



InnoFit®

Lodestar Plus Kit KLSP001

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



GUIDED SURGERY

TOTAL GUIDED SURGERY SOLUTION

InnoFit® Lodestar Plus Kit

A total guided surgery solution applicable to various types of clinical cases.

- Predictable and optimal procedure can be done as the treatment plan with InnoFit® Lodestar Plus Kit
- INNO submerged and INNO submerged narrow implant guided surgery is possible using only one kit
- Double contact of bone & drill and drill & sleeve allows more precise drilling without changing the path
- Open sleeve allows easy access to cases with low vertical dimension of occlusion and the 2nd molar
- Low speed drill prevents bone heating

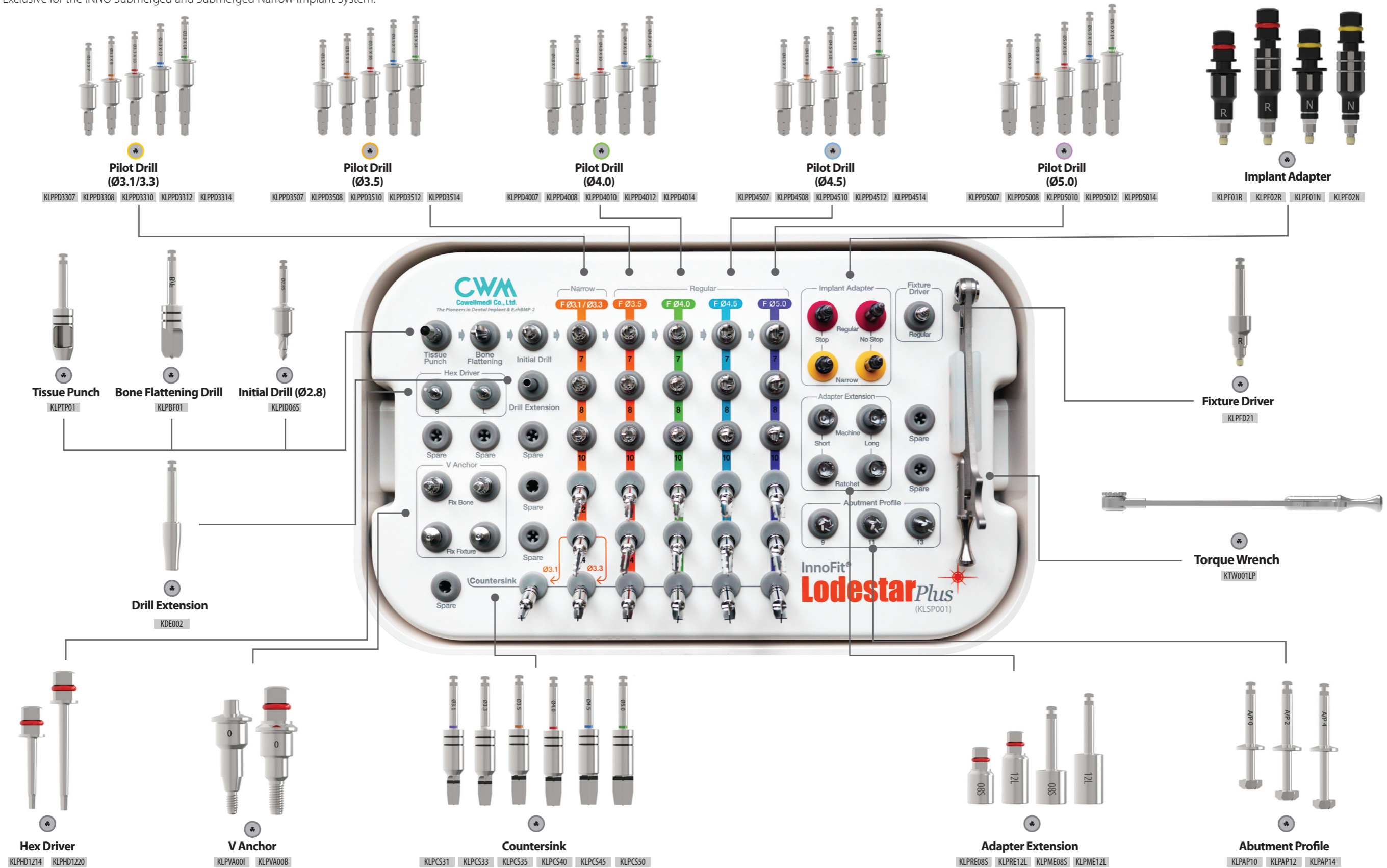


InnoFit® Lodestar Plus Kit, exclusive for the INNO Submerged and INNO Submerged Narrow Implant System.

InnoFit® LODESTAR PLUS KIT

[KLSP001]

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



Workflow



Preparation before Operation

Disinfection of surgical guide template

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

Installation of surgical guide template

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

Verification of dental implant

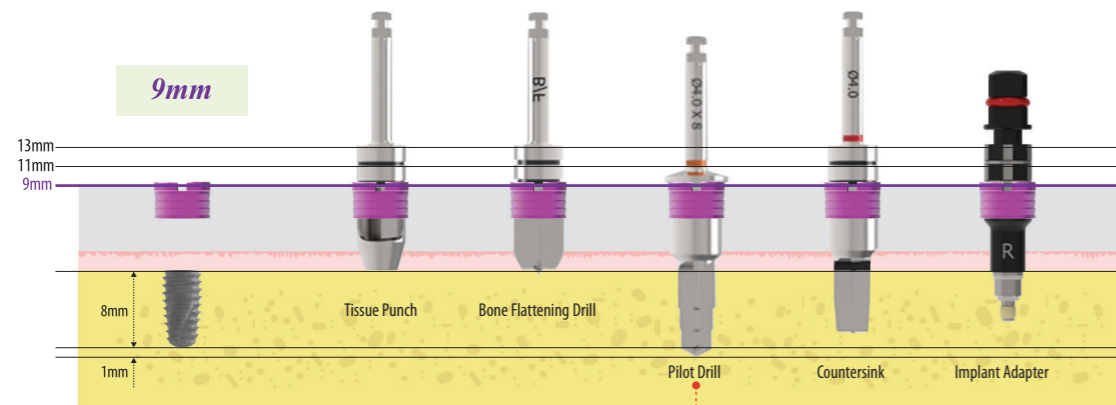
Check if marked dental implant is in the surgical report.

Confirmation of protocol

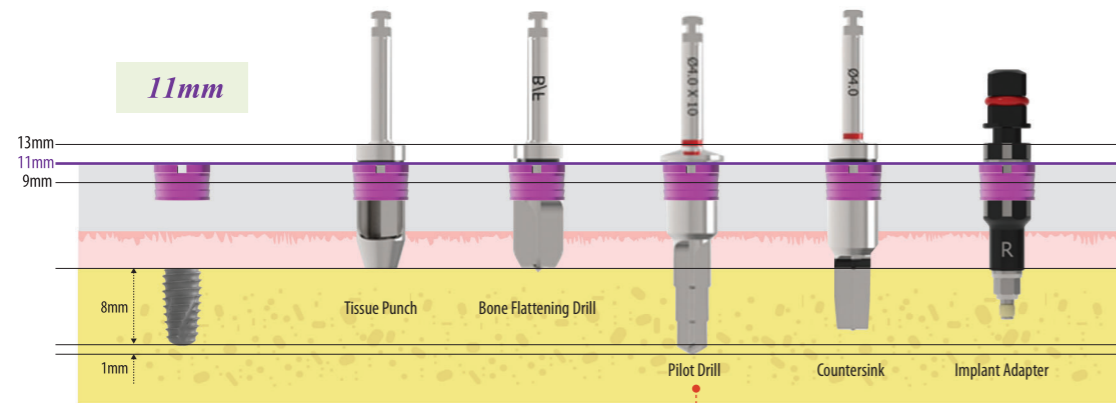
Confirm the surgical report and surgical protocol for the last time.

Comprehension and Usage of Offset

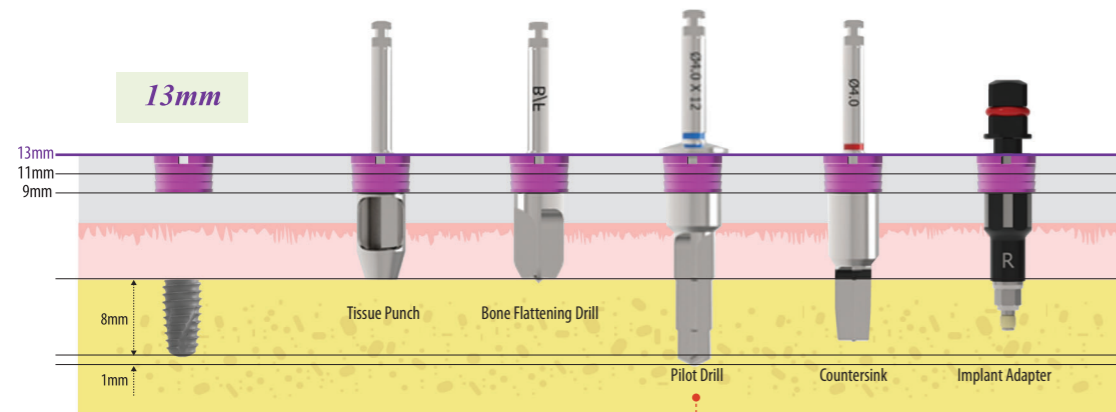
- > The basic length from the fixture platform to the top of the Sleeve is 9mm.
- > In case that gingival is thick or fixture needs to be placed deeper due to low bone density, use the Sleeve 2 or 4mm upright to the top.
- > The higher offset value, the less accurate it will be, so use 9mm if possible.



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



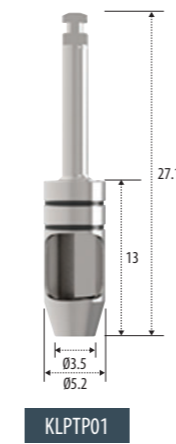
Selection of the Drill according to the Sleeve offset (In case of placing 8mm Fixture)
: In case of offset 11mm(2mm) – Select 10mm Drill.



*** Caution**
Please be noted that actual depth of drilling is 1mm deeper than marks of the Drill.
Ex) 4.0 X 8mm Drill - Drilling depth : 9mm.

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

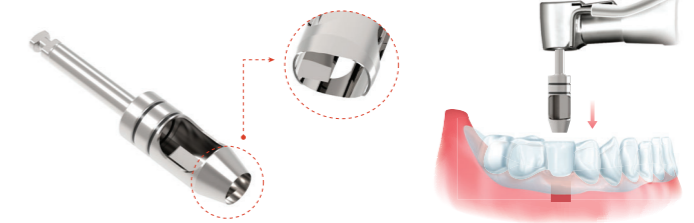
Tissue Punch



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

Double blade

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



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

Bone Flattening Drill

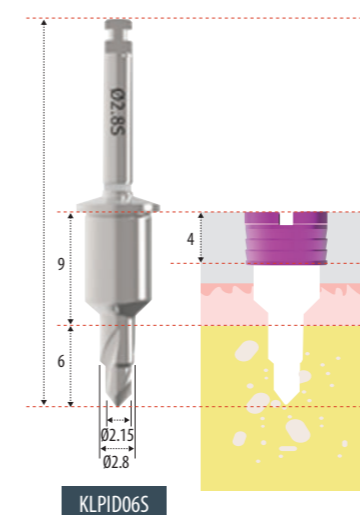


- > Flattens the bone level of operation site.
- > Inclined bone level may glide the Drill and cannot drill as planned.
- > Eliminate the soft tissue after using the Tissue Punch.
- > The point in the middle of the Drill guides the position of the Drill and helps to drill in an accurate site.
- > Able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

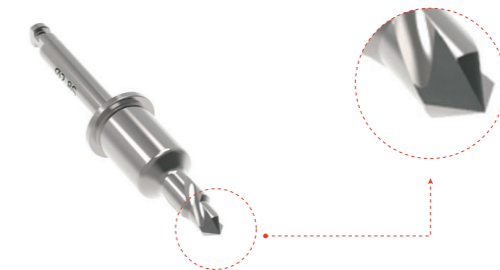


The point in the middle of the Drill guides the position of the Drill and helps to drill in an accurate site.

Initial Drill



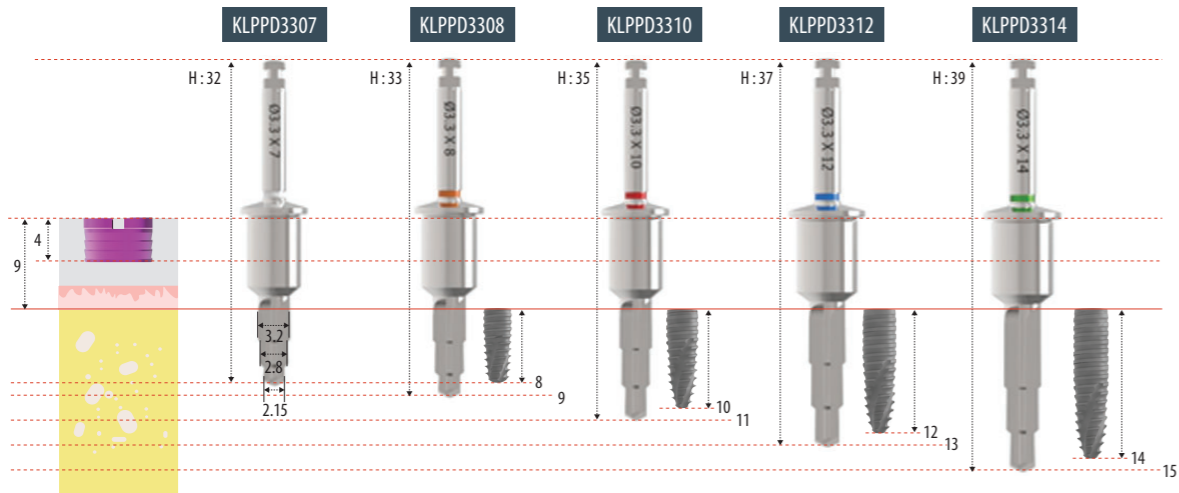
- > High speed, 1,000 rpm with irrigation.



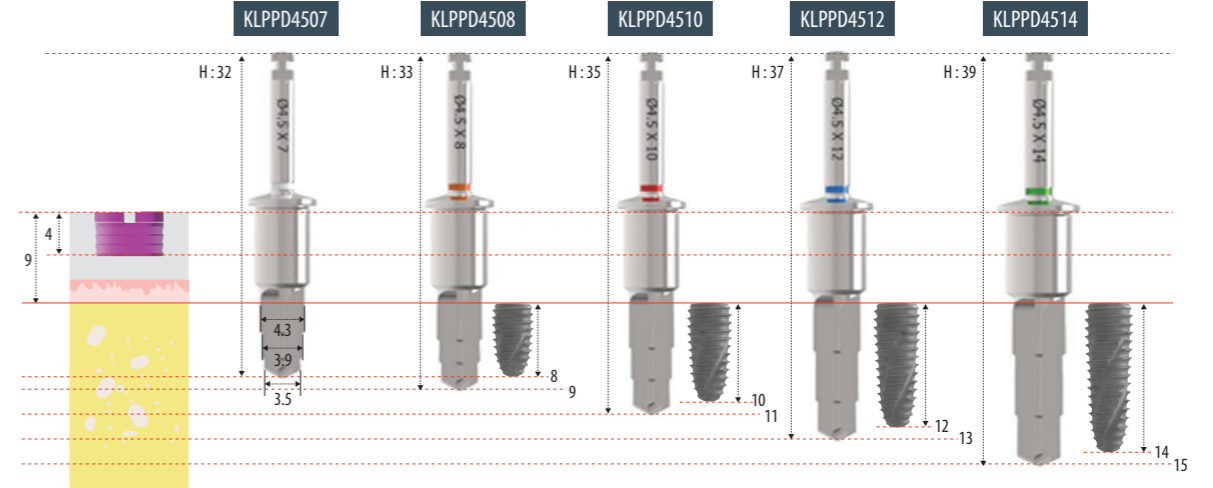
Point

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

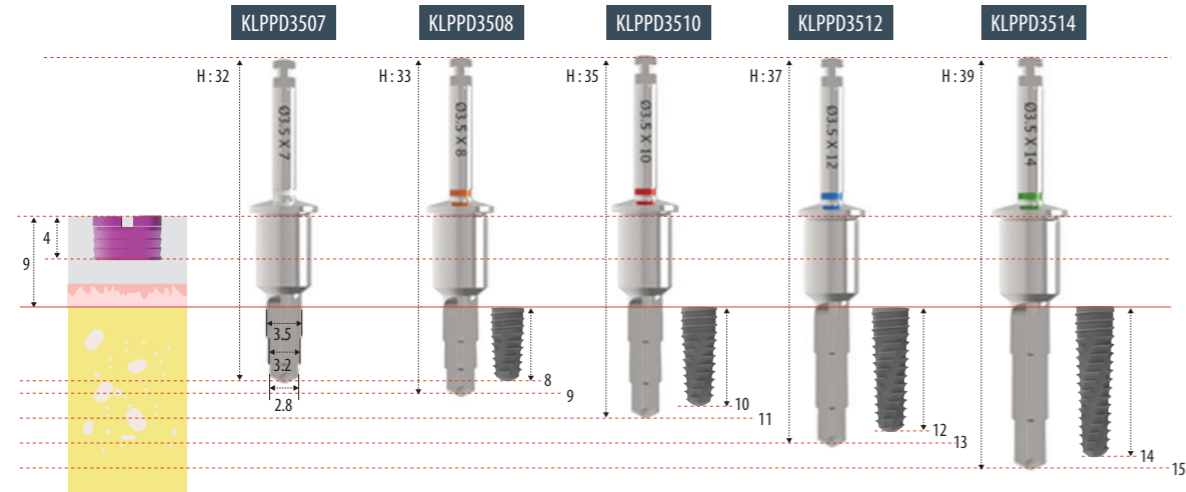
Ø3.1/Ø3.3 Fixture



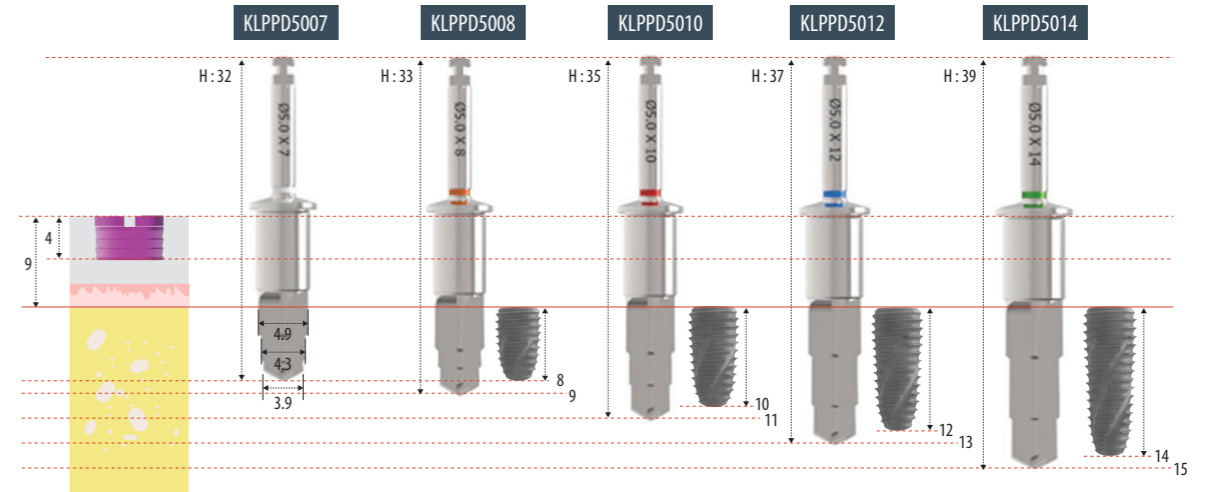
Ø4.5 Fixture



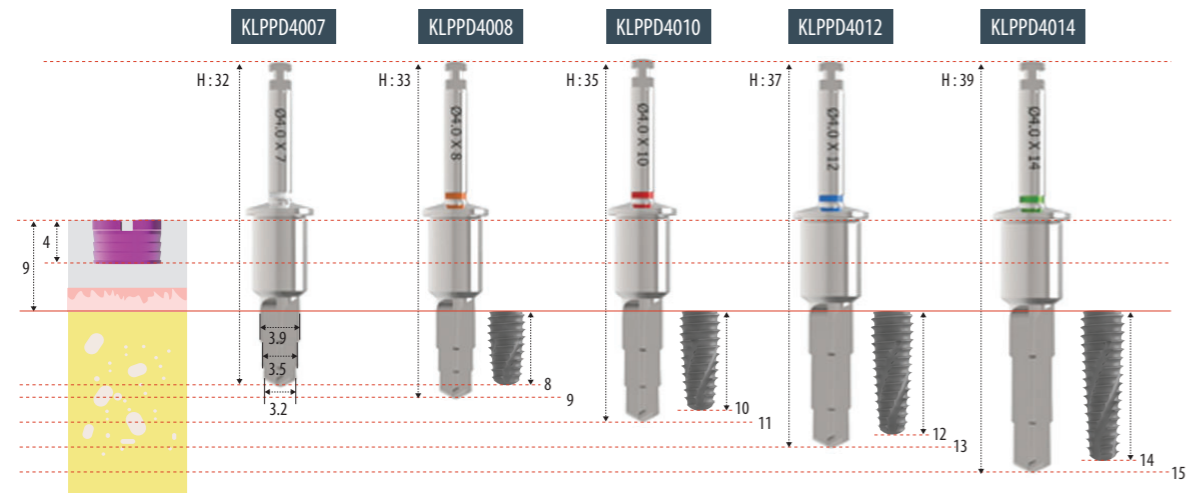
Ø3.5 Fixture



Ø5.0 Fixture

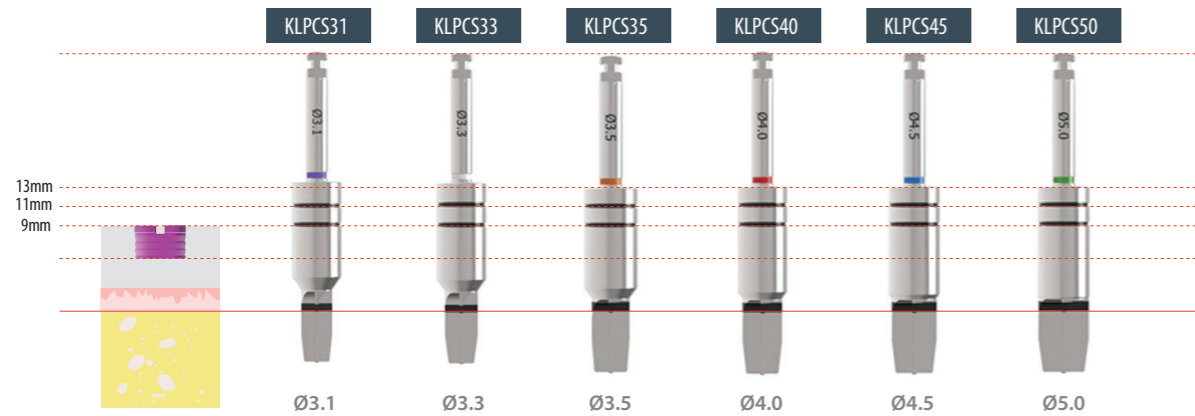


Ø4.0 Fixture



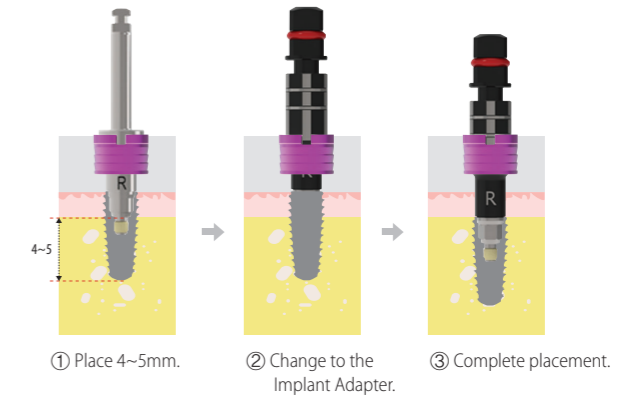
Countersink

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



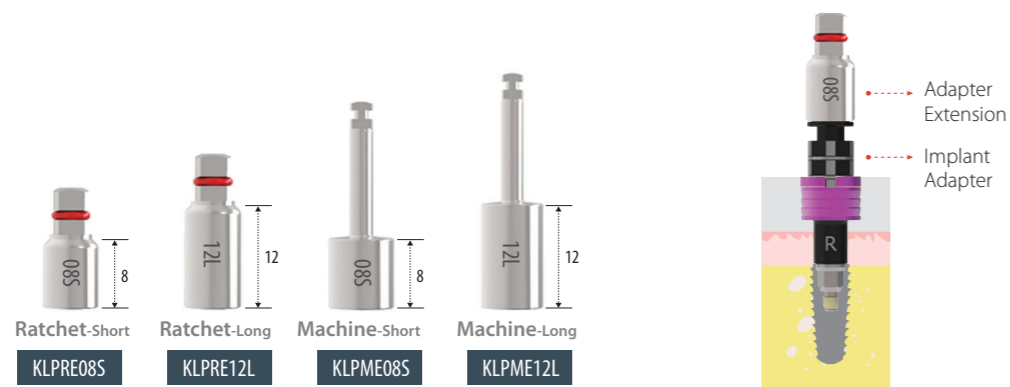
Fixture Driver - Molar

- > Use in case the Implant Adapter can not be used due to small size of opened mouth or narrow gap between antagonist tooth.
- > After implanting 4~5mm, change to the Implant Adapter to complete placement.



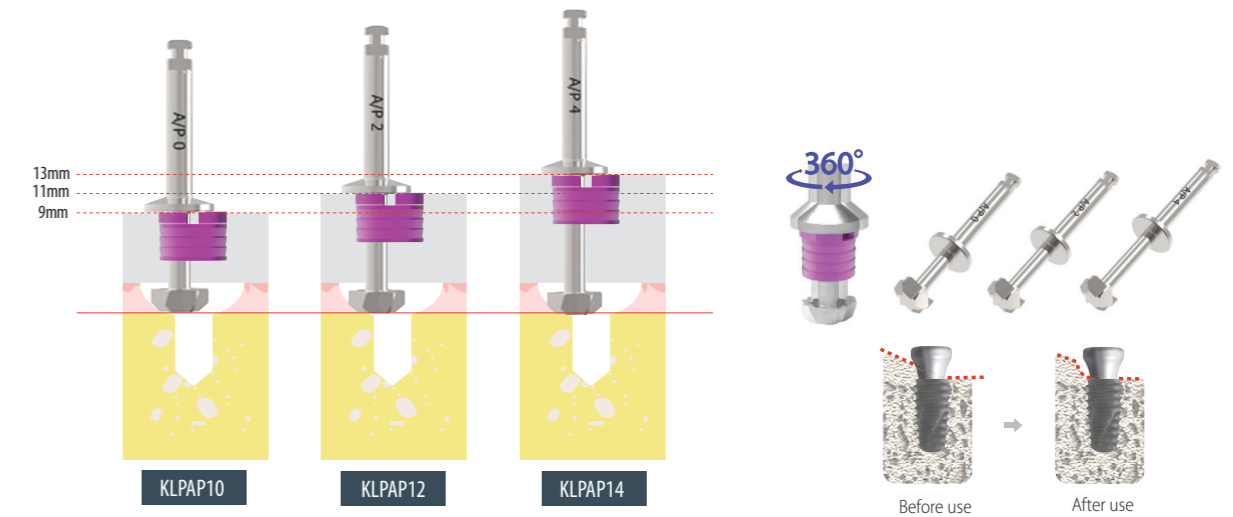
Adapter Extension

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



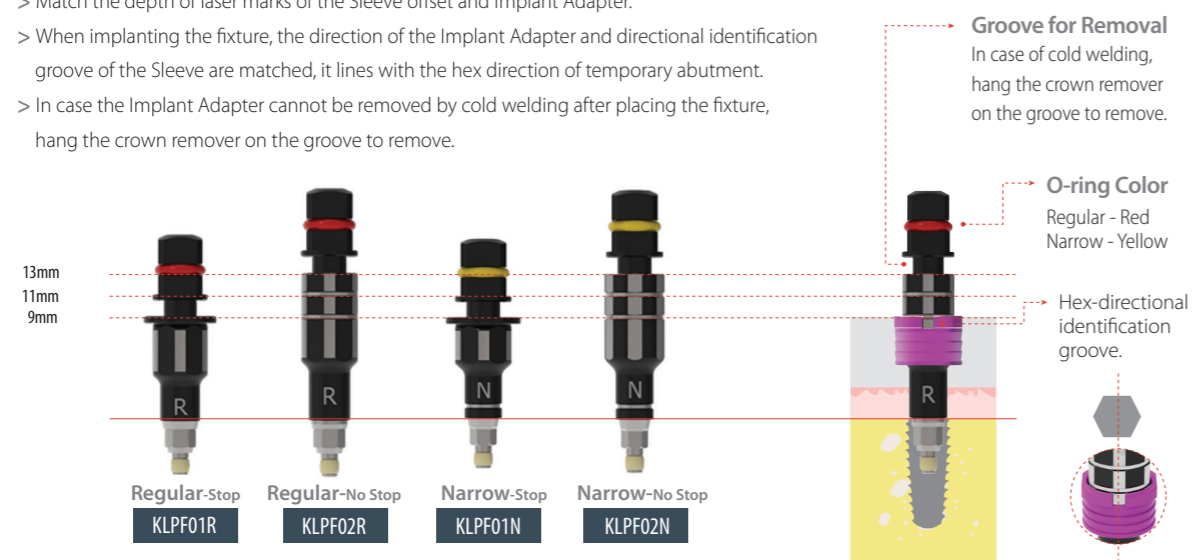
Abutment Profile

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



Implant Adapter

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



V Anchor - Fix Fixture

> Connect the 1.2 Hex Driver to implanted fixture to prevent the movement of the surgical guide template in cases as edentulous.

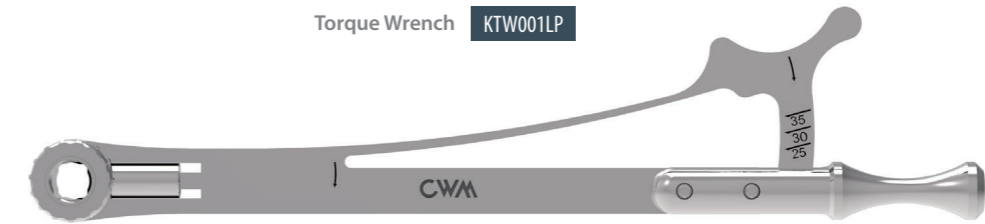


*** Caution**

- Connect by aligning to the Sleeve offset of connected fixture.
- Basic composition of the Sleeve offset 9mm (11, 13mm extra).

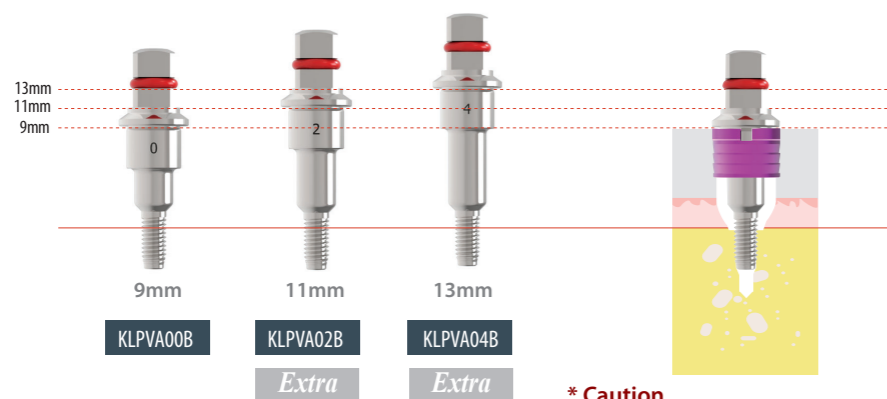
Torque Wrench(Square)

- > Use to implant the fixture (Connect to the Implant Adapter).
- > Use after connecting to the 1.2 Hex Driver.
- > Use after connecting to the V Anchor (Fix Bone).



V Anchor - Fix Bone

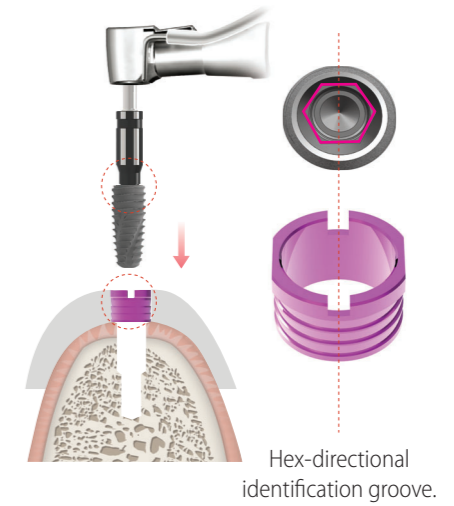
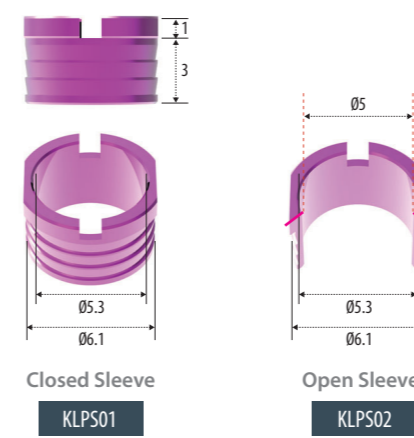
> Fix the V Anchor using the Torque Wrench in the hole made after initial drilling to prevent the movement of the surgical guide template in cases as edentulous.



*** Caution**

- Connect by aligning to the Sleeve offset of connected fixture.
- Basic composition of the Sleeve offset 9mm (11, 13mm extra).

Sleeve



Ratchet 1.2 Hex Driver

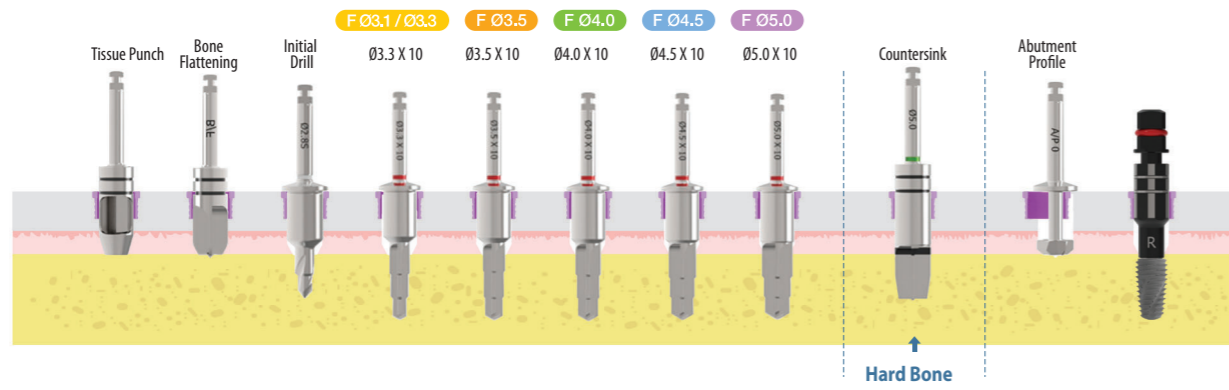
> Use in case of connecting the Cover Screw or Healing Abutment.



Drill Protocol

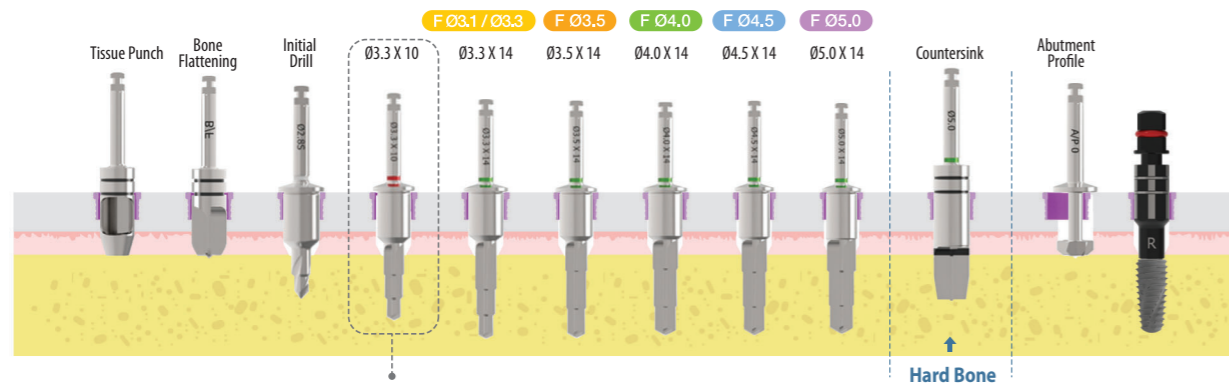
Drill Protocol (7~10mm)

INNO Sub Fixture Ø5 x 10mm



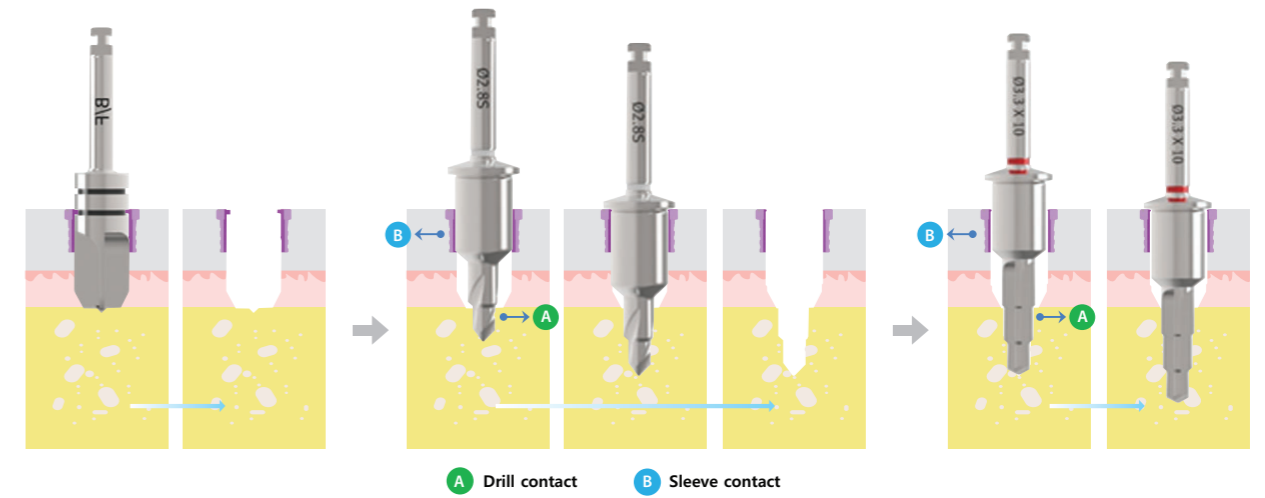
Drill Protocol (12~14mm)

INNO Sub Fixture Ø5 x 14mm



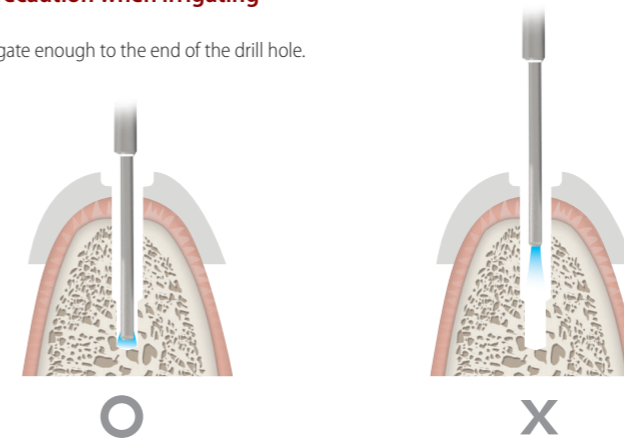
8~10mm drilling should be done in advance for the sleeve contact.

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

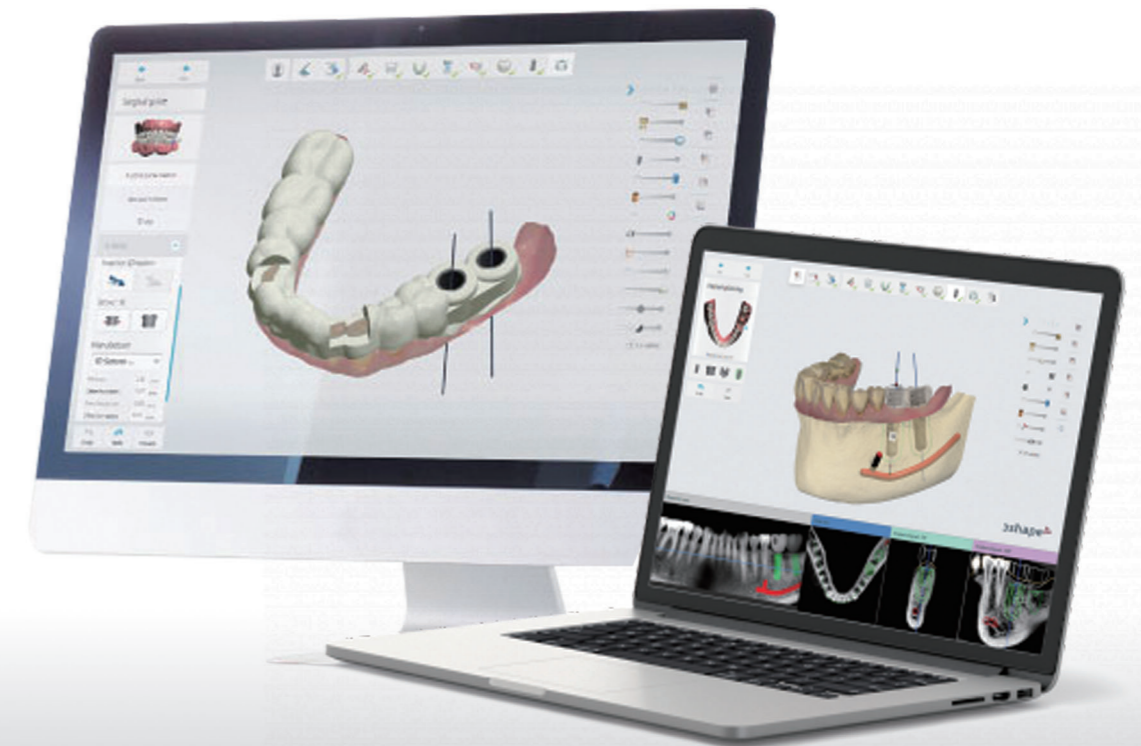


*** Precaution when irrigating**

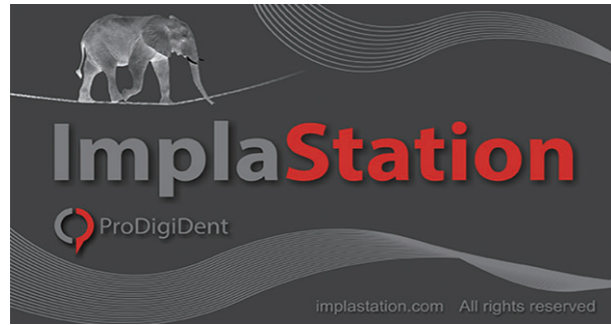
- Irrigate enough to the end of the drill hole.



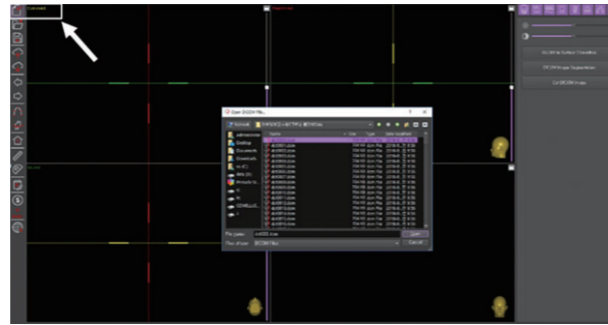
User Manual for Library of InnoFit® **Lodestar Plus** Kit



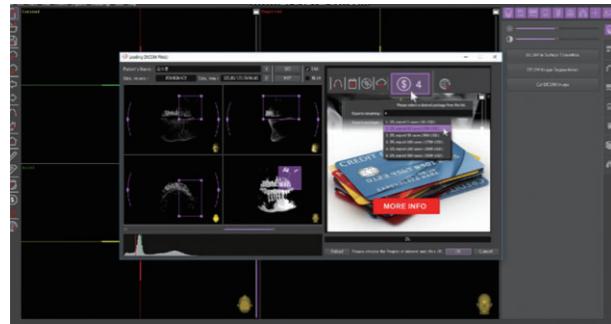
ImplaStation



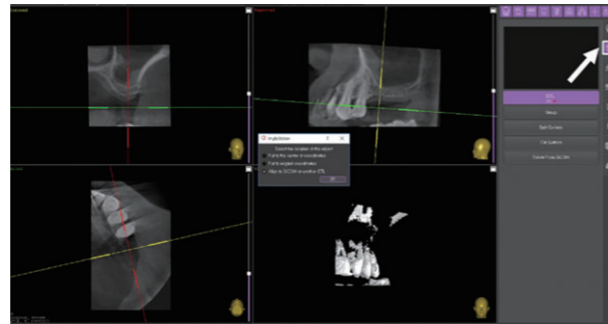
1. Start your ImplaStation program.



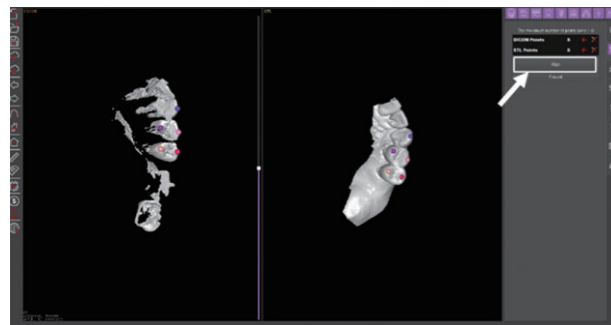
2. Click the 'New Project Load DICOM' button on the left menu to load CBCT DICOM files of the patient.



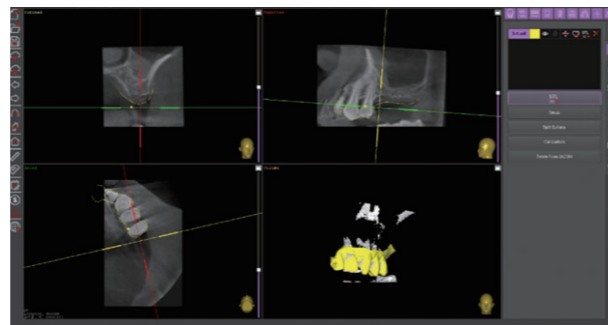
3. Select the area that you want to visualize by adjusting angles.



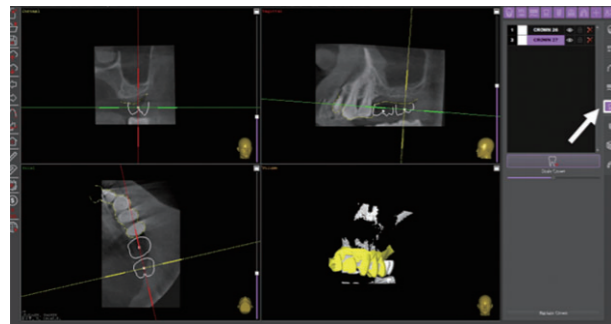
4. Click the 'Show STLs' button on the right menu, then click 'STL' to load STL file of the patient. Click 'Align to DICOM or another STL' when a pop-up appears.



5. Locate the points on the same spots of DICOM image and STL image to overlap then click 'Align' button.



6. Manually match the gingiva and teeth for accurate overlapping.

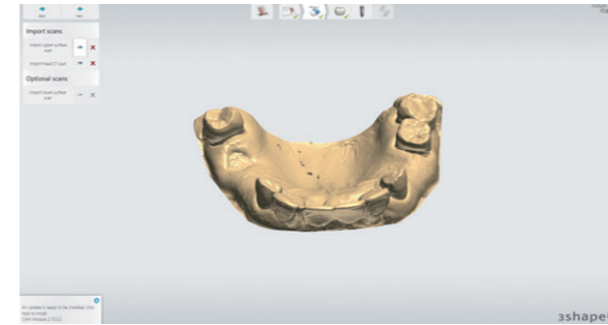


7. Click 'Show STLs' button and plan crown direction where it will be placed.

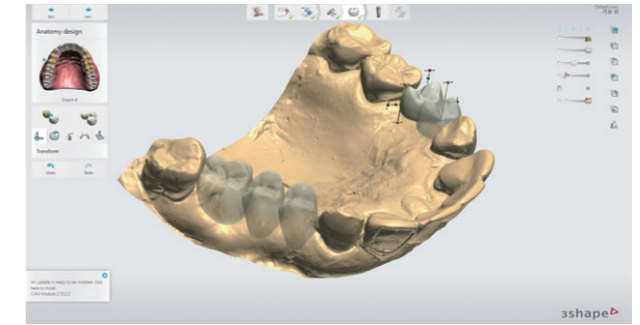


8. You can plan guided surgery with diverse Cowellmedi components in ImplaStation and able to fabricate temporary prosthesis.

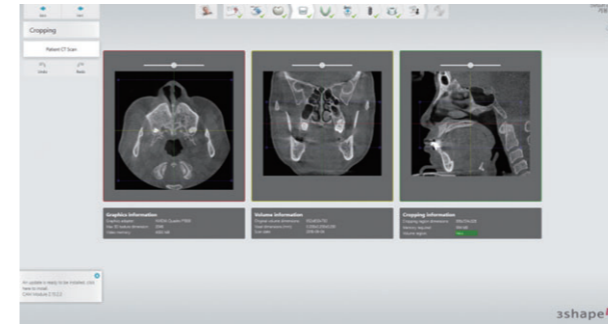
3shape



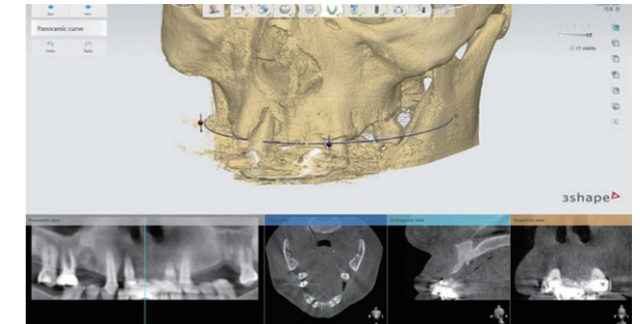
1. Start your Implant Studio program and load Scan Data(Surface, CT) for implant planning.



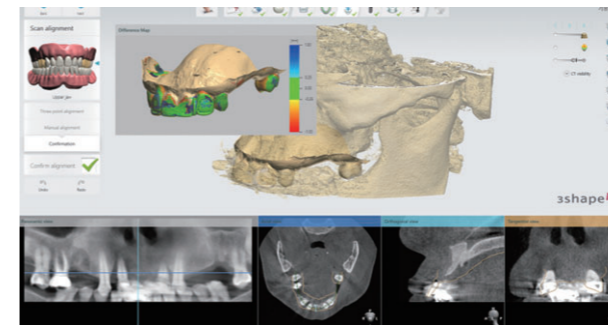
2. Place crowns according to the planning.



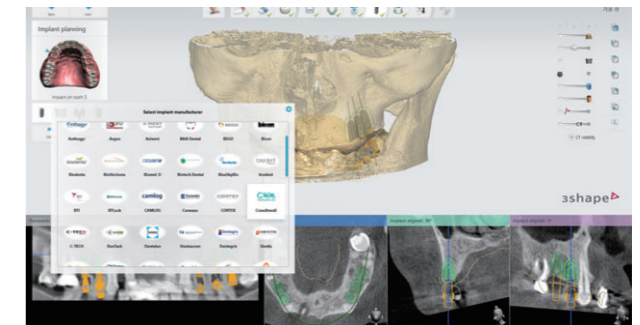
3. Select the area that you want to visualize by adjusting 3 views.



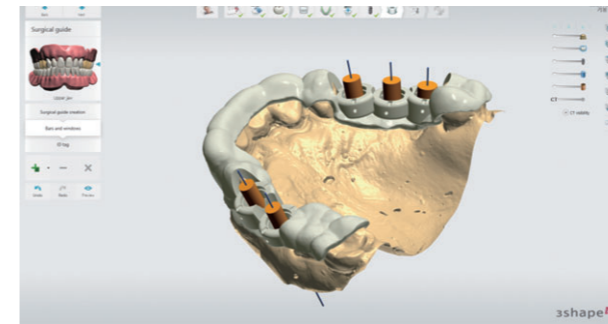
4. Draw a panoramic curve which will define the future views used for the planning.



5. Refer to the difference map and modify the scan alignment then confirm.



6. Select 'Cowellmedi' in implant library menu. Select types and sizes of fixture and sleeve then the fixture is automatically positioned based on the crown designed in previous steps. Fixture position can also be modified.



7. After establishing every information from the surface scan, design the surgical guide in accord with patient's standard.

InnoFit[®]

Lodestar Plus Kit

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