COWELL EXPERT KITS

Experts know what makes them experts

· SURGICAL KITS

· INNO SUB. FULL SURGICAL KIT

· INNO INT. FULL SURGICAL KIT

· INNO EXT. FULL SURGICAL KIT

· INNO SUB. SMART SURGICAL KIT

· INNO SUB. SHORT SURGICAL KIT

· INNO SUB. NARROW SURGICAL KIT

· MINI PLUS SURGICAL KIT

· INNO PROSTHETIC PLANNING KIT

· INNO PROSTHETIC INSTRUMENT KIT

· DIGITAL GUIDED SURGERY KITS

· Lodestar Plus Kit

· Lodestar Kit

· Lodestar Sinus Kit

COWELL
EXPERT
KITS

· COWELL EXPERT INSTRUMENT KITS

· MFS Kit (Multi-Functional Sinus Kit)

· ESL Kit (Easy Sinus Lift Kit)

· MFR Kit (Multi-Functional Removal Kit)

· InnoGenic GBR Kit

· Bone Profiler Kit

· InnoGenic Autobone Harvester

· COWELL BMP Trephine Kit

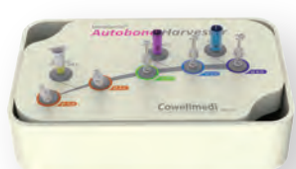
· Atraumatic Extraction Kit

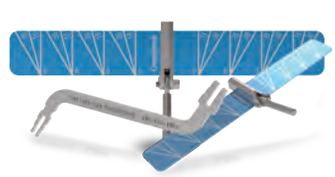
· AO4 Surgical Stent

· Volume-up Guide System





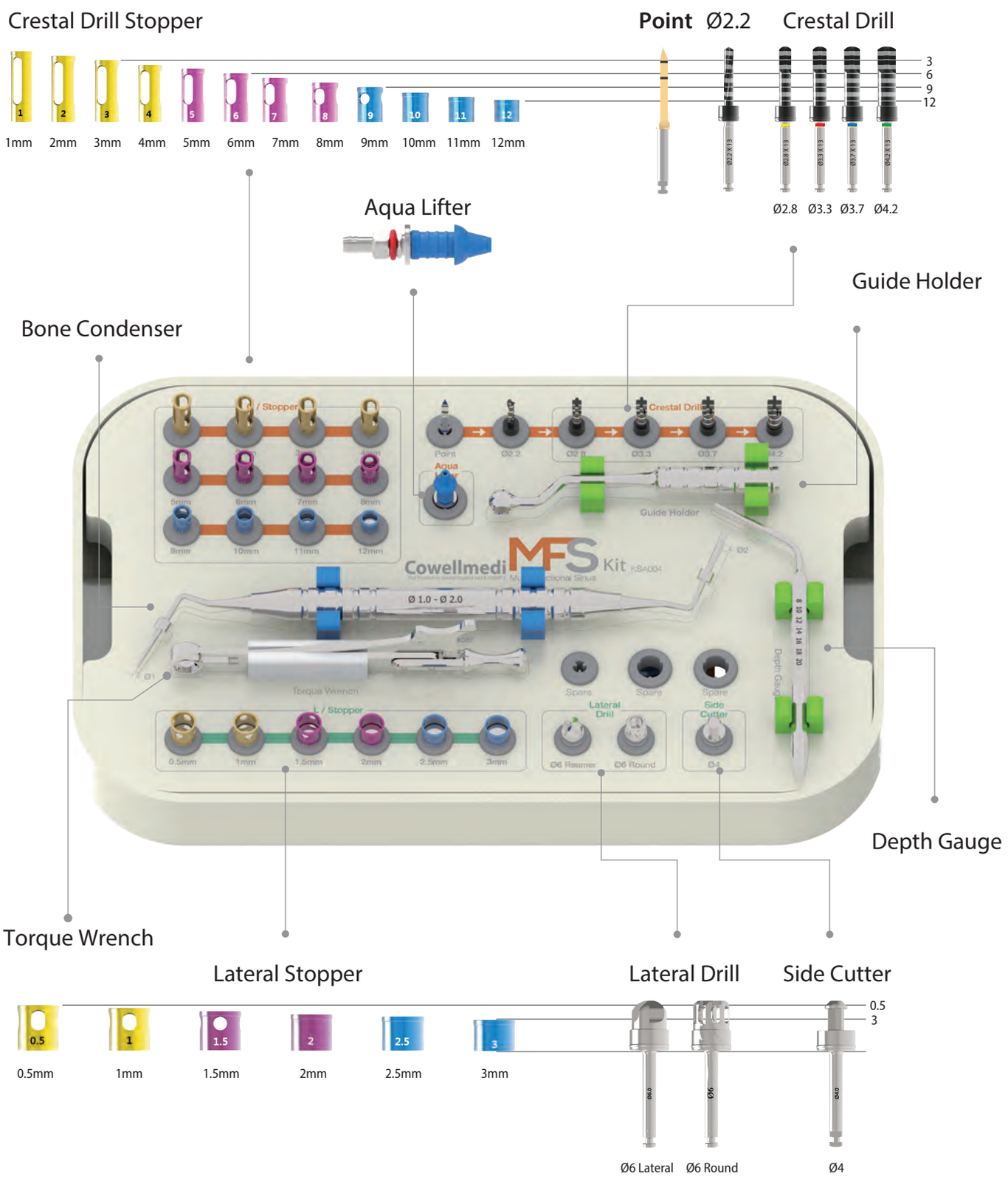



Multi-Functional Sinus Kit

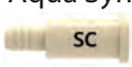
MFS KIT [KSA004]

> 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.



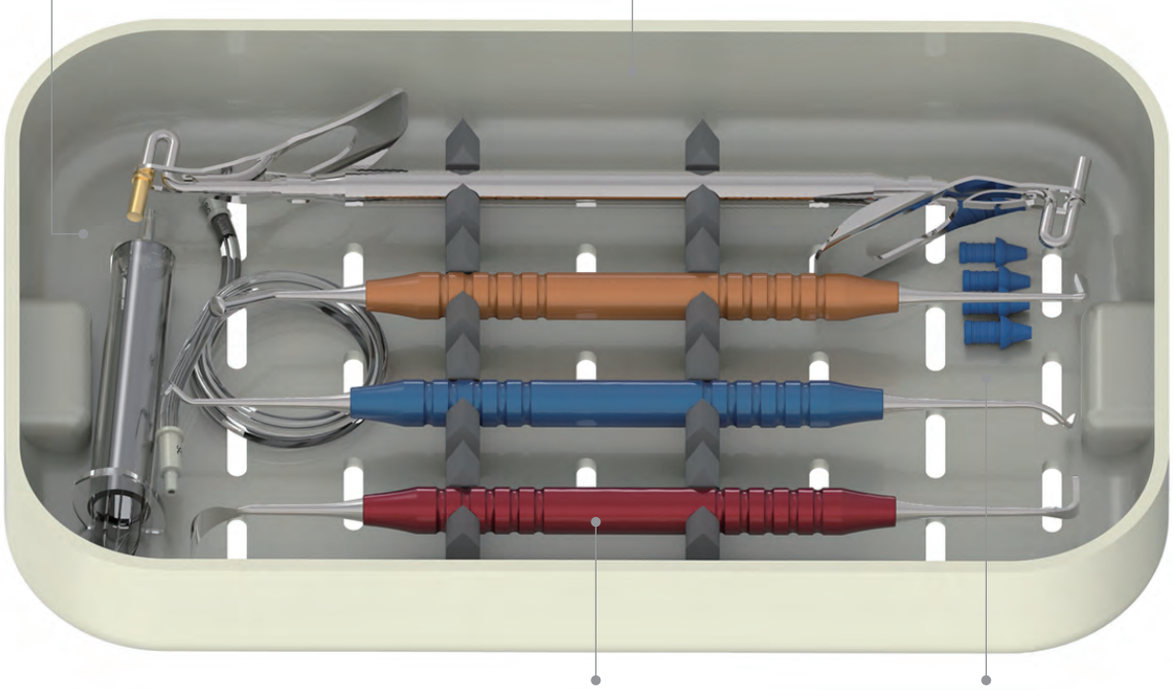
Aqua Ratchet Connector

Aqua Syringe Connector

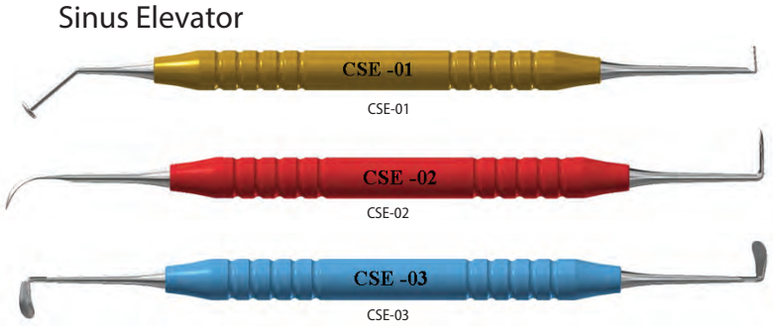


Aqua Tube

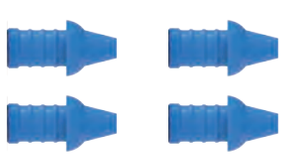
Bone Carrier



Sinus Elevator



Aqua Lifter Silicon



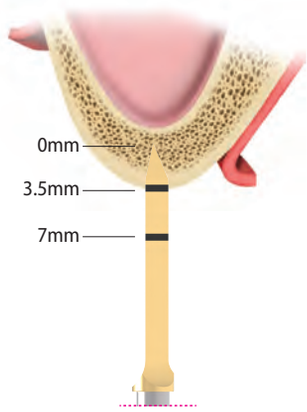
Crestal Approach - Components

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

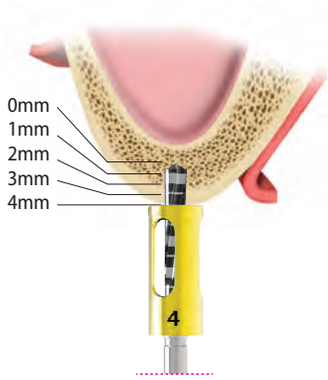


2. 2.2 Twist Drill *800~1,000rpm*

> 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

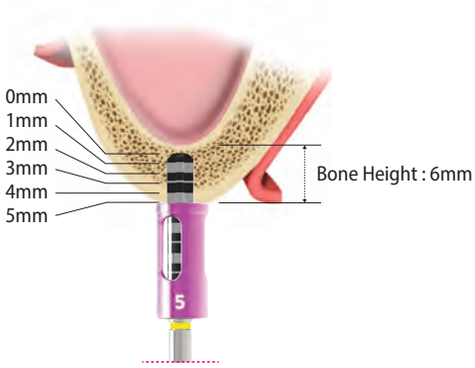


3. Crestal Drill *400~800rpm*

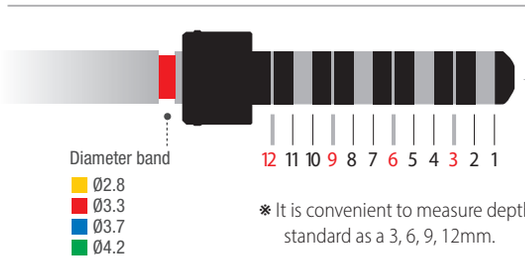
> Use the Crestal Drill sequentially according to the diameter of the fixture to be placed.

> 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

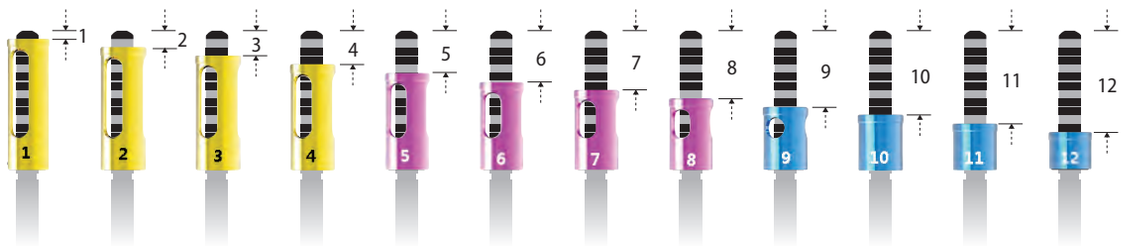


※ It is convenient to measure depth by standard as a 3, 6, 9, 12mm.

※ 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.

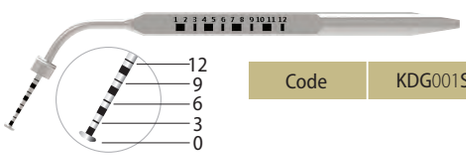


Drilling Depth	1mm	2mm	3mm	4mm	5mm	6mm
	KSDS01	KSDS02	KSDS03	KSDS04	KSDS05	KSDS06

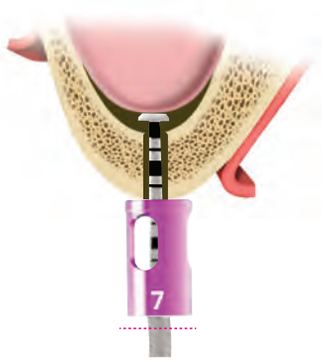
Drilling Depth	7mm	8mm	9mm	10mm	11mm	12mm
	KSDS07	KSDS08	KSDS09	KSDS10	KSDS11	KSDS12

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.



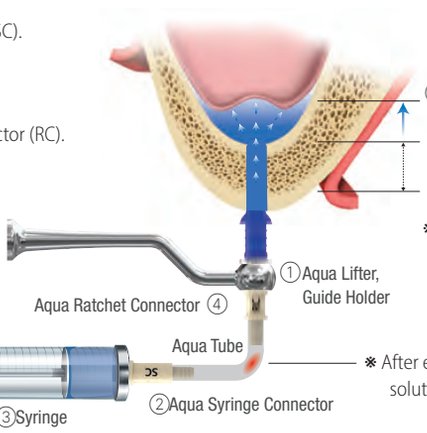
Code	KDG001S



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

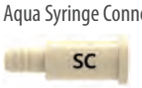
Aqua Lifter Silicon

Code	KSALS01

Aqua Ratchet Connector

Code	KSAL01RC

Aqua Syringe Connector



Code	KSAL01SC

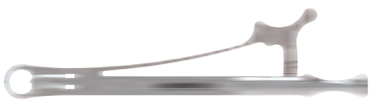
Aqua Tube

Code	KSALT030

Guide Holder

Code	KSRGH01

7. Torque Wrench

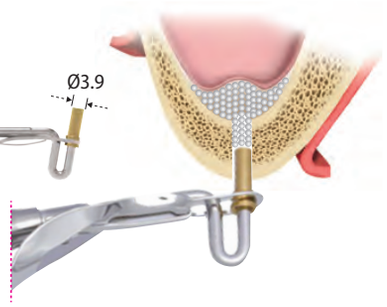


> Use the Torque Wrench to fix the Aqua Lifer Drill in the hole formed using Crestal Drill.

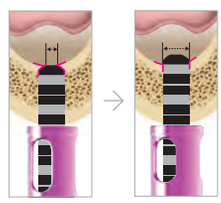
Code	KTW001

8. Bone Carrier

> Insert bone graft material using the Bone Carrier.



Code	KSBC01

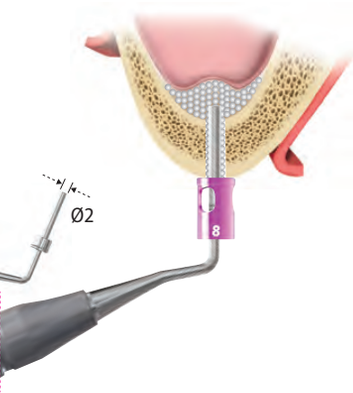


※ If you need to expand hole, drill 1mm deeper using the crestal drill.

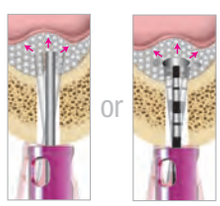
9. Bone Condenser

> 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).



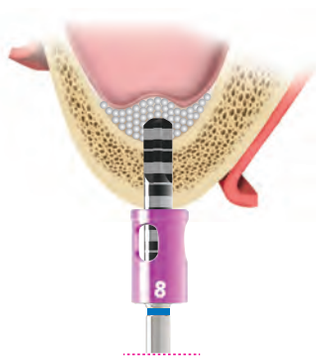
Code	KSBC1022



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

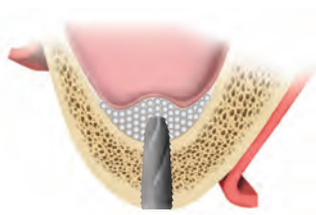
10. Implant Drill (Final)

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



11. Implant Placement

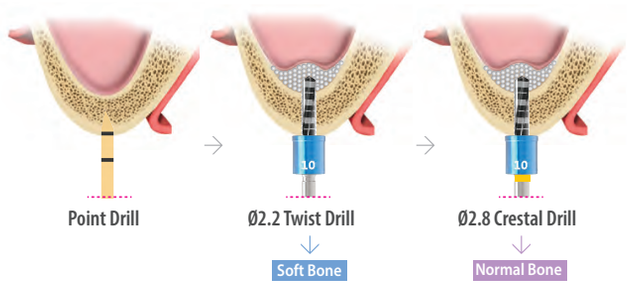
> If the residual bone is less than 3mm, do not implant the fixture, but bone graft only.



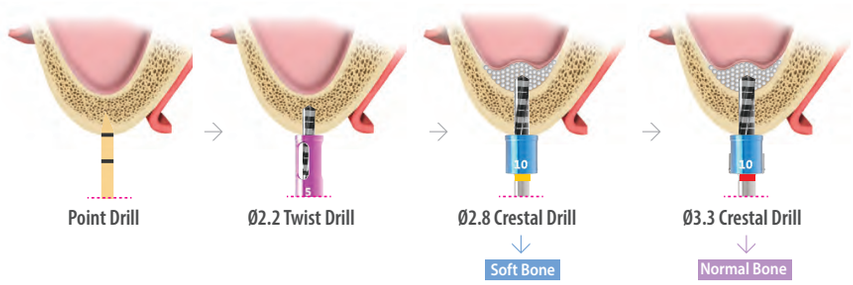
Crestal Approach - Drilling Sequence

> Placing implant over Ø4.0 is highly recommended.

1. Ø3.3 Narrow Fixture

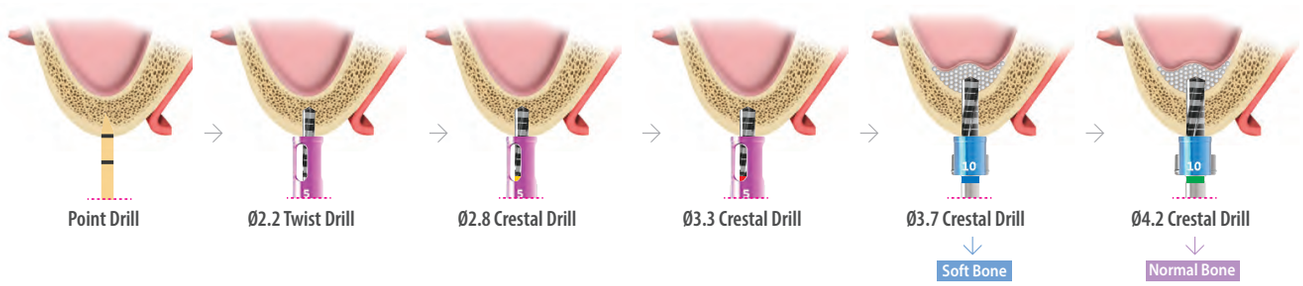


2. Ø3.5 Fixture



3. Ø4.0 Fixture

4. Ø4.5 Fixture



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

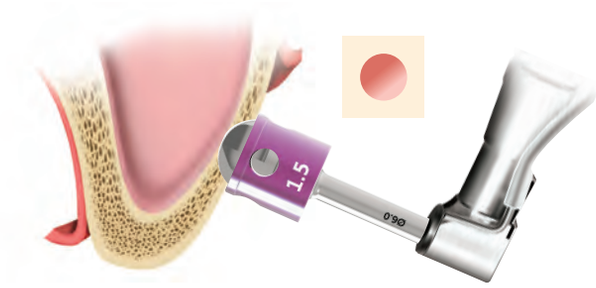
※ Use a Drill that is one step shorter than the implant (E.g. 10mm implant, 8~9mm Drill).

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.

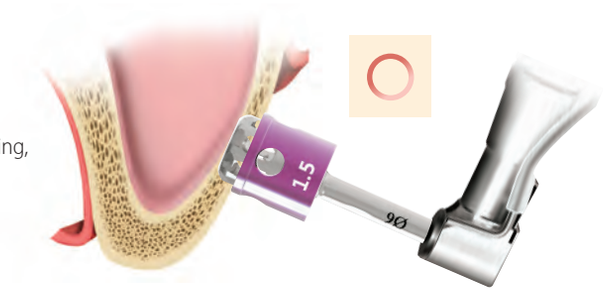
Code	KSLD60



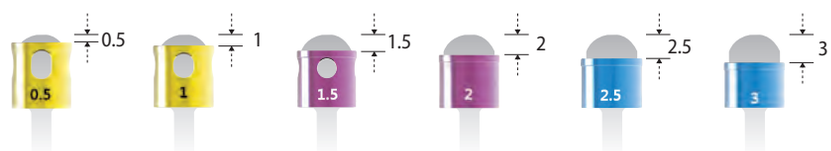
2. Ø6 Lateral Round Drill *800~1,000rpm*

> 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

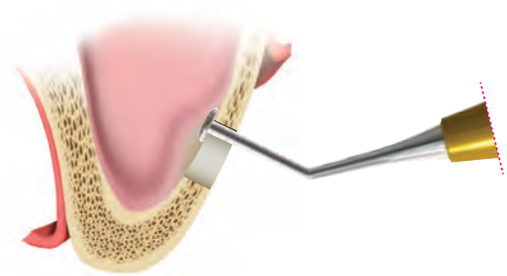


Drilling Depth	0.5mm	1mm	1.5mm	2mm	2.5mm	3mm
	KSDSL05	KSDSL10	KSDSL15	KSDSL20	KSDSL25	KSDSL30

4. Sinus Elevator

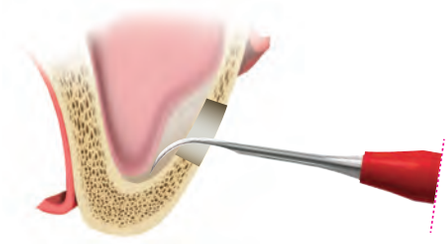
> CSE-01 : Initial elevation of sinus membrane.

Code	KSSE01



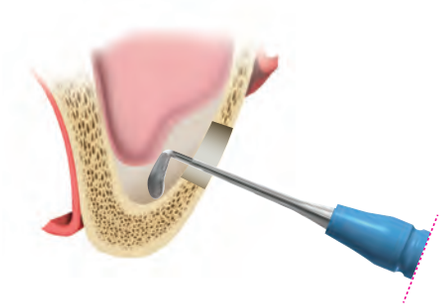
> CSE-02 : as stepwise, after using CSE-01, used for elevation of sinus membrane.

Code	KSSE02



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

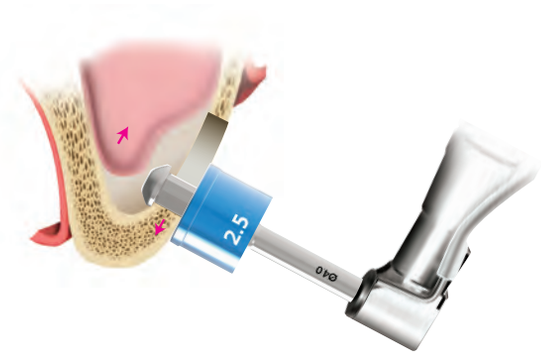
Code	KSSE03



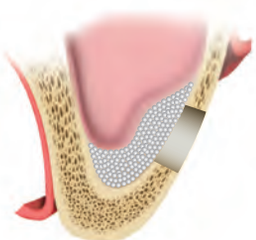
5. Ø4 Side Cutter *800~1,000rpm*

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

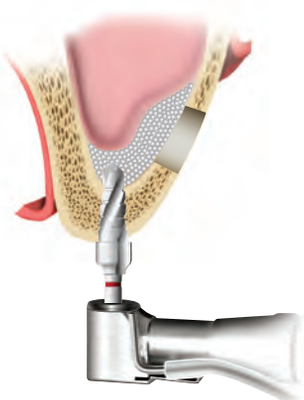
Code	KSC60



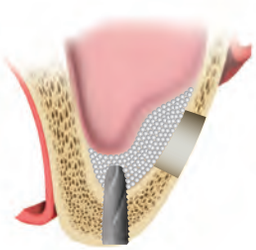
6. Sinus Bone Graft



7. Implant Drill (Final)

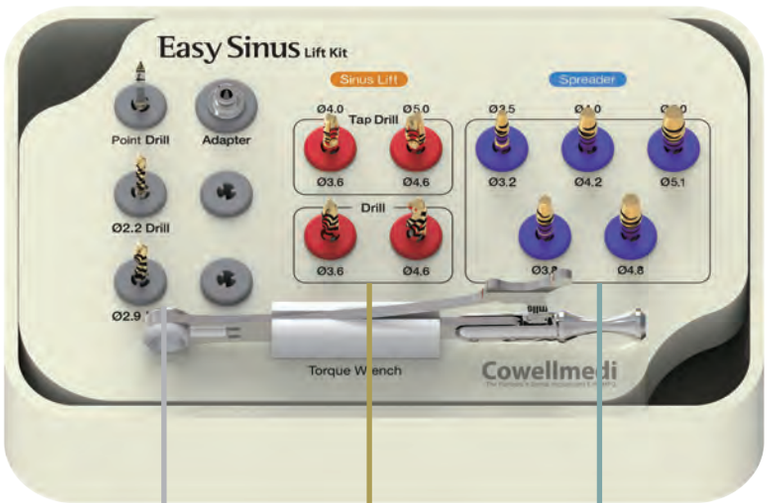


8. Implant Placement



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

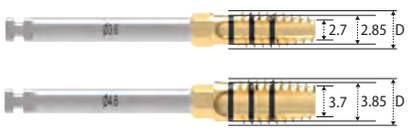

Ø3.8
KMTD38S


Ø4.8
KMTD48S

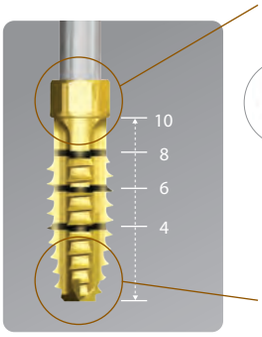
Sinus Lift

· Tap Drill (Ø3.6 ,Ø4.6)

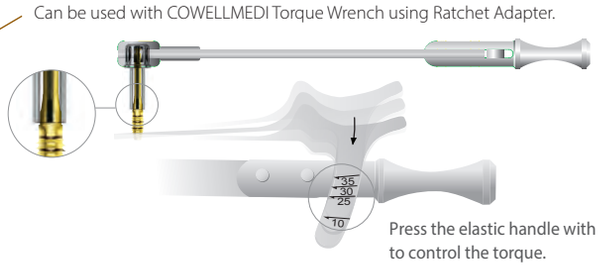
> The usage of the Tap Drill is at low speed and high torque to grind through the maxillary bone, and safely elevates sinus without membrane perforation.
> Must be used at 20~30 rpm / 45 N.cm.
> No irrigation is required.



Diameter	Ø3.6	Ø4.6
	KMTD36S	KMTD46S



Can be used with COWELLMEDI Torque Wrench using Ratchet Adapter.



Press the elastic handle with a finger to control the torque.

Tip of the drill has U.S. Patented blades that crush through the cortical bone, and separate the sinus membrane without perforations.

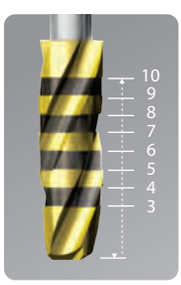
· Twist Drill (Ø3.6, Ø4.6)

> 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.

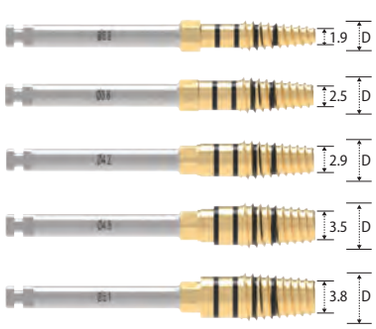
Used as Final Drill for 5.2~5.5 Fixture.

Diameter	Ø3.6	Ø4.6
	KTWD36S	KTWD46S

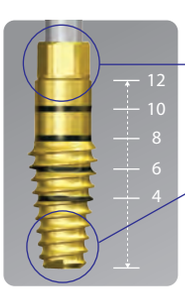


· Spreader (Ø3.2 , Ø3.8, Ø4.2, Ø4.8, Ø5.1)

> 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



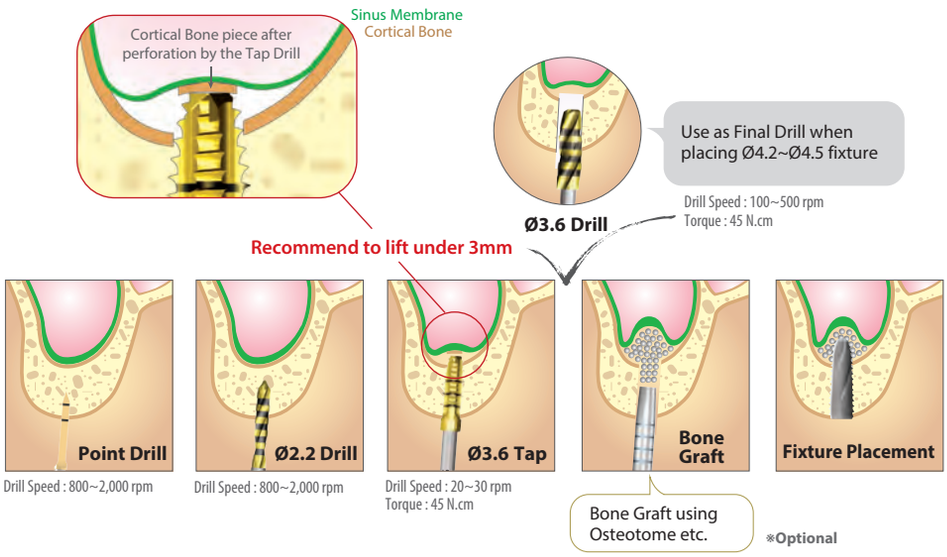
Can be used with COWELLMEDI Torque Wrench using Ratchet Adapter.

Tip of the drill has U.S. Patented blades that crush through the cortical bone, and separate the sinus membrane without perforations.

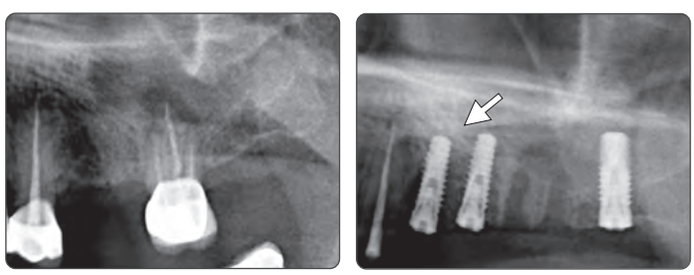
Sequence - Sinus Lift

· Only use of Sinus Lift Drill

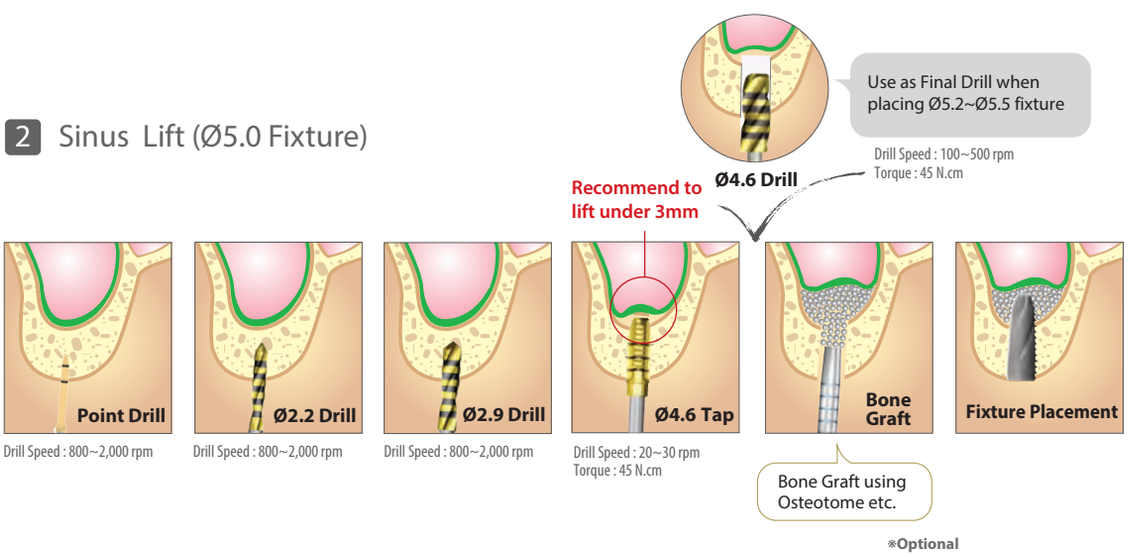
1 Sinus Lift (Ø4.0 Fixture)



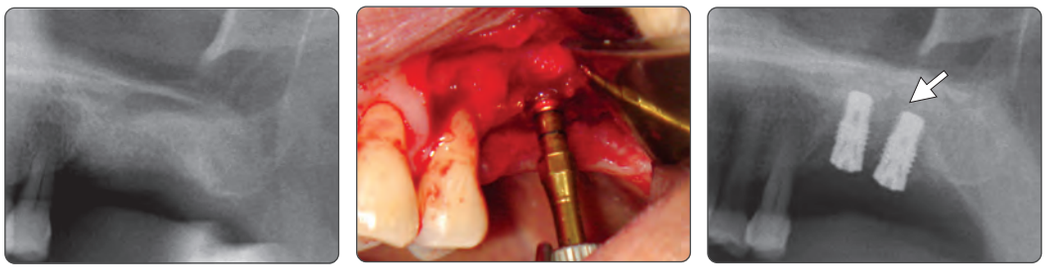
▸▸ Immediate Implantation and Sinus Lift Technique with Tap Drill (**Ø4.0 Fixture**)



2 Sinus Lift (Ø5.0 Fixture)

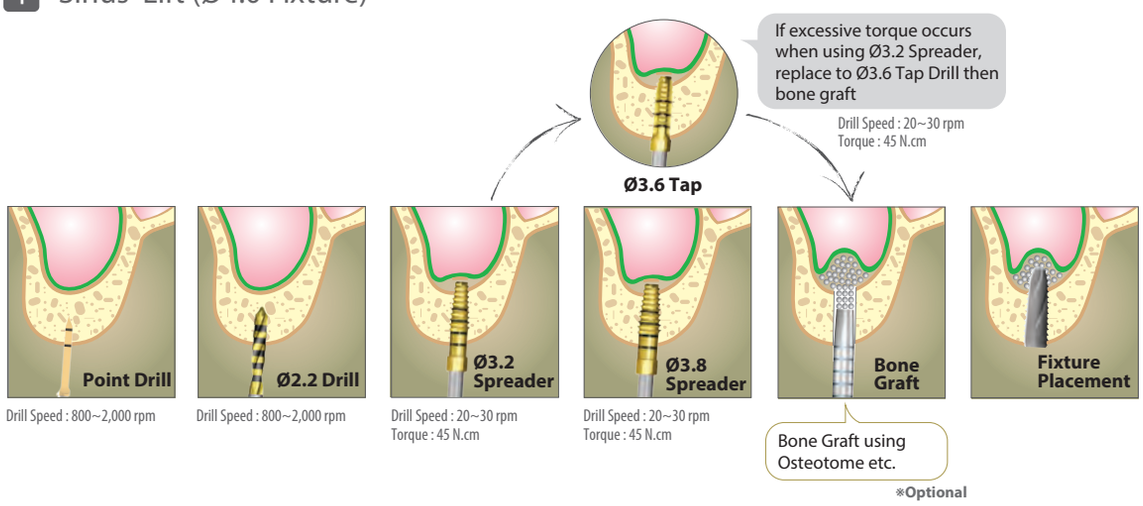


▸▸Immediate Implantation and Sinus Lift Technique with Tap Drill (**Ø5.0 Fixture**)

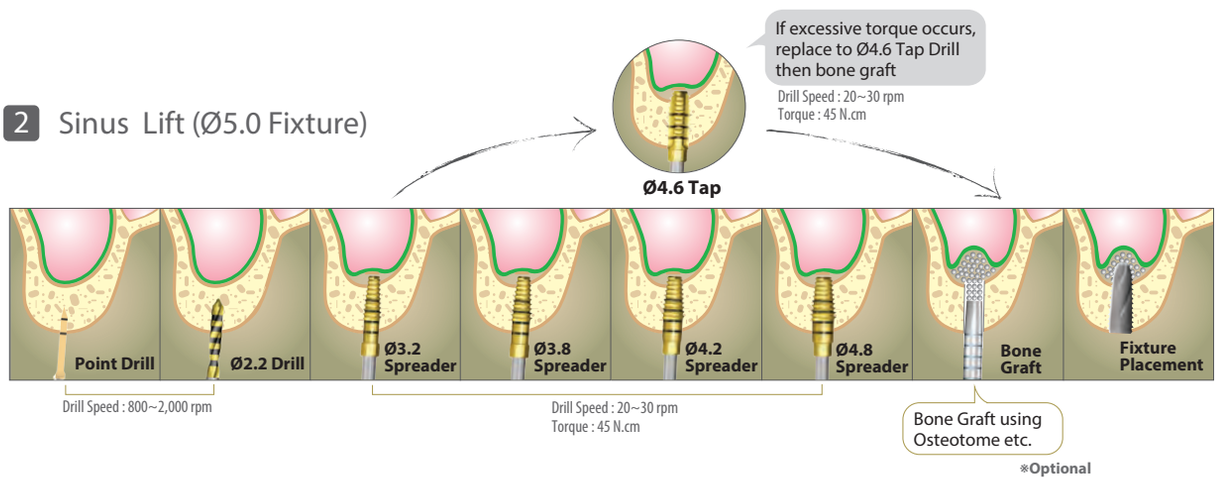


· Recommend to use Sinus Lift Drill and Spreader Drill together

1 Sinus Lift (Ø4.0 Fixture)



2 Sinus Lift (Ø5.0 Fixture)



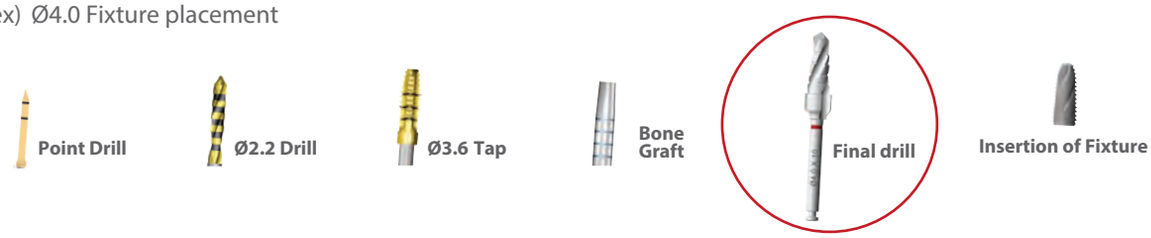
Note

> Recommend to use Sinus Lift Drill and Spreader Drill together during the Sinus Lift operation.

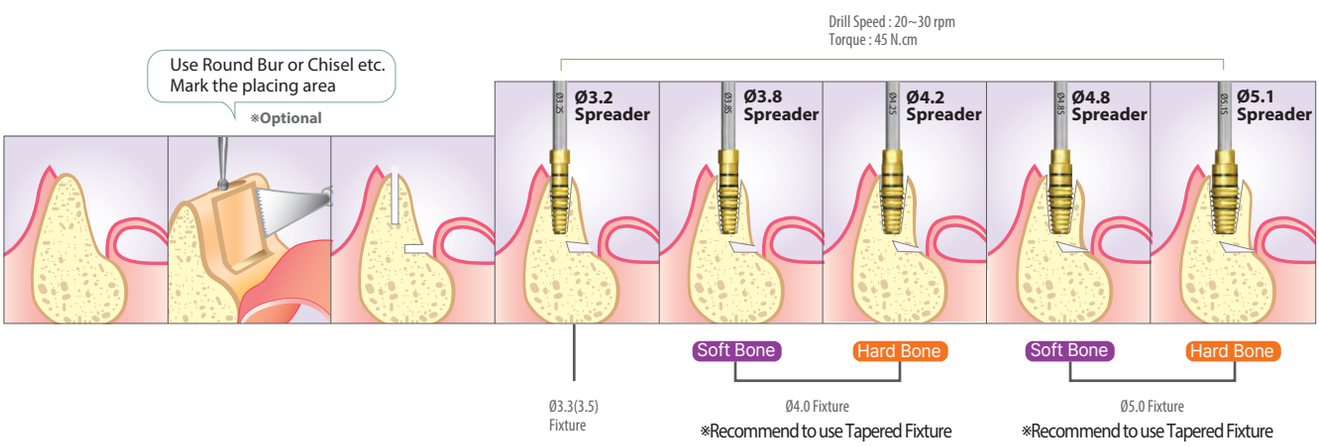
> Easy operation by using Ø3.2 Spreader rather than Point Drill.

> Avoid to over press surrounding alveolar bone using Final Drill before fixture placement in D2.

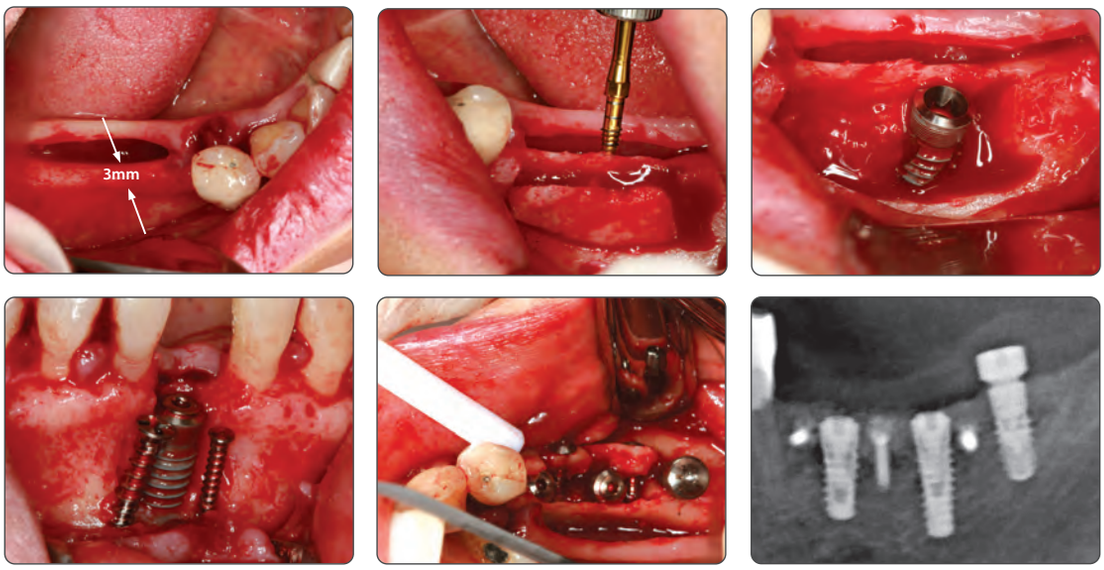
ex) Ø4.0 Fixture placement



Sequence - Spreader



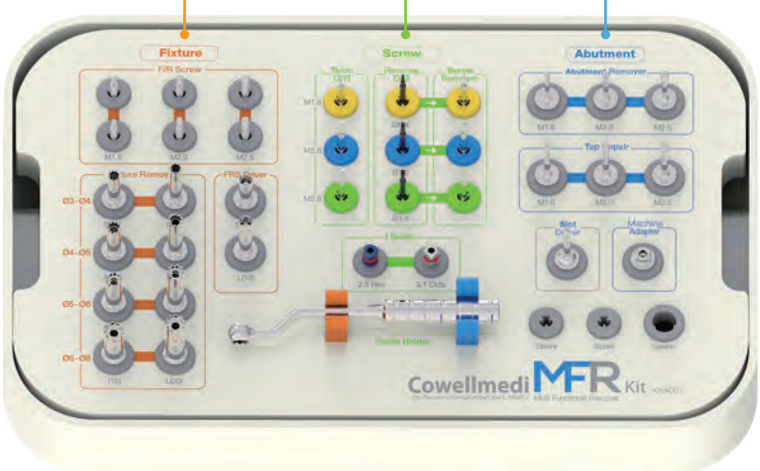
▸▸ Ridge Split and Block Bone Augmentation Technique with Spreader Drill **(Ø4.0 Fixture)**



Multi-Functional Removal Kit

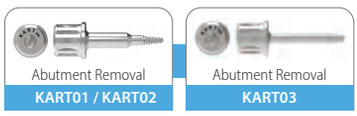
MFR KIT [KHA001]

> 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, screws.



Abutment Removal System

Abutment Remover



Tap Repair

Slot Driver

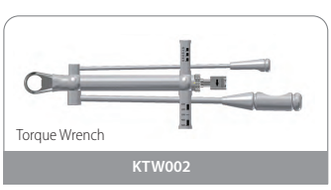
Machine Adapter

Fixture Removal System

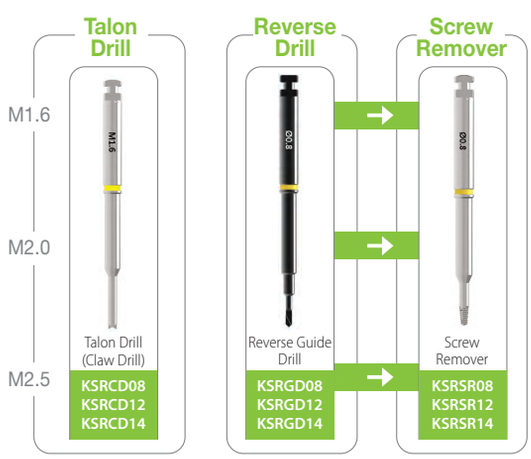
F/R Screw

Fixture Remover

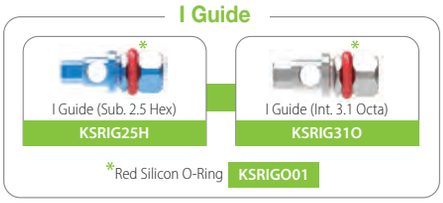
FRS Driver



Screw Removal System



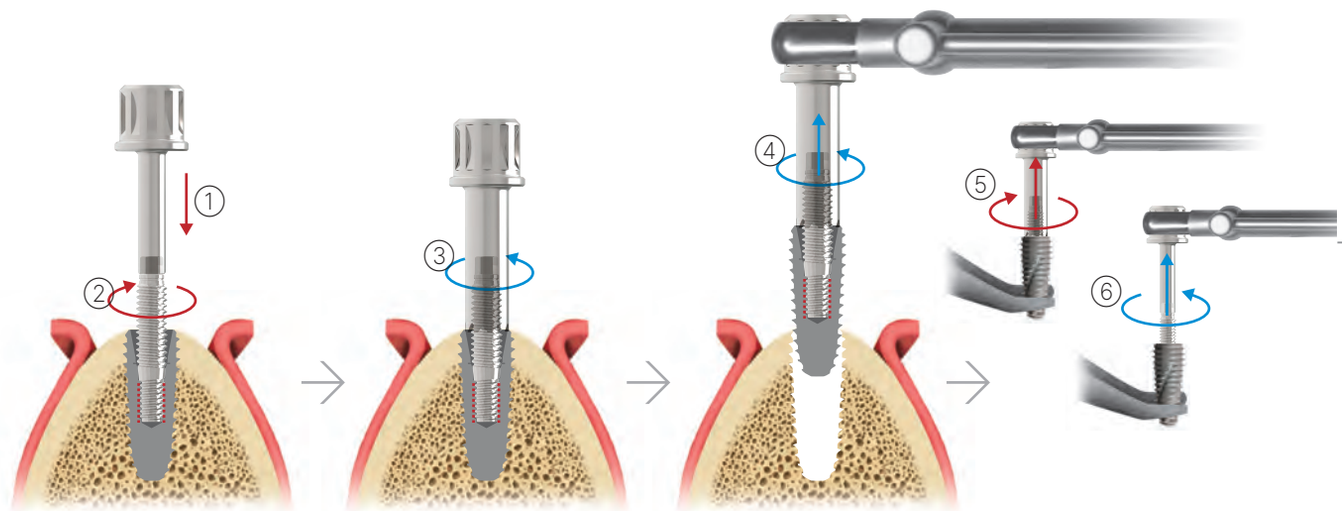
I Guide



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).

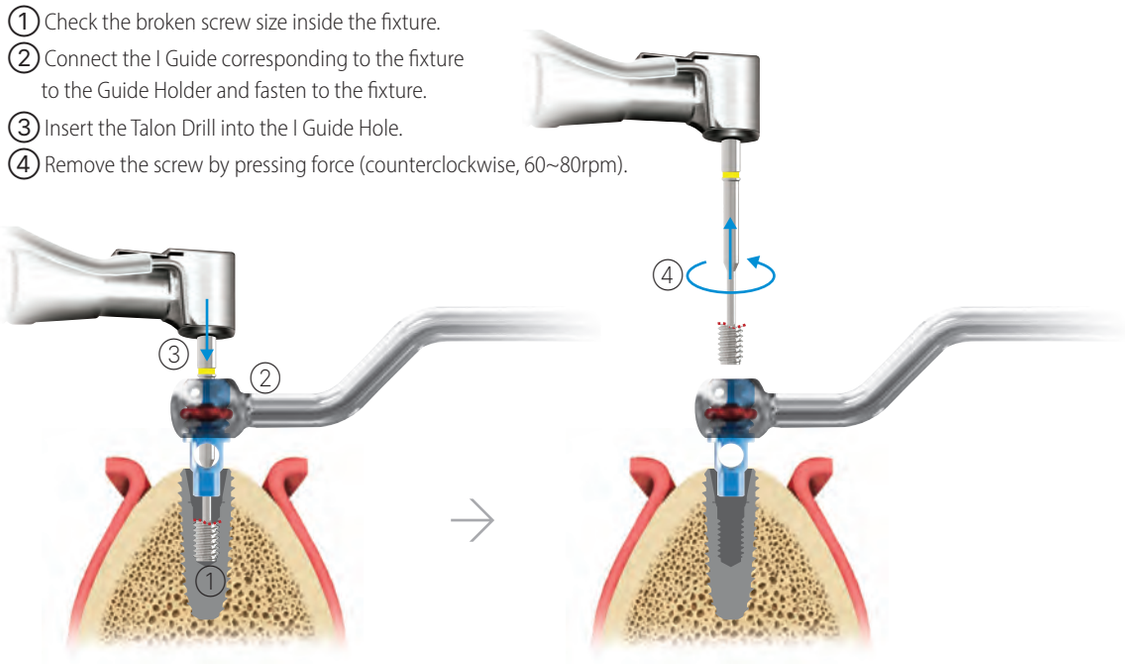


※ One-time use of the F/R Screw is recommended (bending or fracture may happen if more than 100N.cm and using twice may be possible if less than 100N.cm).
※ Sufficient irrigation is required when removing the fixture.
※ When the maximum torque is exceeded, the fixture may be bent or fractured.
※ If the 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).

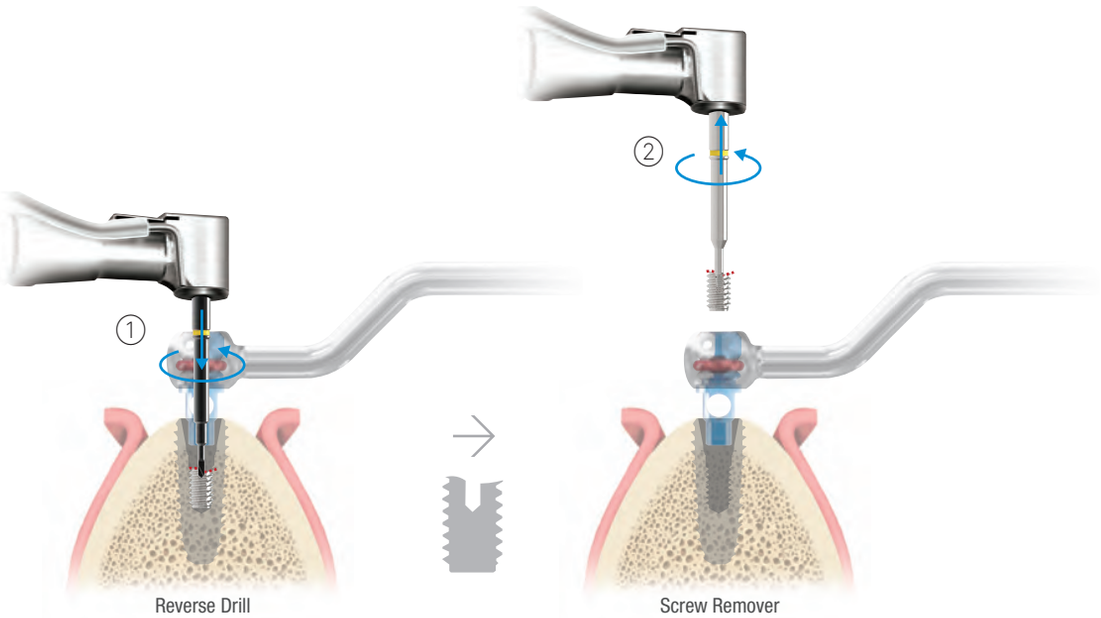


※ If the I Guide and fixture could not be correctly connected, the path is not correct.

Reverse Drill & Screw Remover

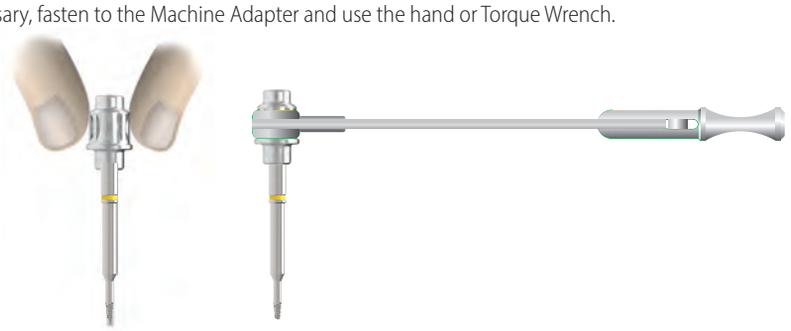
If the screw could not be removed by the Talon Drill

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).



Reverse Drill　　Screw Remover

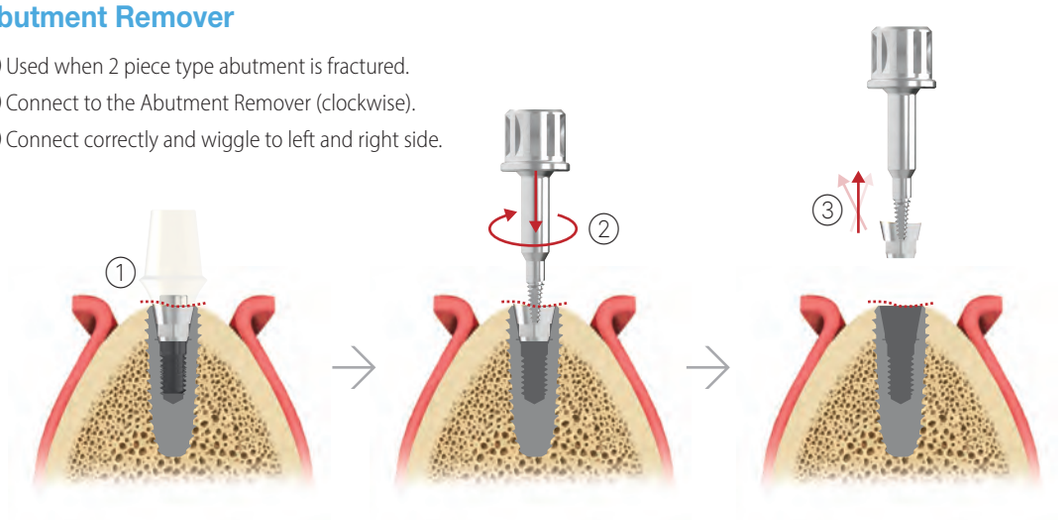
※ If the path of the I Guide and fixture did not match, It would be difficult to remove the screw because the drill hole is away from the center of the screw.
※ Reverse drilling requires removal of chips by irrigation & suction.
※ The fractured screw may be removed during reverse drill hole creation.
※ If necessary, fasten to the Machine Adapter and use the hand or Torque Wrench.



3. Abutment Removal System

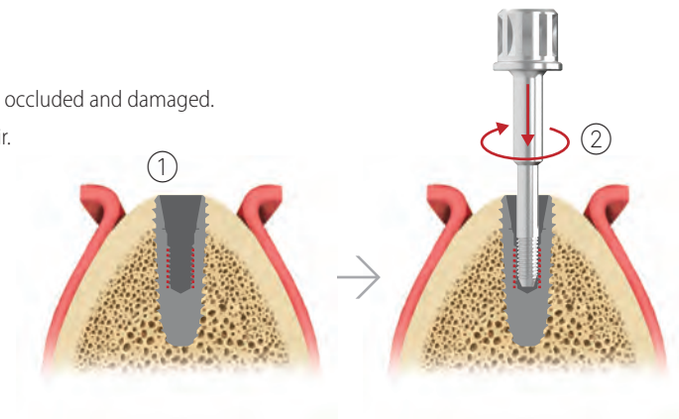
Abutment Remover

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.



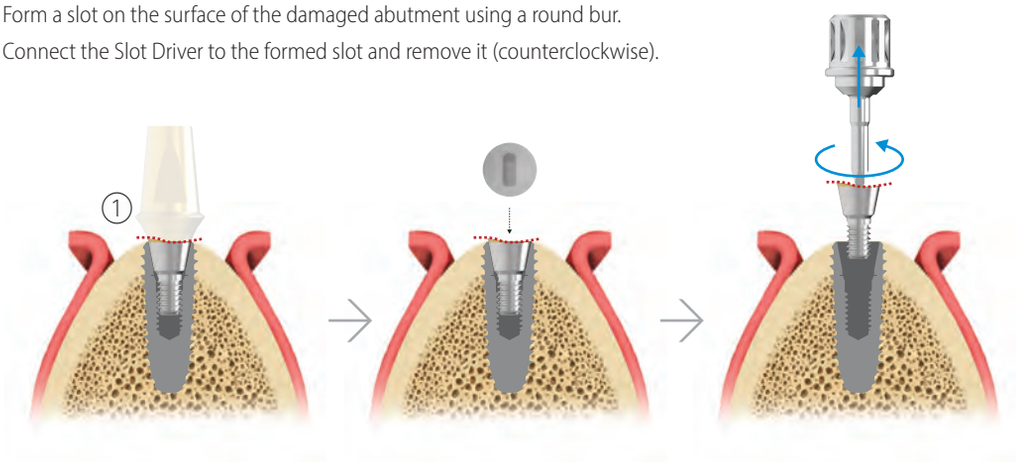
Tap Repair

① Used when the thread inside the fixture is occluded and damaged.
② Reproduce the thread using the Tap Repair.

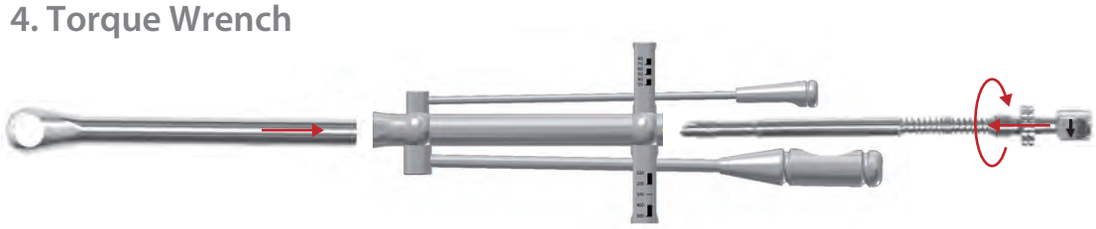


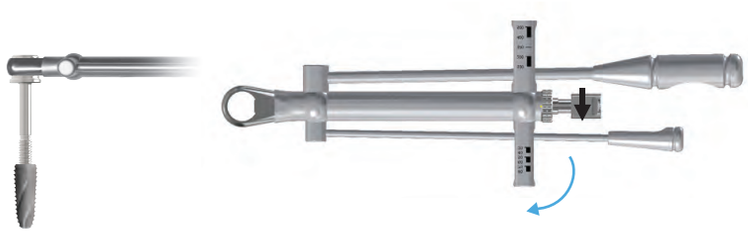
Slot Driver

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).

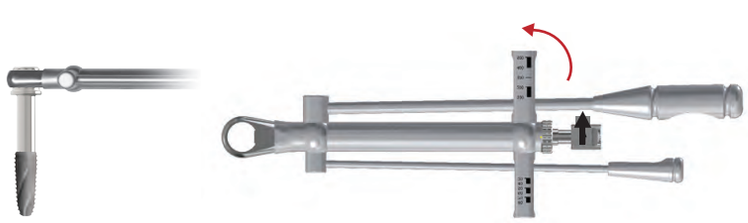


4. Torque Wrench





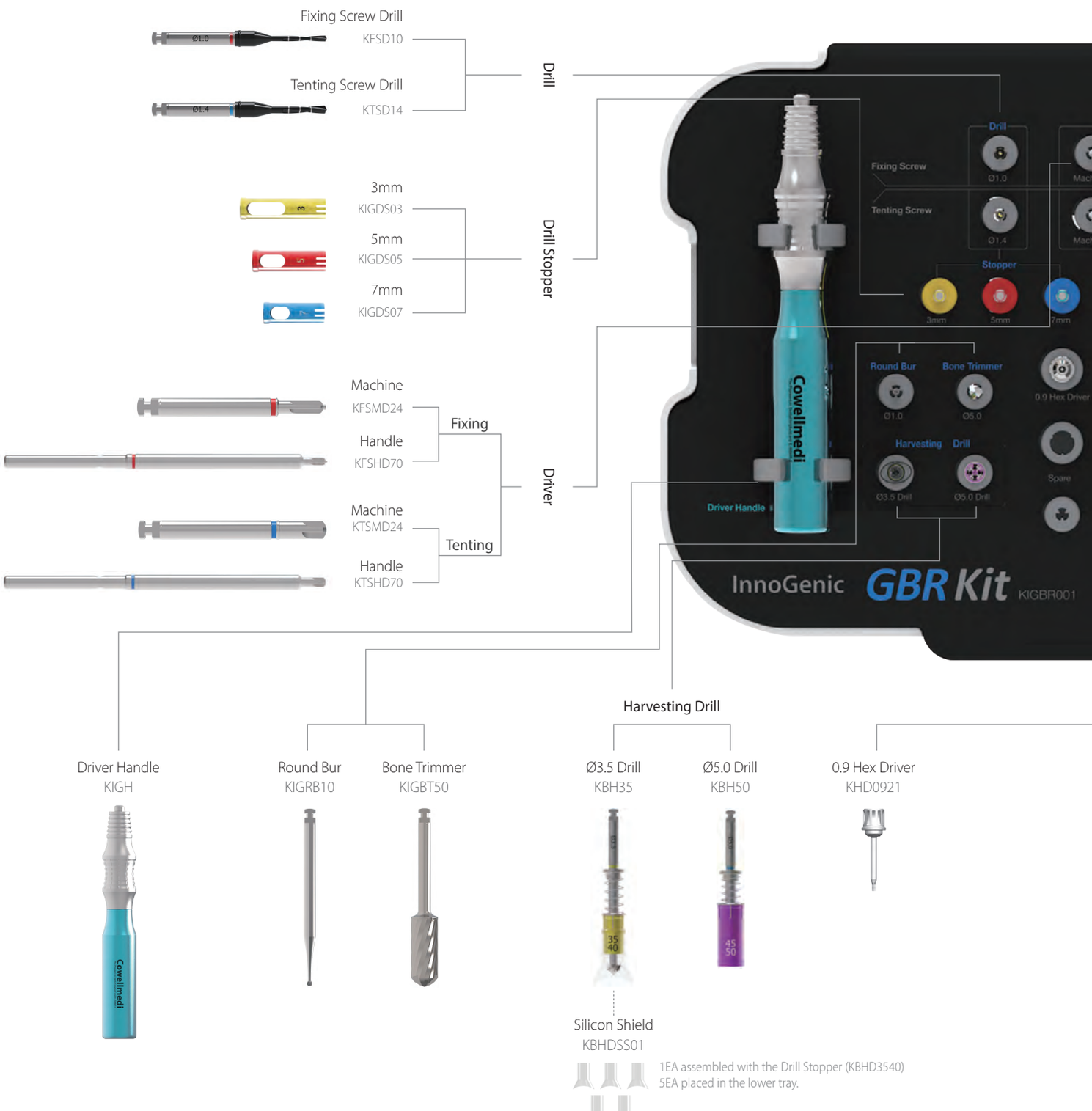
Place the fixture
(clockwise, 40~80N.cm).



Remove the fixture
(counterclockwise, 100~400N.cm).

InnoGenic GBR Kit [KIGBR001]

> An all-in-one solution for various types of GBR procedures.



The length of the product can be measured with the scale marked on the middle tray of the kit.

Screw Kit
KIGICS001

Bone
Fixing Screw

3mm
KIGFS03
KIGFS03
KIGFS03
KIGFS03
KIGFS03

5mm
KIGFS05
KIGFS05
KIGFS05
KIGFS05
KIGFS05

7mm
KIGFS07
KIGFS07
KIGFS07
KIGFS07
KIGFS07

Bone
Tenting Screw

7mm
KIGTS07
KIGTS07
KIGTS07
KIGTS07

10mm
KIGTS10
KIGTS10
KIGTS10
KIGTS10

13mm
KIGTS13
KIGTS13
KIGTS13
KIGTS13

15mm
KIGTS15
KIGTS15
KIGTS15
KIGTS15

Tenting Cap
T/Cap
0.3mm KIGTC32
0.3mm KIGTC32
0.3mm KIGTC32

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
KIGCC45
Ø4.5
KIGCC45

Healing Cap
H/Cap

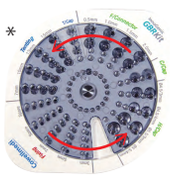
Ø4.5(3mm)	Ø4.5(3mm)	Ø4.5(4mm)	Ø4.5(4mm)
KIGHC453	KIGHC453	KIGHC454	KIGHC454
Ø5.5(3mm)	Ø5.5(3mm)	Ø5.5(4mm)	Ø5.5(4mm)
KIGHC553	KIGHC553	KIGHC554	KIGHC554

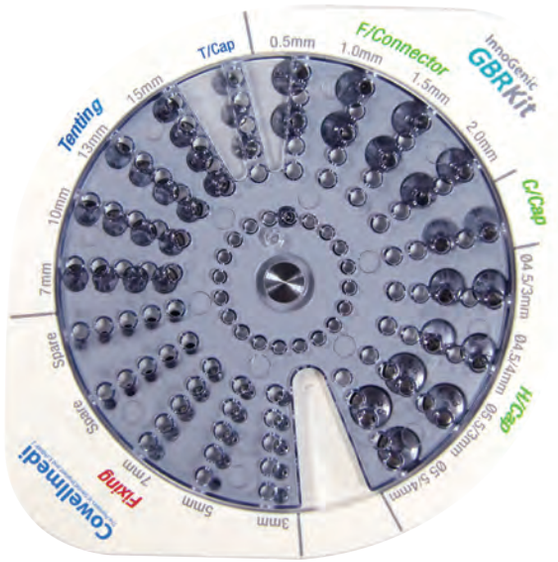
Bone Carrier
KBBC01

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

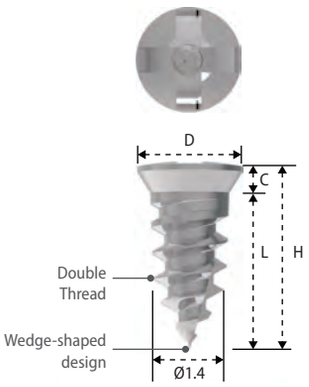
Classification	Product	Code	Quantity
Bone	Fixing Screw (Fixing)	KIGFS03	5
		KIGFS05	5
		KIGFS07	5
	Tenting Screw (Tenting)	KIGTS07	4
		KIGTS10	4
		KIGTS13	4
		KIGTS15	4
	Tenting Cap (T/Cap)	KIGTC32	3
Fixture	Fix Connector (F/Connector)	KIGFC4505	2
		KIGFC4510	2
		KIGFC4515	2
		KIGFC4520	2
	Cover Cap (C/Cap)	KIGCC45	2
	Healing Cap (H/Cap)	KIGHC453	2
		KIGHC454	2
		KIGHC553	2
		KIGHC554	2

Empty Screw Kit KIGICS

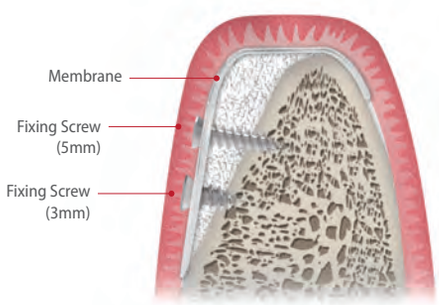
Bone

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.



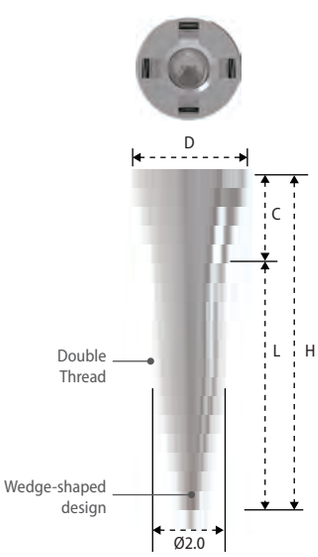
D(Ø,mm)	C(mm)	L(mm)	H(mm)	Code
2.0	0.6	3.0	3.6	KIGFS03
		5.0	5.6	KIGFS05
		7.0	7.6	KIGFS07



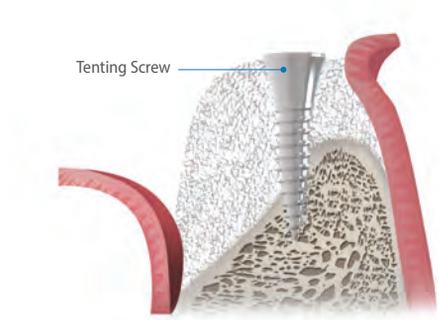
Bone

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

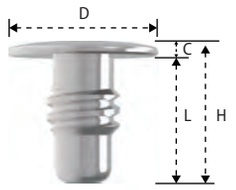


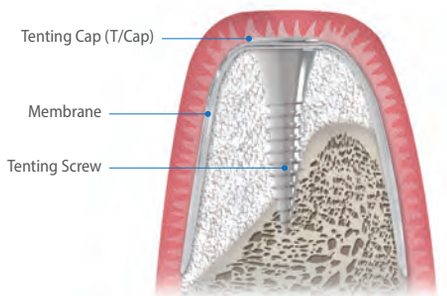
Bone

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



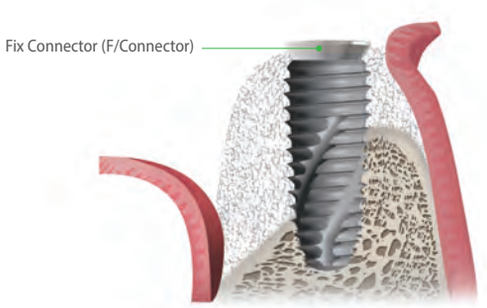


Fixture

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

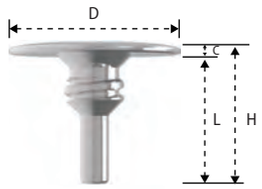


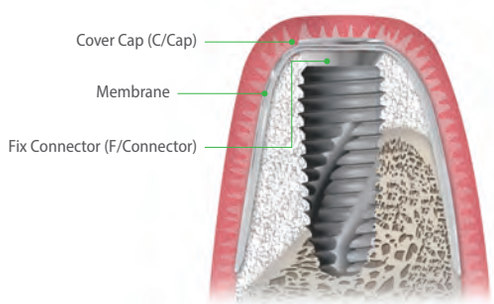
Fixture

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



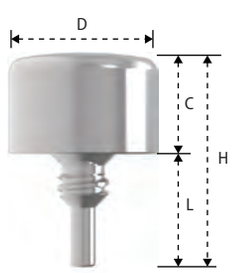


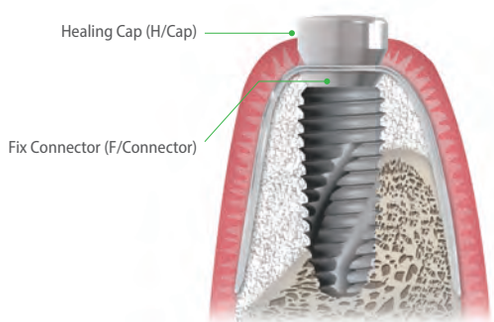
Fixture

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

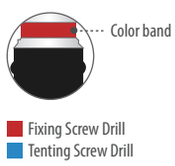


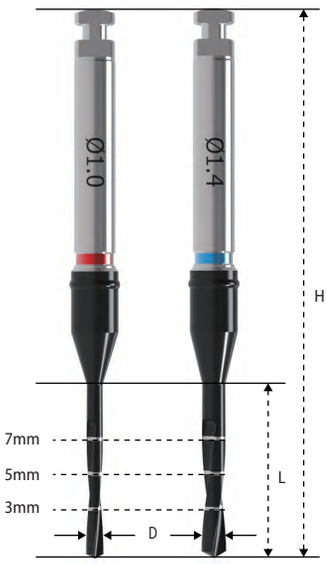


Fixing Screw Drill & Tenting Screw Drill

- 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.

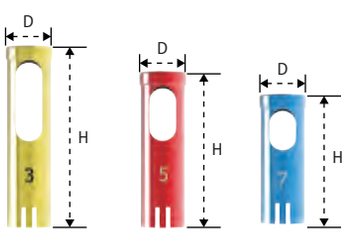
Classification	D(Ø,mm)	L(mm)	H(mm)	Code
Fixing Screw Drill	1.0	10	31.5	KFSD10
Tenting Screw Drill	1.4			KTSD14





Drill Stopper

- Used by connecting to the Fixing Screw Drill / Tenting Screw Drill.
- 3mm : Yellow, 5mm : Red, 7mm : Blue



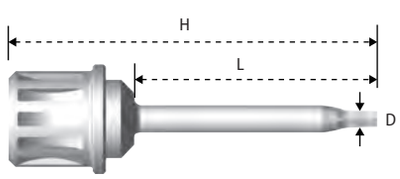
Classification	D(Ø,mm)	H(mm)	Code
3mm	3.5	13.5	KIGDS03
5mm		11.5	KIGDS05
7mm		9.5	KIGDS07

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

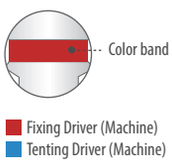
* Optional

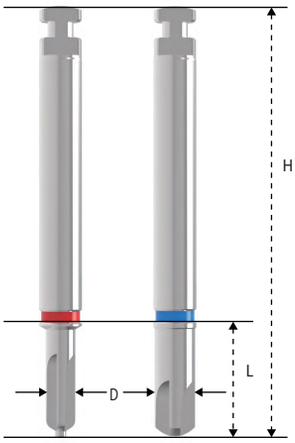


Fixing Screw Driver & Tenting Screw Driver (Machine)

- Used to place the Fixing Screw / Tenting Screw using Contra-angle.
- Color-banded for distinction (Red : Fixing Screw Driver, Blue : Tenting Screw Driver).

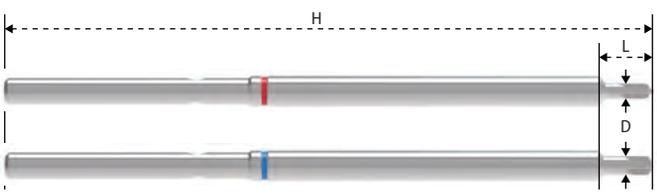
Classification	D(Ø,mm)	L(mm)	H(mm)	Code
Fixing Screw Driver	1.6	6.0	24.0	KFSMD24
Tenting Screw Driver	2.2			KTSMD24

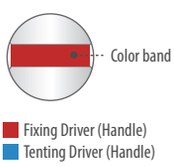




Fixing Screw Driver & Tenting Screw Driver (Handle)

- Used to place the Fixing Screw / Tenting Screw using the Driver Handle.
- Color-banded for distinction (Red : Fixing Screw Driver, Blue : Tenting Screw Driver).

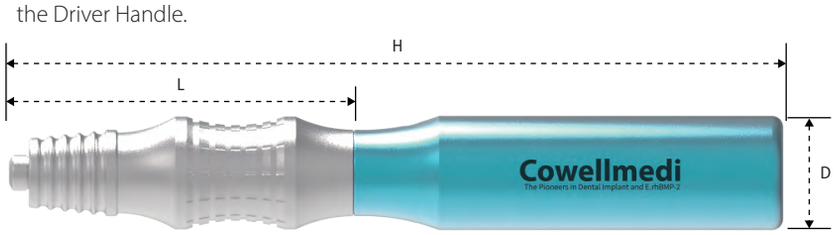




Classification	D(Ø,mm)	L(mm)	H(mm)	Code
Fixing Screw Driver	1.6	6.0	70.0	KFSHD70
Tenting Screw Driver	2.2			KTSHD70

Driver Handle

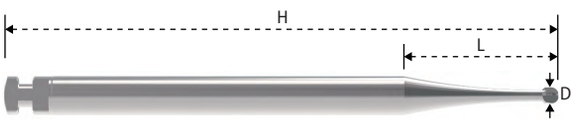
- Used to place and remove the Fixing Screw / Tenting Screw by connecting the Driver Handle.



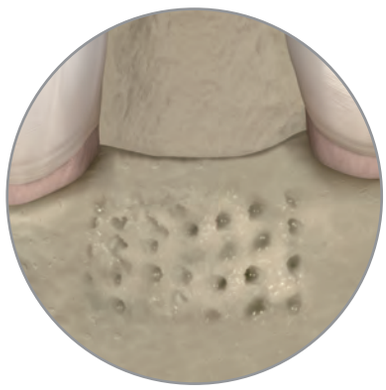
D(Ø,mm)	L(mm)	H(mm)	Code
19.8	75	135.0	KIGH

Round Bur

• Used to perforate cortical bone when blood supply is required.
• Recommended drilling speed : 1,200~1,500rpm.

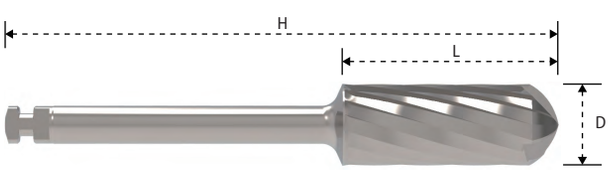


D(Ø,mm)	L(mm)	H(mm)	Code
1.0	9.5	34.0	KIGRB10

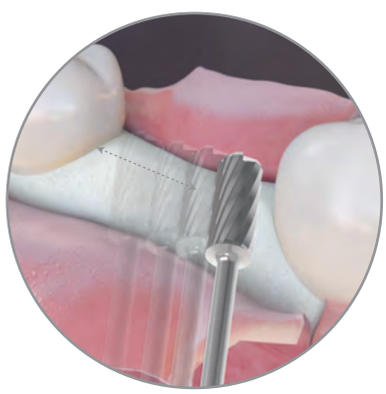


Bone Trimmer

• 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.

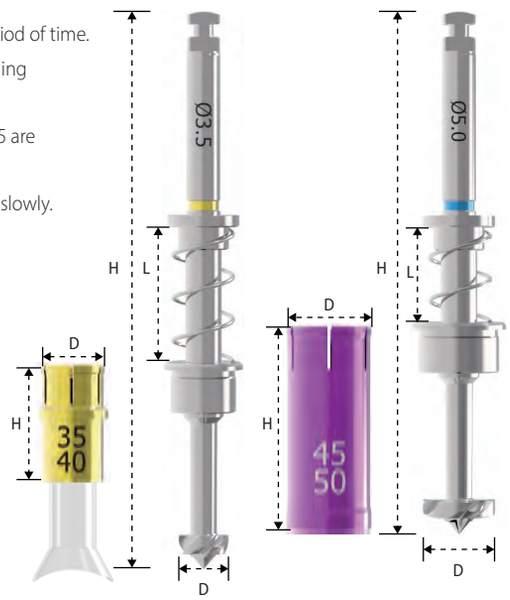


D(Ø,mm)	L(mm)	H(mm)	Code
5.0	13	34.0	KIGBT50



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.

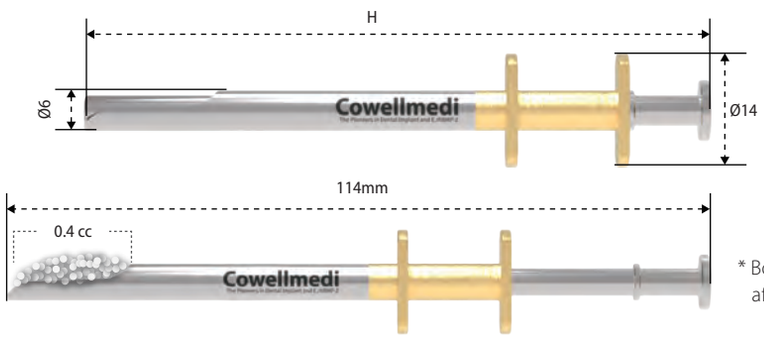


D(Ø,mm)	L(mm)	H(mm)	Code
3.5	9.5	39.2	KBH35
5.0	6.5	36.5	KBH50

	D(Ø,mm)	H(mm)	Code
Drill Stopper	5.6	9	KBHD3540
	6	14.3	KBHD4550

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.



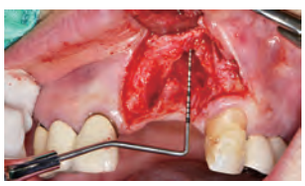
* Bone Carrier length is 94mm and the total length after stretching is 114mm.

Bone Carrier	D(Ø,mm)	H(mm)	Code
	6	94	KBBC01

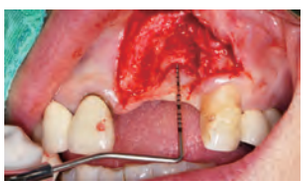
CLINICAL **CASE**

Fixing Screw **Bone**

Buccal view of the bone defect.



14mm high defective part from the gingiva.

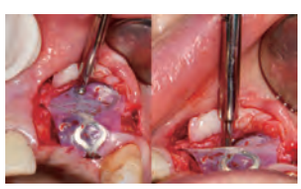


7mm high defective part from the gingiva.

Drilling using the Fixing Screw Drill with 1.0mm in diameter.

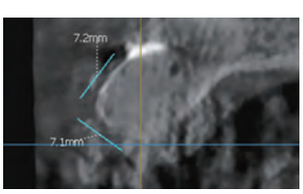
Bone graft with the INNO-CaP.

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.

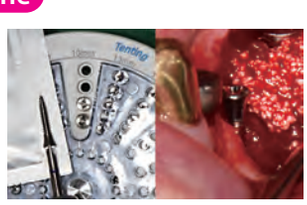
Primary closure.



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.

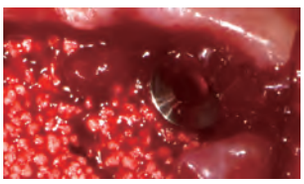
Panoramic view showed that the vertical augmentation with the Tenting Screw was successfully done.

CLINICAL **CASE**

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.



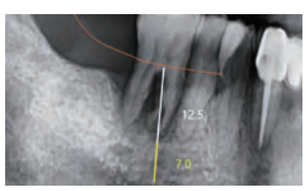
Bone graft with the INNO-CaP.

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



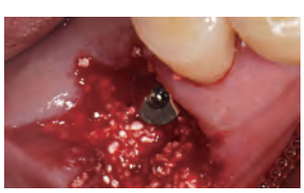
Buccal defect.

Defect height from gingival crest to buccal wall was checked.

INNO Sub. Ø5.0x12mm Fixture which Super-hydrophilised (SLA-SH) surface on surface treated.

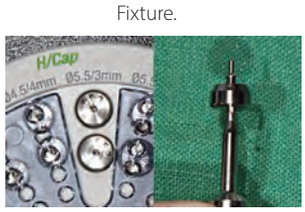
A Fix Connector with 1mm in cuff was installed on the INNO Sub. Fixture.

The Fix Connector was placed in the INNO Sub. Fixture.



The INNO-CaP was grafted up to the top of the Fix Connector.

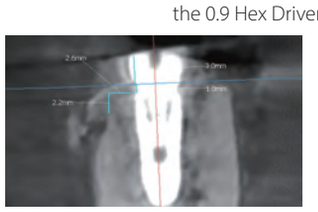
A hole for the Healing Cap fixation was formed in the centre of the Wifi-Mesh.



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.

Bone Profiler Kit [KBP001]

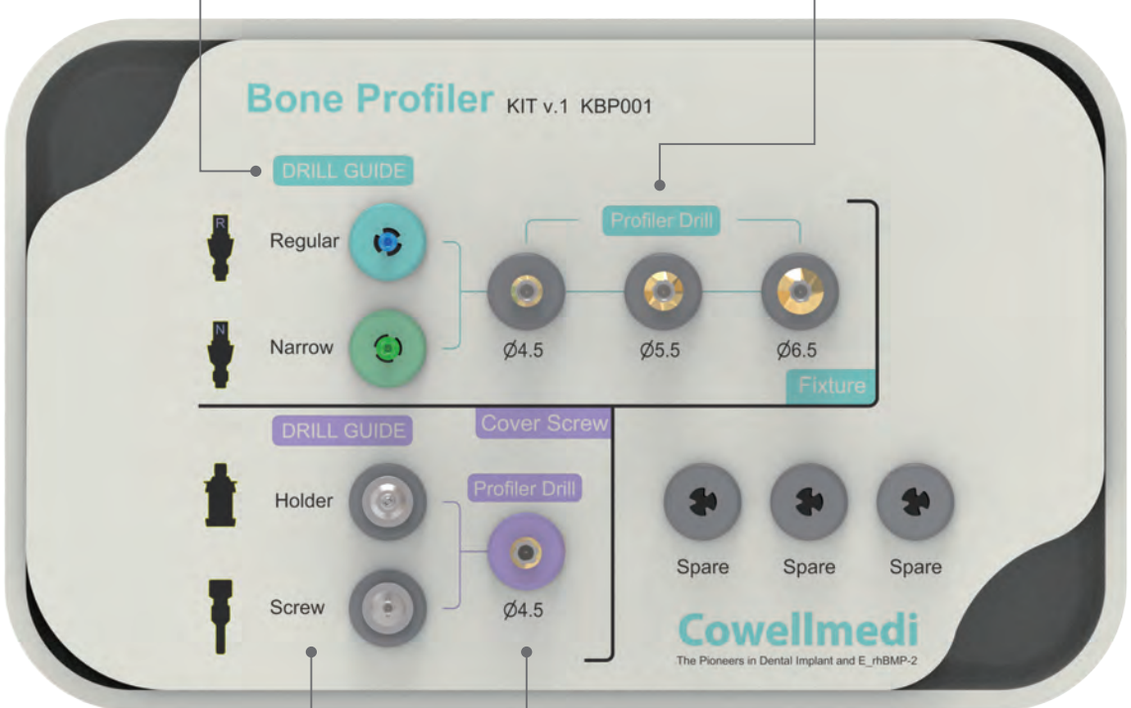
> This is designed for precise bone removal around the fixture during the first and second stages of implant surgery.
> After connecting the Drill Guide to the fixture based on the connection type, use it to remove interfering bone around the fixture. Once completed, the Healing Abutment can be securely attached.
> The Drill Guide is designed to prevent fixture damage by ensuring no direct contact with the fixture during drilling.

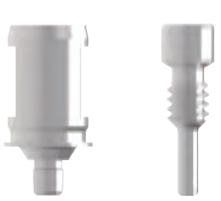
Drill Guide (Regular, Narrow)

KBPDG01R KBPDG01N

Bone Profiler Drill (Ø4.5/5.5/6.5)

KBP4515 KBP5515 KBP6510





Drill Guide (Body, Screw)

KBPDGB KBPDGS

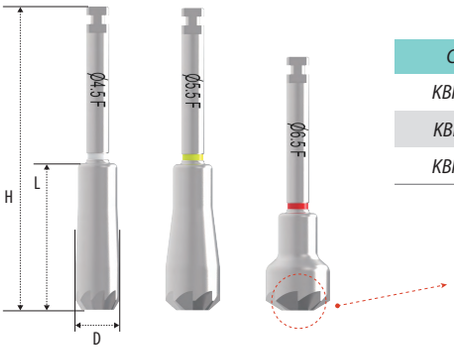
*Extra

Bone Profiler Drill (Ø4.5/5.5)

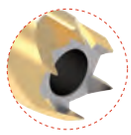
KBP4515C KBP4515C

Bone Profiler Drill *Fixture*

> This is designed for precise bone removal around the fixture
> The Drill Guide should be securely attached to the fixture before use
> Rotation Direction: Clockwise (CW) / 800~1200 RPM



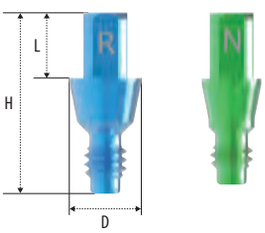
Code	D(Ø)	L(mm)	H(mm)	Color Band
KBP4515	4.5	15	31	White
KBP5515	5.5	15	31	Yellow
KBP6510	6.5	10	26	Red



·As the central hole of the drill connects with the guide, it serves to accurately position the drill for precise drilling

Drill Guide *Fixture*

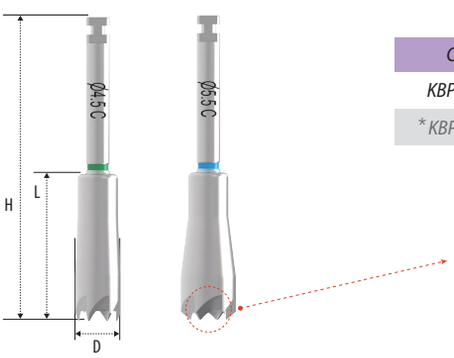
> Guide for Bone Profiler Drill(Fixture)
> Tightened with the Hex Driver(Torque force : 10~15N)
> Sub Regular : Blue, Sub Narrow : Green



Code	D(Ø)	L(mm)	H(mm)	Color Band
KBPDG01R	3.3	3	8.3	Blue
KBPDG01N	2.63	3	7.82	Green

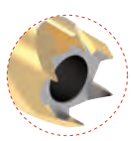
Bone Profiler Drill *Cover Screw*

> This is designed for precise bone removal around a Cover Screw
> Drill Guide should be securely attached to the Cover screw before use
> Rotation Direction: Clockwise (CW) / 800~1200 RPM



Code	D(Ø)	L(mm)	H(mm)	Color Band
KBP4515C	4.5	15	31	Green
**KBP5515C*	5.5	15	31	Blue

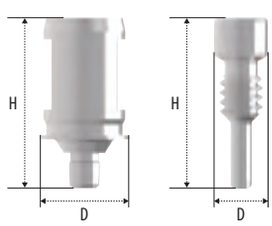
*Extra



·As the central hole of the drill connects with the guide, it serves to accurately position the drill for precise drilling

Drill Guide *Cover Screw*

> Guide for Bone Profiler Drill(Cover Screw)
> This should be secured into the 1.2 Hex hole of the Cover Screw before use
> Tightened with the Hex Driver(Torque force : 10~15N)

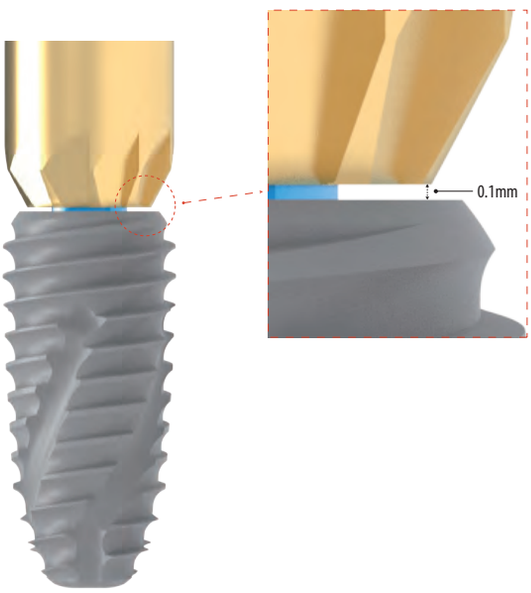


Body Screw

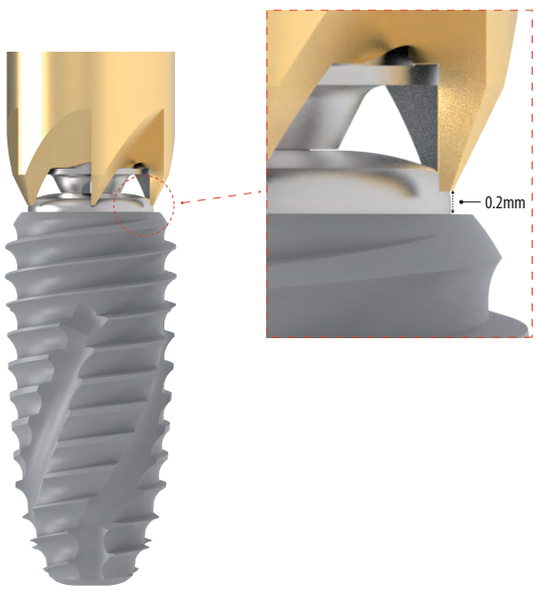
Code	D(Ø)	H(mm)
KBPDGB	3.3	6.3
KBPDGS	1.95	6.3

Safety clearance

Fixture

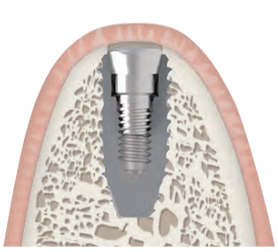


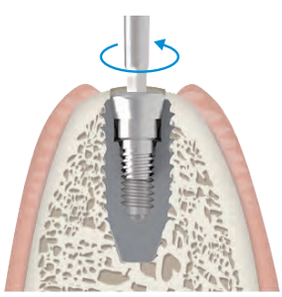
Cover Screw



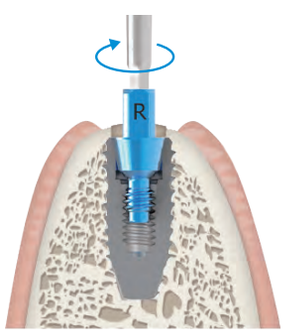
Instructions for Use

Fixture

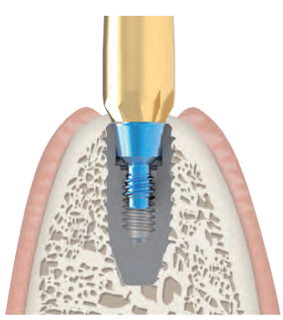




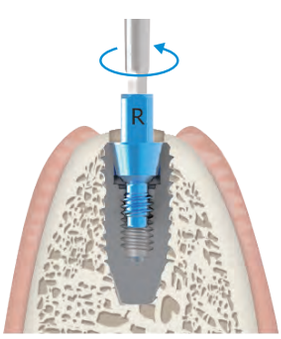
1. Incise the gum and remove the Cover Screw



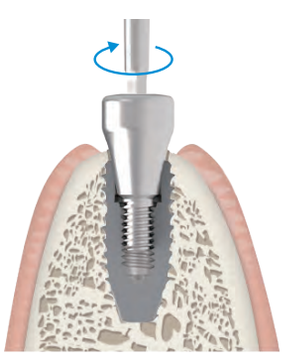
2. Attach the Drill Guide to the fixture (Torque: 5~10N by hand)



3. Perform drilling according to the Drill Guide alignment.



4. Remove the Drill Guide

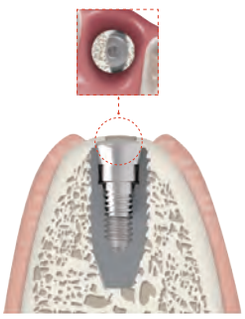


5. Attach the Healing Abutment

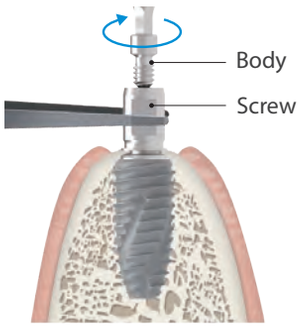
6. Procedure complete

Cover Screw

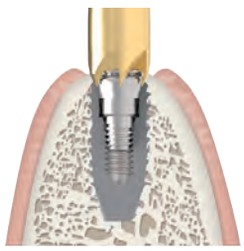
· When the bone slightly covers the area around the Cover Screw (Hole exposed)



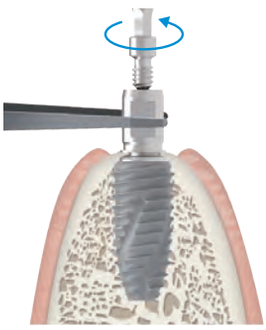
1. Incise the gum and check the bone condition (When the bone is covering the Cover Screw)



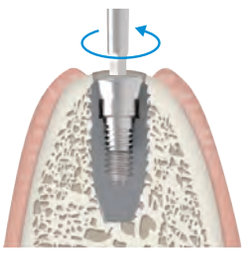
2. Attach the Drill Guide to the Cover Screw (use tweezers to hold the body before tightening the screw, Torque: 5-10N by hand)



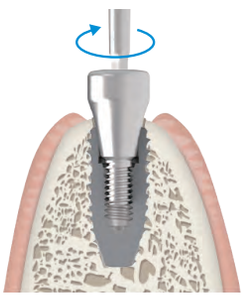
3. Perform drilling according to the Drill Guide alignment



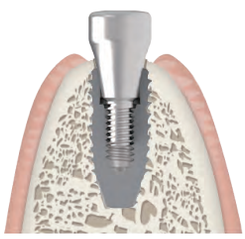
4. Remove the Drill Guide



5. Remove the Cover Screw

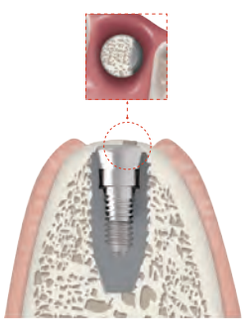


6. Attach the Healing Abutment

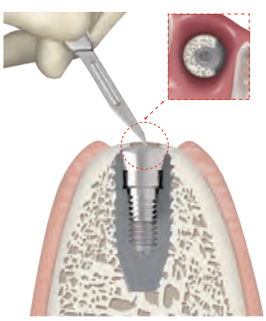


7. Procedure complete

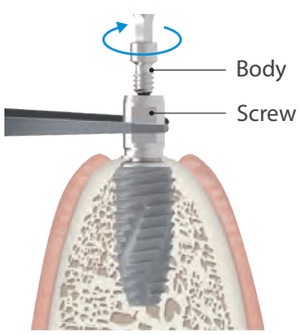
· When the bone covers the area around the Cover Screw



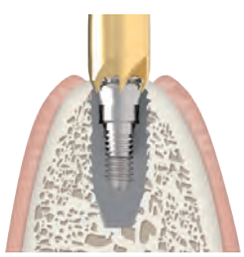
1. Incise the gum and check the bone condition (When the bone is covering the Cover Screw)



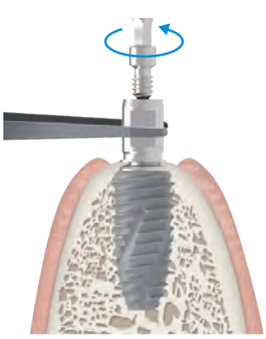
2. Use a blade, etc to partially remove the bone covering the area (exposing the hole)



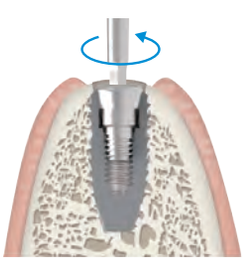
3. Attach the Drill Guide to the Cover Screw (use tweezers to hold the body before tightening the screw, Torque: 5-10N by hand)



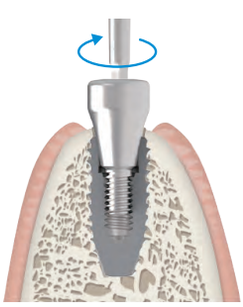
4. Perform drilling according to the Drill Guide alignment



5. Remove the Drill Guide



6. Remove the Cover Screw



7. Attach the Healing Abutment

8. Procedure complete

Clinical Case 1

Cover Screw

1. After gum incision, check the condition of the bone

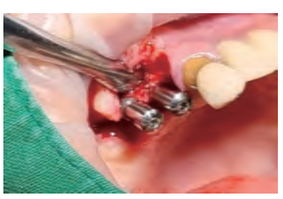
2. Attach the Drill Guide to the Cover Screw (use tweezers to hold the body before tightening the screw)

3. Perform drilling according to the Drill Guide alignment

4. Remove the Drill Guide

5. Remove the Cover Screw

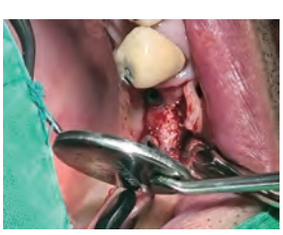
6. Attach the Healing Abutment



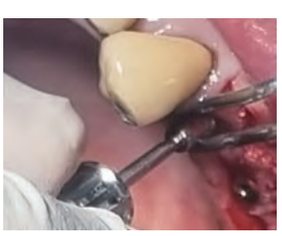
7. Procedure complete

Clinical Case 2

Cover Screw



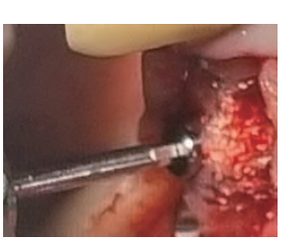
1. After gum incision, check the condition of the bone



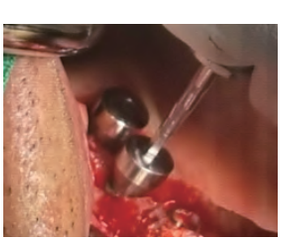
2. Attach the Drill Guide to the Cover Screw (use tweezers to hold the body before tightening the screw)

3. Perform drilling according to the Drill Guide alignment

4. Remove the Drill Guide



5. Remove the Cover Screw

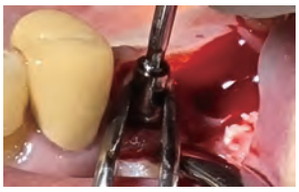


6. Attach the Healing Abutment

Clinical Case 3

Cover Screw

1. After gum incision, check the condition of the bone



2. Attach the Drill Guide to the Cover Screw (use tweezers to hold the body before tightening the screw)

3. Perform drilling according to the Drill Guide alignment

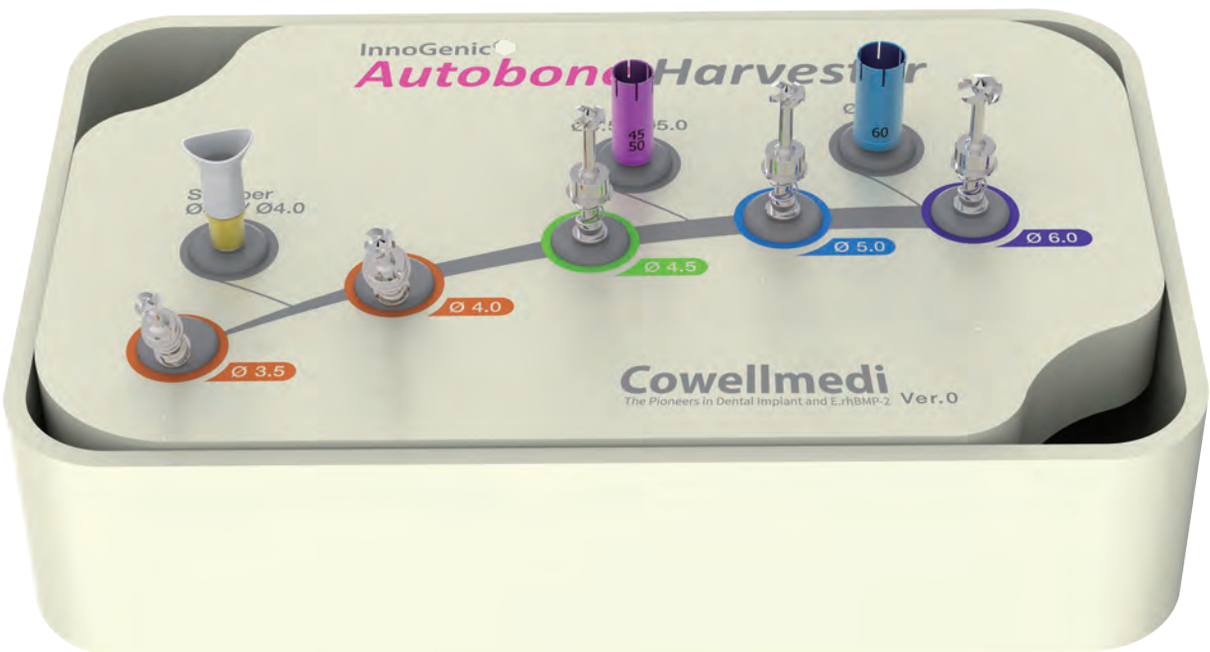
4. Remove the Drill Guide

5. Remove the Cover Screw

6. Attach the Healing Abutment

Autobone Harvester [KIAH001]

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



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

X6

KBHDSS01

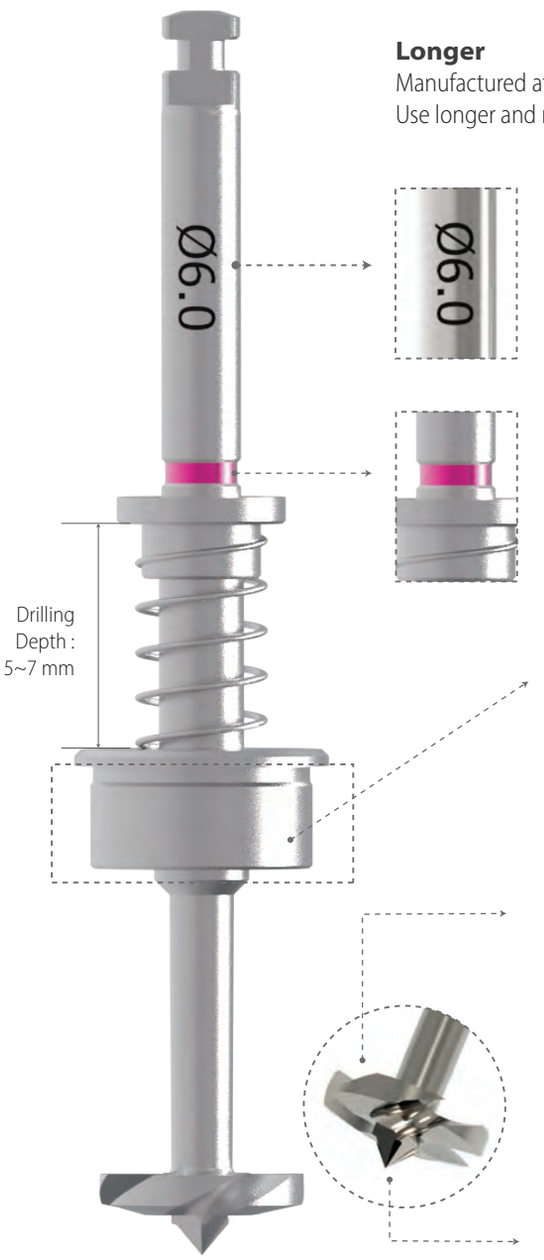
* 1EA assembled with the Drill Stopper (KBHD3540). 5EA placed in the lower tray.

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.

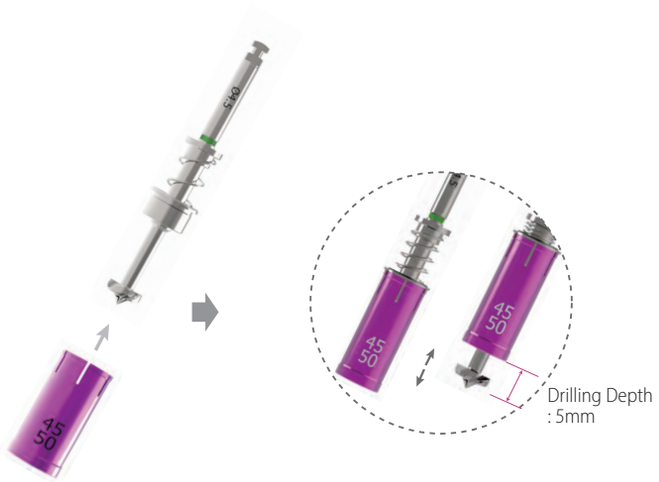
+

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.

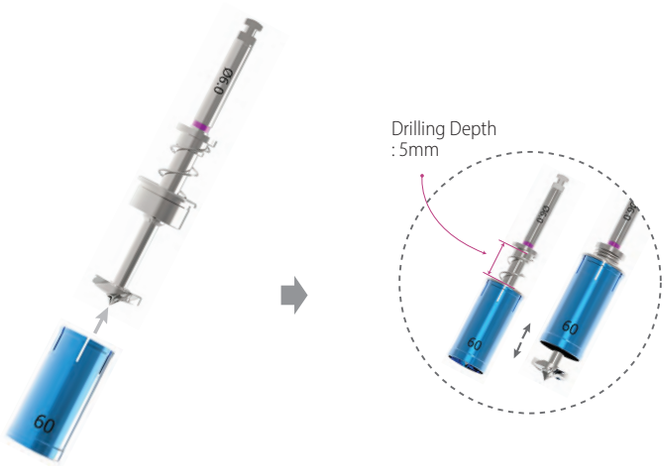
For Ø4.5 & 5.0 Drill

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.

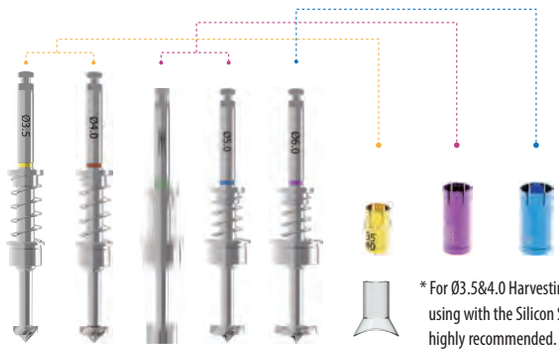
• Place the implant.

• Apply the harvested bone chips on the site.

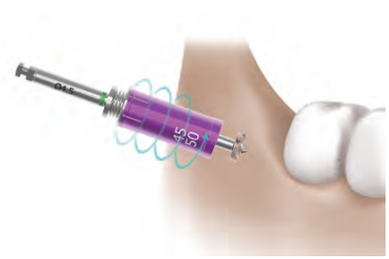
Harvesting sequence:

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.



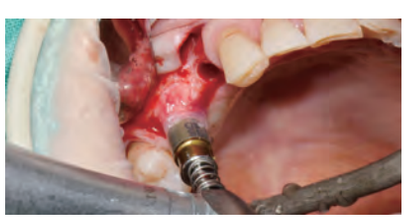
• Drill at 300 to 500rpm with irrigation and harvest autogenous bone chips.

• Apply the harvested bone chips on the site.

A Clinical Case using Ø3.5/4.0 Harvesting Drill

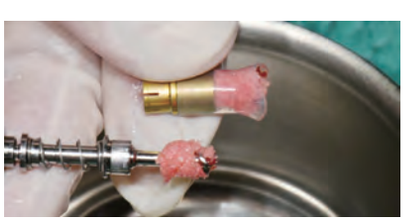
by Dr. Soohong Kim, DDS, Ph.D

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.



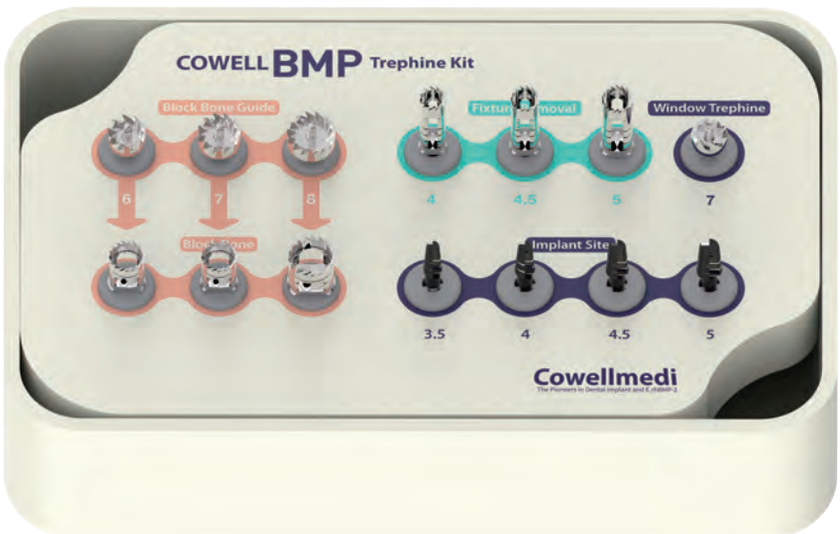
The bone was transferred to a bone dish after disassembling the Silicon Shield and Stopper. The amount of the bone was much more than expected.

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.

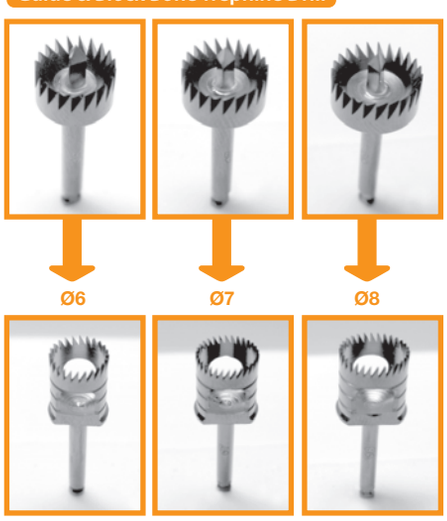
COWELL BMP Trephine Kit [KBT001]

> 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

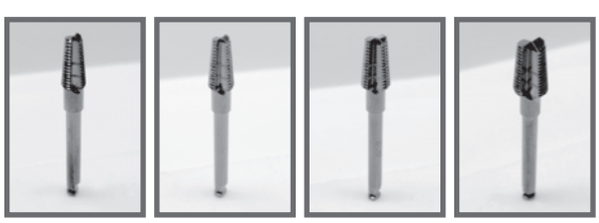
Trephine Drill III:

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

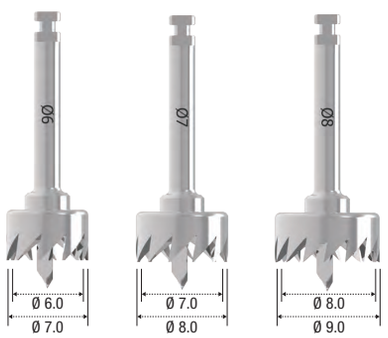
Trephine Drill I Block Bone Extraction

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.

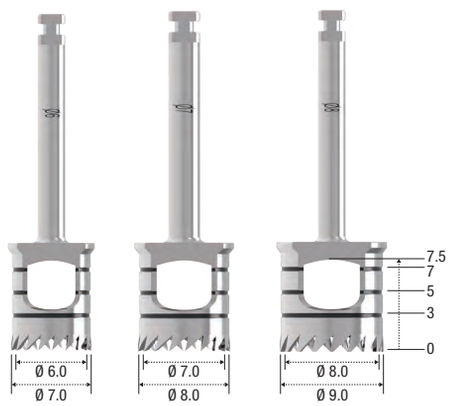
> Desired rpm: 800~1,000rpm.



Block Bone Trephine Drill

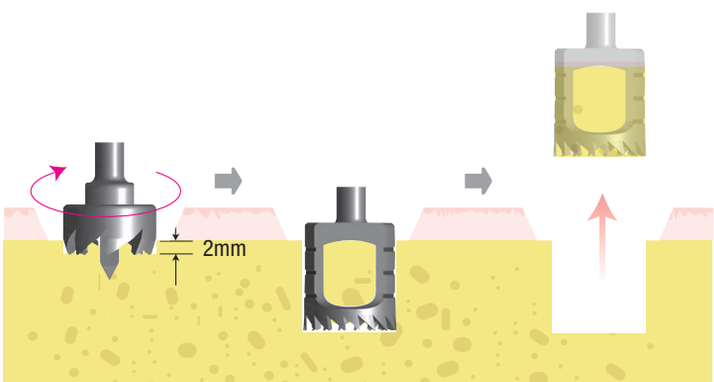
> This drill is engaged with the bone groove with the help of the block bone guide to collect the block bone with a desired size.

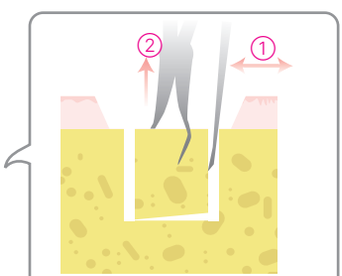
> Desired rpm: 800~1,000rpm.



Diameter	Ø 6.0 (Inner)	Ø 7.0 (Inner)	Ø 8.0 (Inner)
	KBGT60	KBGT70	KBGT80

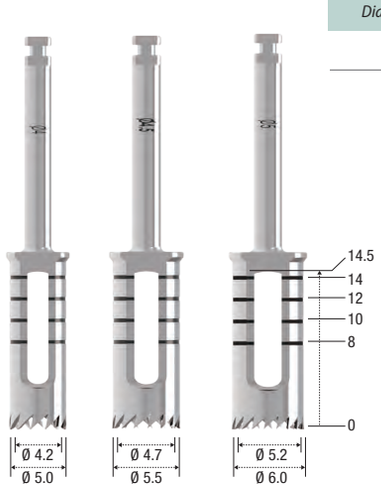
Diameter	Ø 6.0 (Inner)	Ø 7.0 (Inner)	Ø 8.0 (Inner)
	KBT60	KBT70	KBT80



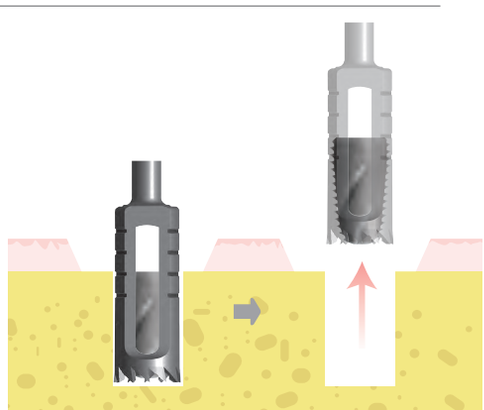


If the block bone is not removed using the Trephine Drill, use dental elevator or forceps to remove it.

Trephine Drill II Failed Fixture Removal

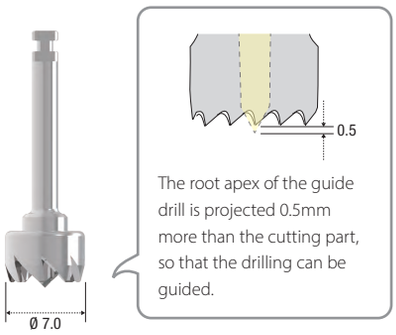


Diameter	Ø 4.2 (Inner)	Ø 4.7 (Inner)	Ø 5.2 (Inner)
	KFRT40	KFRT45	KFRT50

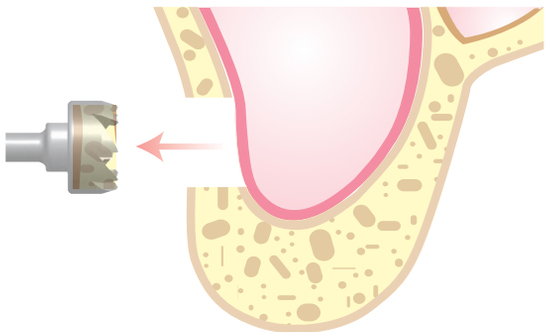


Trephine Drill III Window Opening for Lateral Window Approach

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

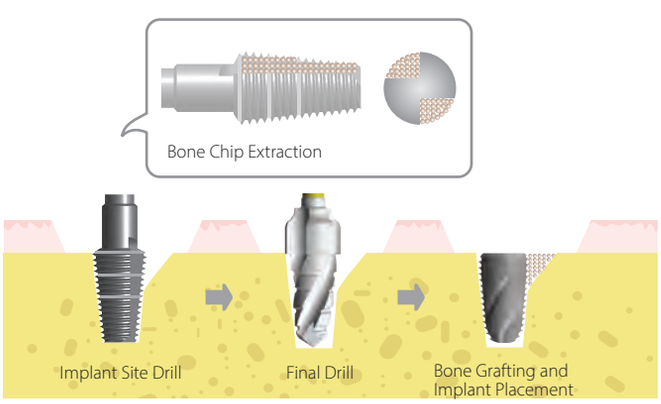
> Used before the Final Drill is used (simplified drilling sequence).

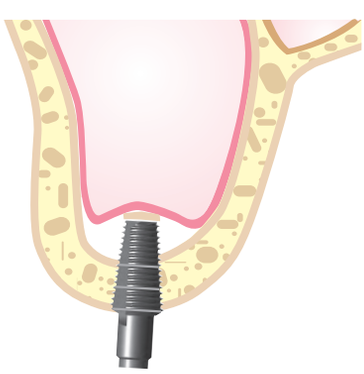
> Advantageous for securing autogenous bone.

> Less rpm drilling leads to low bone heating.

> Also used as a sinus lift tool (Sinus Lift).

> Desired rpm : 20~30rpm.

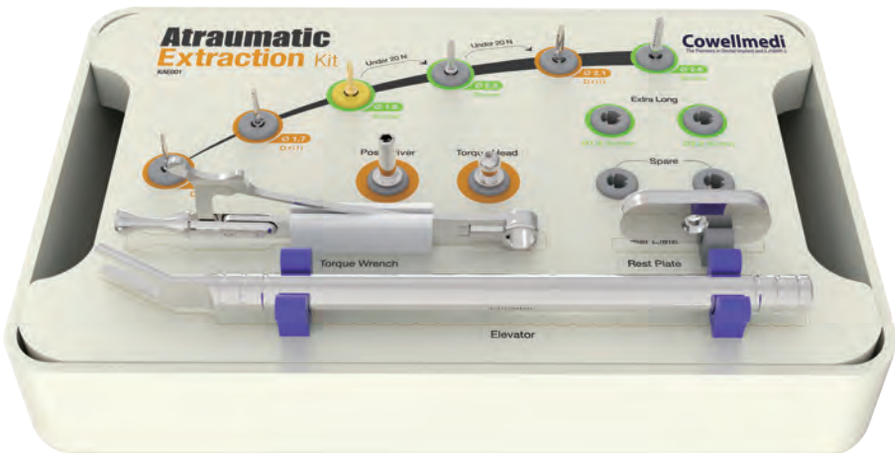




Sinus Lift

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

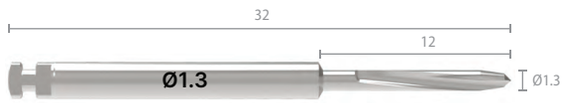
Torque Head

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

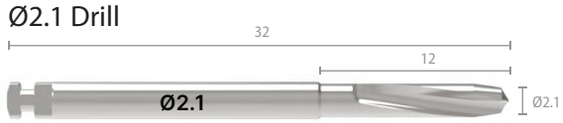


Code	KAAD13

Ø1.7 Drill

Code	KARD17

Ø2.1 Drill



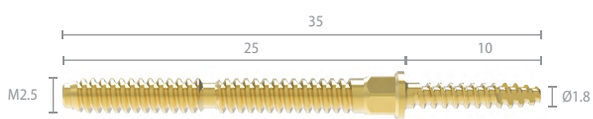
Code	KAMD21

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.

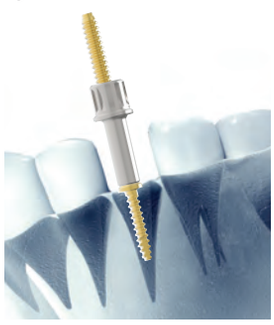
> The Ø1.8 Screw is used for vital root of which canal is not treated, after using the Ø1.7 Drill.

Ø1.8 Screw

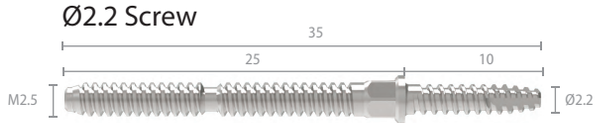


Code	KAAS16	* KAAS16X
Length	*10*	*15*

* Extra product

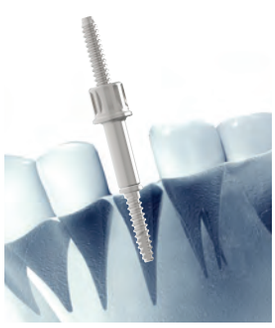


Ø2.2 Screw

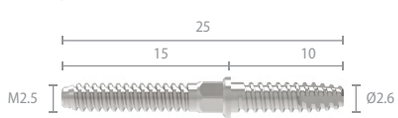


Code	KARS20	* KARS20X
Length	*10*	*15*

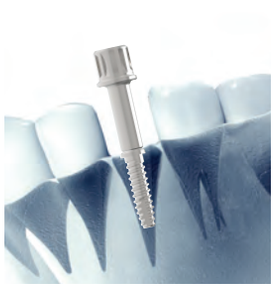
* Extra product



Ø2.6 Screw

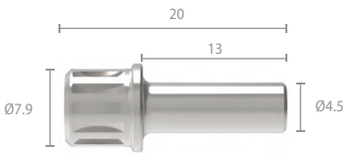


Code	KAMS25



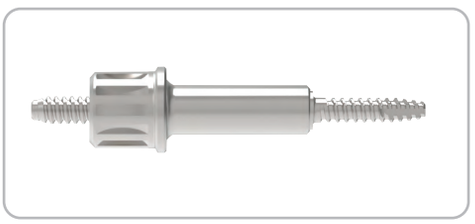
3. Post Driver

> 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).



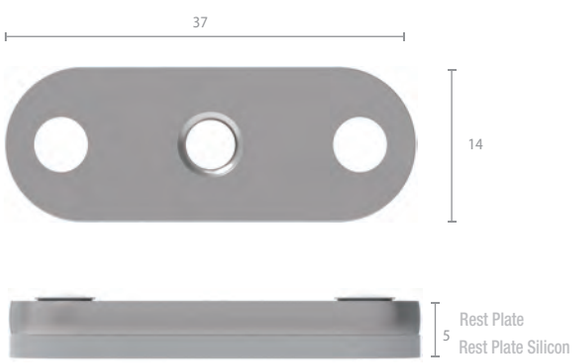
Code	KAPD13L

* 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.

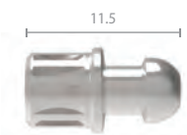


Code	KARP001

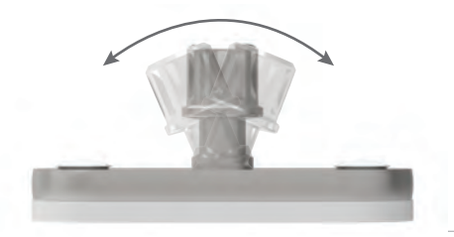
5. Torque Head

> 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).

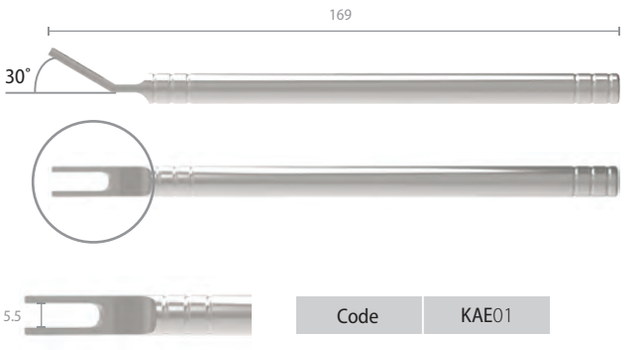


Code	KATH80

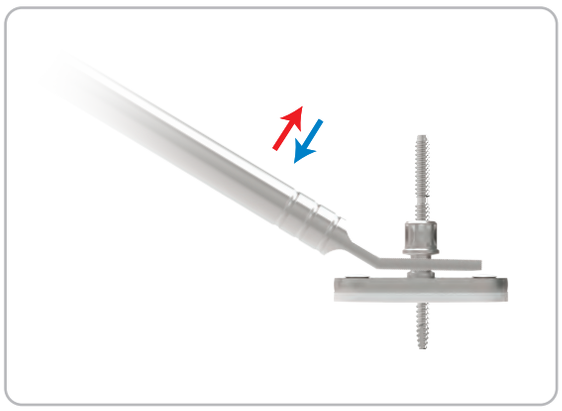


6. Elevator

> The Elevator is used by connecting it with the Torque Head and extracting the root by applying force toward a distal or mesial direction.



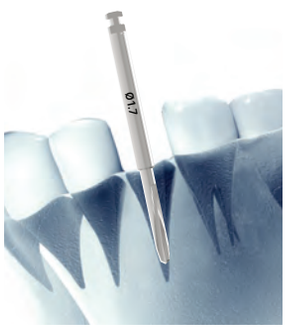
Code	KAE01



How to Use

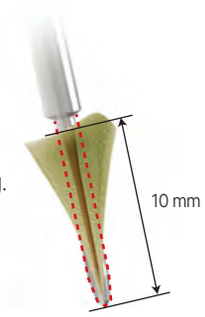
1. Extraction Drill

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).

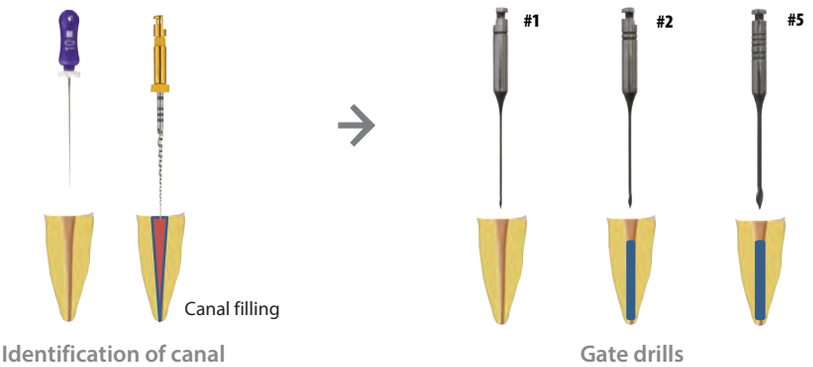
Connect Post Driver to the Extraction Screw.

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

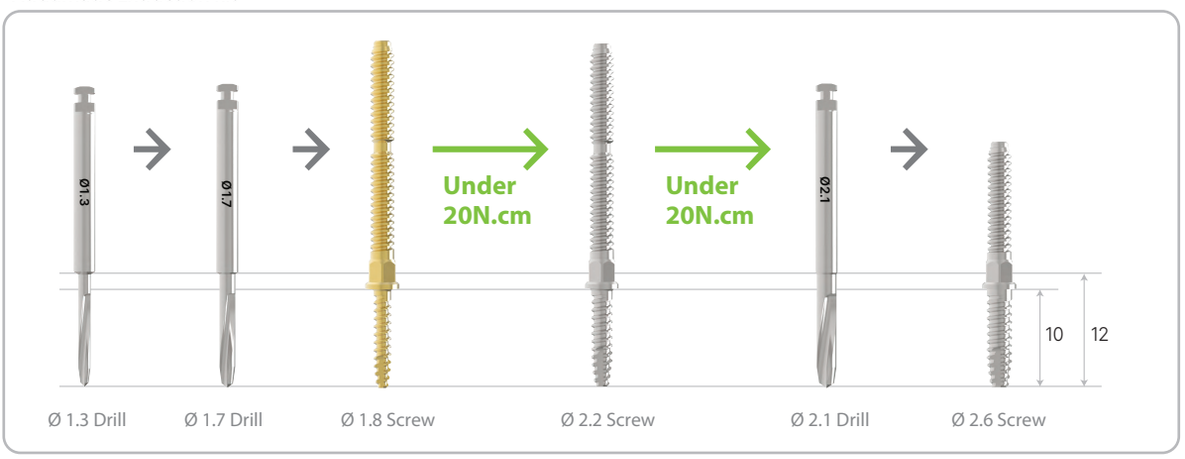
Root Canal Preparation



Identification of canal

Gate drills

Atraumatic Extraction kit

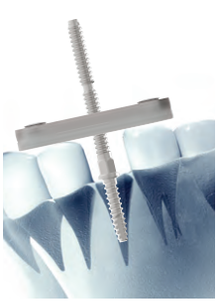


Caution C

- 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.

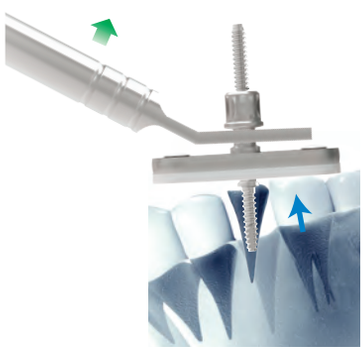
Extraction Root

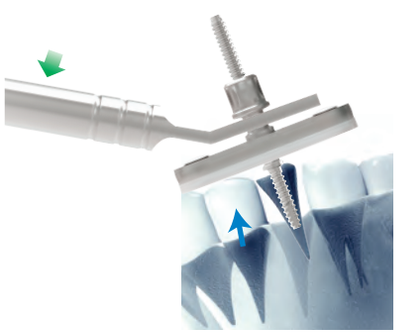
Caution D

- 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.



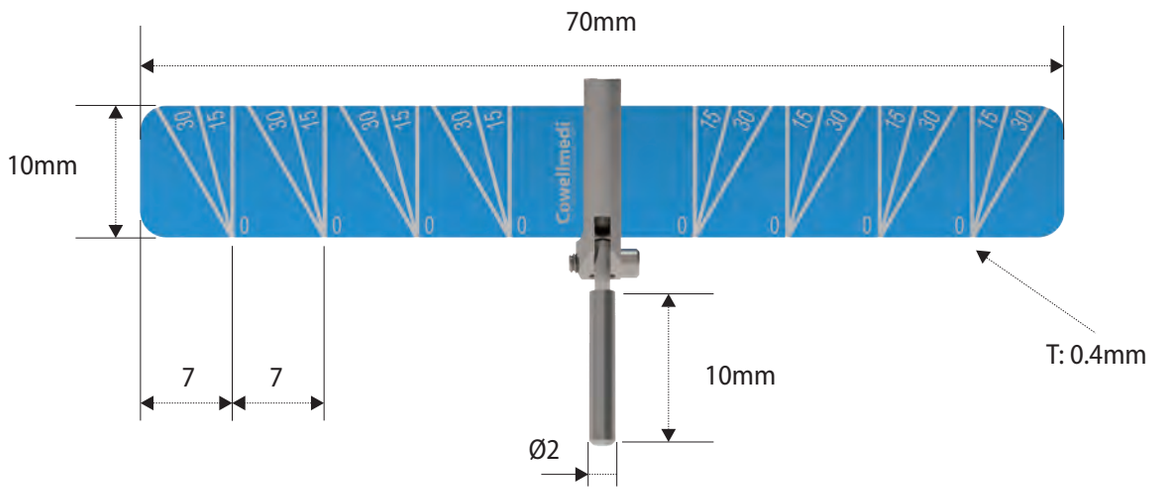


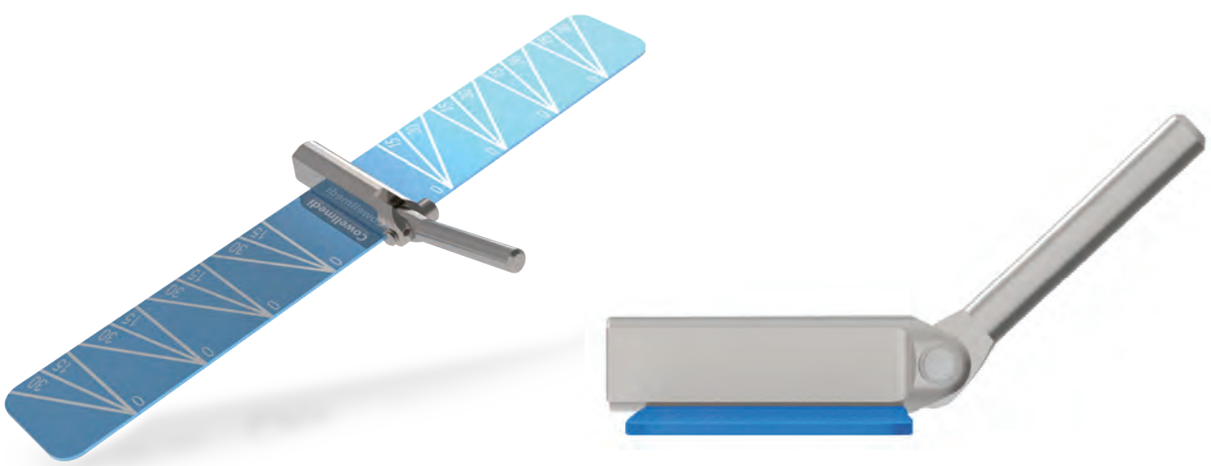
Caution F

- If there is an adjacent tooth projected to the mesiodistal root, it must be extracted using the Elevator.

AO4 Surgical Stent [KDSS001]

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





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.

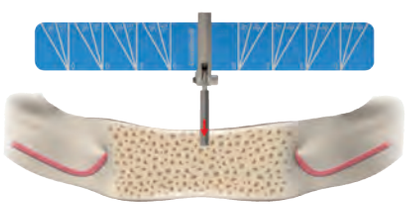
> By preventing the loss of healthy gums as much as possible, pre-fabricated prostheses can be placed immediately after surgery without the need for gum restoration.

> Angled line allows more precise and predictable surgery.

Eligible for

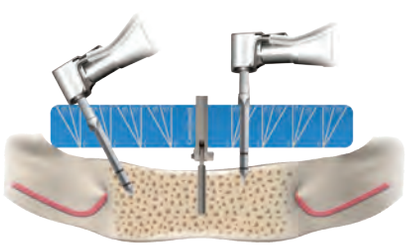
> A toothless patient.
> Patient who do not want long-period of surgery.
> Patients suffering from adult diseases such as hypertension and diabetes.
> Patients who need precise implant treatment.

Instruction



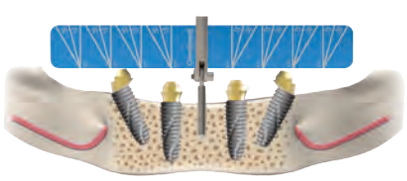
Place the AO4 Surgical Stent

- 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

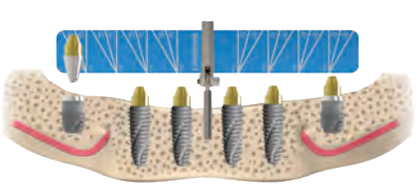
- Drill with reference to the angled line and place the fixture.



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

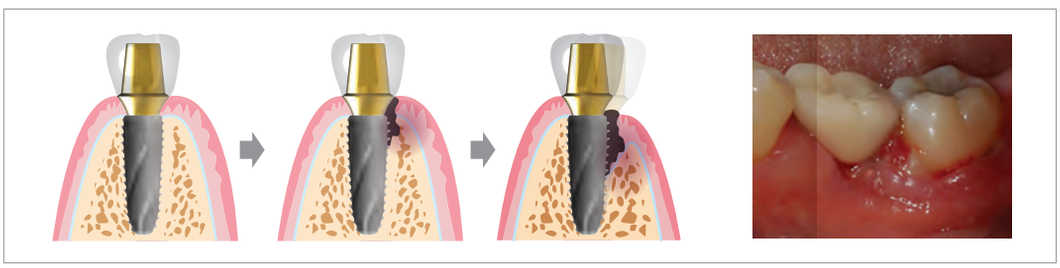
- After placing the INNO Fixture, connect Lock Abutment according to the site.
  * If implant placement at an angle is not appropriate or not desired, using the INNO Sub. Short Implant is highly recommended.

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

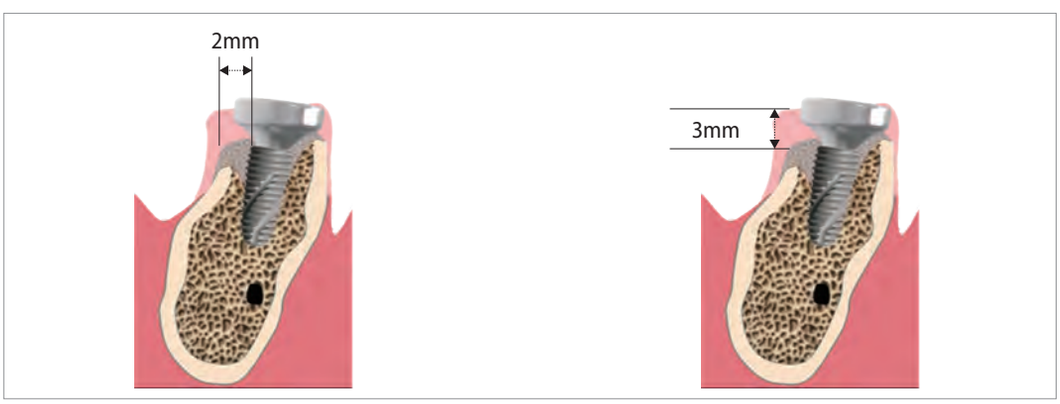
• Peri-implant inflammations represent serious diseases after dental implant treatment, which affect both the surrounding hard and soft tissue.



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)

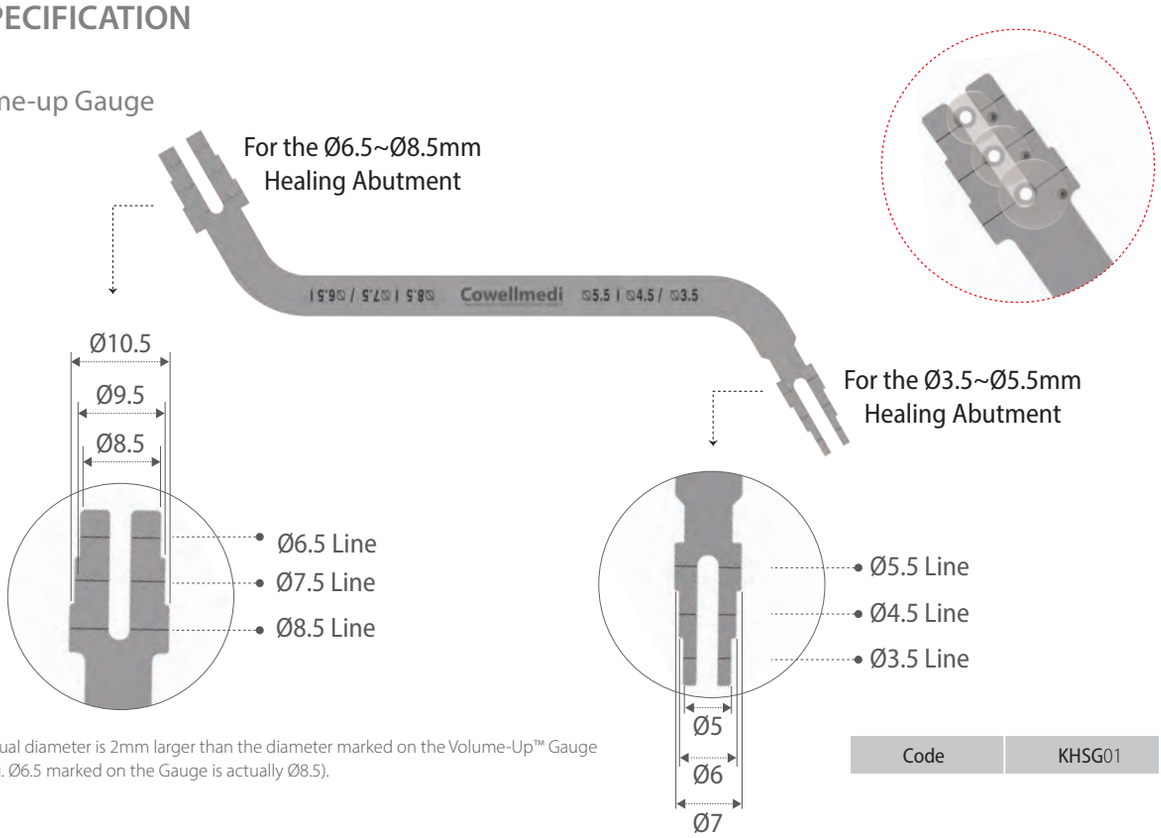
Alveolar bone regeneration at minimum 3mm lower position to maintain gingival height.
(Clin Oral Implants Res 2000;11: 1–11.)



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



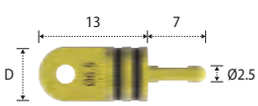
* Actual diameter is 2mm larger than the diameter marked on the Volume-Up™ Gauge (E.g. Ø6.5 marked on the Gauge is actually Ø8.5).

Code	KHSG01

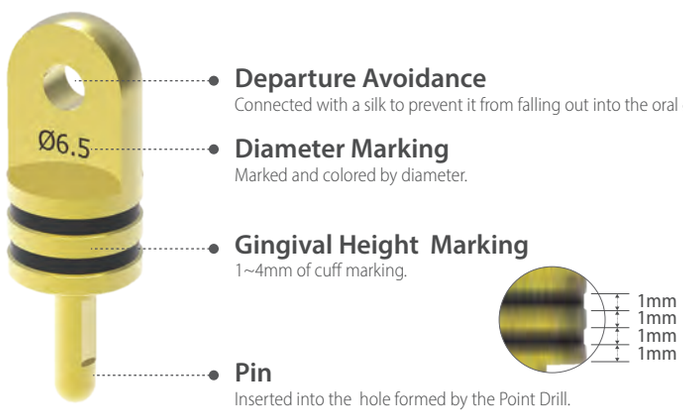
> Used to guide the position of implant placement and to guide the election of the Healing Abutment dimensions in order to keep the cervical portion of the implant prosthesis at the natural tooth width.
> Used with the Volume-up Parallel Pin for multiple units or bridge.
> Used with Point Drill (Ø2.1mm 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.



Ø6.5	Ø7.5	Ø8.5
KVPP65	KVPP75	KVPP85

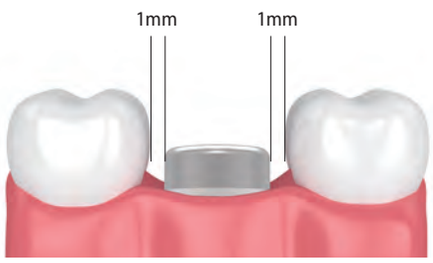
3. PROCEDURE

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.

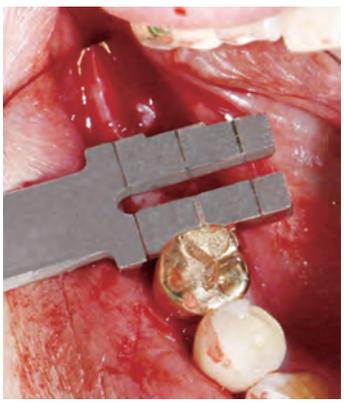
Insert the Volume-up Parallel Pin into the hole formed after point drilling.

Carry out the same as the previous step.

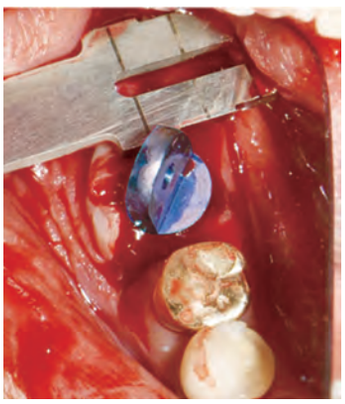
* For the selection of the Healing Abutment, refer the pages 34, 63, 81 & 100.

4. CLINICAL CASE

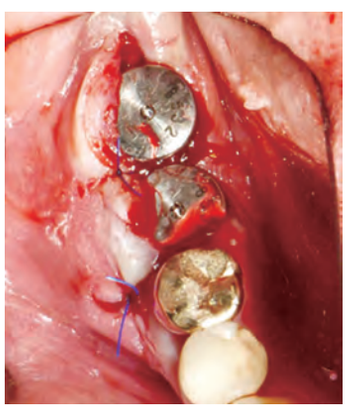
Preoperative view of the healed ridge.



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.