# KIT PRODUCT CATALOG

#### Osstem Implant 2014-15 Comprehensive Catalog

Overall Planning/Editing PR Department Design Team

**Supervision** Implant Lab, Marketing PM

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8th FL, World Meridian II, 123, Gasan digital 2-ro,

Geumcheon-gu, Seoul, Korea **Phone** +82.2.2016.7000

Fax +82.2.2016.7001 www.osstem.com OO3 INTRODUCTIONO12 CONTENTS

028 OSSTEM KIT

**094** REFERENCE



We deeply appreciate all of our customers who use our products.

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and aesthetics, implants have become an essential treatment in dentistry around the world.

Today, implants are well-known as a safe and effective treatment option, and the leading treatment option for patients with no teeth.

To satisfy this global trend, Osstem has invested heavily in R&D and continuously promotes innovative products, resulting in it becoming a global leader in technology and product quality.

Osstem is releasing new products including TSIII CA, TSIII BA, SSIII HA, and MS SA, and is strengthening its product line-up in order to enable application in a variety of clinical cases. Other products to be released that will enable safe, easy implant procedures include SMARTbuilder, AutoBone collector, 123 KIT, and ESSET KIT.

TSIII CA in particular is expected to become a leading product in the global implant market after launching as a groundbreaking product with superior hydrophilic properties capable of at least 30% greater fusion than ordinary SA products due to its calcium ion solution encapsulation. Also, to improve our customers' convenience and foster reasonable purchasing, we have opened an online store, DenALL (www.denall.com), where dentistry materials can be purchased affordably and conveniently. Osstem leads the way in superior product quality and exports to over 50 countries including the USA, China, Japan, Germany, and India, and is the first company in Korea to record implant sales of over 30 million products and overseas subsidiary sales of over 100 billion won.

Osstem Implant CEO Gyu-ok Choi (DDS, Ph.D)





#### 1997

- 01 OSSTEM Co., Ltd. Founded
- 12 Launched "Doobunae" (health insurance claiming software)

#### 2000

- 06 Launched "Hanaro" (dentistry management software)
- 10 Acquired Korean company Sumin Comprehensive Dental Materials

#### 2001

- 01 Obtained CE-0434 certification
- 03 Established AIC Training Center

2002

01 Established Osstem

08 Obtained US FDA

certification

Implant Research Center

Launched USII implant

10 Launched SSII implant

countries

#### 2006

- 03 Changed company name to 02 Listed on KOSDAQ Osstem Implant Co., Ltd.
- **04** Obtained GOST-R certification in Russia
- **12** Established the first incorporation stage of overseas subsidiaries in 12

#### 2007

- stock exchange and began trading
- 06 Obtained GOST-R certification in Russia
- 12 Selected nextgeneration products Obtained certification from Australia's Therapeutic Goods Administration

#### 2008

- 01 Established Osstem's osteology research
- 12 Selected as a National Strategic Leading Technology Company

#### 2009

10 Obtained permission from Japan's Ministry of Health, Labor, and Welfare to produce and sell medical devices

#### 2010

- 03 Launched TSIII SA implant
- 06 Launched TSIII HA implant
- 08 Selected as WPM Biomedical National Policy Company
- 12 Exceeded 10,000 dentistry software members

#### 2011

- **06** Selected Osstem Implant Research Center as an ATC (Superior Technology
- Research Center) 07 Selected as a world champion business
- 10 Obtained Health Canada certification
- 12 Launched K2 unit chair Selected as "Global First-Class Product"

#### 2013

- **01** Launched Osstem's xenograft "A-Oss"
- 09 Launched K3 unit chair
- 10 Selected as a hidden champion business

#### 2014

05 Selected as a WorldClass 300 business

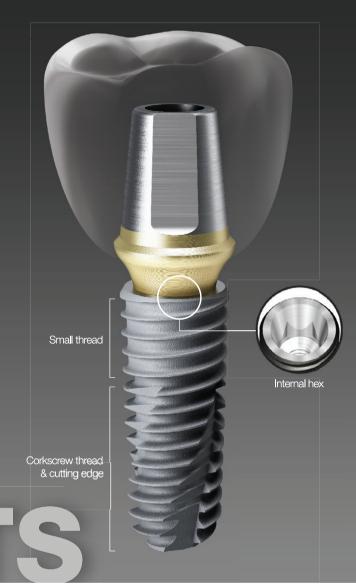
- 06 Launched TSIII CA implant
- 07 Established Osstem Medical **Equipment Research Center**

#### 2012

# **OSSTEM<sup>6</sup> Implant** Design feature

#### Osstem Implant,

the leader in popularizing implants in Korea! We stand out with our passion for strategic R&D and best products, creating globally trend-setting implants.









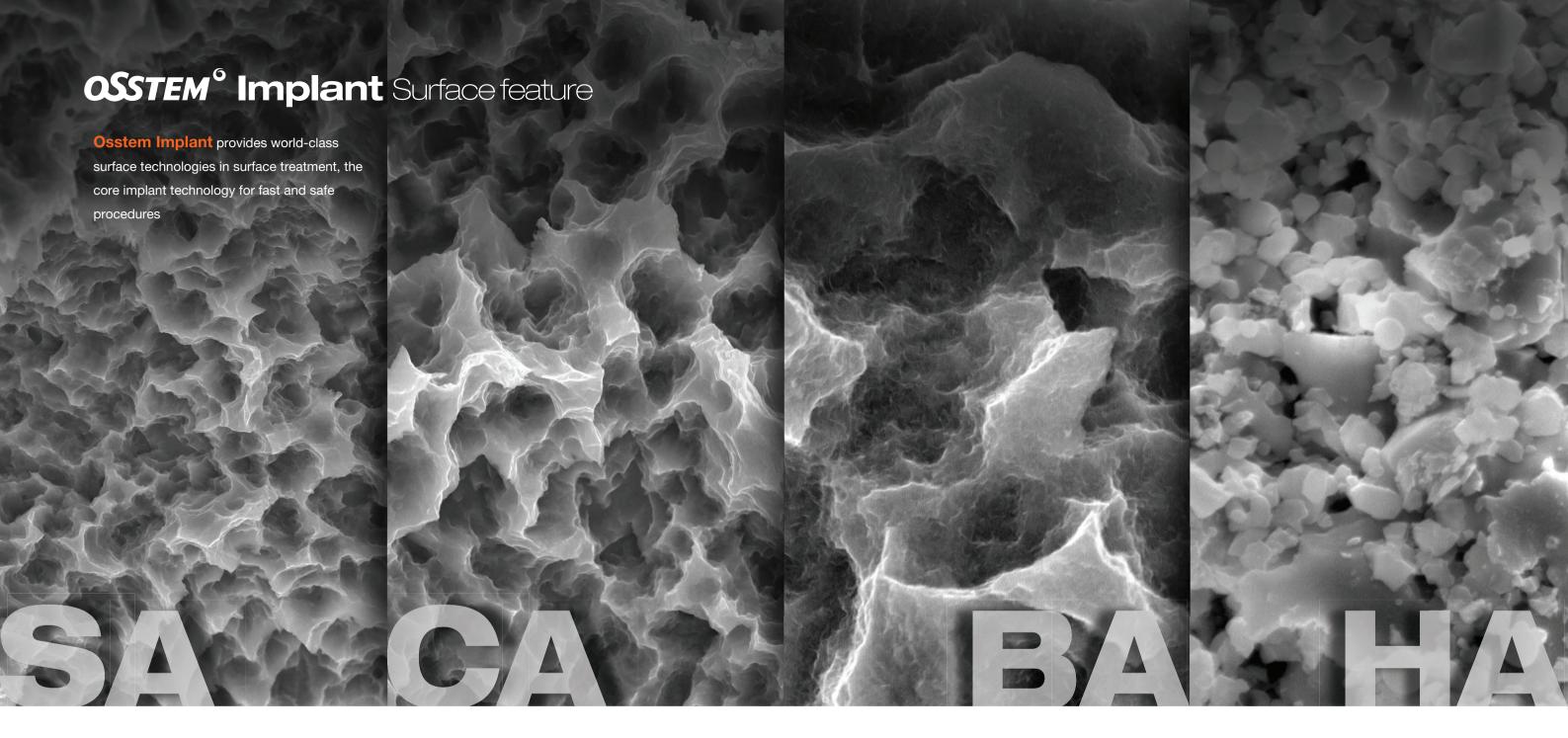


Packaging Color Information for Each System

- Submerged type implant with an Internal hex 11° taper connection structure
- Connection type and color Mini/Regular
- Highest initial stability in soft bone by using uppersection small thread
- Corkscrew thread & cutting edge
- Easy path adjustment through a superior self-threading effect
- Acquires insertion torque with an increase in soft bone initial stability and without deviation according to the drill diameters
- The various body shape options are available according to the bone and patient's clinical condition
- TSII (straight body): Easily adjustable insertion depth
- TSIII (1.5 $^{\circ}$  taper body): Able to acquire the initial stability needed for immediate loading even in soft bone
- TSIV (6  $^{\circ}$  taper body): Able to acquire superior initial stability only in maxillary sinus and soft bone
- Applied Surface SA/CA/BA/HA

- Non-submerged type implant with an Internal octa 8° taper connection structure based on one-time procedures
- Connection type and color Regular/Wide
- Corkscrew thread & cutting edge
- Easy path adjustment through a superior self-threading effect
- Acquires insertion torque with an increase in soft bone initial stability and without deviation according to the drill diameters
- The various body shape options are available according to the bone and patient's clinical condition
- SSII (straight body): Easily adjustable insertion depth
- SSIII (1.5° taper body): Able to acquire the initial stability needed for immediate loading even in soft bone
- Applied Surface SA/CA/HA

- Submerged type implant with an external hex connection structure
- Connection type and color
- Mini/Regular/Wide/Wide PS
- $\bullet$  Corkscrew thread & cutting edge
- Easy path adjustment through a superior self-threading effect
- Acquires insertion torque with an increase in soft bone initial stability and without deviation according to the drill diameters
- The various body shape options are available according to the bone and patient's clinical condition
- USII (straight body): Easily adjustable insertion depth
- USIII (1.5° taper body): Able to acquire the initial stability needed for immediate loading even in soft bone
- USIV (6° taper body): Able to acquire superior initial stability only in maxillary sinus and soft bone
- Applied Surface SA



#### Provides optimum surface through acid treatment

- Provides Ra 2.5~3.0  $\mu\rm m$  surface roughness However, upper section 0.5mm area is Ra 0.5~0.6  $\mu\rm m$
- Achieved uniform micro-pit 1.3 μm in size
- 46% greater surface area compared to RBM

#### Bone reaction performance (in-vitro and in-vivo)

- 20% improvement in osteoblast separation and ossification compared to RBM
- Initial bone reaction performance in animal model (mini-pig)
- •48% improvement in initial stability (RT, 4 weeks) compared to RBM
- 20% improvement in ossification (BIC, 4 weeks) compared to RBM

#### Superhydrophilic SA surface encapsulated in calcium solution

- Maintains optimum surface identical to SA surface
- Surface activity maximized after encapsulated in calcium (CaCl<sub>2</sub>) solution
- Increased ossification surface area through excellent blood wettability
- Improved bone reaction performance in the early osseointegration stage compared to SA surface

#### Bone reaction performance (in-vitro and in-vivo)

- 3x increase in protein, cell adhesion compared to SA
- 19% increase in initial cell separation (7 days) compared to SA
- 34% improvement in initial stability (RT, 2 weeks) compared to SA
- 26% improvement in ossification (BIC, 2 weeks) compared to SA

#### Surface coated with low crystalline Nano-HA in SA

- Ultra-thin film with HA coating and 10nm or lower thickness
- HA coating on SA surface (Ra 2.5~3.0 μm)
- Dual function of titanium and HA
- · HA is naturally removed during ossification process

#### Bone reaction performance (in-vitro and in-vivo)

- Fused surface having advantages of both SA and HA
- Maintains advantage of SA optimum surface formation
- Superior early ossification of the HA in soft bone
- 30% improvement in ossification (BIC) compared to SA

#### Premium surface coated with high crystalline HA

- High crystalline HA coating 30~60 μm in thickness
- HA coating on RBM surface (Ra 3.0~3.5 µm)
- Achieved at least 98% HA high crystallization
- Solves problem of interbody fusion in low crystalline HA

#### Bone reaction performance (in-vitro and in-vivo)

- Excellent biocompatibility in HA that is similar to bone
- 2x improvement in osteoblast ossification (5 days) compared to SA
- 40% improvement in initial stability (RT, 4 weeks) in animal models compared to SA
- Suitable for weak bone tissue, or tooth extraction or implant insertion

## KIT Contents 1/2



## KIT Contents 2/2





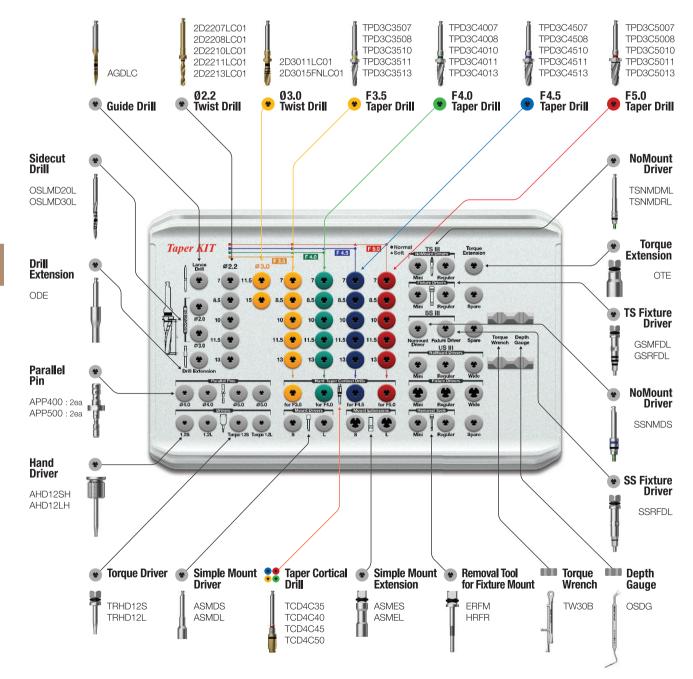


018 Taper KIT
019 Taper Ultra KIT
020 123 KIT
021 123 Full KIT
022 123 KIT - IV TYPE
023 Ultra KIT
024 New Hanaro KIT
043 Prosthetic KIT
044 TS Prosthetic KIT
051 CAS-KIT
054 CAS-KIT Plus
055 LAS-KIT Plus
059 ESSET KIT

O62 MS KIT
O63 Ortho KIT
O64 Bone Screw KIT
O65 Custom KIT
O66 Osteo KIT
O67 Osteotome KIT
O68 Sinus KIT
O69 Bone Spreader KIT
O71 Ridge Split KIT - Straight
O72 Ridge Split KIT - Offset
O72 OsstemGuide KIT
O76 ESR KIT
O80 EFR KIT

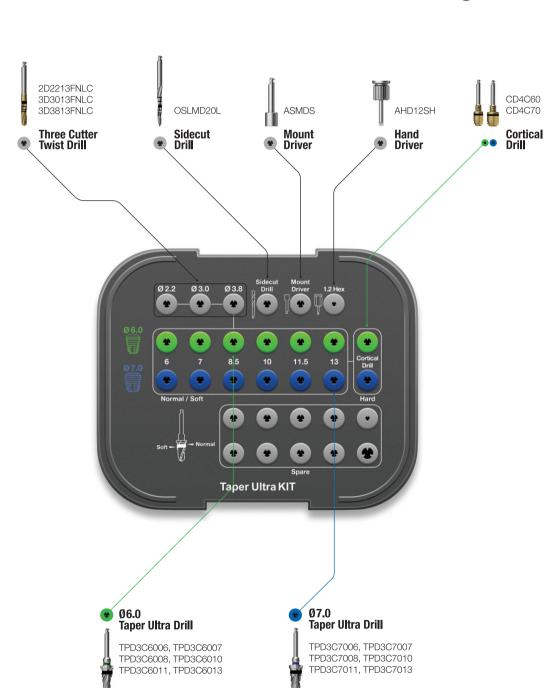
Base component

# Available for use TSIII SSIII USIII

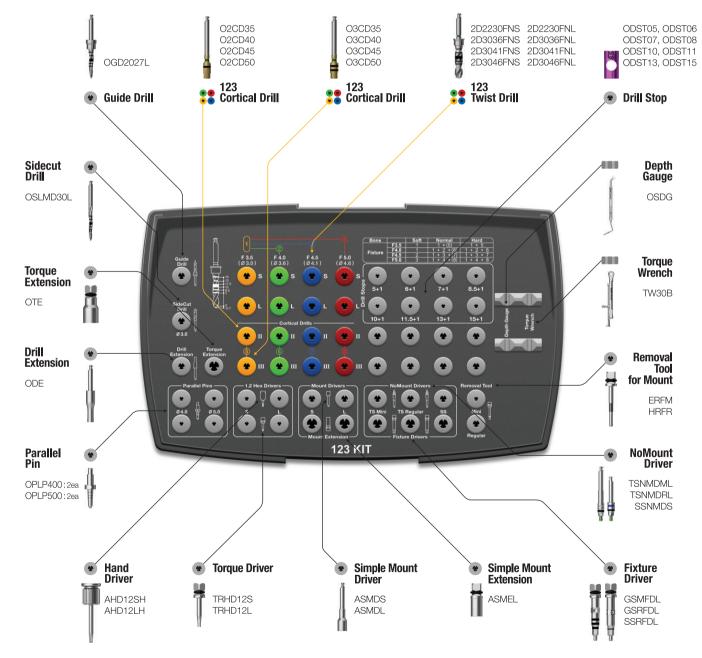


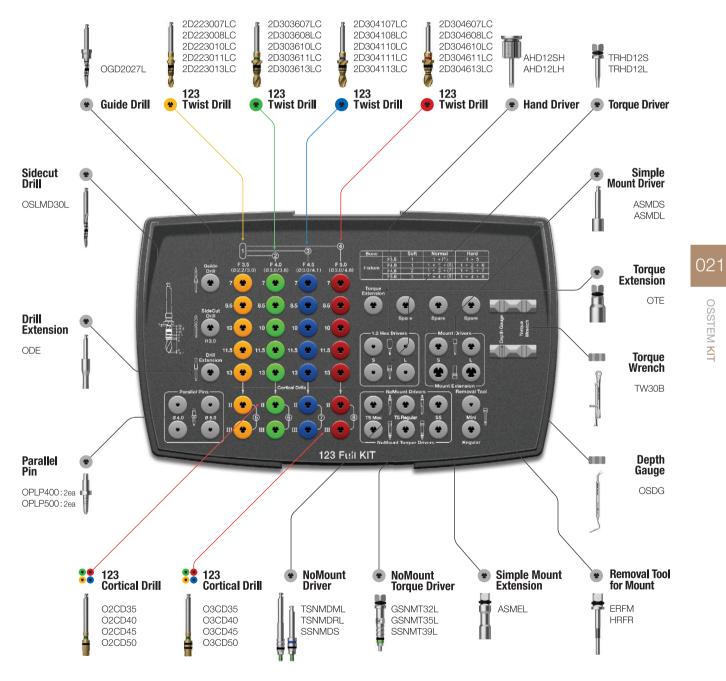
# Taper Ultra KIT (HULTPK)



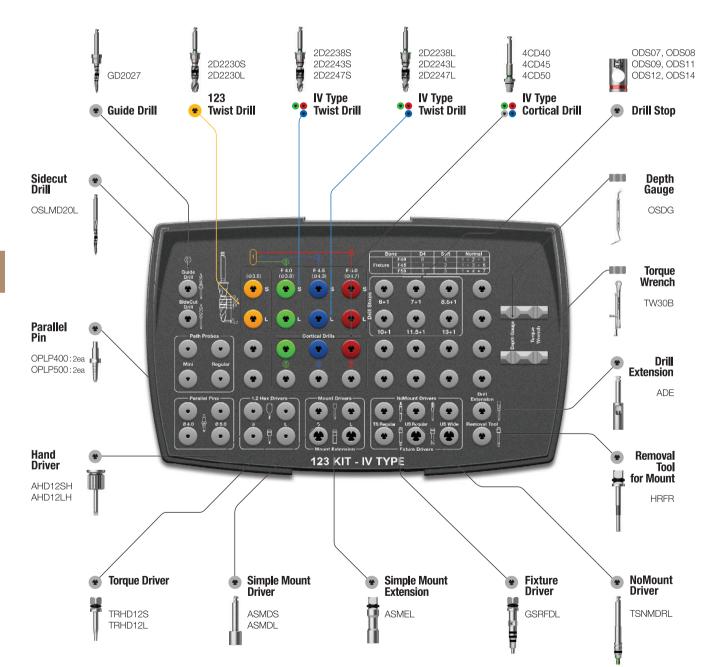


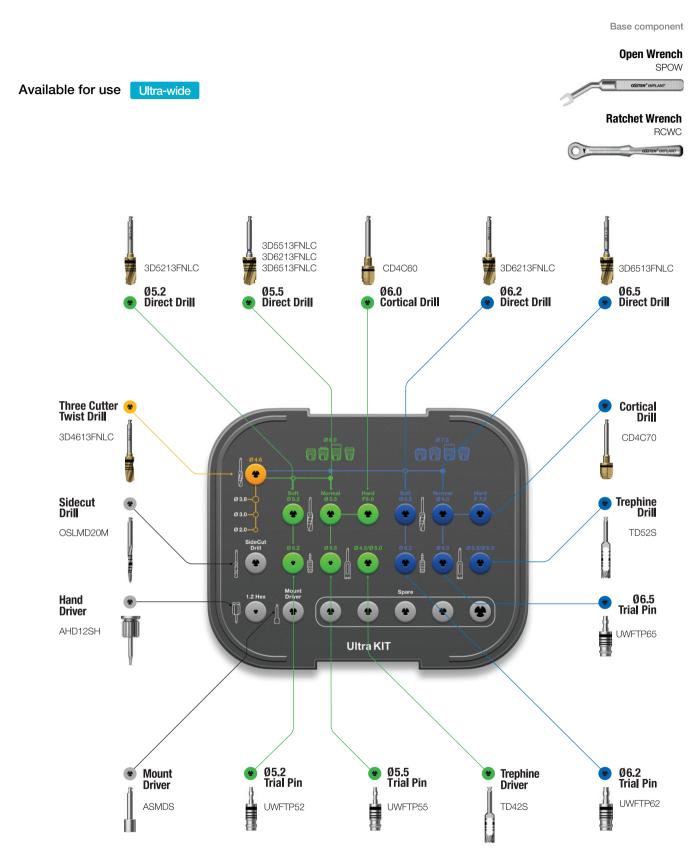
US∥SA/IISA





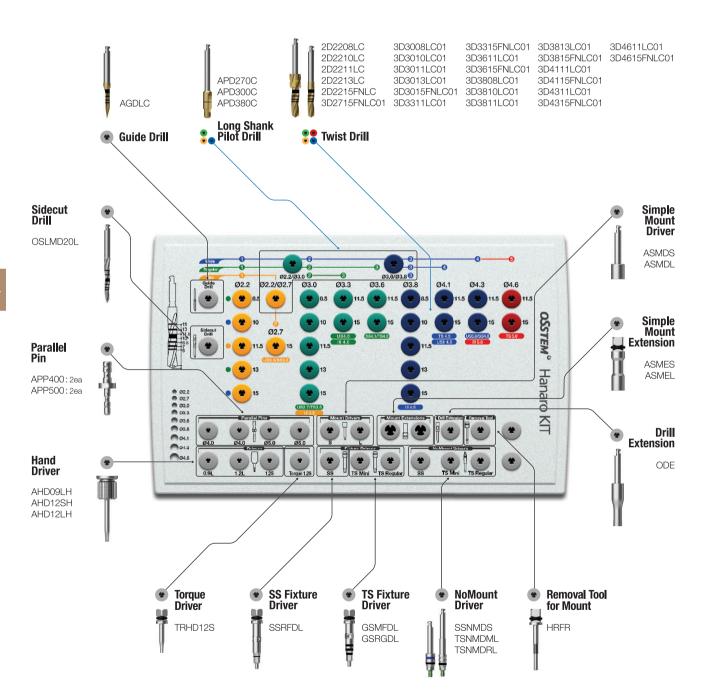
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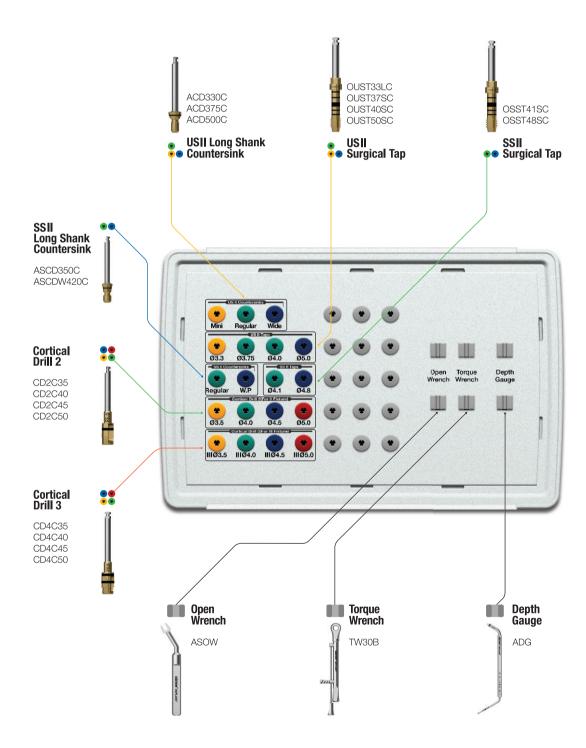




# **New Hanaro KIT** (HKA2)

Available for use TSII/III SSII/III USII/III



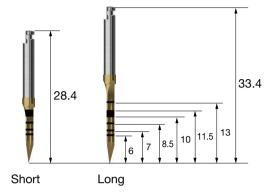


# **Surgical Instruments**

#### Lance Drill - Guide Drill

- Mark the initial osteotomy position
- Bone density can be judged through drilling

\ L	Short	Long	
·	AGDSC	AGDLC	



#### 123 Guide Drill

- Drill that forms a hole in the bone to make initial drilling easy
- Easy to adjust the depth of drilling as desired by attaching drill stop

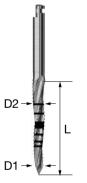




#### Sidecut Drill

- Correct the angle or position of the osteotomy cutting edge on its body
- Used for removing furcation area of fresh extraction site

L D1/D2	Ø1.5/2.0	Ø2.0/2.5	Ø2.5/3.0	Ø3.0/3.5
13	OSLM <b>DS</b>	OSLMD <b>20S</b>	OSLMD <b>25S</b>	OSLMD <b>30S</b>
16.5	=	-	OSLMD <b>25L</b>	OSLMD <b>30L</b>
20	OSLM <b>DL</b>	OSLMD <b>20L</b>	=	-



#### **Drill Extension**

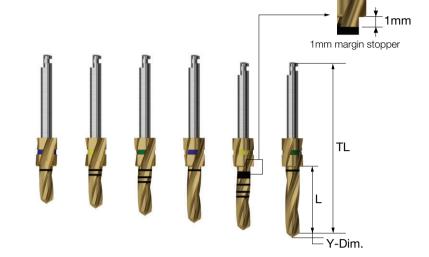
- Tool used to extend the lengths of drills and other miscellaneous hand piece tools
- Be cautious of bending or fracture if excessive force is applied
- Drill length is extended by 16.9mm with drill extension





#### Twist Drill - Stopper Drill

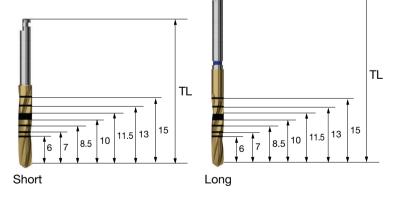
- Long stopper(6mm)
- Safety with built-in stopper
- Procedure possible without drill extension when performing posterior procedures
- Color coding on stopper indicates the drill length



L \_	TL D	Ø2.2	Ø3.0	Ø3.3	Ø3.6	Ø3.8	Ø4.1	Ø4.3	Ø4.6
6.0	30.5	2D22 <b>06LC</b>	3D30 <b>06LC</b>	-	-	3D38 <b>06LC</b>	-	-	-
7.0	31.5	2D22 <b>07LC</b>	3D30 <b>07LC01</b>	=	=	3D38 <b>07LC01</b>	=	=	=
8.5	33	2D22 <b>08LC</b>	3D30 <b>08LC01</b>	-	-	3D38 <b>08LC01</b>	=	-	-
10.0	34.5	2D22 <b>10LC</b>	3D30 <b>10LC01</b>	=	=	3D38 <b>10LC01</b>	=	=	=
11.5	34.5	2D22 <b>11LC</b>	3D30 <b>11LC01</b>	3D33 <b>11LC01</b>	3D36 <b>11LC01</b>	3D38 <b>11LC01</b>	3D41 <b>11LC01</b>	3D43 <b>11LC01</b>	3D46 <b>11LC01</b>
13.0	36	2D22 <b>13LC</b>	3D30 <b>13LC01</b>	=	=	3D38 <b>13LC01</b>	=	=	=
Y-Din	n.	0.6	0.9	1.0	1.0	1.0	1.0	1.0	1.0

#### Twist Drill - Non Stopper Drill

- A drill that can be used when stopper drill's accessibility in the oral cavity is limited
- Marking drill with short and long specifications
- Refer to the image of non stopper drill for marking measurements

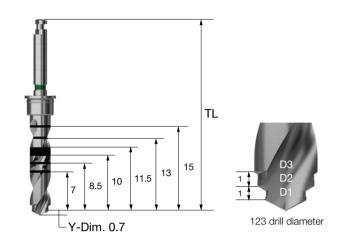


TL\D	Ø1.5	Ø2.0	Ø2.2	Ø2.7	Ø3.0	Ø3.3
33	2D15 <b>18FNLC</b>	2D20 <b>18FNLC</b>	2D22 <b>18FNLC</b>	3D27 <b>18FNLC</b>	3D30 <b>18FNLC</b>	3D33 <b>18FNLC</b>
41	-	-	2D22 <b>15FNLC</b>	3D27 <b>15FNLC01</b>	3D30 <b>15FNLC01</b>	3D33 <b>15FNLC01</b>
TL\ D	ø3.6	Ø3.8	Ø4.1	Ø4.3	Ø4.6	
TL D	Ø3.6 3D3618FNLC	<b>Ø3.8</b> 3D38 <b>18FNLC</b>	<b>Ø4.1</b> 3D41 <b>18FNLC</b>	<b>Ø4.3</b> 3D43 <b>18FNLC</b>	<b>Ø4.6</b> 3D46 <b>18FNLC</b>	

# **Surgical Instruments**

#### 123 Twist Drill

- Straight drill (marking drill) that can reduce the amount of drilling
- Color coded with corresponding fixture sizes
- · Easy to adjust the depth of drilling with drill stopper
- Designed to be used with drill stopper
- F = Fixture



	D1/D2/D3				
TL	F3.5(Ø2.2/3.0)	F4.0(Ø3.0/3.6)	F4.5(Ø3.0/3.6/4.1)	F5.0(Ø3.0/4.1/4.6)	
34	2D2230FNS	2D3036FNS	2D3041FNS	2D3046FNS	
40.4	2D2230FNL	2D3036FNL	2D3041FNL	2D3046FNL	
Color	Yellow	Green	Blue	Red	

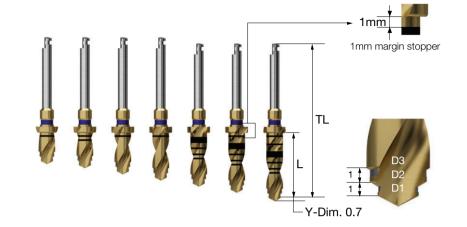
#### 123 Drill Stopper

- The length of drill Stopper indicates the actual length left when drill stop is attached to 123 twist drill
- Coloring is applied to each length, so it is easy to figure out the lengths and relocate in KIT



#### 123 Twist Drill - Stopper Drill

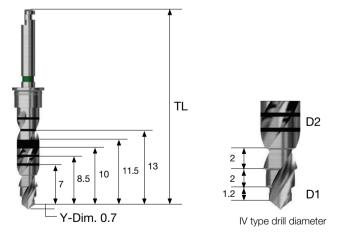
- Straight drill that can reduce the amount of drilling (stopper available)
- Coloring on the grip part of 123 drill indicates diameter and main fixture used
- F = Fixture



D1/D2/D3 F3.5(Ø2.2/3.0) F4.0(Ø3.0/3.6) F4.5(Ø3.0/3.6/4.1) F5.0(Ø3.0/4.1/4.6) L TL 2D3036**06LC** 6.0 30.5 2D2230**06LC** 2D3041**06LC** 2D3046**06LC** 7.0 2D2230**07LC** 2D3036**07LC** 2D3041**07LC** 2D3046**07LC** 31.5 2D2230**08LC** 2D3036**08LC** 2D3041**08LC** 2D3046**08LC** 8.5 33 10.0 34.5 2D2230**10LC** 2D3036**10LC** 2D3041**10LC** 2D3046**10LC** 11.5 34.5 2D2230**11LC** 2D3036**11LC** 2D3041**11LC** 2D3046**11LC** 2D2230**13LC** 2D3036**13LC** 2D3041**13LC** 2D3046**13LC** 13.0 36 2D3046**15LC** 15.0 38 2D2230**15LC** 2D3036**15LC** 2D3041**15LC** Color Yellow Green Blue Red

#### **IV Type Twist Drill**

- Drill optimized exclusively for bone preparation to place IV type fixture
- Color coded with corresponding fixture sizes
- Designed to be used with drill stopper
- F = Fixture



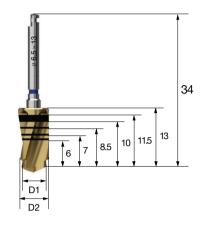
TL	F4.0 (Ø2.2/3.8)	F4.5 (Ø2.2/4.3)	F5.0 (Ø2.2/4.7)
34	2D2238S	2D2243S	2D2247S
40.4	2D2238L	2D2243L	2D2247L
Color	Green	Blue	Red

#### **Direct Drill**

- Direct drill: Dual-gear drill that has both pilot drill and twist drill capabilities
- Final drilling can be done right away without pilot drilling

**Surgical Instruments** 

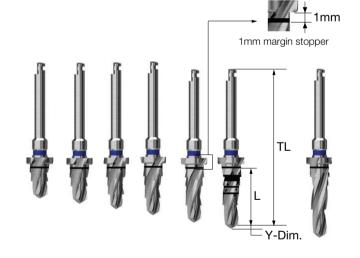
• To prepare the apex area of the osteotomy for the extraction socket



D1/D2	Ø4.6/5.2	Ø4.6/5.5	Ø5.5/6.2	Ø5.5/6.5
	3D5213FNLC	3D5513FNLC	3D6213FNLC	3D6513FNLC

#### **Taper Drill**

- Taper drill specialized for taper (III type) fixture with built-in stopper per diameters or lengths
- Stopper drill with 1mm margin for countersink
- Color coding on grip part indicates fixture diameter
- F = Fixture

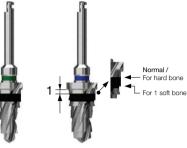


L	TL	F3.5	F4.0	F4.5	F5.0
5.0	29.5	TPD3C <b>3505</b>	TPD3C <b>4005</b>	TPD3C <b>4505</b>	TPD3C <b>5005</b>
6.0	30.5	TPD3C <b>3506</b>	TPD3C <b>4006</b>	TPD3C <b>4506</b>	TPD3C <b>5006</b>
7.0	31.5	TPD3C <b>3507</b>	TPD3C <b>4007</b>	TPD3C <b>4507</b>	TPD3C <b>5007</b>
8.5	33	TPD3C <b>3508</b>	TPD3C <b>4008</b>	TPD3C <b>4508</b>	TPD3C <b>5008</b>
10.0	34.5	TPD3C <b>3510</b>	TPD3C <b>4010</b>	TPD3C <b>4510</b>	TPD3C <b>5010</b>
11.5	34.5	TPD3C <b>3511</b>	TPD3C <b>4011</b>	TPD3C <b>4511</b>	TPD3C <b>5011</b>
13.0	36	TPD3C <b>3513</b>	TPD3C <b>4013</b>	TPD3C <b>4513</b>	TPD3C <b>5013</b>
15.0	38	TPD3C <b>3515</b>	TPD3C <b>4015</b>	TPD3C <b>4515</b>	TPD3C <b>5015</b>
Y-Dim		0.8	0.9	1.0	1.0
Color		Yellow	Green	Blue	Red

#### **Taper Ultra Drill**

- Taper drill specialized for taper ultra-wide fixture with built- in stopper per diameters or lengths
- Stopper drill with 1mm margin for countersink
- · Color coding on grip part indicates fixture diameter
- F = Fixture

L\	F6.0	F7.0
6	TPD3C <b>6006</b>	TPD3C <b>7006</b>
7	TPD3C <b>6007</b>	TPD3C <b>7007</b>
8.5	TPD3C <b>6008</b>	TPD3C <b>7008</b>
10	TPD3C <b>6010</b>	TPD3C <b>7010</b>
11.5	TPD3C <b>6011</b>	TPD3C <b>7011</b>
13	TPD3C <b>6013</b>	TPD3C <b>7013</b>
Color	Green	Blue

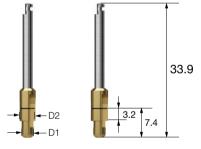


#### Long Shank Pilot Drill

- Guide drill for the next drill sequence
- Used to revise the path in the drilled hole

D1/D2	Ø2.0/2.7	Ø2.0/3.0	ø3.0/3.8	Ø3.0/4.1

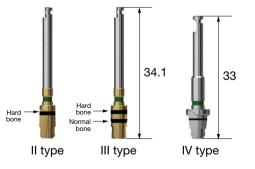
D270C APD300C APD380C APD410C



#### 123 Cortical Drill

- Drill used to remove cortical bone at the crest
- Recommended to drill to the bottom marking line
- Marking line of II type cortical drill is for hard bone
- Bottom marking line of III type cortical drill is for normal bone, and top marking line is for hard bone
- Marking line of IV type cortical drill is for normal bone
- Coloring on the grip part indicates diameter and main fixture used
- F = Fixture

Type	F3.5	F4.0	F4.5	F5.0
II	O2CD <b>35</b>	O2CD <b>40</b>	O2CD <b>45</b>	02CD <b>50</b>
III	03CD <b>35</b>	O3CD <b>40</b>	O3CD <b>45</b>	03CD <b>50</b>
IV	=	4CD <b>40</b>	4CD <b>45</b>	4CD <b>50</b>
Color	Yellow	Green	Blue	Red



## **Surgical Instruments**

#### Cortical Drill 2 for TSII, SSII SA

- Drill used to remove cortical bone from hard bone (for II type)
- Equipped with drills applicable for different fixture diameters
- Recommended to drill to the bottom marking line
- F = Fixture





# Cortical Drill 3 for Taper Fixture (TSIII, SSIII, USIII)

- Drill used to remove cortical bone from hard bone (for III type)
- Equipped with drills applicable for different fixture diameters
- Bottom marking line is for normal bone, and top line is for hard bone
- Recommended to drill to the bottom marking line
- F = Fixture





# Taper Cortical Drill for Taper Fixture (TSIII, SSIII, USIII)

- Drill used to remove cortical bone from hard bone (used immediately after taper drill)
- Equipped with drills applicable for different fixture diameters
- Bottom marking line is for fixture insertion less than 8.5mm

  Top marking line is for fixture insertion more than 10mm
- Recommended to drill to the bottom marking line
- F = Fixture





#### Cortical Drill for Ultra-Wide

- Drill used to remove cortical bone from hard bone (for ultra-wide)
- Equipped with drills applicable for different fixture diameters
- Recommended to drill to the bottom marking line
- F = Fixture

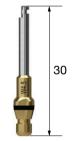
**F6.0 F7.0** CD4C60 CD4C70



# Countersink for USIII, USII SA, USIII SA(Wide PS, Wide)

- Drill that can expand the hole entrance for US fixture
- Specifications for wide PS and wide of USIII, USII SA, and USIII SA
- Recommended drilling speed: 300rpm

USSCS45W

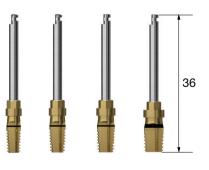


# Tapered Fixture Tap for TSIII, USIII, SSIII SA

- Tap for tapered fixture (fixture of III type)
- $\bullet$  Used for extra hard bones and forms the fixture's screw thread shape
- Use torque wrench after attaching engine (25rpm recommended) or mount extension
- Recommended to tap to the bottom marking line

  However, for F5.0, use fixture less than 8.5mm for the bottom line, and
  more than 10mm for the top line
- F = Fixture





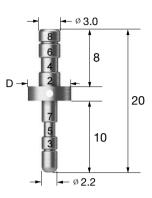
# OSSTEM K

# **Surgical Instruments**

#### Parallel Pin

• Used to check the position and orientation of osteotomy in the initial drilling sequence

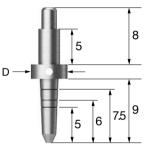
D	Ø4.0	Ø5.0	Ø6.0	Full Set
	APP400	APP500	APP600	APPS



#### Parallel Pin for 123 Drill

- Parallel pin for 123 twist drill
- Used to check the position and orientation of osteotomy in the initial drilling sequence
- The bottom part is for initial drill, and the top part is for F3.5(ø 2.2/3.0) drill

\ <b>D</b>	Ø4.0	Ø5.0
	OPLP400	OPLP500



#### **Depth Gauge**

- A: measure the depth of drilling (7~15mm)
- B: measure the height of gingiva after inserting external fixture

ADG



#### **Depth Gauge**

 $\bullet$  Used to measure the depth of drilling (7~15mm) and as an open wrench



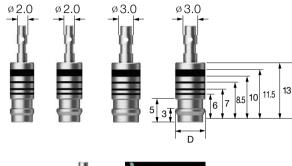


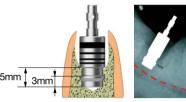
#### Trial Pin for Ultra-wide

- Checks the width and depth of the inside of extraction socket or failed implant socket
- Checks the depth of drilling after using direct drill as final drill

D Ø5.2 Ø5.5 Ø6.2 Ø6.5

UWFTP52 UWFTP55 UWFTP62 UWFTP65





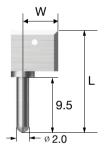
Minimum installation height needed to insert implant immediately after tooth extraction

#### **Positioning Guide**

- To determine space around the implant site
- Used by inserting into hole after initial drilling
- Packing unit: Packaged by each components and sets

W/L 2.5/21.5 6.0/17.5 11/17.5

APG201 APG202 APG203



#### Tissue Height Gauge for TS

• Tool to measure the height of gingiva by inserting to the fixture connection to select appropriate healing abutment height for TS system.





#### **Ratchet Wrench**

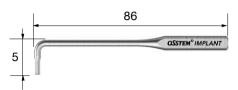
- Wrench for anti-backlashing procedure
- Please be cautious of damaging the bone or inside of fixture when applying excessive torque





- Apply torque of 5~8Ncm when wrench bending is recognized (about 10°)





#### Torque Wrench - Spring Type

- Wrench that can apply consistent torque (10/20/30Ncm) on screw, abutment, etc.
- Can recognize the bending of the neck part of torque wrench when set
- If force is continuously applied when the neck of torque wrench is bent, excessive torque is applied and there can be a screw fracture issue





#### Torque Wrench - Bar Type

- Used to adjust the implant location or tighten abutment, screw, etc.
- Apply torque after pulling bar to the line indicating torque value to be applied

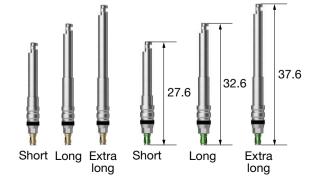




#### **NoMount Driver for TS**

- Driver that can directly attach to fixture when inserting, using hand piece for procedure
- C = Connection

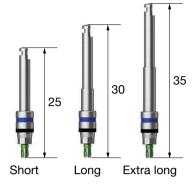
L C	Mini	Regular
Short	TSNMDMS	TSNMDRS
Long	TSNMDML	TSNMDRL
Ex.Long	TSNMDME	TSNMDRE



#### **NoMount Driver for SS**

- Driver that can directly attach to fixture when inserting, using hand piece for procedure
- C = Connection

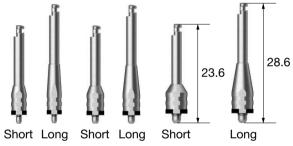
L\C	Regular/Wide		
Short	SSNMDS		
Long	SSNMDL		
Ex Long	SSNMDE		



#### **NoMount Driver for US**

- Driver that can directly attach to fixture when inserting, using hand piece for procedure
- C = Connection

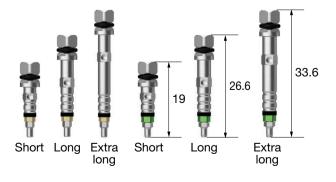
L\C	Mini	Regular	Wide
Short	USNMD35MS	USNMD41RS	USNMD51WS
Long	USNMD35ML	USNMD41RL	USNMD51WL



#### **NoMount Torque Driver for TS**

- Driver that can directly attach to fixture when inserting, using wrench
- Check the correct and complete fit of the fixture before placement.
- Please note that it is impossible to remove when fracture occurs
- C = Connection

L \ C	Mini	Regular
Short	GSNMT32S	GSNMT35S
Long	GSNMT32L	GSNMT35L
Ex. Long	GSNMT32E	GSNMT35E



# **Surgical Instruments**

#### **NoMount Torque Driver for SS**

- Driver that can directly attach to fixture when inserting, using wrench
- Check the correct and complete fit of the fixture before placement.
- Please note that it is impossible to remove when fracture occurs
- C = Connection

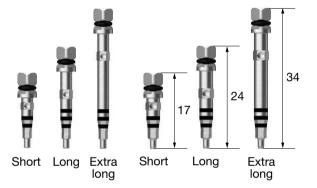
L C	Regular/Wide		
Short	SSNMT39S		
Long	SSNMT39L		



#### Fixture Driver for TS

- Directly attached to fixture, used to adjust final depth of insertion using wrench
- C = Connection

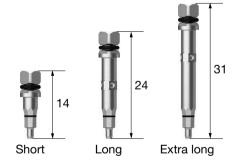
L\C	Mini	Regular
Short	GSMFDS	GSRFDS
Long	GSMFDL	GSRFDL
Ex.Long	GSMFDE	GSRFDE



#### **Fixture Driver for SS**

- Directly attached to fixture, used to adjust final depth of insertion using wrench
- C = Connection

L C	Regular/Wide
Short	SSRFDS
Long	SSRFDL
Ex.Long	SSRFDE



#### **Fixture Driver for US**

- Directly attached to fixture, used to adjust final depth of insertion using wrench
- C = Connection

<u>C</u>	Mini	Regular	Wide
	USMFDL	USRFDL	USWFDL







#### **Torque Extension**

• Extends the length of instrument used as connected to wrench by 10mm

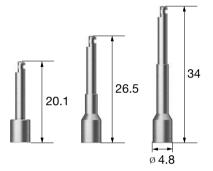
OTE



#### Simple Mount Driver

· Used to insert fixture with mount using hand piece

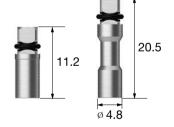
Short ASMDS
Long ASMDL
Ex.Long ASMDE



#### **Simple Mount Extension**

• Used by attaching to wrench if it is desired to extend the length of simple mount or apply torque manually

Short ASMES Long ASMEL



#### Simple Open Wrench

- Used to remove simple mount when the initial stability is low or patient has weak bone tissue
- Intraoral usability with 30-degree neck angle





#### **Removal Tool for Fixture Mount**

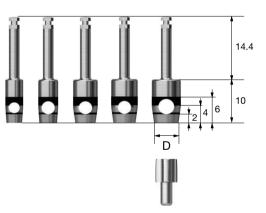
- $\bullet$  Used after removing mount screw when jamming occurs between
- fixture and mount
- Used after attaching to driver handle or torque wrench
- Removes mount by inserting vertically and turning clockwise
- App = Application



App	Mini (TS,US)	Regular (Ts,ss,Us) / Wide (SS)	Wide (US)
	ERFM	HRFR	ERFW

#### Tissue Punch

- Tool used for flapless surgery procedure
- Features laser marking at an interval of 2mm and enables measurement of gingiva height
- Packing unit : tissue punch + guide pin
- $\ensuremath{\text{\#}}$  Recommended to use tissue punch that has 0.7~1.5mm smaller diameter than healing abutment



<u>D</u>	Ø3.3	Ø3.8	Ø4.3	Ø4.8	Ø5.3
	OSTP33	OSTP38	OSTP43	OSTP48	OSTP53
TS	Ø 4.0/4.5	Ø 4.5/5.0	Ø 5.0	Ø 6.0	Ø 6.0
SS	-	Ø 4.8	-	Ø 6.0	Ø 6.0
US	Ø 4.0	Ø 5.0	Ø 5.0	Ø 6.0	Ø 6.0

The application of Healing abutment

#### **TS Bone Profiler**

- Used to remove bone around fixture in the first or secondary surgery
- Remove any interfering bone for the correct section of prosthetic components, connect guide screw to fixture in line of connection and remove bone.
- Guide screw protects fixture shoulder
- Packing unit : bone profiler + guide screw
- C = Connection



C Healing Abutment D	Ø4.5	Ø5.5	Ø6.5/7.5
Mini/Regular	GSBP45	GSBP55	GSBP75
	Mini +	Mini +	Regular guide screw
	Regular guide screw	Regular guide screw	

#### **US Bone Profiler**

- Used to remove bone built around cover screw in the second procedure
- Used to compensate for the angle of healing abutment after removing cover screw and connecting guide screw to fixture
- Guide screw protects hex of fixture
- Packing unit : bone profiler + guide screw
- P = Platform



D\P	Mini	Regular	Wide	T-type
Ø4.0	ABPM <b>400C</b>	-	-	-
Ø5.0	ABPM <b>500C</b>	ABPR <b>500C</b>	=	=
Ø6.0	=	ABPR <b>600C</b>	ABPW <b>600C</b>	TBPW <b>600C</b>
Ø7.0	=	=	ABPW <b>700C</b>	=

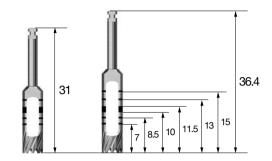
# 088

# STEM KIT

# **Surgical Instruments**

#### **Trephine Drill**

- Used to collect bone or remove broken or failed fixture
- Used to remove septal bone
- · Available for use as initial drill when inserting ultra fixture

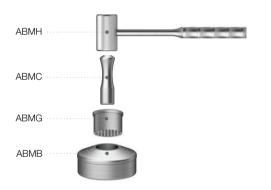


L D (Inner/Outer)	3.7/4.5	4.2/5.0	4.7/5.5	5.2/6.0	5.7/6.5	6.2/7.0	
Short	TD37S	TD42S	TD47S	TD52S	TD57S	TD62S	
Lona	TD37	TD42	TD47	TD52	TD57	TD62	

#### **Bone Mill**

• Forms particulate bone with autogenous bone collected

ABM



#### **Machine Driver Handle**

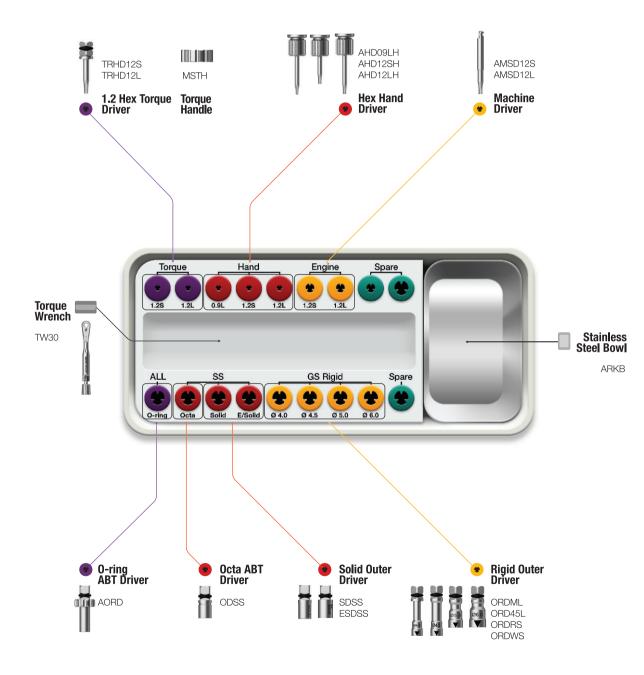
• Can turn by hand, connecting all operation tools for engine





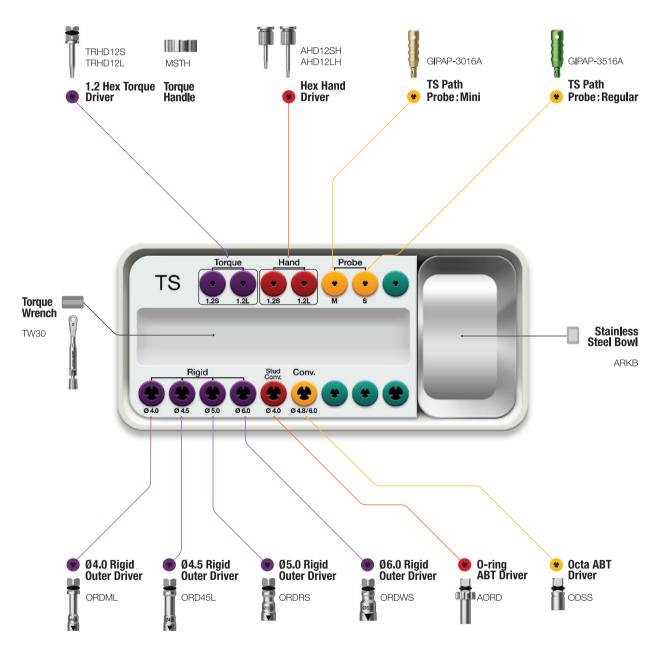
# Prosthetic KIT (OPK)

Available for use TSII/III SSII/III USII/III Uttra-wide



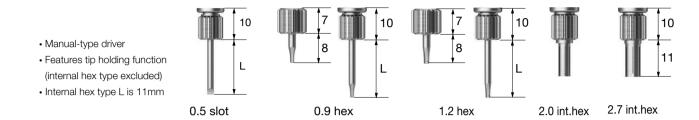
# TS Prosthetic KIT (GSPK)

Available for use TSII/TSIII



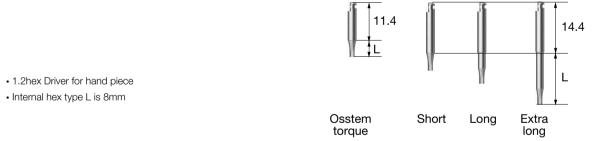
## **Prosthetic** Instruments

#### **Hand Driver**



L Type	0.5 Slot	0.9 Hex	1.2 Hex	2.0 Int.Hex	2.7 Int.Hex
Ex.Short(8)	-	AHD <b>09MSH</b>	AHD12MSH	-	-
Short (13)	ASD <b>05SH</b>	AHD <b>09SH</b>	AHD12SH	⊪D <b>20H</b>	⊩D <b>27H</b>
Middle (15)	-	-	AHD <b>12MH</b>	-	-
Long (18)	ASD <b>05LH</b>	AHD <b>09LH</b>	AHD <b>12LH</b>	-	=
Ex.Long (25)	=	=	AHD <b>12EH</b>	=	=

#### **Machine Screw Driver**



L Type	0.5 Slot	0.9 Hex	1.2 Hex	2.0 Int.Hex	2.7 Int.Hex
Osstem Torque	· (5)	-	OTH12S	-	-
Short (5.6)	AMSD <b>05S</b>	AMSD <b>09S</b>	AMSD12S	-	-
Long (11.6)	AMSD <b>05L</b>	AMSD <b>09L</b>	AMSD12L	EIHD <b>20</b>	EIHD <b>27</b>
Ex.Long (17.6)	-	=	AMSD <b>12E</b>	-	-

#### **Application**

Driver applicable product (common for hand, machine screw, and torque driver)

Cover screw

Healing abutment, UCLA, screw,

Mount screw

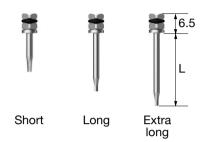
Esthetic abutment screw regular,  Wide esthetic-low abutment screw

# C C C

### **Prosthetic** Instruments

#### **Torque Driver**

- Driver for torque wrench (features tip holding function)
- Must conform to recommended torque, and be cautious of fracture if excessive torque is applied
- Fracture of torque driver can occur even on low torque if torque is applied after incomplete attachment
- When applying torque, insert vertically pressure (do not tilt)
- If tip is bent or stripped due to use for long period or excessive torque, it must be replaced

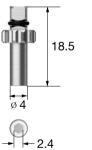


L Type	0.5 Slot	0.9 Hex	1.2 Hex	2.0 Int.Hex	2.7 Int.Hex
Ex.Short (8)	-	-	TRHD12MS	-	-
Short (13)	TRSD <b>05S</b>	TRHD <b>09S</b>	TRHD12S	TIHD <b>20S</b>	-
Middle (15)	-	-	TRHD12M	-	-
Long (20)	TRSD <b>05L</b>	TRHD <b>09L</b>	TRHD <b>12L</b>	TIHD <b>20L</b>	TIHD <b>27</b>
Ex.Long (25)	TRSD <b>05E</b>	-	TRHD12E	-	-

#### **O-ring Abutment Driver**

• Driver specialized for O-ring abutment

AORD



#### **Rigid Outer Driver**

- Driver specialized for rigid abutment
- Recommended tightening torque : 30Ncm

L Abutment D	Ø4.0	Ø4.5	Ø5.0	Ø6.0
Short (16.5)	ORDMS	ORD45S	ORDRS	ORDWS
Long (21.5)	ORDML	ORD45L	ORDRL	ORDWL



#### **Solid Abutment Driver**

- Driver specialized for solid abutment
- Apply torque after inserting groove of solid abutment into the driver part with triangle indication
- Recommended tightening torque : 30Ncm



#### Regular



#### Wide



#### **Excellent Solid Abutment Driver**

- Driver for excellent solid abutment
- Apply torque after inserting groove of excellent solid abutment into the driver part with triangle indication
- Recommended tightening torque : 30Ncm



#### Regular



Wide

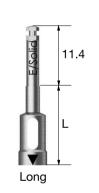
L Type	Square	Round
Short	ODSS	ODRS
Long	ODSL	ODRL



#### **Osstem Torque Driver**

- It is specialized to the Osstem torque so it may not match other low and high speed hand pieces
- Use after aligning triangle on the surface of driver and the groove or cross section of abutment
- Solid and excellent solid drivers are only compatible with ø 4.8
- 1.2 hex type L is 5





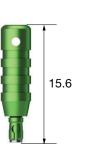
L Type	1.2 Hex	Rigid 4.0	Rigid 4.5	Rigid 5.0	Rigid 6.0	Solid	<b>Excellent Solid</b>
Short (10)	OTH12S	OTR40S	OTR45S	OTR50S	OTR60S	OTS48S	OTE48S
Long (15)	-	OTR40L	OTR45L	OTR50L	OTR60L	OTS48L	OTE48L

#### Path Probe for TS

- Check path and measure the height of gingiva after inserting TS fixture
- C = Connection

<u>C</u>	Mini	Regular	
	GIPAP-3016A	GIPAP-3516A	





#### Connector

• Connector that enables square driver for torque to connect to round-type torque wrench





#### **Driver Handle**

• Used by connecting with torque driver

TIDHC



#### **Dalbo Plus Screw Driver**

• Used to adjust retention capacity of Dalbo plus attachment

ODSD



#### Finishing Reamer Set

• Tool used to remove lip inside the cast after plastic coping is cast

**FRSC** 



#### Reamer user guide

- 1. Reamer tip of the same size as abutment is selected and connected to burn-out cylinder after casting
- 2. Hold casting body and turn reamer bite with consistent force
- 3. Ream until cutting stops occurring



#### **Reamer Bite**

• Cutting edge part that removes lip inside the cast after plastic coping is cast



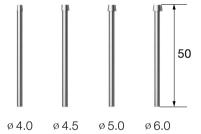
FRBC

#### Reamer Tip for Rigid Abutment

• Guide portion that enters inside when removing lip inside the cast after plastic coping is cast (for rigid abutment)

\ D	Ø4.0	Ø4.5	Ø5.0	Ø6.0	

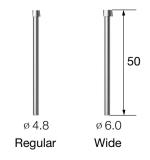
GSRFRT400 GSRFRT450 GSRFRT500 GSRFRT600

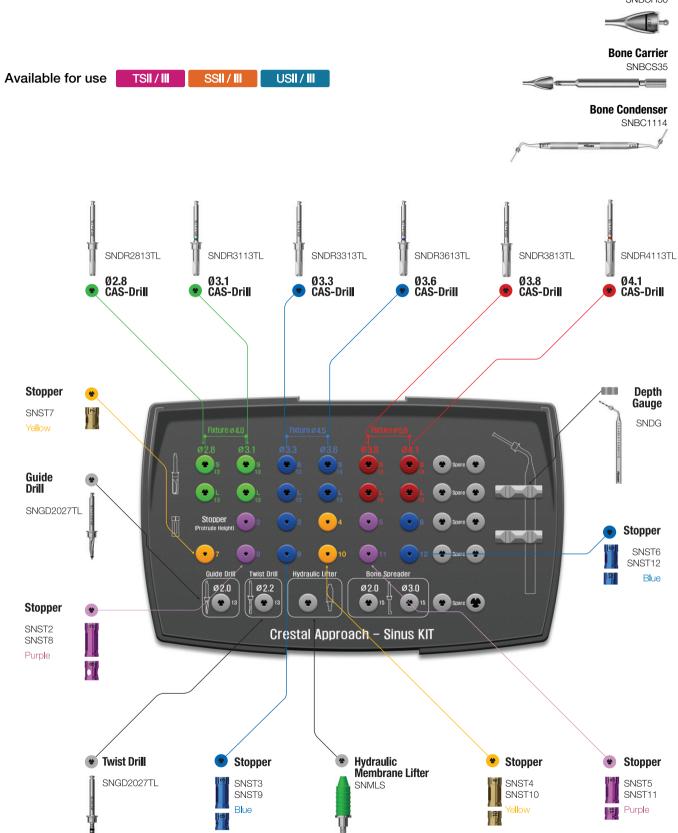


#### Reamer Tip for Solid, Excellent Solid Abutment

- Guide portion that enters inside when removing lip inside the cast after plastic coping is cast
- $\bullet$  Solid ø 6.0 type and excellent solid ø 4.8 type are interchangeable

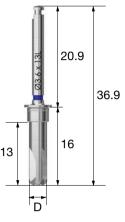
D	Ø4.8	Ø6.0
Solid	FRTS480	FRTS600
Ex.Solid	FRTE480	FRTE600





- Superior bone removing capability from low speed to high speed, collection of autogenous bone on low speed
- Safely advance to the floor of sinus with stoppers (1mm increment)
- Choosing final drill diameter based on bone density, regardless of straight or tapered fixture type

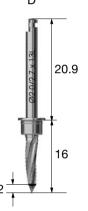
\ D Ø2.8 Ø3.1 Ø3.3 Ø3.6 Ø3.8 Ø4.1 SNDR2813TL SNDR3113TL SNDR3313TL SNDR3613TL SNDR3813TL SNDR4113TL



#### **Guide Drill**

- Drill used to mark fixture insertion location
- Used to remove side wall of extraction site with its side blade formation
- Marking on apex at 2mm





#### Ø2.2 Twist Drill

- Recommended to drill 2mm below the floor of sinus
- Use with stopper for safety
- Apex tip 0.6mm

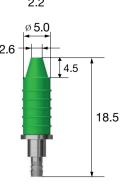
Ø2.2 \ D SNTD2213TL

# 20.9

#### Hydraulic Membrane Lifter Set

- Tool to augment maxillary sinus membrane using hydraulic pressure augmentation
- Used for all CAS-drill Ø 2.8 ~ Ø 4.1 drilling holes

Ø2.6/5.0 \ **D** SNMLS



#### Stopper

- The number on each stopper is the length of protruding apex when drill or tool is attached
- · Color code per length
- Number of uses of drill and stopper: 50 times



#### **Bone Carrier**

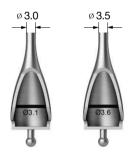
- Used to fill bone inside sinus
- · Fixes head part by tightening the back of body part
- Head(SNBCH30 or SNBCH35) can be replaced

SNBCS35

#### **Bone Carrier Head**

- Used to fill bone inside sinus
- SNBCH30: Use after drilling with CAS-drill Ø 3.1/Ø 3.3
- SNBCH35: Use after drilling with CAS-drill Ø 3.6/Ø 3.8/Ø 4.1
- Fill in bone material to the back of marking line on head part, separate gradually with bone condenser to fill inside of sinus completely, and repeat the procedure





#### **Bone Condenser**

- Tool to push in when filling bone material inside sinus
- SNBCH30: Uses Ø 1.1 / SNBCH35 : Uses Ø 1.4

\ D Ø1.1/1.4 SNBC1114



#### **Depth Gauge**

• Check the opening of the sinus floor and measure the depth of remaining bone

SNDG

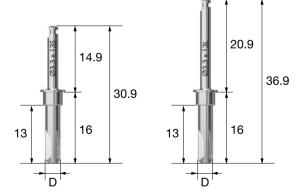


## CAS-KIT Plus (HCRSNKP)

Crestal Approach - Sinus KIT Plus (CAS-KIT plus) is a KIT that includes 6 short types of CAS-drill in addition to CAS-KIT

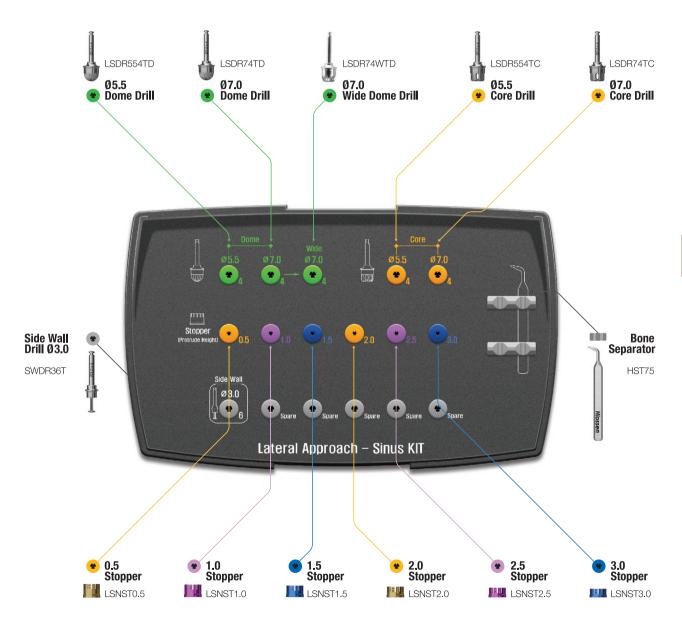
#### **CAS-Drill**

- When operating on maxillary sinus, forms conical bone lid and augments membrane safely
- Superior bone removing capability from low speed to high speed, collection of autogenous bone on low speed
- Safely advance to the floor of sinus with stoppers (1mm increment)
- Final drill diameter selected according to bone density, regardless of straight or tapered fixture type



L \ D	ø2.8	Ø3.1	Ø3.3	Ø3.6	Ø3.8	Ø4.1	
Short	SNDR2813TS	SNDR3113TS	SNDR3313TS	SNDR3613TS	SNDR3813TS	SNDR4113TS	
Long	SNDR2813TL	SNDR3113TL	SNDR3313TL	SNDR3613TL	SNDR3813TL	SNDR4113TL	

- · Lateral Approach Sinus KIT (LAS-KIT) is a surgical tool optimized for lateral approach when operating on maxillary sinus
- Dome drill and core drill, which can safely form lateral window, are included and equipped with diameters of ø 5.5 and ø 7.0, depending
- LAS drill is equipped with stopper(0.5mm increment), which enables adjustment of depth, and can safely form window without perforating membrane



#### Dome Drill

- Forms window while collecting part of autogenous bone
- Improved cutting force due to the combination of macro cutting edge and micro cutting edge
- Stopper attachment enables adjustment of depth
- Cutting speed: 1,200~1,500rpm
- \* Excessive over drilling damages membrane

L\D	Ø5.5	Ø7.0	Wide Ø7.0	
25	I SDR55/TD	I SDR7/ITD	I SDB74W/TD	





#### **Core Drill**

- Create bone lid on the lateral window
- Same cutting edge design as CAS-KIT to enhance the safety of procedure
- Cutting speed: 1,200~1,500rpm
- \* Excessive over drilling damages membrane

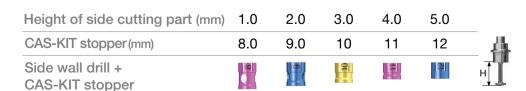
L \ D	Ø5.5	Ø7.0
25	LSDR554TC	LSDR74TC



#### Side Wall Drill

- Expands window after and trims the rough edges around the window
- Requires cutting at the 1mm upper part of the lowest part of drill blade
- Cutting speed: 1,500rpm





<sup>\*</sup> Used for all CAS-KIT stoppers and can adjust depth

# Bone Separator

• Removes bone lid inside core drill





#### Stopper

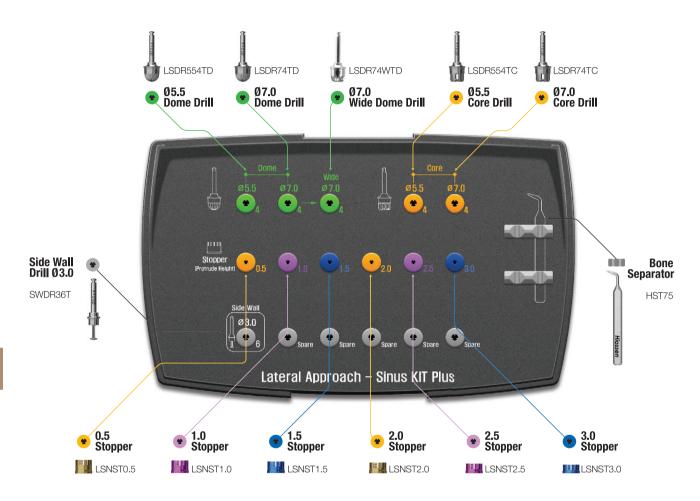
- The number on each stopper is the length of protruding apex when drill or tool is attached
- Color code per length
- Number of uses of drill and stopper: 50 times



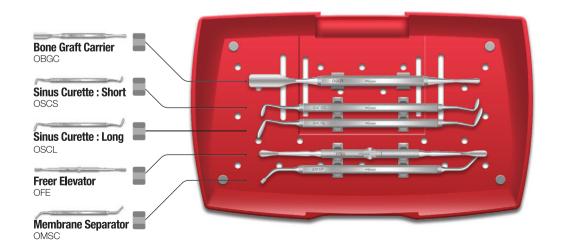
# 000

# LAS-KIT Plus (HLRSNKP)

• KIT A KIT that includes 6 types of sinus lift surgical tools in addition to LAS-KIT



#### **LAS-KIT Plus Lower Plate**



## ESSET KIT (HESEK)

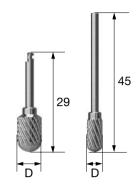
Base component **Torque Wrench** TQWCB Available for use TSII/III SSII/III USII/III Depth Gauge ODG OSSTEM\*IMPLANT 15 13 11.5#10 8.5 7 2D1808LC01 CERM70A 2D1810LC01 Crest Remover Twist Drill Saw RA231DC070 RA231DC100 58231DC204130 Mount Extension ASMEL Crest Remover CERM50A CERM50S ESSET KIT SET Drill I SET Drill III SET Drill IV SET Drill II SET314508 SET314510 SET314511 SET223608 SET223610 SET162808 SET274108 SET274110 SET162810 SET274111 SET162811 SET223611

# **ESSET KIT** Surgical Instruments

#### **Crest Remover**

- Removes the narrowed bone width horizontally, and marks the fixture insertion location
- Recommended speed for angled type : 1,200~1,500rpm
- Recommended speed for straight type: 15,000~30,000rpm

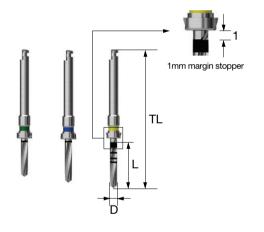
L \ D	Ø5.0	Ø7.0
29	CERM50A	CERM70A
45	CERM50S	=



#### **Twist Drill**

- Marks fixture insertion location
- Controls depth with built-in stopper
- Recommended speed: 1,200~1,500rpm

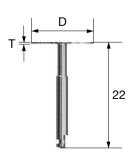
L	TL D	Ø1.8
8.5	33	2D1808LC01
10	34.5	2D1810LC01
11	36	2D1811LC01



#### Saw

- Used to split the bone from the crest
- $\bullet$  Cut vertically and incise the whole part from mesial  $\rightarrow$  distal direction
- Recommended speed: 1,200~1,500rpm
- T = Thickness

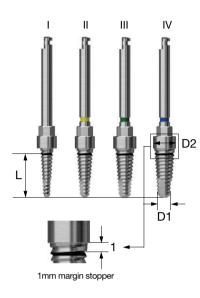
<b>T</b> \	Ø7.0	Ø10.0	Ø13.0
0.3	RA231DC070	RA231DC100	58231DC204130



#### **SET Drill**

- Gradually expand the bone width
- SET drill is sequentially used according to the diameter of fixture  $\mathsf{F4.0}:\mathsf{I}\to\mathsf{II}\to\mathsf{III}\,/\,\mathsf{F4.5}:\mathsf{I}\to\mathsf{II}\to\mathsf{III}\to\mathsf{IV}$
- Recommended speed : 25~35rpm

L Type	I	II	Ш	IV
D1/D2	Ø1.6/2.8	Ø2.2/3.6	Ø2.7/4.1	Ø3.1/4.5
8.5	SET <b>162808</b>	SET <b>223608</b>	SET <b>274108</b>	SET <b>314508</b>
10	SET162810	SET <b>223610</b>	SET <b>274110</b>	SET <b>314510</b>
11.5	SET <b>162811</b>	SET <b>223611</b>	SET <b>274111</b>	SET <b>314511</b>



#### **Mount Extension**

• Used to apply torque in manual mode in the process of inserting /removing SET drill into alveolar bone

ASMEL



#### **Torque Wrench**

• Used to apply torque to SET drill

TQWCB



#### **Depth Gauge**

• Used to remove excessive torque by turning hex part of SET drill, using open wrench, in case hand-piece does not move when fused with alveolar bone in the process of removing SET drill





Base component **Depth Gauge** 

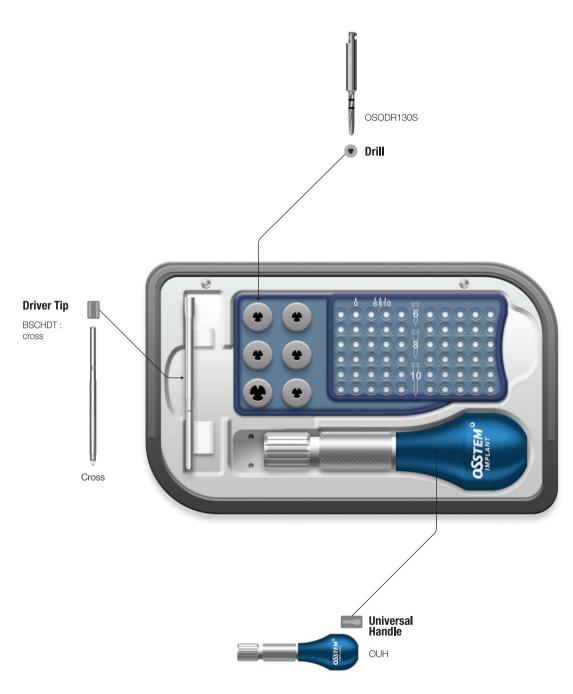
Available for use OS

OSODR130S OSODR150S OSMDA: hex, short OSSMDA: small head, short Machine Driver **Driver Tip** OSDT: hex, long OSSDT: small head, long Small Hex head Handle + Hand Driver Universal Handle TIDHC + OSTDA

063

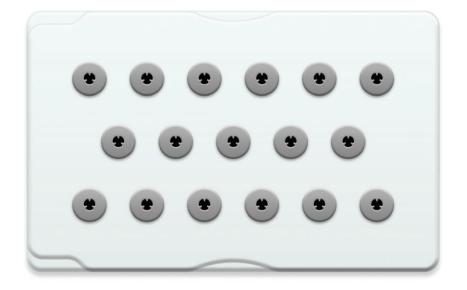
# Bone Screw KIT (BSSTKT)

Available for use BS



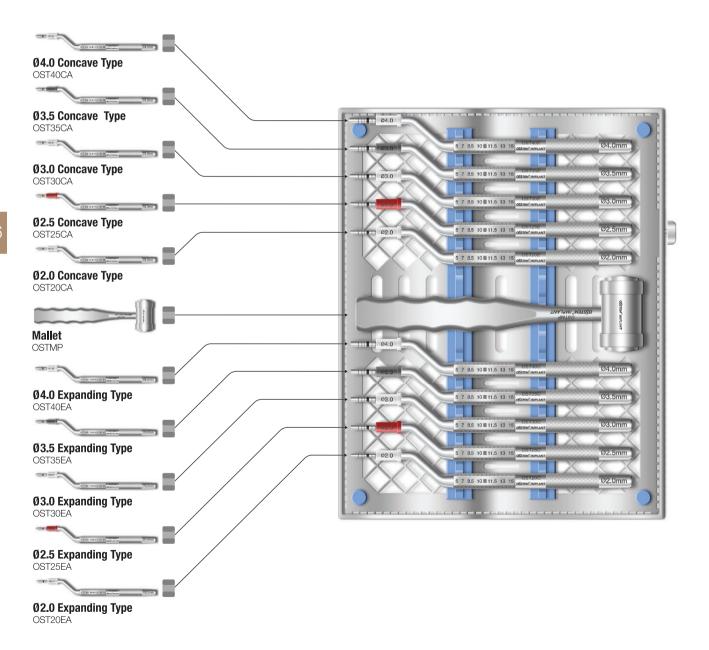
# Custom KIT (OCTK)

- KIT for disinfecting only part of operation tools or storing extra tools
- 3 extra types of rubber (large, medium, small) are included for user's preference
- Features materials that can be sterilized (132  $\ensuremath{\mathfrak{c}}$  , 15 minutes)



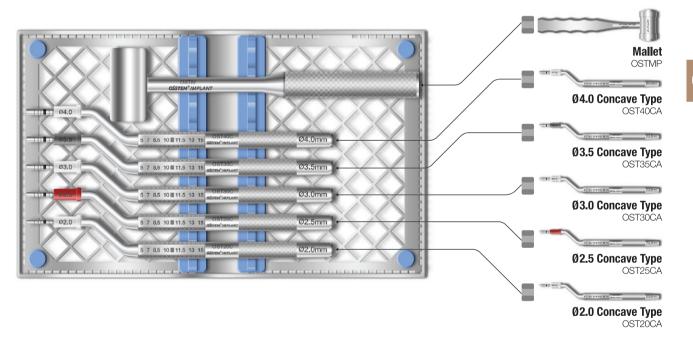
## Osteo KIT (OSTK)

- KIT Concave osteotome: KIT used for maxillary sinus floor augmentation to increase the amount of alveolar bone that can be used within maxillary molar area vertically
- KIT Expanding osteotome: KIT used to increase initial stability of implant by preserving bone and densifying trabecular bone to compensate for bone removal in poor bone condition
- Features stopper for adjusting depth of procedure



# Osteotome KIT (AOST)

- KIT KIT for maxillary sinus floor augmentation to increase the amount of alveolar bone that can be used within maxillary molar area vertically
- Only includes concave type
- Features stopper for adjusting depth of procedure



· Sinus procedure tool for lateral approach

• Components (5 types)

- Freer elevator : OFE

- Bone graft carrier : OBGC

- Membrane separator (circle type) : OMSC

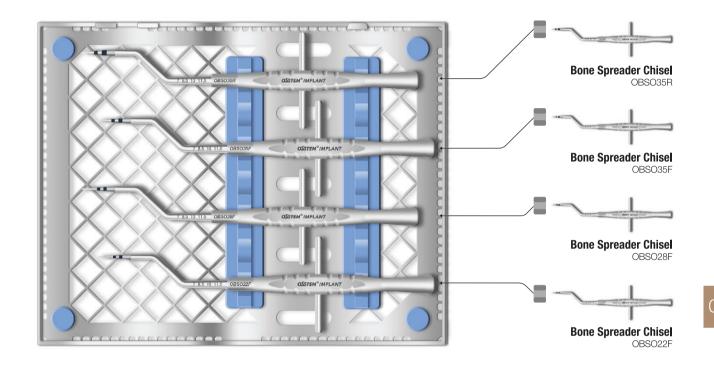
- Sinus currette-short : OSCS

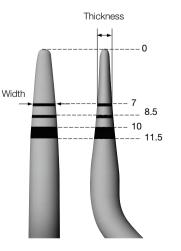
- Sinus currette-long : OSCL

# Sinus Currette : Short Sinus Currette : Long Membrane Separator (Circle Type) **Freer Elevator Bone Graft Carrier**

# Bone Spreader KIT (OBSOK)

- KIT used to expand the ridge of narrowed alveolar bone
- Offset type for convenient procedures
- Components (4 types)
- OBSO22F, OBSO28F, OBSO35F, OBSO35R





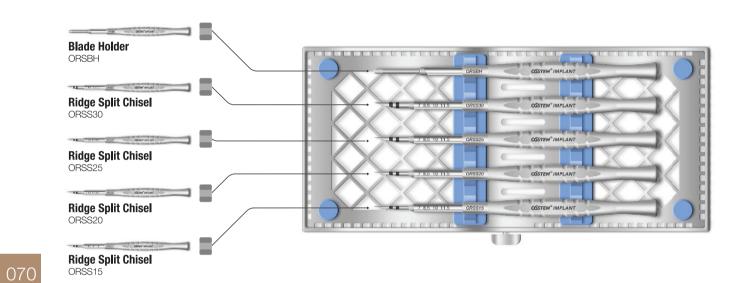
- Use for alveolar bone expansion
- Offset type for easy operation
- Depth marking corresponding to the implant length.

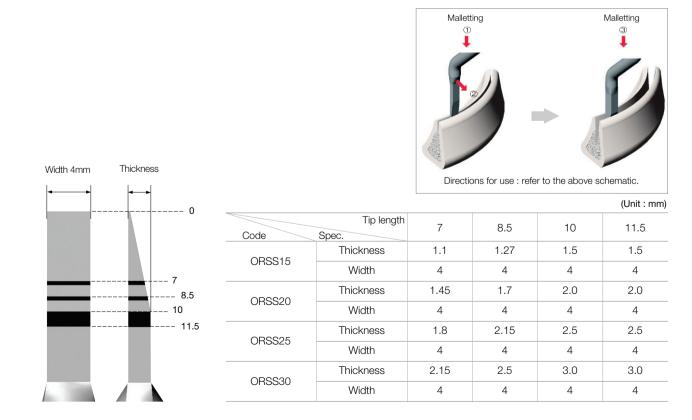
Malletting	
Directi	n for use : refer to the above schematic

				(Unit : mm)
Tip length Spec.	7	8.5	10	11.5
Thickness	1.15	1.3	1.45	1.6
Width	2.1	2.2	2.2	2.2
Thickness	1.15	1.3	1.45	1.6
Width	2.65	2.8	2.8	2.8
Thickness	1.3	1.45	1.6	1.8
Width	3.3	3.5	3.5	3.5
Thickness	1.85	2.1	2.3	2.55
Width	3.3	3.5	3.5	3.5
	Spec. Thickness Width Thickness Width Thickness Width Thickness Width Thickness	Spec.         7           Thickness         1.15           Width         2.1           Thickness         1.15           Width         2.65           Thickness         1.3           Width         3.3           Thickness         1.85	Spec.         7         8.5           Thickness         1.15         1.3           Width         2.1         2.2           Thickness         1.15         1.3           Width         2.65         2.8           Thickness         1.3         1.45           Width         3.3         3.5           Thickness         1.85         2.1	Spec.     7     8.5     10       Thickness     1.15     1.3     1.45       Width     2.1     2.2     2.2       Thickness     1.15     1.3     1.45       Width     2.65     2.8     2.8       Thickness     1.3     1.45     1.6       Width     3.3     3.5     3.5       Thickness     1.85     2.1     2.3

# Ridge Split KIT- Straight (ORSSK)

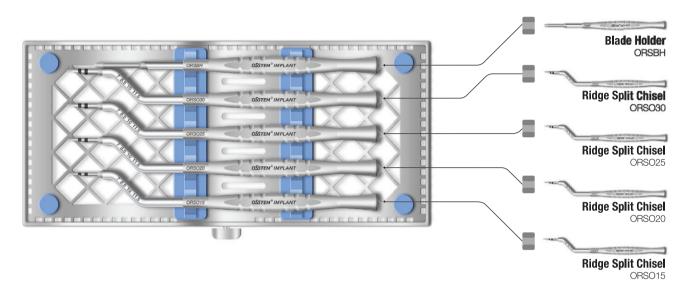
- Chisel: KIT used to expand the ridge of narrowed alveolar bone
- Blade holder: When it is difficult to incise bone using bur in case of poor bone condition, malletting can be done by attaching #15 blade
- Components
- Ridge split chisel: ORSS15, ORSS20, ORSS25, ORSS30
- Blade holder : ORSBH

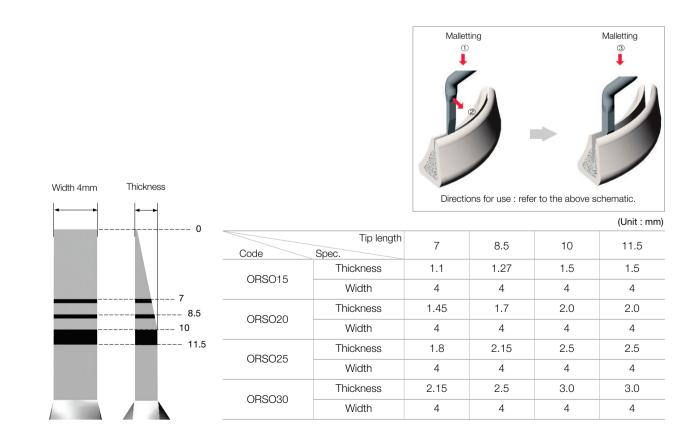




# Ridge Split KIT- Offset (ORSOK)

- Chisel: KIT used to expand the ridge of narrowed alveolar bone
- Blade holder: When it is difficult to incise bone using bur in case of poor bone condition, malletting can be done by attaching #15 blade
- Components
- Ridge split chisel: ORSO15, ORSO20, ORSO25, ORSO30
- Blade holder : ORSBH



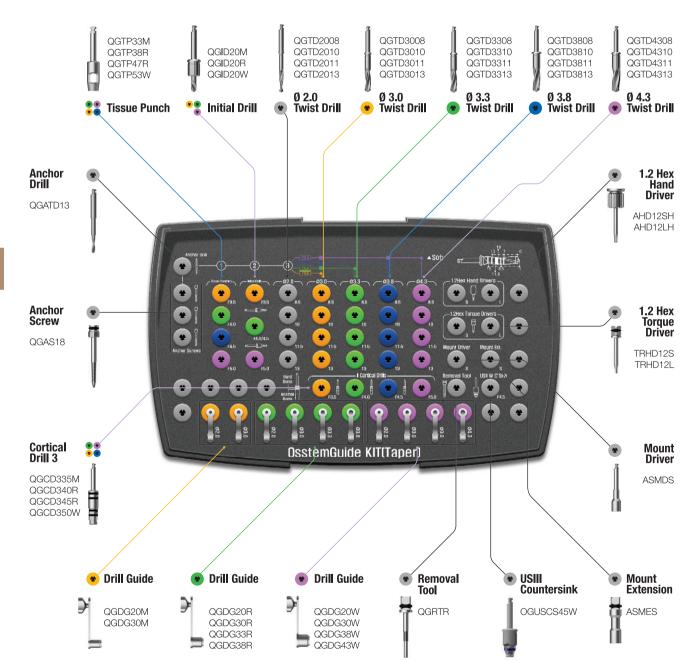


and Hiossen implant's tapered type implant system

**Ratchet Wrench** 

- lpha If planned implant operation of 7mm or 15mm lengths, applicable drills can be purchased additionally for such

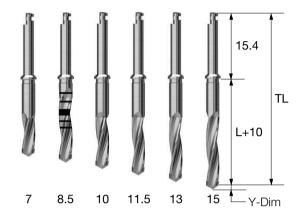
· osstem과 hiossen implant의 tapered type implant system OsstemGuide operation-enabled implant: Osstem



## OsstemGuide KIT Components

#### OsstemGuide Twist Drill

- Includes stopper conforming to OsstemGuide drill guide
- · Applied design that does not damage gingiva even when side blade of the drill contacts gingiva in flapless operations
- · Conforming to the length of the attachment of surgical guide and drill guide, designed to be 10mm longer compared to regular procedure drills
- 8.5mm drill is laser marked and can be used in regular procedures that do not use OsstemGuide
- \* Codes indicated are products included in OsstemGuide KIT

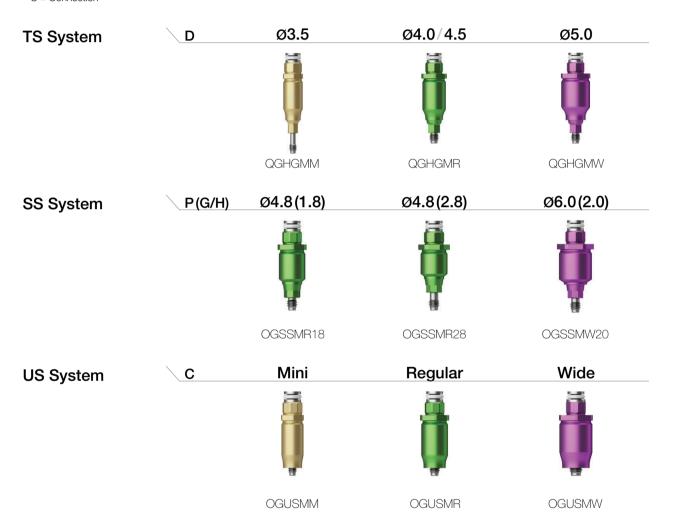


L(TL) <u>D</u>	Ø2.0	Ø3.0	Ø3.3	Ø3.6	Ø3.8	Ø4.1	Ø4.3	Ø4.6
7.0 (32.4)	QGTD <b>2007</b>	QGTD <b>3007</b>	QGTD <b>3307</b>	QGTD <b>3607</b>	QGTD <b>3807</b>	QGTD <b>4107</b>	QGTD <b>4307</b>	QGTD <b>4607</b>
8.5 (33.9)	QGTD <b>2008*</b>	QGTD <b>3008*</b>	QGTD <b>3308*</b>	QGTD <b>3608</b>	QGTD <b>3808*</b>	QGTD <b>4108</b>	QGTD <b>4308*</b>	QGTD <b>4608</b>
10 (35.4)	QGTD <b>2010*</b>	QGTD <b>3010*</b>	QGTD <b>3310*</b>	QGTD <b>3610</b>	QGTD <b>3810*</b>	QGTD <b>4110</b>	QGTD <b>4310*</b>	QGTD <b>4610</b>
11.5 (36.9)	QGTD <b>2011*</b>	QGTD <b>3011*</b>	QGTD <b>3311*</b>	QGTD <b>3611</b>	QGTD <b>3811*</b>	QGTD <b>4111</b>	QGTD <b>4311</b> *	QGTD <b>4611</b>
13 (38.4)	QGTD <b>2013*</b>	QGTD <b>3013*</b>	QGTD <b>3313*</b>	QGTD <b>3613</b>	QGTD <b>3813*</b>	QGTD <b>4113</b>	QGTD <b>4313*</b>	QGTD <b>4613</b>
15 (40.4)	QGTD <b>2015</b>	QGTD <b>3015</b>	QGTD <b>3315</b>	QGTD <b>3615</b>	QGTD <b>3815</b>	QGTD <b>4115</b>	QGTD <b>4315</b>	QGTD <b>4615</b>

# OsstemGuide KIT Components

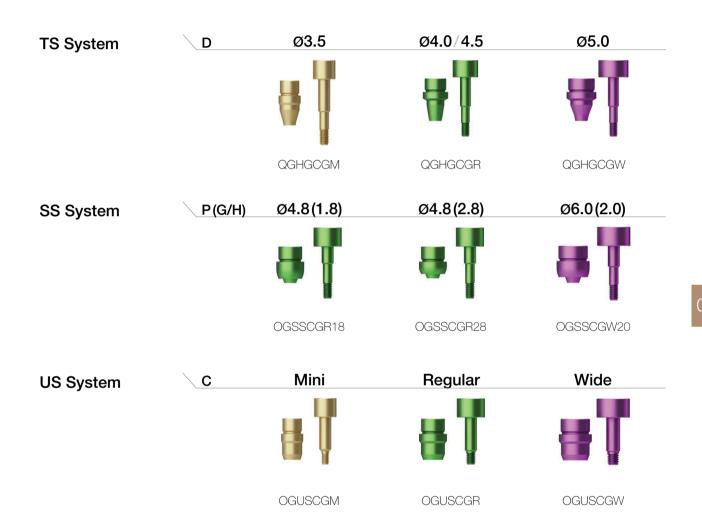
#### OsstemGuide Mount

- Used to insert implant by attaching to fixture as a mount for OsstemGuide procedures
- Used in accordance with the color of the sleeve attached to surgical guide
- P = Platform
- C = Connection

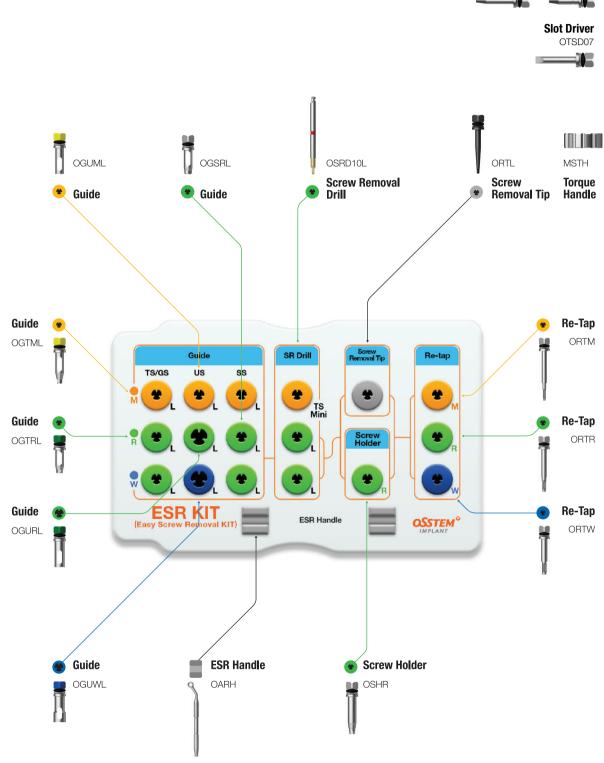


#### OsstemGuide Cylinder (Pin)

- Component for making dentures for OsstemGuide procedures
- Can make plaster cast by connecting to existing fixture lab analog
- Use in accordance with the color of the sleeve attached to OsstemGuide template



#### Base component **Abutment Removal Tip** OARTML



# **ESR KIT** Surgical Instruments

#### **Reverse Driver**

- Tool used to remove fractured screw
- Must be used with a guide that fits the fixture
- When red marking indication of the reverse driver is displayed on the guide attached to fixture, use screw holder to remove fractured screw
- For hand mode / Rotating direction: Reverse / Number of use: 10 times
- F = Fixture

L\F	Mini	Regular/Wide
Short	-	ORVDRS
Long	ORVDML	ORVDRL



#### Screw Removal Drill (SR Drill)

- Used to remove in order to form a hole in the fractured screw
- Must remove cut chip by suction after attaching guide and spraying water on window
- Short and long specifications suitable for different intermaxillary spaces
- Drill until the red band on the grip part cannot be seen
- Recommended speed: 1,200~1,500rpm in reverse
- Number of uses: 5
- \* Must be used as attached to guide / Do not apply excessive vertical force / Do not immerse in hydrogen peroxide
- F = Fixture

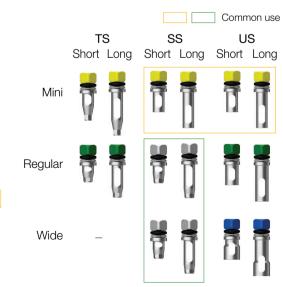


L \ F	Mini (GS/TS)	Regular/Wide(GS/TS/SS/US)
Short	OSRD08S	OSRD10S
Long	OSRD08L	OSRD10L

#### Guide

- Guide used for centering and preventing wobble of reverse driver, screw removal drill (SR drill), and re-tap
- Short and long used according to intermaxillary spaces
- Used in combination with ESR handle
- F = Fixture

F Type	TS (Hex)		SS (Octa)		US (Hex)	
	Short	Long	Short	Long	Short	Long
Mini	OGTMS	OGTML	OGUMS	OGUML	OGUMS	OGUML
Regular	OGTRS	OGTRL	OGSRS	OGSRL	OGURS	OGURL
Wide	-	-	OGSRS	OGSRL	OGUWS	OGUWL



## **ESR KIT** Surgical Instruments

#### **Torque Handle**

• Used by combining to the attaching part of torque driver, etc. and turning by hand



MSTH

#### Screw Removal Tip (SR Tip)

- Removes fractured screw by turning screw removal tip in reverse in the hole of fractured surface of the screw formed by screw removal drill (SR drill)
- Rotating direction: Reverse





#### **Screw Holder**

- If part of fractured screw is protruding, remove in combination with screw holder
- $\bullet$  Colors assigned for easily distinguishable specifications
- F = Fixture

\ F	Mini	Regular	Wide	
	OSHM	OSHR	OSHW	



#### Re-tap

- Tool that restores the initial state of thread when the thread inside fixture is damaged and screw cannot be attached
- Using torque wrench or ratchet wrench, forms thread by hand mode
- F = Fixture

\ F	Mini (M1.6)	Regular (M2.0)	Wide (M2.5)
	ORTM	ORTR	ORTW



#### **ESR Handle**

• Used to stabilize by connecting guide



Regular

Mini

#### **Abutment Removal Tip**

- Used in case where part of abutment and mount are fractured and jammed and left over in the fixture
- Combine to the fractured abutment hole, turn counterclockwise (in reverse), and, when fixed tightly, use forceps or other tools to sway and remove
- In case of mini, if hex of screw causes slips, use to remove screw
- After attaching to hex with slips and turning counterclockwise, combines with screw and removes
- \* Mini: Can remove screw when hex causes slips
- F = Fixture

\ F	Mini	Regular
	OARTML	OARTRL

#### **Transfer Abutment Separate Tool**

- Used to remove jamming due to contact between fixture and morse taper of non-hex type transfer abutment
- The end of body is for mini; regular can be inserted to the 2nd groove for common use
- Remove abutment screw, insert separate tool body into the hole inside abutment, tighten clockwise with driver, and align body and abutment for easy separation. However, if there is difficulty separating, attach ratchet wrench and use

Driver	Body	Set
TASD	TASB	TAST



#### **Slot Driver**

 $\bullet$  Tool used after forming slot by  $\varnothing$  0.8 bur when driver cannot apply force due to the damage in hex of healing abutment, cover screw, and abutment screw





FRSW50F

USII / III

Available for use TSII/III SSII/III

FRSDM23

FRSDR25

FRSDW30

**OSSTEM**°

Remover

FRBM35S

FRBM35L

FRBR40S

FRBR40L

FRBW50S FRBW50L

**EFR KIT** 

FRSR40US

FRSW50US

Torque Extension

OTE

FRSR40

FRSW50

# **Remover Body**

- Tool that can be connected to remover screw and apply loosening torque to fixture
- Use accordingly with regards to diameter of the fixture to be removed
- F = Fixture

\ F	Mini	Regular	Wide
Short	FRBM35S	FRBR40S	FRBW50S
Long	FRBM35L	FRBR40L	FRBW50L

# **EFR KIT** Surgical Instruments

#### **Remover Screw**

- Serves as supporting structure for connecting and stabilizing to fixture and enabling turning remover body in reverse
- Use accordingly with regards to type and diameter of the fixture to be removed (TS/SS/US, normal/fracture)
- Use fracture when removing fractured fixture
- Recommend tightening torque : 100Ncm
- F = Fixture
- P = Platform



#### **Screw Driver**

- Driver that can connect/fix remover screw to fixture
- Recommend tightening torque : remover screw 100Ncm
- F = Fixture













OTE

- Used to tighten screw driver and remove fixture using remover body
- Can apply maximum torque of 400Ncm (scale marks on every 100Ncm)
- Apply torque after pulling bar to set the center of the bar to the torque value to be applied
- · After use, store after washing and sterilizing

TW400B



• Wrench used to remove fixture from remover body after removing fixture

FRDFE



# **Osstem Implant Key References**

#### Clinic

No.	Title	Reference / Author
1	Retrospective clinical study of new tapered design implants in maxillary posterior areas	Oral Biology Research. 2013; 37(2):105-111 / Young-Kyun Kim et al.
2	A randomized controlled clinical trial of two types of tapered implants on immediate loading in the posterior maxilla and mandible	Int J Oral Maxillofac Implants. 2013 Nov-Dec;28(6):1602-11 (IF 1.908) / Young-Kyun Kim et al.
3	Bony window repositioning without using a barrier membrane in the lateral approach for maxillary sinus bone grafts: clinical and radiologic results at 6 months.	Int J Oral Maxillofac Implants. 2012 27:211-217 / Chang-Joo Park et al.
4	A relaxed implant bed: implants placed after two weeks of osteotomy with immediate loading: a one year clinical trial.	J Oral Implantol. 2012 Apr;38(2):155-64  / Bansal J et al.
5	A multicenter prospective study in type IV bone of a single type of implant	Implant Dent. 2012 Aug;21(4):330-34  / Su-Gwan Kim et al.
6	Comparison of clinical outcomes of sinus bone graft with simultaneous implant placement: 4-month and 6-month final prosthetic loading	Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2011 Feb;111(2):164-9 / Young-Kyun Kim et al.
7	Prospective study of tapered resorbable blasting media surface implant stability in the maxillary posterior area	Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2012 Feb 28. [Epub ahead of print] / Young-Kyun Kim et al.
8	A 1-year prospective clinical study of soft tissue conditions and marginal bone changes around dental implants after flapless implant surgery	Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2011 Jan;111(1):41-6 / <b>Byung-Ho Choi et al.</b>
9	Evaluation of peri-implant tissue in nonsubmerged dentallmplants: a multicenter retrospective study	Clin Implant Dent Relat Res. 2011 Dec;13(4):324-9 / Young-Kyun Kim et al.
10	A relaxed implant bed: implants placed after two weeks of osteotomy with immediate loading: a one year clinical trial	J Oral Implantol. 2012 Apr;38(2):155-64  / Bansal J et al.
11	A comparison of implant stability quotients measured using magnetic resonance frequency analysis from two directions: prospective clinical study during the initial healing period	Clin. Oral Impl. Res. 2010;21(6):591-7  / Jong-Ho Lee et al.
12	A short-term clinical study of marginal bone level change around microthreaded and platform-switched implants	J Periodontal Implant Sci. 2011;41:211-217 / Kyoo-Sung Cho et al.
13	A randomized clinical one-year trial comparing two types of nonsubmerged dental implant	Clin. Oral Impl. Res. 2010;21(2):228-36  / Jong-Ho Lee et al.
14	Short-term, multi-center prospective clinical study of short implants measuring less than 7mm	J Kor Dent Sci. 2010;3(1):11-6 / Young-Kyun Kim et al.
15	Evaluation of peri-implant tissue in nonsubmerged dentallmplants: a multicenter retrospective study	Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2009;108(2):189-95 / Young-Kyun Kim et al.

16	Evaluation of sinus bone resorption and marginal bone loss after sinus bone grafting and implant placement	Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2009;107:e21-8 / Young-Kyun Kim et al.
17	Evaluation of peri-implant tissue response according to the presence of keratinized mucosa	Oral Surg Oral Med Oral Pathol OralRadiol Endod. 2009;107:e24-8 / Young-Kyun Kim et al.
18	Study on radiographic evaluation of marginal bone loss around osseonintegrated implant after functional loading	J Kor Oral Maxillofac Surg. 2009;35:240-7 <b>/ Young - Deok, Chee</b>
19	Four-year survival rate of RBM surface internal connection non- submerged implants and the change of the peri-implant crestal bone	J Korean Assoc Maxillofac Plast Reconstr Surg. 2009;31(3):237-42 / Sok-Min Ko et al.

#### Biology

Didiogy		
No.	Title	Reference / Author
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4	Effects of soft tissue punch size on the healing of peri-Implant tissue in flapless implant surgery	Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2010;109:525-30 / <b>Byung-Ho Choi et al.</b>
5	Morphogenesis of the peri-implant mucosa: a comparison between flap and flapless procedures in the canine mandible	Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2009;107:66-70 / <b>Byung-Ho Choi et al.</b>
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7	Influence of abutment connections and plaque control on the initial healing of prematurely exposed implants: an experimental study in dogs	J Periodontol. 2008;79(6):1070-4 / <b>Byung-Ho Choi et al.</b>
8	Er:YAG laser irradiated implant surface observation with scanning electron microscopy	J Korean Assoc Maxillofac Plast Reconstr Surg. 2008;30(6):540-5 / Seung-Ki Min et al.
9	The effect of surface treatment of the cervical area of implant on bone regeneration in mini-pig	J Kor Oral Maxillofac Surg. 2008;34:285-92 / <b>Hong-Ju Park et al.</b>

User Manual 2013.02 ver.4.0 "Disposable, re-use prohibited, medical appliance"

10	Histologic and histomorphometric evaluation of early and immediately loaded implants in the dog mandible	J Biomed Mater Res A. 2008;86:1122-7 / Su-Gwan Kim et al.
11	Effects of different depths of gap on healing of surgically created coronal defects around implants in dogs: a pilot study	J Periodontol. 2008;79(2):355-61  / June-Sung Shim et al.
12	Comparative study of removal effect on artificial plaque from RBM treated implant	J Korean Assoc Maxillofac Plast Reconstr Surg. 2007;29(4):309-20 / <b>Hee-Jyun Oh et al.</b>

#### **Biomechanics**

No.	Title	Reference / Author
1	Evaluation of the correlation between insertion torque and primary stabilityof dental implants using a block bone test	J Periodontal Implant Sci. 2013;43:41-46 / Ki-Tae Koo et al.
2	Self-cutting blades and their influence on primary stability of tapered dental implants in a simulated low-density bone model: a laboratory study	Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2011;112:573-580 / Young-Jun Lim et al.
3	Variation in the total lengths of abutment/implant assemblies generated with a function of applied tightening torque in external and internal implant-abutment connection	Clin. Oral Impl. Res. 2011;22:834-9 / Ki-Seong Kim et al.
4	Effect of impression coping and implant angulation on the accuracy of implant impressions: an in vitro study	J Adv Prosthodont. 2010;2(4):128-33  / Seung-Geun Ahn et al.
5	Influence of implant diameter and length changes on initial stability	J Kor Acad Prosthodont. 2009;47:335-41 / Chang-Mo Jeong et al.
6	Mechanical strength of zirconia abutment in implant restoration	J KASFO. 2009;25(4):349-60 / Young-Chan Jeon et al.
7	Heat transfer to the implant-bone interface during preparation of zirconia/alumina complex abutment	Int J Oral Maxillofac Implants. 2009;24(4):679-83 / Yong-Geun Choi et al.
8	Fatigue fracture of different dental Implant system under cyclic loading	J Kor Acad Prosthodont. 2009;47(4):424-34 / In-Ho Cho et al.
9	Effect of tightening torque on abutment-fixture joint stability using 3-dimensional finite element analysis	J Kor Acad Prosthodont. 2009;47(2):125-35 / Chang-Mo Jeong et al.
10	The effect of various thread designs on the initial stability of taper implants	J Adv. Prosthodont. 2009;1:19-25 / Young-Jun Lim et al.
11	Influence of tungsten carbide/carbon coating of implant-abutment screw on screw loosening	J Kor Acad Prosthodont. 2008;46(2):137-47 / Chang-Mo Jeong et al.

#### Osstem Implant product information

Osstem Implant dental fixtures and products are manufactured using medical grade Titanium. Osstem Implant abutments, denture material and surgical tools are only compatible with Osstem fixtures. For more detailed information about each product, please refer to the user manuals, catalogs or please visit our corporate website (www.osstem.com). Please check all product labels for product codes. specifications, manufactured dates and expiration dates.

#### Sterility

Fixtures, cover screws and healing abutments are cleansed and gamma-sterilized. These products are disposable sterile medical appliances, and must be used in a sterile field. If the package is damaged or has expired, it must not be used. If the product package has been opened but not used, there is a risk of contamination and it is not recommended that the product resterilized and therefore should be discarded.

#### Storage conditions

Store all products in a dry place at room temperature (30oC). Avoid direct sunlight.

#### General precautions

Dental implant surgery require proper and formal training and education.

#### Cautions before dental surgery

Before dental implant surgery, a through patient health history review, oral and radiographic examinations must be completed to determine bone quality and proper treatment planning.

#### Cautions during dental implant surgery

Osstem Implant System are for single or two stage dental implant procedures. In order to minimize damage to the patient's tissue, special attention to temperature, surgical lesions and eliminating all sources of contamination and infection are needed. Any deviation from the standard surgical protocol increases the risk of failure. When inserting the dental implant, sufficient cooling must be introduced (water or saline) and excessive torque (greater than 55Ncm) can result in dental implant fracture or possibly bone necrosis. Placing dental implants greater than 300 has a very high risk of implant fracture. Direct pressure to the fixture should be avoided right after surgery. Immediate or delayed loading of the fixture must be determined after proper examination of the patient's bone condition and initial stability after placement.

"Mini" implants or implants with a diameter less than 4.0mm are not recommended for the posterior region.

Ultra-wide dental implants are recommended for the posterior region but should not be used with angled abutments. If considering an Ultra-wide dental implant, proper radiographic evaluation must be made to determine the bone mass and potential anatomical restrictions. Short dental implants (diameter greater than 5mm and shorter than 7mm) are only used for the posterior region. The clinician must

thoroughly evaluate the patient's condition and recognized the following issues: 1) bone loss due to peri-implantitis. 2) changes to the dental implant condition. 3) proper osseointegration determined by a x-ray examination. If there is movement or if there is bone loss more than 50% removing the dental implant should be a course of action. Wide diameter implants should be performed as a two stage surgery. Sufficient healing time must be given before splinting with other implants or when loading. Immediate loading is not recommended.

Take care when placing dental implants with HA coating. The coating is prone to cracking or fracturing under high torque, therefore hard bone should be avoided and be inserted under 35Ncm of force.

CA and SOSI treated dental implants are encased in a solution to prevent the chemically treated surface from reacting with air. After removing the CA or SOSI dental implant, place the implant within 15 minutes to avoid degradation of the surface.

#### Warning

Improper patient selection and treatment planning may result in dental implant failure or loss of bone. Osstem Implants must not be used for purpose other than prescribed and must not be alter in any shape or form. Implant movement, bone loss, and chronic infections can result in implant failure.

#### Indications

Osstem Implant Systems are designed to replace a patient's tooth or teeth. They can be placed in both the maxillary and submaxillary alveolar bones and after full osseointegration can be restored prosthetically. Osstem Implant Systems offer both temporary and final prosthesis and can be retained by cement, screw, overdenture or fixed bridge.

#### Side effects

There are possible side effects after implant surgery (lost of implant stability, damage to dentures). These issues can be due to the lack of bone or poor bone quality, an infection, patient's poor oral hygiene, non compliance with post op procedures, movement of the implant, degradation of surrounding tissue, or improper placement of the dental implant.

#### Contraindications

Patients with the following contraindications are not eligible for dental implants:

- Patients with blood clotting issues or issues with wound healing.
- Diabetic natients
- Patients that smoke or drink excessively
- Patient's with compromised immune systems due disease or chemo and radiation therapy.
- Patients with an oral infection or inflammation (improper oral hygiene or teeth
- Patients with an incurable malocclusion/arthropathia and insufficient arch space

203, Geoje-daero, Yeonje-gu, Busan, Korea TEL 82-51-850-2500 FAX 82-51-861-4693







(8)

Do not reuse

Catalogue number

LOT

















Date of manufacture





Do not resterilize

Caution, Consult accompanying documents

Manufacturer: Osstem Implant Co., Ltd.



#### DEUTSCHE OSSTEM GmbH.

Mergenthalerallee 25 65760 Eschborn, Germany +49-(0)6196-777-550

#### Storage condition

Dry place at room temperature



device to sale by or on the order of a dentist

