

# Dentium Instruments for Total Solution

Catalog & Manual

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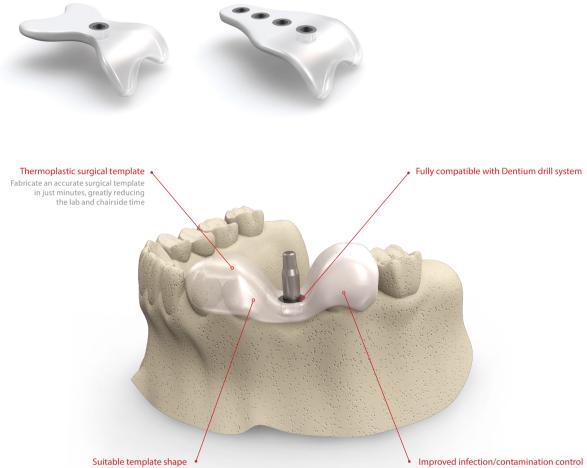
Polymer Guide Implant Guide



# **Polymer Guide**

Thermoplastic Surgical Template for Dental Implant Placement

- Fabricate precise surgical template in just minutes using hot water
- Disposable material to promote control of infection and contamination
- Titanium sleeve is compatible with Dentium Guide and Final Drills



Polymer Guide is designed to maximize contact

area over the adjacent teeth while allowing substantial field of view during implant surgery Improved infection/contamination control To ensure infection/contamination-free surgery every time, the Polymer Guide is made to be disposable



Drill a hole in the stone model



Remove the Guide Pin



Insert the Guide Pin



Position the Polymer Guide intra-orally for drilling



Soak the Polymer Guide in hot water above 65°C to soften up the material for easy molding



Apply of Polymer Guide on stone model

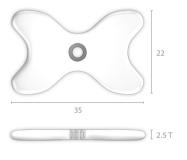


PGSSK

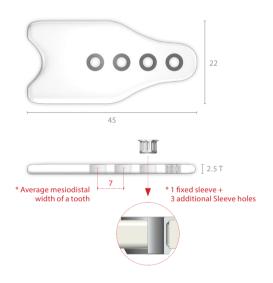


PGSCK

### Single Standard (5ea)



### Cantilever Multi-Ready (5ea)



[Unit: mm, Scale 1 : 1]

Т	Art. No.	т	Art. No.
2.5	XSG 34 <b>35</b> S	2.5	XSG 34 <b>45</b> C

	Туре	Art. No.	PGSSK	PGSCK
	Stone Drill	XGD <b>23 60</b>	1ea	1ea
	Guide Pin	XGP <b>34 23 S</b>	5ea	5ea
Ť	Guide Drill Brushing (First)	XPGB <b>19 26</b>	1ea	1ea
Έ <b>Γ</b>	Guide Drill Brushing (Second)	XPGB <b>26 34</b>	1ea	1ea
DI	Additional Metal Sleeve (for Cantilever Multi-Ready)	XPGS <b>34 25 A</b>	Х	5ea

# **Implant Guide**

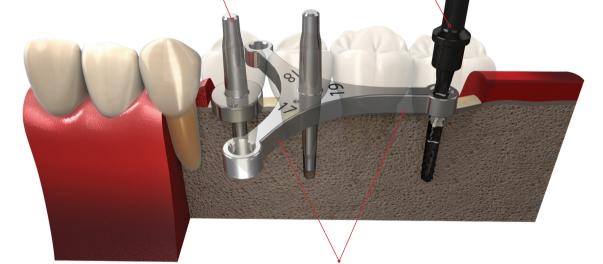
Surgical guide utilizing silicon spacer and unique parallel pin

- The tripod parallel pin is designed to take into consideration the mesiodistal width and drilling position in the edentulous area
- Parallel pins and Spacers are configured based on the average width of a tooth



Assist in the implant positioning as well as determining the width and the position of the prosthetic components

The Guide Drill holes on the Tripod Parallel Pin help in prepping the osteotomy in the correct orientation



The three legs of the Tripod Parallel Pin are of different lengths to accommodate varying widths of prosthesis for multiple unit bridges



Final prosthesis



Spacer + Guide Drill



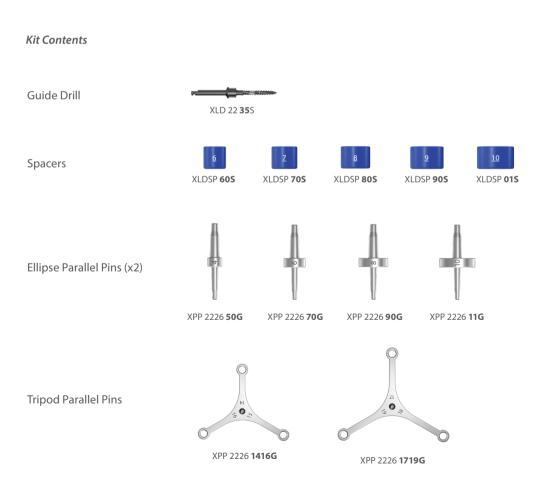
Ellipse Parallel Pin + Tripod Parallel Pin



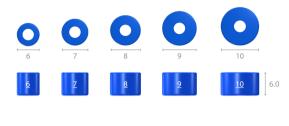
Final prosthesis



ISGK

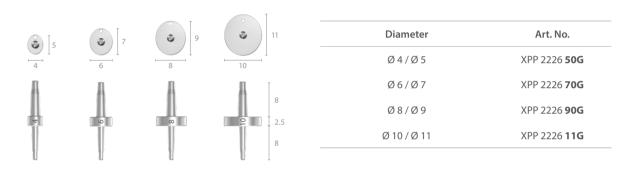


### Spacers

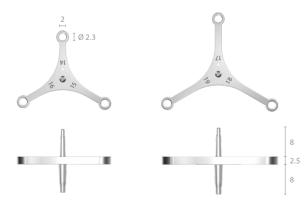


Diameter	Art. No.
Ø 6	XLDSP 60S
Ø 7	XLDSP 705
Ø 8	XLDSP 805
Ø 9	XLDSP 90S
Ø 10	XLDSP 015

### **Ellipse Parallel Pins**



### **Tripod Parallel Pins**



Width	Art. No.
14 / 15 / 16	XPP 2226 <b>1416G</b>
17/18/19	XPP 2226 <b>1719G</b>

### Single Case



Incision



**Guide Drill** Combination of Guide Drill and Spacer



Ellipse Parallel Pin



**Final Drill** 



Countersink



Fixture placement with Healing Abutment SuperLine



**Dual Abutment Connection** 



Final prosthesis

### **Multiple Case**



Guide Drill Combination of Guide Drill and Spacer



**Final Drilling** 



Guide Drill Application of Tripod and Ellipse Parallel Pin



Fixture placement with Healing Abutment



Dual Abutment connection





Final prosthesis

# **Sinus Instruments**

DASK Osteotome Kit Sinus Elevator

# **Dentium Advanced Sinus Kit (DASK)**

- Simple & easy access to sinus cavity
- · Broad exposure of bony walls with special instruments



### **DASK Drills**



Туре	DASK Drill #	REF
	DASK Drill # 1	XRT <b>33</b> 2035
Crestal Approach	DASK Drill # 2	XRT <b>37</b> 2035
	DASK Drill # 3	XED <b>33</b> 1035D
	DASK Drill # 4	XRT <b>06</b> 4025
Lateral Approach	DASK Drill # 5	XRT <b>08</b> 4025
	DASK Drill # 6	XRT <b>08</b> 3025

\* Note: Drill speed 800 to 1,200rpm, 30~45N·cm with irrigation

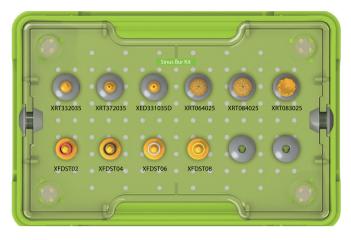
[ Unit: mm, Scale 1.2 : 1 ]

#### Stoppers | for XRT332035, XRT372035, XED331035D



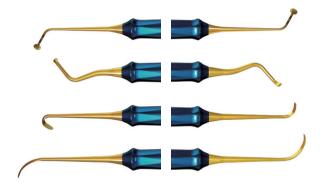
Drilling Depth	L	REF
08	10.6	XFDST <b>08</b>
06	12.6	XFDST <b>06</b>
04	14.6	XFDST 04
02	16.6	XFDST 02

#### **Sinus Bur Kit**



SDK

#### **Sinus Elevation Instruments**



REF	XSE1L
REF	XSE2L
REF	XSE3L
REF	XSE4L

[ Unit: mm, Scale 0.68 : 1 ]

### **Drills for Crestal Approach**



The distance from the alveolar crest to the sinus floor should be measured on x-rays prior to surgery. Site preparation is performed with final drills in sequence up to 1mm short of the sinus floor. Then **DASK Drill #1 or #2** is used and the sinus floor is carefully approached with light apical pressure. When you feel the yielding of the sinus floor, remove the drill. Or, partial preparations with DASK Drill #1 or #2 and up-fracture with osteotomes can be performed



When the sinus cavity is accessed, **DASK Drill #3** is introduced and a much broader detachment from the sinus floor can be facilitated horizontally with hydraulic pressure thanks to the internal irrigation hole

DASK Drill #3 can also be used for a lateral approach surgery.

### **Drills for Lateral Approach**



To make a lateral window through the antrostomy (thin-out) approach



[800~1,200 rpm]

To make a lateral window through the wall-off technique

#### **DASK Maintenance**

#### Sterilization and Instrument Care Procedures

- Please follow for legal regulations, as well as hygienic guidelines to prevent contamination and infection
- Please remember that you are responsible for the maintenance and sterility of your medical/dental products/device
- It is important to use and follow, proper cleaning, disinfection and sterilization procedures
- It is also important to follow the manufacturer's recommendation on use of drills
- Please keep a log as to how many times the drills were used
- Drill usage is determined by surgical site not per patient. Bone density and usage determine the life of the drills
- Drills should be considered for replacement after approximately 15- 20 uses based on bone density. Check drills frequently for wear

- 1. All instruments, immediately after use, must be presoaked for a few minutes in a germicidal bath to loosen and prevent debris from attaching to instruments. Do not soak overnight
- 2. Scrub with a soft brush to remove any debris
- 3. For internal irrigation drills, use a reamer or small gauge needle to internally cleanout the drills
- 4. Before using an ultrasonic cleaner, wrap drills in a 2 x 2 gauze to prevent rubbing against each other
- 5. Rinse thoroughly with warm water
- 6. Clean all instrument trays with a germicidal cleaner prior to replacing instruments in kit
- 7. Dry completely and place back into kit
- 8. Always check for damage or corrosion after rinsing and drying
- 9. Seal the tray in a sterilization pouch
- 10. Sterilize using a steam autoclave in 121°C/250F for 30 minutes or refer to manufacturer's recommendations
- 11. Store in a dry area at room temperature

DASK

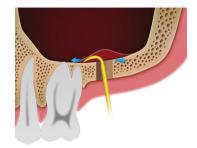
### **Crestal Approach (Sinus Lifting)**



After Ø3.8 Final drilling, eliminate the residual bone (1mm) using a DASK Drill #1 or #2 (in hard bone) until you feel a slight drop



Detach sinus membran using the dome-shape sinus curette



Detaching the sinus membrane to create adequate space for graft material



Fill the sinus cavity with [OSTEON™ Lifting] graft material

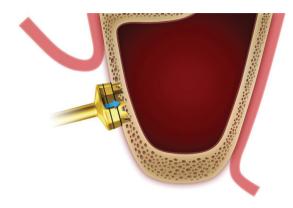


Fill and distribute OSTEON™ graft material evenly throughout the achieved space



Placement of implant into the osteotomy

#### Wall-off Technique

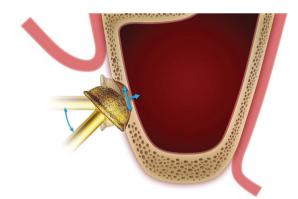


DASK Drill #6 is used to cut a round bony island from the lateral wall like a trephine bur. Start to drill at a desired location and proceed until you see the shadow of the sinus membrane. Then, separate and lift the bony island up from the neighboring wall with a molt curette or a periosteal elevator. The bony island is repositioned back in its original position after bone augmentation

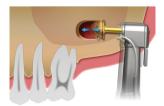


The first laser mark is 1.5mm and the second is 3.0mm. Overdrilling can cause sinus perforation and possible damage to the membrane

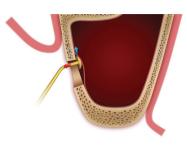
#### Thin-out Technique



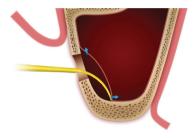
Thin down the lateral wall with DASK Drill #4 or #5 at a 45 degree angle to reach the Schneiderian Membrane



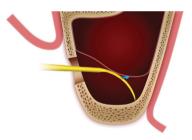
Move the DASK Drill #4 or #5 mesiodistally with a gentle pressure until you get the desired shape and size of the window for bone augmentation



Detach sinus membrane using the dome-shape sinus curette



Elevate the sinus membrane to create adequate space for graft material



Elevate the sinus membrane to create adequate space for graft material



Fill the obtained space with [OSTEON™ Sinus] graft material



The bony island can be repositioned after bone augmentation. [SuperLine] Implant placed

# **Osteotome Kit**

Osteotomes compress the bone laterally, providing denser bony interface rather than removing valuable bone from the surgical site



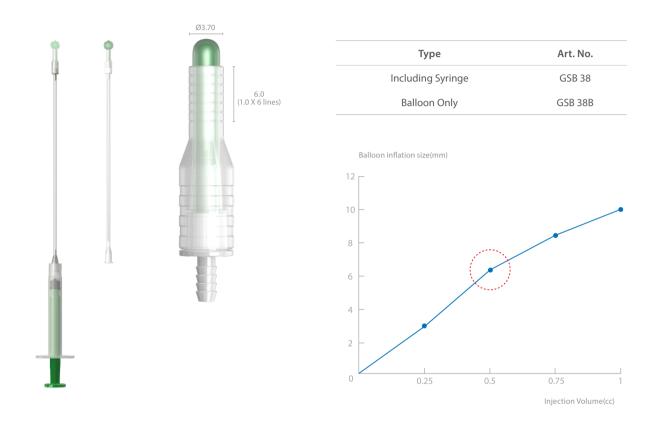


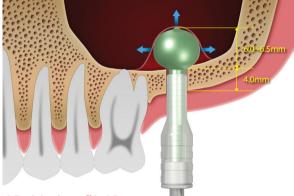
[ Unit: mm, Scale 0.4 : 1 ]



# **Sinus Elevator**

- Makes the sinus lift easy and drastically reduce the possibility of membrane perforation
- Balloon expansion of 0.5cc saline equals 6mm of membrane elevation

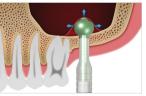




0.5cc injection = Ø6~6.5mm



Expand the balloon progressively



Elevate the sinus membrane through the balloon inflation



Detach the sinus membrane to create adequate space for graft material



Use [OSTEON<sup>™</sup> Lifting] graft material to fill the sinus cavity



Carefully insert the Sinus Elevator into the osteotomy



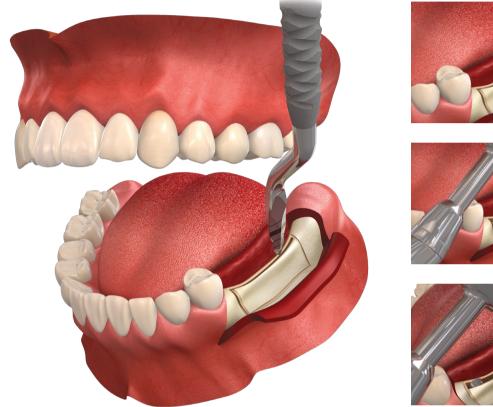
Placement of implant in the osteotomy

# **GBR Instruments**

RS Kit Harvest Drill

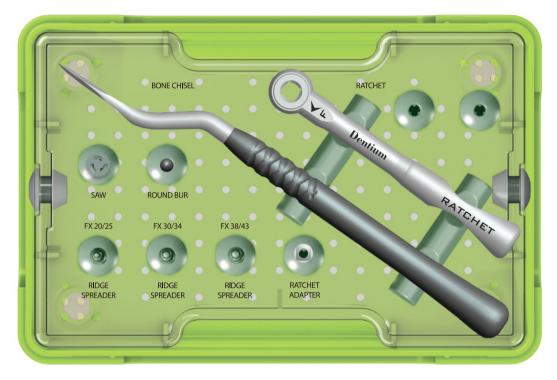
# **Ridge Spreader (RS) Kit**

- Allows the achievement of space for implantation through the spreading of the bone with chisel without drilling
- There are three types of Ridge Spreaders to create space up to Ø4.5mm
- Convenient surgeries due to the compatibility with hand-piece and ratchet
- Easy-to-use kit component







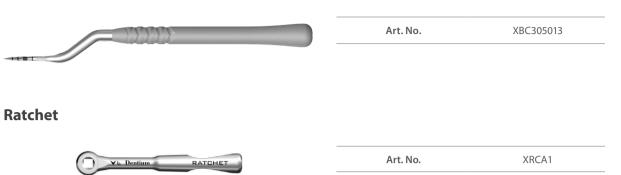


XRSK



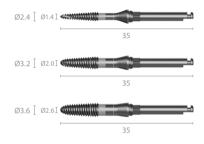
#### Kit contents

### **Bone Chisel**



[ Unit: mm, Scale 0.6 : 1 ]

### **Ridge Spreader Drills**



Diameter	L	Art. No.
Ø1.4 / Ø2.4	35	RS142435
Ø2.0 / Ø3.2	35	RS203235
Ø2.6 / Ø3.6	35	RS263635

### **Round Bur**



Diameter	L	Art. No.
Ø4.0	35	XRB4035

### **Ratchet Adapter**

_ <u></u>	-
17	

Art. No.	XRA3917

### **Mini Saw**



Diameter	L	Art. No.
Ø8.0	25	XDS8025

[Unit: mm, Scale 1 : 1 ]

### RS Kit + NR Line + OSTEON<sup>™</sup> II + Collagen Membrane

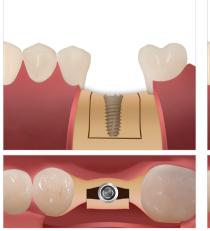


Decortification

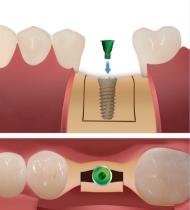
Expansion with Bone Chisel



Expansion with Ridge Spreader (20~60rpm / 30~45N·cm) - Expanding alveolar bone ridge to make space for fixture



Fixture placement NR Line



Cover Screw connection



Application of graft material OSTEON™ II



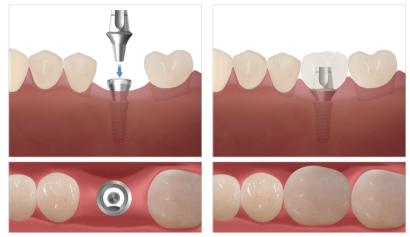
Barrier membrane application Collagen Membrane



Suture



Healing Abutment connection



Dual Abutment connection

Final prosthesis

# **Harvest Drill**

Collect autogenous bone and prep osteotomy simultaneously and effectively using the specially designed drills, the Harvest Drills

- Sharp, pointed tip to prevent drill chattering for precise drilling
- Drill stoppers applicable to control the depth of the drilling for safe and efficient bone harvesting, especially in the buccal side of the ridge
- Recommended drill speed of less than 100 rpm / 50N·cm helps preserve the vital autogenous bone
- Excellent clinical results may be achieved when harvested autogenous bone is combined with Osteon™ II

### **Harvest Drills**



Diameter	L	Art. No.
Ø2.85	35	XFH 34 35
Ø3.3	35	XFH 38 35
Ø3.85	35	XFH 43 35
Ø4.4	35	XFH 48 35

### **Harvest Drill Stopper**



Diameter	L	Art. No.
Ø6.14	15.9	XFHST04

### **First Guide Drill**



Diameter	L	Art. No.
Ø2.2	35	XLD 22 35

### **Second Guide Drill**

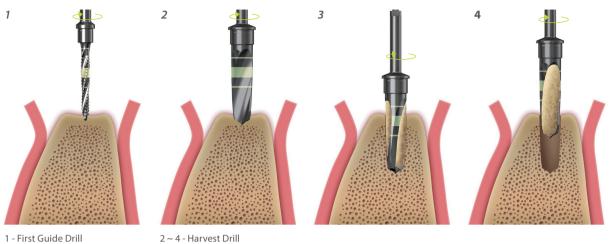


Diameter	L	Art. No.
Ø2.6	35	XLD 26 35

[Unit: mm, Scale 1 : 1]

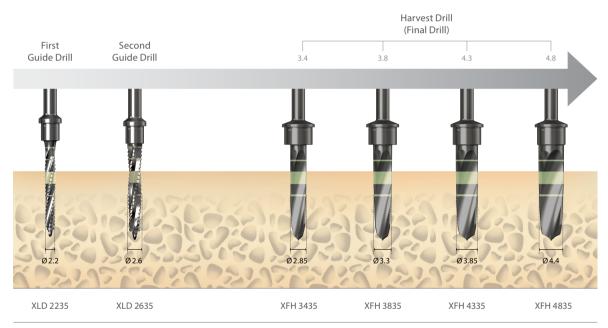
\* Bone collection in the buccal side of ridge: 50~200rpm / 30~50N·cm

### **Final Drill**



1 - First Guide Drill 1,000rpm/30~45N·cm with irrigation

2 ~ 4 - Harvest Drill 30~100rpm/30~50N-cm without irrigation



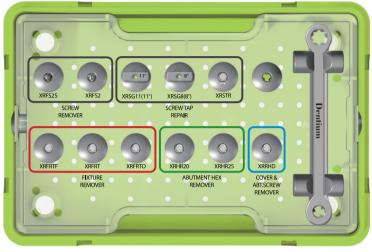
\* During the 4.3/4.8 fixture insertion into the bone density of D3~D4, the 3.35/3.85 harvest drilling process can be skipped.

# Others

Help Kit Temporary Shell White Seal TN-Brush

# **Help Kit**

- Easy solution for critical problems which may occur in the prosthetic process consist of 5 tools in a kit
- (Screw Remover/ Abutment Hex Remover/ Screw Tap Repair / Fixture Remover / Cover & Abutment Screw Remover)
- · Compatible with most dental implant products now available on the global market
- · Heavy duty with robust design and proven materials



XIH

**SuperLíne** 

L	Art. No.
25	XRF S2S
35	XRF S2

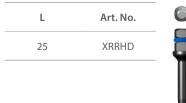


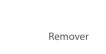
### **Screw Tap Repair**

Туре	Art. No.	
Тар	XRSTR	
11° Guide	XRSG11	
8 ° Guide	XRSG8	



### **Cover & Abutment Screw Remover**

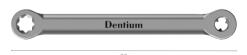




Туре



Wrench XRFRW

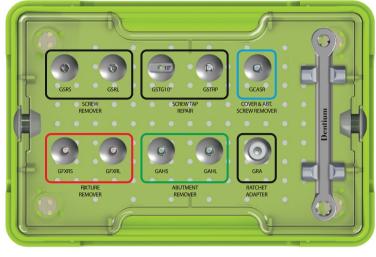


## **Abutment Remover**

L Art. No. 20 XRHR 20 XRHR 25 25







GXIH

#### Screw Remover

L	Art. No.
29	GSRS
33	GSRL



### **Screw Tap Repair**

GSTRP
GSTG10



### Abutment Remover

L	Art. No.	6
20	GAHS	
25	GAHL	1
		1111



30

Туре	Art. No.
25	GFXRS
30	GFXRL
Wrench	XRFRW

25

#### **Cover & Abutment Screw Remover**



### **Ratchet adapter**

Art. No.
GRA



#### **Screw Remover**

#### Application

To remove the remaining screw when the abutment screw is broken inside the fixture

#### Advantage

Easy to remove the broken screw, as well as protect the internal threads of the fixture from being damaged

#### Usage

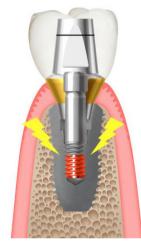
- 1. Set the torque of the implant motor to 30~50 rpm in a CCW (counterclockwise) direction
- 2. Assemble the tool with the hand-piece
- 3. Run the motor while keeping the tip of the tool appropriately contacted with the broken screw until successfully removed

2

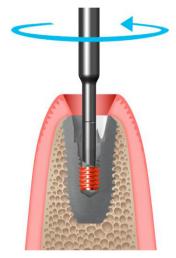
4

\*Caution: Do not overload the tool with pressure; apply moderate pressure





Dual Abutment



Use the friction force of the tool rotating counterclockwise to remove the screw

Hand-piece torque: 30~50rpm / Reverse





Allow the screw to gradually come out in a swaying motion



#### **Abutment Hex Remover**

#### Application

To remove the remaining hex when the hex portion of an abutment is broken

Advantage

Easy to remove the broken hex, as well as protect the internal threads of the fixture from being damaged *Usage* 

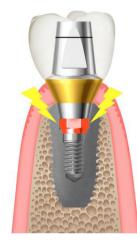
- 1. Insert the tool inside into the remaining hex hole of the fixture inside
- 2. Assemble the ratchet with the tool and rotate it in a CW (clockwise) direction to lock the tool tip with the remaining hex

2

4

- 3. Disengage the ratchet and remove the remaining hex by gently rocking the tool
- 4. If necessary, the hole located in the upper portion of the tool may be used with the crown ejector (not included)

\*Caution: Do not overload the tool with pressure; apply moderate pressure



Dual Abutment (Hex)



Rotate the tool clockwise so that the remaining hex gets tightly engaged to the tool





Once the tool is tightly locked to the hex remnant, disengage the ratchet

Gently rock the tool until the hex is successfully removed

### **Screw Tap Repair**

#### Application

To recreate the internal thread lines of the fixture when it is damaged

#### Advantage

Easy to recreate the internal threads with the help of the guides corresponding to different internal angulation

### (8, 11 degrees) of the fixture

#### Usage

1. Place the guide with corresponding degree to the fixture

- 2. Assemble the tap tool with ratchet
- 3. Start tapping using the tap tool with appropriate torque
- 4. If excessive debris accumulates, pause tapping and remove using suction
- 5. Repeat steps 3 and 4 until completed

\*Caution: Do not apply excessive torque onto the tap tool It is highly recommended to use the ratchet after the initial engagement of the tool and the internal threads

3



IMPLANTIUM / SuperLine 11°



SimpleLine II 8°

4



Tap with the guide attached



Remove the tool and the guide to suction the debris

\*If excessive debris accumulates, pause tapping and remove using suction

#### **Fixture Remover**

#### Application

To remove the fixture when critically damaged with no other recovery options

#### Advantage

Easy to remove the failed fixture without causing damage to the adjacent bone

#### Usage

- 1. Assemble the tool with ratchet, and insert it into the failed fixture to be removed
- 2. Gently rotate the ratchet in a CCW direction until the tool is tightly locked into the fixture
- 3. Continue to rotate the ratchet with greater torgue in a CCW direction until the failed fixture is completely removed
- 4. Separate the tool from the removed fixture by rotating it in a CW direction. If necessary, use the wrench (included) to hold the fixture while rotating the tool with ratchet in a CW direction

4

\*Caution: Sufficient irrigation should be applied to the tool to prevent excessive heating during the procedure

#### 1 Art No. XRFRT



IMPLANTIUM / SuperLine 11°



SimpleLine II 8°



Rotate the tool in a counter clockwise direction until it is tightly locked into the fixture. Continue to rotate with additional toque until the failed fixture is completely removed



Separate the tool from the fixture using the ratchet and the wrench that are included in the kit

#### Help Kit

#### **Cover & Abutment Screw Remover**

#### Application

To disengage the cover screw, healing abutment and abutment screw from the fixture when the 1.28 hex on the head is stripped or damaged

#### Advantage

Easy to disengage the cover screw, healing abutment and abutment screw with stripped or damaged hex

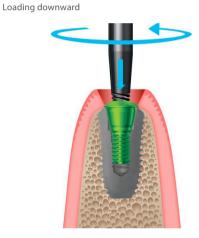
#### Usage

- 1. Assemble the tool with the ratchet and place it over the damaged 1.28 hex of the cover screw, healing abutment or abutment screw that needs to be removed
- 2. Gently rotate the ratchet in a CCW direction to tightly engage the tapered top of the tool into the damaged 1.28 hex.

2

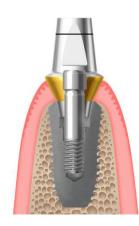
- 3. Continue to rotate the ratchet in a CCW direction with greater torque until the cover screw, healing abutment or abutment screw is completely removed
- 4. After the removal, rotate the ratchet in a CW to separate the tool and the removed component
- 1 Cover Screw



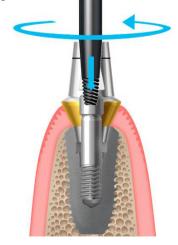


Rotate the tool counterclockwise until tightly locked into the 1.28 hex of the cover screw

3 Abutment Screw



4 Loading downward

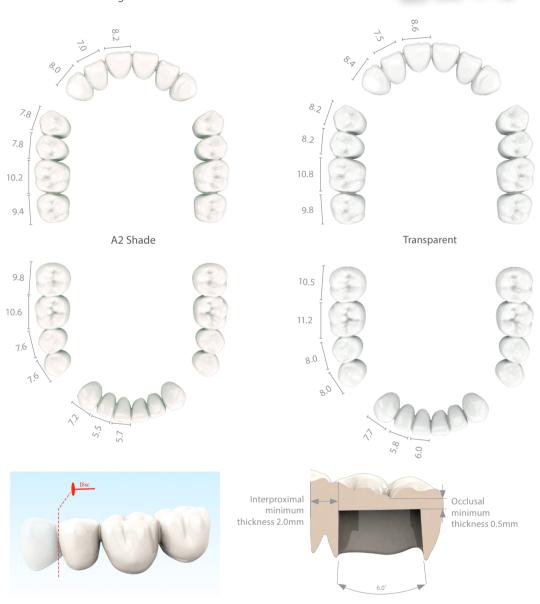


Rotate the tool counterclockwise until tightly locked into the 1.28 hex of the abutment screw

# **Temporary Shell**

#### Preformed Temporary Crown

- Esthetic appearance that mimics a natural tooth
- Convenient for both single and multi-unit restoration



Shade		Туре	REF
	A2	Full set	TSA2-FS
	Trnsparent	Full set	TSTR-FS



Healing



Temporary Abutment connection



Temporary Abutment preparation



Temporary Shell try-in



Filling of the Temporary Shell with acrylic Resin



Placement of Temporary Shell



Contouring of the cervical crown margin



Placement of Temporary Shell



Healing



Acrylic resin setting



Temporary Abutment connection



Contouring of the cervical crown margin



Temporary Shell try-in



Contoured restoration



Filling of the Temporary shell with acrylic resin



Provisional restoration

# White Seal

#### Easier filling and removal

Unlike the conventional cotton or impression material, the plush material allows a greater user-friendliness during dental procedures

#### No odor & color change

· Odor and color changing problem seen in Silicone or other sealing materials is eliminated

#### Stable form maintenance

• The rod with proper stiffness helps maintain its form while preventing the upper application layer from collapsing

#### Easy to fill into the screw hole

• White Seal<sup>™</sup> is available in 30mm (length) size. The user may easily cut off the desired length and conveniently store away the rest for later use

### Color / Odor Change Test



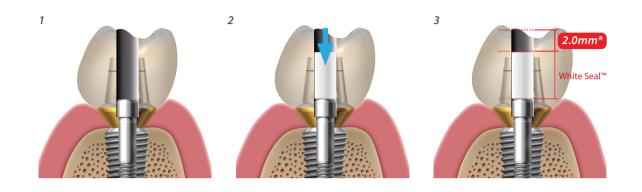
### **Products**

D	Diameter		Length	Art. No.	
	Ø1.9		30	AHF 19030	)
	Ø2.3		30	AHF 23030	)
Ø1.9 I		30			
Ø2.3 [		30			



#### How to use

Cut off a piece of the White Seal<sup>™</sup> in the desired size with scissors or a knife. Insert the piece into the abutment hole and seal it with a resin material. (\*It is recommended to submerge the White Seal<sup>™</sup> 2.0mm from the occlusal surface.)





White Seal™

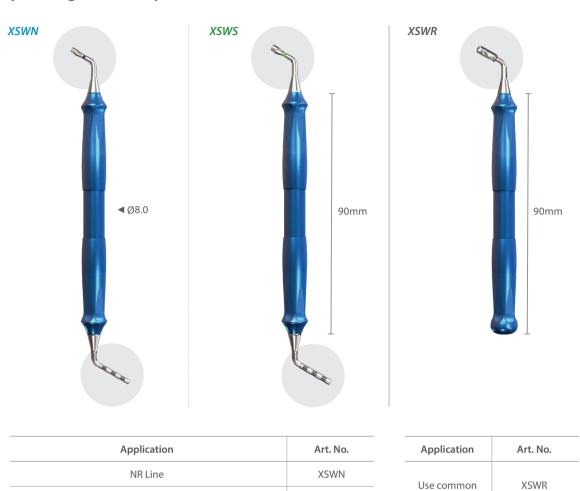
Hole resin filling

After 15 months

Remover

# White Seal Tool

### **Depth Gauge & Delivery Holder**



S	uperLine, Implantium, SimpleLine II	XSWS



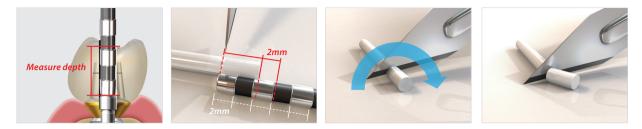


Delivery Holder

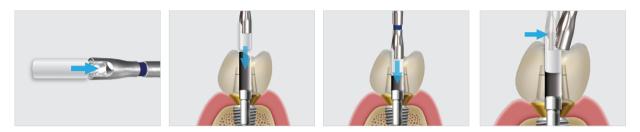


Depth Gauge

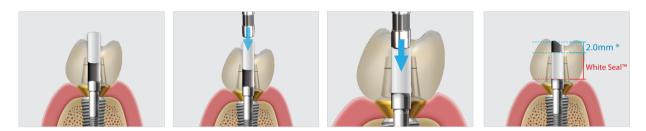
1 Cutting the White Seal<sup>™</sup>



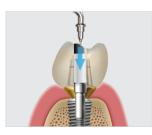
2 Delivery the White Seal<sup>™</sup> (Delivery holder)



3 Delivery the White Seal<sup>™</sup> (Depth gauge)



4 Removal of the White Seal<sup>™</sup> (Remover)









# **TN-Brush**

- Remove plague and granulation tissue around the fixture using spinning brush
- The force of shape restoration is excellent with chosen highly elastic brush



Use brush left to right or top to bottom 500~800 rpm with irrigation

#### Brush

Diameter	Art. No.
Ø0.8	TN-0.8
Ø1.0	TN-1.0



[Unit: mm, Scale 2 : 1]

#### Manual case 1 \_Peri-implantitis



Pre-op



Flap reflection



Using TN-Brush (Left to right)



After Washing



Using TN-Brush (Top to bottom)



Bone graft (OSTEON™ II Collagen + Autogenous bone)



After using TN-Brush



Bone graft (Collagen graft)



Removal of granulation tissue using curette

Tetracycline application (1min 30sec)



Suture

#### case 2\_Peri-implantitis



Pre-op



After using



Removal of granulation tissue using curette



Healing



Using TN-Brush (Left to right)



Using TN-Brush (Top to bottom)





Pre-op



Using TN-Brush (Left to right)



Using TN-Brush (Top to bottom)



After using TN-Brush

Case 4\_Periodontal treatment

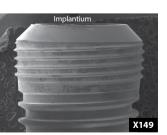




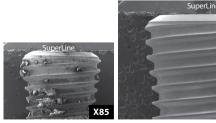
SEM



Before



After



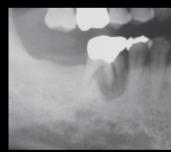
Before

After

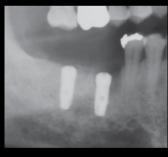
X85

# DENTIUM LONG-TERM CLINICAL DATA





2002. 05. 17 Pre-op

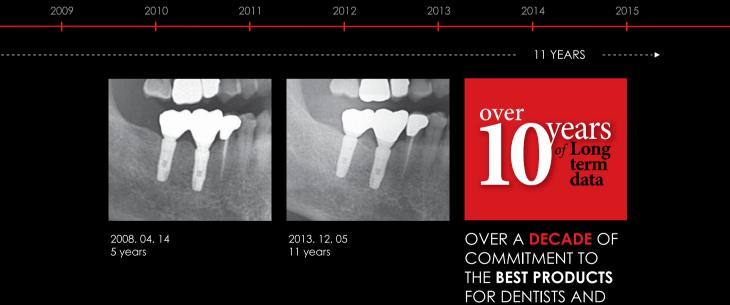


2002. 09. 04 Post-op



2003. 03. 15 Final prosthesis





PATIENTS





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# **Dentium Instruments**

for Total Solution

Catalog & Manual



Specifications are subject to change without any notice. Some products listed in this catalog are not available in the market due to pending approval.

HEAD OFFICE 6F, 29, Teheran-ro 87-gil, Gangnam-gu, Seoul , Korea (135-879) Tel +82-2-555-3750 Fax +82-2-501-9560 HOME PAGE www.dentium.co.kr INCO-1603 [Rev.1]