD4210



Pilot Drill 23mm(**13mm**)

KLSPD2712
KLSPD3412
KLSPD4212

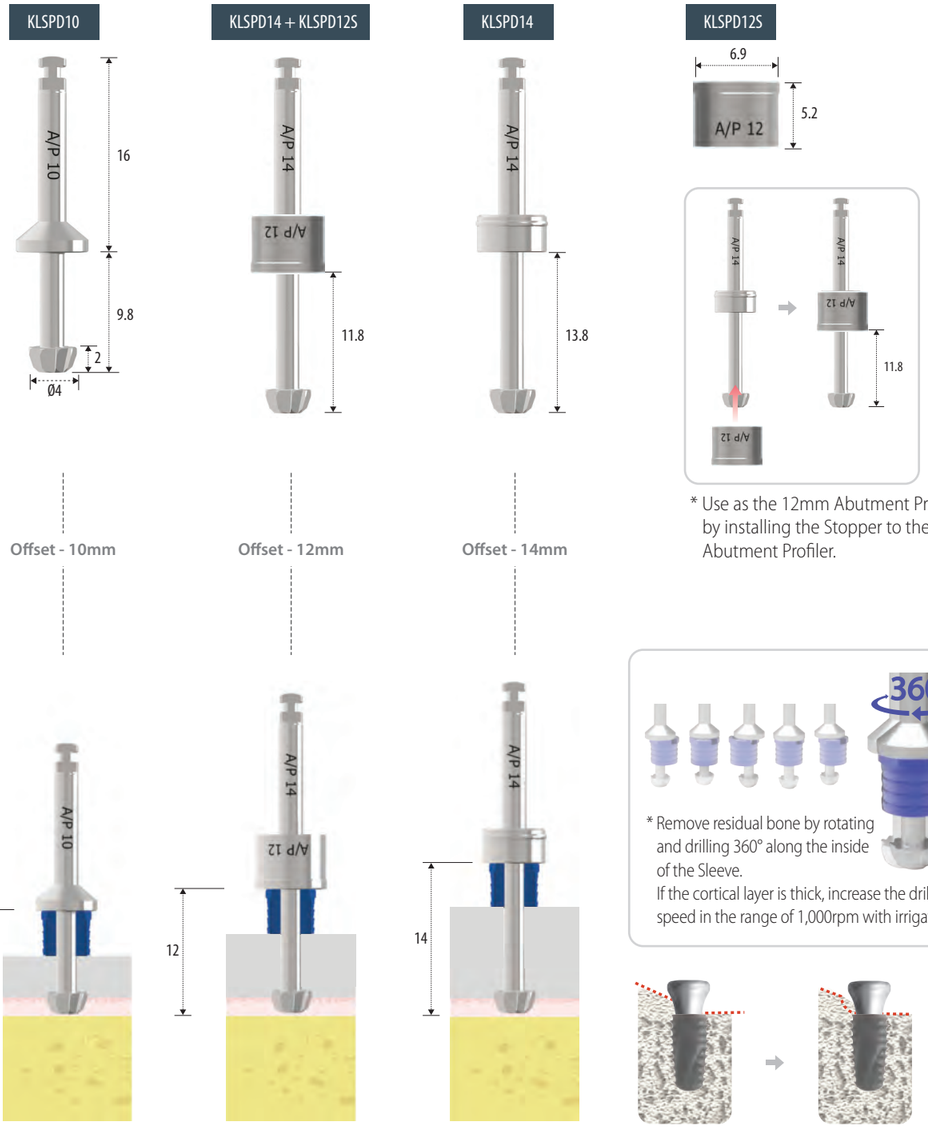


Pilot Drill 25mm(**15mm**)

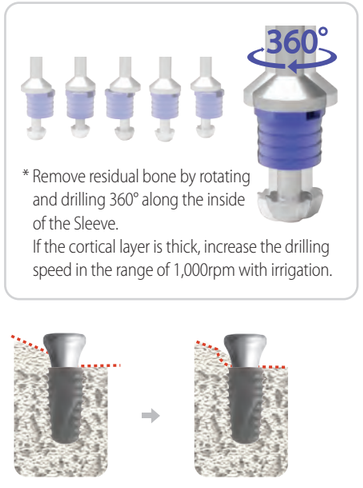
KLSPD2714
KLSPD3414
KLSPD4214

Abutment Profiler

> Used for the elimination of the alveolar bone that interferes with the accurate connection of abutment.

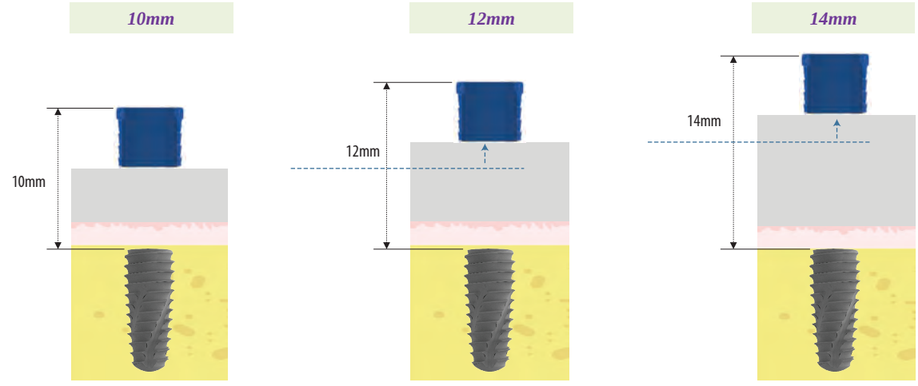


* Use as the 12mm Abutment Profiler by installing the Stopper to the 14mm Abutment Profiler.

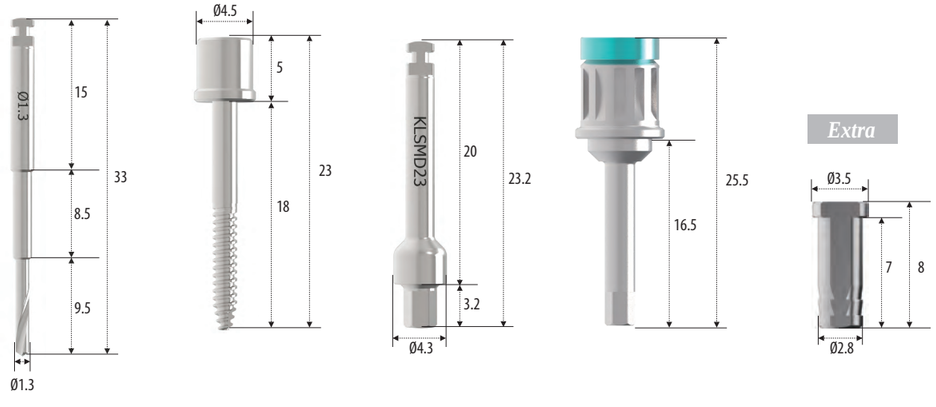


* Comprehension and Usage of Offset

> The basic length is 10mm from the fixture platform to the top of the Sleeve.
> In case the gingival is thick or fixture needs to be placed deeper due to low bone density, use the Sleeve 2 or 4mm upright to the top.
> The higher the offset value, the less accurate it is, so use 10mm if possible.



Anchor System



Anchor Drill	Anchor Screw	Anchor Driver	Anchor Driver	Anchor Sleeve
KLSAD13	KLSAS18	KLSMD23	KLSRD16	KLSAS01

* Packing Unit: 5 Sleeves

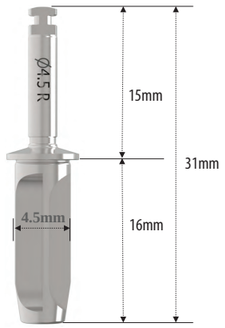
Optional

> These products are optional as extra ones which are not included in the kit.

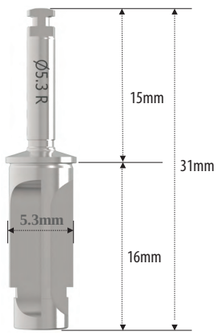
Guide Reamer Extra

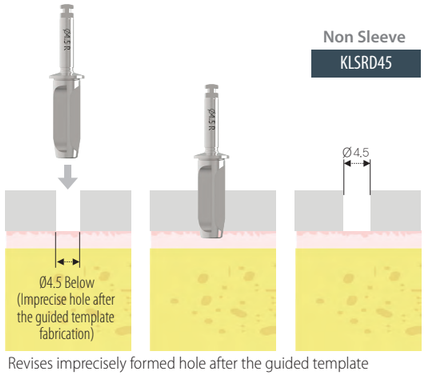
Used for precise contact of Drill and Sleeve (Sleeve / Non-Sleeve).
Use the 4.5mm Guide Reamer for Non-Sleeve, and the 5.3 Guide Reamer for Sleeve (800rpm without irrigation).

Guide Reamer (Non-Sleeve)
KLSRD45

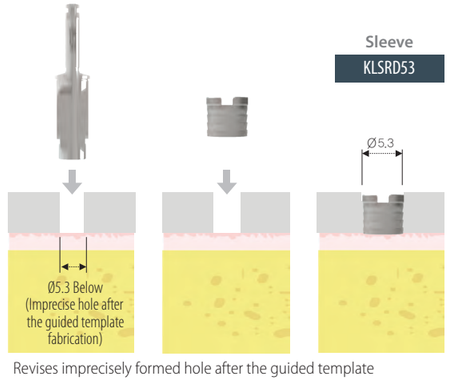


Guide Reamer (Sleeve)
KLSRD53



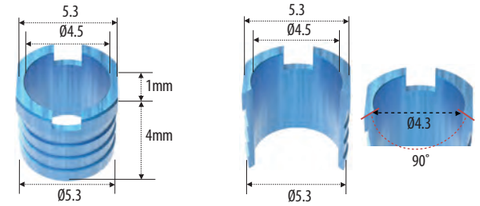


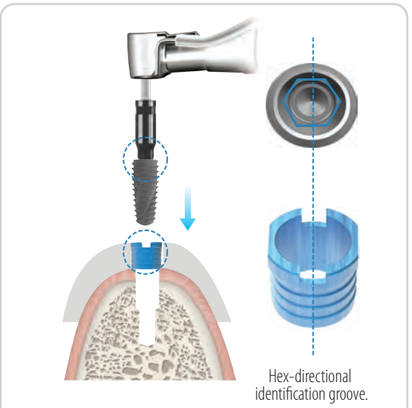
Revises imprecisely formed hole after the guided template fabrication using the 4.5 Guide Reamer to create the hole to be in exact contact with the Drill.



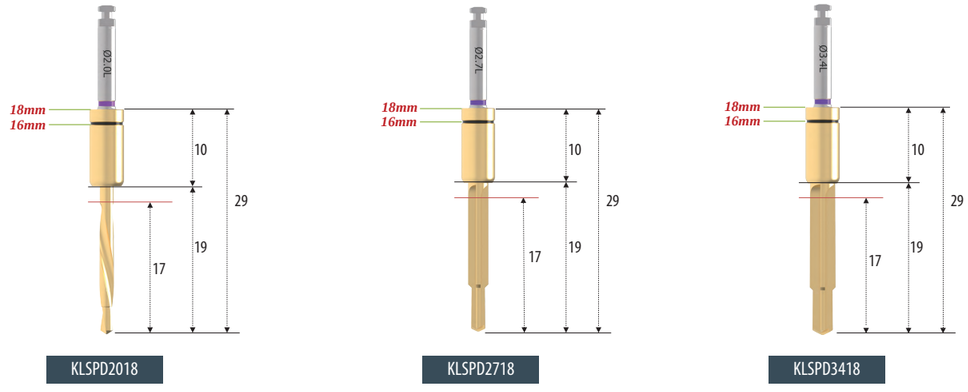
Revises imprecisely formed hole after the guided template fabrication using the 5.3mm Guide Reamer to precisely insert the Sleeve.

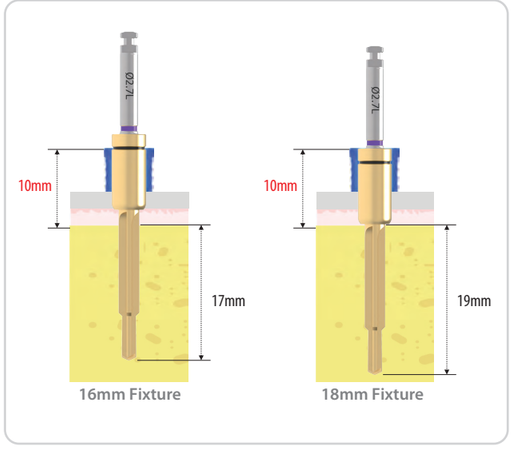
Sleeve Extra



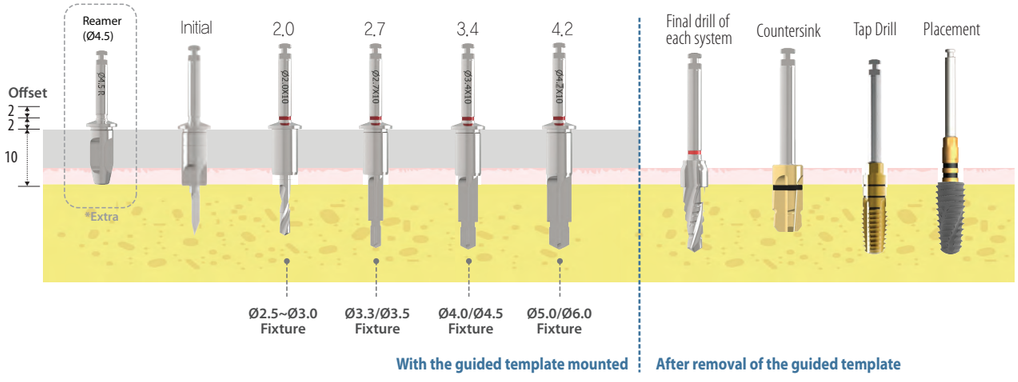


Pilot Drill – 16/18mm Extra

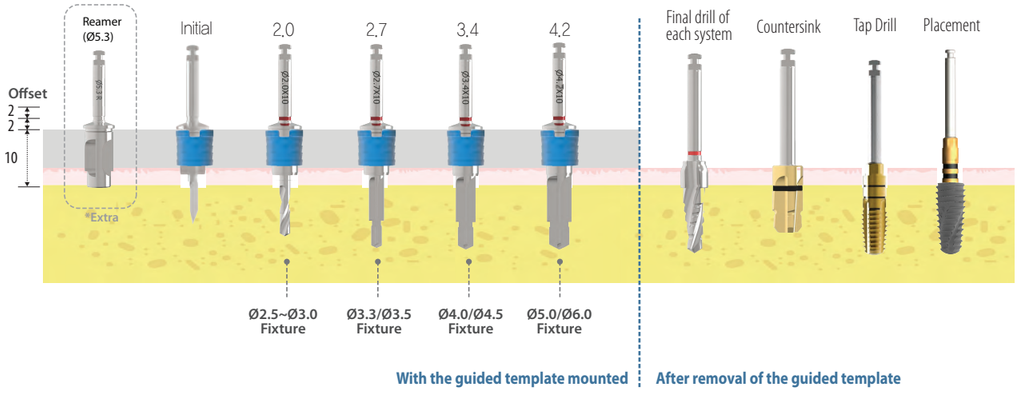




Drilling Sequence (without sleeve)



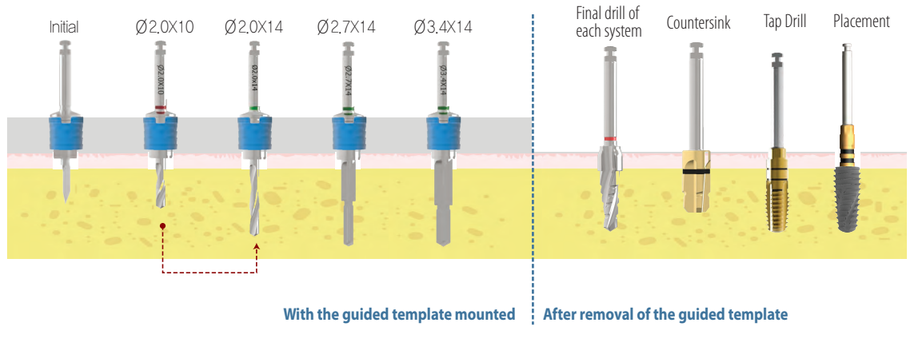
Drilling Sequence (with sleeve)



* Use 10mm Drill prior to 14mm Drill

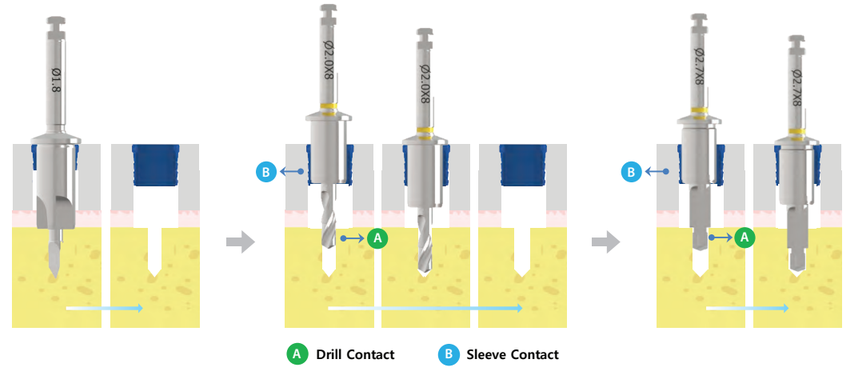
For the use of the 14mm Drill with accurate contact to the Sleeve, use the Ø2.0x10mm Drill before using the 14mm Drill.

e.g.) 3.4 X 14mm Drilling Sequence



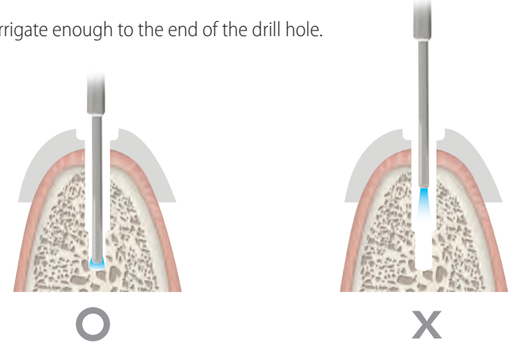
* Drilling method

> Make sure with drilling in the desired direction without a change in the path through the primary Drill contact (A) with the hole created by the previous drilling and the secondary contact (B) with the Sleeve.
> Create the hole using the Initial Drill and insert the next drill into the hole made during the previous step and Drill after achieving the Drill and Sleeve contact (A&B).
> If drilling only with the Sleeve contact (B) without the Drill contact (A), the path may not be correct.



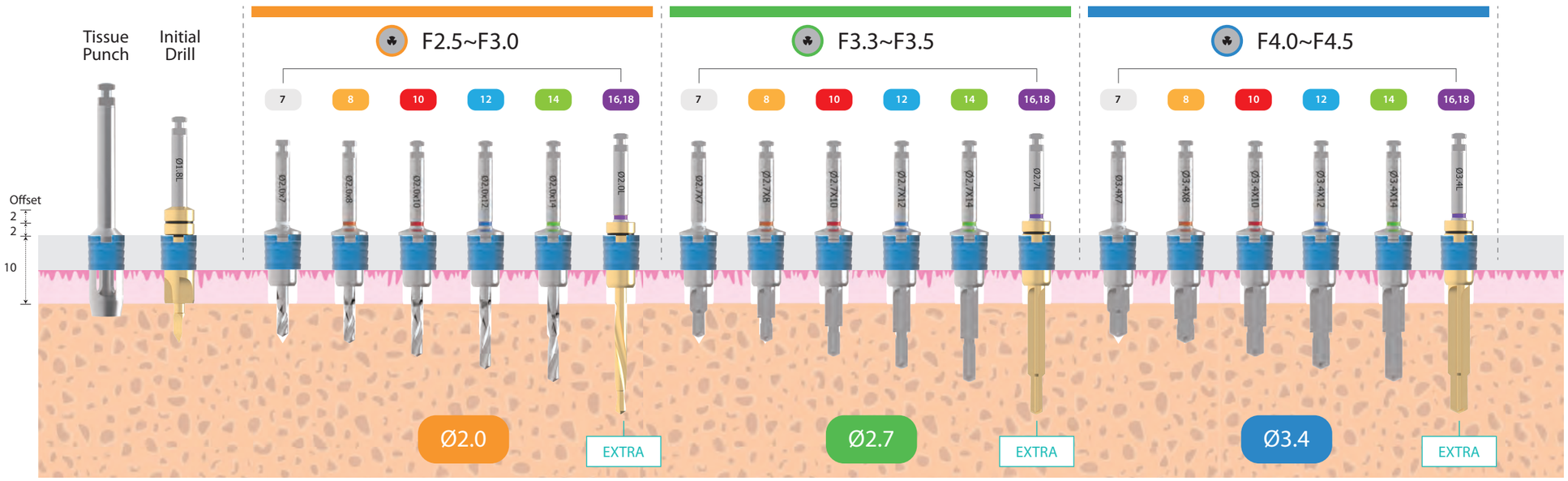
* Precaution when irrigating

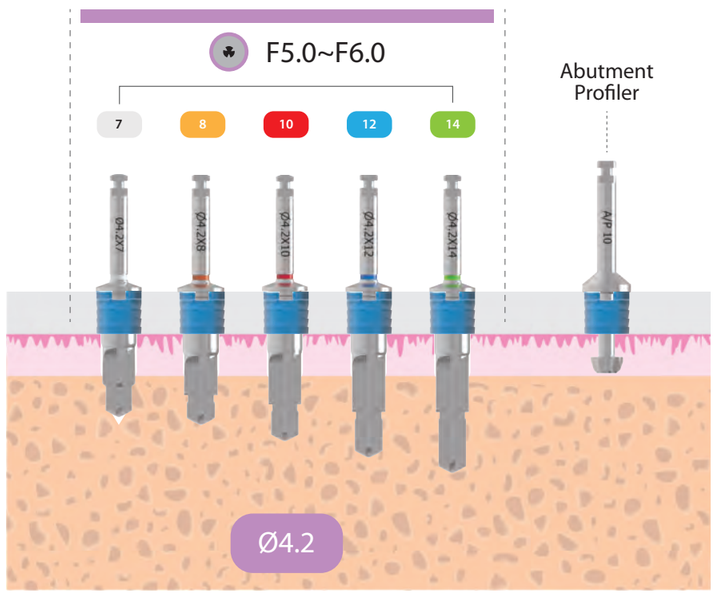
> Irrigate enough to the end of the drill hole.

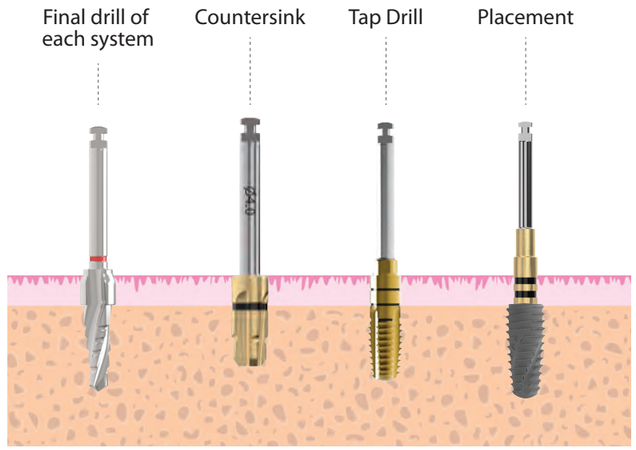


Drilling Sequence

> Total drilling sequence with the Tissue Punches, Initial Drills, Pilot Drills, and Abutment Profilers.







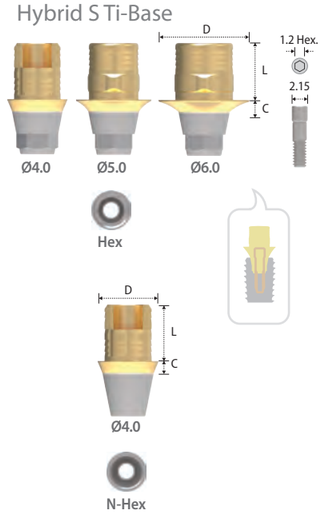
After removal of the guided template

Component selection guide for the Sub. Hybrid Ti-Base System

- Intra-oral scanning
- Model-scanning

SUB. HEXAGON SYSTEM

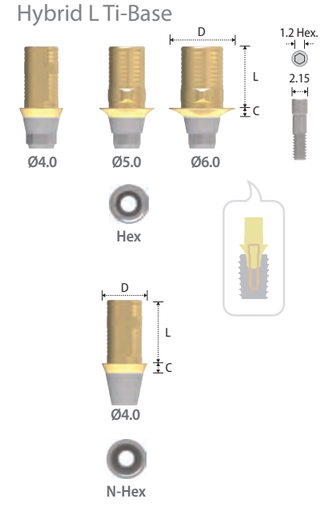
Hybrid S Ti-Base



Type	Hex			N-Hex
Diameter	Ø4.0	Ø5.0	Ø6.0	Ø4.0
Length / *Cuff*	3.75	3.75	3.75	3.75
0.8	2**SLH**404	2**SLH**504	2**SLH**604	2**SLN**404
2	2**SLH**424	2**SLH**524	2**SLH**624	2**SLN**424
3	2**SLH**434	2**SLH**534	2**SLH**634	2**SLN**434

> Packing unit: 1 Hybrid S Ti-Base + 1 Abutment Screw.
> For Screw-Cement or Cement Retained Abutment.
> Titanium base for the strength of CAD/CAM customized abutment or crown.
> Gold color for more translucent restoration.
> Lingual surface hole for more esthetic restoration (Ø4.0).
> Right angled (Ø4.0) and humped design (Ø5.0, Ø6.0) for anti-rotation of the prosthesis.
> Library available for EXOCAD®, 3Shape® & Others.
> Connected with the Abutment Screw (2SSHR200).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Use the Scanbody for 3D Work.
> Fixture level impression.

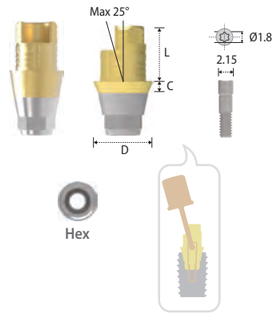
Hybrid L Ti-Base



Type	Hex			N-Hex
Diameter	Ø4.0	Ø5.0	Ø6.0	Ø4.0
Length / *Cuff*	5.5	5.5	5.5	5.5
1	2**SLH**415	2**SLH**515	2**SLH**615	2**SLN**415
2	2**SLH**425	2**SLH**525	2**SLH**625	2**SLN**425
3	2**SLH**435	2**SLH**535	2**SLH**635	2**SLN**435

> Packing unit: 1 Hybrid L Ti-Base + 1 Abutment Screw.
> For Screw-Cement or Cement Retained Abutment.
> Titanium base for the strength of CAD/CAM customized abutment or crown.
> Gold color for more translucent restoration.
> Cutting surface (Ø4.0) and humped design (Ø5.0, Ø6.0) for anti-rotation of the prosthesis.
> Library available for EXOCAD®, 3Shape® & Others.
> Connected with the Abutment Screw (2SSHR200).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Use the Scanbody for 3D Work.
> Fixture level impression.

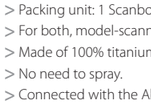
Hybrid A Ti-Base



Type	Hex	N-Hex
Diameter	Ø4.0	Ø4.0
Length / *Cuff*	3.75	3.75
0.8	2SLH404A	2SLN404A
2	2SLH424A	2SLN424A
3	2SLH434A	2SLN434A

> Packing unit: 1 Hybrid A Ti-Base + 1 Abutment Screw.
> For Screw-Cement or Cement Retained Abutment.
> Titanium base for the strength of CAD/CAM customized abutment or crown.
> For Fabrication of Angulated Screw Channel up to 25°.
> Library available for EXOCAD®, 3Shape® & Others.
> Connected with the Stargrip Abutment Screw (2SLAH100, 2SLAH200 & 2SLAH300).
> Tightened with the Torx A Ratchet Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Use the Scanbody for 3D Work.
> Fixture level impression.

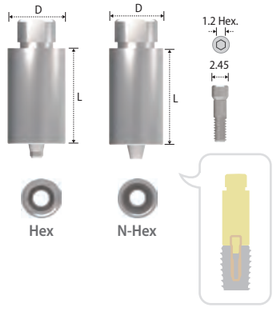
* Torx A Ratchet Driver



Height / *Type*	Ratchet
24(Short)	KRBUD15
29(Long)	KRBUD20

> Stable to internal slip or fracture due to wide contact area of the Torx A Driver and the dedicated Stargrip Abutment Screw.
> Tightening torque force: 30N.cm (50N.cm Max.).

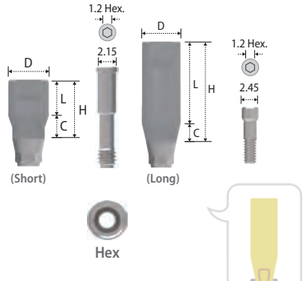
Hybrid Ti-Block



Type	Hex			N-Hex		
Diameter / *Length*	10	12	14	10	12	14
20	CSHH10S	CSHH12S	CSHH14S	CSHN10S	CSHN12S	CSHN14S

> Packing unit: 1 Hybrid Ti-Block + 2 Abutment Screws.
> For Screw-Cement or Cement Retained Abutment.
> Block abutment for CAD/CAM customized abutment.
> Library available for EXOCAD®, 3Shape® & Others.
> Connected with the Abutment Screw (2SSHR100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Use the Scanbody for 3D Work.
> Fixture level impression.

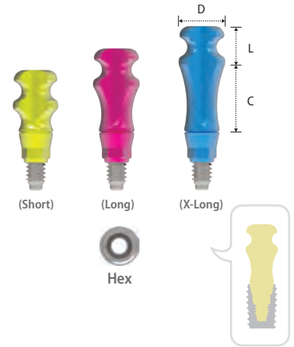
Scanbody



Type	Hex(Short)	Hex(Long)
Diameter	Ø4.3	Ø4.3
Height	6	11
Length / *Cuff*	4	9
2	2SSB4325	2SSB4329

> Packing unit: 1 Scanbody + 1 Abutment Screw.
> For both, model-scanner and intra-oral scanner.
> Made of 100% titanium alloy with a special coating applied.
> No need to spray.
> Connected with the Abutment Screw.
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

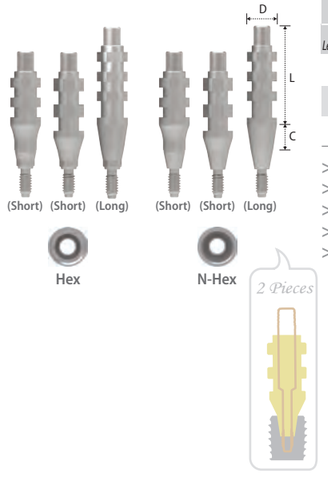
Bite Impression Coping



Type	Hex(Short)	Hex(Long)	Hex(X-Long)
Diameter	Ø4.5	Ø4.5	Ø4.5
Length / *Cuff*	2	4	6
4.0	2SBIC45S	2SBIC45L	2SBIC45X

> Packing unit: 1 Bite Impression Coping (Inbuilt Guide Pin).
> Designed to simultaneously take bite and impression.
> For closed tray impression (Bite Impression).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

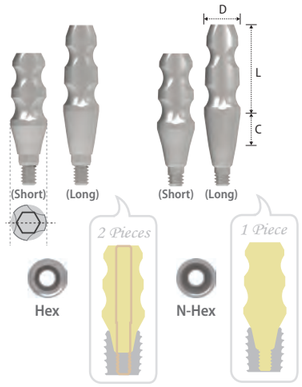
Pick-up Impression Coping



Type	Hex			N-Hex		
Diameter / *Length* / *Cuff*	Ø4.5	Ø5.5	Ø6.5	Ø4.5	Ø5.5	Ø6.5
12 (Short) / 4	2SIH454S	2SIH554S	2SIH654S	2SIN454S	2SIN554S	2SIN654S
14 (Short) / 2	2SIH45S	2SIH55S	2SIH65S	2SIN45S	2SIN55S	2SIN65S
16 (Long) / 4	2SIH45L	2SIH55L	2SIH65L	2SIN45L	2SIN55L	2SIN65L

> Packing unit: 1 Pick-up Impression Coping + 1 Guide Pin.
> For open tray impression.
> Connected with the Guide Pin (2SISR001SS / 2SISR001SL).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

Transfer Post



Type	Hex			N-Hex		
Diameter / *Length / Cuff*	Ø4.5	Ø5.5	Ø6.5	Ø4.5	Ø5.5	Ø6.5
9 (Short) / 2	2**STH**45S	2**STH**55S	2**STH**65S	2**STN**45S	2**STN**55S	2**STN**65S
11 (Long) / 4	2**STH**45L	2**STH**55L	2**STH**65L	2**STN**45L	2**STN**55L	2**STN**65L

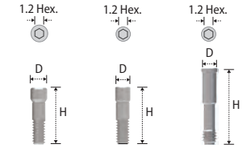
> Packing unit: Hex - 1 Transfer Post + 1 Guide Pin / N-Hex - 1 Transfer Post (Solid Type).
> For closed tray impression.
> Connected with the Guide Pin (2STH001SS / 2STH001SL).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

Digital Analog

Height / *Diameter*	Ø3.9
12	2**SDR**001

> Packing unit: 1 Digital Analog.
> Analog of fixture for the working cast.
> Used for both 3D printed model (RP) and stone model.

Abutment Screw



Height / *Diameter*	Ø2.45	Ø2.15	Ø2.15
8.5	2**SSHR**100	2**SSHR**200	
10.7			2**SSB**100S

> Packing unit: 1 Abutment Screw.
> 2SSHR100: Hybrid Block and Scanbody (2SSB4329).
> 2SSHR200: Hybrid S Ti-Base and Hybrid L Ti-Base.
> 2SSB100S: Scanbody (2SSB4325).
> Tightened with the Hex Driver and Torque Wrench.

Diameter / *Height*	2	3.2	4.2
Ø2.15	2**SLAH**100	2**SLAH**200	2**SLAH**300

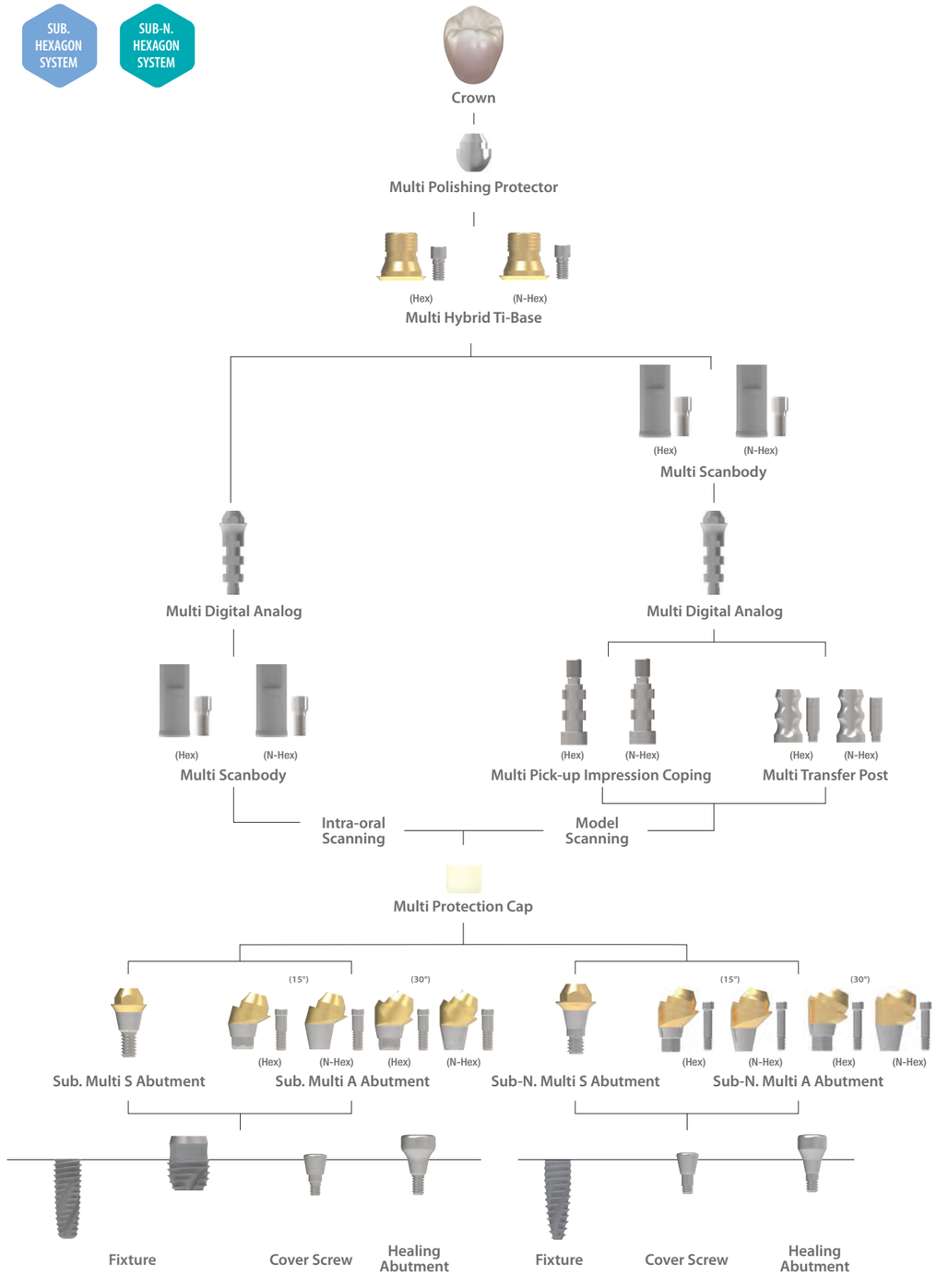
> Packing unit: 1 Abutment Screw.
> Exclusive for the Hybrid A Ti-Base (2SLAH100 for 2SLH404A, 2SLAH200 for 2SLH424A & 2SLAH300 for 2SLH434A).
> Tightened with the Torx A Driver and Torque Wrench.

Component selection guide for the Sub. & Sub-N. Multi Hybrid Ti-Base System

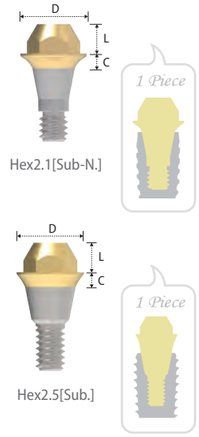
- Intra-oral scanning
- Model-scanning

SUB. HEXAGON SYSTEM

SUB-N. HEXAGON SYSTEM



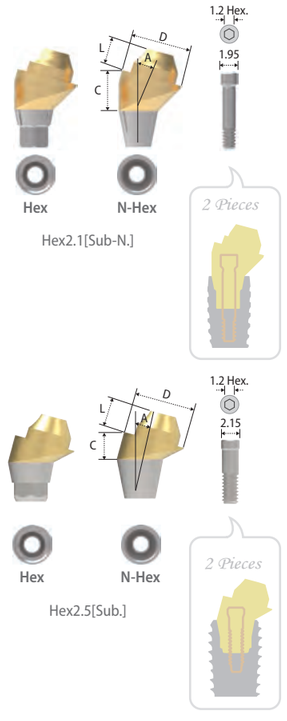
Multi S Abutment



Fixture Connection	Hex2.1[Sub-N.]	Hex2.5[Sub.]	
Platform[Fixture Dia.]	Ø4.5 [Ø3.1 / Ø3.3]	Ø4.5 [Ø3.5 / Ø4.0 / Ø4.5 / Ø5.0 / Ø6.0]	
Diameter	Ø4.5	Ø4.5	Ø5.5
Cuff \ *Length*	2	2	2
1	SMS451N	2SMS451	2SMS551
2	SMS452N	2SMS452	2SMS552
3	SMS453N	2SMS453	2SMS553
4	SMS454N	2SMS454	2SMS554
5		2SMS455	2SMS555

> Packing unit: 1 Multi S Abutment.
> For Screw-Retained Prosthesis.
> Titanium base for the Multi Hybrid Ti-Base.
> Gold color for more translucent restoration.
> Library available for EXOCAD®, 3Shape® & others.
> Integrated with the screw and abutment (solid screw).
> Use the S Holder for a more stable position.
> Tightened with the S Machine or S Ratchet Driver and Torque Wrench.
> Tightening torque force: 30N.cm (Sub.) / 20~25N.cm (Sub-N.).
> Use the Multi Scanbody for digital flow.
> Abutment level impression.

Multi A Abutment

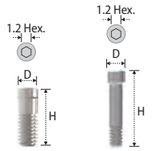


Type	Hex					
Fixture Connection	Hex2.1[Sub-N.]		Hex2.5[Sub.]			
Platform[Fixture Dia.]	Ø4.5 [Ø3.1 / Ø3.3]		Ø4.5 [Ø3.5 / Ø4.0 / Ø4.5 / Ø5.0 / Ø6.0]		Ø5.5 [Ø3.5 / Ø4.0 / Ø4.5 / Ø5.0 / Ø6.0]	
Diameter(Angle)	Ø4.5(15°)	Ø4.5(30°)	Ø4.5(15°)	Ø4.5(30°)	Ø5.5(15°)	Ø5.5(30°)
Cuff \ *Length*	2	2	2	2	2	2
2	★ SMAH45152N		● 2SMAH45152			
3	● SMAH45153N	★ SMAH45303N	★ 2SMAH45153	● 2SMAH45303	★ 2SMAH55153	★ 2SMAH55303
4	● SMAH45154N	● SMAH45304N	★ 2SMAH45154	★ 2SMAH45304	★ 2SMAH55154	★ 2SMAH55304
5					★ 2SMAH55155	★ 2SMAH55305

Type	N-Hex					
Fixture Connection	Hex2.1[Sub-N.]		Hex2.5[Sub.]			
Platform[Fixture Dia.]	Ø4.5 [Ø3.1 / Ø3.3]		Ø4.5 [Ø3.5 / Ø4.0 / Ø4.5 / Ø5.0 / Ø6.0]		Ø5.5 [Ø3.5 / Ø4.0 / Ø4.5 / Ø5.0 / Ø6.0]	
Diameter(Angle)	Ø4.5(15°)	Ø4.5(30°)	Ø4.5(15°)	Ø4.5(30°)	Ø5.5(15°)	Ø5.5(30°)
Cuff \ *Length*	2	2	2	2	2	2
2	★ SMAN45152N		● 2SMAN45152			
3	● SMAN45153N	★ SMAN45303N	★ 2SMAN45153	● 2SMAN45303	★ 2SMAN55153	★ 2SMAN55303
4	● SMAN45154N	● SMAN45304N	★ 2SMAN45154	★ 2SMAN45304	★ 2SMAN55154	★ 2SMAN55304
5					★ 2SMAN55155	★ 2SMAN55305

> Packing unit: 1 Multi A Abutment + 1 Abutment Screw.
> For Screw-Retained Prosthesis.
> Titanium base for the Multi Hybrid Ti-Base.
> Gold color for more translucent restoration.
> Library available for EXOCAD®, 3Shape® & others.
> Use the A Holder for a more stable position.
> Connected with the Abutment Screw (SSHR200N: ★ SSHR300N: ● / 2SSHR300: ★ 2SSHR400: ●).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm (Sub.) / 20~25N.cm (Sub-N.).
> Use the Multi Scanbody for digital flow.
> Abutment level impression.

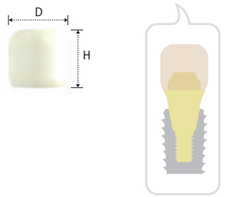
Abutment Screw



Diameter \ Height	8.7	9.3	7.5	6.5
1.95	★ SSHR200N	● SSHR300N		
2.15			★ 2SSHR300	● 2SSHR400

> Packing unit: 1 Abutment Screw.
> To connect the Multi A Abutment.
> Tightened with the Hex Driver and Torque Wrench.

Multi Protection Cap



Multi S & A Abutment Diameter	Ø4.5	Ø5.5
Diameter / Height	Ø5.2	Ø6.2
5	2SMPC45	2SMPC55

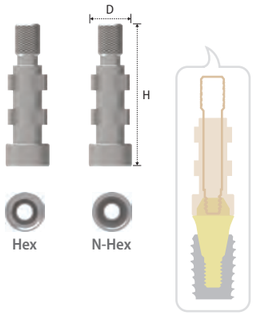
> Packing unit: 1 Multi Protection Cap.
> Protection from cheek and tongue for gingival healing period.
> Prevention of gingival retraction for prosthodontic margin for the abutment.
> Alternative usage for sub-structure of the temporary prosthesis.
> Tightened with the Hex Driver.
> Tightening torque force: 5~10N.cm.

Multi Scanbody

Type	Hex	N-Hex
Multi S & A Abutment Diameter	Ø4.5 & Ø5.5	Ø4.5 & Ø5.5
Diameter / Height	Ø4.5	Ø4.5
9	2SMB001H	2SMB001N

> Packing unit: 1 Multi Scanbody + 1 Multi Cylinder Screw.
> For both, model-scanner and intra-oral scanner.
> For the Multi Hybrid Ti-Base.
> Made of 100% titanium alloy with a special coating applied.
> No need to spray.
> Connected with the Multi Cylinder Screw (2SMCS100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

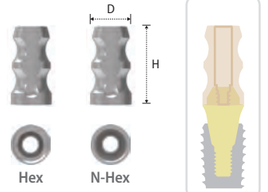
Multi Pick-up Impression Coping



Type	Hex		N-Hex	
Multi S & A Abutment Diameter	Ø4.5	Ø5.5	Ø4.5	Ø5.5
Diameter / Height	Ø4.65	Ø5.65	Ø4.65	Ø5.65
16	2SMIH45	2SMIH55	2SMIN45	2SMIN55

> Packing unit: 1 Multi Pick-up Impression Coping + 1 Guide Pin.
> For open tray impression.
> Connected with the Guide Pin (2SMGP012).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

Multi Transfer Post



Type	Hex		N-Hex	
Multi S & A Abutment Diameter	Ø4.5	Ø5.5	Ø4.5	Ø5.5
Diameter / Height	Ø4.5	Ø5.5	Ø4.5	Ø5.5
8.5	2SMTH45	2SMTH55	2SMTN45	2SMTN55

> Packing unit: 1 Multi Transfer Post + 1 Guide Pin.
> For closed tray impression.
> Connected with the Guide Pin (2SMTHS100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

Multi Digital Analog

Multi S & A Abutment Diameter	Ø4.5	Ø5.5
Diameter / Length	Ø4.5	Ø5.5
2	2SMLA45	2SMLA55

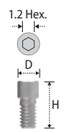
> Packing unit: 1 Multi Digital Analog.
> Replacement of the Multi S or A Abutment shape in working cast.
> Used for both 3D printed model (RP) and stone model.
> Select according to the dimension of the Multi S or A Abutment.

Multi Hybrid Ti-Base

Type	Hex			N-Hex		
Multi S & A Abutment Diameter	Ø4.5	Ø4.5	Ø5.5	Ø4.5	Ø4.5	Ø5.5
Diameter	Ø4.5	Ø4.5	Ø5.5	Ø4.5	Ø4.5	Ø5.5
Length / Cuff	4.5	4.5	4.5	4.5	4.5	4.5
0.5		2SMHT45H	2SMHT55H		2SMHT45N	2SMHT55N
1.5	2SMHT40H			2SMHT40N		

> Packing unit: 1 Multi Hybrid Ti-Base + 1 Multi Cylinder Screw.
> For Screw-Cement or Cement Retained Abutment.
> Titanium base for the strength of CAD/CAM customized abutment or crown.
> Gold color for more translucent restoration.
> Cutting surface for anti-rotation of the prosthesis.
> Library available for EXOCAD®, 3Shape® & Others.
> Connected with the Multi Cylinder Screw (2SMCS100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20N.cm.
> Use the Scanbody for 3D Work.
> Abutment level impression.

Multi Cylinder Screw



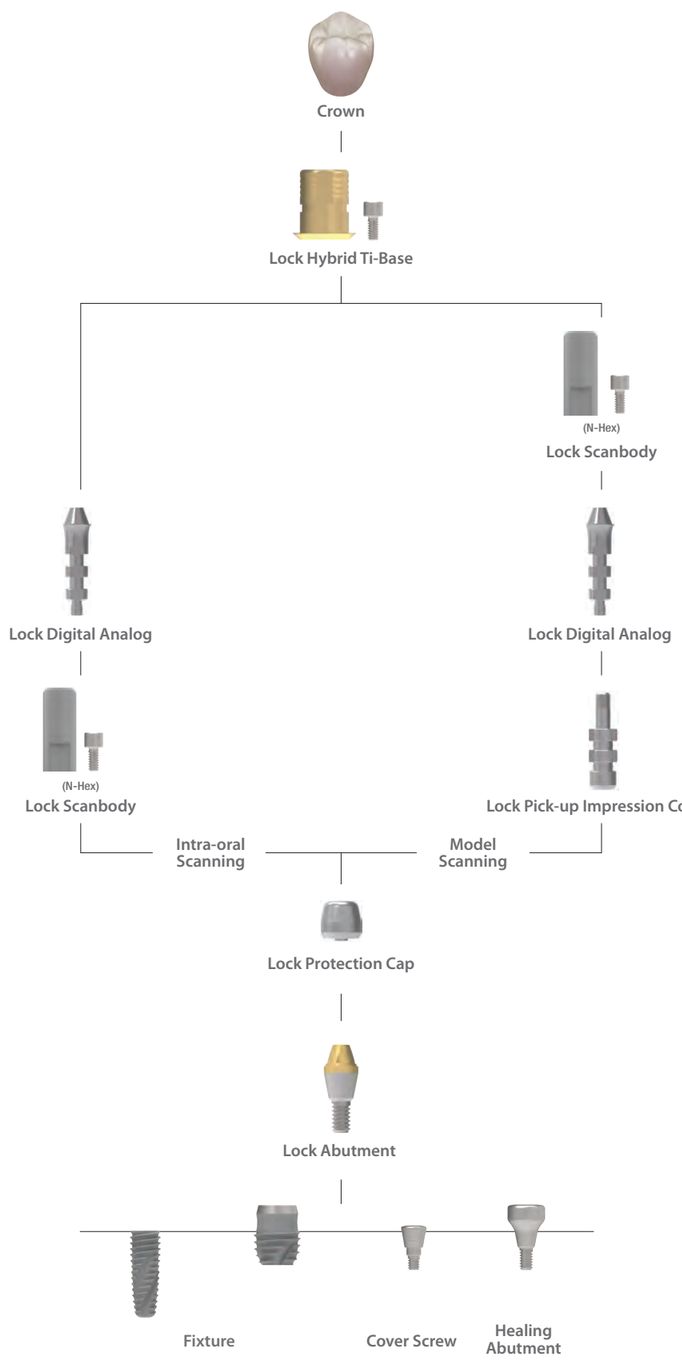
Diameter / Height	Ø2.25
5	2SMCS100

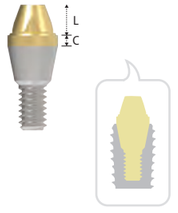
> Packing unit: 1 Multi Cylinder Screw.
> Connected with the Multi Scanbody and Multi Hybrid Ti-Base.
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20N.cm.

Component selection guide for the Sub. Lock Hybrid Ti-Base System

- Intra-oral scanning
- Model-scanning

SUB. HEXAGON SYSTEM





	Lock A
	2.15
0.5	2SLA400
1	2SLA410
2	2SLA420
3	2SLA430
4	2SLA440

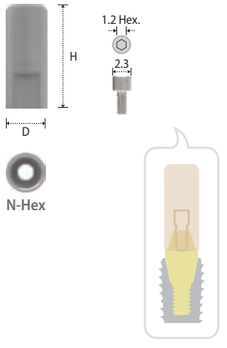
> Packing unit: 1 Lock Abutment.
> For Screw-Retained Prosthesis.
> Titanium base for the Lock Hybrid Ti-Base.
> Gold color for more translucent restoration.
> Integrated with screw and abutment.
> Tightened with the Lock Ratchet Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Abutment level impression.

Lock Protection Cap

Lock Abutment Diameter / Height	Ø3.5
Diameter	Ø4.3
4	2SLP45

> Packing unit: 1 Lock Protection Cap.
> Protection from cheek and tongue for gingival healing period.
> Prevention of gingival retraction for prosthodontic margin for the abutment.
> Tightened with the Hex Driver.
> Tightening torque force: 5~10N.cm.

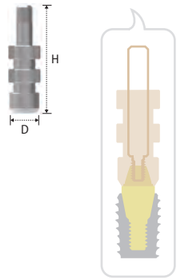
Lock Scanbody



Lock Abutment Diameter / Height	Ø3.5
Diameter	Ø4.3
9	2SLB001H

> Packing unit: 1 Lock Scanbody + 1 Lock Cylinder Screw.
> For both, model scanner and intra oral scanner.
> For the Lock Hybrid Ti-Base.
> Made of 100% titanium alloy with a special coating applied.
> No need to spray.
> Connected with the Lock Cylinder Screw (2SLCS200).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

Lock Pick-up Impression Coping



Lock Abutment Diameter / Height	Ø3.5
16	2SLIH45

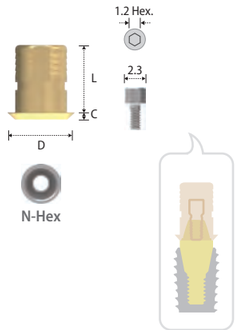
> Packing unit: 1 Lock Pick-up Impression Coping + 1 Guide Pin.
> Connected with the Guide Pin (2SLIH45S).
> For open tray impression.

Lock Digital Analog

Lock Abutment Diameter / Length	Ø3.5
2.2	2SLLA35

> Packing unit: 1 Lock Digital Analog.
> Used for both 3D printed model (RP) and stone model.

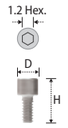
Lock Hybrid Ti-Base



Lock Abutment Diameter	Ø3.5
Diameter	Ø4.5
Cuff / Length	5
0.5	2SLHT40N

> Packing unit: 1 Lock Hybrid Ti-Base + 1 Lock Cylinder Screw.
> For Screw-Cement or Cement Retained Abutment.
> Titanium base for the strength of CAD/CAM customized abutment or crown.
> Gold color for more translucent restoration.
> Cutting surface for anti-rotation of the prosthesis.
> Library available for EXOCAD®, 3Shape® & Others.
> Connected with the Lock Cylinder Screw (2SLCS200).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Use the Scanbody for 3D Work.
> Abutment level impression.

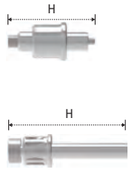
Lock Cylinder Screw

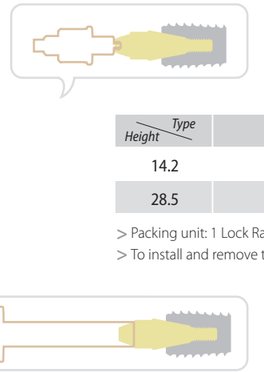


Height / Diameter	Ø2.3
4.8	2SLCS200

> Packing unit: 1 Lock Cylinder Screw.
> Connected with the Lock Scanbody and Lock Hybrid Ti-Base.
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.

Lock Ratchet Driver





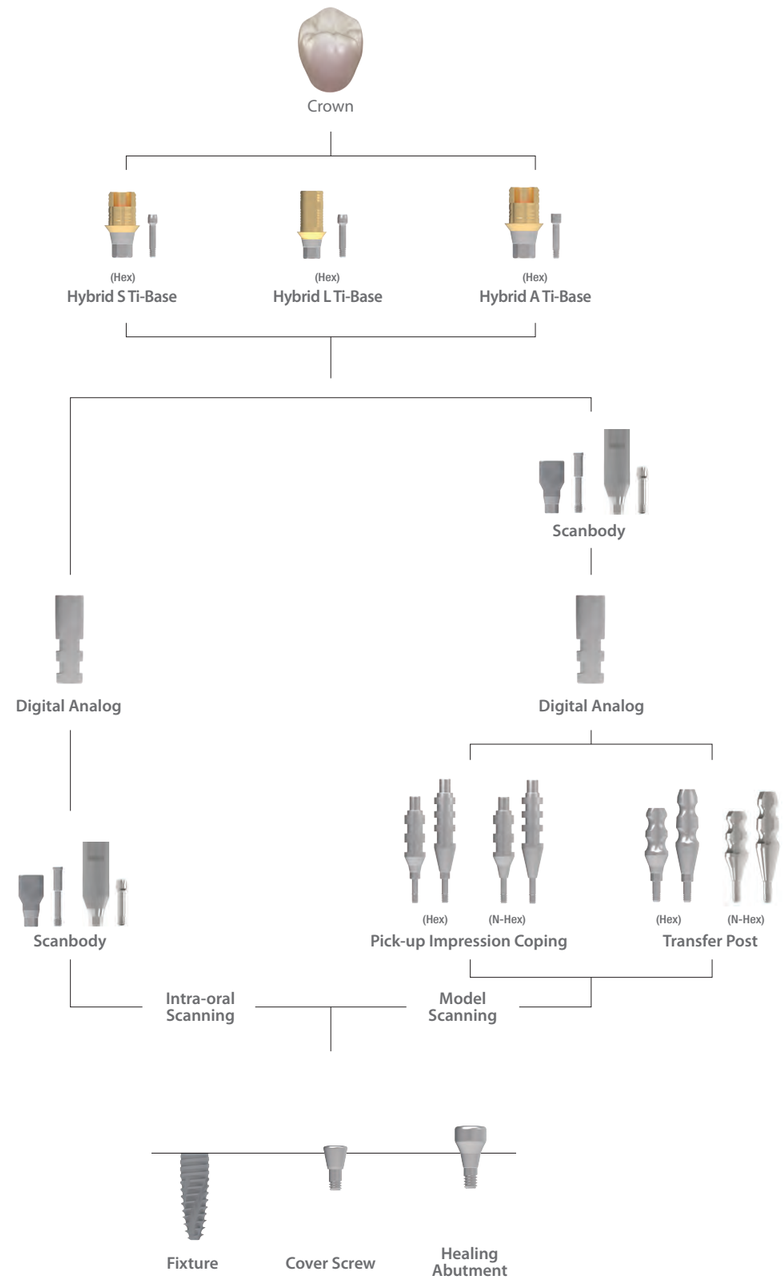
Height / Type	Ratchet
14.2	KRLRD18
28.5	KRLRD28

> Packing unit: 1 Lock Ratchet Driver.
> To install and remove the Lock Abutment with the Torque Wrench.

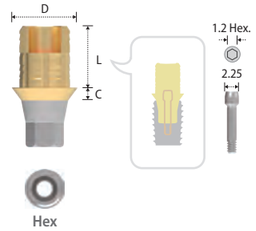
Component selection guide for the Sub-N. Hybrid Ti-Base System

- Intra-oral scanning
- Model-scanning

SUB-N. HEXAGON SYSTEM



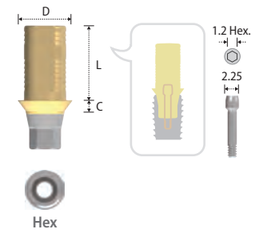
Hybrid S Ti-Base



Type	Hex
Diameter	Ø4.0
Length / *Cuff*	3.75
0.8	SLH404N
2	SLH424N
3	SLH434N

> Packing unit: 1 Hybrid S Ti-Base + 1 Abutment Screw.
> For Screw-Cement or Cement Retained Abutment.
> Titanium base for the strength of CAD/CAM customized abutment or crown.
> Gold color for more translucent restoration.
> Lingual surface hole for more esthetic restoration.
> Right angled for anti-rotation of the prosthesis.
> Library available for EXOCAD®, 3Shape® & Others.
> Connected with the Abutment Screw (SSHR100N).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20~25N.cm.
> Use the Scanbody for 3D Work.
> Fixture level impression.

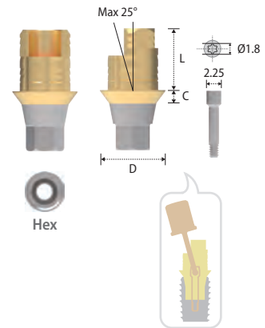
Hybrid L Ti-Base



Type	Hex
Diameter	Ø4.0
Length / *Cuff*	5.5
1	SLH415N
2	SLH425N
3	SLH435N

> Packing unit: 1 Hybrid L Ti-Base + 1 Abutment Screw.
> For Screw-Cement or Cement Retained Abutment.
> Titanium base for the strength of CAD/CAM customized abutment or crown.
> Cutting surface for anti-rotation of the prosthesis.
> Library available for EXOCAD®, 3Shape® & Others.
> Connected with the Abutment Screw (SSHR100N).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20~25N.cm.
> Use the Scanbody for 3D Work.
> Fixture level impression.

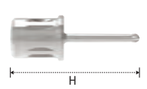
Hybrid A Ti-Base



Type	Hex	N-Hex
Diameter	Ø4.0	Ø4.0
Length / *Cuff*	3.75	3.75
0.8	SLH404AN	SLN404AN
2	SLH424AN	SLN424AN
3	SLH434AN	SLN434AN

> Packing unit: 1 Hybrid A Ti-Base + 1 Abutment Screw.
> For Screw-Cement or Cement Retained Abutment.
> Titanium base for the strength of CAD/CAM customized abutment or crown.
> For Fabrication of Angulated Screw Channel up to 25°.
> Right angled for anti-rotation of the prosthesis.
> Library available for EXOCAD®, 3Shape® & Others.
> Connected with the Stargrip Abutment Screw (SLAH100N, SLAH200N & SLAH300N).
> Tightened with the Torx A Ratchet Driver and Torque Wrench.
> Tightening torque force: 20~25N.cm.
> Use the Scanbody for 3D Work.
> Fixture level impression.

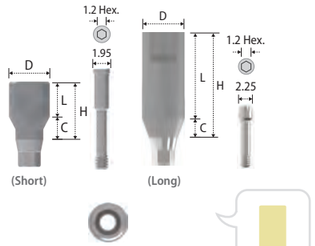
*Torx A Ratchet Driver



Height / *Type*	Ratchet
24(Short)	KRBUD15
29(Long)	KRBUD20

> Stable to internal slip or fracture due to wide contact area of the Torx A Ratchet Driver and the dedicated Stargrip Abutment Screw.
> Tightening torque force: 30N.cm (50N.cm Max.).

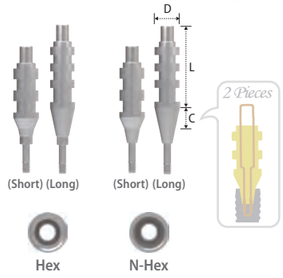
Scanbody



Type	Hex(Short)	Hex(Long)
Diameter	Ø4.3	Ø4.3
Height	6	11
Length / *Cuff*	4	9
2	SSB4325N	SSB4329N

> Packing unit: 1 Scanbody + 1 Abutment Screw.
> For both, model-scanner and intra-oral scanner.
> Made of 100% titanium alloy with a special coating applied.
> No need to spray.
> Connected with the Abutment Screw.
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

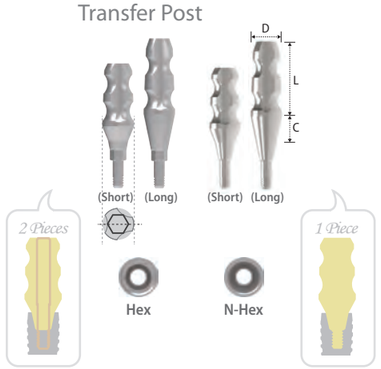
Pick-up Impression Coping



Type	Hex	N-Hex
Diameter / *Length / Cuff*	Ø4.5	Ø4.5
14 (Short) / 2	SIH45SN	SIN45SN
16 (Long) / 4	SIH45LN	SIN45LN

> Packing unit: 1 Pick-up Impression Coping + 1 Guide Pin.
> For open tray impression.
> Connected with the Guide Pin (SIS001SN / SIS001LN).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

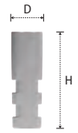
Transfer Post



Type	Hex	N-Hex
Diameter / *Length / Cuff*	Ø4.5	Ø4.5
9 (Short) / 2	STH45SN	STN45SN
11 (Long) / 4	STH45LN	STN45LN

> Packing unit: Hex - 1 Transfer Post + 1 Guide Pin / N-Hex - 1 Transfer Post (Solid Type).
> For closed tray impression.
> Connected with the Guide Pin (STH001SN / STH001LN).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

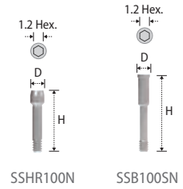
Digital Analog



Height / *Diameter*	Ø3.9
12	SDR001N

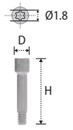
> Packing unit: 1 Digital Analog.
> Analog of fixture for the working cast.
> Used for both 3D printed model (RP) and stone model.

Abutment Screw



Height / *Diameter*	Ø2.25	Ø1.95
10.2	SSHR100N	
12.3		SSB100SN

> Packing unit: 1 Abutment Screw.
> SSHR100N: Hybrid S Ti-Base, Hybrid L Ti-Base, and Scanbody (SSB4329N).
> SSB100SN: Scanbody (SSB4325N).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 20~25N.cm.



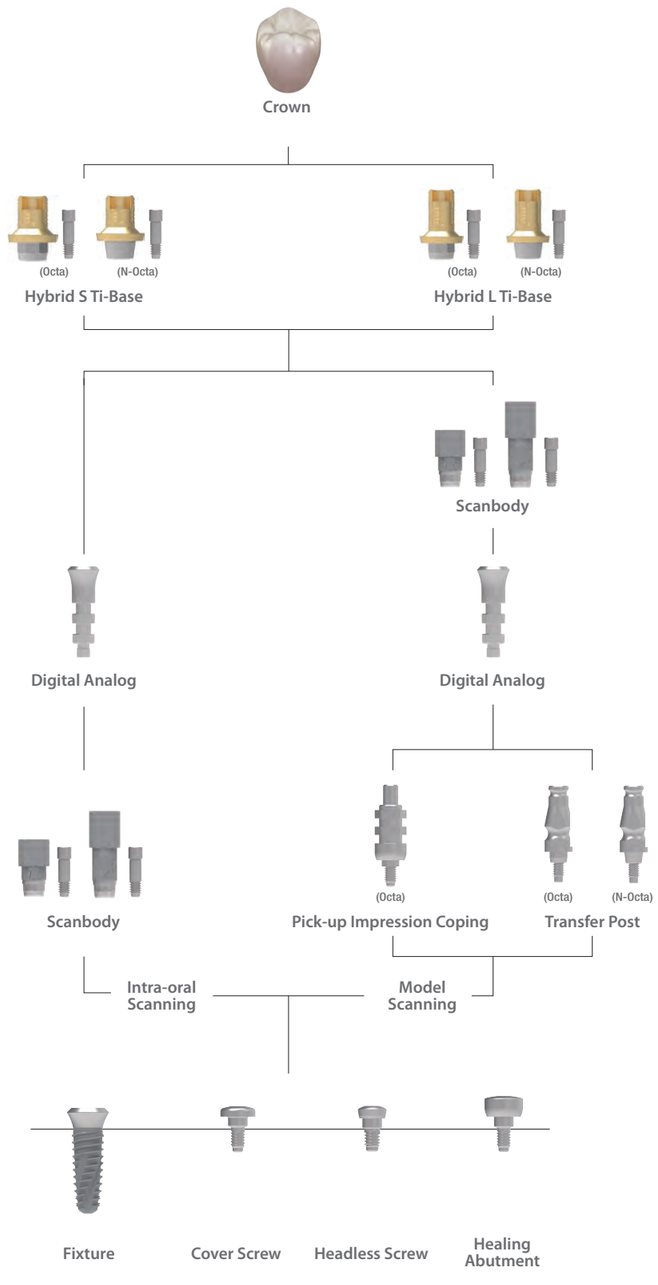
Diameter / *Height*	10.2	11.4	12.4
Ø2.25	SLAH100N	SLAH200N	SLAH300N

> Packing unit: 1 Abutment Screw.
> Exclusive for the Hybrid A Ti-Base (SLAH100N for SLH404AN, SLAH200N for SLH424AN & SLAH300N for SLH434AN).
> Tightened with the Torx A Ratchet Driver and Torque Wrench.

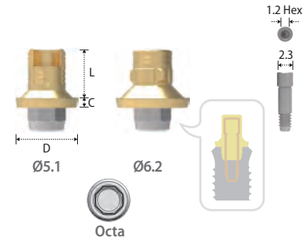
Component selection guide for the Int. Hybrid Ti-Base System

- Intra-oral scanning
- Model-scanning

INT. OCTAGON SYSTEM



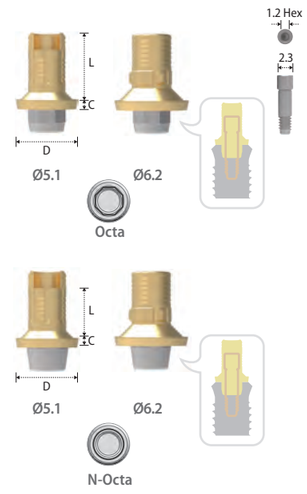
Hybrid S Ti-Base



Type	Octa		N-Octa	
Platform [Fixture Dia.]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]
Diameter	Ø5.1	Ø6.2	Ø5.1	Ø6.2
Length / Cuff	4	4	4	4
0.8	ILO4814	ILO5914	ILN4814	ILN5914
2	ILO4824	ILO5924	ILN4824	ILN5924
3	ILO4834	ILO5934	ILN4834	ILN5934

> Packing unit: 1 Hybrid S Ti-Base + 1 Abutment Screw.
> For Screw-Cement or Cement Retained Abutment.
> Titanium base for the strength of CAD/CAM customized abutment or crown.
> Gold color for more translucent restoration.
> Library available for EXOCAD®, 3Shape® & others.
> Right angled (Ø5.1) and humped design (Ø6.2) for anti-rotation of prosthesis.
> Connected with the Abutment Screw (ILHS100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Use the Scanbody for digital workflow.
> Fixture level impression.

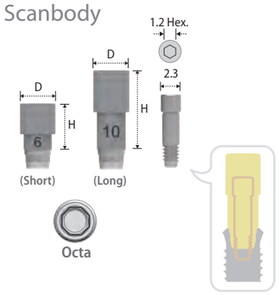
Hybrid L Ti-Base



Type	Octa		N-Octa	
Platform [Fixture Dia.]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]
Diameter	Ø5.1	Ø6.2	Ø5.1	Ø6.2
Length / Cuff	5.5	5.5	5.5	5.5
0.8	ILO4815	ILO5915	ILN4815	ILN5915
2	ILO4825	ILO5925	ILN4825	ILN5925
3	ILO4835	ILO5935	ILN4835	ILN5935

> Packing unit: 1 Hybrid L Ti-Base + 1 Abutment Screw.
> For Screw-Cement or Cement Retained Abutment.
> Titanium base for the strength of CAD/CAM customized abutment or crown.
> Gold color for more translucent restoration.
> Library available for EXOCAD®, 3Shape® & others.
> Cutting surface (Ø5.1) and humped design (Ø6.2) for anti-rotation of the prosthesis.
> Connected with the Abutment Screw (ILHS100).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.
> Use the Scanbody for digital workflow.
> Fixture level impression.

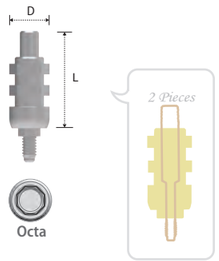
Scanbody



Type	Octa(Short)	Octa(Long)
Platform [Fixture Dia.]	Ø4.8 & Ø5.9 [Ø3.5 / Ø4.0 / Ø4.5/ Ø5.0 / Ø6.0]	Ø4.8 & Ø5.9 [Ø3.5 / Ø4.0 / Ø4.5/ Ø5.0 / Ø6.0]
Diameter	Ø4.5	Ø4.5
Height	6	10
	ISB406	**ISB**410

> Packing unit: 1 Scanbody + 1 Abutment Screw.
> For both, model-scanner and intra-oral scanner.
> Made of 100% titanium alloy with a special coating applied.
> No need to spray.
> Connected with the Abutment Screw (ISHR110).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

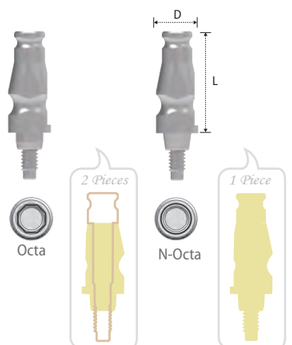
Pick-up Impression Coping



Type	Octa	
Platform [Fixture Dia.]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]
Diameter / *Length*	Ø5.5	Ø6.6
13.7	**IIOR**001	**IIOW**001

> Packing unit: 1 Pick-up Impression Coping + 1 Guide Pin.
> For open tray impression.
> Connected with the Guide Pin (IIOR001S).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

Transfer Post



Type	Octa		N-Octa	
Platform [Fixture Dia.]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]
Diameter / *Length*	Ø4.8	Ø5.9	Ø4.8	Ø5.9
11.6	**ITOR**400	**ITOW**500	**ITNR**400	**ITNW**500

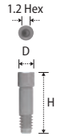
> Packing unit: Octa - 1 Transfer Post + 1 Guide Pin / N-Octa - 1 Transfer Post (Solid Type).
> For closed tray impression.
> Connected with the Guide Pin (Regular: ITOR400S / Wide: ITOW500S).
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 12~15N.cm.

Digital Analog

Platform [Fixture Dia.]	Ø4.8 [Ø3.5 / Ø4.0 / Ø4.5]	Ø5.9 [Ø5.0 / Ø6.0]
Diameter / *Height*	Ø4.8	Ø5.9
13.5	**IDR**001R	**IDR**001W

> Packing unit: 1 Digital Analog.
> Analog of fixture for the working cast.
> Used for both 3D printed model (RP) and stone model.
> Select according to fixture platform.

Abutment Screw



Diameter / *Height*	Ø2.3
8.6	**ILHS**100

> Packing unit: 1 Abutment Screw.
> Tightened with the Hex Driver and Torque Wrench.
> Tightening torque force: 30N.cm.

COWELL EXPERT INSTRUMENTS

An Expert knows what makes the results

COWELL
EXPERT
INSTRUMENTS

MFS Kit (Multi-Functional Sinus Kit)

Designed to perform maxillary sinus lifting. The Aqua Membrane Lifter, Drill designs, and Stopper Systems prevent perforation of the sinus membrane. The kit includes all the instruments required for both crestal and lateral approaches.

Easy Sinus Lift Kit

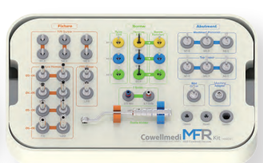
This revolutionary kit contains US Patented Tap Drills and Spreaders, allowing any user to easily lift, split or condense surrounding bone with simple drilling. Users can expect more predictable results, and patients can enjoy less traumatic surgeries with shorter chair time.

MFR Kit (Multi-Functional Removal Kit)

An ideal solution for removing fixtures, abutments, and screws without trauma and bone loss. The kit includes all the instruments required to remove fixtures, abutments, and screws.

InnoGenic GBR Kit

An all-in-one solution for various types of GBR procedures.
The InnoGenic GBR (Guided bone regeneration) kit offers all the tools that can fix barrier membranes, block bones, and collect autogenous bone.



InnoGenic Autobone Harvester

Devised to harvest autogenous bone not only from the general site but also from the site where the implant will be placed. More than 1cc of bone chips can be harvested within 10 seconds.

COWELL BMP Trephine Kit

An easy-to-use kit with drills and instruments for block-type bone collection, failed fixture removal, crestal and lateral (window) approach for the sinus lift, and bone chip extraction.

Atraumatic Extraction Kit

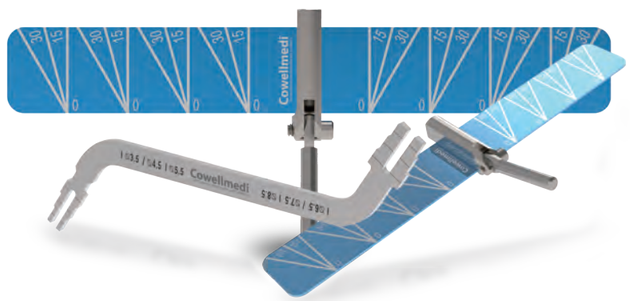
Used for the immediate and effortless extraction of the root of the tooth with simple procedures.

AO4 Surgical Stent

An excellent guide template to place implant precisely, especially for AO4 or AO6 technique.

Volume-up Guide System

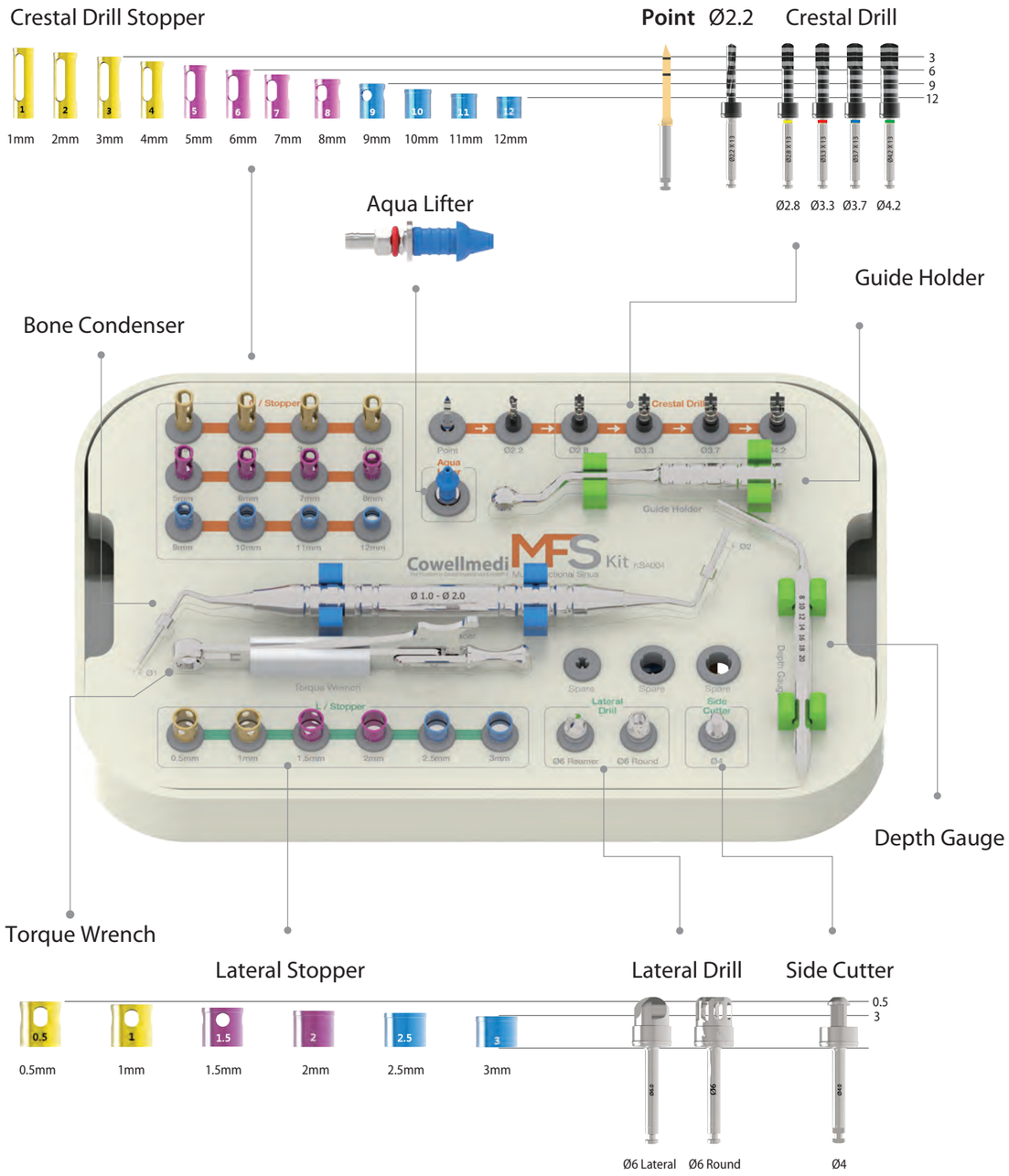
Devised for preventing food penetration and forming natural cervical area by restoring contracted buccal alveolar bone & gingiva to the original shape and width.

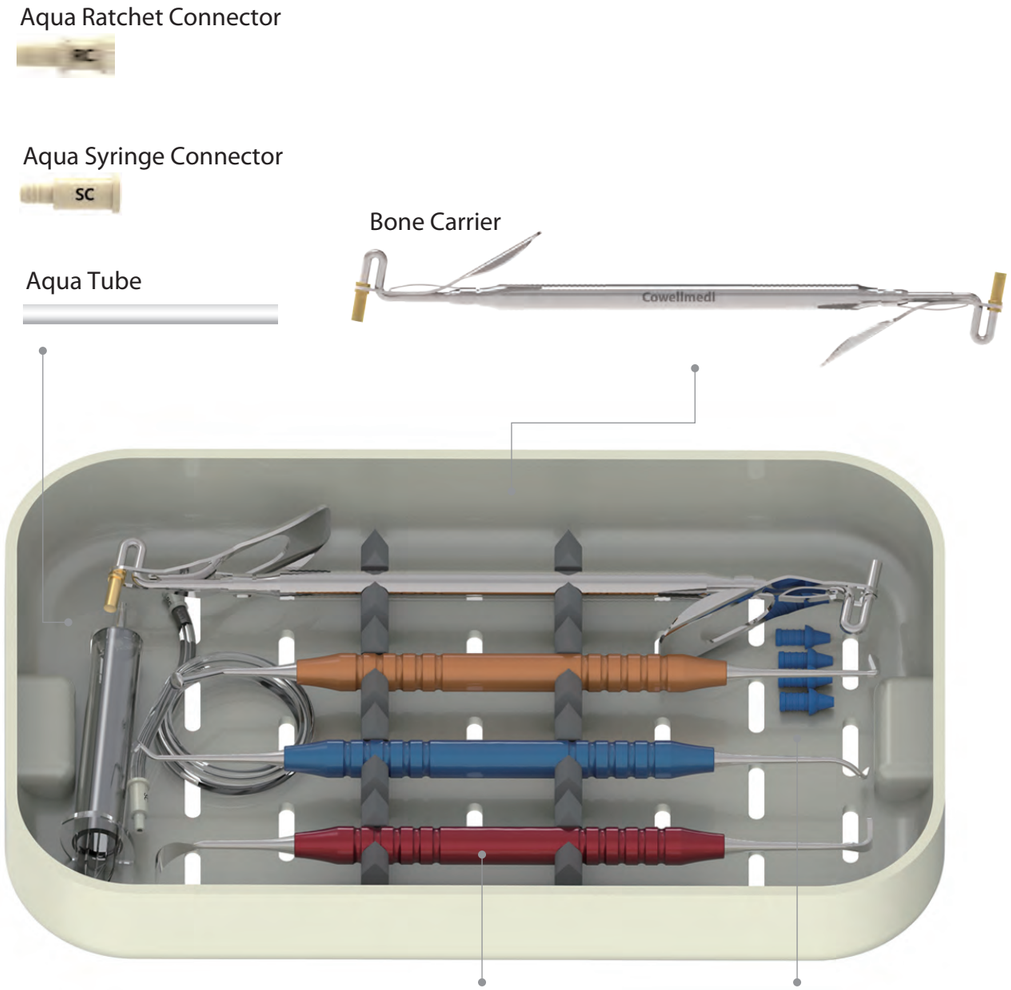


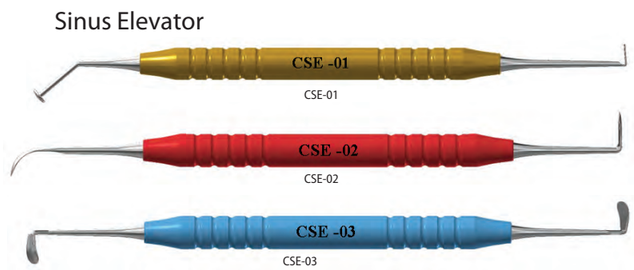
Multi-Functional Sinus Kit

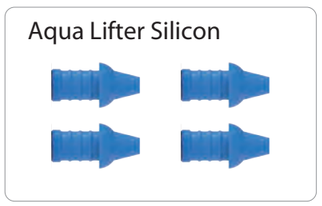
MFS KIT [KSA004]

> A comprehensive kit to approach direct & indirect maxillary sinus lift simply.







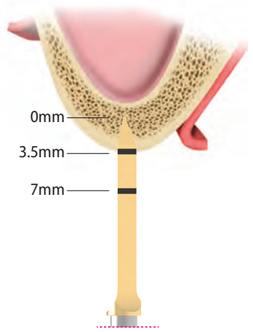


Crestal Approach - Components

1. Point Drill *800~1,000rpm*

> Use to mark the point of perforation on cortical bone.
> In case the remaining bone height is as low as 3.5mm, pay more attention when drilling.

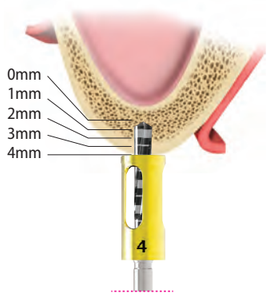
Code	KPD01S



2. 2.2 Twist Drill *800~1,000rpm*

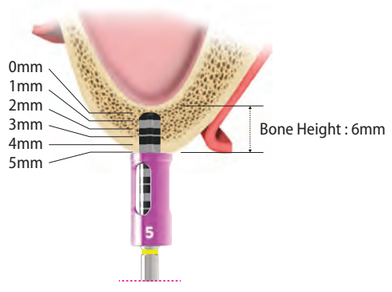
> Use for making guide hole before using the Crestal Drill.
> Connect the Crestal Drill Stopper according to the height of the remaining bone.

Code	KSTD22

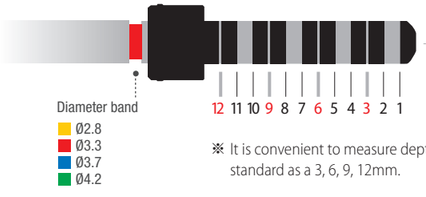


3. Crestal Drill *400~800rpm*

> Use the Crestal Drill sequentially according to the diameter of the fixture to be placed.
> Can also be used if sinus floor is flat, incline, and septum.
> The Crestal Drill can be used about 50 times (depending on bone quality).



Fixture Dia.	Ø3.3	Ø3.5	Ø4.0	Ø4.5 / Ø5.0
Diameter	Ø2.8	Ø3.3	Ø3.7	Ø4.2
	KSCD28	KSCD33	KSCD37	KSCD42

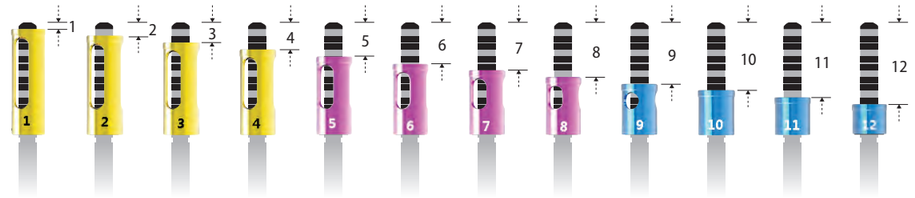


※ It is convenient to measure depth by standard as a 3, 6, 9, 12mm.

※ Flat floor edges minimize damage to membrane.

4. Crestal Drill Stopper

> Connected with a stopper to be drilled to the same length of the cartilage height of maxillary sinus which is measured by CT.
> If not equipped with CT, fasten the stopper one step lower than expected and gradually increase the length.

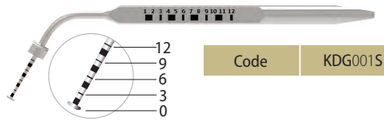


Drilling Depth	1mm	2mm	3mm	4mm	5mm	6mm
	KSDS01	KSDS02	KSDS03	KSDS04	KSDS05	KSDS06

Drilling Depth	7mm	8mm	9mm	10mm	11mm	12mm
	KSDS07	KSDS08	KSDS09	KSDS10	KSDS11	KSDS12

5. Depth Gauge

> Measure thickness of the residual bone after checking the perforation of the cartilage of the maxillary sinus (do not open completely, only the entrance side should be opened).
> The stopper is attached to the base of the residual bone to separate the cartilage and membrane from the maxillary sinus.

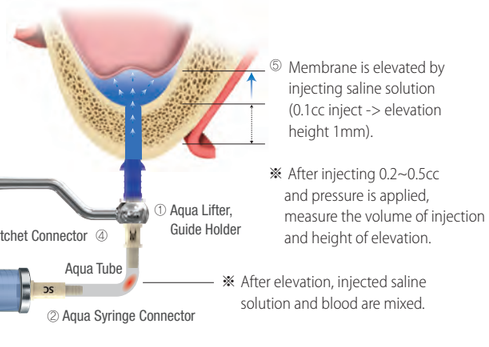


Code	KDG001S

6. Aqua Membrane Lifter System

> After confirming elevation of the cartilage of maxillary sinus, elevate membrane with the Aqua Membrane Lifter System.

① Connect the Aqua Lifer to the Guide Holder.
② Connect the Aqua Tube to syringe using the Aqua Syringe Connector (SC).
③ Inject saline solution equal to the amount of bone graft material to be used for syringe.
④ Tube connection to the Aqua Lifter Drill using the Aqua Ratchet Connector (RC).
⑤ Inject saline solution.



Aqua Lifter

Code	KSAL02

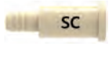
Aqua Lifter Silicon

Code	KSALS04

Aqua Ratchet Connector

Code	KSAL01RC

Aqua Syringe Connector



Code	KSAL01SC

Aqua Tube

Code	KSALT030

Guide Holder

Code	KSRGH01

7. Torque Wrench

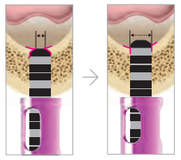
> Use the Torque Wrench to fix the Aqua Lifer Drill in the hole formed using Crestal Drill.

Code	KTW001

8. Bone Carrier

> Insert bone graft material using the Bone Carrier.

Code	KSBC01

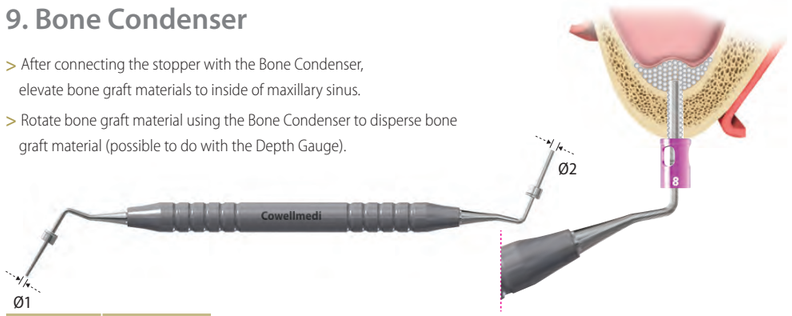


※ If you need to expand hole, drill 1mm deeper using the crestal drill.

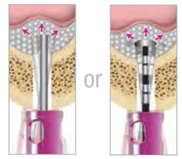
9. Bone Condenser

> After connecting the stopper with the Bone Condenser, elevate bone graft materials to inside of maxillary sinus.

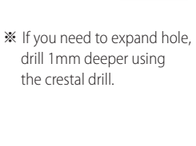
> Rotate bone graft material using the Bone Condenser to disperse bone graft material (possible to do with the Depth Gauge).



Code	KSBC1022



or



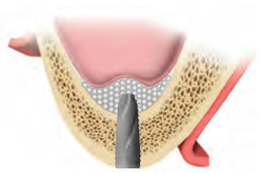
※ If you need to expand hole, drill 1mm deeper using the crestal drill.

10. Implant Drill (Final)

> Drill 1~2mm more deeply than steps of the Crestal Drill.

11. Implant Placement

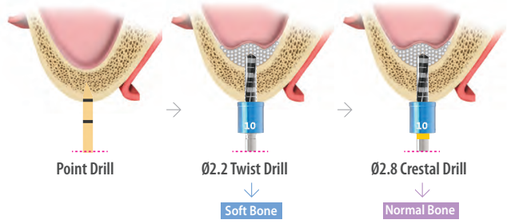
> If the residual bone is less than 3mm, do not implant the fixture, but bone graft only.



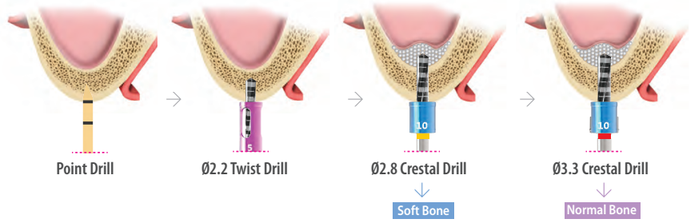
Crestal Approach - Drilling Sequence

> Placing implant over Ø4.0 is highly recommended.

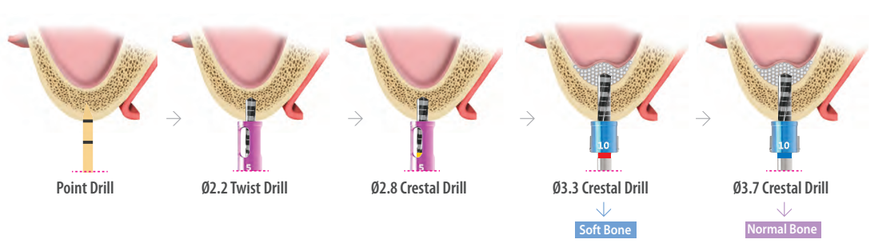
1. Ø3.3 Narrow Fixture



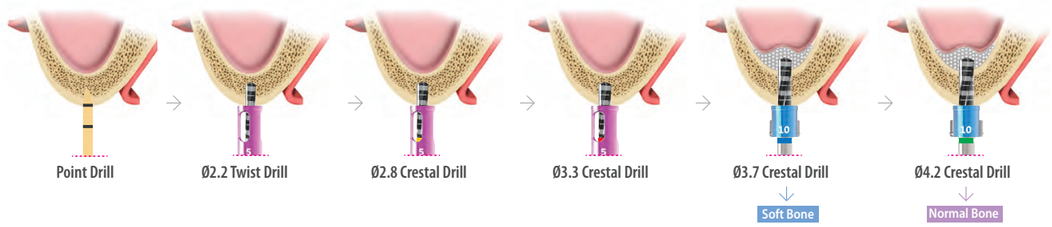
2. Ø3.5 Fixture



3. Ø4.0 Fixture



4. Ø4.5 Fixture



※ Ø5.0 Fixture Normal Bone : Drilling with the Final Drill before placing implants are required.

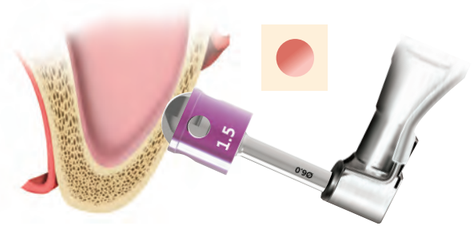
※ Use a Drill that is one step shorter than the implant (E.g. 10mm implant, 8~9mm Drill).

Lateral Approach - Components

1. Ø6 Lateral Reamer *800~1,000rpm*

> Drill after fastening the stopper according to the height of the bone.
> Round shape to prevent membrane perforation.

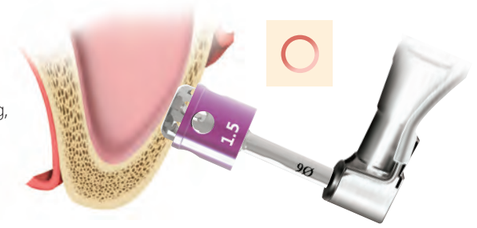
Code	KSLD60



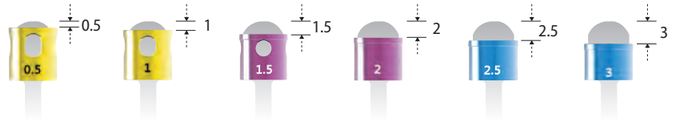
2. Ø6 Lateral Round Drill *800~1,000rpm*

> Drill after fastening the stopper according to the height of the bone.
> Round shaped edge.
> The residual bone should be replaced in the original position after drilling, sinus lifting & augmentation.

Code	KSLRD60



3. Lateral Stopper

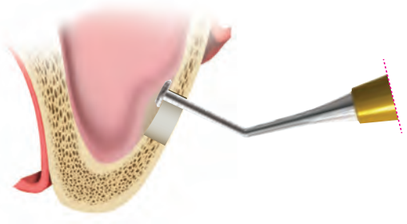


Drilling Depth	0.5mm	1mm	1.5mm	2mm	2.5mm	3mm
	KSDSL05	KSDSL10	KSDSL15	KSDSL20	KSDSL25	KSDSL30

4. Sinus Elevator

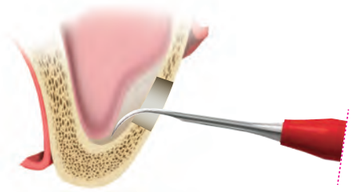
> CSE-01 : Initial elevation of sinus membrane.

Code	KSSE01



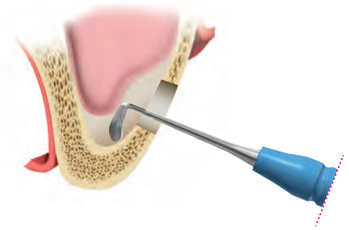
> CSE-02 : as stepwise, after using CSE-01, used for elevation of sinus membrane.

Code	KSSE02



> CSE-03 : as stepwise, after using CSE-02, used for elevation of sinus membrane.

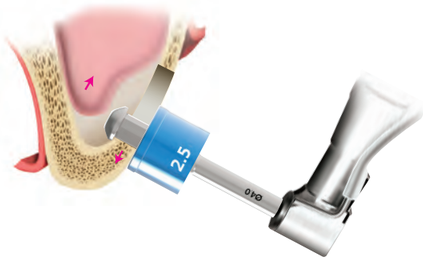
Code	KSSE03



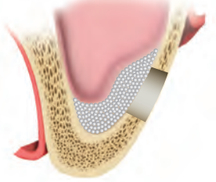
5. Ø4 Side Cutter *800~1,000rpm*

> When expanding window, Ø4 Side Cutter must be connected with the stopper.

Code	KSC60

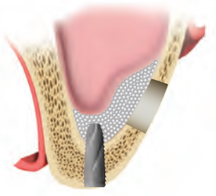


6. Sinus Bone Graft



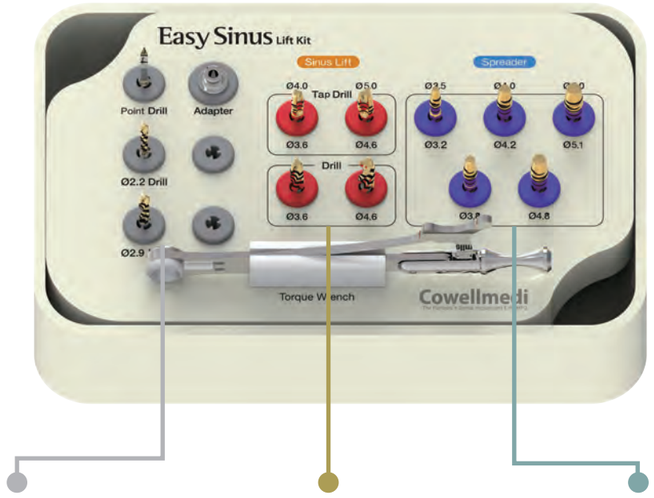
7. Implant Drill (Final)

8. Implant Placement



Easy Sinus Lift Kit [KSA001]

> Easy Sinus Lift Kit is the world's most innovative kit for performing maxillary sinus lift, ridge splits, and bone condensing cases. This revolutionary kit contains US Patented modified Tap Drills and Spreaders in order to allow any dentists to easily lift, split, or condense surrounding bone with simple drilling. Dentists can expect more predictable results, and patients can enjoy less traumatic surgeries with shorter chair time.



For All Surgery

> Universally used Drills / used for both sinus lift or ridge split.
> Drilling must be accompanied with copious amounts of refrigerated sterile irrigation.

Drill Speed : 800-2,000 rpm

Point Drill
KPD01S

Adapter
KRA13

For manual operation using Torque Wrench, Adapter needs to be connected with Machine Driver.

Ø2.2 Drill
KTWD22S

Ø2.9 Drill
KTWD29SL

Torque Wrench
KTW001

Sinus Lift

> Used in any maxillary sinus implantation.

Drill Speed : 20-30 rpm
Torque : 45 N.cm

Ø4.0 fixture

Ø3.6 Tap
KMTD36S

Ø5.0 fixture

Ø4.6 Tap
KMTD46S

Drill Speed : 100-500 rpm
Torque : 45 N·cm

Ø4.0 Fixture

Ø3.6 Drill
KTWD36S

Ø5.0 Fixture

Ø4.6 Drill
KTWD46S

Spreader

> Used in bone condensing or ridge split implantation.
> Also used in maxillary sinus lift & immediate placement cases.

Drill Speed : 20-30 rpm
Torque : 45 N.cm

Ø3.2
KMTD32S

Ø4.2
KMTD42S

Ø5.1
KMTD51S

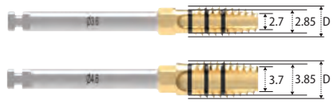
Ø3.8
KMTD38S

Ø4.8
KMTD48S

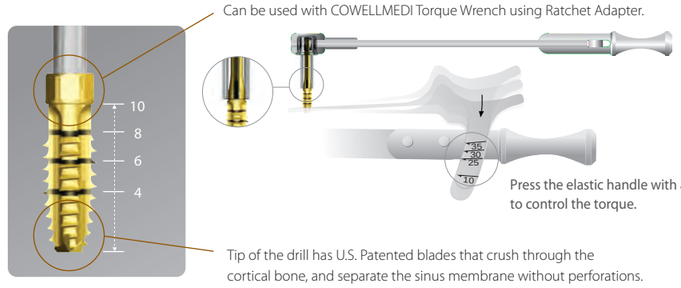
Sinus Lift

· Tap Drill (Ø3.6 ,Ø4.6)

> The usage of the Tap Drill is at low speed and high torque to grind through the maxillary bone, and safely elevates sinus without membrane perforation.
> Must be used at 20~30 rpm / 45 N.cm.
> No irrigation is required.



Diameter	Ø3.6	Ø4.6
	KMTD36S	KMTD46S



· Twist Drill (Ø3.6, Ø4.6)

> The Twist Drill is used after tapping as final drill for dense bone (bone quality 2 or greater) or to eliminate tapping thread in order to facilitate bone grafting.
> Must be used at 100~500 rpm / 45 N.cm.
> No irrigation is required.

Used as Final Drill for 4.2~4.5 Fixture.

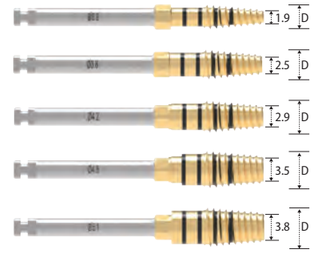
Used as Final Drill for 5.2~5.5 Fixture.

Diameter	Ø3.6	Ø4.6
	KTWD36S	KTWD46S

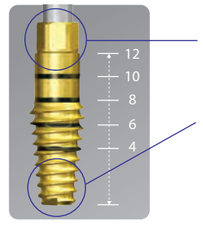
Spreader

· Tap Drill (Ø3.2 , Ø3.8, Ø4.2, Ø4.8, Ø5.1)

> The Spreader Drill is used to condense and/or spread the bone in either sinus lift or ridge split cases.
> Must be used at 20~30 rpm / 45 N.cm.
> No irrigation is required.



Diameter	Ø3.2	Ø3.8	Ø4.2	Ø4.8	Ø5.1
	KMTD32S	KMTD38S	KMTD42S	KMTD48S	KMTD51S



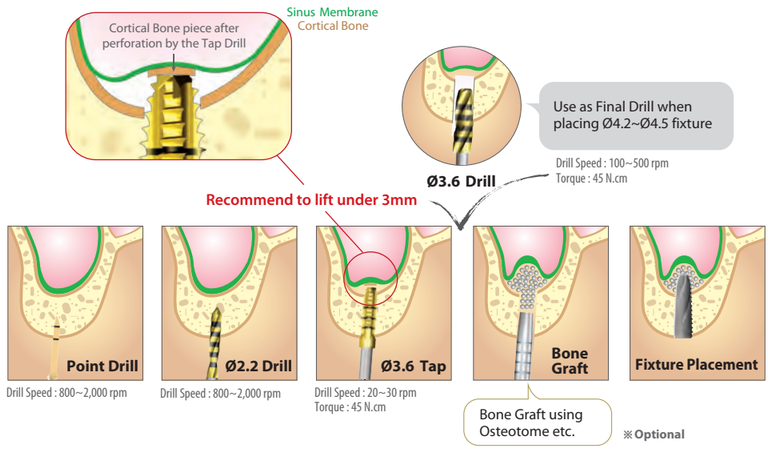
Can be used with COWELLMEDI Torque Wrench using Ratchet Adapter.

Tip of the drill has U.S. Patented blades that crush through the cortical bone, and separate the sinus membrane without perforations.

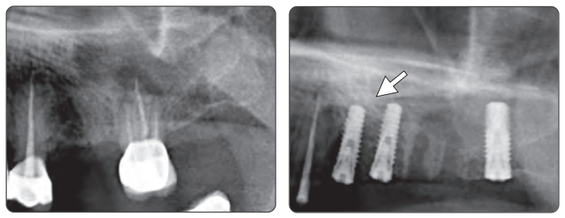
Sequence - Sinus Lift

· Only use of Sinus Lift Drill

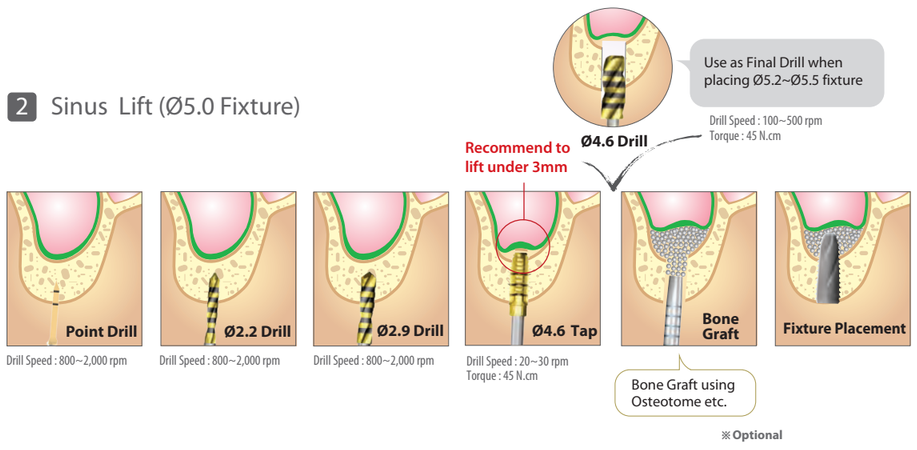
1 Sinus Lift (Ø4.0 Fixture)



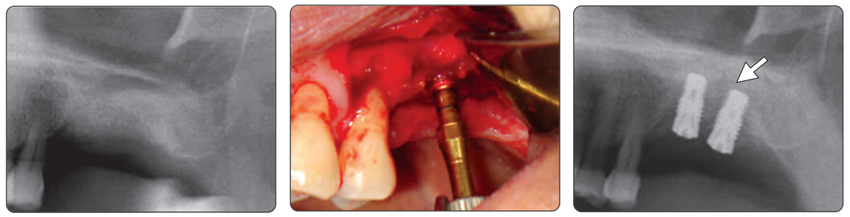
▸▸Immediate Implantation and Sinus Lift Technique with Tap Drill (**Ø4.0 Fixture**)



2 Sinus Lift (Ø5.0 Fixture)

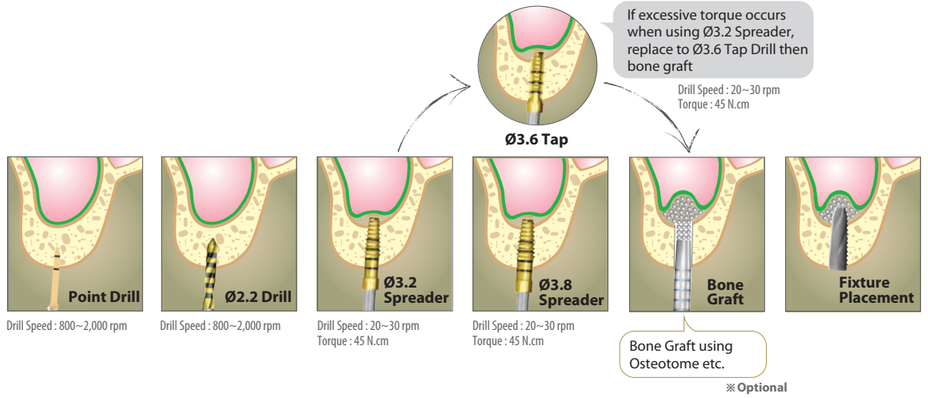


▸▸Immediate Implantation and Sinus Lift Technique with Tap Drill (**Ø5.0 Fixture**)

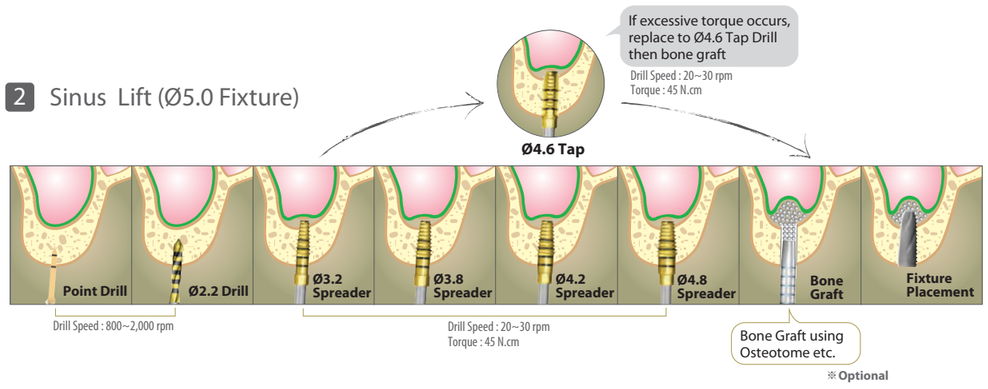


· Recommend to use Sinus Lift Drill and Spreader Drill together

1 Sinus Lift (Ø4.0 Fixture)



2 Sinus Lift (Ø5.0 Fixture)



Note

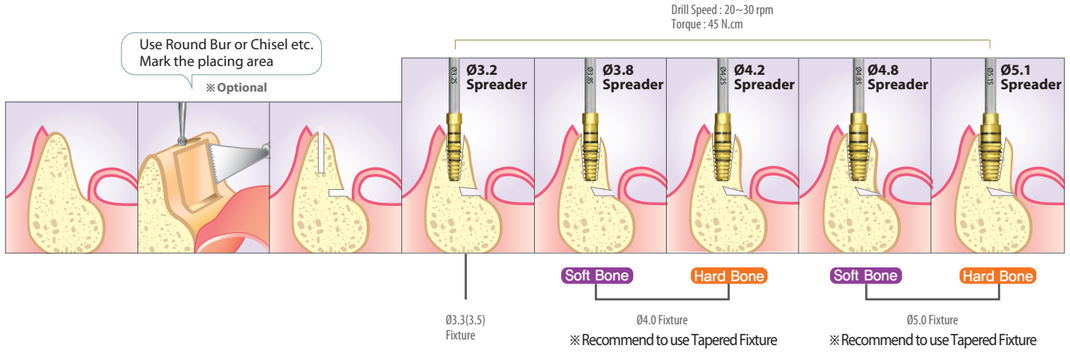
> Recommend to use Sinus Lift Drill and Spreader Drill together during the Sinus Lift operation.

> Easy operation by using Ø3.2 Spreader rather than Point Drill.

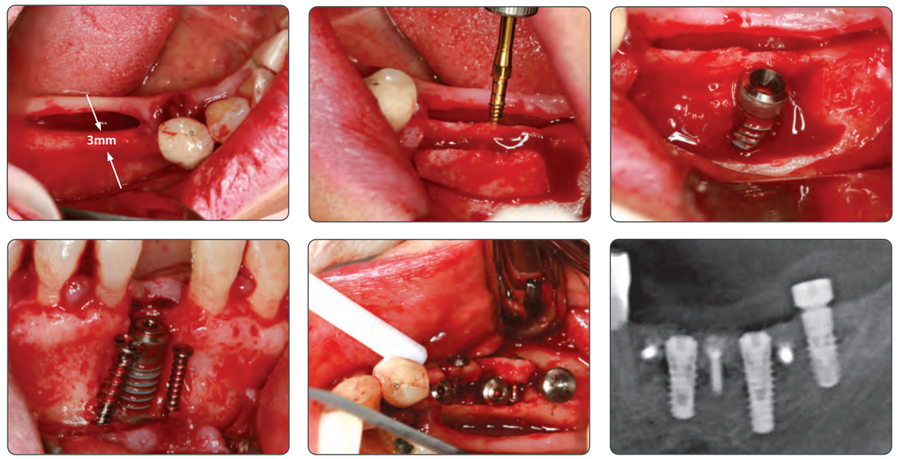
> Avoid to over press surrounding alveolar bone using Final Drill before fixture placement in D2.

ex) Ø4.0 Fixture placement

Sequence - Spreader



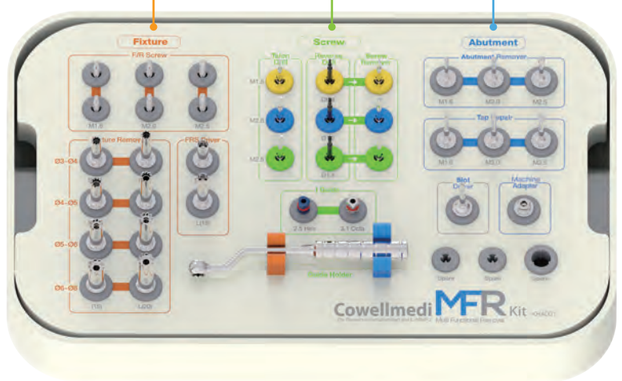
▸▸ Ridge Split and Block Bone Augmentation Technique with Spreader Drill **(Ø4.0 Fixture)**



Multi-Functional Removal Kit

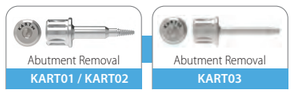
MFR KIT [KHA001]

> Easy removal of fractured fixture / screw / abutment.



Abutment Removal System

Abutment Remover



Abutment Removal
KART01 / KART02
M1.6 M2.0

Abutment Removal
KART03
M2.5

Tap Repair

Tap Repair Driver
KTR16 / KTR20 / KTR25
M1.6 M2.0 M2.5

Slot Driver

Slot Driver
KHD0827

Machine Adapter

Machine Adapter
KRA13

Fixture Removal System

F/R Screw

Fixture Removal Screw
KFRS16
M1.6

Fixture Removal Screw
KFRS20
M2.0

Fixture Removal Screw
KFRS25
M2.5

Fixture Remover

Ø3~Ø4

Fixture Removal
KFR3515 / KFR3520

Ø4~Ø5

Fixture Removal
KFR4015 / KFR4020

Ø5~Ø6

Fixture Removal
KFR5015 / KFR5020

Ø6~Ø8

Fixture Removal
KFR6015 / KFR6020

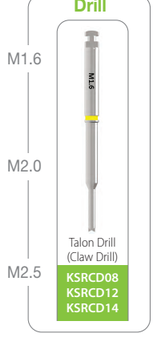
FRS Driver

Fixture Removal
KFRSD13 / KFRSD18

Torque Wrench
KTW002

Screw Removal System

Talon Drill



M1.6
M2.0
M2.5

Talon Drill (Claw Drill)
KSRCD08
KSRCD12
KSRCD14

Reverse Drill

Reverse Guide Drill
KSRGD08
KSRGD12
KSRGD14

Screw Remover

Screw Remover
KSRSR08
KSRSR12
KSRSR14

I Guide

I Guide (Sub. 2.5 Hex)
KSRIG25H

I Guide (Int. 3.1 Octa)
KSRIG31O

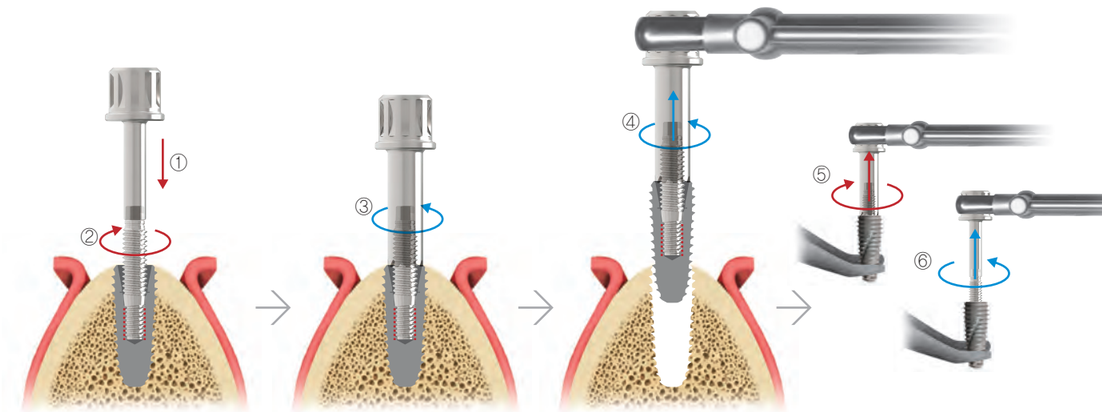
*Red Silicon O-Ring KSRIGO01

Guide Holder KSRGH01

MFR Kit - Components

1. Fixture Removal System

① Connect the F/R Screw to the FRS Driver.
② Connect the F/R Screw mounted FRS Driver to the fixture (clockwise 40~60N.cm) and remove the FRS Driver.
③ Connect the Fixture Remover to the F/R Screw (counterclockwise).
④ Remove the fixture after connecting the Torque Wrench (counterclockwise, 100~400N.cm).
⑤ To remove the fixture from the Fixture remover, use such device as vise to fix the Fixture Remover and connect to the Torque Wrench.
⑥ After connecting the FRS Driver to the F/R Screw, use the Torque Wrench to remove the F/R Screw (counterclockwise).

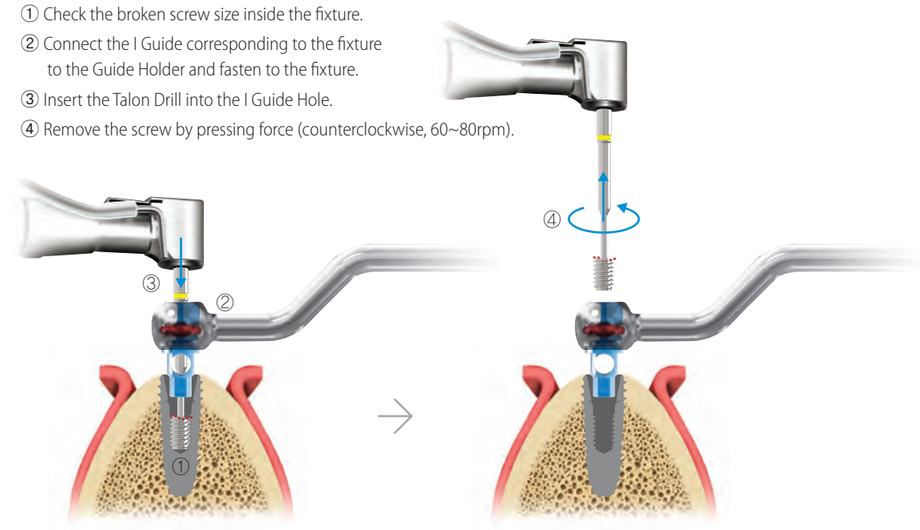


※ One-time use of the F/R Screw is recommended (bending or fracture may happen if more than 100N.cm and using twice may be possible if less than 100N.cm).
※ Sufficient irrigation is required when removing the fixture.
※ When the maximum torque is exceeded, the fixture may be bent or fractured.
※ If the fixture can not be removed even with maximum torque, remove the Fixture Remover & F/R Screw, remove bones around the fixture using round bur and retry to remove.

2. Screw Removal System

Talon Drill

① Check the broken screw size inside the fixture.
② Connect the I Guide corresponding to the fixture to the Guide Holder and fasten to the fixture.
③ Insert the Talon Drill into the I Guide Hole.
④ Remove the screw by pressing force (counterclockwise, 60~80rpm).

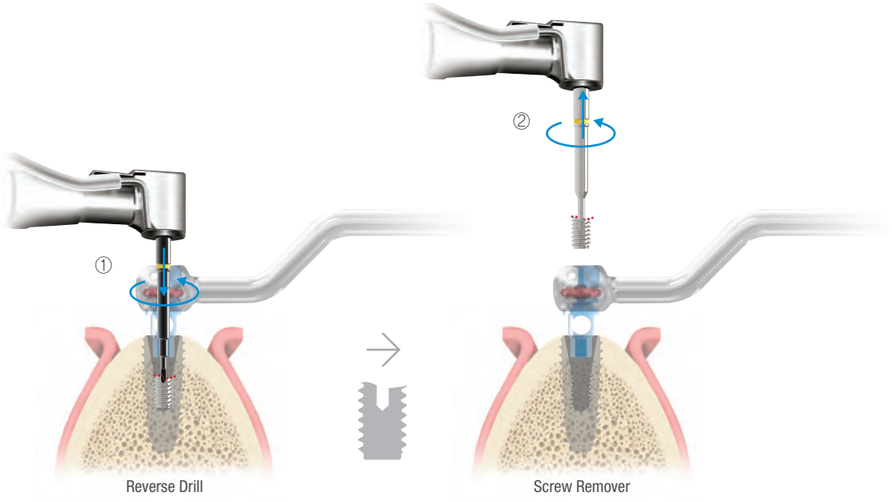


※ If the I Guide and fixture could not be correctly connected, the path is not correct.

Reverse Drill & Screw Remover

If the screw could not be removed by the Talon Drill

① Form the hole on the fractured screw (depth 1~2mm / counterclockwise / 1,200~1,400rpm).
② Use the Screw Remover according to the created drill hole, remove the screw by pressing force (counterclockwise, 80N.cm).

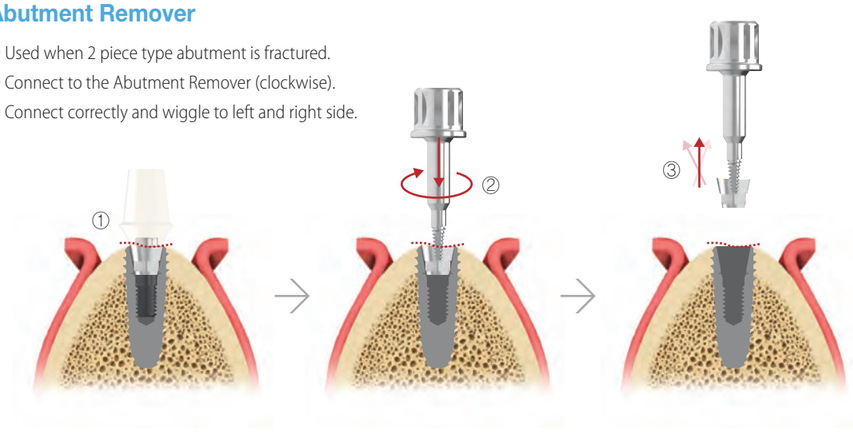


※ If the path of the I Guide and fixture did not match, It would be difficult to remove the screw because the drill hole is away from the center of the screw.
※ Reverse drilling requires removal of chips by irrigation & suction.
※ The fractured screw may be removed during reverse drill hole creation.
※ If necessary, fasten to the Machine Adapter and use the hand or Torque Wrench.

3. Abutment Removal System

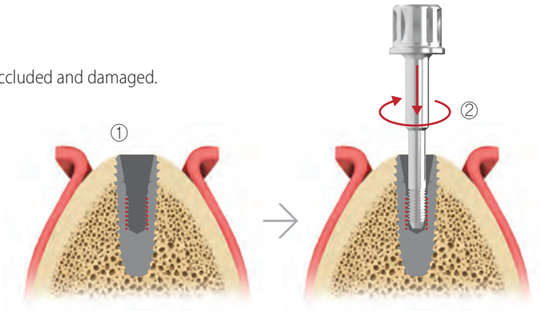
Abutment Remover

① Used when 2 piece type abutment is fractured.
② Connect to the Abutment Remover (clockwise).
③ Connect correctly and wiggle to left and right side.



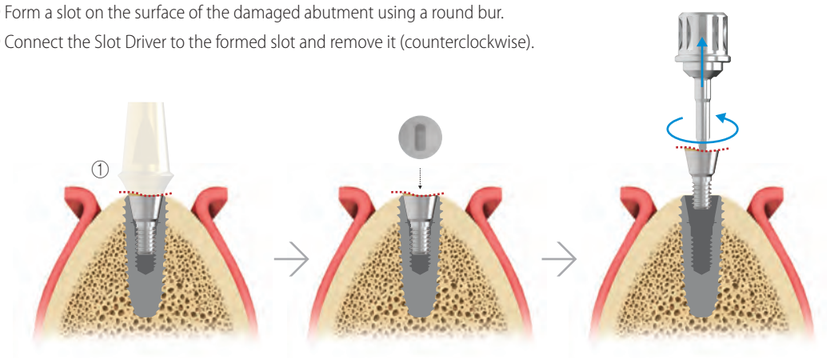
Tap Repair

① Used when the thread inside the fixture is occluded and damaged.
② Reproduce the thread using the Tap Repair.

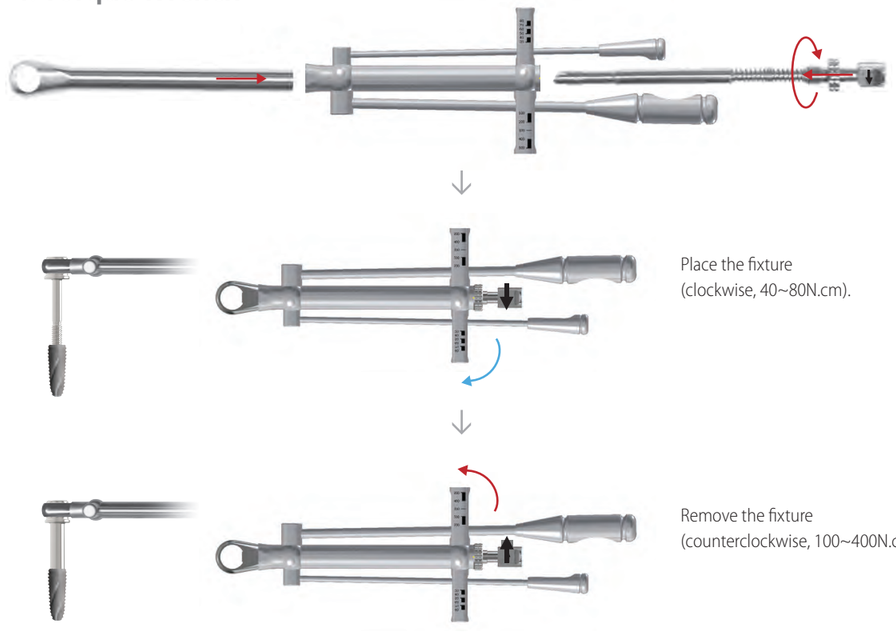


Slot Driver

① Used for damaged solid type abutments, healing abutments, and cover screws.
② Form a slot on the surface of the damaged abutment using a round bur.
③ Connect the Slot Driver to the formed slot and remove it (counterclockwise).

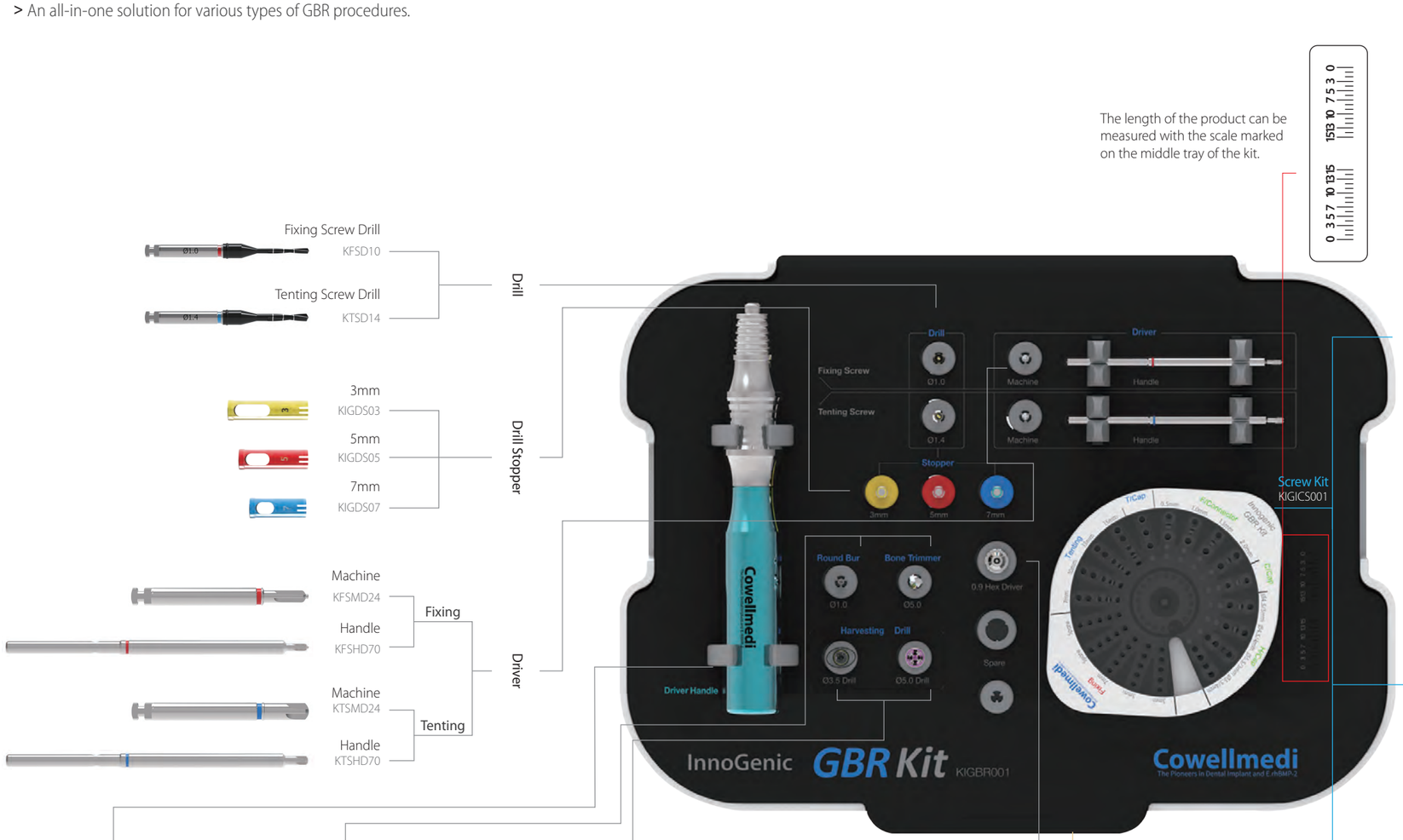


4. Torque Wrench



InnoGenic GBR Kit [KIGBR001]

> An all-in-one solution for various types of GBR procedures.



Fixing Screw

Bone

3mm
KIGFS03
KIGFS03
KIGFS03
KIGFS03
KIGFS03

5mm
KIGFS05
KIGFS05
KIGFS05
KIGFS05
KIGFS05

7mm
KIGFS07
KIGFS07
KIGFS07
KIGFS07
KIGFS07

Tenting Screw

Bone

7mm
KIGTS07
KIGTS07
KIGTS07
KIGTS07

10mm
KIGTS10
KIGTS10
KIGTS10
KIGTS10

13mm
KIGTS13
KIGTS13
KIGTS13
KIGTS13

15mm
KIGTS15
KIGTS15
KIGTS15
KIGTS15

T/Cap
Tenting Cap
0.3mm
KIGTC32
0.3mm
KIGTC32
0.3mm
KIGTC32

Driver Handle
KIGH

Round Bur
KIGRB10

Bone Trimmer
KIGBT50

Harvesting Drill

Ø3.5 Drill
KBH35

Ø5.0 Drill
KBH50

0.9 Hex Driver
KHD0921

Silicon Shield
KBHDSS01

1EA assembled with the Drill Stopper (KBHD3540)
5EA placed in the lower tray.

Fix Connector
F/Connector Fixture

0.5mm	0.5mm	1.0mm	1.0mm	1.5mm	1.5mm	2.0mm	2.0mm
KIGFC4505	KIGFC4505	KIGFC4510	KIGFC4510	KIGFC4515	KIGFC4515	KIGFC4520	KIGFC4520

Cover Cap
C/Cap

Ø4.5	Ø4.5
KIGCC45	KIGCC45

Healing Cap
H/Cap

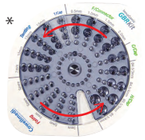
Ø4.5(3mm)	Ø4.5(3mm)	Ø4.5(4mm)	Ø4.5(4mm)
KIGHC453	KIGHC453	KIGHC454	KIGHC454
Ø5.5(3mm)	Ø5.5(3mm)	Ø5.5(4mm)	Ø5.5(4mm)
KIGHC553	KIGHC553	KIGHC554	KIGHC554

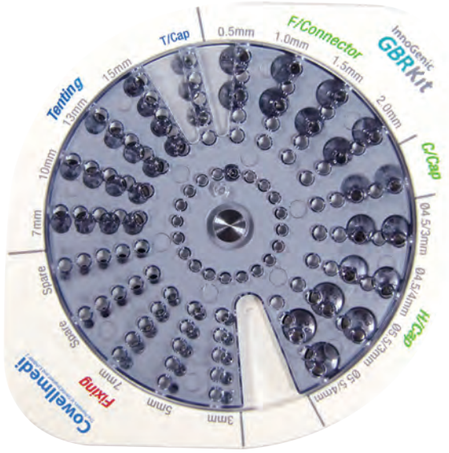
Bone Carrier
KBBC01

Screw Kit KIGICS001

- Used without removing the Screw Kit from the inside of the kit tray (Remove to use if necessary only).
- Made of special material for autoclaving.

* Rotate the upper lid to take out the selected product.





Composition

Classification	Product	Code		Quantity
Bone	Fixing Screw (Fixing)		KIGFS03	5
			KIGFS05	5
			KIGFS07	5
	Tenting Screw (Tenting)		KIGTS07	4
			KIGTS10	4
			KIGTS13	4
			KIGTS15	4
	Tenting Cap (T/Cap)		KIGTC32	3
Fixture	Fix Connector (F/Connector)		KIGFC4505	2
			KIGFC4510	2
			KIGFC4515	2
			KIGFC4520	2
	Cover Cap (C/Cap)		KIGCC45	2
	Healing Cap (H/Cap)		KIGHC453	2
			KIGHC454	2
			KIGHC553	2
			KIGHC554	2

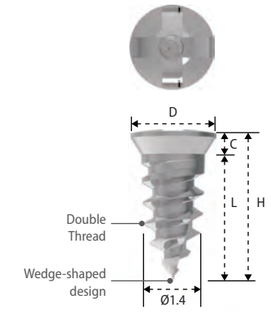
Empty Screw Kit KIGICS

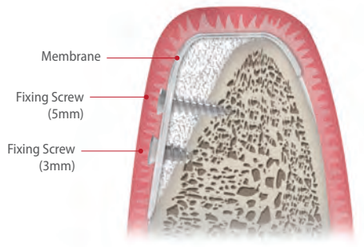
Bone

Fixing Screw (Fixing)

- Used to fix the membrane to the bone.
- Place slowly using the Fixing Driver (Machine/Handle).
- 3, 5 and 7mm length can be selected according to the bone quality. In hard bone, use after forming a basic drill hole using the Fixing Screw Drill.
- The wedge-shaped design is advantageous for self-tapping, allowing it to be fixed without drilling in normal bone.
- The double thread shortens the placement time.

D(Ø,mm)	C(mm)	L(mm)	H(mm)	Code
2.0	0.6	3.0	3.6	KIGFS03
		5.0	5.6	KIGFS05
		7.0	7.6	KIGFS07



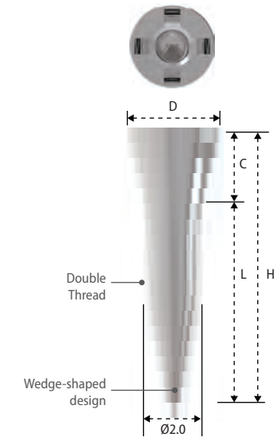


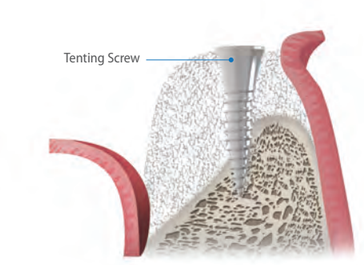
Bone

Tenting Screw (Tenting)

- Used when a large area of vertical / horizontal GBR is required. Leave space for bone grafts.
- Place slowly using the Tenting Screw Driver (Machine/Handle).
- Recommended placement depth : Hard bone-3mm, Normal bone-5mm, Soft bone-more than 5mm.
- Initial fixation of at least 15~25N.cm is required. Tightening more than 35N.cm may cause fracture of the Tenting Screw so it must be fixed below 35N.cm.
- In normal bone, it is recommended to form a hole at least 3mm deep using the Tenting Screw Drill before placing the Tenting Screw.
- The wedge-shaped design is advantageous for self tapping, allowing it to be used without drilling in normal bone.
- The double thread shortens the placement time.
- Use the Tenting Cap if necessary.

D(Ø,mm)	C(mm)	L(mm)	H(mm)	Code
3.2	2.5	7.0	9.5	KIGTS07
		10.0	12.5	KIGTS10
		13.0	15.5	KIGTS13
		15.0	17.5	KIGTS15



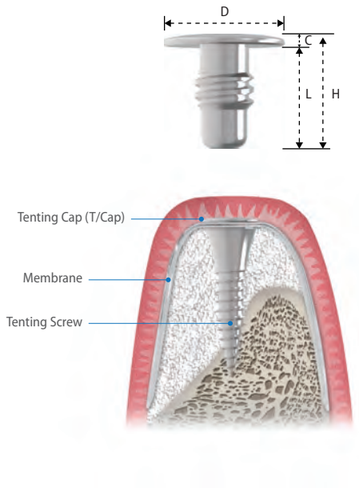


Bone

Tenting Cap (T/Cap)

- Used to fix membrane on the Tenting Screw.
- Tightened with the 0.9 Hex Driver.
- Recommended tightening torque force : 5~8N.cm.

D(Ø,mm)	C(mm)	L(mm)	H(mm)	Code
3.2	0.3	2.8	3.1	KIGTC32

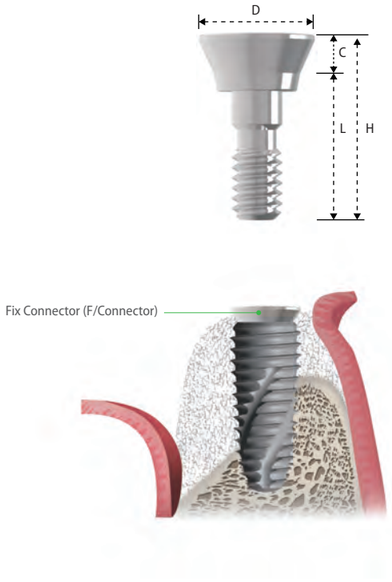


Fixture

Fix Connector (F/Connector)

- Used to fix the membrane along with the Cover Cap or Healing Cap after connecting to the fixture.
- Tightened with the 0.9 Hex Driver.
- Recommended tightening torque force: 12~15N.cm.
- Available for the INNO Submerged, Submerged Short Fixtures and other fixtures compatible with them only.

D(Ø,mm)	C(mm)	L(mm)	H(mm)	Code
4.5	0.5	5.7	6.2	KIGFC4505
	1.0		6.7	KIGFC4510
	1.5		7.2	KIGFC4515
	2.0		7.7	KIGFC4520

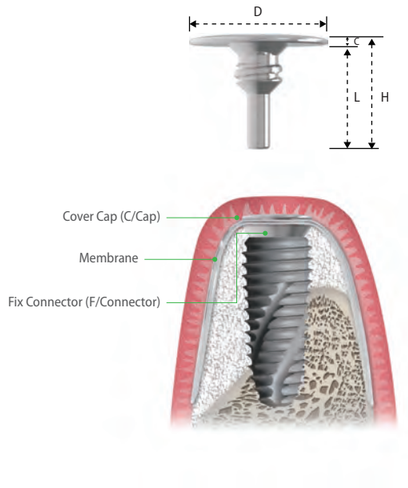


Fixture

Cover Cap (C/Cap)

- Used to fix membrane over the Fix Connector.
- For submerged surgery in case of sufficient soft tissue.
- Tightened with the 0.9 Hex Driver.
- Recommended tightening torque force: 5~8N.cm.

D(Ø,mm)	C(mm)	L(mm)	H(mm)	Code
4.5	0.3	3.4	3.7	KIGCC45

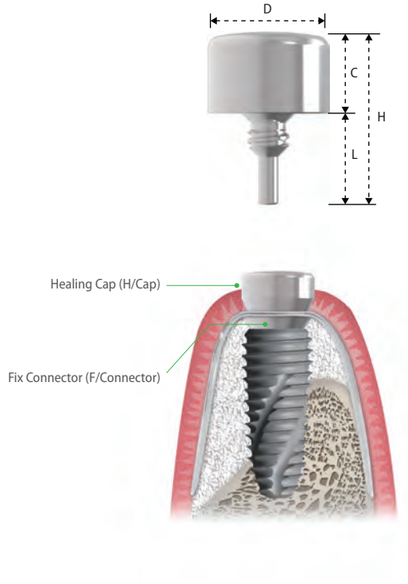


Fixture

Healing Cap (H/Cap)

- Used to fix membrane over the Fix Connector.
- For non-submerged surgery in case of insufficient soft tissue.
- Connect by using the 0.9 Hex Driver.
- Recommended tightening torque force: 5~8N.cm.

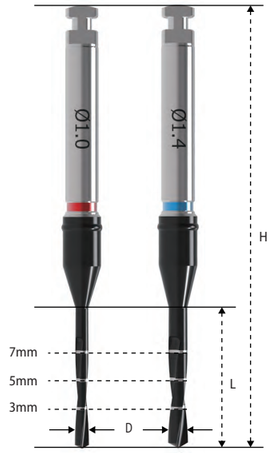
D(Ø,mm)	C(mm)	L(mm)	H(mm)	Code
4.5	3.0	3.4	6.4	KIGHC453
	4.0		7.4	KIGHC454
5.5	3.0		6.4	KIGHC553
	4.0		7.4	KIGHC554



Fixing Screw Drill & Tenting Screw Drill

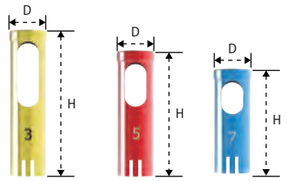
- Used to place the Fixing Screw / Tenting Screw mainly in hard bone.
- Also used to perforate cortical bone when blood supply is required.
- For normal bone, drill only 3mm deep if necessary.
- Drill before placing the Fixing Screw / Tenting Screw.
- Laser-marked at 3, 5, and 7mm long from the tip of the drill and the length can be controllable using the Drill Stoppers.
- Color-banded for distinction (Red : Fixing Screw Drill, Blue : Tenting Screw Drill).
- Recommended drilling speed : 1,000~1,200rpm.

Classification	D(Ø,mm)	L(mm)	H(mm)	Code
Fixing Screw Drill	1.0	10	31.5	KFSD10
Tenting Screw Drill	1.4			KTSD14

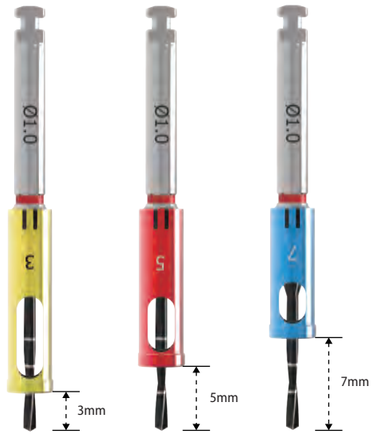


Drill Stopper

- Used by connecting to the Fixing Screw Drill / Tenting Screw Drill.
- 3mm : Yellow, 5mm : Red, 7mm : Blue



Classification	D(Ø,mm)	H(mm)	Code
3mm	3.5	13.5	KIGDS03
5mm		11.5	KIGDS05
7mm		9.5	KIGDS07

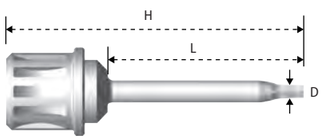


0.9 Hex Driver (Ratchet)

- Used to install the Tenting Cap, Fix Connector, Cover Cap and Healing Cap.

D(Ø,mm)	L(mm)	H(mm)	Code
1.2	8	15	*KHD0915
	14	21	KHD0921
	20	27	*KHD0927

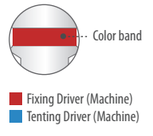
* Optional

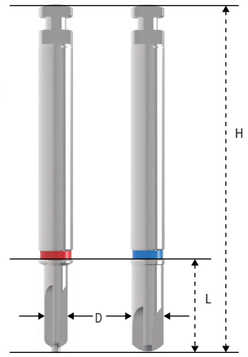


Fixing Screw Driver & Tenting Screw Driver (Machine)

- Used to place the Fixing Screw / Tenting Screw using Contra-angle.
- Color-banded for distinction (Red : Fixing Screw Driver, Blue : Tenting Screw Driver).

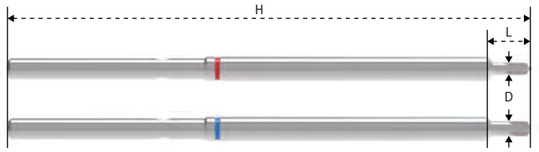
Classification	D(Ø,mm)	L(mm)	H(mm)	Code
Fixing Screw Driver	1.6	6.0	24.0	KFSMD24
Tenting Screw Driver	2.2			KTSMD24

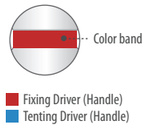




Fixing Screw Driver & Tenting Screw Driver (Handle)

- Used to place the Fixing Screw / Tenting Screw using the Driver Handle.
- Color-banded for distinction (Red : Fixing Screw Driver, Blue : Tenting Screw Driver).

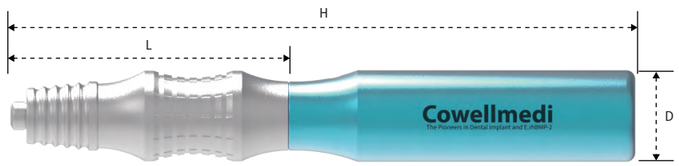




Classification	D(Ø,mm)	L(mm)	H(mm)	Code
Fixing Screw Driver	1.6	6.0	70.0	KFSHD70
Tenting Screw Driver	2.2			KTSHD70

Driver Handle

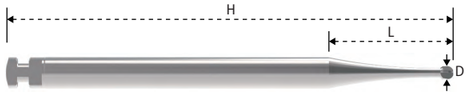
- Used to place and remove the Fixing Screw / Tenting Screw by connecting the Driver Handle.



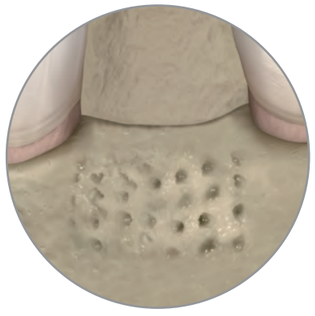
D(Ø,mm)	L(mm)	H(mm)	Code
19.8	75	135.0	KIGH

Round Bur

- Used to perforate cortical bone when blood supply is required.
- Recommended drilling speed : 1,200~1,500rpm.

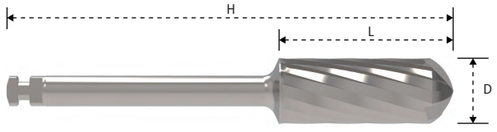


D(Ø,mm)	L(mm)	H(mm)	Code
1.0	9.5	34.0	KIGRB10

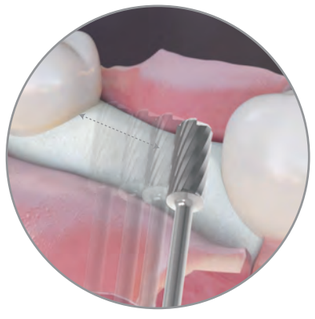


Bone Trimmer

- Used to perform osteoplasty on the outer wall of remaining bone all during GBR and to flat the bone surface for improving the fit of membrane.
- Used to remove remaining granulation tissue of bone defect part (use instead of surgical curette).
- Recommended drilling speed : 1,200~1,500rpm.



D(Ø,mm)	L(mm)	H(mm)	Code
5.0	13	34.0	KIGBT50

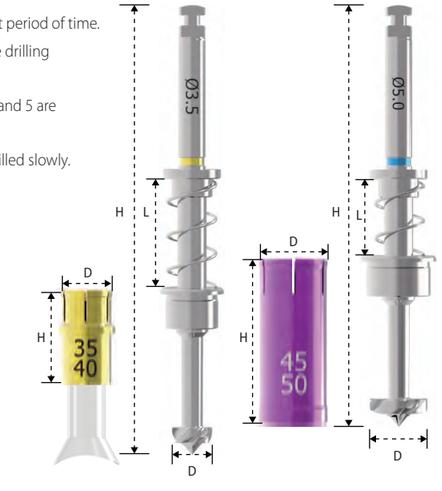


Harvesting Drill & Drill Stopper

- Drill for convenient harvesting of autogenous bone in the form of bone chip in a short period of time.
- The Silicon Shield of the Ø3.5 Harvesting Drill makes sure with no bone chip loss while drilling (Bone chip can be collected at implant site).
- 6 Silicon Shields are included in the Kit (1 is assembled with the Ø3.5 Harvesting Drill and 5 are packed in the lower tray).
- The maximum drilling depth of the Ø3.5 Harvesting Drill is 12mm, so it needs to be drilled slowly.
- Remove while rotating the drill.
- Recommended drilling speed : 300~500rpm.

D(Ø,mm)	L(mm)	H(mm)	Code
3.5	9.5	39.2	KBH35
5.0	6.5	36.5	KBH50

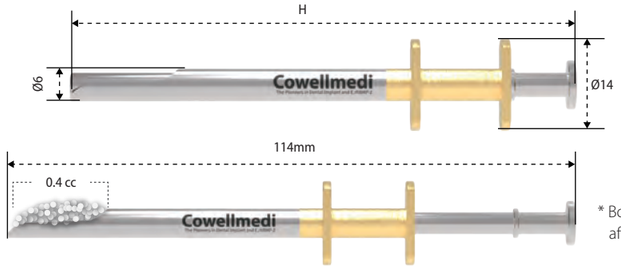
	D(Ø,mm)	H(mm)	Code
Drill Stopper	5.6	9	KBHD3540
	6	14.3	KBHD4550



* For the details of InnoGenic Autobone Harvester, refer the pages 218~222.

Bone Carrier

- Narrow tip is beneficially handled in most of the bone graft techniques.
- Bone graft particles can be accurately and safely injected without contamination.
- rhBMP-2 can be easily coated to the implant due to circular groove of tip.
- Bone graft particles and rhBMP-2 solution can be well mixed on the circular groove.

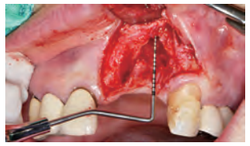


* Bone Carrier length is 94mm and the total length after stretching is 114mm.

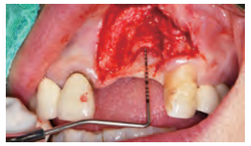
	D(Ø,mm)	H(mm)	Code
Bone Carrier	6	94	KBBC01

Fixing Screw Bone

Buccal view of the bone defect.



14mm high defective part from the gingiva.

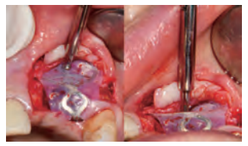


7mm high defective part from the gingiva.

Drilling using the Fixing Screw Drill with 1.0mm in diameter.

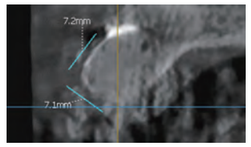
Bone graft with the INNO-CaP.

A Fixing Screw with 5mm in length was connected to the Fixing Screw Driver coupled to the Driver Handle.



The Fixing Screw was fixed to the bone through the Wifi-Mesh after placing the Wifi-Mesh.

Primary closure.



CT scan image showed that the vertical augmentation with the Fixing Screw was successfully done.

Tenting Screw / Tenting Cap Bone

Buccal view after extraction of #36 showed severe vertical defect.

A Tenting Screw with 10mm in length was fixed instead of an implant for socket preservation at the site of #36.

The INNO-CaP was grafted up to the top of the Tenting Screw.

After forming a hole on the Wifi-Mesh and applying the Wifi-Mesh, the Tenting Screw Cap was fixed to the Tenting Screw through the hole the Wifi-Mesh.

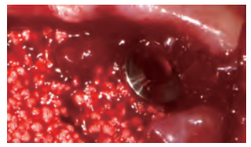
Mattress key suture was carried out in order to decrease the possibility of exposures.

Panoramic view showed that the vertical augmentation with the Tenting Screw was successfully done.

Fix Connector / Cover Cap Fixture

INNO Sub. Ø4.5x12mm Fixture which Super-hydrophilised (SLA-SH) surface on surface treated was placed at the site of #37 with 3mm high buccal bone defect around.

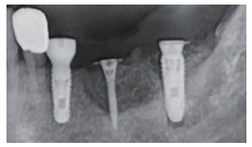
A Fix Connector with 2mm in cuff was installed on the INNO Sub. Fixture.



Bone graft with the INNO-CaP.

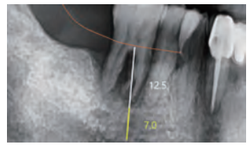
A hole for the Cover Cap fixation was formed in the centre of the Wifi-Mesh.

The Cover Cap and the Wifi-Mesh were installed on the Fix Connector using the 0.9 Hex Driver.



Postoperative radiographic view of #37.

Fix Connector / Healing Cap Fixture



Buccal defect.

Defect height from gingival crest to buccal wall was checked.

INNO Sub. Ø5.0x12mm Fixture which Super-hydrophilised (SLA-SH) surface on surface treated.

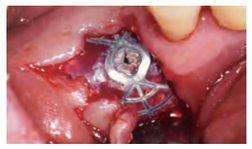
A Fix Connector with 1mm in cuff was installed on the INNO Sub. Fixture.

The Fix Connector was placed in the INNO Sub. Fixture.

The INNO-CaP was grafted up to the top of the Fix Connector.

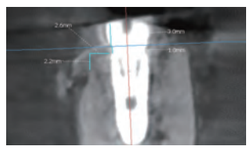
A hole for the Healing Cap fixation was formed in the centre of the Wifi-Mesh.

The Healing CaP with 5.5mm in diameter and 3mm in cuff.



Installation of the Healing Cap and the Wifi-Mesh using the 0.9 Hex Driver on the Fix Connector placed in the INNO Sub. Fixture.

Suture.



Dimension of the graft with 2.2mm in height and 2.6mm in width.

InnoGenic Autobone Harvester [KIAH001]

> Maximize Your Return On Minimal Investment, Guaranteed!

Harvesting Drill

Ø3.5 Drill
KBH35

Ø4.0 Drill
KBH40

Ø4.5 Drill
KBH45

Ø5.0 Drill
KBH50

Ø6.0 Drill
KBH60

Drill Stopper

Ø3.5 / 4.0
Drill Stopper
KBHD3540

Ø4.5 / 5.0
Drill Stopper
KBHD4550

Ø6.0
Drill Stopper
KBHD60

Silicon Shield

KBHDSS01

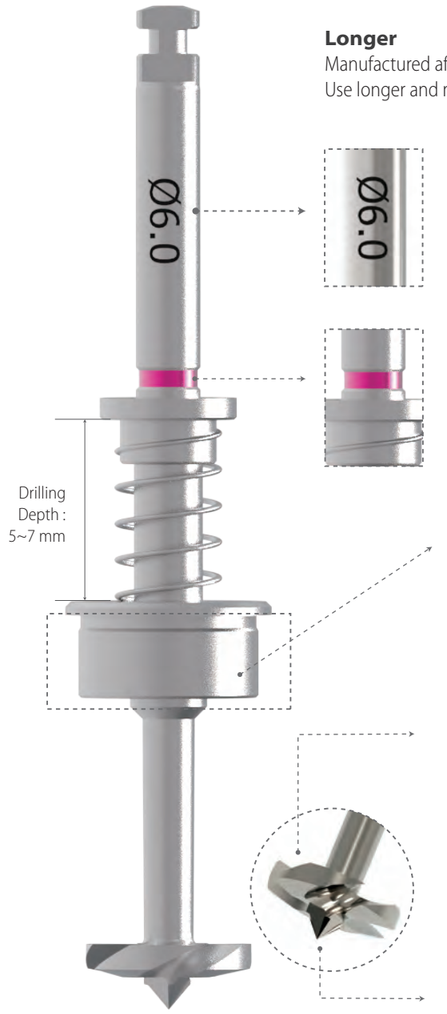
* 1EA assembled with the Drill Stopper (KBHD3540). 5EA placed in the lower tray.

Key Concepts

Maximize your return on minimal investment

The key concept of the Autobone Harvester is to harvest a large amount of the autogenous bone chips from the implant site that can be wasted into the suction during implant drilling procedure.

Features: Drill



Longer
Manufactured after numerous times and various types of test;
Use longer and more times, compared to other products in the market.

Diverse
Diverse dimensions (Ø3.5, 4.0, 4.5, 5.0 & 6.0mm) allow to harvest different volume of bone chips according to clinical indications.

Easy to identify
The colored band helps choose the right drill easily.

Ø3.5 Yellow Ø4.0 Orange Ø4.5 Green
Ø5.0 Blue Ø6.0 Purple

Simple
The Stopper Holder is fastened with the Stopper and moves forward and backward when drilling, and it is simple to control drilling depth up to 5 to 7mm.

No Loss
The propeller shaped Drill design brings the bone chips into the Stopper without the bone chip being lost.

Safe
The non-slip point design plays a guide role in anti-slip while drilling.

Features: Stopper & Silicon Shield

For Ø3.5 & 4.0 Drill

Stopper
Used by fastening to the
Stopper Holder of Ø3.5 & 4.0 Drill.

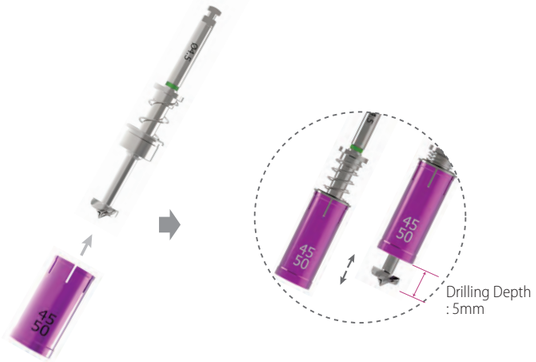
+

Silicon Shield (*Exclusive for Ø3.5 & 4.0)
- Used by fastening to Ø3.5 & 4.0 stopper.
- Prevents deviation of bone chips.
- Allows bone chip harvesting from the implant site.
- Reusable transparent silicon material allows checking drilling position and bone chips being harvested.

Shield
The lip-shaped shield is brought into close contact with the bone and makes sure with no bone chip loss while drilling.

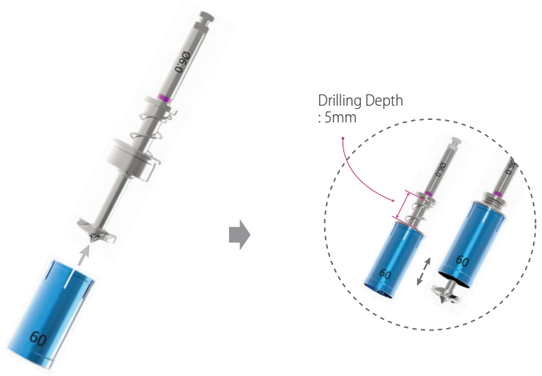
For Ø4.5 & 5.0 Drill

Stopper
Used by fastening to the
Stopper Holder of Ø4.5 & 5.0 Drill.



For 6.0 Drill

Stopper
Used by fastening to the
Stopper Holder of Ø6.0 Drill.



Harvesting sequence:

Implant Site using Ø3.5/4.0 Harvesting Drill with the Silicon Shield

• Point drill to mark harvesting and implant site.

• Select Ø3.5/4.0 Drill and insert the Stopper into the selected Drill. And put the Shield on the Ø3.5&4.0 Stopper.

• Drill at 300 to 500rpm with irrigation and harvest bone chips.

• Disassemble the Silicon Shield, the Stopper and collect the bone chips for bone grafting.

• Use Final Drill (equal to or over Ø3.5/4.0) according to the drilling protocol of the manufacturer and treatment planning.

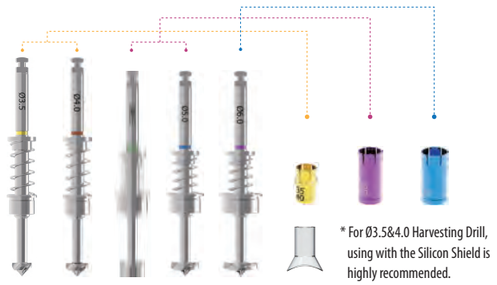
• Place the implant.

• Apply the harvested bone chips on the site.

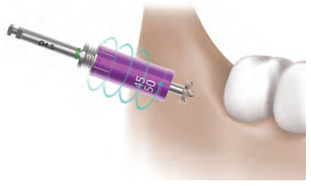
Harvesting sequence:

Buccal Bone Harvesting using Ø3.5/4.0/4.5/5.0/6.0 Harvesting Drill

Select the drill according to its diameter and clinical indications.



* For Ø3.5&4.0 Harvesting Drill, using with the Silicon Shield is highly recommended.



• Drill at 300 to 500rpm with irrigation and harvest autogenous bone chips.

• Apply the harvested bone chips on the site.

A Clinical Case using Ø3.5/4.0 Harvesting Drill

by Dr. Soohong Kim, DDS, Ph.D

Drilling at 300rpm with irrigation was carried out after marking implant and harvesting position.

The Silicone Shield was brought into close contact with various types of bone levels and prevented bone chip loss.

The amount of bone taken was easily ascertained through the transparent Silicone Shield.

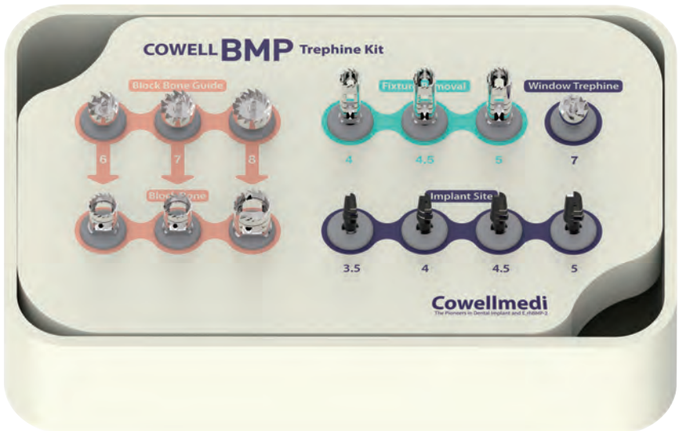
The bone was transferred to a bone dish after disassembling the Silicon Shield and Stopper. The amount of the bone was much more than expected.

After the implant placement, healing abutments were connected and carried out GBR in the defective area.

* 2 Step Harvesting : Drilling to 7mm is recommended after transferring bone chips to bowl since the Stopper & Silicon Shield are fully filled with bone chips while 4mm drilling.

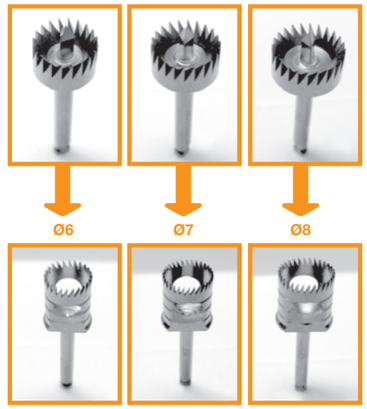
COWELL BMP Trephine Kit [KBT001]

> An easy-to-use kit with drills and instruments for block-type bone collection, failed fixture removal, crestal & window approach for sinus lift and bone chip extraction.



Trephine Drill I: Block Bone Extraction

Guide & Block Bone Trephine Drill



Trephine Drill II:
Failed Fixture Removal

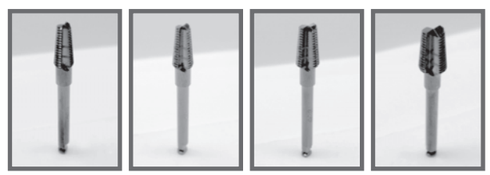
Fixture Removal

Trephine Drill III:
Window Opening for Lateral Window Approach

Window Trephine

Implant Site Drill: Sinus Lift & Bone Chip Extraction Prior to Implant Placement

Implant Site



Product	Diameter	Code
Block Bone Guide Drill	Ø 6.0 (Inner)	KBGT60
	Ø 7.0 (Inner)	KBGT70
	Ø 8.0 (Inner)	KBGT80
Block Bone Trephine Drill	Ø 6.0 (Inner)	KBT60
	Ø 7.0 (Inner)	KBT70
	Ø 8.0 (Inner)	KBT80
Fixture Removal Trephine Drill	Ø 4.2 (Inner)	KFRT40
	Ø 4.7 (Inner)	KFRT45
	Ø 5.2 (Inner)	KFRT50
Window Trephine Drill	Ø 7.0 (Outer)	KWTT60
Implant Site Drill	Ø 3.5 (Fixture)	KTIS35
	Ø 4.0 (Fixture)	KTIS40
	Ø 4.5 (Fixture)	KTIS45
	Ø 5.0 (Fixture)	KTIS50

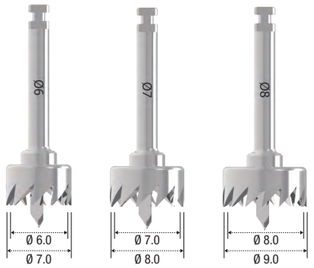
Trephine Drill I Block Bone Extraction

This Drill allows the collection of block-type autogenous bone with a required size in the case of regenerating a wide bone defect and severe bone resorption.

Block Bone Guide

> This guide helps the target block bone to be accurately positioned and the Trephine Drill to be stably engaged with the bone.

> Desired rpm: 800~1,000rpm.

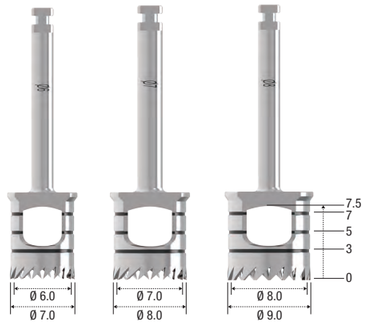


Diameter	Ø 6.0 (Inner)	Ø 7.0 (Inner)	Ø 8.0 (Inner)
	KBGT60	KBGT70	KBGT80

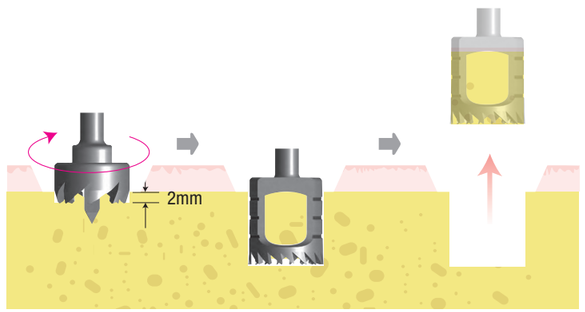
Block Bone Trephine Drill

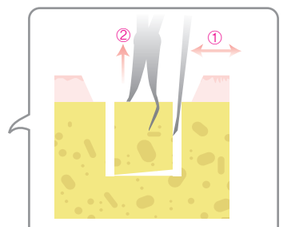
> This drill is engaged with the bone groove with the help of the block bone guide to collect the block bone with a desired size.

> Desired rpm: 800~1,000rpm.



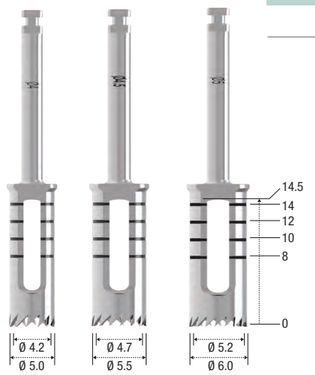
Diameter	Ø 6.0 (Inner)	Ø 7.0 (Inner)	Ø 8.0 (Inner)
	KBT60	KBT70	KBT80



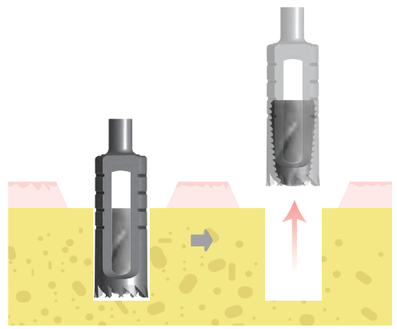


If the block bone is not removed using the Trephine Drill, use dental elevator or forceps to remove it.

Trephine Drill II Failed Fixture Removal

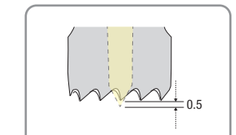


Diameter	Ø 4.2 (Inner)	Ø 4.7 (Inner)	Ø 5.2 (Inner)
	KFRT40	KFRT45	KFRT50

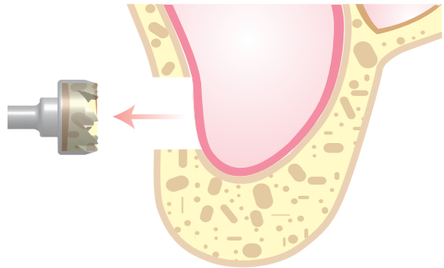


Trephine Drill III Window Opening for Lateral Window Approach

Diameter	Ø 7.0 (Outer)
	KWTT60



The root apex of the guide drill is projected 0.5mm more than the cutting part, so that the drilling can be guided.



Implant Site Drill Sinus Lift & Bone Chip Extraction Prior to Implant Placement

Diameter	Ø 3.5	Ø 4.0	Ø 4.5	Ø 5.0
	KTIS35	KTIS40	KTIS45	KTIS50

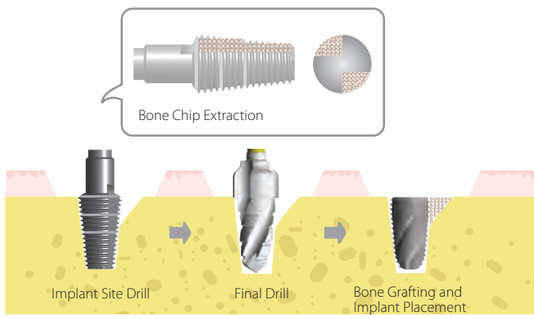
> Used before the Final Drill is used (simplified drilling sequence).

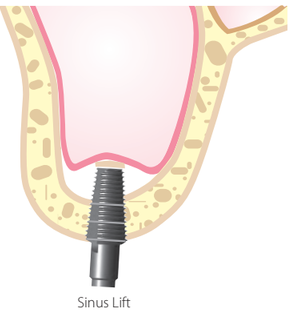
> Advantageous for securing autogenous bone.

> Less rpm drilling leads to low bone heating.

> Also used as a sinus lift tool (Sinus Lift).

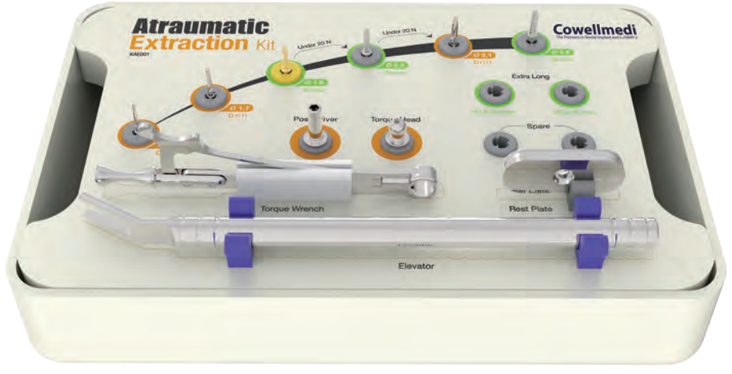
> Desired rpm : 20~30rpm.





Atraumatic Extraction Kit [KAE001]

> Used for the immediate and effortless extraction of the root of the tooth with simple procedures.



(1) Diversity

A root extraction can be done regardless of whether residual amount of root is large or small.

(2) Safety

A root extraction without the risk of damaging adjacent teeth is possible using the Rest Plate, Elevator, etc.

(3) Convenience

A very simple and convenient root extraction is possible, compared to the existing extraction method.

(4) Reduced Procedure Time

The procedure time is reduced due to the simple procedure.

Composition

Extraction Drill & Screw

Ø 1.3 Drill | Ø 1.7 Drill | Ø 1.8 Screw | Ø 2.2 Screw | Ø 2.1 Drill | Ø 2.6 Screw

Rest Plate

Torque Wrench

Post Driver

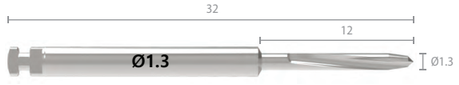
Torque Head

Elevator

1. Extraction Drill

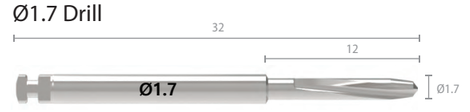
> The Extraction Drill is composed of three types of Drills (Ø1.3 / Ø1.7 / Ø2.1) that can be selected according to the case.

Ø1.3 Drill



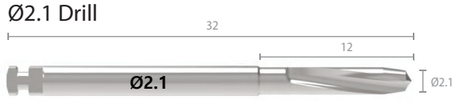
Code	KAAD13

Ø1.7 Drill



Code	KARD17

Ø2.1 Drill



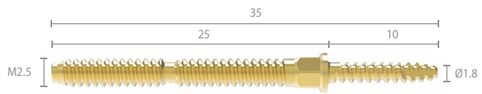
Code	KAMD21

2. Extraction Screw

> The Extraction Screw is fastened into the hole that was created by the Extraction Drill via the Screw method, and it is stably fixed to the remaining root. It is composed of the Ø1.8 / Ø2.2 / Ø2.6 Screws that can be selected according to the Extraction Drill.

> The Ø1.8 Screw is used for vital root of which canal is not treated, after using the Ø1.7 Drill.

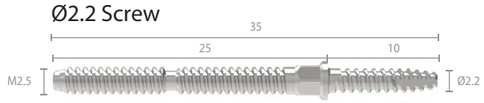
Ø1.8 Screw



Code	KAAS16	* KAAS16X
Length	*10*	*15*

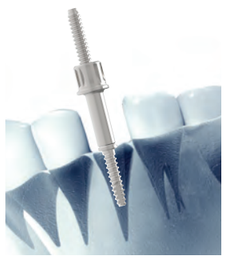
* Extra product

Ø2.2 Screw

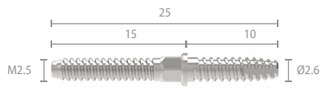


Code	KARS20	* KARS20X
Length	*10*	*15*

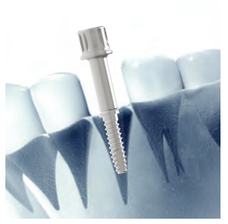
* Extra product



Ø2.6 Screw

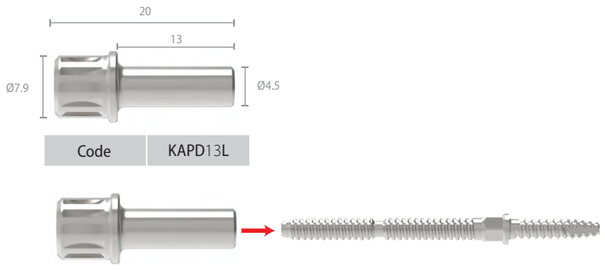


Code	KAMS25

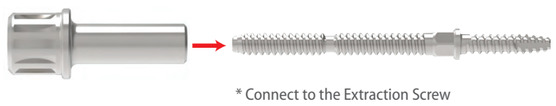


3. Post Driver

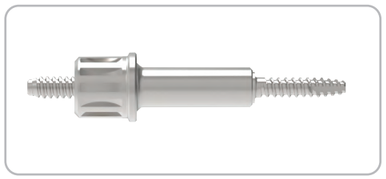
> After connecting the Post Driver to the Extraction Screw, turn the Torque Wrench in a clockwise direction in order to fix it to the hole that was created by the Extraction Drill (recommended torque : Min. 20N.cm ~ Max. 35N.cm).



Code	KAPD13L

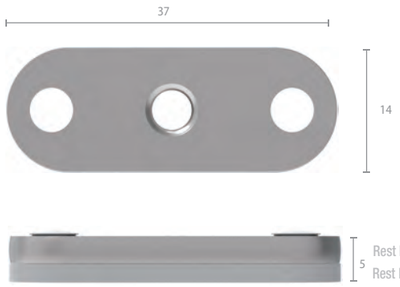


* Connect to the Extraction Screw



4. Rest Plate

> The Rest Plate is connected between the Extraction Screw and the Torque Head. It protects the part with silicon that comes into direct contact with the adjacent teeth in order to prevent teeth damage.
It also serves as a support for the Elevator and Torque Wrench.



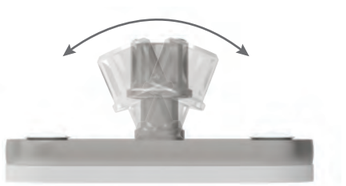
Code	KARP001

5. Torque Head

> The Torque Head is connected to the Extraction Screw that is fixed in the tooth to be extracted.
It fixes the gap of the Rest Plate and it can be used with the Elevator.

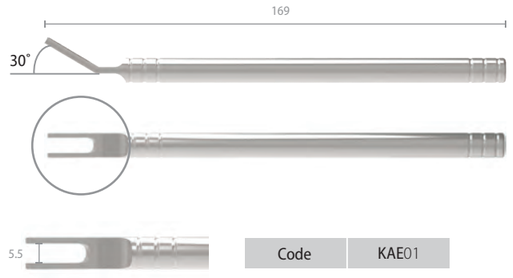
> If the root to be extracted has both distal and mesial adjacent teeth, it will be extracted with the Torque Wrench (recommended torque : 100N.cm or less).

Code	KATH80

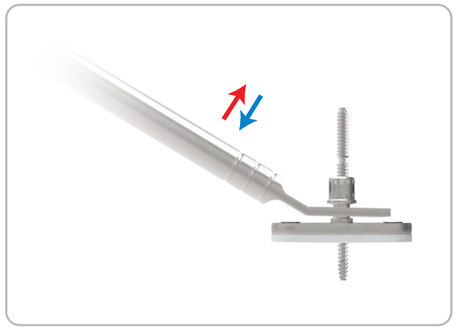


6. Elevator

> The Elevator is used by connecting it with the Torque Head and extracting the root by applying force toward a distal or mesial direction.



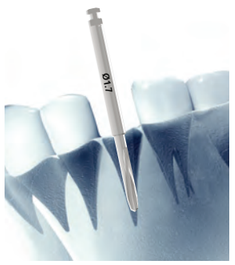
Code	KAE01



How to Use

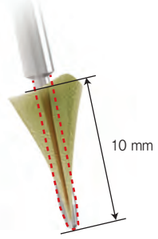
1. Extraction Drill

Create a hole on the tooth to be extracted using the Extraction Drill.



Caution A

- The Extraction Drill must follow the neural root canal during drilling.
- Drill down to at least 10mm because extraction is possible even if the Drill and Screw penetrate the root.



2. Extraction Screw

Connect the Extraction Screw to the Post Driver and fix it to the hole created by rotating it clockwise (recommended torque: Min. 20N.cm ~ Max. 35N.cm).

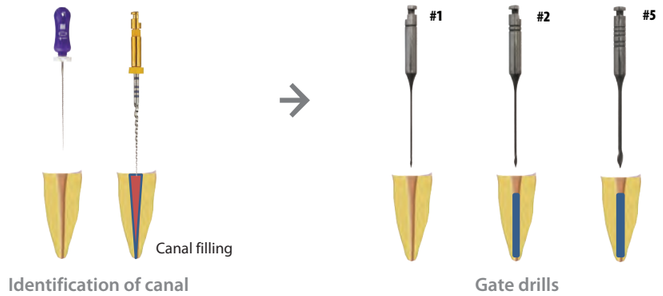
Connect Post Driver to the Extraction Screw.

Caution B

- Drill to a depth of 10~12mm and insert the Extraction Screw at a depth of 10mm.
- Fix the Screw with 20~25N.cm.

* Drilling Sequence

Root Canal Preparation



Identification of canal

Gate drills

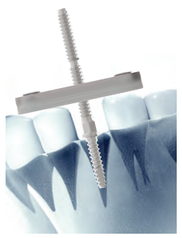
Atraumatic Extraction kit

Caution C

- Fix the screw with a torque of 20~25N.cm. If it is not applied, use a thicker Screw.
- The low torque force causes the Screw to fall out during the extraction, and the over torque force fractures tooth root.

3. Rest Plate

After removing the Post Driver, connect a Rest Plate to the Extraction Screw by taking into account the adjacent teeth.



Rest Plate

4. Torque Head

Connect the Torque Head to the Extraction Screw projected above the Rest Plate by rotating it clockwise.

Connect Torque Head to Screw

5. Torque Wrench

Extract the tooth by rotating the Torque Head clockwise using the Torque Wrench.

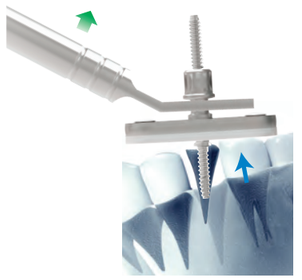
Extraction Root

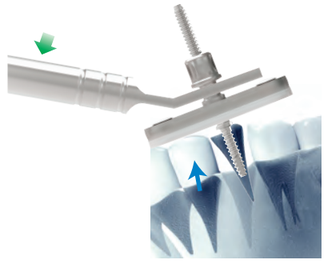
Caution D

- Extraction using the Torque Wrench is possible in a root with mesiodistal root.

Caution E

- If there are adjacent teeth with 2 or higher swaying degrees, upward pulling or downward pressing should be applied using the Elevator so that the teeth will not receive force during extraction.



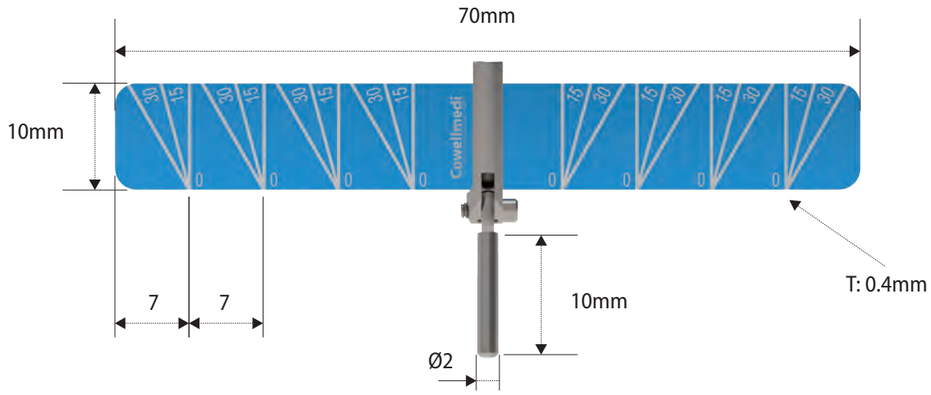


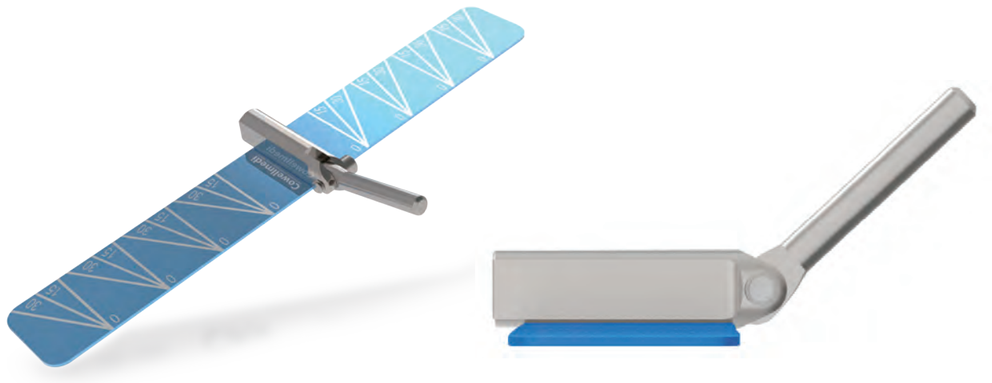
Caution F

- If there is an adjacent tooth projected to the mesiodistal root, it must be extracted using the Elevator.

AO4 Surgical Stent [KDSS001]

> Guide the position of Implant and Drill.





Characteristic

> Guide the position of the implant and drill during implant placement.

> It improves the stability and accuracy in surgery, and it can shorten the time.

> By preventing the loss of healthy gums as much as possible, pre-fabricated prostheses can be placed immediately after surgery without the need for gum restoration.

> Angled line allows more precise and predictable surgery.

Eligible for

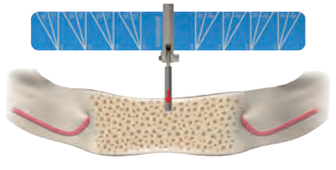
> A toothless patient.

> Patient who do not want long-period of surgery.

> Patients suffering from adult diseases such as hypertension and diabetes.

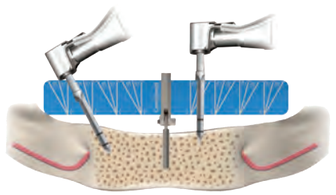
> Patients who need precise implant treatment.

Instruction



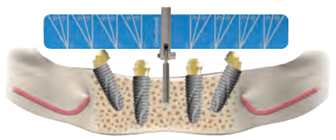
Place the AO4 Surgical Stent

- Make an incision for flap lift.
- Place the AO4 Surgical Stent using Ø2mm Twist Drill.
  * It is needed to check the position of mental foramen.



Place the INNO Fixture

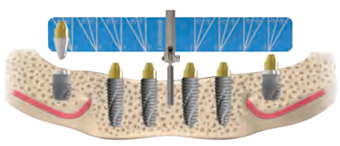
- Drill with reference to the angled line and place the fixture.



Place the Multi S&A Abutment

- After placing the INNO fixture, connect the Multi S&A Abutment according to the site.
  * Posterior site: Place the Multi A abutment (30°) with 30N.cm torque force.
  * Anterior site: Place the Multi A abutment (15°) or the Multi S abutment with 15N.cm torque force (it is possible to allow emergence of the prosthetic screw).

or



Placement Lock Abutment

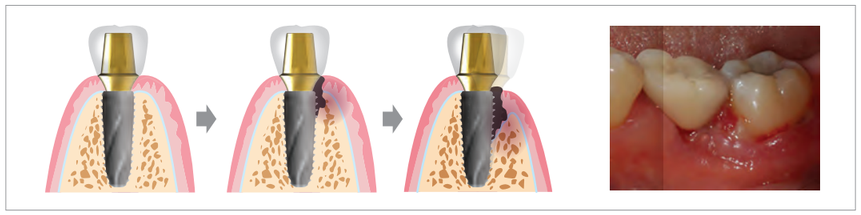
- After placing the INNO Fixture, connect Lock Abutment according to the site.
  * If implant placement at an angle is not appropriate or not desired, using the INNO Sub. Short Implant is highly recommended.

Volume-up Guide System

> Devised for preventing food penetration and forming natural cervical area by restoring contracted buccal alveolar bone & gingiva to the original shape and width.

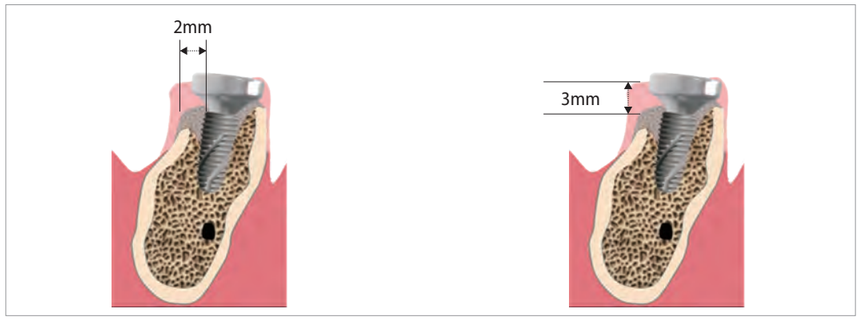
1. CONCEPT

• Peri-implant inflammations represent serious diseases after dental implant treatment, which affect both the surrounding hard and soft tissue.



To achieve long term success of implant without complications like peri-implantitis, right position of fixture with min. 2mm of buccal bone width for buccal gingival regeneration and alveolar bone regeneration at min. 3mm lower position to maintain gingival height is extremely essential.

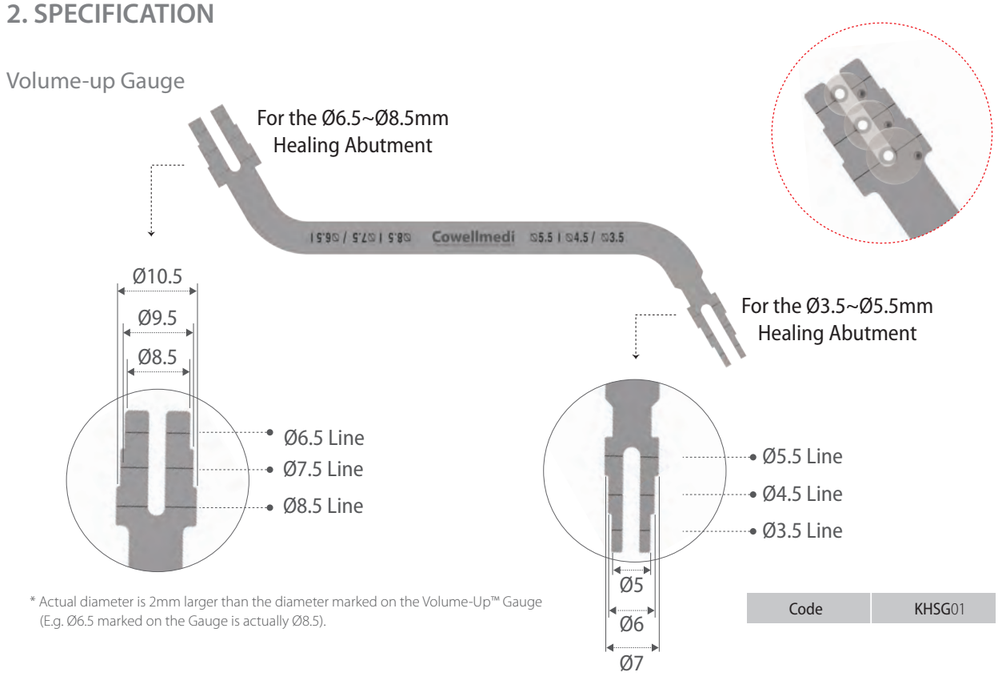
Min. 2mm of buccal bone regeneration to maintain having buccal gingiva. (Int J Periodontics Restorative Dent 2005)	Alveolar bone regeneration at minimum 3mm lower position to maintain gingival height. (Clin Oral Implants Res 2000;11: 1–11.)



The Volume-up Guide System helps place implant in the right position according to 2 abovementioned clinical factors and helps select right dimension of the Healing Abutment to be used as a scaffold while gingival forming.

2. SPECIFICATION

Volume-up Gauge



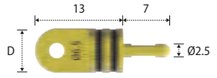
* Actual diameter is 2mm larger than the diameter marked on the Volume-Up™ Gauge (E.g. Ø6.5 marked on the Gauge is actually Ø8.5).

Code	KHSG01

> Used to guide the position of implant placement and to guide the election of the Healing Abutment dimensions in order to keep the cervical portion of the implant prosthesis at the natural tooth width.
> Used with the Volume-up Parallel Pin for multiple units or bridge.
> Used with Point Drill (Ø2.1mm or less).
> Laser marking identifiable from any position.

※ For the selection of the Healing Abutment, refer the pages 34, 63, 81 & 100.

Volume-up Parallel Pin

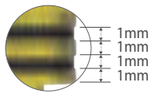


> Used for bridge or multiple units with the Volume-up Gauge.
> For bridge or multiple units.
> For Ø3.5, Ø4.5 and Ø5.5, place the fixture and use the Healing Abutment instead of the Volume-up Parallel Pin.

Departure Avoidance
Connected with a silk to prevent it from falling out into the oral cavity.

Diameter Marking
Marked and colored by diameter.

Gingival Height Marking
1~4mm of cuff marking.



Pin
Inserted into the hole formed by the Point Drill.

Ø6.5	Ø7.5	Ø8.5
KVPP65	KVPP75	KVPP85

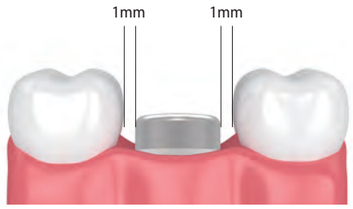
3. PROCEDURE

I. Single Implant

Set the Volume-up Gauge on the implant site according to the diameter line marked on the Volume Up Gauge.

Position the Point Drill in the drill insertion groove of the Volume-up Gauge.

Drill and place the implant in accordance with the manufacturer's implantation sequence.



If implant placement torque is equal to or over 20~30N.cm, connect the Healing Abutment. If not, connect the Cover Screw and do primary closure.

II. Multiple Implants & Bridge

Set the Volume-up Gauge and position the Point Drill.

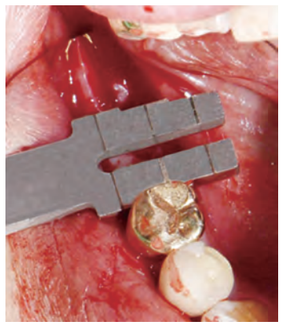
Insert the Volume-up Parallel Pin into the hole formed after point drilling.

Carry out the same as the previous step.

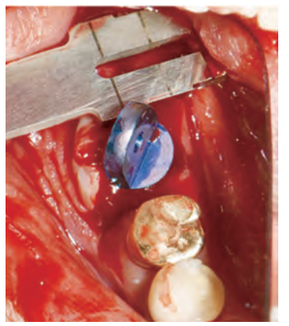
* For the selection of the Healing Abutment, refer the pages 34, 63, 81 & 100.

4. CLINICAL CASE

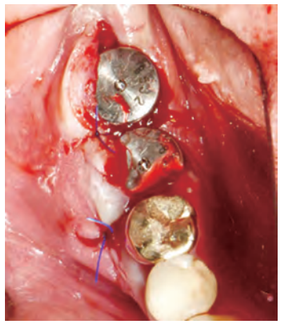
Preoperative view of the healed ridge.



The Volume-up Gauge was set to the 8.5 line and point drilling was carried out.



The Ø8.5 Volume-up Parallel Pin was inserted into the hole formed by point drilling and point drilling was done at the next site guided by the Volume-up Gauge.



The Ø8.5 Healing Abutments were placed after initial & finial drilling and fixture placement and bone grafting, and the site was sutured.

After 4 weeks, the contracted buccal alveolar bone & gingiva to the natural shape and width were restored, which will allow esthetically and functionally great prosthesis fabrication preventing food permeation.

COWELL REGENERATIVE SOLUTION

Inspire confidence through a comprehensive approach

COWELL REGENERATIVE SOLUTION

Mega Derm Plus
An acellular dermal matrix that resists resorption much longer than collagen membranes as the world's first basement membrane layer removed matrix to maximize the transplant engraftment rate.

INNO Oss B
A xenograft composed of 100% bovine cancellous bone with 3-Dimensional structures that allow optimal cell attachment and blood penetration.

INNO CaP
An osteoconductive resorbable synthetic bone graft material composed of 100% calcium phosphate to be progressively replaced by normal-structured bone in the healing period.

INNO GF Kit
Same as COWELL BMP, but provided as a kit with separate E.rhBMP-2 and DCP vials, saline, and syringe.

INNO Oss Allo
An allograft composed of 50% cortical bone and 50% cancellous bone made of FDBA whose efficacy and safety have been verified with the highest pharmacological standard of AATB.

COWELL BMP
The WORLD'S FIRST E.rhBMP-2-based bone graft material that induces bone and cartilage formation as a retinoid mediator that plays a key role in osteoblast differentiation.

PTFE-Mesh
A cost-effective, non-resorbable PTFE barrier membrane to be applied over intraoral defects, especially tooth extraction and bone-augmented sites.
As it is pre-sterilized, no more sterilization is required.

Wifi-Mesh
A non-resorbable barrier membrane reinforced with Wifi symbol-shaped titanium frame between PTFE layers of which efficacy and safety have been proven through numerous clinical trials and registered in CE, TGA, MFDS, etc.

COWELL BMP

Osteoinductive Bone Graft
rhBMP-2 + BCP/DCP

The world's first E.rhBMP-2 (E.Coli derived Recombinant Human Bone Morphogenetic Protein type 2), as a growth factor that induces bone and cartilage formation. It is a retinoid mediator that plays a key role in osteoblast differentiation.

Composition

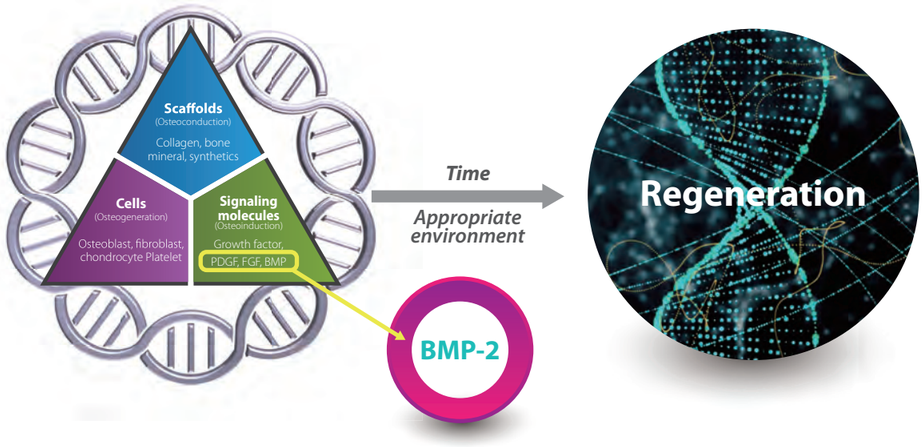
- COWELL BMP is bone graft material based on the E.rhBMP-2, developed for the first time in the world. It is supported by 10 years of clinical data and over 40 studies.
- BCP/DCP as a carrier allows maintenance of space.

Features

- Primary closure for soft tissue regeneration is not required.
- Regenerates adherent gingiva.
- Simplifies challenging bone grafting and soft tissue regeneration.
- Acts directly on stem cells.
- Induces bone regeneration without infection in extraction socket.
- Contains 1mg of bone morphogenic protein per 1g of the particle (1g of autologous bone contains 2ng of bone morphogenic protein).

Development Background

Triad of Tissue Engineering



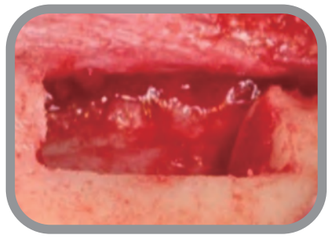
Autologous stem cell transplantation

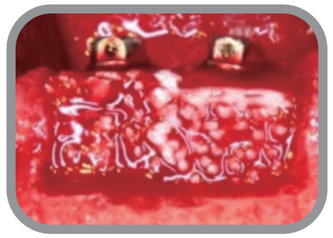
- Less effective due to difficulty of the engraftment in early stage of tissue regeneration
- Cell cultivation causes enormous expense

However, Stem cell growth factors

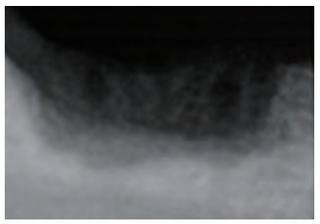
- Effective in tissue regeneration for all vertebrates
- Even human growth factor is effective in both human and animals

Stem cell transplantation VS rhBMP-2



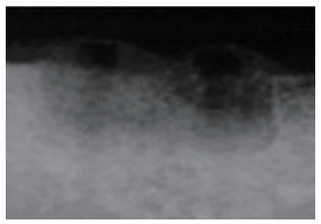


Stem cell transplantation

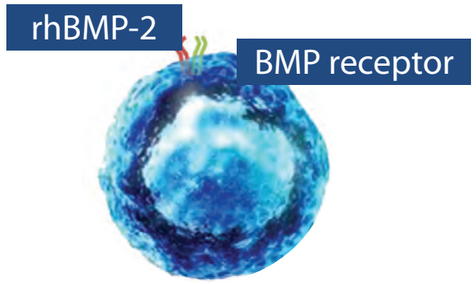


Stem cell & rhBMP-2

rhBMP-2

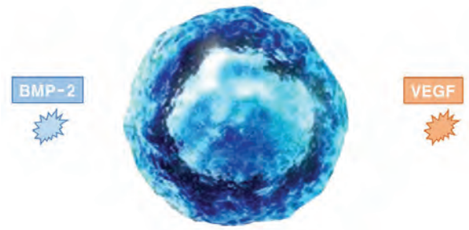


Mechanism of Action of COWELL BMP



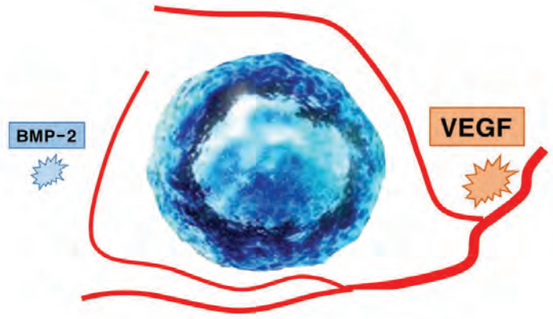
Mesenchymal Stem cell

1. rhBMP-2 bonds with BMP-2 receptor of Stem cell to **activate intracellular phosphorylating enzyme.**

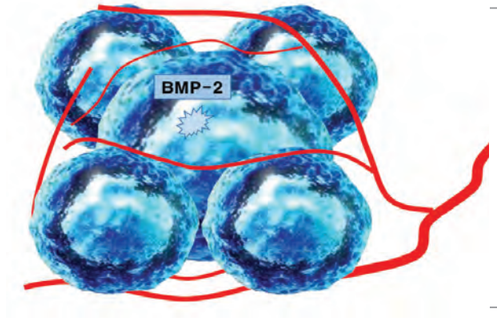


2. BMP-2 of Stem cell and VEFG activates for **protein synthesis and secretion.**

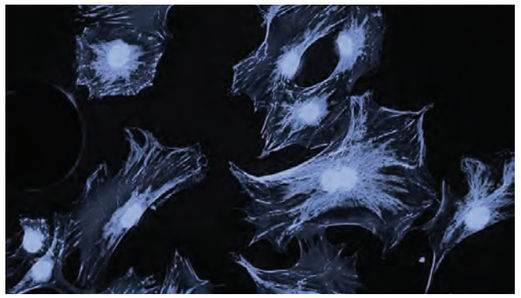
* VEGF : Vascular Endothelial Growth Factor



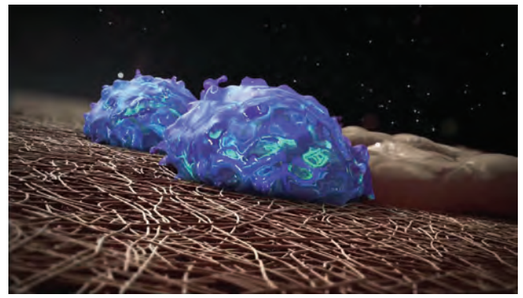
3. VEGF **promotes cell growth** by inducing angiogenesis to nourish Stem cell.



4. BMP-2, activates **cell division** of surrounding Stem cell and promotes rapid proliferation.



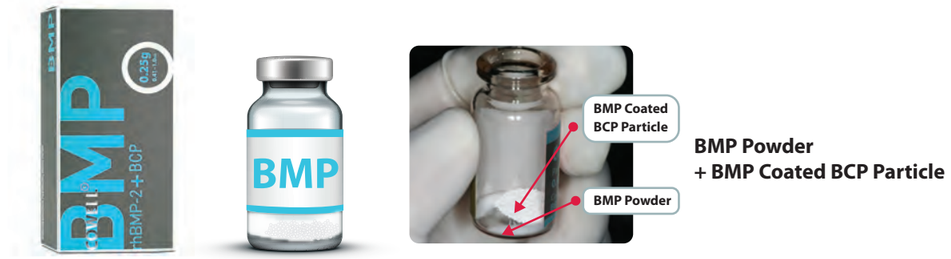
5. Proliferated Stem cells, **differentiate into various cells** according to surrounding tissues.



6. Differentiated cells **form neoplastic tissues** and remodel them according to the surrounding environment.

Product Type

COWELL BMP (One vial)



BMP Powder
+ BMP Coated BCP Particle

• Dose and particle size of the COWELL BMP

Product Code	Particle Size
BB1010	0.41~1.0mm

Product Code	Particle Size
BB1025	0.41~1.0mm

Product Code	Particle Size
BB1050	0.41~1.0mm

※ A vial of 0.1g can be used for less than one extraction socket, while 0.25g/0.5g can be used for maxillary sinus or for the wide bone defect area.

COWELL BMP Plus (Two vials)

• Dose and particle size of the COWELL BMP Plus.

BMP 0.1mg

Product Code	BMP Dose	Particle Dose	Particle Size
EBB0125	0.1mg	0.25g	0.41~1.0mm
EBB0105	0.1mg	0.5g	0.41~1.0mm
EBB1110	0.1mg	1g	0.41~1.0mm
EBB1220	0.1mg	2g	0.41~1.0mm

BMP 0.25mg

Product Code	BMP Dose	Particle Dose	Particle Size
EBB2525	0.25mg	0.25g	0.41~1.0mm
EBB2505	0.25mg	0.5g	0.41~1.0mm
EBB1125	0.25mg	1g	0.41~1.0mm
EBB1225	0.25mg	2g	0.41~1.0mm

BMP 0.5mg

Product Code	BMP Dose	Particle Dose	Particle Size
EBB0525	0.5mg	0.25g	0.41~1.0mm
EBB0505	0.5mg	0.5g	0.41~1.0mm
EBB1150	0.5mg	1g	0.41~1.0mm
EBB1250	0.5mg	2g	0.41~1.0mm

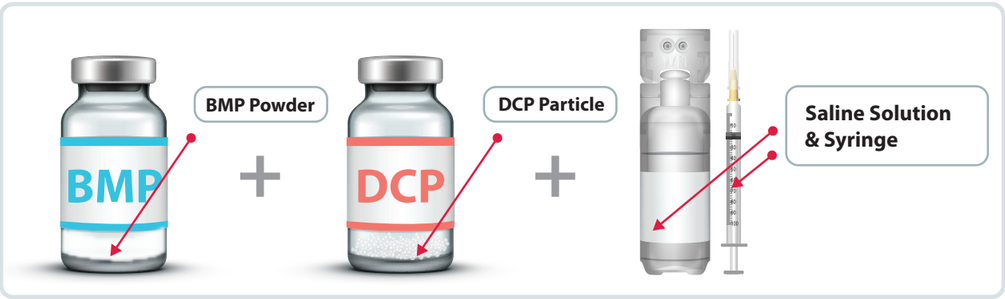
BMP 1mg

Product Code	BMP Dose	Particle Dose	Particle Size
EBB1025	1mg	0.25g	0.41~1.0mm
EBB1050	1mg	0.5g	0.41~1.0mm
EBB1011	1mg	1g	0.41~1.0mm
EBB1012	1mg	2g	0.41~1.0mm

BMP 2mg

Product Code	BMP Dose	Particle Dose	Particle Size
EBB2025	2mg	0.25g	0.41~1.0mm
EBB2050	2mg	0.5g	0.41~1.0mm
EBB2011	2mg	1g	0.41~1.0mm
EBB2012	2mg	2g	0.41~1.0mm

INNO GF Kit (Two vials + Saline Solution + Syringe)



• Dose and particle size of the INNO GF Kit.

BMP 0.1mg

Product Code	BMP Dose	Particle Dose	Particle Size
IBB0125	0.1mg	0.25g	0.41~1.0mm
IBB0105	0.1mg	0.5g	0.41~1.0mm
IBB1110	0.1mg	1g	0.41~1.0mm
IBB1220	0.1mg	2g	0.41~1.0mm

BMP 0.25mg

Product Code	BMP Dose	Particle Dose	Particle Size
IBB2525	0.25mg	0.25g	0.41~1.0mm
IBB2505	0.25mg	0.5g	0.41~1.0mm
IBB1125	0.25mg	1g	0.41~1.0mm
IBB1225	0.25mg	2g	0.41~1.0mm

BMP 0.5mg

Product Code	BMP Dose	Particle Dose	Particle Size
IBB0525	0.5mg	0.25g	0.41~1.0mm
IBB0505	0.5mg	0.5g	0.41~1.0mm
IBB1150	0.5mg	1g	0.41~1.0mm
IBB1250	0.5mg	2g	0.41~1.0mm

BMP 1mg

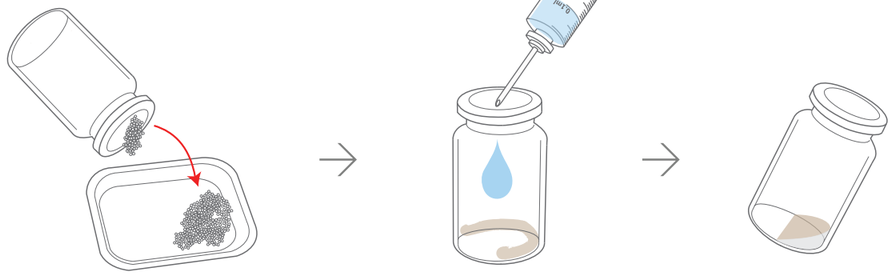
Product Code	BMP Dose	Particle Dose	Particle Size
IBB1025	1mg	0.25g	0.41~1.0mm
IBB1050	1mg	0.5g	0.41~1.0mm
IBB1011	1mg	1g	0.41~1.0mm
IBB1012	1mg	2g	0.41~1.0mm

BMP 2mg

Product Code	BMP Dose	Particle Dose	Particle Size
IBB2025	2mg	0.25g	0.41~1.0mm
IBB2050	2mg	0.5g	0.41~1.0mm
IBB2011	2mg	1g	0.41~1.0mm
IBB2012	2mg	2g	0.41~1.0mm

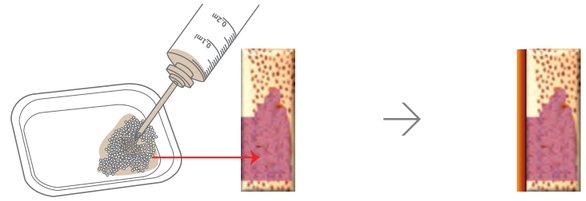
User Guide COWELL BMP

A. Method Ⅰ



a. Transfer DCP graft material (Vial Ⅰ).

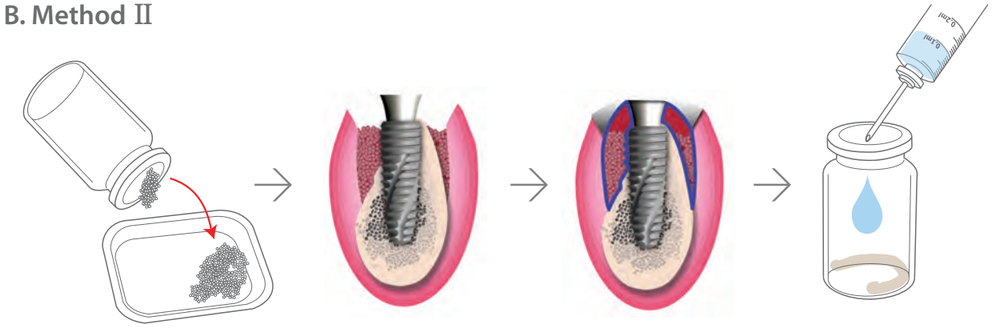
b. Inject distilled water into vial Ⅱ with lyophilized rhBMP-2 power in it and mix with the powder.



c. Mix BMP solution with DCP or plus autogenic / allograft and, apply to the recipient site.

d. Cover the defect area using a barrier membrane or suture natural soft tissue without membrane.

B. Method Ⅱ



a. Transfer DCP graft material (Vial Ⅰ) into a container.

b. Apply DCP into the recipient site and cover the defect area using a barrier membrane or suture natural soft tissue without membrane.

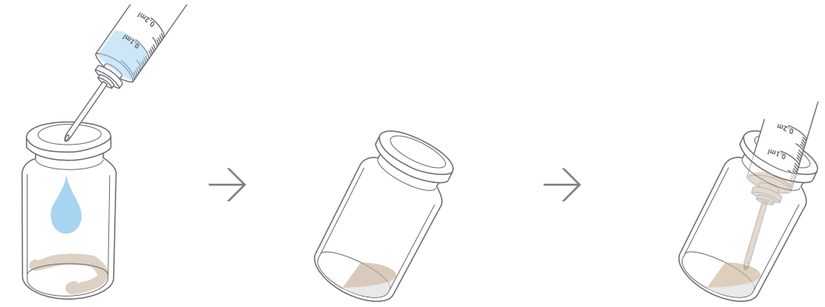
c. Inject distilled water into lyophilized rhBMP-2 powder (vial Ⅱ).

d. Mix rhBMP-2 with distilled water (saline solution) and wait for 10 to 15 seconds before using.

e. Aspirate the mixture using a syringe.

f. Inject BMP solution through soft tissue until needle of syringe reaches bone.

C. Method III



a. Inject distilled water into vial II with lyophilized rhBMP-2 power in it and mix with the powder.

b. Aspirate the mixture using a syringe.

c. Hydrate BMP-2 solution into membrane.

d. Apply BMP-2 solution socked membrane to damaged site.

Dose of distilled water to make the mixture (BMP-2 Solution)

BMP Dose	Distilled Water Dose	BMP Dose	Distilled Water Dose
0.1mg	0.1ml	2mg	1.6ml
0.25mg	0.2ml	5mg	4ml
0.5mg	0.4ml	10mg	8ml
1mg	0.8ml	20mg	16ml

Video

* Scan above QR code to watch videos of user guide of COWELL BMP

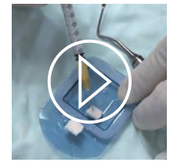
1. Mixture with bone graft material

Full dose of COWELL BMP	Excess leakage of COWELL BMP

Douse bone graft material immediately before the graft to minimize the time for rhBMP-2 protein to adsorb to bone graft calcium ingredient.

Particle bone graft

Collagen Plug



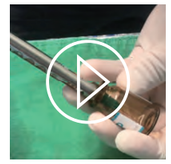
Bone matrix

2. Injection into bone graft site

½ dose of COWELL BMP	Moderate leakage of COWELL BMP

Even if the solution leaks out of the gingival after the injection, the effect is the same since the minimum effective drug dose has reached the stem cells.

General Syringe



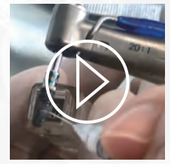
Lidocaine Syringe

3. COWELL BMP coated implant

½ dose of COWELL BMP	Moderate leakage of COWELL BMP

The bone marrow stem cells are directly activated by placement of rhBMP-2 coated implant.

INNO Implant_1

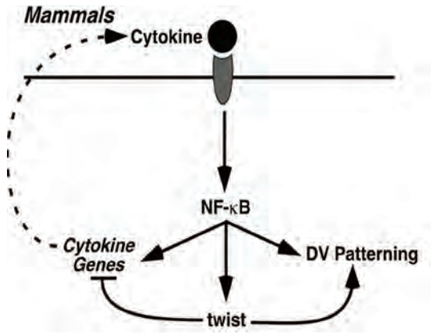


INNO Implant_2

Safety of COWELL BMP

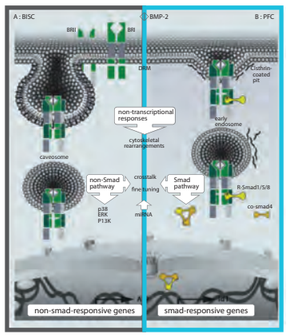
Q : Bone overgrowth by rhBMP-2?

A : rhBMP-2 is safe from bone overgrowth because Twist-2 is synthesized in Stem cells to stop cell division when bone formation period is completed.



Cell, Vol. 112, 169–180, January 24, 2003

European Journal of Endocrinology (2000) 142 9–21

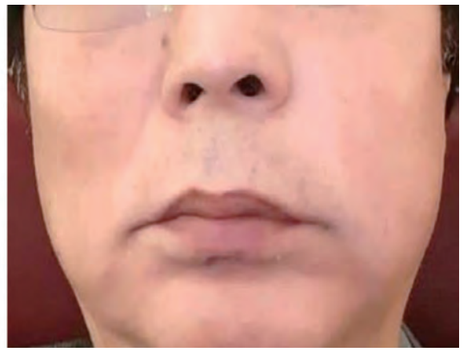


Cell proliferation **Cell differentiation**

- Bonding to BMP-2 receptor
- Signal pathway
- Nuclear activation
- **VEGF, BMP Synthesis**

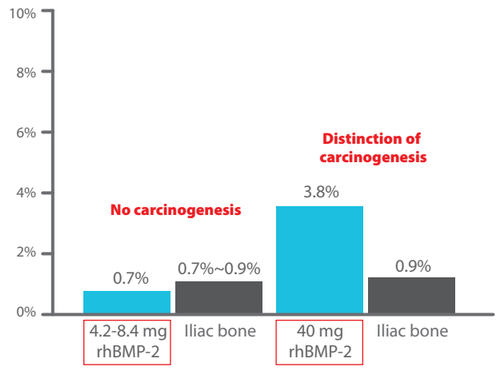
Q : Swelling occurrence after using rhBMP-2?

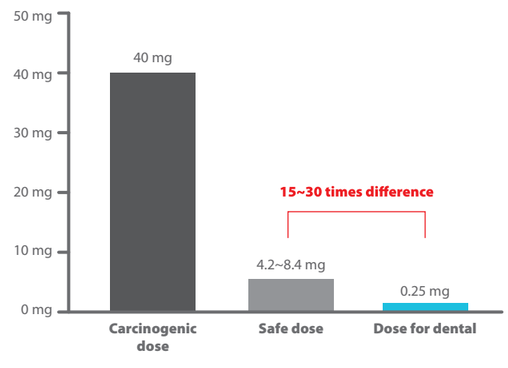
A : Relief incision may cause swelling due to angiogenesis proliferation in muscle but it is pain-free. Also, swelling is a transitional phenomenon and it is not a side effect.



Q : Correlation between cancer incidence and usual dose of rhBMP-2?

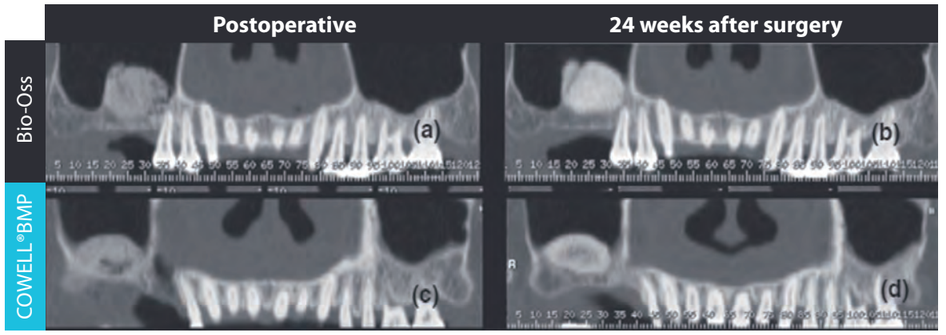
A : Generally, rhBMP-2 may be related to cancer incidence only when total dose is over 40mg.
Countless research has proven that the safety standard dose is 4.2~8.4mg. COWELL BMP is supplied below the safety standard dose only.
(E.g. COWELLBMP 0.25g contains 0.25mg of rhBMP-2 which is 15 to 30 times lower than the safety standard.)





Q : Seroma occurrence after using rhBMP-2?

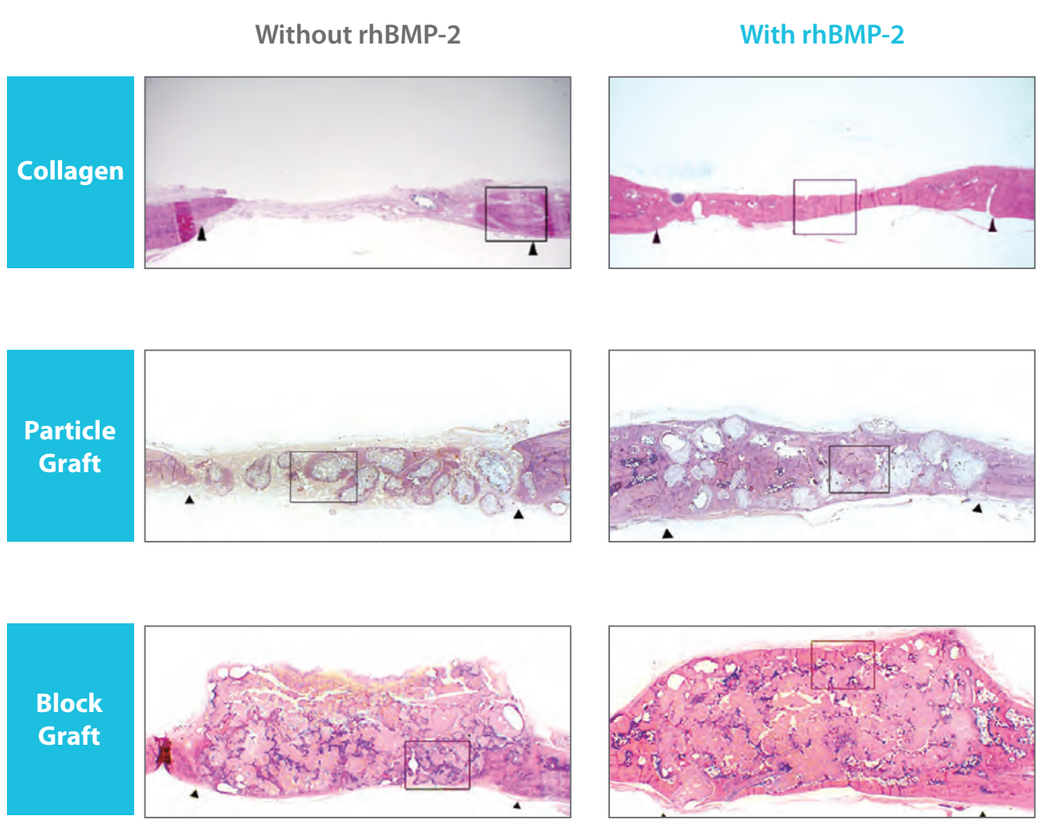
A : After sinus lift surgery, excessive secretion of exudate during healing period may undertow in the grafted site of sealed maxillary sinus and develop into seroma but soon disappear. To limit the use to a maximum of 0.25 mg is safer rather than a high dose.



Effectiveness of COWELL BMP

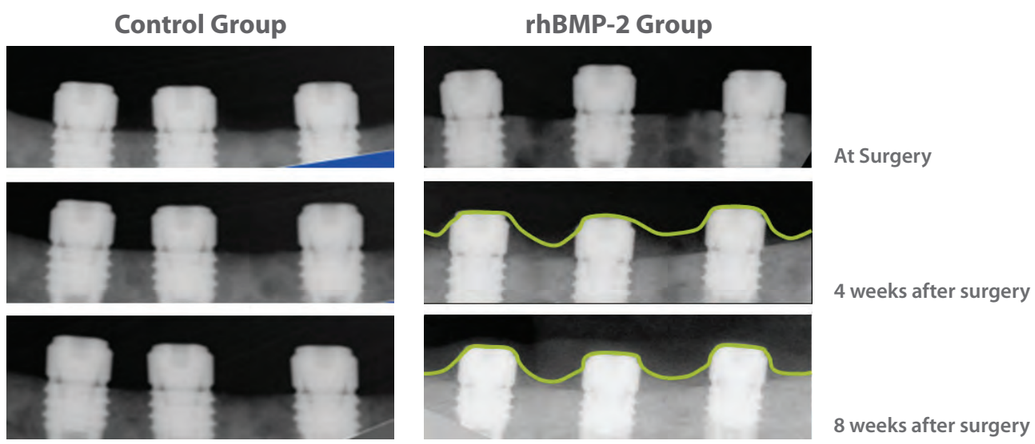
■ Critically Defected Model

Bone Graft Type

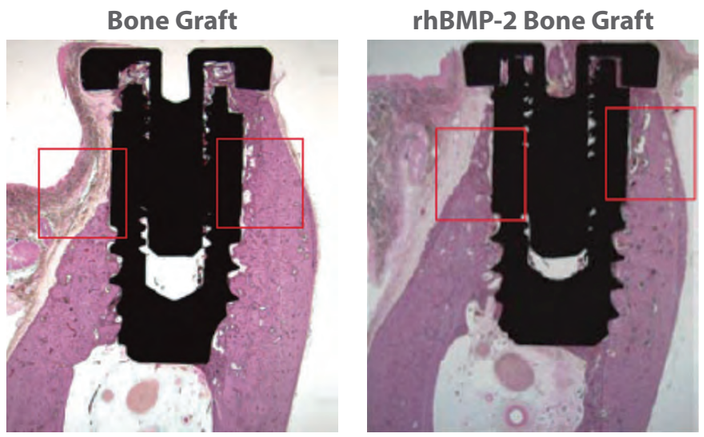


■ rhBMP-2 Coated Implant

Vertical Defect



Dehiscence Defect

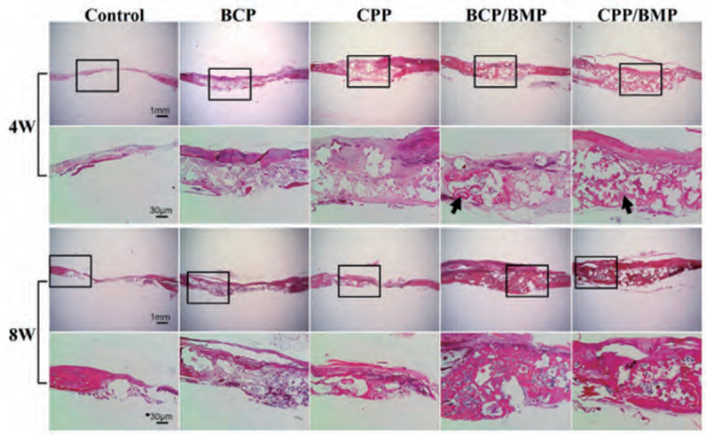


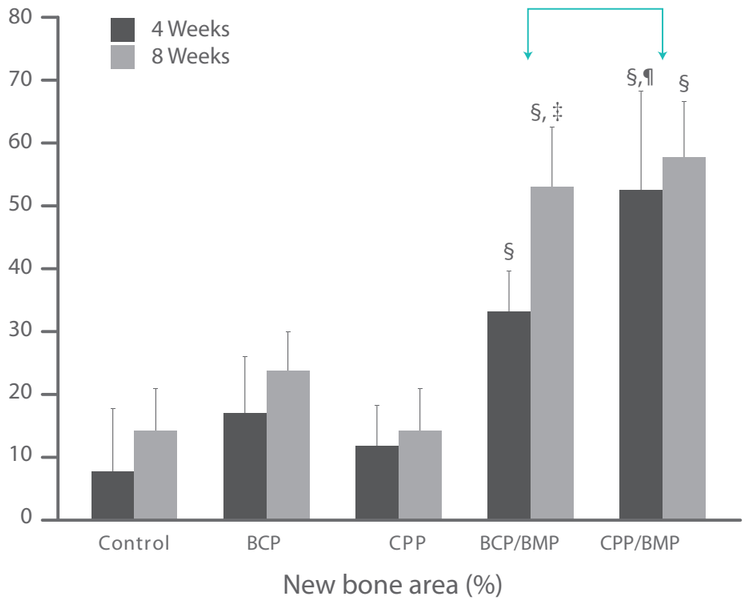
* Bone is safely formed without barrier membrane after rhBMP-2 bone graft, however, when use of general bone graft, barrier membrane is essential

Effectiveness of COWELL BMP

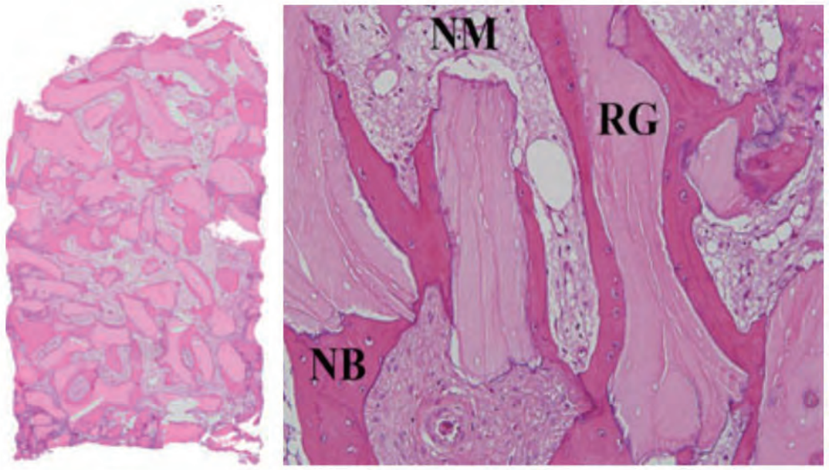
■ Comparison with other materials

Both Calcium Pyrophosphate, CPP(Ca/P=1) and Biphasic Calcium Phosphate, BCP(Ca/P=1.55) are very effective for early osteoanagenesis. CPP, however, has higher absorption rate than BCP and is slightly more effective for osteoanagenesis.

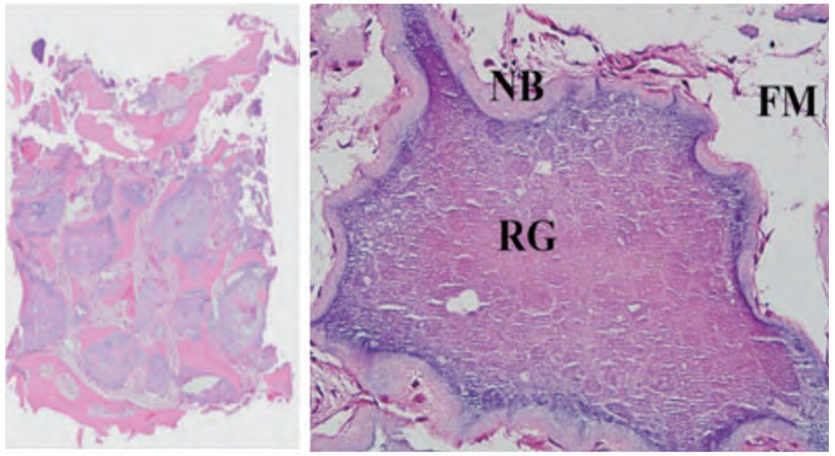




There is no difference in the ratio of new bone generation.
However, Graft B forms hard fibrous tissue between particles and the COWELL BMP fills bone marrow tissue.
The Graft B received site has high resistance against drilling while the COWELL BMP has excellence in bone remodeling by bone.



Control (“Graft B”)



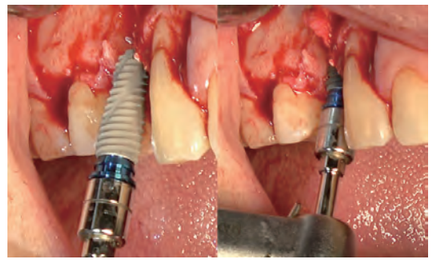
COWELL BMP

CLINICAL **CASE**

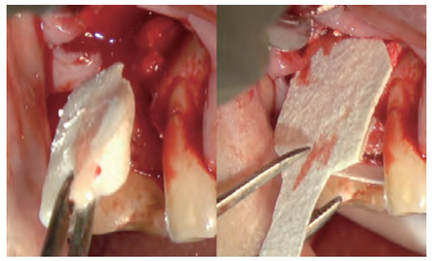
Case 1.
Bone Regeneration and Gingival Improvement Using Bone Augmentation using COWELL BMP

Dr. Claudio Sotomayor Julio, D.D.S.
Chille

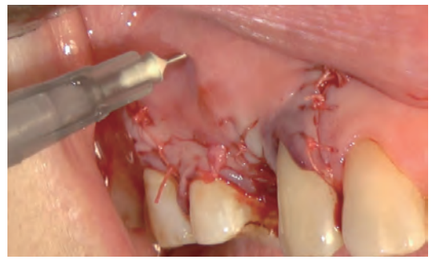
Pre-operative



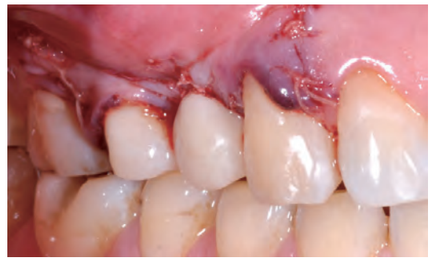
INNO implant placement



2 layers of membrane placement with COWELL BMP BCP powder



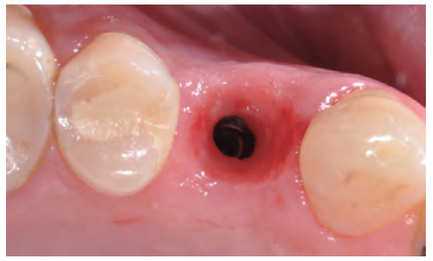
COWELL BMP injection



Post-operative

1 month

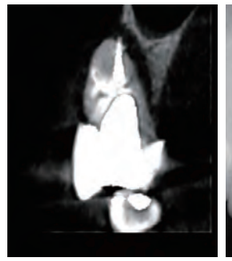
4 months healing period and removal of adhesive provisional tooth



2 weeks after connection surgery

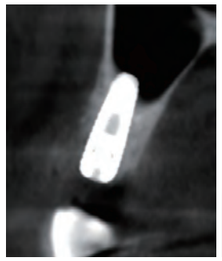
5 months

5 month after surgery : final rehabilitation



Pre-operation
(18. 08. 02)

Post-operation
(18. 08. 02)



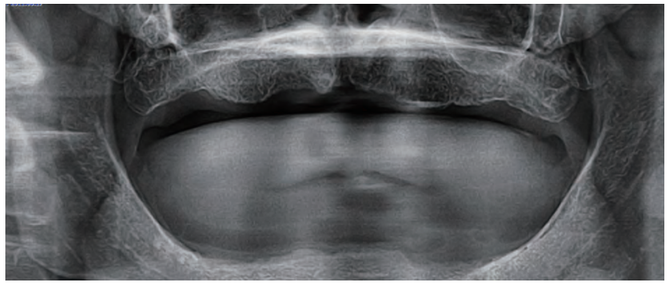
4 months
(18. 12. 03)

1 year
(19. 08. 06)

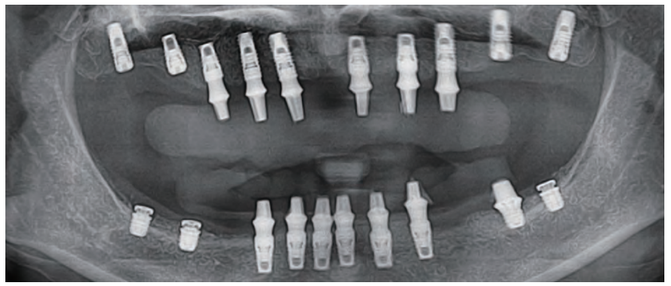
CLINICAL **CASE**

Case 2.
Bone regeneration in combination of rhBMP-2 and autogenous bone

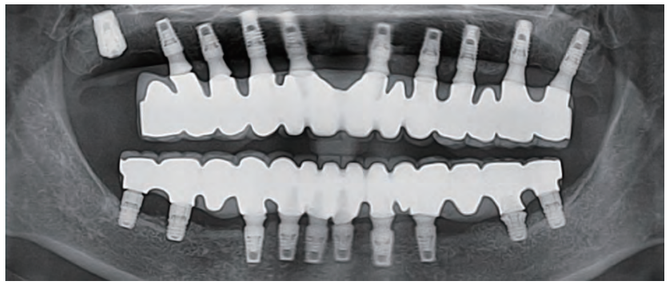
62 years old, Female



Preoperative
2010. 04. 05



Postoperative
2010. 04. 05



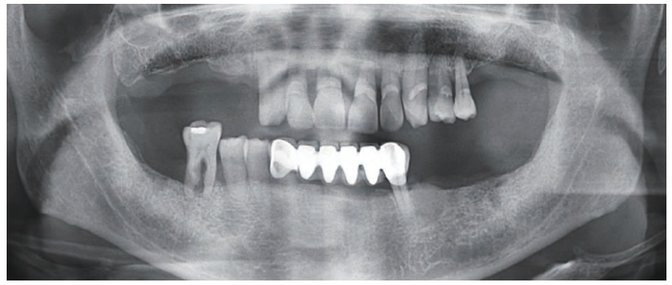
10 months
2011. 02. 25

8 years
2019. 01. 18

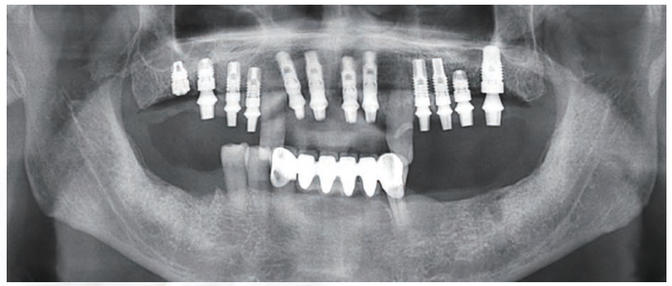
CLINICAL **CASE**

Case 3.
Staged implantation in healed ridge and extraction socket

63 years old, Male

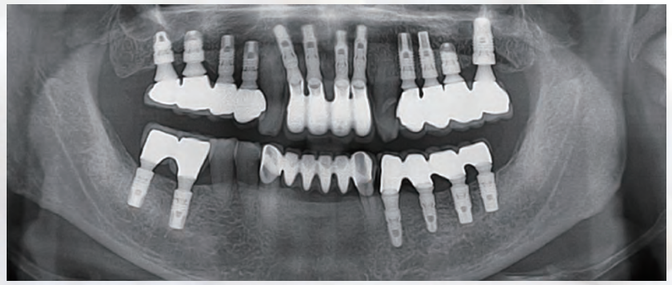


Preoperative
2010. 04. 06



Postoperative
2010. 04. 30

9 months
2011. 01. 19



8 years
2019. 01. 08

Scientific Proofs of COWELL BMP's Effectiveness

1. Analysis of hydrolyzable polyethylene glycol hydrogels and deproteinized bone mineral as delivery systems for glycosylated and non-glycosylated bone morphogenetic protein-2.
   Acta Biomater. 2012 Jan;8(1):116-23.
2. Effects of rhBMP-2 Coating Tricalcium Phosphate on Socket Preservation in Dog Extraction Socket.
   Tissue Engineering and Regenerative Medicine, Vol. 5, No. 4~6, pp 637-642 (2008)
3. Effects of Polycaprolactone-Tricalcium Phosphate, Recombinant Human Bone Morphogenetic Protein-2 and Dog Mesenchymal Stem Cells on Bone Formation: Pilot Study in Dogs.
   Yonsei Med J 50(6): 825-831,(2009)
4. The induction of bone formation in rat calvarial defects and subcutaneous tissues by recombinant human BMP-2, produced in Escherichia coli.
   Biomaterials 31 (2010) 3512–3519
5. Alveolar ridge augmentation using anodized implants coated with Escherichia coli–derived recombinant human bone morphogenetic protein 2.
   Oral Surg Oral Med Oral Pathol Oral Radiol Endod. (2011) Jul;112(1):42-9
6. Bone formation of Escherichia coli expressed rhBMP-2 on absorbable collagen block in rat calvarial defects.
   Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2011;111:298-305
7. Bone formation of block and particulated biphasic calcium phosphate lyophilized with Escherichia coli–derived recombinant human bone morphogenetic protein 2 in rat calvarial defects.
   Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2011;112:298-306.
8. Induction of bone formation by Escherichia coli- expressed recombinant human bone morphogenetic protein-2 using block-type macroporous biphasic calcium phosphate in orthotopic and ectopic rat models.
   J Periodontal Res. (2011) Dec; 46(6):682-90.
9. Enhanced adipogenic differentiation and reduced collagen synthesis induced by human periodontal ligament stem cells might underlie the negative effect of recombinant human bone morphogenetic protein-2 on periodontal regeneration.
   J Periodontal Res (2011); 46: 193–203
10. The Effects of rhBMP-2 Injection at Distraction Osteogenesis of Rats' Tibia.
    Tissue Engineering and Regenerative Medicine, Vol. 8, No. 2, pp 158-163 (2011).
11. Discontinuous Release of Bone Morphogenetic Protein-2 Loaded Within Interconnected Pores of Honeycomb-Like Polycaprolactone Scaffold Promotes Bone Healing in a Large Bone Defect of Rabbit Ulna.
    Tissue Eng Part A. 2011 Oct;17(19-20):2389-97.v
12. The effect of immobilization of heparin and bone morphogenic protein-2 to bovine bone substitute on osteoblast-like cell's function.
    J Adv Prosthodont 2011; 3:145-51
13. Multicenter, randomized clinical trial on the efficacy and safety of Escherichia coli-derived rhBMP-2 with β-Tricalcium phosphate and hydroxyapatite in human extraction sockets.
    J Adv Prosthodont 2011; 4:178-182
14. Effects of Anodized Implants Coated With Escherichia coli-Derived Recombinant Human Bone Morphogenetic Protein-2 on Osseointegration in Rabbits.
    Tissue Engineering and Regenerative Medicine, Vol. 8, No. 1, pp 62-68 (2011)
15. Novel analysis model for implant osseointegration using ectopic bone formation via the recombinant human bone morphogenetic protein-2/macroporous biphasic calcium phosphate block system in rats: a proof-of concept study.
    J Periodontal Implant Sci 2012; 42:136-143
16. Effects of anodized implants coated with Escherichia coli-derived rhBMP-2 in beagle dogs. Int.
    J. Oral Maxillofac. Surg. 2012; 41: 1577–1584.
17. Bone formation of middle ear cavity using biphasic calcium phosphate lyophilized with Escherichia coli-derived recombinant human bone morphogenetic protein 2 using animal model.
    International Journal of Pediatric Otorhinolaryngology 77 (2013) 1430–1433
18. Bone formation and remodeling of three different dental implant surfaces with Escherichia coli-derived recombinant human bone morphogenetic protein 2 in a rabbit model.
    Int J Oral Maxillofac Implants. 2013; 28(2):424-30
19. Recombinant Human Bone Morphogenetic Protein-2 Stimulates the Osteogenic Potential of the Schneiderian Membrane: A Histometric Analysis in Rabbits.
    Tissue Eng Part A. 2013 Sep;19(17-18):1994-2004
20. The effect of anodized implants coated with combined rhBMP-2 and recombinant human vascular endothelial growth factors on vertical bone regeneration in the marginal portion of the peri-implant.
    Oral Surg Oral Med Oral Pathol Oral Radiol 2013;115:e24-e31.
21. Sinus augmentation using BMP-2 in a bovine hydroxyapatite/collagen carrier in dogs.
    J Clin Periodontol 2014; 41: 86–93.
22. Low-Dose Recombinant Human Bone Morphogenetic Protein-2 to Enhance the Osteogenic Potential of the Schneiderian Membrane in the Early Healing Phase: In Vitro and In Vivo Studies.
    J Oral Maxillofac Surg 72:1480-1494, 2014
23. Prospective randomized, controlled trial of sinus grafting using Escherichiacoli-produced rhBMP-2 with a biphasic calcium phosphate carrier compared to deproteinized bovine bone.
    Clin Oral Implants Res. 2015 Dec;26(12):1361-8.
24. Controlled release of BMP-2 using a heparin-conjugated carrier system reduces in vivo adipose tissue formation.
    J Biomed Mater Res A. 2015 Feb;103(2):545-54.
25. The efficacy of BMP-2 preloaded on bone substitute or hydrogel for bone regeneration at peri-implant defects in dogs.
    Clin Oral Implants Res. 2015 Dec;26(12):1456-65.
26. Effect of rhBMP-2 Immobilized Anorganic Bovine Bone Matrix on Bone Regeneration.
    Int. J. Mol. Sci. 2015, 16, 16034-16052.
27. Effects of rhBMP-2 on Sandblasted and Acid Etched Titanium Implant Surfaces on Bone Regeneration and Osseointegration: Spilt-Mouth Designed Pilot Study.
    Biomed Res Int. 2015; 2015:459393.
28. Comparison of collagen membrane and bone substitute as a carrier for rhBMP-2 in lateral onlay graft.
    Clin Oral Implants Res. 2015;26(1):e13-9.
29. Effects of BMP-2 Delivery in Calcium Phosphate Bone Graft Materials with Different Compositions on Bone Regeneration.
    Materials 2016, 9, 954
30. Source and Carrier Effect on the Bioactivity of BMP Bio-Implants.
    Master of Science 2013. Sylvie Di Lullo 2013, Faculty of Dentistry, University of Toronto
31. Soft and hard tissue changes when socket preservation using rhBMP-2, PRP and Non-Resorbable dPTFE membrane.
    Dental implant Journal: Vol. 3, May, 2014
32. The effect of rhBMP-2 bonegraft on infrabony defects.
    Dental implant Journal: Vol. 3, May, 2014

INNO-CaP Calcium Phosphate , Synthetic Bone Graft

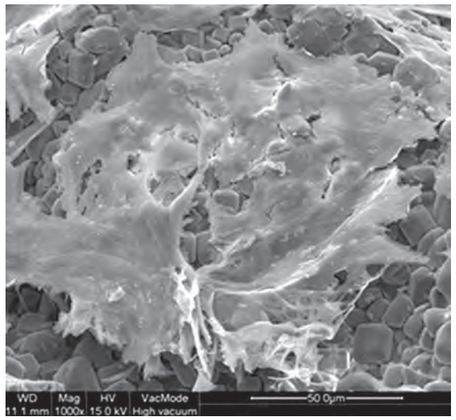
Osteoconductive resorbable synthetic bone graft material

- INNO-CaP is an osteoconductive synthetic resorbable bone graft material consisting of Calcium Phosphate.
- INNO-CaP is completely resorbed and progressively replaced by normal-structured bone in the healing period.

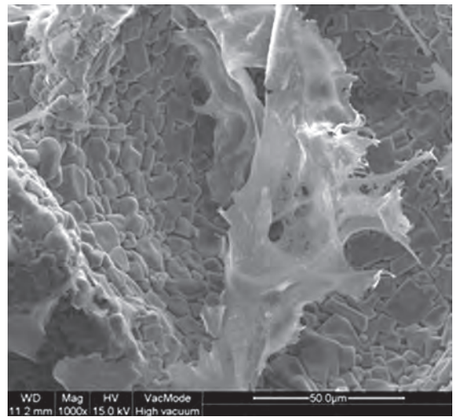
Excellent Biocompatibility and Conductivity

- The characteristic biocompatibility and conductivity of the INNO-CaP represent the most safety.

Cell culture SEM images (14 days)



X1,000

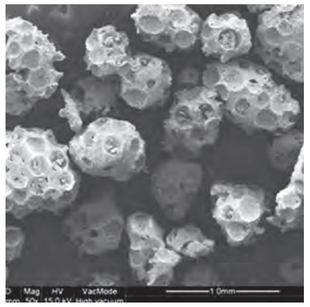


X1,000

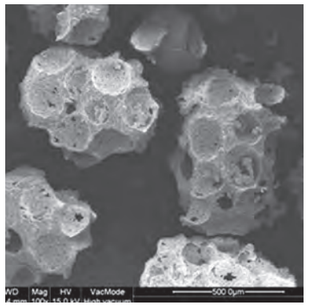
A porosity for new bone ingrowth

- The porosity promotes ingrowth of osteoblast, osteoclast, and growth factors.

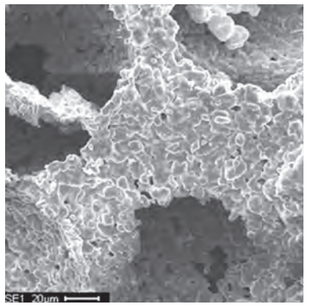
Particle surface SEM image



X50



X100



X500

Indications

Sinus graft surgery

- For sinus graft, INNO-CaP is used alone or in combination with the other graft materials.
- Healing periods residual bone height.

residual bone height	less than 1mm	2~4mm	more than 4 mm
implant placement	post operation 9~12 months	post operation 6 months	simultaneous placement

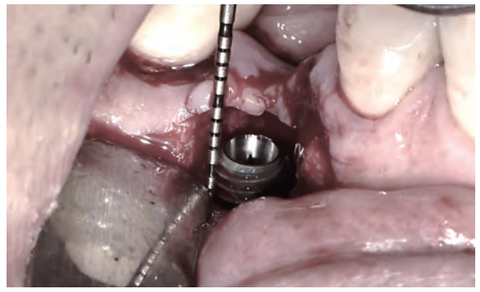
GBR (Guided Bone Regeneration)

- Minimize the amount of autogenous bone.
- Sub-graft materials.
- Vertical and lateral augmentation.
- It is highly recommended to use with COWELL BMP.

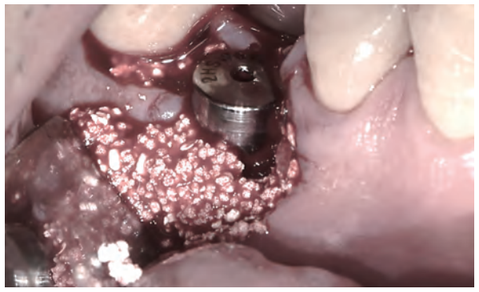
Dose and Particle Size

Product Code	Particle Size	Particle Dose
IG1025	0.4~1.0mm	0.25g
IG1050		0.5g
IG1001		1g
IG1002		2g
IG1425	1.0~1.4mm	0.25g
IG1450		0.5g
IG1401		1g
IG1402		2g

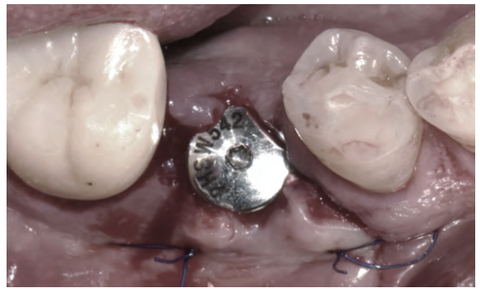
CLINICAL **CASE 1**



#45 Implant placement

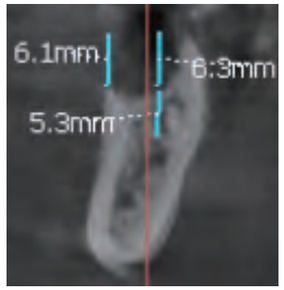


INNO CaP

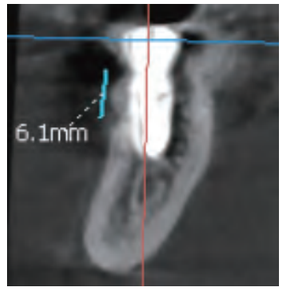


Post-OP

POD 10 weeks

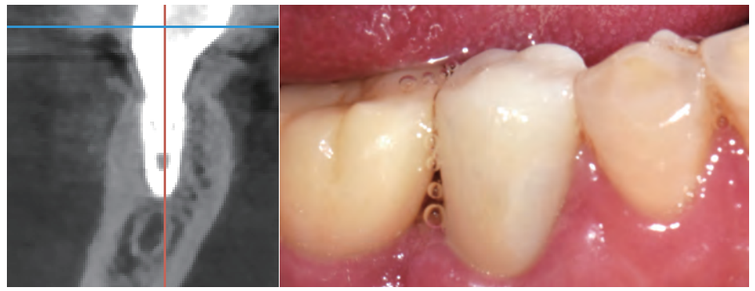


Pre-OP



Post-OP

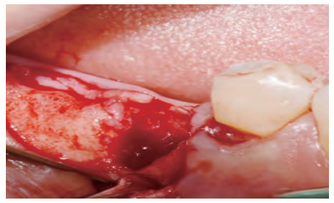
POD 10 weeks



POD 1 year 6 months

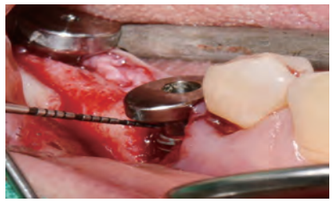
CLINICAL **CASE 2**

Pre-OP



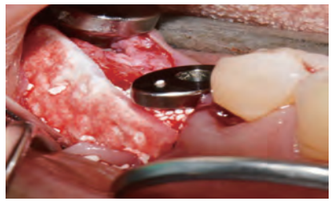
Severe defect

Vertical defect



Horizontal defect

INNO CaP



MegaDerm Plus

Healing period

POD 11 weeks

Pre-OP CT

Post-OP CT

POD 11 weeks

POD 1 year 9 months

POD 11 weeks

POD 12 weeks

POD 1 year 9 months

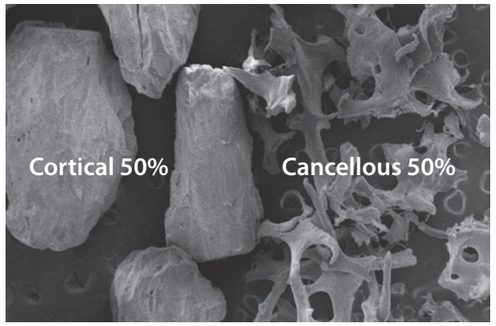
INNO OSS Allo

Allograft
FDBA, Cortical 50% Cancellous 50%

Product Features

- This product is made up of human tissue from trusted donors whose gender, age, and medical history were checked to ensure that their tissue could be used safely.
- It is an ideal combination of 50% cortical powder and 50% cancellous powder for bone induction.
- The 50% cortical powder maintains the space of the transplanted area during the new bone formation due to the delayed absorption rate. [OsteoConduction]
- 50% cancellous powder is rich in minerals and collagen that promote cell adhesion, bone remodeling, and vascular re-formation. [OsteoInduction]
- To prevent cross-infection by a different donor, the process is done by a single donor.
- Under the higher-level pharmacological standards (medical criteria) of the American Association of Tissue Banks (AATB), we sampled, processed, and distributed the allograft tissue.
- We recommend use of this product with the COWELL BMP.
- INNO OSS Allo is classified as a MEDICAL DEVICE.

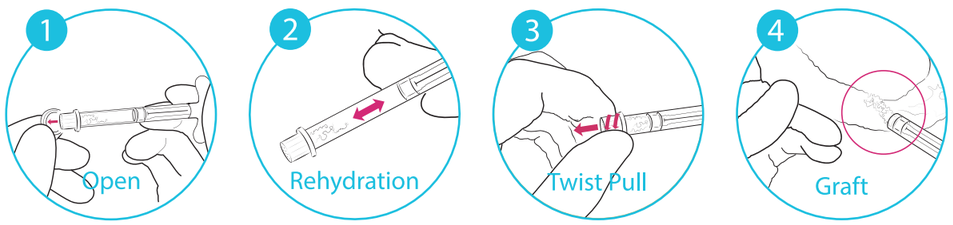
SEM Image



Specifications

Type	Particle Size	Particle Dose
OSS3A	0.4 ~ 1.0mm	0.3g
OSS6A	0.4 ~ 1.0mm	0.6g

Method of Use



Remove the syringe's rubber cap.

Hydrate it in saline solution.

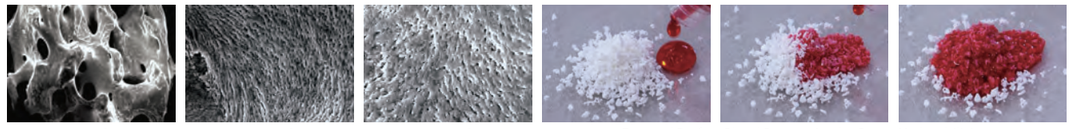
Turn and pull out the syringe cap to remove it.

Graft it in the desired area.

INNO OSS B Bovine Bone Substitute

A Bone 100% fused to Natural Human Bone

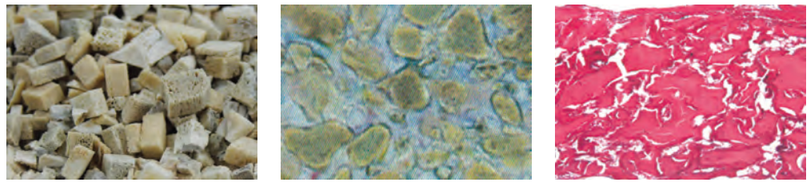
- Fast blood penetration.
- Super-hydrophilicity.
- 3D structure.
- Fast and easy to handle.
- Maximizes bone fusion.
- Mutually connected porosity.
- Optimal cell attachment and blood absorption.
- Stimulates the activity of osteoclasts and osteoblasts.



50X Magnification | 1000X Magnification | 1500X Magnification | Fast and Perfect Blood Permeation by Super-Hydrophilicity

Safe & Trustable Material

- Made of 100% bovine cancellous bone.
- Cleansing more than 30 times to completely remove organic matter.
- Firmed bone formation as highly dense.
- 100% pure HA & 99.73% of bone crystallization.



Raw material | Graft test 1 | Graft test 2

(New bone formation clearly observed around grafted bone site)

Specifications

Product Code	Particle Size	Volume
G2015	0.25~1.0mm	0.15g
G2025	0.25~1.0mm	0.25g
G2050	0.25~1.0mm	0.5g
G2100	0.25~1.0mm	1g

Product Code	Particle Size	Volume
G5015	1.0~2.0mm	0.15g
G5025	1.0~2.0mm	0.25g
G5050	1.0~2.0mm	0.5g
G5100	1.0~2.0mm	1g

CLINICAL **CASE 1**

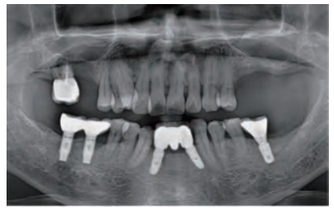


Fig 01. Preoperative radiograph.

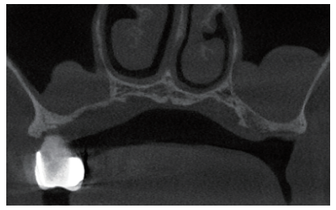


Fig 02. Preoperative CBCT image.
Sinusitis in bone sinus cavities.

Fig 03. Incision and flap elevation.
Removal of granulation tissue.

Fig 04. Suction of pus from the sinus.

Fig 05. Bone grafting with InnoOss B.
Resorbable membrane application.

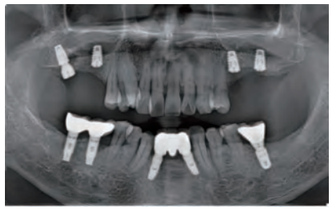


Fig 06. Postoperative radiograph.

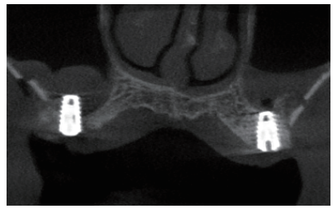


Fig 07. Preoperative CBCT image.

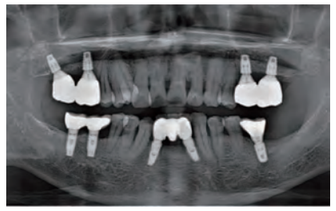


Fig 08. Postoperative radiograph at week 6.
Final restoration delivery.

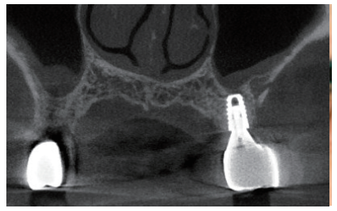


Fig 09. CBCT image of postoperative
10 month.

CLINICAL **CASE 2**

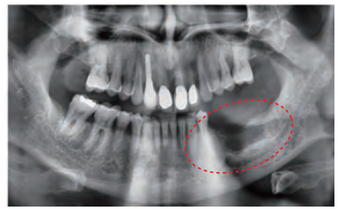


Fig 01. Preoperative radiograph.
3months after extraction
in lower left posterior.

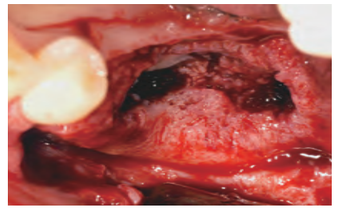


Fig 02. Incision and flap elevation.

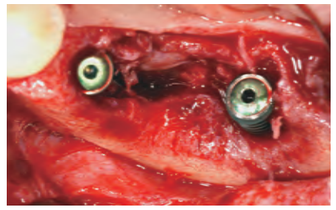


Fig 03. Implant placement on #35, 37.

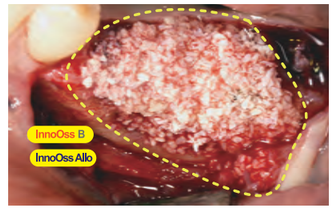


Fig 04. Bone grafting with InnoOss B
and InnoOss Allo.

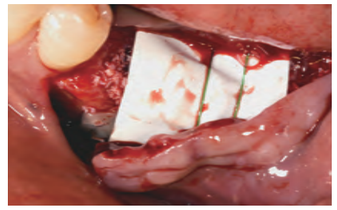


Fig 05. Non-resorbable membrance
application.

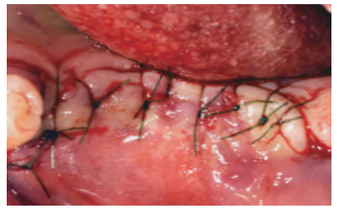


Fig 06. Suture.

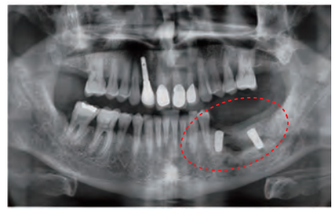


Fig 07. Postoperative radiograph.

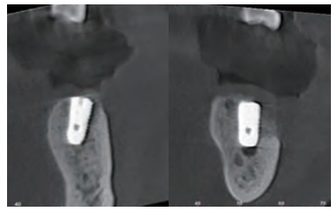


Fig 08. Postoperative CBCT image of
#35(Lt), #37(Rt).

Fig 09. Clinical view of postoperative
2weeks.

Fig 10. Clinical view ofpostoperative
4months.
Final restoration delivery.

Fig 11. Radiograph of postoperative
4 months.

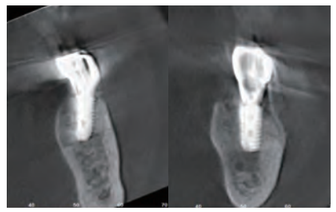


Fig 12. 4 month postoperative CBCT
image of #35(Lt), #37(Rt).

MEGA DERM PLUS Acellular Dermal Matrix

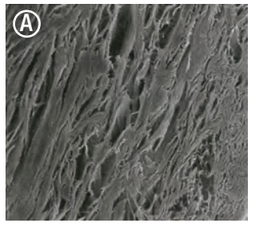
Product Features

- This product can carry out the functional blocks of the membrane (soft tissue penetration protection) due to its long absorption period, and has excellent manipulability.
- This product is produced under the stringent standards of the MFDS.
- The world's first E-Beam sterilization can induce safe and prompt engraftment.
- E-Beam is safe and can be effectively sterilized without destroying the collagen tissue structure.
- This product is the first in the world with the basement membrane layer removed (patent pending) to maximize the transplant engraftment rate.
- This shows the high engraftment rate after the transplant by maximizing the influx of fibroblasts and/or the neovascularization. (Patent Application No. 10-2012-0026616)

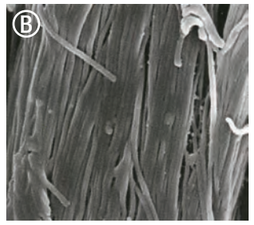
Application

- Mucogingival defect.
- Soft tissue formation around the implant area.
- Wide perforation in the Schneiderian membrane.

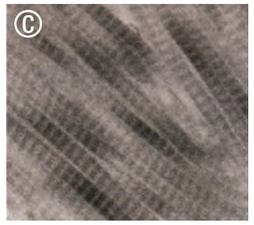
SEM Images (They have kept the collagen structure after the E-Beam sterilization.)



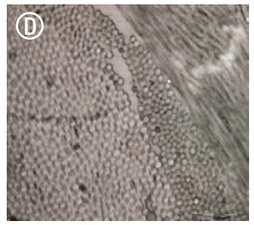
A. SEM (x200)



B. SEM (x20,000)



C. TEM (Transverse section)

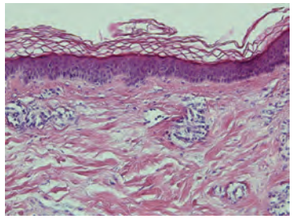


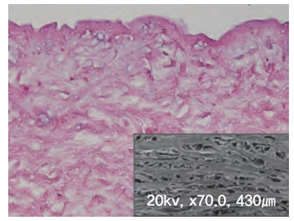
D. TEM (Cross section)

Specifications

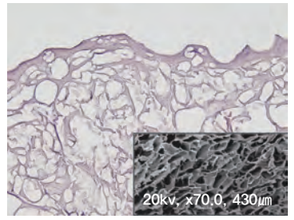
Product Code	Size	Thickness
D1520P	15x20mm	0.5~0.7mm
D1525P	15x25mm	0.5~0.7mm

MEGA DERM PLUS three-dimensional structure of the dermis


Normal skin

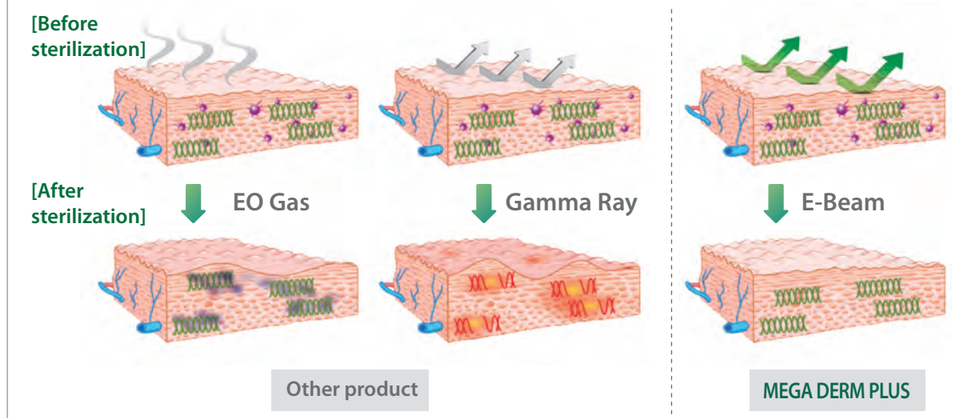


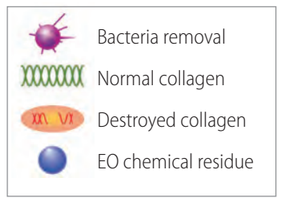
MEGA DERM PLUS



Other product

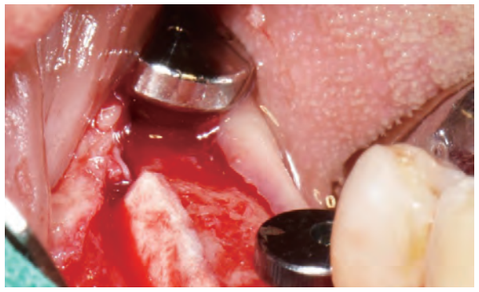
The world's first 'E-Beam' sterilization that does not destroy the collagen structure



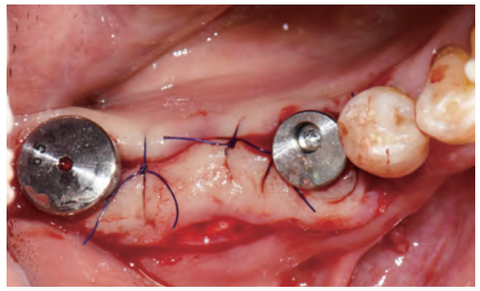


CLINICAL **CASE 1**

Pre-OP

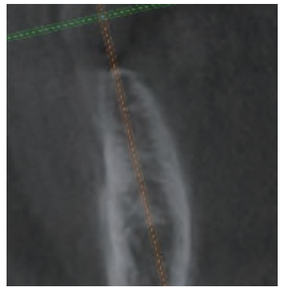


MegaDerm Plus

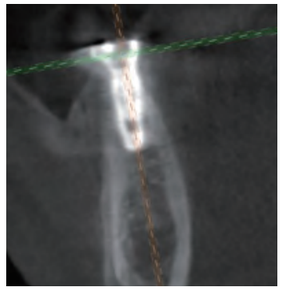


Post-OP

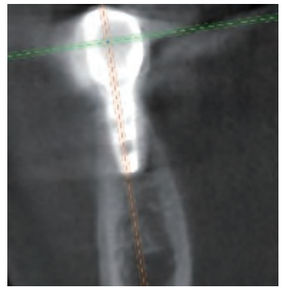
POD 3 months



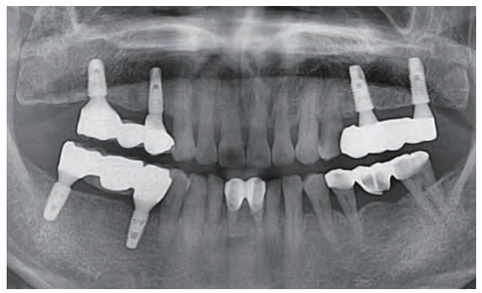
Pre-OP



Post-OP



POD 3 months

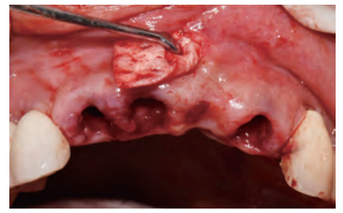


POD 1 year 6 months

CLINICAL **CASE 2**

Pre-OP

Pre-OP



MegaDerm Plus

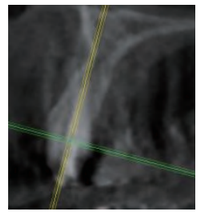
INNO implant

Post-OP

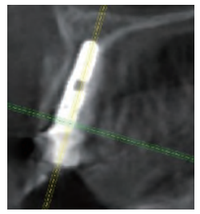
POD 3 weeks

POD 9 months

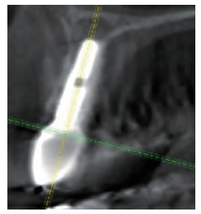
POD 9 months



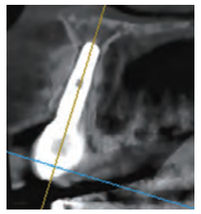
Pre-OP CT



Post-OP CT



POD 9 months



POD 1 year 6 months

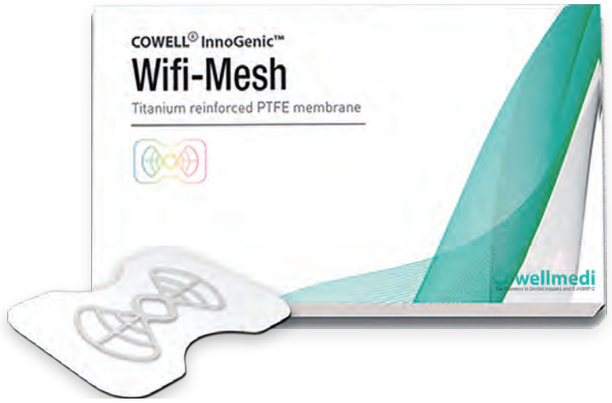
InnoGenic Non-resorbable Membranes

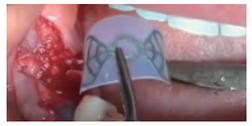
InnoGenic Wifi-Mesh and InnoGenic PTFE-Mesh

• The InnoGenic Wifi-Mesh, PTFE-Mesh and Ti-Mesh are non-resorbable barrier membranes to be applied over intraoral defects, especially, tooth extraction and bone augmented sites. The InnoGenic Wifi-Mesh and PTFE-Mesh are made of proprietary 100% PTFE, the polytetrafluoroethylene (teflon) sheet which is a biologically inactive and tissue compatible material and the InnoGenic Wifi-Mesh is reinforced with titanium frames (Titanium Gr II, ASTM F 67) embedded between two layers of PTFE sheets.

InnoGenic Wifi-Mesh

> Packing unit: 1ea





Product Code	Size	Thickness
BTP1424AA	14X24	0.25
BTP1424AB	14X24	0.25
BTP1525BB	15X25	0.25
BTP1725CA	17X25	0.25
BTP2030AB	20X30	0.25
BTP2530AB	25X30	0.25
BTP3040AB	30X40	0.25


BTP1424AA

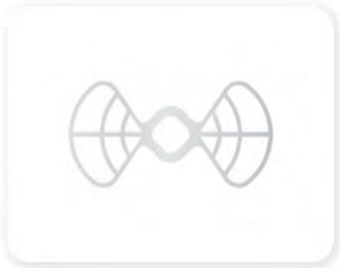

BTP1424AB


BTP1525BB


BTP1725CA


BTP2030AB


BTP2530AB


BTP3040AB

Clinical Case using the Wifi-Mesh


• Periodontitis with local osteomyelitis of #45 & 47


• Bone graft using INNO-OSS Allo


• Shielding soft tissue penetration using Wifi-Mesh

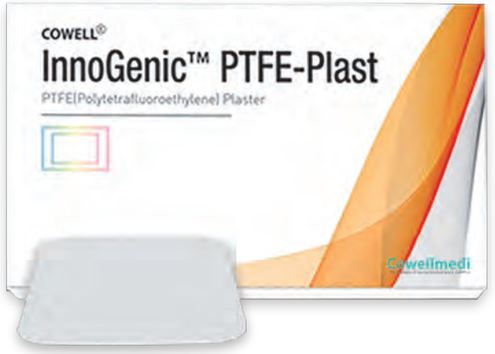
3 months later


• Removal of Wifi-Mesh


• Dense periosteum layer has been formed

InnoGenic PTFE-Mesh

> Packing unit: 5ea



Product Code	Size	Thickness
TS24301	24 x 30	0.1

Features

• **Non-resorbable:** Made of 100% non-resorbable material for users to modulate healing period.

• **Non-porous (0.0 μm) + Open Membrane Sheet Technique:** Prevention of infection or other possible defects caused from passage or integration of bacteria through the porosity of plaster and it even allows to application of the Open Membrane Sheet Technique

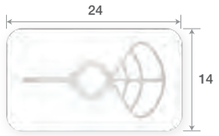
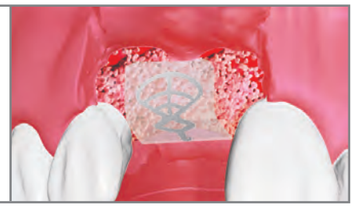
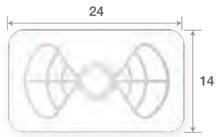
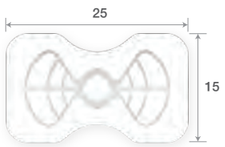
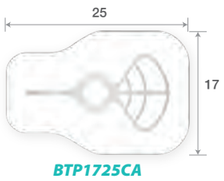
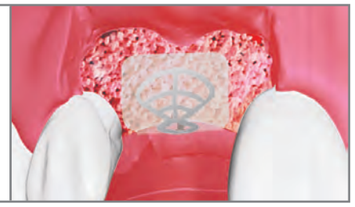
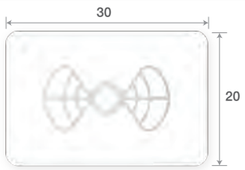
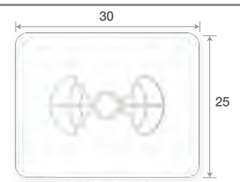
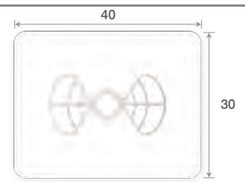
• **Prevention of Displacement:** Not only being sutured along with gingiva but also being fixed with components from the **InnoGenic GBR Kit** to prevent displacement of the product.

• **Close to Transparency:** Observation of the healing of the underlying tissue through almost transparent PTFE surface allows more predictable result and helps determine removal time easier.

• **Easy to be Customized:** Easy to modify the shape according to shape and dimension of the defect.

• **Easy to be Removed :** Put a hook in the hole of the titanium frame of the InnoGenic Wifi-Mesh and in any center part of the InnoGenic PTFE-Mesh and remove.

Indications

 **BTP1424AA**	Only one wall defect of buccal or lingual bone in very narrow area	
 **BTP1424AB**	Two wall defects of buccal and lingual bone in very narrow area	
 **BTP1525BB**	Inter-dental two wall defects of buccal and lingual bone in very narrow area	
 **BTP1725CA**	Inter-dental two wall defects of buccal and lingual bone in narrow area	
 **BTP2030AB**	Two wall defects of buccal and lingual bone in narrow area	
 **BTP2530AB**	Two wall defects of buccal and lingual bone in large area	
 **BTP3040AB**	Two wall defects of buccal and lingual bone in very large area	

CLINICAL APPLICATION **Wifi-Mesh**

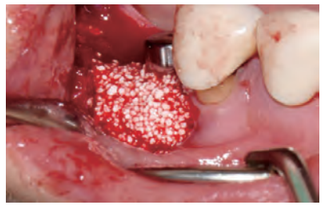
Case 1


Pre-op

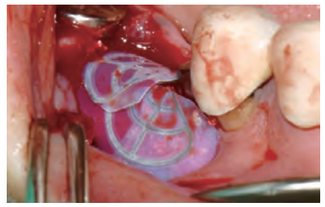

Implant placement


Implant placement

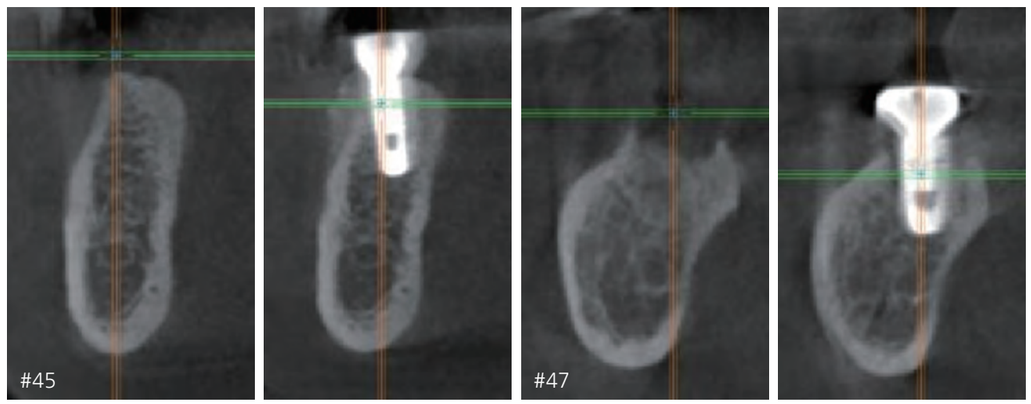

Clinical occlusal view of #45 and #46 showed severe bone defects.


Buccal bone graft technique with Wifi-mesh of #45


Wifi-Mesh trimming

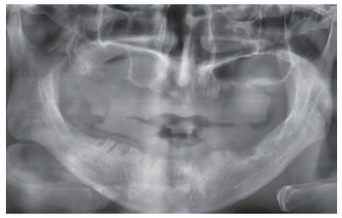

Wifi-Meshes were applied to the defect.


Open membrane technique in extraction socket of #46

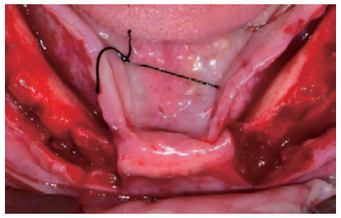


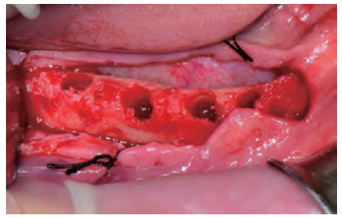
CLINICAL APPLICATION **Wifi-Mesh**

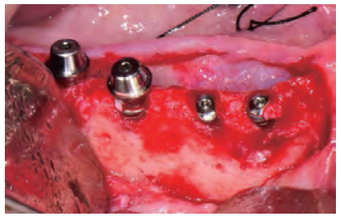
Case 2 _ Dr. Hoyeol Jang

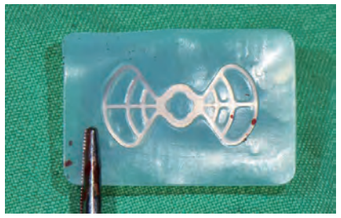

Pre-OP panorama

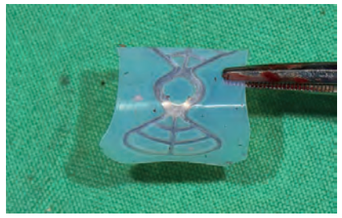

Occlusal view of the bone defect

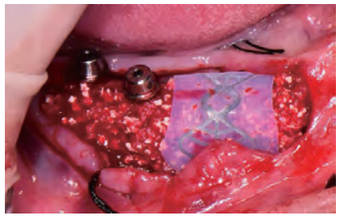

Flap reflection

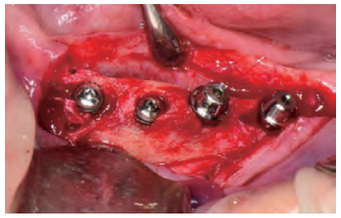

Drilling

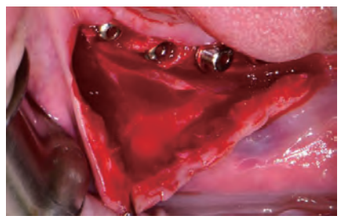

Implant placement of #43, 44, 45 & 46

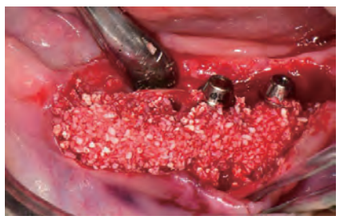

Wifi-Mesh

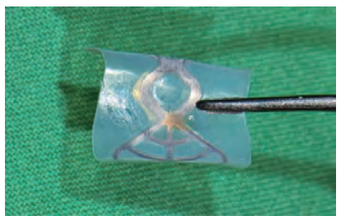

Wifi-mesh preparation
*It must be bent to form a shape, and If it is bent incompletely, it can spread inside the gingiva.

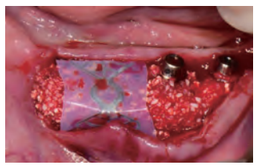

Wifi-mesh placement

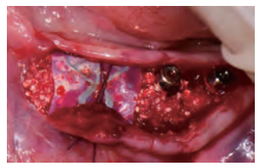

Implant placement of #33, 34, 35 & 36


Releasing incision

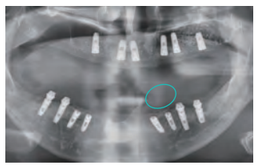

Bone graft


Wifi-mesh preparation

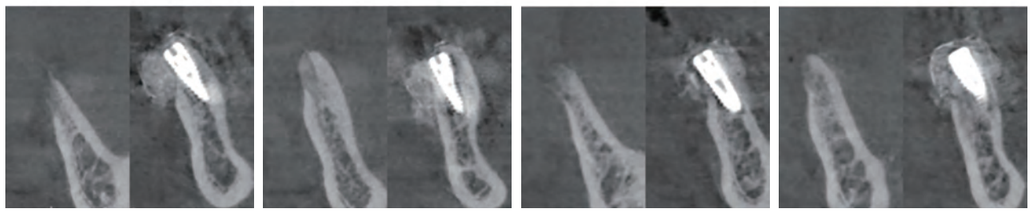

Wifi-Mesh placement


Membrane holding suture

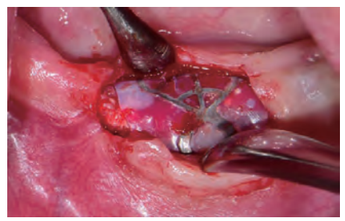

Primary suture

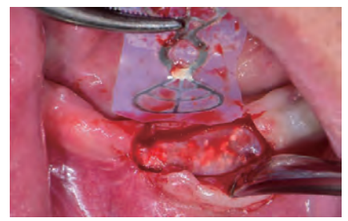

Post OP panorama

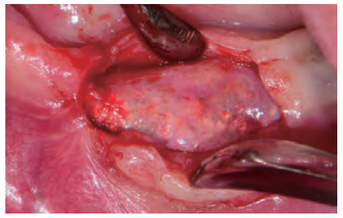
CLINICAL APPLICATION **Wifi-Mesh**


CT scan images after GBR shows significant amount of alveolar bone regeneration.

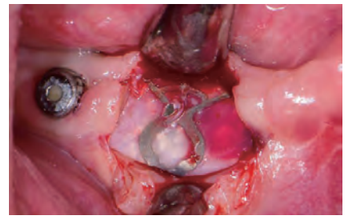

2 months after the 1st surgery

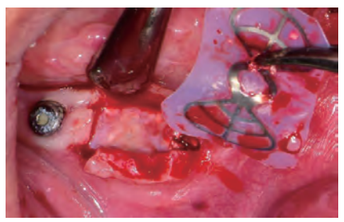

2nd surgery and Wifi-Mesh removal


The Wifi-mesh was easily removed.


The defect area was fully filled with the new bone.


Installation of healing abutments


Incision of #43 and 44


Membrane removal


Both horizontal and vertical bone regeneration was noticed clinically.


Uncovering surgery of Lower jaw

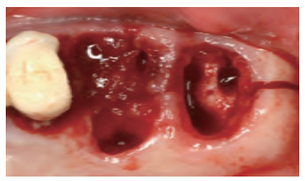
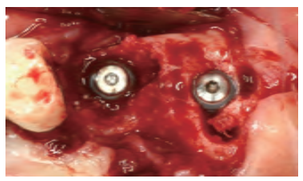

2nd OP panorama


POD 3 months Temporary loading

CLINICAL APPLICATION **PTFE-Mesh**

Case 1

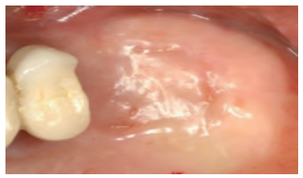
Open membrane technique and immediate implant placement in maxillary molars


The maxillary molars were extracted.
The PTFE-Mesh was covered over the bone graft of socket preservation and implants.

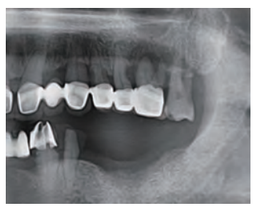
3 weeks.

3 weeks after the graft operation, the PTFE-Mesh was removed. The new keratinized gingiva was regenerated on the bone graft particles.



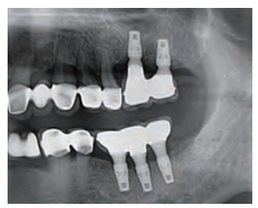
4 months.

4 months after the graft operation, the keratinized gingiva was regenerated in the defect of socket.



At visit.

Surgery.



6 months.

32 months.

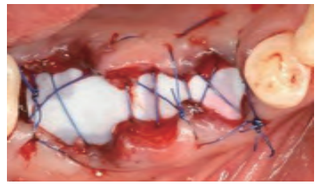
After 6 months of implant placement, the splinted crown was placed.
There was no loss of marginal bone at the 32 months follow-up visit.
As result, the immediate implant placement and the open membrane technique with socket bone graft could make the new keratinized gingiva.

CLINICAL APPLICATION **PTFE-Mesh**

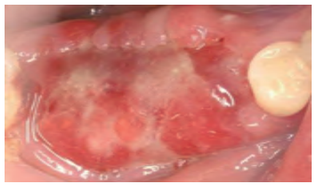
Case 2

Lateral bone graft with immediate implant placement in mandibular molars


Lateral bone graft with implant placement was done in mandibular 1st molar.

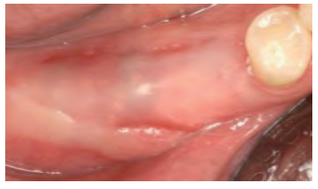


The extraction sockets of 2nd molar and 2nd premolar were grafted with the open membrane technique.



3 weeks.

3 weeks after the graft operation, the PTFE-Mesh was removed. The new keratinized gingiva was regenerated on the bone graft particles.



3 months.

3 months after the graft operation, the keratinized gingiva was regenerated in the defect of socket.

At visit.

Lateral bone graft.

4 months.

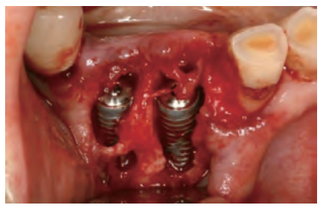
31 months.

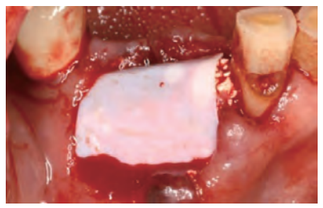
During healing period, the crestal bone level was decreased in the site of lateral bone graft.
From 4 months to 31 months of follow-up visit, there was no the loss of marginal bone.
As result, lateral bone graft with implant placement and open membrane technique in extraction socket could make the new keratinized gingiva.

CLINICAL APPLICATION **PTFE-Mesh**

Case 3

Socket preservation with immediate implant placement in mandibular premolars





Socket bone graft with implant placement was done in the buccal wall defect of mandibular premolars.
The extraction sockets of premolars were grafted with the open membrane technique.

3 weeks after the graft operation,
the PTFE-Mesh was removed.
The new keratinized gingiva was
regenerated on the bone graft particles.

3 months after the graft operation, the keratinized gingiva was regenerated
in the defect of socket, and the splinted crown was placed.

At visit.

Surgery.

3 months.

15 months.

28 months.

28 months of follow-up visit, there was no
the loss of marginal bone.

As result, the open membrane technique
with implant placement in he buccal wall
defect of premolars could make the new
keratinized gingiva.

MEMO