MegaGen Kit

AnyRidge Kit

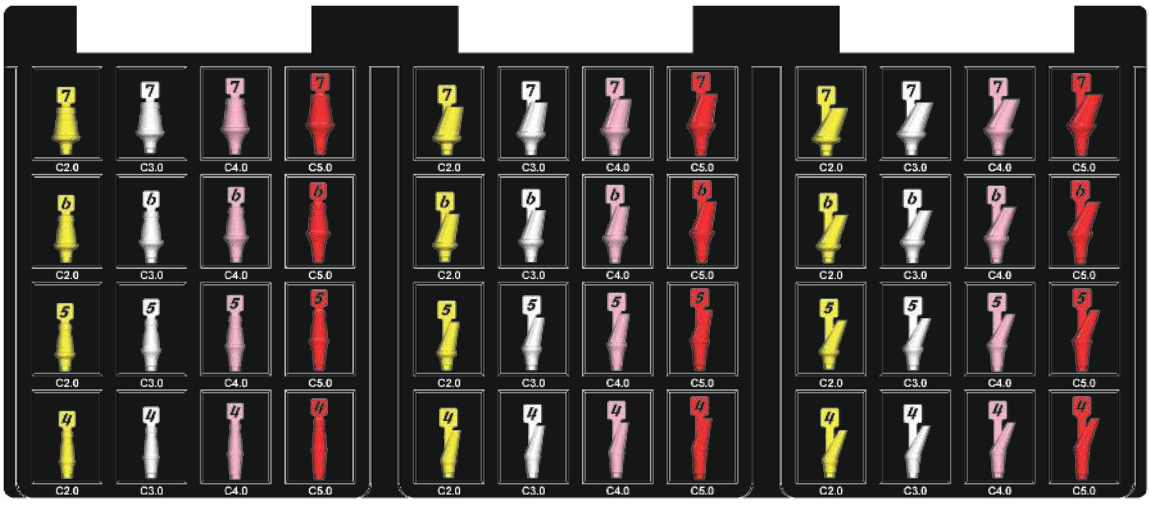
I. AnyRidge Abutment Selection Guide Kit

Ref.C

KANASG3000

For the best selection of abutments.

- Colors indicate different cuff heights (Yellow : 2mm, White : 3mm, Pink : 4mm, Red : 5mm).
- Store 2 pieces in each container.
- Autoclavable to sterilize.



Straight type
(EZ Post & Solid Abutment select)

Angle type(15°)
(Angled Abutment select)

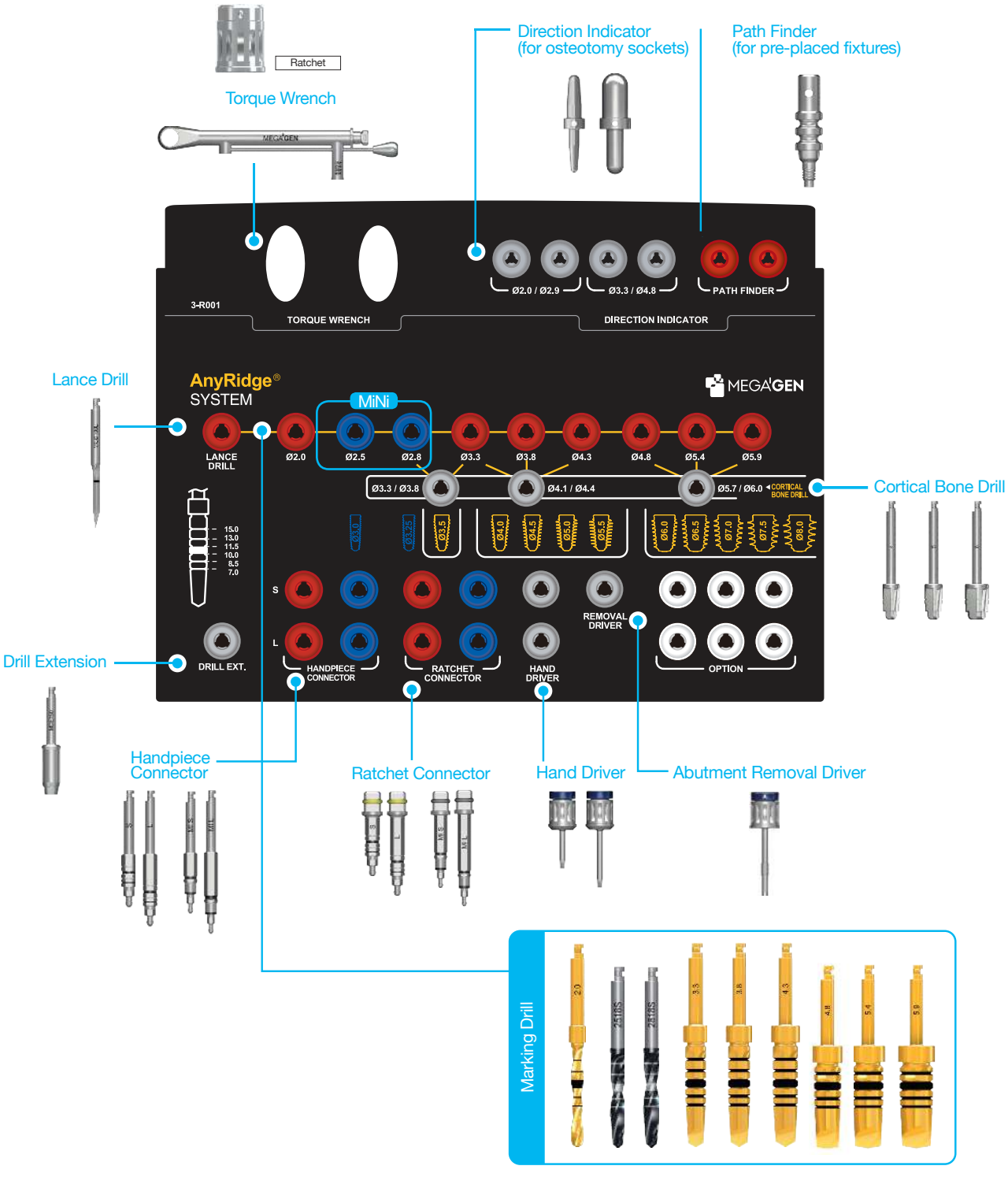
Angle type(25°)
(Angled Abutment select)

Product coordinator : Hyun Wook An, rnd_dir@imegagen.com

II. AnyRidge Surgical Kit : Standard Type

Ref.C

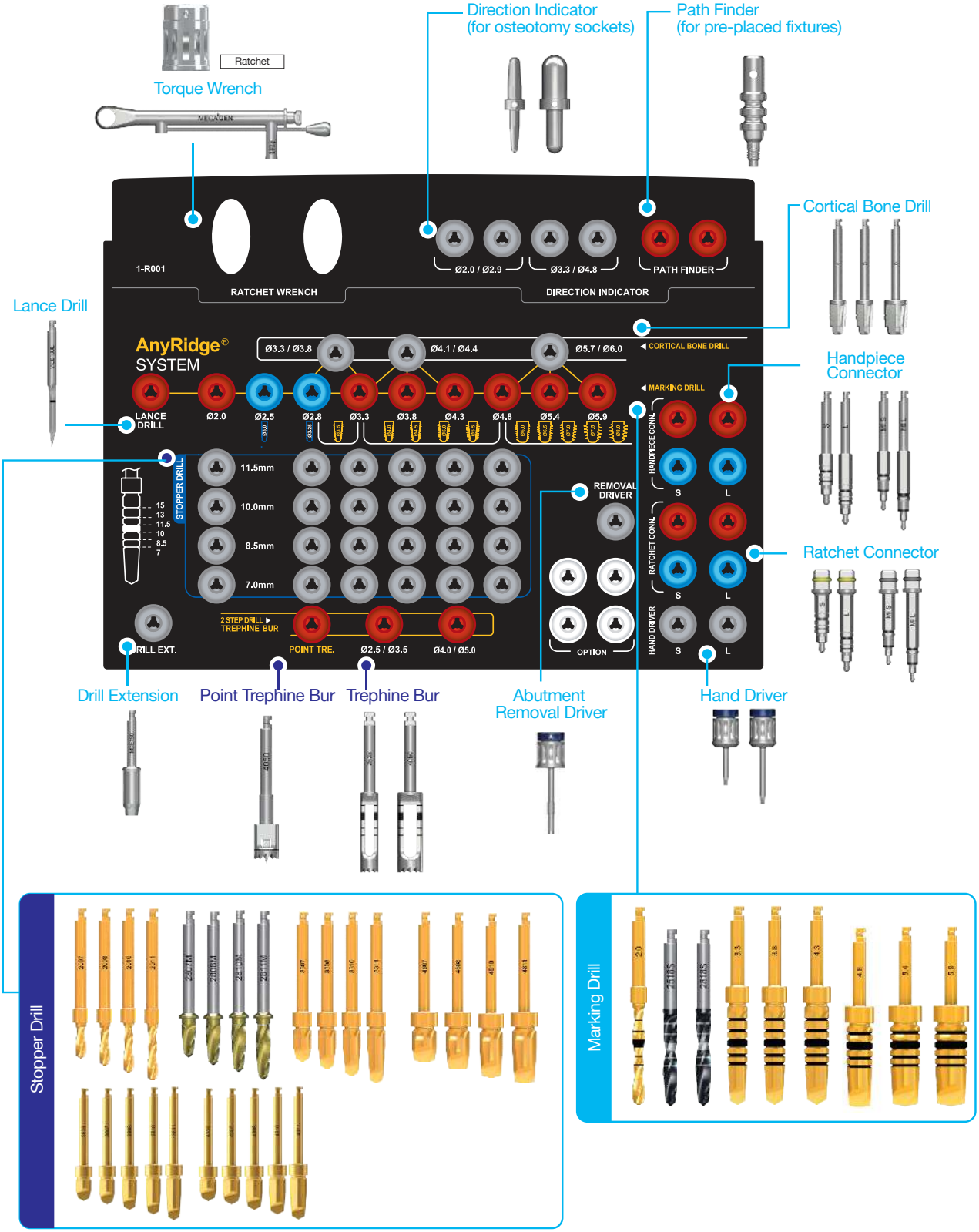
KARIN3003



II. AnyRidge Surgical Kit : Full Type

Ref.C
KARIN3001

Easier and safer to drill for the depth as you need with the stopper drills.

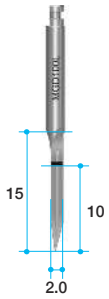


Surgical Kit Components

Lance Drill

- Useful to make an indentation on cortical bone to confirm the exact drilling location.

Diameter	Type	Ref.C
Ø2.0	Long	MGD100L



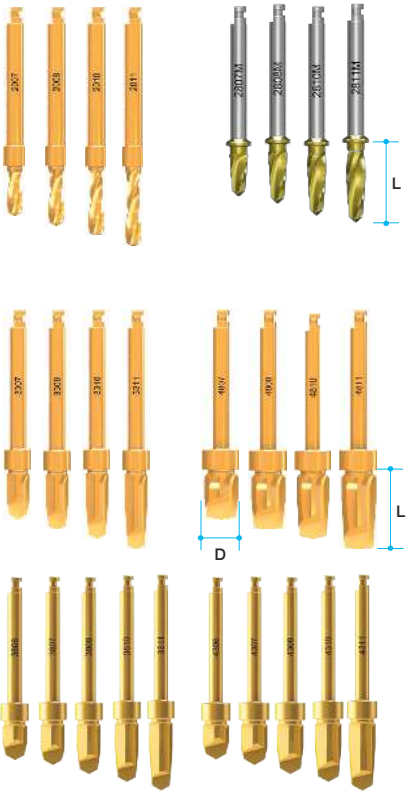
Marking Drill

- Each drill has calibrations from 7.0 to 18.0mm. (TANSDF4815, TANSDF5415, TANSDF5915 have calibrations up to 15.0mm)
- Easy to recognize by dual marking systems. (Groove and laser marking)

Diameter	Length (mm)	Ref.C
Ø2.0	18	TANTDF2018
Ø2.5		SD2518S
Ø2.8		SD2818S
Ø3.3		TANSDF3318
Ø3.8		TANSDF3818
Ø4.3		TANSDF4318
Ø4.8	15	TANSDF4815
Ø5.4		TANSDF5415
Ø5.9		TANSDF5915

Stopper Drill

Diameter	Length (mm)	Ref.C
Ø2.0	7	TANTDF2007
	8.5	TANTDF2008
	10	TANTDF2010
	11.5	TANTDF2011
Ø2.8	7	SD2807M
	8.5	SD2808M
	10	SD2810M
	11.5	SD2811M
Ø3.3	7	TANSDF3307
	8.5	TANSDF3308
	10	TANSDF3310
	11.5	TANSDF3311
Ø3.8	7	TANSDF3807
	8.5	TANSDF3808
	10	TANSDF3810
	11.5	TANSDF3811
Ø4.3	7	TANSDF4307
	8.5	TANSDF4308
	10	TANSDF4310
	11.5	TANSDF4311
Ø4.8	7	TANSDF4807
	8.5	TANSDF4808
	10	TANSDF4810
	11.5	TANSDF4811



Surgical Kit Components (Continued)

Point Trephine Bur

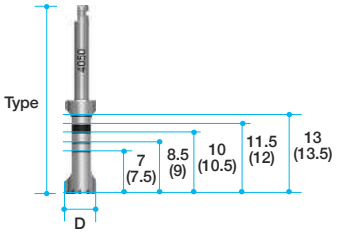
Diameter	Ref.C
Ø5.0 (In.Ø4.0)	SPTB4050

Trephine Bur

- Minimizes the drilling steps needed, especially for wider fixtures.
- Helpful for collecting autogenous bone.
- Useful for removing failed and fractured fixtures.
- Depth markings are 7, 8.5, 10, 11.5, 13mm, same depths as fixtures. (No Y dimension so markings are actual length).
- Markings on the drill shaft represent the inside / outside diameter of Trephine Burs.

Diameter	Type	Ref.C
Ø3.5 (in Ø2.5)	Short (32mm)	TANTBL2535
Ø5.0 (in Ø4.0)		TANTBL4050
Ø6.0 (in Ø5.0)		*TANTBL5060
Ø7.0 (in Ø6.0)		*TANTBL6070
Ø3.5 (in Ø2.5)	Long (38mm)	*TANTBE2535
Ø5.0 (in Ø4.0)		*TANTBE4050
Ø6.0 (in Ø5.0)		*TANTBE5060
Ø7.0 (in Ø6.0)		*TANTBE6070

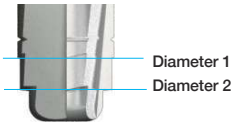
(*) Separate sales item.
3.5, 5.0 Trephine Bur are included in Surgical kit.



Cortical Bone Drill

- Removes cortical bone and enlarges osteotomy socket especially at hard bone.
- Similar function with countersink drill of other systems.
- Each drill has two steps of diameter for convenience.

Diameter	Ref.C
Ø3.5	TANCDL3500
Ø4.0~ Ø5.5	TANCDL4055
Ø6.0~ Ø8.0	TANCDL6080

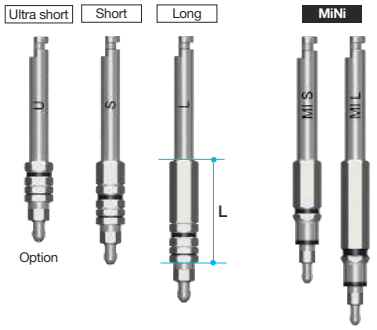


Handpiece Connector

- Delivers torque for the placement of a fixture with a handpiece.
- Easy and secure pick-up and delivery.
- Used to place an implant without a mount.
- Marks on the shaft can indicate the position of fixture platform, especially in flapless surgery.

Length (mm)	Type	Ref.C
5	*Ultra short	TANHCU
10	Short	TANHCS
15	Long	TANHCL
10	Short (MiNi)	HCS17
15	Long (MiNi)	HCL17

(*) Separate sales item.

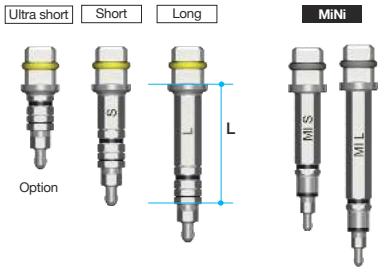


Ratchet Connector

- Delivers torque for the placement or removal of a fixture with a Ratchet Wrench.
- Secure a Ratchet Extension or Torque Wrench to a fixture before exerting force.
- Too much torque force can result a damage to the hex of a fixture.
- Marks on the shaft can indicate the position of fixture platform, especially for flapless surgery.

Length (mm)	Type	Ref.C
6	*Ultra short	TANREU
10	Short	TANRES
15	Long	TANREL
15	Short(MiNi)	RCS17
20	Long (MiNi)	RCL17

(*) Separate sales item.



Hand Driver (1.2 Hex)

- Used for all Cover Screws, all Abutment Screws and all Healing Abutments.
- Available in 4 lengths for convenience.
- Hand Driver can be directly inserted into the Torque Wrench without using an adapter.
- Hex tip can withstand 35-45Ncm of torque without distortion.

Length(mm)	Type	Ref.C
5	*Ultra-short	TCMHDU1200
10	Short	TCMHDS1200
15	Long	TCMHDL1200
20	*Extra-long	TCMHDE1200

(*) Separate sales item.

Surgical Kit Components

Abutment Removal Driver

- Used to remove final abutment ; use after removing Abutment Screw.
- Insert straight into the abutment and rotate clockwise.
- Long Abutment Removal Driver is for disconnecting an abutment with a cemented crown.

Length (mm)	Ref.C
17.5	TANMRD18
25.0	*TANMRD25

(*) Separate sales item.

Drill Extension

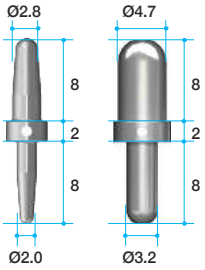
- Extends drills & other handpiece tools.
- **No more than 35Ncm torque : Can be distorted when too much force is applied.**

Ref.C
MDE150

Direction Indicator

- Confirms drilling direction and location during drilling.
- Checks drilling position.

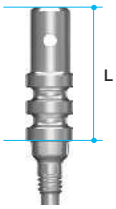
Length (mm)	Ref.C
Ø2.0 / Ø2.8	MDI100
Ø3.2 / Ø4.7	MDI3348



Path Finder

- After placing a fixture, a Path Finder can be connected to guide parallel for the next implant.
- Gingival depth can be measured with the grooves especially for flapless surgeries.

Length (mm)	Ref.C
10	TANPFF3580

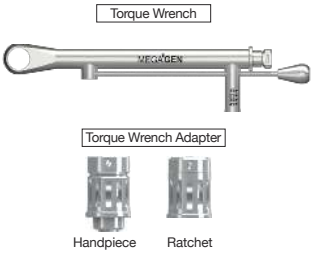


Torque Wrench & Adapter

- Torque Wrench has torque options from 15Ncm to 45Ncm and is used for the placement of an implant and final tightening of the Abutment Screw.

Type	Ref.C
Torque Wrench	MTW300AT
*Torque Wrench Adapter(Handpiece)	TTAI100
Torque Wrench Adapter(Ratchet)	TTAR100

(*) Separate sales item.

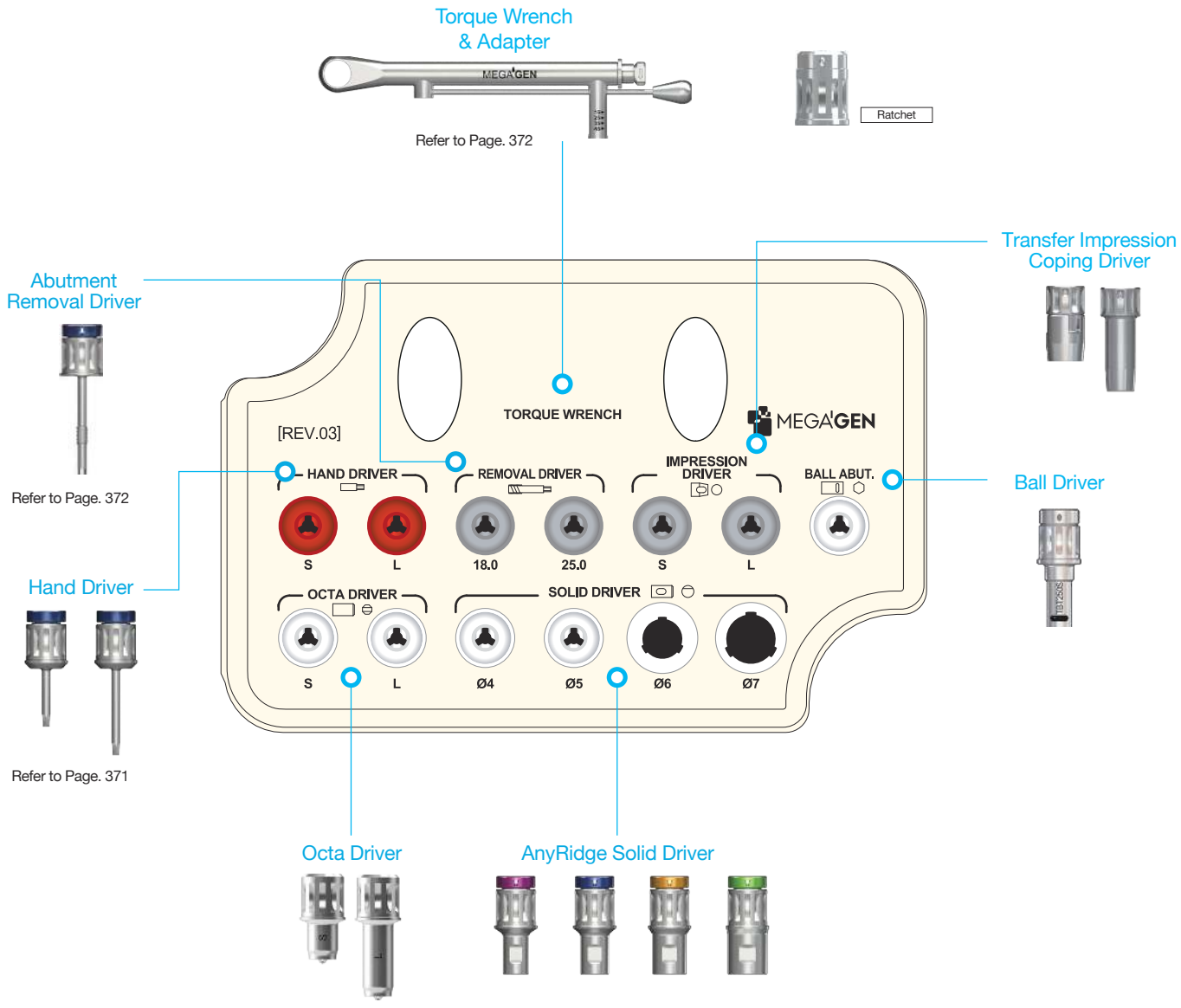


III. AnyRidge Prosthetic Kit

A kit with all kinds of driver that are needed for prosthetics.

Ref.C

KANPK3000



Prosthetic Kit Components

Solid Driver

- For the delivery of Solid Abutments.
- Color coded for different profile diameters.
  (Ø4-magenta, Ø5-blue, Ø6-yellow, Ø7-green)
- Two different heights. (8.5 / 13.5mm)
- Directly connectable to Torque Wrench.

Solid Abutment Profile Diameter	Length(mm)	Ref.C
Ø4	8.5	TANSDS400
	13.5	*TANSDL400
Ø5	8.5	TANSDS500
	13.5	*TANSDL500
Ø6	8.5	TANSDS600
	13.5	*TANSDL600
Ø7	8.5	TANSDS700
	13.5	*TANSDL700

(*) Separate sales item.

Octa Driver

- For seating of the Octa Abutment into the fixture.
- Can also be connected to Torque Wrench.

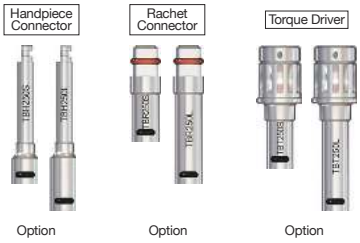
Length (mm)	Ref.C
7	MOD300S
13	MOD300L

Ball Driver

- For seating of the Ball Abutment into the fixture.
- Can connect to a Handpiece, Ratchet or Torque Wrench.
- Available in long and short.

Type	Ref.c
*Handpiece Connector(Short)	TBH250S
*Handpiece Connector(Long)	TBH250L
*Ratchet Connector(Short)	TBR250S
*Ratchet Connector(Long)	TBR250L
Toque Driver(Short)	TBT250S
*Toque Driver(Long)	TBT250L

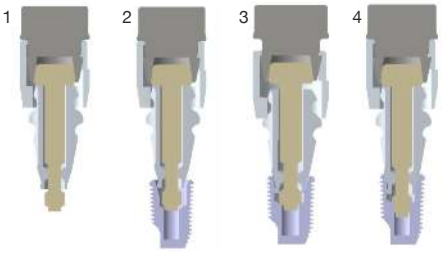
(*) Separate sales item.



Impression Coping Driver
(Transfer)

- For transfer type of Impression Coping.
- Works with friction only.
- Small but powerful grip.

Type	Ref.C
For Two piece impression Coping	TCMID
For One piece impression Coping	TCMIDE



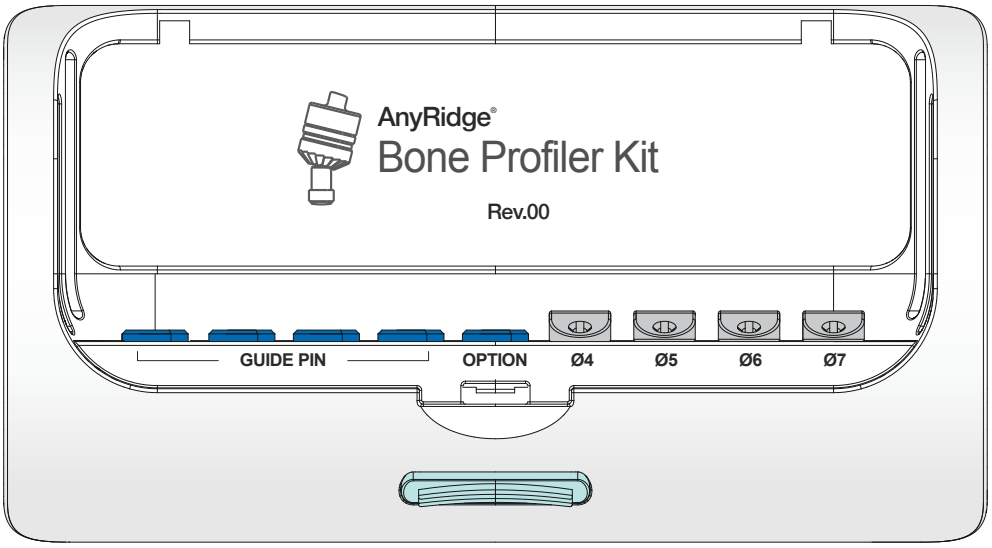
1. Connect Impression Coping and Impression Driver together
2. Adjust Connection with a Fixture by turning a Holder clockwise.
3. Push the Holder and put the Impression Coping into the Fixture.
4. Turn the Driver clockwise to ensure connection of the Impression Coping and Fixture.

IV. AnyRidge Bone Profiler Kit

Ref.C
KARBP3000

Removes the overhanged bone around a fixture to allow adequate seating of a Healing Abutment or a Prosthetic Abutment.

- Place a Guide Pin into a fixture and choose a Bone Profiler which fits with the situation.
- Four different sizes of bone profiler and four guide pins are included in the kit.

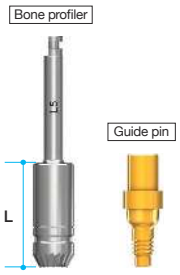


Bone Profiler

- Guide Pin(TANPGF3305) included.

- Each bone profiler can be purchased separately for refill.
- Each pakage includes a bone profiler and a guide pin.

Profile Diameter	Length (mm)	Ref.C
Ø4	13	TANBPL40G
Ø5		TANBPL50G
Ø6	8	TANBPS60G
Ø7		TANBPS70G



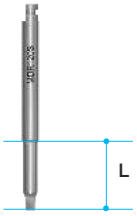
V. Optional components

- not included in the surgical kit
- can be purchased separately and placed into the 'option' spaces provided in the surgical kit

Right Angle Driver Tip

- Used for all Cover Screws, all abutment screws and all Healing Abutments.
- Hex tip can withstand 35-45Ncm of torque without distorting.

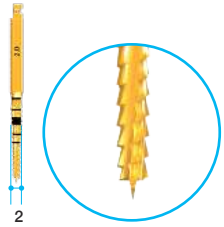
Length(mm)	Type		Ref.C
4	Ultra-short	Hex 1.2	MDR120SS
10	Short		MDR120S
15	Long		MDR120L
20	Extra Long		MDR120EL



Lindermann Drill

- Cross cut on the drill.
- Can correct the path during drilling.

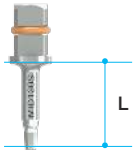
Diameter(mm)	Ref.C
2	TEEL200M



Insert Driver

- Used for all Cover Screws, all abutment screws and all Healing Abutments.
- Hex tip can withstand 35-45Ncm of torque without distorting.

Length(mm)	Type		Ref.C
10	Short	Hex 1.2	MID120S
15	Long		MID120L



Hand Tap

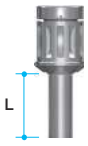
- Useful when the internal screw of a fixture is damaged.
- Retapping damaged threads.
- Need to be patient and force-controlled.

Type	Ref.C
M1.8	THT180L

Multi-unit Driver (2.0 Hex)
(For Multi-unit Abutment)

- For the seating & tightening of multi-unit Abutment (Straight type)

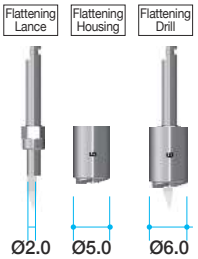
Length(mm)	Type	Ref.C
10	Short	TCMMUDS20
15	Long	TCMMUDL20



Flattening Drill

- In the case of irregular bone, stopper drill can be drilled in precise depth by flattening the bone.
- Flattening Lance and Housing are connected together. Two types of Housing diameters (Ø5.0 & Ø6.0) are composed in accordance with the size of final drill diameter.
- Ø5.0 = Stopper Drill Ø2.0~ Ø4.3
  Ø6.0 = Stopper Drill Ø4.8~ Ø5.4
- Formation of boundary through housing will guide the next drilling location of fixture.

Diameter	Length (mm)	Ref.C
Ø5.0 / Ø2.0	3.5	FD5020
Ø6.0 / Ø2.0		FD6020



Manual Inserter

- Specially designed for manual placement of AnyRidge fixture.
- Especially useful at immediate implant placement on maxillary anterior.
- The tip has same structure with the hand-piece connector.

Ref.C
TANMI

Reamer Drill & Center Pin

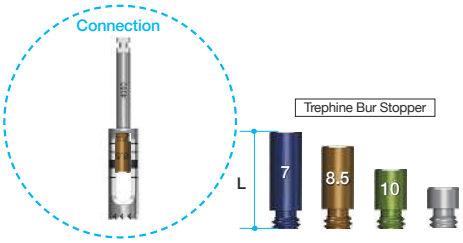
- Removes inner lip of the cast after casting Burn-out Cylinders of Solid Abutment.
- Center Pin have 4 different diameters according to the profile diameter of Solid Abutments.

Diameter	Type	Ref.C
Ø10.0	Reamer Drill	TANRD
Ø4.0	Center Pin	TANRDJ40
Ø5.0		TANRDJ50
Ø6.0		TANRDJ60
Ø7.0		TANRDJ70

Trephine Bur Stopper

- Controls the depth of trephination with a Stopper placed into the Trephine.
- Especially useful in cases with limited availabe bone from important anatomy.

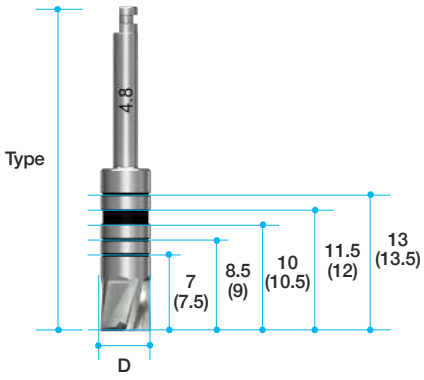
Length (mm)	Ref.C
7.0	TANTSF2307
8.5	TANTSF2308
10.0	TANTSF2310
11.5	TANTSF2311



Bottom Drill

- It removes remaining bone in osteotomy socket after trephine drilling.
- It imprints the sizes of fixtures, for example 7, 8.5, 10, 11.5 and 13mm, by laser marker.

Diameter	Type	Ref.C
Ø3.3	Short (32mm)	TCMBDS33
Ø3.8		TCMBDS38
Ø4.8		TCMBDS48
Ø5.8		TCMBDS58
Ø6.8		TCMBDS68
Ø3.3	Long (38mm)	TCMBDL33
Ø3.8		TCMBDL38
Ø4.8		TCMBDL48
Ø5.8		TCMBDL58
Ø6.8		TCMBDL68



Ratchet Wrench

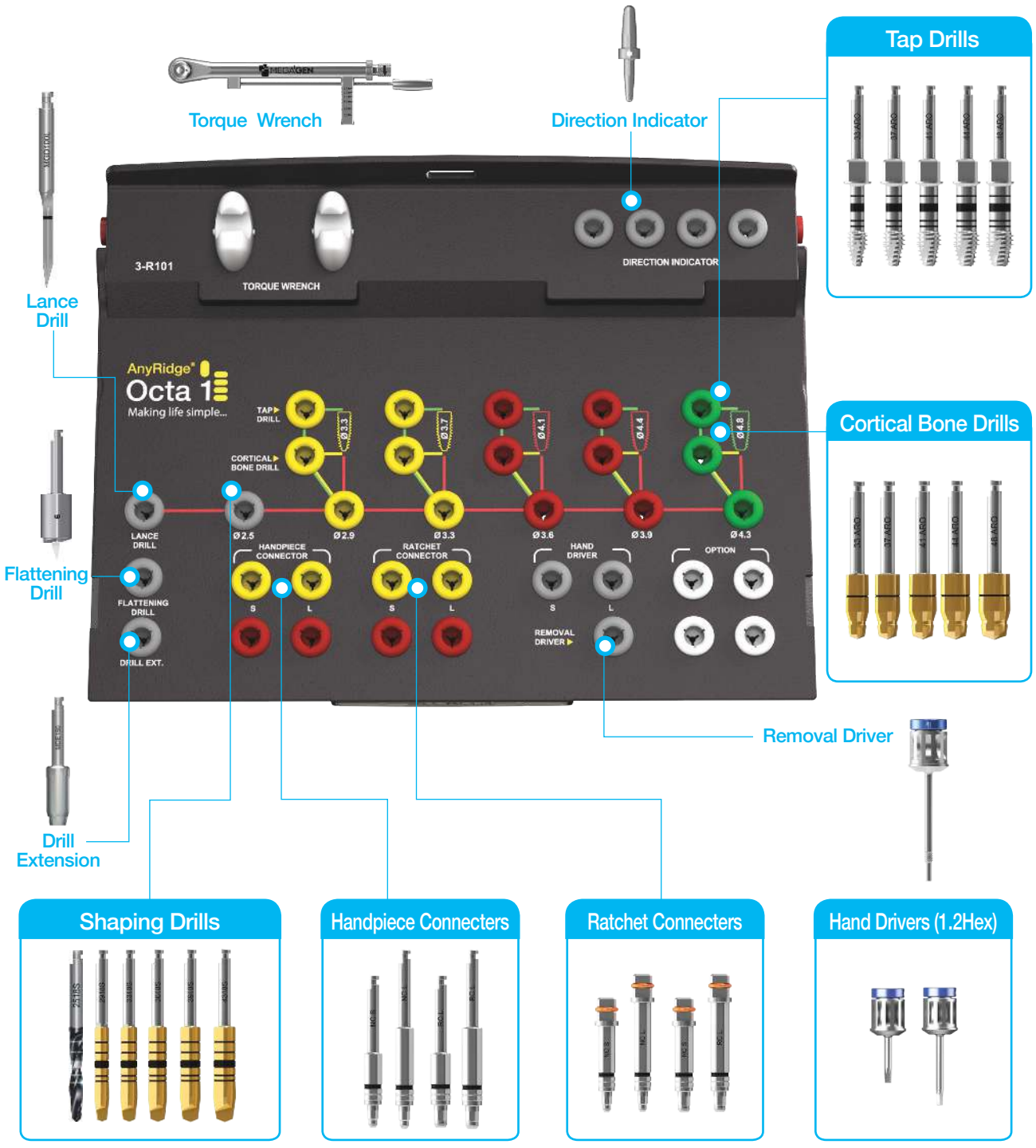
- Used to exert more force than handpiece.
- No bearing system : No breakage and corrosion problems.
- Attaches to Ratchet Extension.
- Arrow laser marking indicates direction of force.

Ref.C
MRW040S

AnyRidge Octa 1 Kit

I. AnyRidge Octa 1 Surgical Kit : Standard Type

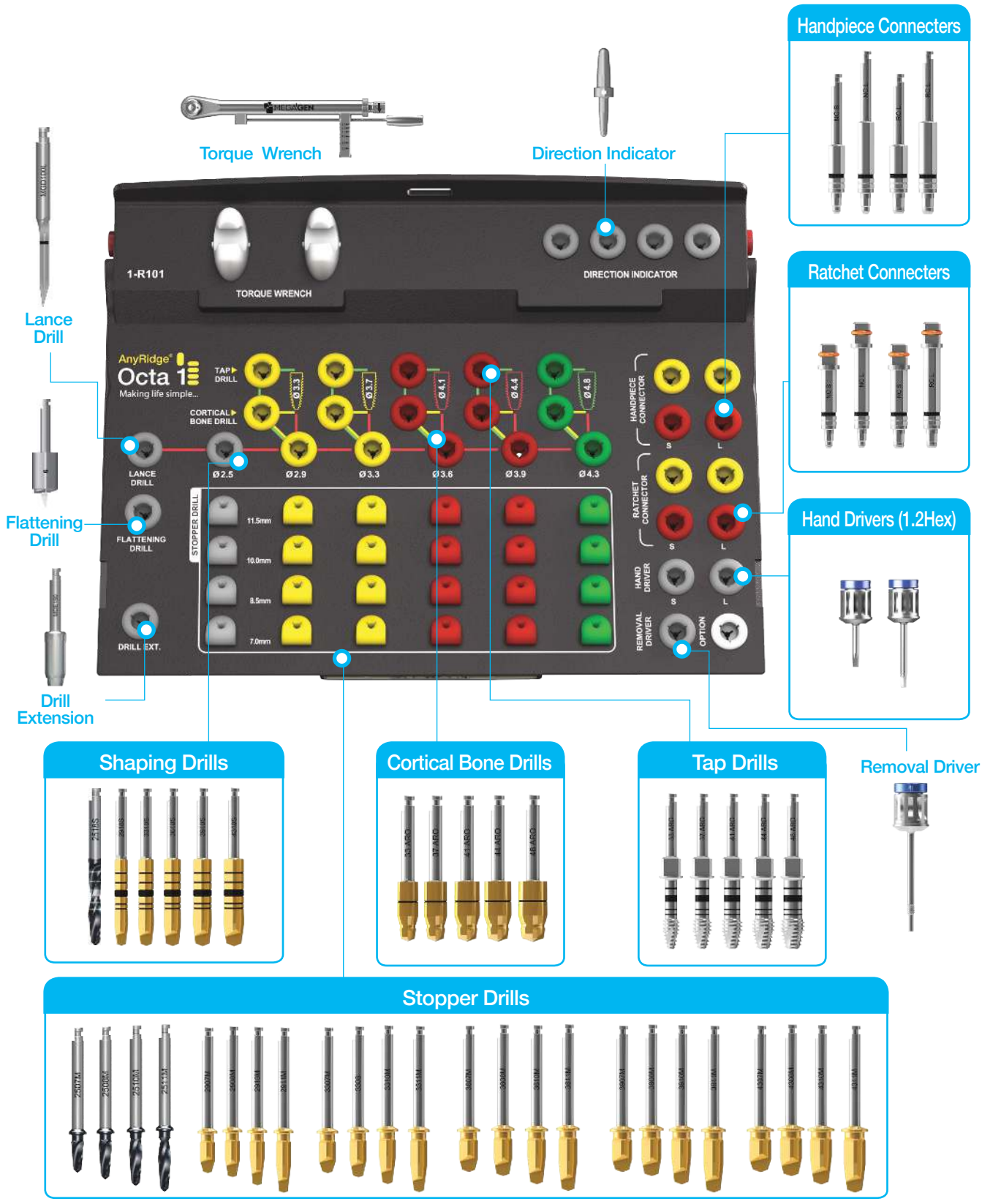
Ref.C
KARO3003



I. AnyRidge Octa 1 Surgical Kit : Full type

Ref.C

KARO3001

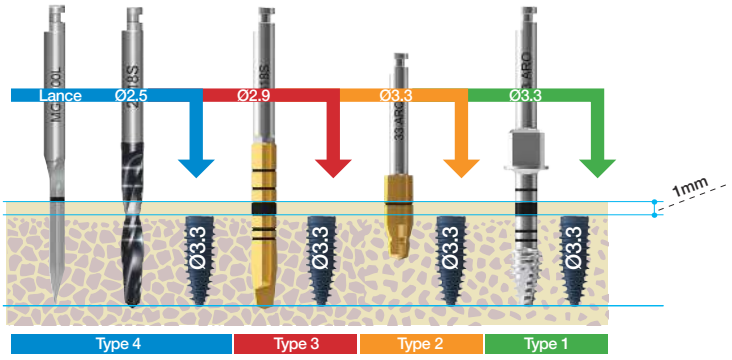


▸▸ Drilling Protocols

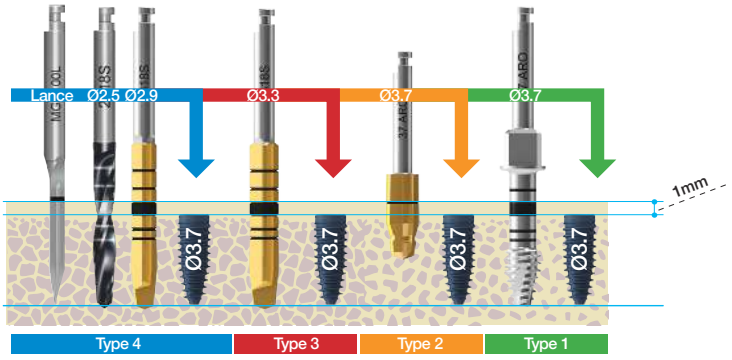
- AnyRidge Octa 1 fixtures achieve optimum initial stability when used with a guided drilling sequence
- Octa 1 implants should be placed 1mm sub crestally
  0.5~1mm subcrestal placement has been proven to show a better crestal bone response

	Lance	Shaping Drills						Cortical Bone Drills	Tap Drills
		Ø2.5	Ø2.9	Ø3.3	Ø3.6	Ø3.9	Ø4.3		
									
rpm max	800	800	600	600	500	500	400	300	15

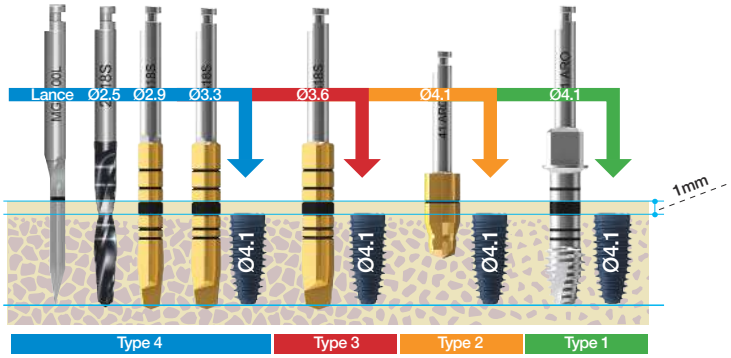
Ø3.3 Fixture
Drilling sequence



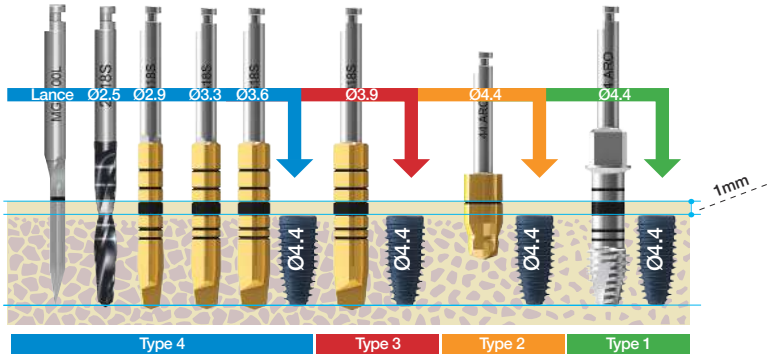
Ø3.7 Fixture
Drilling sequence



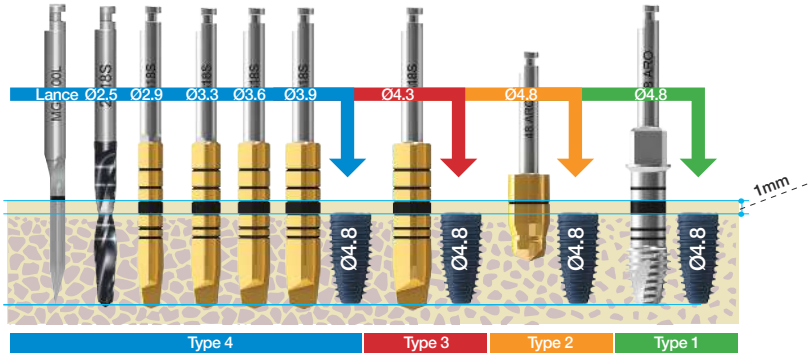
Ø4.1 Fixture
Drilling sequence



Ø4.4 Fixture
Drilling sequence



Ø4.8 Fixture
Drilling sequence

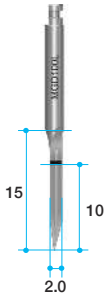


Surgical Kit Components (continued)

Lance Drill

- Useful for making an indentation in cortical bone to confirm exact drilling location

Diameter	Type	Ref.C
Ø2.0	Long	MGD100L

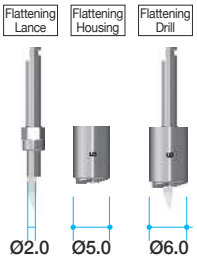


Flattening Drill

- Flattens irregular bone & enables stopper drill to drill to exact depth
- Designed to engage with Flattening Lance & Housing. There are 2 kinds of Housing to match diameters of different final drills (Ø5.0 & Ø6.0)
- Ø5.0 = Stopper Drill Ø2.0 ~ Ø4.3
- Ø6.0 = Stopper Drill Ø4.8 ~ Ø5.4
- Housing boundary becomes barometer of drilling position for next fixture

Diameter	Length(mm)	Ref.C
Ø5.0 / Ø2.0	3.5	FD5020
*Ø6.0 / Ø2.0		FD6020

(*) Separate sales item



1

- Flattening Drill ensures correct drilling position for accurate fixture placement (If final drill diameter is from Ø2.0~Ø4.3, use Ø5.0 Housing, and if diameter is Ø4.8, Ø5.4 use Ø6 Housing)

2

- Drilling sequence should consider size of fixtures and bone density

3

- Place fixtures using Handpiece & Ratchet Connector

Shaping Drill

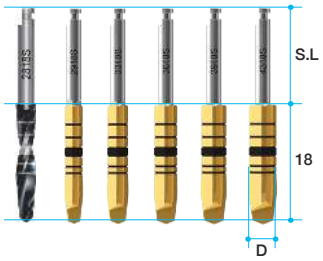
- Each drill has depth marking lines from 7.0mm to 15.0mm
- Dual marking system (grooves & laser markings) provides visual & radiographic depth verification during surgery
- TiN coating on drills: enhanced corrosion resistance & abrasion resistance

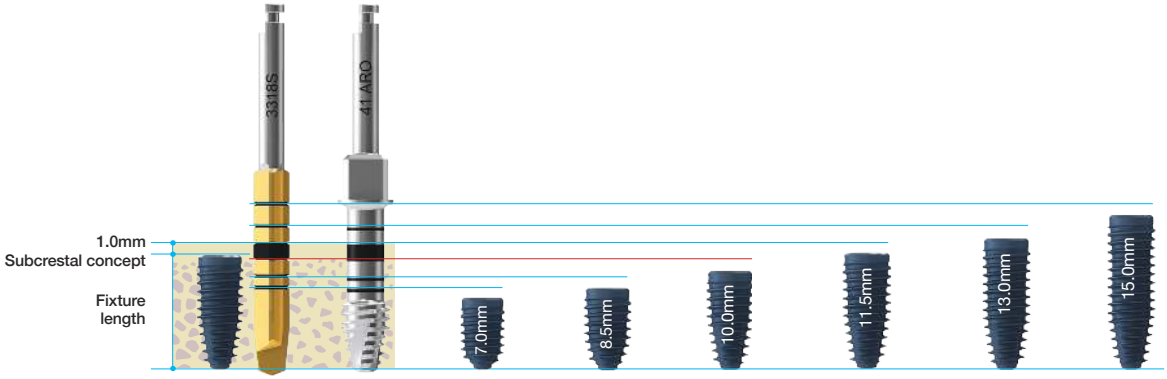
※ Actual drill length: drill length does not normally include Y dimension of drill

※ Markings on Shapping Drills are 0.8mm longer than fixture, so fixtures will automatically be placed 1mm subcrestally if drilling protocol is followed

Diameter	Blade Length(mm)	Blade Length(mm)	Ref.C
Ø2.5	18	15(Short)	SD2518S
		25(Long)	*SD2518L
Ø2.9		15(Short)	AROSD2918S
		25(Long)	*AROSD2918L
Ø3.3		15(Short)	AROSD3318S
		25(Long)	*AROSD3318L
Ø3.6		15(Short)	AROSD3618S
		25(Long)	*AROSD3618L
Ø3.9		15(Short)	AROSD3918S
		25(Long)	*AROSD3918L
Ø4.3		15(Short)	AROSD4318S
		25(Long)	*AROSD4318L

(*) Separate sales item

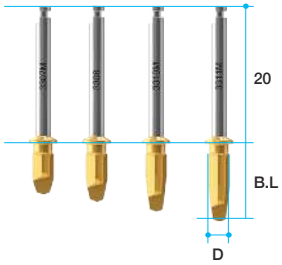




Surgical Kit Components (continued)

Stopper Dril

- Each diameter has drill lengths of 7.0 / 8.5/ 10 / 11.5mm
- TiN coating on drills: enhances corrosion resistance & abrasion resistance

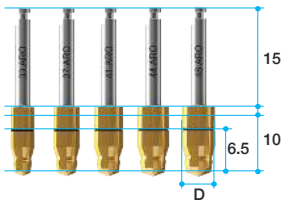


Diameter	Blade Length(mm)	Blade Length(mm)	Ref.C
Ø2.5	7.0	20	SD2507M
	8.5		SD2508M
	10		SD2510M
	11.5		SD2511M
Ø2.9	7.0		AROSD2907M
	8.5		AROSD2908M
	10		AROSD2910M
	11.5		AROSD2911M
Ø3.3	7.0		AROSD3307M
	8.5		AROSD3308M
	10		AROSD3310M
	11.5		AROSD3311M
Ø3.6	7.0		AROSD3607M
	8.5		AROSD3608M
	10		AROSD3610M
	11.5		AROSD3611M
Ø3.9	7.0		AROSD3907M
	8.5		AROSD3908M
	10		AROSD3910M
	11.5		AROSD3911M
Ø4.3	7.0		AROSD4307M
	8.5		AROSD4308M
	10		AROSD4310M
	7.0		AROSD4311M

Cortical Bone Drill

- Used to remove & shape cortical bone to control initial stability in dense bone(type II)
- TiN coating on drills: enhances corrosio resistance & abrasion resistance

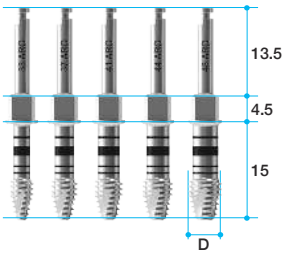
Diameter	Blade Length(mm)	Shank Length(mm)	Ref.C
Ø3.6	10	15	AROCD33
Ø4.0			AROCD37
Ø4.4			AROCD41
Ø4.7			AROCD44
Ø5.0			AROCD48



Tap Drill

- Can be used with both Handpiece (dental implant engine) & Ratchet Wrench

Diameter	Marking	Ref.C
Ø3.3	7/ 8.5/ 10/ 11.5/ 13	AROTD33
Ø3.7		AROTD37
Ø4.1		AROTD41
Ø4.4		AROTD44
Ø4.8		AROTD48

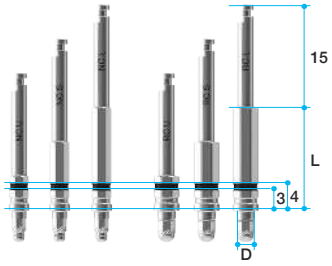


Handpiece Connector

- Use with Handpiece to remove fixture from ampule & place fixture
- Spring-type connection allows easy & secure pick-up & positioning of fixture
- First mark on shaft indicates position of fixture platform
- Bottom & top of black line is 3mm & 4mm from fixture platform, respectively
- Especially useful in flapless surgery

※ Use RC Connector as mount

Length (mm)	Type	Connection (mm)	Ref.C
5	Ultra-short	Octa. 2.05	AROHCU21
10	Short		AROHCS21
15	Long		AROHCL21
5	Ultra-short	Octa. 2.5	AROHCU25
10	Short		AROHCS25
15	Long		AROHCL25

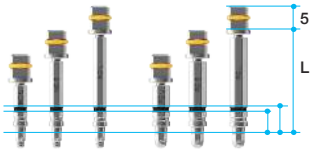


Ratchet Connector

- Use for inserting or removing fixture with Ratchet Wrench
- Check to make sure Ratchet Connector is completely seated in Ratchet Wrench before using
- Excessive force can cause damage to internal Octa of fixture
- Marks on shaft indicate position of fixture platform.
- Bottom & top of black line is 3mm & 4mm from fixture platform, respectively
- Especially useful in flapless surgery

※ Use RC Connector as mount

Length (mm)	Type	Connection (mm)	Ref.C
5	Ultra-short	Octa. 2.05	ARORCU21
10	Short		ARORCS21
15	Long		ARORCL21
5	Ultra-short	Octa. 2.5	ARORCU25
10	Short		ARORCS25
15	Long		ARORCL25



Surgical Kit Components (continued)

Hand Driver (1.2 Hex)

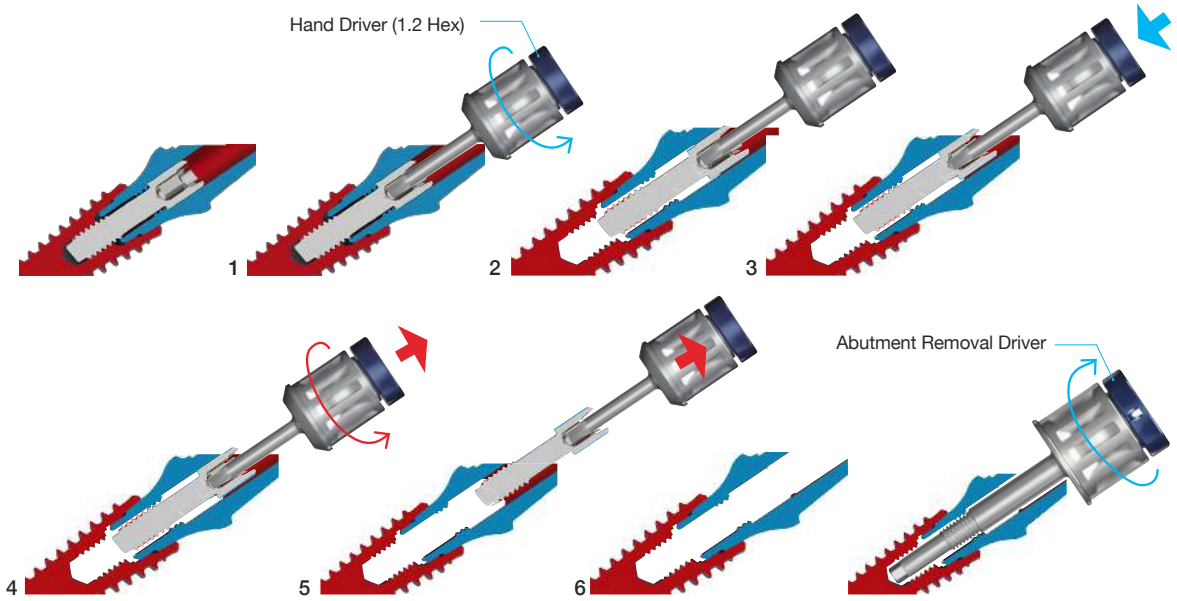
- Use with all Cover Screws, Abutment Screws, & Healing Abutments
- Available in 4 lengths for convenience
- Hand Driver can be directly inserted into Torque Wrench without using an adapter
- Hex tip can withstand 35-45Ncm of torque without distortion

Length(mm)	Type	Ref.C
5	*Ultra-short	TCMHDU1200
10	Short	TCMHDS1200
15	Long	TCMHDL1200
20	*Extra-long	TCMHDE1200

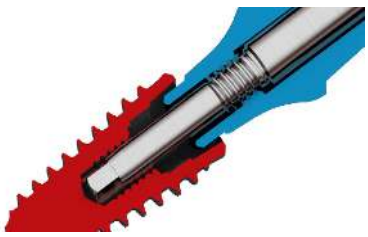
(*) Separate sales item

Removal Driver

Length(mm)	Type	Ref.C
21	M1.6	ARORDS16



1. Use Hand Driver(1.2 Hex) to unscrew Abutment Screw
2. Continue to turn counter-clockwise until you feel a click of disengagement
3. Push down Hand Driver once again to catch & fix Abutment Screw
4. Lift up Hand Driver lightly & continue to turn counter-clockwise until Abutment Screw engages with inner screw of abutment
5. Remove Abutment Screw completely from abutment
6. Insert 'Abutment Removal Driver' & continue to turn clockwise until abutment comes out of fixture. You may feel some resistance but don't worry, only simple force is needed to disconnect abutment from fixture



Drill Extension

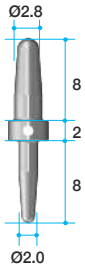
- Extends drills & other handpiece tools
- No more than 35Ncm torque: can be distorted when too much force is applied

Ref.C
MDE150

Direction Indicator

- Confirms drilling direction & functions as parallel guide for additional osteotomies
- Each end of Direction Indicator has different diameter - Ø2.0 & Ø2.8.

Length (mm)	Ref.C
Ø2.0 / Ø2.8	MDI100

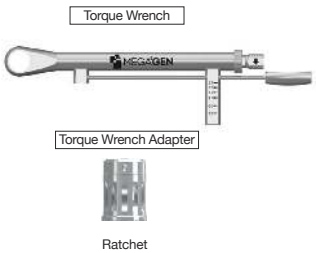


Torque Wrench & Adapter

- Torque options range from 15Ncm to 45Ncm
- Used for placement of implant & final tightening of Abutment Screw

Type	Ref.C
Torque Wrench	TW70
*Torque Wrench Adapter (Handpiece)	TTAI100
*Torque Wrench Adapter (Ratchet)	TTAR100

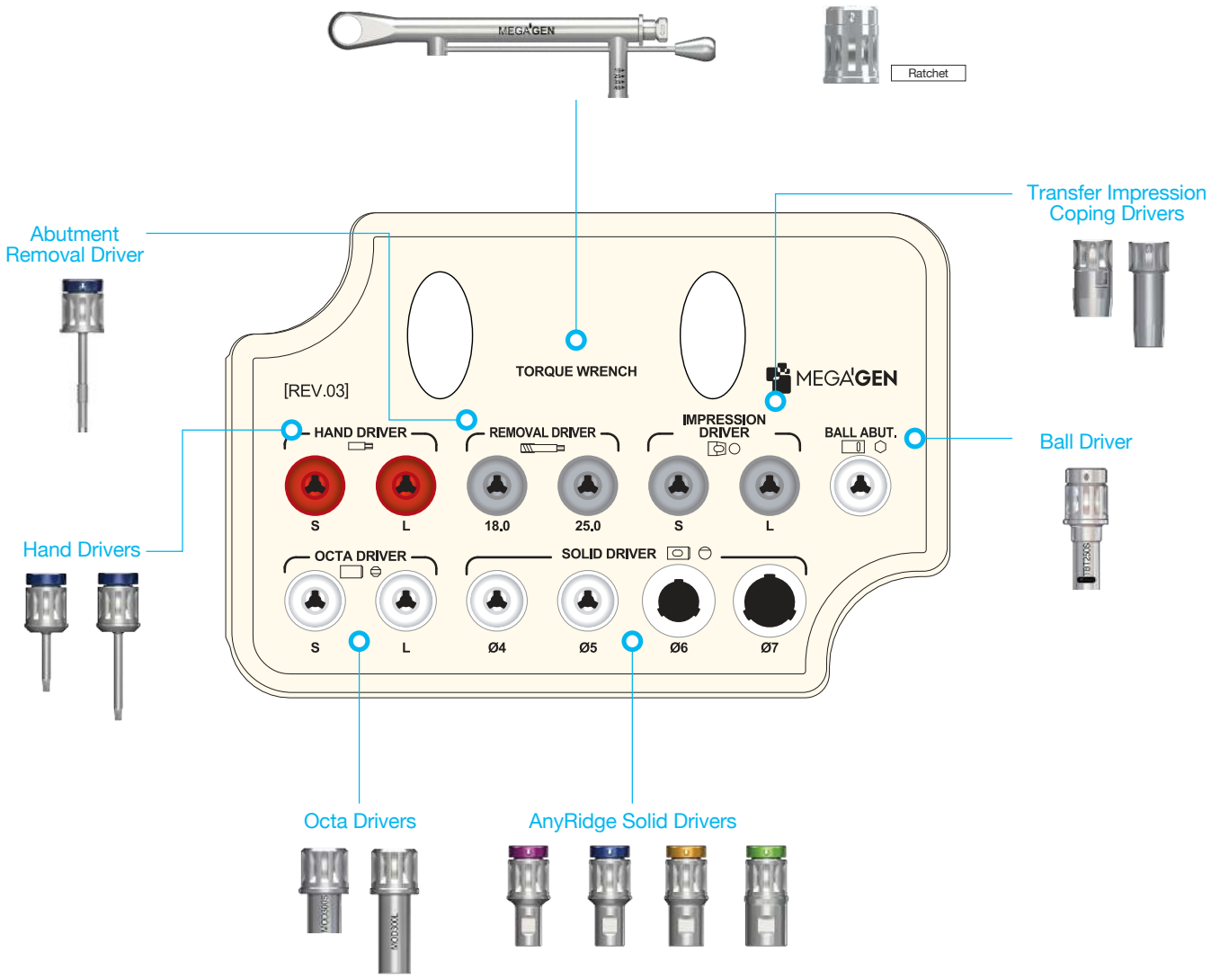
(*) Separate sales item



II. AnyRidge Octa 1 Prosthetic Kit

Includes all kinds of drivers needed for prosthetics

Ref.C
KANPK3000



Prosthetic kit Components

Solid Driver

- For delivery of Solid Abutments
- Color coded for different profile diameters (Ø4-magenta, Ø5-blue, Ø6-yellow, Ø7-green)
- Two different heights (8.5 / 13.5mm)
- Directly connectable to Torque Wrench

Solid Abutment Profile Diameter	Length(mm)	Ref.C
Ø4	8.5	TANSDS400
	13.5	*TANSDL400
Ø5	8.5	TANSDS500
	13.5	*TANSDL500
Ø6	8.5	TANSDS600
	13.5	*TANSDL600
Ø7	8.5	TANSDS700
	13.5	*TANSDL700

(*) Separate sales item

Octa Driver

- For seating Octa Abutment into fixture
- Can also be connected to Torque Wrench

Length(mm)	Ref.C
7	MOD300S
13	MOD300L

Ball Driver

- For seating Ball Abutment into fixture
- Can connect to Handpiece, Ratchet or Torque Wrench
- Available as long or short

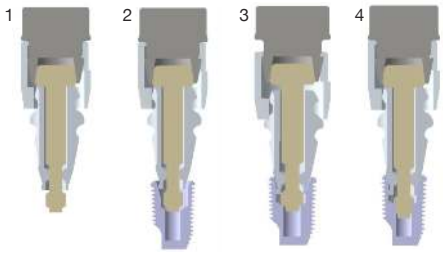
Type	Ref.C
*Handpiece Connector(Short)	TBH250S
*Handpiece Connector(Long)	TBH250L
*Ratchet Extension(Short)	TBR250S
*Ratchet Extension(Long)	TBR250L
*Torque Driver(Short)	TBT250S
Torque Driver(Long)	TBT250L

(*) Separate sales item

Impression Coping Driver (Transfer)

- For transfer-type Impression Coping
- Works with friction only
- Small but powerful grip

Type	Ref.C
For two-piece impression coping	TCMID
For one-piece impression coping	TCMIDE



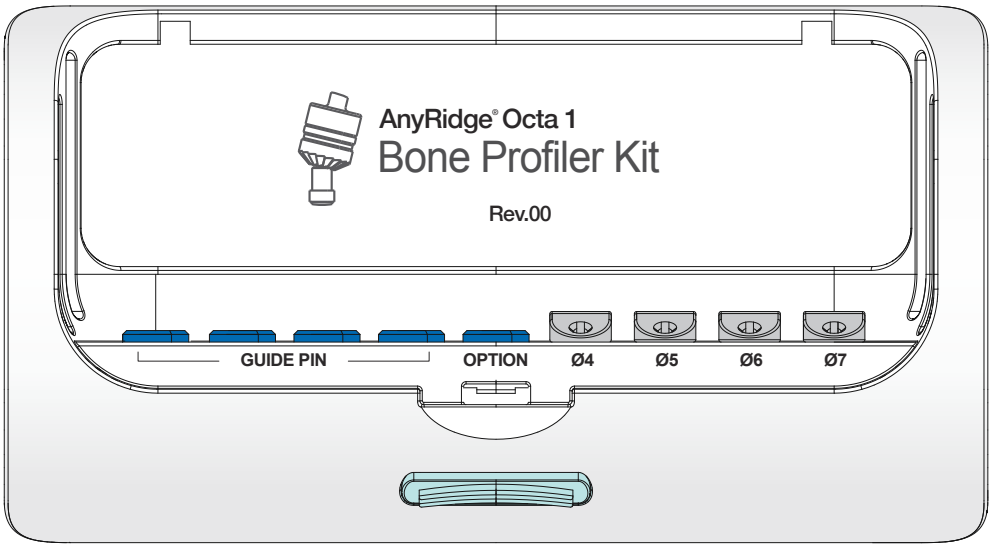
1. Connect Impression Coping & Impression Driver
2. Adjust connection with fixture by turning Holder clockwise
3. Push Holder and insert Impression Coping into fixture.
4. Turn Driver clockwise to ensure connection of Impression Coping & Fixture.

III. AnyRidge Octa 1 Bone Profiler Kit

Removes overhanging bone around fixture to allow adequate seating of Healing Abutment or Prosthetic Abutment

Ref.C
KAROBP3000

- Insert guide pin into fixture & select appropriate Bone Profiler
- Kit includes four different sizes of bone profiler & four guide pins

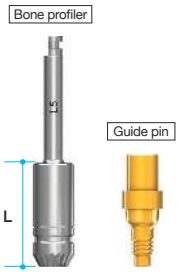


Bone Profiler

- Guide pin(BPGP2) included

- Each bone profiler can be purchased separately as refill
- Each pakage includes bone profiler and package guide pin

Profile Diameter	Length (mm)	Ref.C
Ø4	13	AROBP40G
Ø5		AROBP50G
Ø6	8	AROBP60G
Ø7		AROBP70G



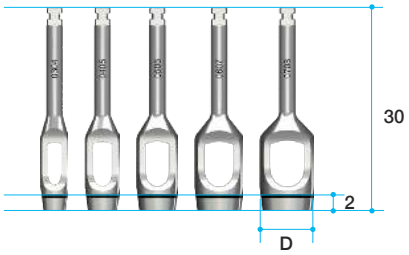
IV. Optional Components (continued)

- not included in surgical kit
- may be purchased separately & placed in spaces provided in surgical kit

Tissue Punch

- Customized to remove soft tissue using osteotomy socket & useful for flapless surgery
- Easy to identify thickness of soft tissue by comparing tissue with laser marking at height of 2mm
- Can minimize loss of soft tissue when conducting flapless surgery
- Can stop bleeding when used with Healing Abutment

Diameter	Marking	Ref.C
In. Ø3 / Out. Ø4	2mm	TCMTPM0304
In. Ø4 / Out. Ø5		TCMTPM0405
In. Ø5 / Out. Ø6		TCMTPM0506
In. Ø6 / Out. Ø7		TCMTPM0607
In. Ø7 / Out. Ø8		TCMTPM0708



Lindermann Drill

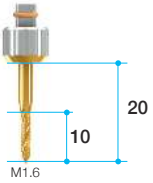
- Cross cut on drill
- Can correct path during drilling

Diameter(mm)	Ref.C
2	TEEL200M

Hand Tap

- Useful when internal screw of fixture has been damaged
- For re-tapping disabled thread
- Caution: use of excessive force can cause further damage, so apply force slowly & gradually
- M1.6 can be used for AnyOne's External fixtures with Small Sizes

Length(mm)	Type	Ref.C
10	M1.6	THT160L



Ratchet Wrench

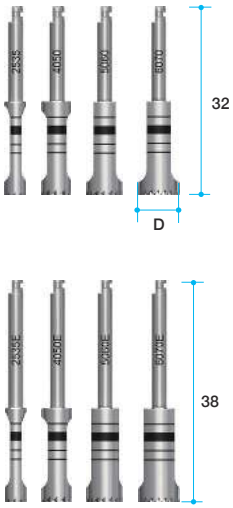
- Used to exert more force than handpiece
- No bearing system: no breakage or corrosion problems
- Attaches to Ratchet Extension
- Arrow laser marking indicates direction of force

Ref.C
MRW040S

Trephine Bur

- Minimizes drilling steps especially for wider fixtures
- Helpful for collecting autogenous bone
- Useful for removing failed & fractured fixtures
- Depth markings are 7, 8.5, 10, 11.5, 13mm, same depths as fixtures. (no Y dimension, so markings are actual length)
- Markings on drill shaft represent inside / outside diameter of Trephine Burs

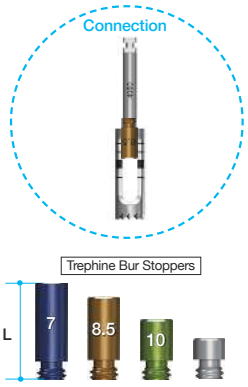
Diameter	Type	Ref.C
Ø3.5 (in Ø2.5)	Short	TANTBL2535
Ø5.0 (in Ø4.0)		TANTBL4050
Ø6.0 (in Ø5.0)		TANTBL5060
Ø7.0 (in Ø6.0)		TANTBL6070
Ø3.5 (in Ø2.5)	Long	TANTBE2535
Ø5.0 (in Ø4.0)		TANTBE4050
Ø6.0 (in Ø5.0)		TANTBE5060
Ø7.0 (in Ø6.0)		TANTBE6070



Trephine Bur Stopper

- Controls depth of trephination
- Especially useful in cases with limited available bone

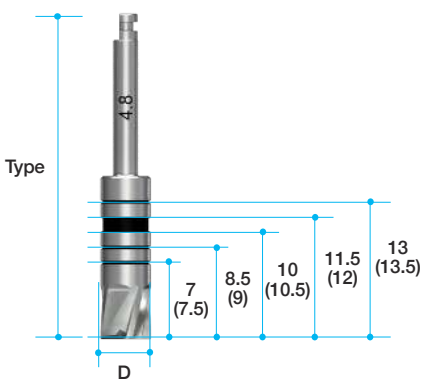
Length (mm)	Ref.C
7.0	TANTSF2307
8.5	TANTSF2308
10.0	TANTSF2310
11.5	TANTSF2311



Bottom Drill

- Removes remaining bone in osteotomy socket after trephine drilling
- Imprints fixtures size, for example 7, 8.5, 10, 11.5 & 13mm, using laser marker

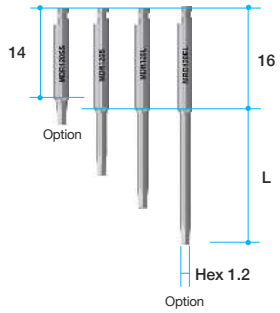
Diameter	Type	Ref.C
Ø3.3	Short (32mm)	TCMBDS33
Ø3.8		TCMBDS38
Ø4.8		TCMBDS48
Ø5.8		TCMBDS58
Ø6.8		TCMBDS68
Ø3.3	Long (38mm)	TCMBDL33
Ø3.8		TCMBDL38
Ø4.8		TCMBDL48
Ø5.8		TCMBDL58
Ø6.8		TCMBDL68



Right Angle Driver (hex 1.2)

- Can be engaged with Cover Screws, Abutment Screws, & Healing Abutment
- Hex tip has been designed to stand Torque force of 35~45 Ncm
- Used with AnyOne Internal & External

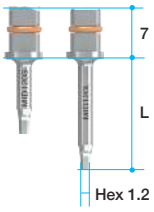
Length(mm)	Type	Ref.C
4	*Ultra-short	MDR120SS
10	Short	MDR120S
15	Long	MDR120L
20	*Extra Long	MDR120EL



Insert Driver (hex 1.2)

- Can be engaged with Cover Screws, Abutment Screws, & Healing Abutment
- Hex tip has been designed to stand Torque force of 35~45 Ncm

Length(mm)	Type	Ref.C
10	Short	MID120S
15	Long	MID120L



Reamer Drill & Center Pin

- Removes inner lip of cast after casting Burn-out Cylinders of Solid Abutment
- Center pins have 4 different diameters according to profile diameter of Solid Abutment

Diameter	Type	Ref.C
Ø10.0	Reamer Drill	TANRD
Ø4.0	Center Pin	TANRDJ40
Ø4.5		TANRDJ50
Ø5.5		TANRDJ60
Ø6.5		TANRDJ70

Slot Driver (Slotted type)

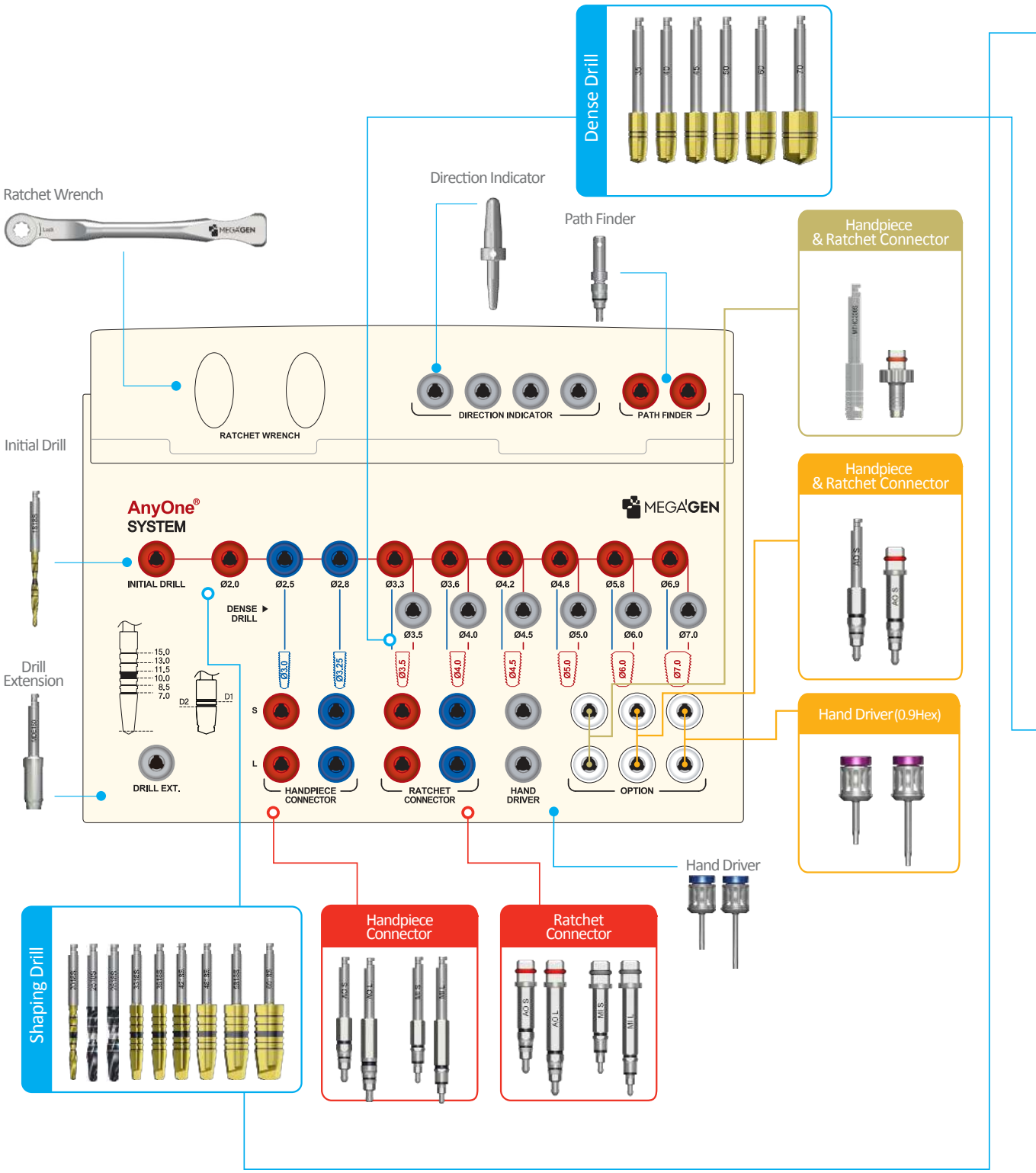
- Useful for placement or removal of AnyOne Healing Abutment which has slot on top

Length(mm)	Type	Ref.C
10	Short	SDS06
15	Middle	SDM06
20	Long	SDL06

AnyOne Surgical Kit

I. AnyOne Internal / External / OneStage Kit

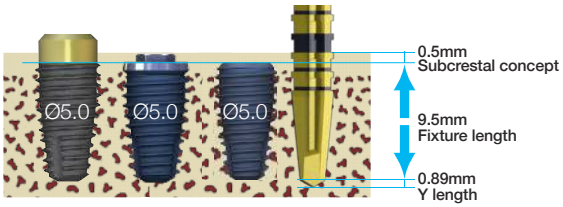
Ref.C
KAOIN3003



Product coordinator : Jung Ho Nam, rnd_implant1@imegagen.com

Shaping Drill

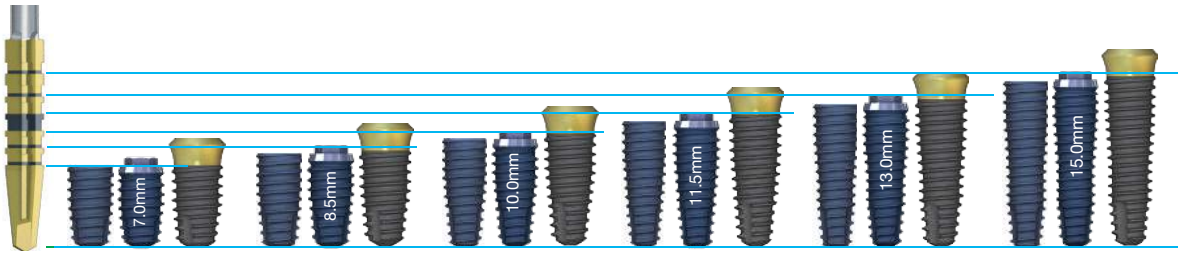
- Each drill has depth marking lines from 7.0mm to 15.0mm
- The dual marking system (grooves and laser markings) provides visual and radio graphic depth verification during surgery.



Drill Diameter	Ø2.8	Ø3.3	Ø3.6	Ø4.2	Ø4.8	Ø5.8	Ø6.9
Y length	0.58	0.59	0.68	0.85	0.89	0.94	0.94

※ Actual drill length : Drill length does not normally include the Y dimension of the drill.

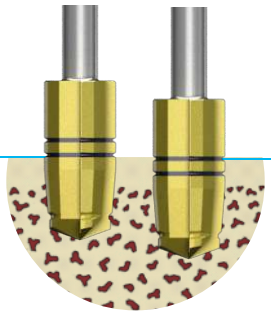
※ Markings on the Shapping Drill are 0.5mm longer than the fixture so fixtures will automatically be placed 0.5mm subcrestally if the drilling protocol is followed.



※ To place a Ø5.0 x 10mm length fixture, the required bone depth would be 10.89mm.
For example : 0.5mm(subcrestal concept) + 0.89mm(Y dimension of drill tip) + 9.5mm (fixture length)

Dense Drill

- To control initial stability in dense bone (type I & II), use the Dense Drill to remove and shape the cortical bone.

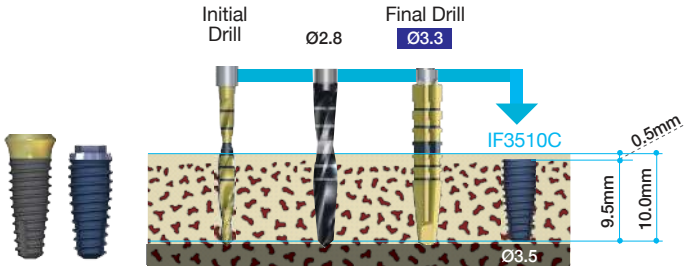


D2 Bone
In type II bone, drill to the first line.

D1 Bone
In type I bone, drill to the second line.

▸▸ Surgical drilling sequence

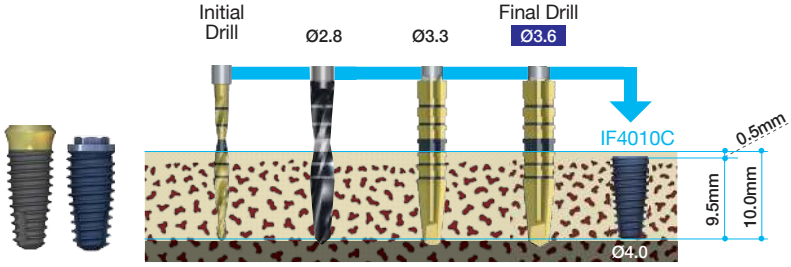
- AnyOne fixtures offer optimum initial stability when they are used with the following drill sequence guide, AnyOne implants should be placed 0.5mm subcrestally.



Ø3.5 Fixture

Ø3.5 drilling sequence

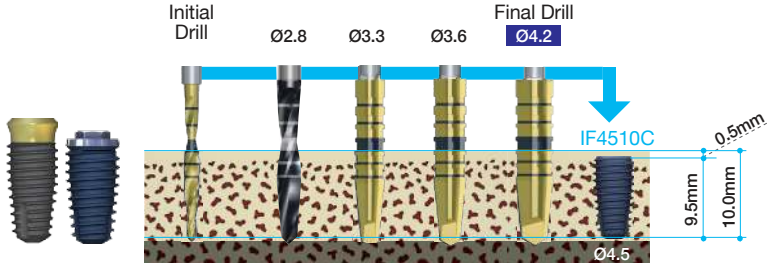
10.0mm is the fixture length, The Shaping Drills are 0.59mm longer than the fixture, so total drill depth is **10.59mm**.



Ø4.0 Fixture

Ø4.0 drilling sequence

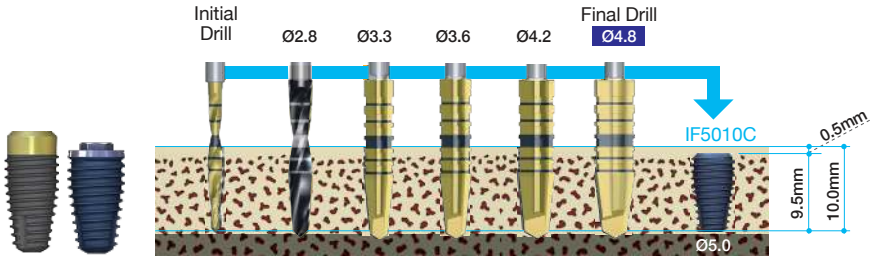
10.0mm is the fixture length, The Shaping Drills are 0.68mm longer than the fixture, so total drill depth is **10.68mm**.



Ø4.5 Fixture

Ø4.5 drilling sequence

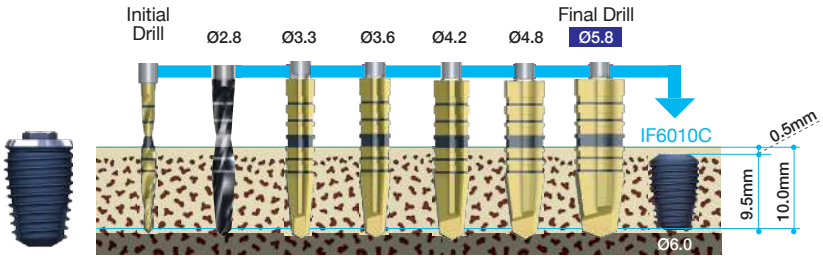
10.0mm is the fixture length, The Shaping Drills are 0.85mm longer than the fixture, so total drill depth is **10.85mm**.



Ø5.0 Fixture

Ø5.0 drilling sequence

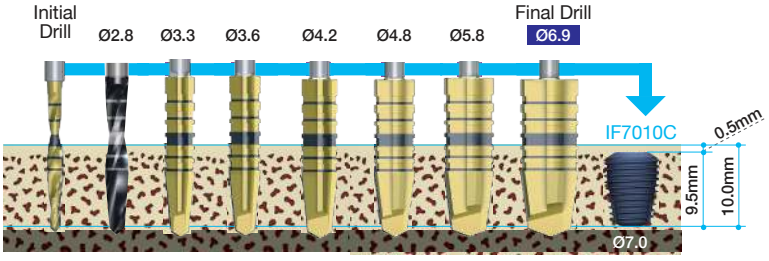
10.0mm is the fixture length, The Shaping Drills are 0.89mm longer than the fixture, so total drill depth is 10.89mm.



Ø6.0 Fixture

Ø6.0 drilling sequence

10.0mm is the fixture length, The Shaping Drills are 0.94mm longer than the fixture, so total drill depth is 10.94mm.



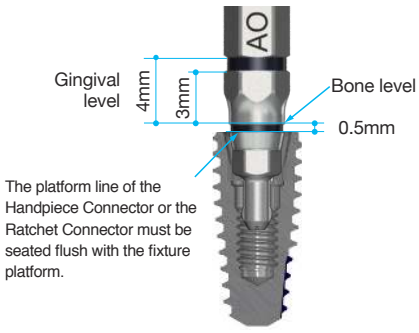
Ø7.0 Fixture

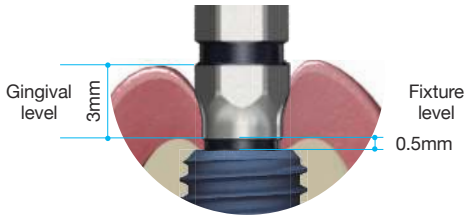
Ø7.0 drilling sequence

10.0mm is the fixture length, The Shaping Drills are 0.94mm longer than the fixture, so total drill depth is 10.94mm.

▸▸ Handpiece & Ratchet Connector

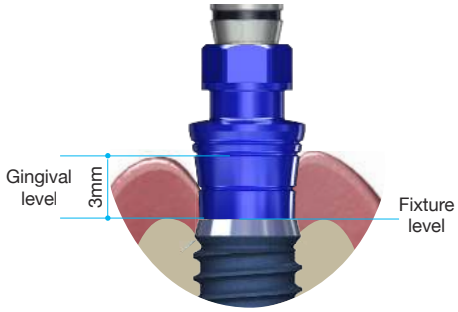
Internal





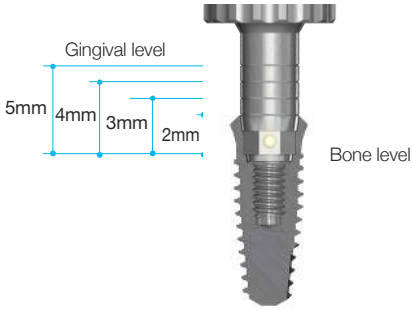
※ Fixture level : Placement should be 0.5mm subcrestal.
※ Gingival level : The line is 3mm above the bone level line and 3.5mm above the platform line

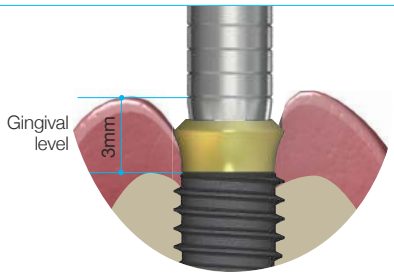
External



※ Fixture Level : Place in accordance with bone level
※ Gingival Level : Place 3mm above the bone level

OneStage





※ Fixture Level : Place in accordance with bone level
※ Gingival Level : Place 3mm above the bone level

Surgical Kit Components (Continued)

Initial Drill

- Used to pierce the cortical bone initially.
- Advisable to go into the bone to the full length of a fixture.

Diameter	Length(mm)	Ref.C
Ø1.8	33	ID1818S
	38	*ID1818M
	43	*ID1818L

(*) Separate sales item.

Shaping Drill

- Each drill has depth marking lines from 7.0mm to 15.0mm.
- The dual marking system(grooves and laser markings) provides visual and radiographic depth verification during surgery.
- TiN coating on drills : Enhanced corrosion resistance and abrasion resistance.

Diameter	Length(mm)	Ref.C
Ø2.0	33	SD2018S
	38	*SD2018M
	43	*SD2018L
Ø2.5	33	SD2518S
	38	*SD2518M
	43	*SD2518L
Ø2.8	33	SD2818S
	38	*SD2818M
	43	*SD2818L
Ø3.3	33	SD3318S
	38	*SD3318M
	43	*SD3318L
Ø3.6	33	SD3618S
	38	*SD3618M
	43	*SD3618L
Ø4.2	33	SD4218S
	38	*SD4218M
	43	*SD4218L
Ø4.8	33	SD4818S
	38	*SD4818M
	43	*SD4818L
Ø5.8	33	SD5818S
	38	*SD5818M
	43	*SD5818L
Ø6.9	33	SD6918S
	38	*SD6918M
	43	*SD6918L

(*) Separate sales item.

Dense Drill

- Used to remove and shape cortical bone to control initial stability in dense bone (type I & II).
- TiN coating on drills : Enhanced corrosion resistance and abrasion resistance.

Diameter	Type	Ref.C
Ø3.9	Long	DD39
Ø4.3		DD43
Ø4.8		DD48
Ø5.3		DD53
Ø6.3		DD63
Ø7.3		DD73

Surgical Kit Components (Continued)

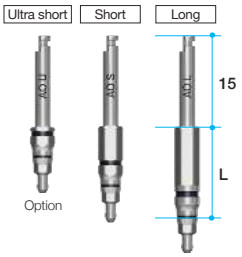
Handpiece Connector

- Used with Handpiece to remove fixture from ampule and to place the fixture.
- Spring type connection allows for easy and secure pick-up and positioning of the fixture.
- First mark on the shaft indicate the position of the fixture platform, For second mark, the bottom of the black line is 3mm and the top of the black line is 4mm(from fixture platform).
- Especially useful in flapless surgery.

AnyOne Internal& External

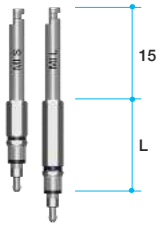
Length(mm)	Type	Connection	Ref.C
5	*Ultra-short	Hex. 2.5	HCU25
10	Short		HCS25
15	Long		HCL25

(*) Separate sales item



MiNi

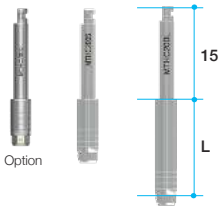
Length(mm)	Type	Connection	Ref.C
10	Short	Hex. 1.7	HCS17
15	Long		HCL17



OneStage

Length(mm)	Type	Connection	Ref.C
6	*Ultra-short	Octa. 3.1	MTHC200U
9	Short		MTHC200S
16	Long		MTHC200L

(*) Separate sales item



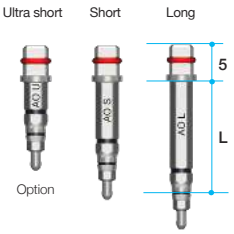
Ratchet Connector

- Used for inserting or removing a fixture with the Ratchet Wrench.
- Check to make sure the Ratchet Connector is completely seated into the Ratchet Wrench before using.
- Excessive force can cause damage to internal hex of fixture.
- Marks on the shaft indicate the position of fixture platform. Bottom of the black line is 3mm and top of black line is 4mm(from fixture platform).
- Especially useful in flapless surgery.

Internal& External

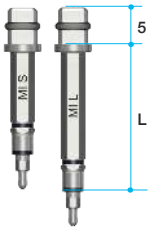
Length(mm)	Type	Connection	Ref.C
10	*Ultra-short	Hex. 2.5	RCU25
15	Short		RCS25
20	Long		RCL25

(*) Separate sales item



MiNi

Length(mm)	Type	Connection	Ref.C
15	Short	Hex. 1.7	RCS17
20	Long		RCL17

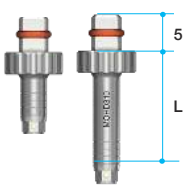


Final Driver

- Used to attach or remove the fixture by connecting to Ratchet Wrench
- Used to mount the Ratchet Connector fully on the Ratchet Wrench

OneStage

Length(mm)	Type	Connection	Ref.C
6	Short	Octa. 3.1	MOHD310S
13	Long		MOHD310



Hand Driver (1.2 Hex)

- Used for all Cover Screws, Abutment Screws, and Healing Abutments.
- Available in 4 lengths for added convenience.
- Hand Driver can be directly inserted into the Torque Wrench without using an adaptor.
- Hex tip can with stand 35-45Ncm of torque without distorting.

Length(mm)	Type	Ref.C
5	*Ultra-short	TCMHDU1200
10	Short	TCMHDS1200
15	Long	TCMHDL1200
20	*Extra-long	TCMHDE1200

(*) Separate sales item

Hand Driver (0.9 Hex)

- Used for AnyOne External fixture cover screw.
- Available in 3 lengths for convenience.
- Hand Driver can be directly inserted in the to Torque Wrench without using an adaptor.
- Hex tip can with stand 25-35Ncm of torque without distorting.

Length(mm)	Type	Ref.C
5	*Ultra-short	TCMHDU0900
10	Short	TCMHDS0900
15	Long	TCMHDL0900

(*) Separate sales item

Drill Extension

- No more than 35Ncm torque : May distorted when excessive force is applied.
- Extends drills & other handpiece instruments.

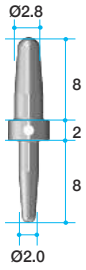
Ref.C
MDE150

Surgical Kit Components

Direction Indicator

- Confirms drilling direction and functions as a parallel guide for additional osteotomies.
- Each end of the Direction Indicator has a different diameter
  - Ø2.0 and Ø2.8.

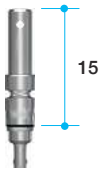
Diameter	Ref.C
Ø2.0 / Ø2.8	MDI100



Path Finder

- After the fixture is placed, a Path Finder may be connected into the fixture and function as a parallel guide for additional osteotomies.
- Grooves indicate the distance from the fixture platform.The first groove is 0.3mm and the second groove is 1mm, especially useful in flapless surgery.

Length(mm)	Ref.C
15	PF



Ratchet Wrench

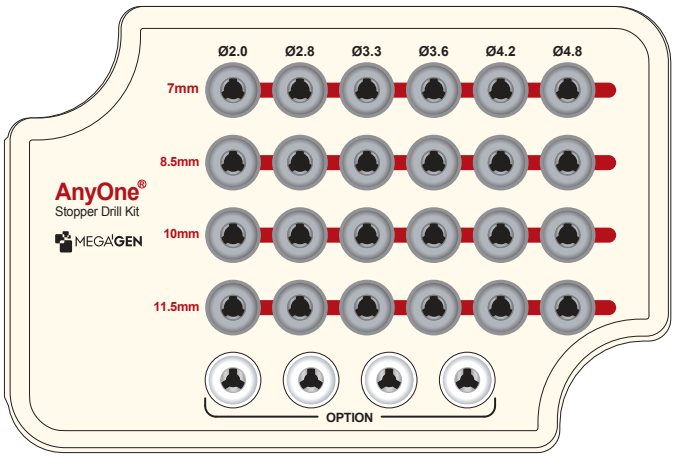
- Used to exert more force than the Handpiece.
- No bearing system : No breakage and no corrosion problems.
- Arrow laser marking indicates direction of force.

Ref.C
MRW040S

II. AnyOne Stopper Drill Kit

AnyOne Stopper Drill Kit helps to drill safely and conveniently to a desired depth.

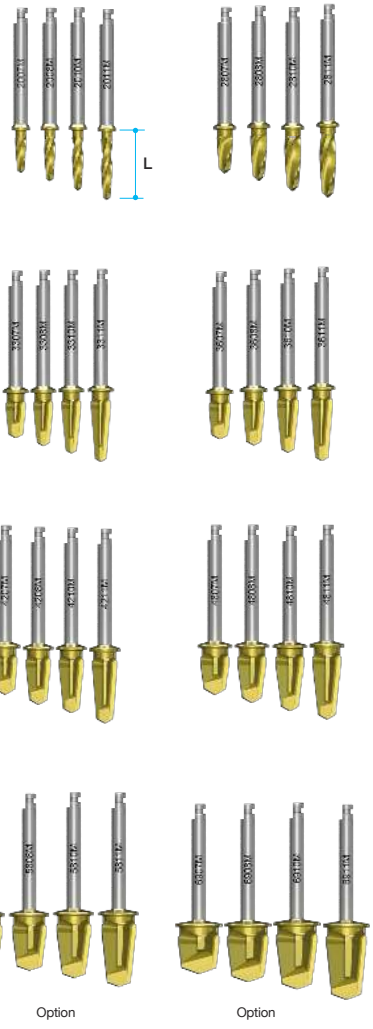
Ref.C
KAOSS3000



Stopper Drill

Diameter	Length(mm)	Ref.C
Ø2.0	7	SD2007M
	8.5	SD2008M
	10	SD2010M
	11.5	SD2011M
Ø2.8	7	SD2807M
	8.5	SD2808M
	10	SD2810M
	11.5	SD2811M
Ø3.3	7	SD3307M
	8.5	SD3308M
	10	SD3310M
	11.5	SD3311M
Ø3.6	7	SD3607M
	8.5	SD3608M
	10	SD3610M
	11.5	SD3611M
Ø4.2	7	SD4207M
	8.5	SD4208M
	10	SD4210M
	11.5	SD4211M
Ø4.8	7	SD4807M
	8.5	SD4808M
	10	SD4810M
	11.5	SD4811M
*Ø5.8	7	SD5807M
	8.5	SD5808M
	10	SD5810M
	11.5	SD5811M
*Ø6.9	7	SD6907M
	8.5	SD6908M
	10	SD6910M
	11.5	SD6911M

(*) Separate sales item.



III. AnyOne Prosthetic Kit
Internal

Ref.C

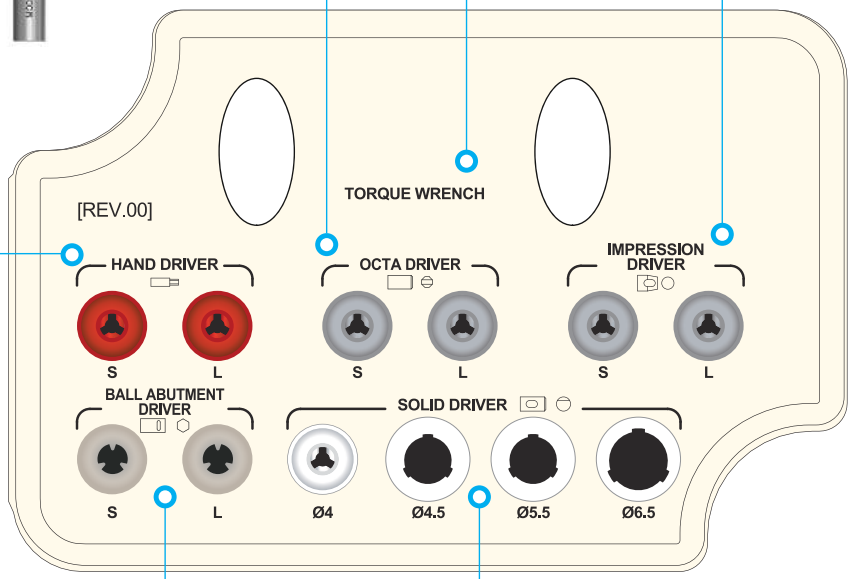
KAOPK3000

Refer to Page. 372

Torque Wrench

Octa Driver

Impression Driver



Hand Driver

Refer to Page. 401

Ball Abutment Driver

Solid Driver

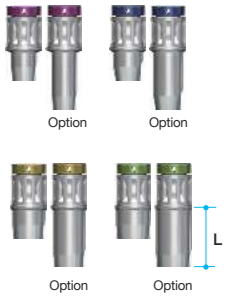
Prosthetic kit Components

Solid Driver

- For seating the Solid Abutment into the fixture.
- Connected to Torque Wrench as well.
- Color coded for different profile diameters. (Magenta : PD Ø4.0, Blue : PD Ø4.5, Yellow : PD Ø5.5, Green : PD Ø6.5)
- Two different lengths(6mm/ 12mm).

Diameter	Length(mm)	Type	Ref.C
Ø4.0	6	Short	SDS40
	12	Long	*SDL40
Ø4.5	6	Short	SDS45
	12	Long	*SDL45
Ø5.5	6	Short	SDS55
	12	Long	*SDL55
Ø6.5	6	Short	SDS65
	12	Long	*SDL65

(*) Separate sales item.



Octa Driver

- For seating the Octa Abutment onto the fixture.
- Can also be connected to Torque Wrench.

Length(mm)	Ref.C
6	MOD300S
12	MOD300L

Ball Driver

- For seating the Ball Abutment into the fixture.
- Can connect to a Handpiece, Ratchet or Torque Wrench.
- Available in long or short.

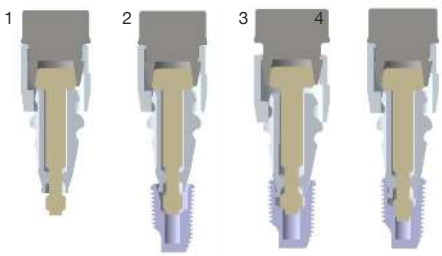
Type	Ref.C
*Handpiece Connector(Short)	TBH250S
*Handpiece Connector(Long)	TBH250L
*Ratchet Extension(Short)	TBR250S
*Ratchet Extension(Long)	TBR250L
Torque Driver(Short)	TBT250S
Torque Driver(Long)	TBT250L

(*) Separate sales item.

Impression Coping Driver (Transfer)

- For transfer type of Impression Coping.
- Works with friction only.
- Small but powerful grip.

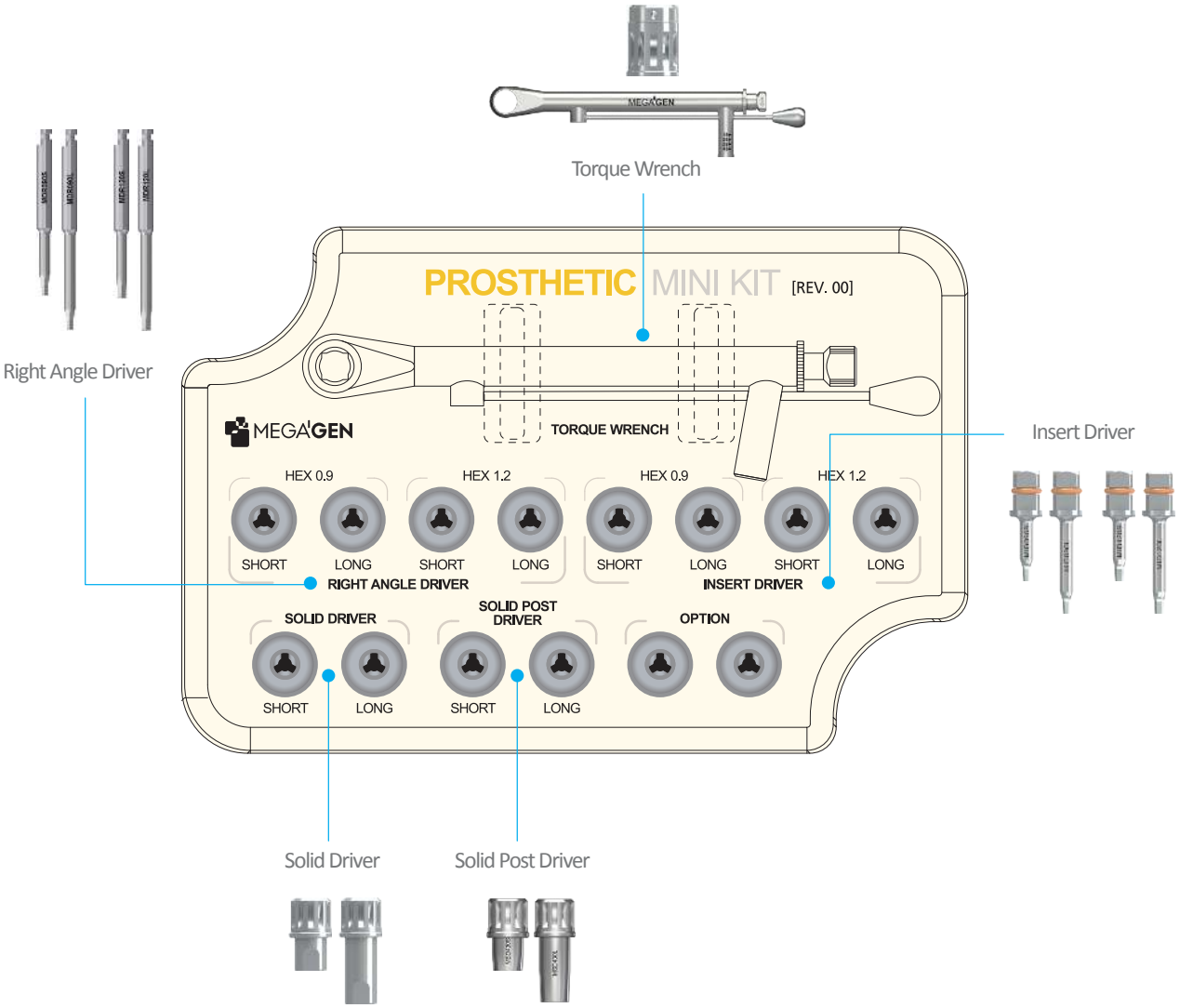
Type	Ref.C
For Two piece impression Coping	TCMID
For One piece impression Coping	TCMIDE



1. Connect Impression Coping and Impression Driver together
2. Adjust Connection with a Fixture by turning a Holder clockwise.
3. Push the Holder and put the Impression Coping into the Fixture.
4. Turn the Driver clockwise to ensure connection of the Impression Coping and Fixture.

IV. AnyOne Prosthetic Kit
External / Onestage

Ref.C
MPK3000

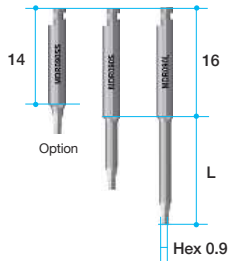


➲ Prosthetic kit Components

Right Angle Driver (hex 0.9)

- Can be engaged with Cover Screws, Abutment Screws and Healing Abutment
- Hex tip has been designed to stand Torque force of 35~45 Ncm
- Used for AnyOne External

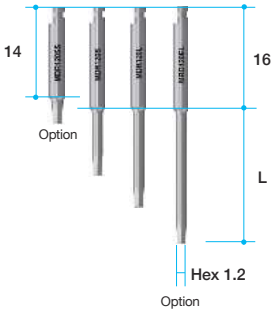
Length(mm)	Type	Ref.C
4	*Ultra-short	MDR090SS
10	Short	MDR090S
15	Long	MDR090L



Right Angle Driver (hex 1.2)

- Can be engaged with Cover Screws, Abutment Screws and Healing Abutment
- Hex tip has been designed to stand Torque force of 35~45 Ncm
- Used for AnyOne Internal & External

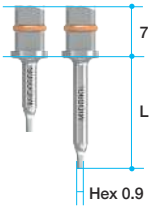
Length(mm)	Type	Ref.C
4	*Ultra-short	MDR120SS
10	Short	MDR120S
15	Long	MDR120L
20	*Extra Long	MDR120EL



Insert Driver (hex 0.9)

- Can be engaged with Cover Screws, Abutment Screws and Healing Abutment
- Hex tip has been designed to stand Torque force of 35~45 Ncm

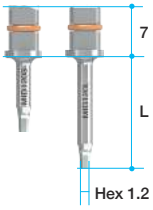
Length(mm)	Type	Ref.C
10	Short	MID090S
15	Long	MID090L



Insert Driver (hex 1.2)

- Can be engaged with Cover Screws, Abutment Screws and Healing Abutment
- Hex tip has been designed to stand Torque force of 35~45 Ncm

Length(mm)	Type	Ref.C
10	Short	MID120S
15	Long	MID120L



Solid Driver

- Can be engaged with Solid Abutment
- Connected to Torque Wrench as well
- Offers various options of Length (6mm / 12mm)

Diameter	Length(mm)	Type	Ref.C
Ø3.4	6	Short	MSD300S
	12	Long	MSD300L

Solid Post Driver

- Can be engaged with Solid Abutment
- Connected to Torque Wrench as well
- Offers various options of Length (6mm / 12mm)

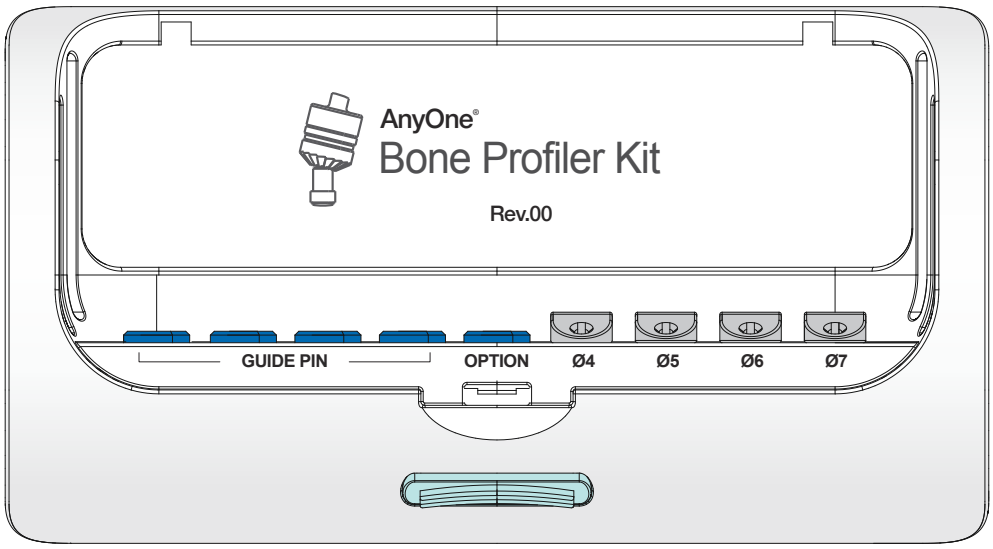
Diameter	Length(mm)	Type	Ref.C
Ø4.3	6	Short	MSD430S
	12	Long	MSD430L

V. AnyOne Bone Profiler Kit

Ref.C
KAOBP3000

Removes the overhanged bone around a fixture to allow adequate seating of a Healing Abutment or a Prosthetic Abutment.

- Place a Guide Pin into a fixture and choose a Bone Profiler which fits with the situation.
- Four different sizes of bone profiler and four guide pins are included in the kit.

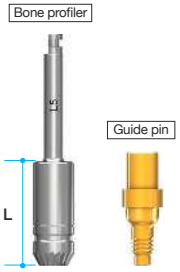


Bone Profiler

- Guide Pin(BPGP2) included.

- Each bone profiler can be purchased separately for refill.
- Each pakage includes a bone profiler and a guide pin.

Profile Diameter	Length (mm)	Ref.C
Ø4	13	AOBP40G
Ø5		AOBP50G
Ø6	8	AOBP60G
Ø7		AOBP70G



VI. Optional components (Continued)

- not included in a surgical kit
- may be purchased separately and placed in the spaces provided in the surgical kit

Lindermann Drill

- Cross cut on the drill.
- Can correct the path during drilling.

Diameter(mm)	Ref.C
2	TEEL200M

Hand Tap

- Useful when the internal screw of the Fixture has been damaged
- For Re-tapping the disabled thread
- It can even more damage the thread when excessive force is applied when Re-tapping. Therefore it is recommended to apply the force slowly and gradually
- M1.6 can be used for AnyOne's External fixtures with Small Sizes

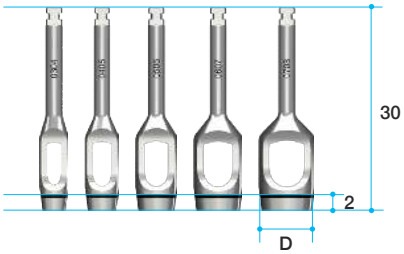
Length(mm)	Type	Ref.C
10	M1.6	THT160L
	M2.0	THT200L

VI. Optional components (Continued)

Tissue Punch

- Customized to remove soft tissue using osteotomy socket and useful for flapless surgery
- Easy to identify the thickness of soft tissue by comparing the tissue with the laser marking on the height of 2mm
- Can minimize the loss of soft tissue when conducting a flapless surgery
- Can stop from bleeding when used with Healing Abutment

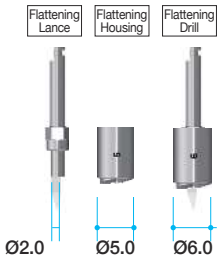
Diameter	Marking	Ref.C
In. Ø3 / Out. Ø4	2mm	TCMTPM0304
In. Ø4 / Out. Ø5		TCMTPM0405
In. Ø5 / Out. Ø6		TCMTPM0506
In. Ø6 / Out. Ø7		TCMTPM0607
In. Ø7 / Out. Ø8		TCMTPM0708



Flattening Drill

- Flattens the irregular bone and enables the stopper drill to drill the exact depth
- Designed to be engaged with Flattening Lance and Housing. There are 2 kinds of Housing to match the diameters of different final drills. (Ø5.0 & Ø6.0)
- Ø5.0 = Stopper Drill Ø2.0 ~ Ø4.3
- Ø6.0 = Stopper Drill Ø4.8 ~ Ø5.4
- By using Housing Boundary of the path is formed and it becomes the barometer of the drilling position for the next fixture

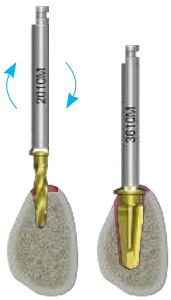
Diameter	Length(mm)	Ref.C
Ø5.0 / Ø2.0	3.5	FD5020
Ø6.0 / Ø2.0		FD6020



1

- Use Flattening Drill to make drilling on the right fixture position
  (If the Final drill's diameter is from Ø2.0~Ø4.3, use Ø5.0 Housing and in case the diameter is Ø4.8, Ø5.4 use Ø6 Housing.)

2



- Start drilling sequence below considering the size of fixtures to place and the bone density

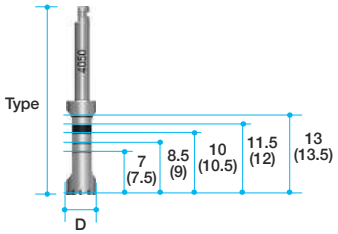
3

- Start placing the fixtures using Handpiece & Ratchet Connector

Trephine Bur

- Minimizes the drilling steps needed, especially for wider fixtures.
- Helpful for collecting autogenous bone.
- Useful for removing failed and fractured fixtures.
- Depth markings are 7, 8.5, 10, 11.5, 13mm, same depths as fixtures. (No Y dimension so markings are actual length).
- Markings on the drill shaft represent the inside / outside diameter of Trephine Burs.

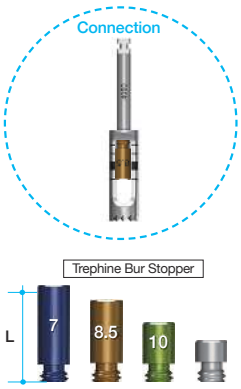
Diameter	Type	Ref.C
Ø3.5 (in Ø2.5)	Short (32mm)	TANTBL2535
Ø5.0 (in Ø4.0)		TANTBL4050
Ø6.0 (in Ø5.0)		TANTBL5060
Ø7.0 (in Ø6.0)		TANTBL6070
Ø3.5 (in Ø2.5)	Long (38mm)	TANTBE2535
Ø5.0 (in Ø4.0)		TANTBE4050
Ø6.0 (in Ø5.0)		TANTBE5060
Ø7.0 (in Ø6.0)		TANTBE6070



Trephine Bur Stopper

- Controls the depth of trephination with a Stopper placed into the Trephine.
- Especially useful in cases with limited availabe bone from important anatomy.

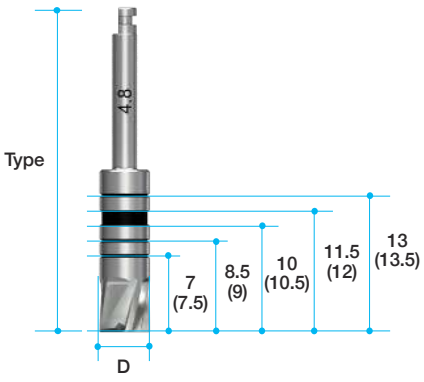
Length (mm)	Ref.C
7.0	TANTSF2307
8.5	TANTSF2308
10.0	TANTSF2310
11.5	TANTSF2311



Bottom Drill

- It removes remaining bone in osteotomy socket after trephine drilling.
- It imprints the sizes of fixtures, for example 7, 8.5, 10, 11.5 and 13mm, by laser marker.

Diameter	Type	Ref.C
Ø3.3	Short (32mm)	TCMBDS33
Ø3.8		TCMBDS38
Ø4.8		TCMBDS48
Ø5.8		TCMBDS58
Ø6.8		TCMBDS68
Ø3.3	Long (38mm)	TCMBDL33
Ø3.8		TCMBDL38
Ø4.8		TCMBDL48
Ø5.8		TCMBDL58
Ø6.8		TCMBDL68



VI. Optional components (Continued)

Reamer Drill & Center Pin

- Removes inner lip of the cast after casting Burn-out Cylinders of Solid Abutment.
- Center Pin have 4 different diameters according to the profile diameter of Solid Abutments.

Diameter	Type	Ref.C
Ø10.0	Reamer Drill	TANRD
Ø4.0	Center Pin	RDJ40
Ø4.5		RDJ45
Ø5.5		RDJ55
Ø6.5		RDJ65

Slot Driver
(Slotted type)

- Useful for the placement or removal of AnyOne Healing Abutment which has slot on the top.

Length(mm)	Type	Ref.C
10	Short	SDS06
15	Middle	SDM06
20	Long	SDL06

Multi-unit Driver (2.0 Hex)
(For Multi-unit Abutment)

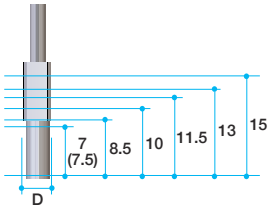
- For the seating & tightening of Multi-unit Abutment (Straight type)

Length(mm)	Type	Ref.C
10	Short	TCMMUDS20
15	Long	TCMMUDL20

Tap Drill

- Can use both Handpiece(Dental implant engine) & Ratchet Wrench

Diameter	Marking	Ref.C
Ø3.9	7/ 8.5/ 10/ 11.5/ 13/ 15	TD35
Ø4.3		TD40
Ø4.8		TD45
Ø5.3		TD50
Ø6.3		TD60
Ø7.3		TD70

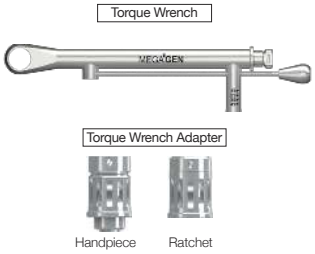


Torque Wrench & Adapter

- Torque Wrench has various options to control the force from 15Ncm ~ 45Ncm and can be used for engaging with Abutment Screw

Type	Ref.C
Torque Wrench	MTW300AT
*Right Angle Adapter (Handpiece)	TTAI100
Torque Wrench Adapter (Ratchet)	TTAR100

(*) Separate sales item.



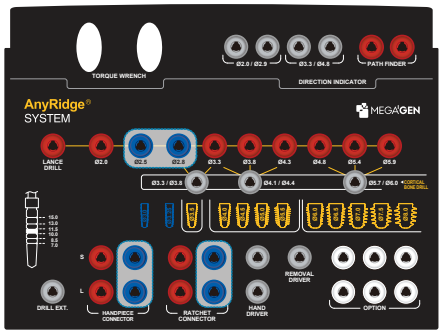
Mount Removal Driver

Length(mm)	Ref.C
19	MVD100

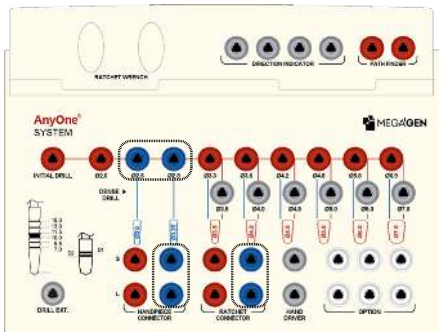
MiNi™ Kit

The instruments of MiNi Internal system are included in AnyRidge & AnyOne surgical kit.

※ Even the customers who do not use AnyRidge & AnyOne Internal System can experience MiNi System at any time by purchasing only six instruments separately.



AnyRidge Surgical Kit (KARIN3003)



AnyOne Surgical Kit (KAOIN3003)

Shaping Drill

Diameter	Length(mm)	Ref.C
Ø2.5	33	SD2518S
	38	*SD2518M
	43	*SD2518L
Ø2.8	33	SD2818S
	38	*SD2818M
	43	*SD2818L

(*) Separate sales item.

Handpiece Connector

Type	Ref.C
Short	HCS17
Long	HCL17

Ratchet Connector

Type	Ref.C
Short	RCS17
Long	RCL17

Handpiece Connector

- Can use Overdenture Fixture

Type	Ref.C
Short	*OHCS

(*) Separate sales item.

Ratchet Connector

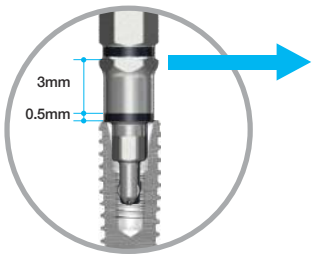
- Can use Overdenture Fixture

Type	Length (mm)	Ref.C
Short	12	*ORCS

(*) Separate sales item.

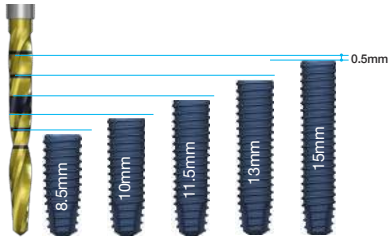
Product coordinator : jung hee Lee, rnd_implant3@imegagen.com

9.5 fixture length and drilling marking

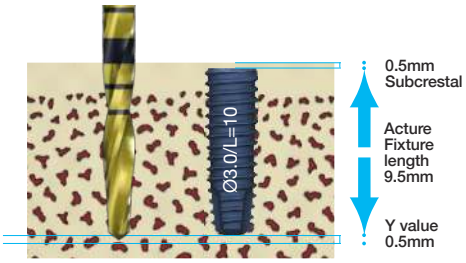


The platform line of the Handpiece Connector or the Ratchet Connector must be flush with the fixture platform.

⚠ When using the Ratchet Wrench, do not use an excessive torque as it can damage of internal structure of the fixtures. It is not recommended to exceed the maximum torque of 75N·cm.

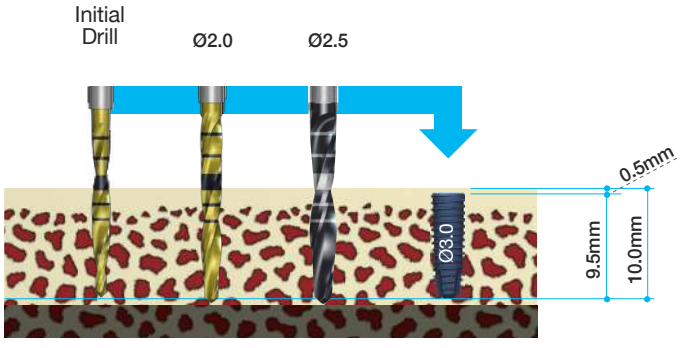


The actual lengths of MiNi™ internal fixtures are 0.5mm shorter than the depth markings of a Shaping Drill. Therefore, the fixture will be placed 0.5mm under the crest automatically.

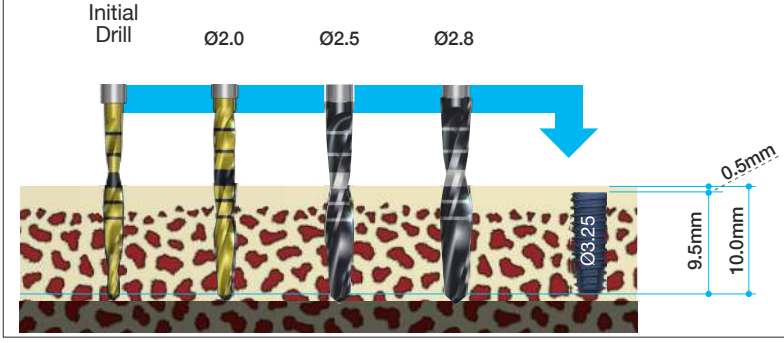


Actual drilling depth 10.5mm = 0.5mm subcrestal + 9.5mm actual fixture length + 0.5mm Y value
* Fixture Ø3.0 (Y value = 0.5mm), Ø3.25 (Y value = 0.6mm)

Surgical drilling sequence



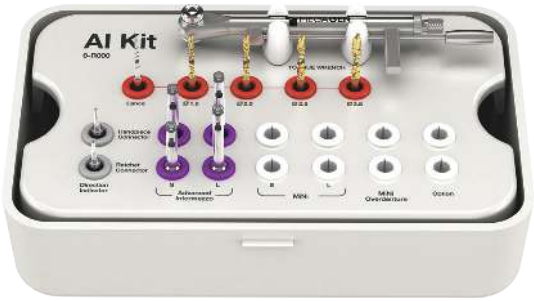
Actual drilling depth 10.5mm= 0.5mm subcrestal + 9.5mm actual fixture length + 0.5mm Y value



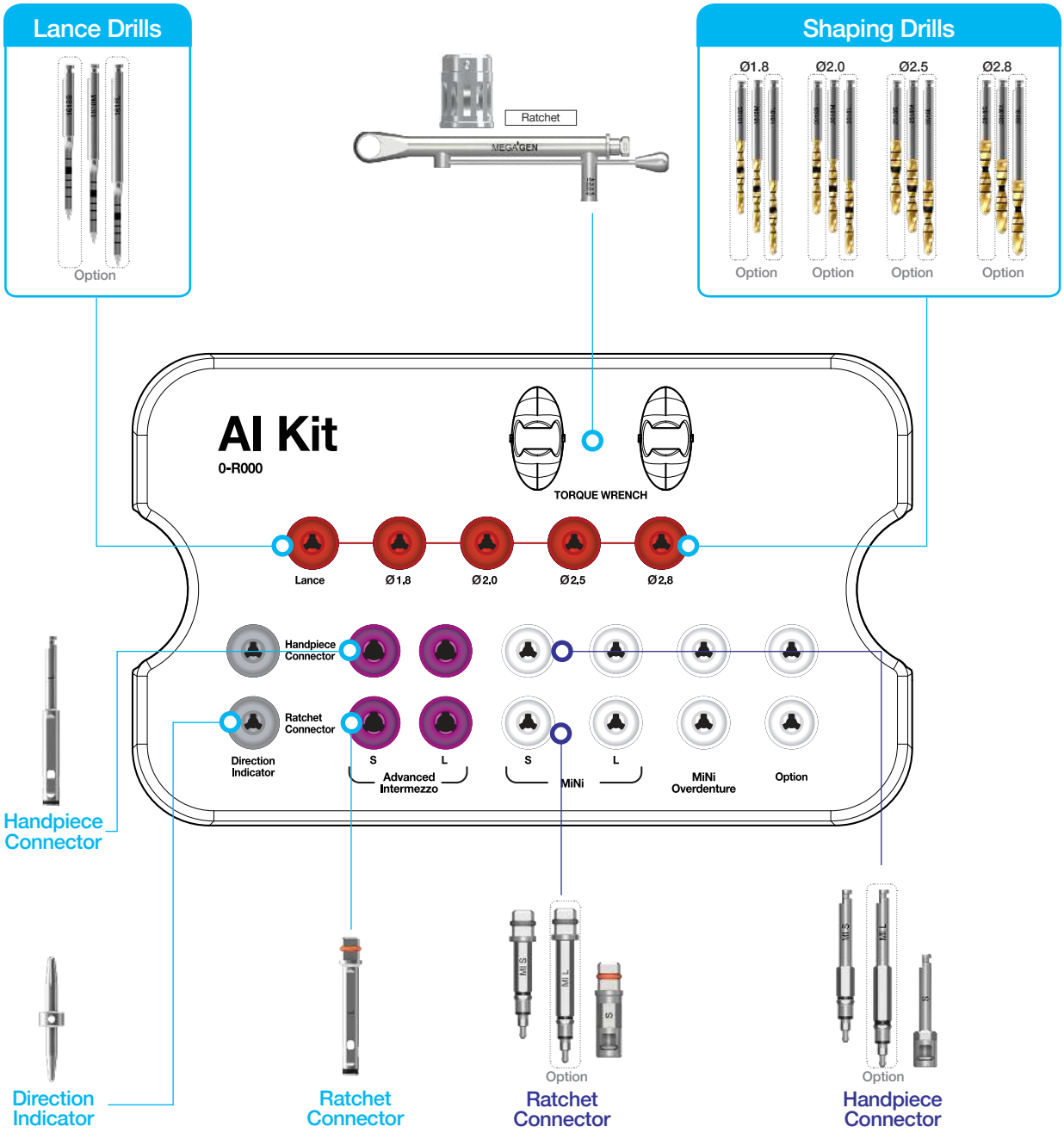
Actual drilling depth 10.6mm = 0.5mm subcrestal + 9.5mm actual fixture length + 0.6mm Y value

Advanced Intermezzo / MiNi Surgical Kit

With Options



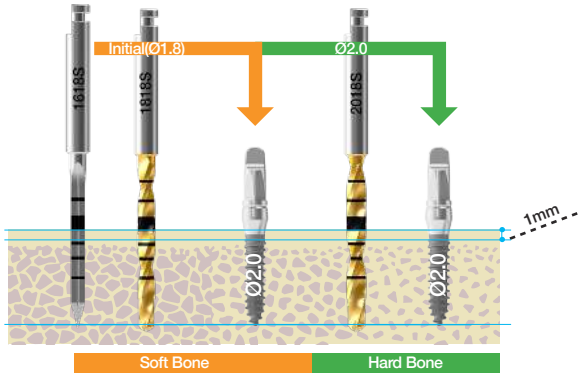
Without Options



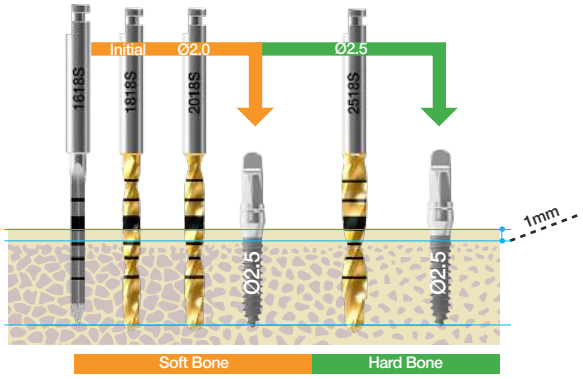
Drilling Protocols

- AI fixtures achieve optimum initial stability when used with a guided drilling sequence
- AI implants should be placed 1mm sub crestally
  0.5~1mm subcrestal placement has been proven to show a better crestal bone response

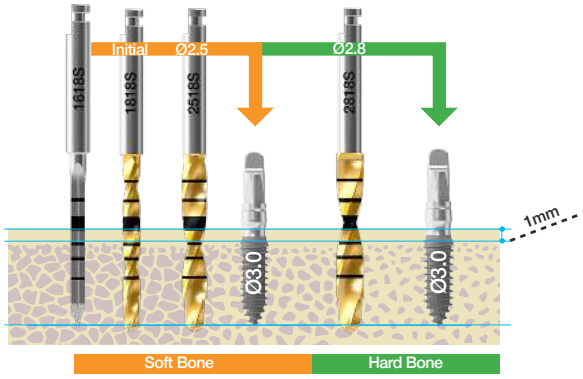
Ø2.0 Fixture Drilling sequence



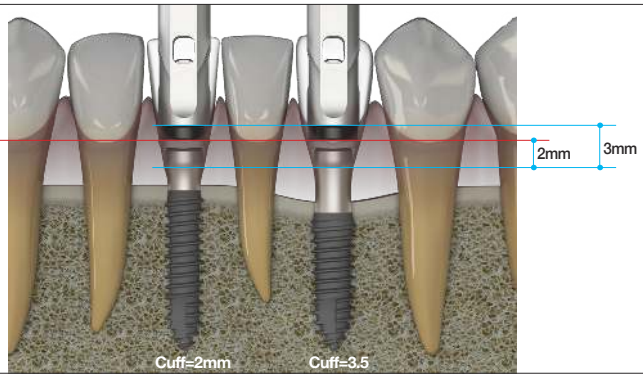
Ø2.5 Fixture Drilling sequence



Ø3.0 Fixture Drilling sequence



Fixture Depth Guide



Surgical Kit Components

Lance Drill

- Useful to make an indentation on cortical bone to confirm the exact drilling location.

Diameter	Length(mm)	Ref.C
Ø1.6	33	*LD1618S
	38	LD1618M
	43	*LD1618L

(*) Separate sales item.

Shaping Drill

- Each drill has depth marking lines from 7.0mm to 15.0mm.
- The dual marking system(grooves and laser markings) provides visual and radiographic depth verification during surgery.
- TiN coating on drills : Enhanced corrosion resistance and abrasion resistance.

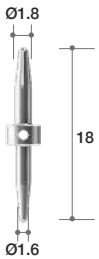
Diameter	Length(mm)	Ref.C
Ø1.8	33	*NSD1818S
	38	NSD1818M
	43	*NSD1818L
Ø2.0	33	*NSD2018S
	38	NSD2018M
	43	*NSD2018L
Ø2.5	33	*NSD2518S
	38	NSD2518M
	43	*NSD2518L
Ø2.8	33	*NSD2818S
	38	NSD2818M
	43	*NSD2818L

(*) Separate sales item.

Direction Indicator

- Confirms drilling direction and location during drilling.
- Checks drilling position

Diameter	Ref.C
Ø1.6 / Ø1.8	MDI1618



Handpiece Connector

- Use with Handpiece to remove fixture from ampule and place fixture
- Taper Connection allows for easy and secure pick-up and positioning of fixture
- Especially useful for flapless surgery

Type	Length(mm)	Ref.C
Short	30	AIHCS
Long	35	AIHCL

Ratchet Connector

- Use for inserting or removing fixture with Ratchet Wrench.
- Check to make sure Ratchet Connector is completely seated in Ratchet Wrench before using
- Excessive force can cause damage to Post hex of fixture.
- Especially useful for flapless surgery.

Type	Length(mm)	Ref.C
Short	23	AIRCS
Long	30	AIRCL

Handpiece Connector

- Can use MiNi Fixture

MiNi

Type	Ref.C
Short	*HCS17
Long	*HCL17

(*) Separate sales item.

Ratchet Connector

- Can use MiNi Fixture.

MiNi

Type	Ref.C
Short	*RCS17
Long	*RCL17

(*) Separate sales item.

Handpiece Connector

- Can use MiNi Overdenture Fixture.

MiNi

Type	Ref.C
Short	*OHCS

(*) Separate sales item.

Ratchet Connector

- Can use MiNi Overdenture Fixture.

MiNi

Type	Length (mm)	Ref.C
Short	12	*ORCS

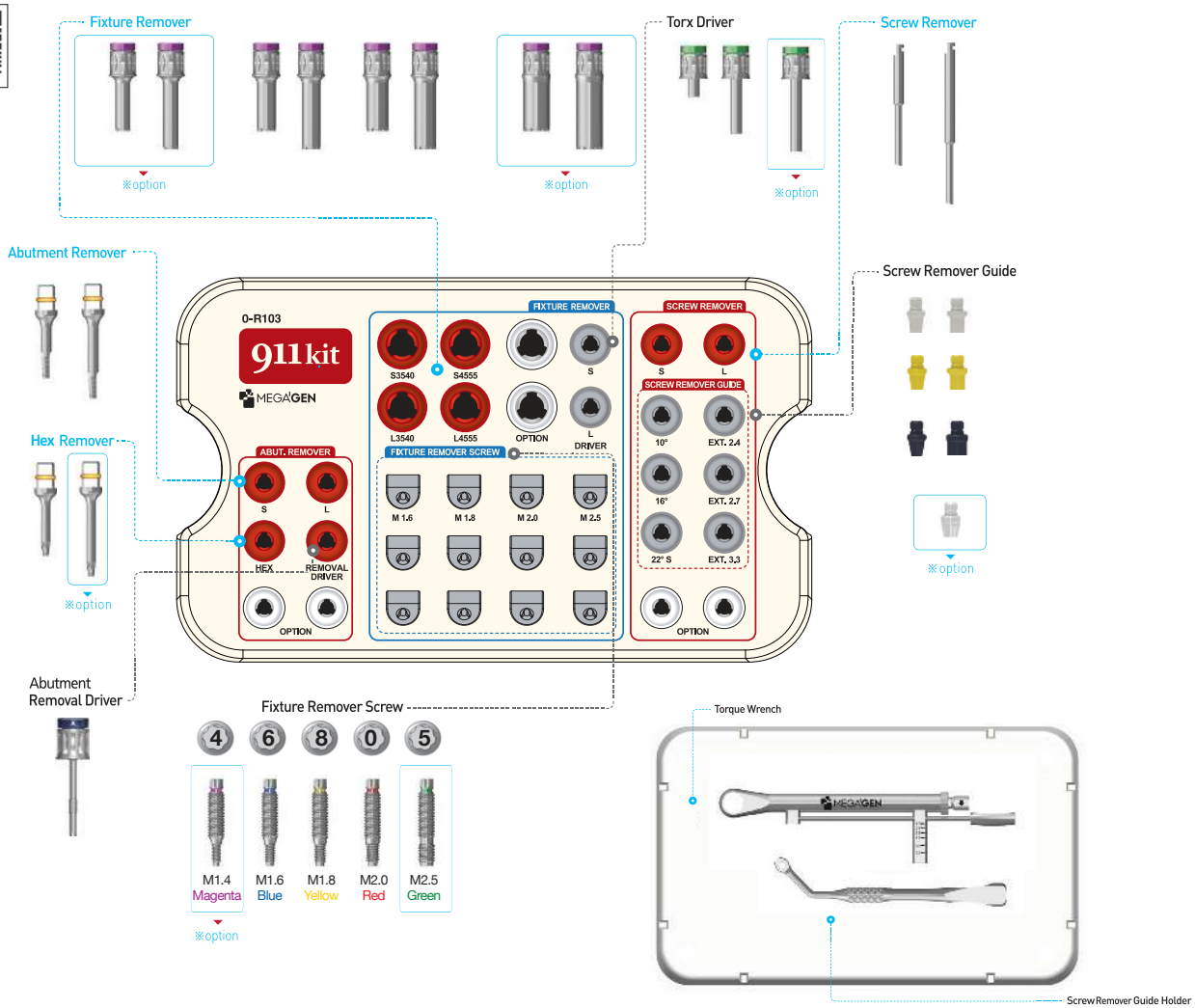
(*) Separate sales item.

911kit PDF Compressor Free Version

The total solution kit to remove broken pieces easily when fixture, abutment or screw are fractured.

Ref.C

KPSCS3000

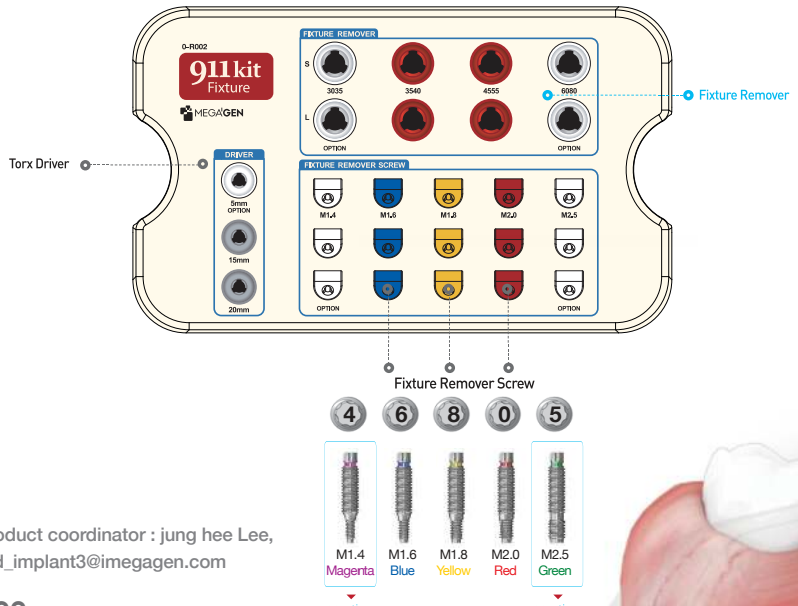


911Fixture Removal kit

This is a simplified version of 911 kit, only to use for fixture removal.

Ref.C

KPSFS3000



Product coordinator : jung hee Lee,
rnd_implant3@imegagen.com

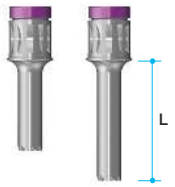
911kit Components (Continued)

Fixture Remover

- To remove the fixture. When selecting a Fixture Remover, consider the outer diameter of a Fixture. In case of AnyRidge Fixture that the thread is formed under platform, select a Fixture Remover according to platform size

Applied Fixture Diameter	Length(mm)	Ref.C
Ø3.0~Ø3.6	15	*FSS3035
	20	*FSL3035
Ø3.7~Ø4.6	15	FSS3540
	20	FSL3540
Ø4.7~Ø5.6	15	FSS4555
	20	FSL4555
Ø5.7~Ø7.0	15	*FSS6080
	20	*FSL6080

(*) Separate sales item.



Fixture Remover Screw

- To connect fixture and Fixture Remover.
- Recommended tightening torque
  - FSS14, FSS16 : 40~50 Ncm
  - FSS18, FSS20, FSS25 : 70~80 Ncm.

Applied Fixture Thread	Color	Torque	Ref.C
M1.4 (MiNi)	Magenta	70 Ncm	*FSS14
M1.6 (EZ Plus, ExFeel Ø3.3,Octa 1)	Blue		FSS16
M1.8 (AnyRidge)	Yellow	110 Ncm	FSS18
M2.0 (AnyOne, MegaFix, EZ Plus, ExFeel)	Red		FSS20
M2.5 (Rescue)	Green		*FSS25

(*) Separate sales item.

Torx Driver

- To connect fixture removal screw to a fixture.

Length (mm)	Ref.C
5	TD05
15	TD15
20	*TD20

(*) Separate sales item.

Torque Wrench

- TW500 : To check torque force when removing fixture.
- TW70 : To check torque force when tightening Fixture Remover Screw.

Type	Ref.C
300Ncm	TW500
70Ncm	*TW70

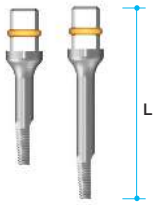
(*) Separate sales item.

911kit Components

Abutment Remover

- To remove fractured abutment.
- Use screw size M1.8 & M2.0.

Length (mm)	Ref.C
22	ASS
27	ASL

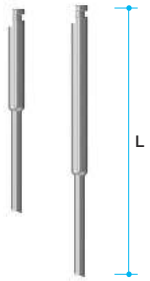


Screw Remover

- To remove fractured screw.
- Screw size of system
  M1.4=MiNi
  M1.6=EZ Plus, Exfeel Ø3.3
  M1.8=AnyRidge
  M2.0=AnyOne

Length (mm)	Type	Ref.C
30	M1.4 & M1.6	*SS1416S
45		*SS1416L
30	M1.8 & M2.0	SSS
45		SSL

(*) Separate sales item.



Screw Remover Guide

- To secure the Screw Remover from moving side to side when removing the screw.

Applied Fixture Diameter	Type	Ref.C
Internal	10°(AnyRidge)	SSIG10
	16°(AnyOne OneStage)	SSIG16
	22°(MiNi Internal)	*SSIG22S
	22°(AnyOne Internal)	SSIG22
	22°(Rescue Internal)	*SSIG22W
External	HEX 2.4 (AnyOne External Ø3.5)	SSEG24
	Hex 2.7 (AnyOne External)	SSEG27
	Hex 3.3 (Rescue External)	SSEG33

(*) Separate sales item.

Screw Remover Guide Holder

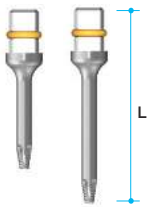
- Tool to support the Screw Remover Guide.

Ref.C
SSGH

Hex Remover

- To remove hex-damaged Abutment Screw, Cover Screw or Healing Abutment.

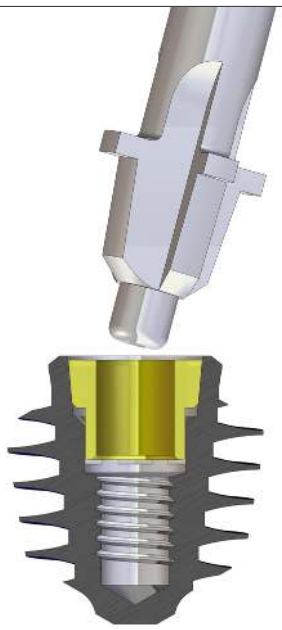
Length (mm)	Ref.C
22	HSS
27	HSL



Broken Abutment Remover Set for AnyRidge

: Remover set to remove fractured AnyRidge Abutment

Ref.C
ARARS



Components

High Speed Bur + Abutment Remover Driver + Abutment Remover Housing

How to

grind remaining fractured abutment using a high-speed bur, and remove the residue using a housing-connected driver

Recommendations

1. If an abutment hex is not separated even though the abutment is removed up to the stopper, remove the abutment hex with pincette.
2. Check the blade before usage. It is highly recommended to use a new bur if it is worn out.
3. Wash and sterilize immediately after every usage

※Cautions

1. Perpendicularly insert a high-speed bur into a fixture
2. Do not overload when using a high-speed bur. Adequate irrigation is highly recommend when using.
3. The given kit case is for storage only. Do not sterilize.
4. Anti-clockwise when in use.

Grinding and Removal Bur with a Implant motor

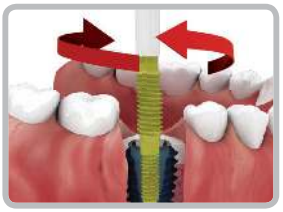
Ref.C
ARARHB18

▸▸ How to use 911kit

Fixture Remover

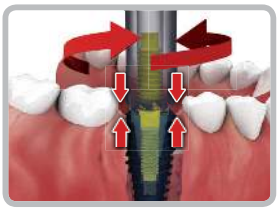
- Fixture Remover Screw: Single use only
- Do not use in case of a gap in Fixture Remover

Remove the prosthesis of the fixture to be removed, and the surrounding bone.



Select a Fixture Capture Screw of the same size as the fixture internal screw. Use the Torx Driver to turn the screw clockwise (40Ncm~70Ncm) to place in the fixture. (Use of torque less than 40Ncm for M1.6, and 60Ncm for other products may lead to loosening)

Select a Fixture Remover that fits the fixture diameter. Turn the fixed Fixture Remover Screw counterclockwise until it touches the fixture. (For a torque of greater than 300Ncm, it is recommended to use a Trephine bur)



Fixture and Fixture Remover are tightly connected as rising force and descending force are combined. (Suction is needed; debris may happen on removal of a fixture)

Using Torque Wrench, turn counterclockwise and pull out fixture and Fixture Remover. (No more than maximum torque per fixture)

Removed fixture can be pulled out, turning Fixture Remover and fixture clockwise, holding onto vice plier.

Abutment Remover

- Can use for abutments that use M1.8 & M2.0 screws.
- Cannot use for abutment that use M1.6 and M2.5

Insert the Abutment Remover in the fractured abutment hole.

Use the Ratchet Wrench to turn clockwise in order to join the abutment and the Abutment Remover as one body. (Ratchet Wrench is included in surgical kit)

Move the Abutment Remover sideways while pulling up to remove it. (Use of excessive force may traumatize the fixture or the bone)

Secure the separated abutment in a vice or vice pliers. Use the Ratchet Wrench to turn counterclockwise to separate the abutment with the Abutment Remover.

Screw Remover

Remove the broken Abutment Screw and the abutment.

Select the correct Screw Remover Guide that fits the fixture connection to join.

Secure the Screw Remover Guide and insert the Screw Holder in the Screw Remover Guide hole.

Push the Screw Remover downwards while rotating counter clockwise to separate it from the fixture internal screw.
(rpm:30~50, Torque : 30Ncm)

Remove the pieces of broken screw from the fixture internal screw using forceps.

When separating the holder from the guide, push in the direction of the arrow to separate.

Hex Remover

In cases that Abutment Screw, Cover Screw or Healing Abutment's hex is damaged.

Use the Ratchet Wrench to turn counterclockwise to join the abutment with the Abutment Remover as one body. (Use a torque of less than 40Ncm., Ratchet Wrench is included in surgical kit.)

Place the removed abutment in the vice. Use the Ratchet Wrench to turn clockwise to separate the abutment with the Hex Remover.

Root Membrane Kit

I. Root Membrane Kit

Ref.C
RMK3000

The best result of Immediate Implant Placement in esthetic zone.
Save the time & See an exceptional esthetic effect.
Root Membrane KIT is the answer for you!

Introduction

The labial bundle bone of the upper anterior, the esthetic zone in dentistry, is only 0.8mm thick and most blood supply is made through the root membrane, thus after extraction the labial bone plate is resorbed fast leading to labial gingival recession posing esthetic problems. The root membrane technique is designed to address this problem as it can suppress the recession of the bundle bone by not removing the labial root.

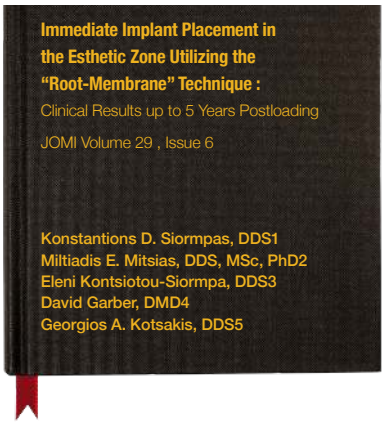
Root Membrane Technique

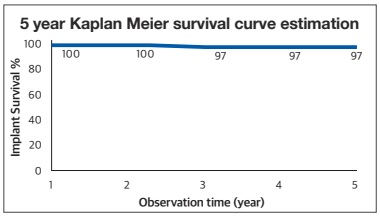
- Courtesy of Dr. Siormpas & Dr. Miltiadis E. Mitsias

Root Membrane technique is a surgical procedure performed before implant placement to induce successful osseointegration as increasing the soft tissue aesthetics by minimizing the loss of the buccal bone after extraction.
It separates the root at the time of extraction and leaving the root partially in the buccal side.
Threrfore, it is possible to maintain the physiological relationship with the buccal side without deteriorating.

- The surgical procedure is currently performed using various techniques and instruments, however, since it is difficult to perform, it is considered an area that only skilled dentists can do.

- Through the step-by-step customized Diamond drill and simple guide, the tissue might entirely protected with the precise tooth modification. We released this KIT aiming to make the surgical procedures that had required intricate technique much easier.





The buccal side of Immediate implant placement in the anterior maxilla, there are Cementum, PDL, Attachment fibers, Vascularization, and Bundle bone maintained. Therefore, it leads continuous and predictable osseointegration by minimizing the loss of the buccal bones caused by socket remodeling that occurs after extraction.

According to a study published in JOMI, RMT is an alternative treatment method for Immediate placement techniques in aesthetic part. It has extremely high success rate compared to the implant placement after extraction.

As the study shows, the reason is that when the buccal root fragment is intentionally left the blood supply will be maintained smoothly and consequently the dimensions of alveolar ridge can be preserved. On the basis of this evidence, we can conclude that Root Membrane Technique is a safe treatment yields a high implant success rate.

Also, this unique technique can ensure the dimensional stability of facial and soft tissues around the implant site without using of the supplementary biomaterials such as bone grafts. Dento-gingival fibers retained in the root fragment increases soft tissue aesthetics when they are in process of esthetical Immediate implant placement.

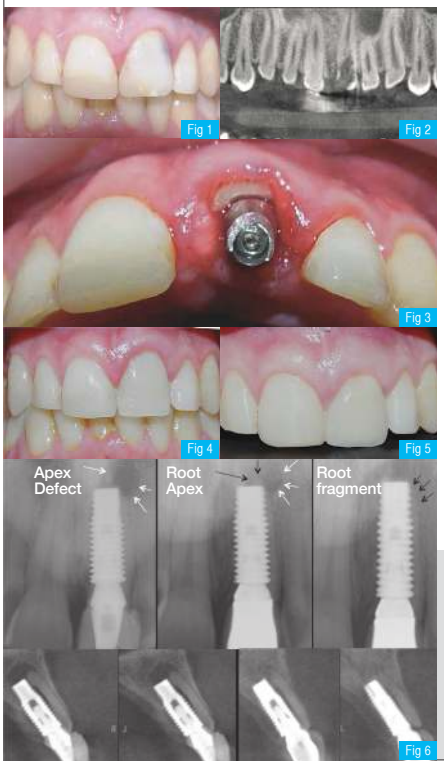


Fig. 1 The clinical feature before surgery of the maxillary left central incisor which is planned for extraction due to significant resorption.
Fig. 2 Cone beam CT section indicates consistent loss of tooth structure with invasive cervical root resorption.
Fig. 3 Immediate implant placement on the lingual side of the root fragment.
Fig. 4 Immediate loading after fixture placement.
Fig. 5 Follow-up for 2 years, the finally restored clinical photo. (Creeping attachment)
Fig. 6 Top (Left to right)
The 24-month radiograph showed a limitation of defect size, while the resorption traces of apex did not appear radially. There was no sign of radiopacity consistent with the defect fill for 36 months. Apex resorption of root is confirmed.
Bottom (Left to right)
With 48 months of follow-up, the cross-section showed complete defect fill and about 1.5 mm root reabsorption. The reabsorption area is full of new bone cell with radiologic pattern and it leads new born growth.

10 years follow-up

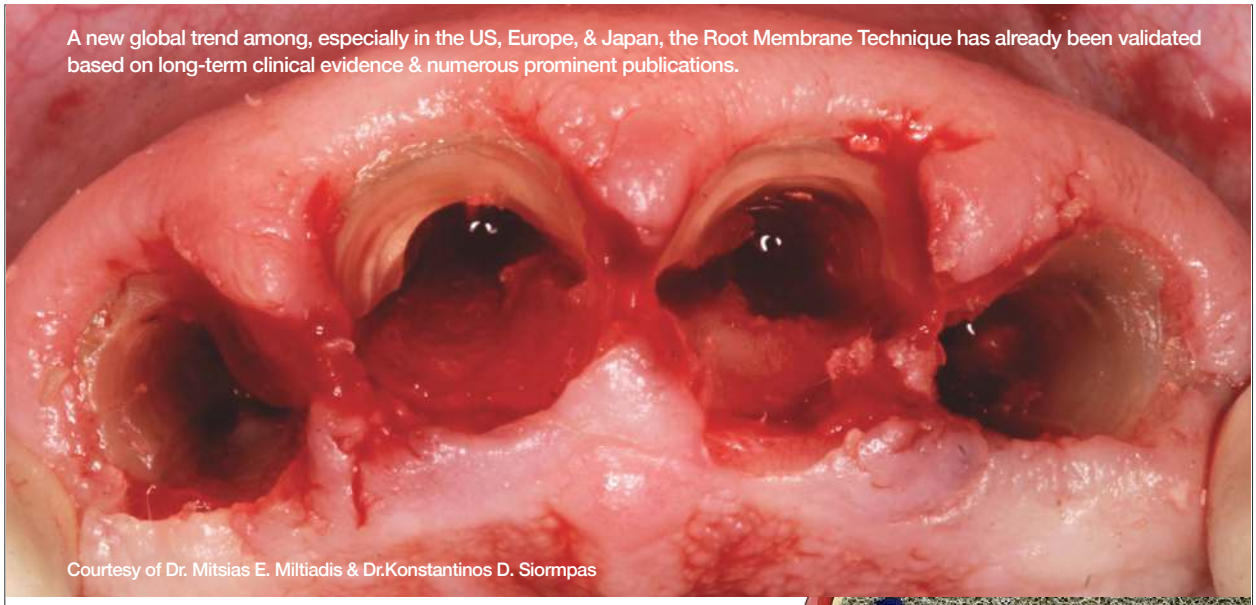
"Verify more Clinical Evidence of Root Membrane Technique which is certified a long-term clinical result"

The socket-shield technique to support the buccofacial tissues at immediate implant placement
INTERNATIONAL DENTISTRY – AFRICAN EDITION VOL. 5, NO. 3
Howard Gluckman, Jonathan Du Toit, Maurice Salama

A Step- by-Step Description of PDL-Mediated Ridge Preservation for Immediate Implant Rehabilitation in the Esthetic Region
The International Journal of Periodontics & Restorative Dentistry VOL. 35, No.6
Miltiadis E. Mitsias, Konstantions D. Siormpas, Eleni Kontsiotou-Siormpas, Hari Prasad, David Garber, Georgios A. Kotsakis

Advantages of the Root Submergence Technique for Pontic Site Development in Esthetic Implant Therapy
The International Journal of Periodontics & Restorative Dentistry VOL. 27, NO. 6
Maurice Salama, Tomohiro Ishikawa, Henry Salama, Akiyoshi Funato, David Garber

▸▸ Advantage of Root Membrane KIT



A new global trend among, especially in the US, Europe, & Japan, the Root Membrane Technique has already been validated based on long-term clinical evidence & numerous prominent publications.

Courtesy of Dr. Mitsias E. Miltiadis & Dr.Konstantinos D. Siormpas

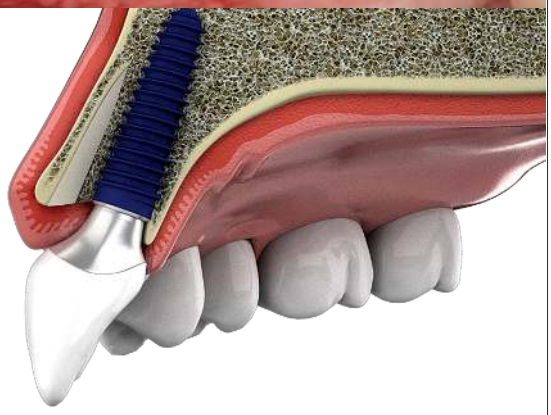
Root Membrane Technique

Socket Shield Technique

Root Submergence Technique

Partial Extraction Therapy

Root Membrane KIT is the answer for you!



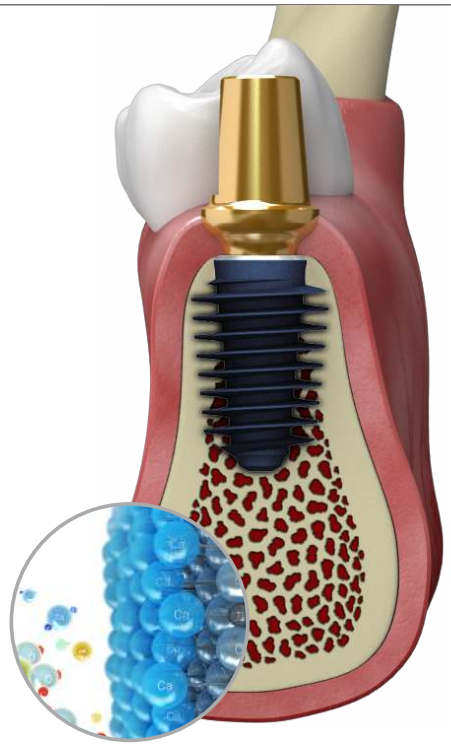
Best Diamond Drill for Root Membrane Technique

MegaGen's Root Membrane Kit is made by combining the best quality of dental diamond drill technology from 50-year-old Japanese company called "Hinatawada Precision manufacturing."
The reason why MegaGen selected Hinatawada is that it is a Japanese premium diamond drill company which has been recognized as one of the world's top class products by the philosophy of craftsmen.
Also, Hinatawada has the most advanced technology for Root Membrane technique; no wabbling , cutting power, and durability that cannot be found anywhere in the world.

Advantages of MegaGen Diamond Drill

1. It does not give excessive vibration to the teeth, and you can get a smooth formed surface.
2. 3-4mm long diamond drill does not wabble when it is used at high speed rotation. (Rotation accuracy: less than 3 microns)
3. The sharpness of the diamond drill is maintained for a long time.
4. The diamond drill, which is made with high precision by grinding process, can be treated with the same feeling always because there is no deviation per product.
5. By increasing the hardness of the diamond drill, you can avoid the risk of bending during treatment, thus making it safer.
6. It has high rotation accuracy and small shaft vibration, so it prevents abrasion of the handpiece bearing part

Perfect match with AnyRidge



The strong point of Root membrane technique is Immediate Implant Placement. Strong initial stability guarantees a high success rate. AnyRidge Implant system of MegaGen and Root membrane technique is in harmony with strong initial stability and fast osseointegration.

AnyRidge Knife Thread Design

Knife Thread® with an oblique shape is designed of round face and narrow thread. Therefore, it can obtain an optimal ISQ because it is placed without damaging the unique architecture of cancellous bone. Also, it gives even stress distribution.

AnyRidge Xpeed Surface Treatment

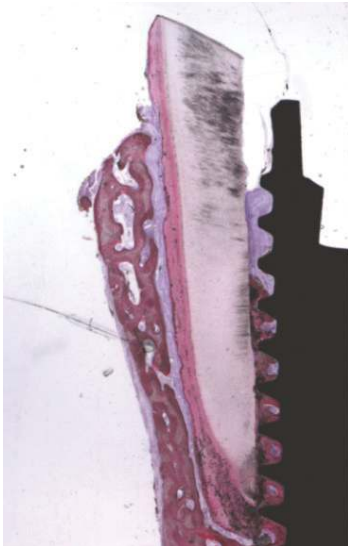
XPEED® surface treatment technology is that the Ca^{2+} ions which increase osseointegration rate on fixture surface can be reached through the chemical reaction with 0.5 micrometer thickness. Also, there is no problem of absorption of the coating layer after scaling deterioration, BIC and Removal Torque values are excellent.

The Root Membrane Technique: Human Histologic Evidence after Five Years of Function

- Miltiadis E. Mitsias, Konstantinos D. SioRoot Membranepas, Gerogios A. Kotsakis, Scott D. Ganz, Carlo Mangano, Giovanna Iezzi

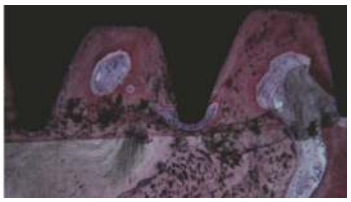
Our present human histologic study supports the assertion that the Root Membrane technique is effective in preventing bone resorption of the buccal bone plate of the anterior maxilla, five years after the placement of an immediate implant. This human histologic evidence that Root Membrane can preserve the buccal bone plate is of great value since it can help validate the clinical use of this surgical technique to maintain the hard and soft tissues over time and to optimize aesthetic results.

The retrieved tissue sample, which included the implant, the root membrane, the space between them, and the buccal bone plate, appeared intact. Only palatally to the fixture, and in the most coronal area, it appear evident that the trauma had detached the surface of the implant from the palatal bone; that area was of less importance for the present histologic evaluation and, therefore, the sample could be considered in perfect condition for histologic and histomorphometric analysis. The histomorphometrical evaluation showed a bone-to-implant contact of 76.2%.



Trabecular, mature bone at the interface of the implant was observed. The bone was present between the implant and the root. The root membrane and the buccal bone plate appeared intact without any signs of resorption.

Compact bone in the mediat thirds and apical portion of the implant were evident. No gaps were present at the interface.



In the apical portion of the root, it was observed that the cementum migrated from the residual root to the implant surface.
Acid fuchsin-toluidine blue 40x.

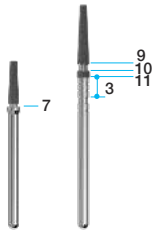
Hindawi
BioMed Research International
Volume 2017, Article ID 7269467, 8 pages
https://doi.org/10.1155/2017/7269467

Components for Root Membrane Kit

Maximum Speed (RPM) of Drill		
R1	1,200	3DD50, 4DD4005, RMSD2018L, RMSD2518L RMKTB2535S, RMKTB4050S
R2	30,000	2DD2034, 2DD3034, 3DD2008
R3	40,000	1DD1607, 1DD1911
R4	100,000	2DD2025, 2DD2029, 2DD3025, 2DD3029, 3DD20H

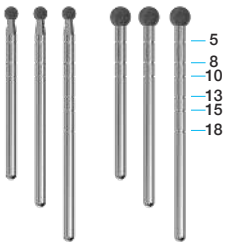
Diamond Drill
(Initial Shaper)

RPM	Diameter	Length(mm)	Ref.C
R3	Ø1.6	25	1DD1607 (IS1)
	Ø1.9	34	1DD1911 (IS2)



Diamond Drill
(Round Diamond)

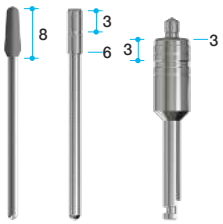
RPM	Diameter	Length(mm)	Ref.C
R4	Ø2.0	25	2DD2025
		29	2DD2029
R2		34	2DD2034
R4	Ø3.0	25	2DD3025
		29	2DD3029
R2		34	2DD3034



Diamond Drill
(Final Shaper)

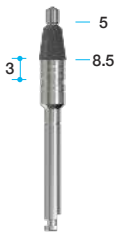
RPM	Diameter	Length(mm)	Ref.C
R2	Ø2.7	34	3DD2008 (FS1)
R4	Ø2.0	29	3DD20H (FS2)
R1	Ø5.0	28	3DD50

* FS1, FS2 High Speed / 3DD50 Low Speed



Diamond Drill
(Tapered Diamond)

RPM	Diameter	Length(mm)	Ref.C
R1	Ø4.0	32	4DD4005



Trephine Bur

RPM	Diameter	Length(mm)	Ref.C
R1	Ø3.5	38.5	*RMKTB2535S
	Ø5.0	38.5	*RMKTB4050S

(*) Separate sales item.

Shaping Drill

RPM	Diameter	Length(mm)	Ref.C
R1	Ø2.0	43	RMSD2018L
	Ø2.5	43	RMSD2518L
	Ø2.8	43	*RMSD2818L
	Ø3.3	43	*RMSD3318L

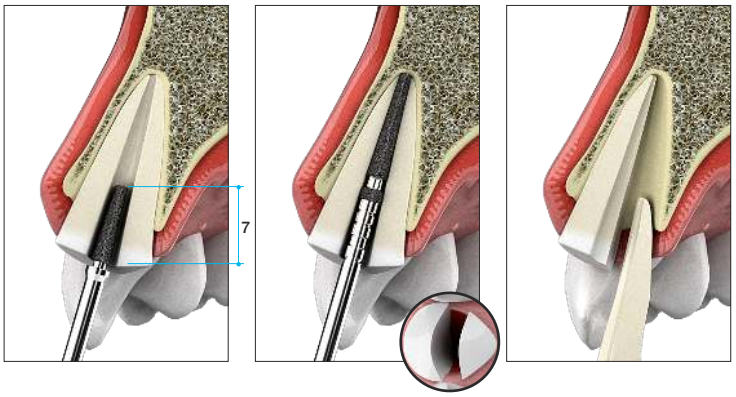
(*) Separate sales item.

How to use Root Membrane Kit

1. After measuring the length of root canal, secure the root canal using the Drill and Bur.

2. Use Initial Shaper (IS1) to perform an initial root split about 7mm so that lingual surface becomes slightly rounded.

3. Then use the Initial Shaper (IS2) to expand as the length of the root and remove the palatal side fragment.



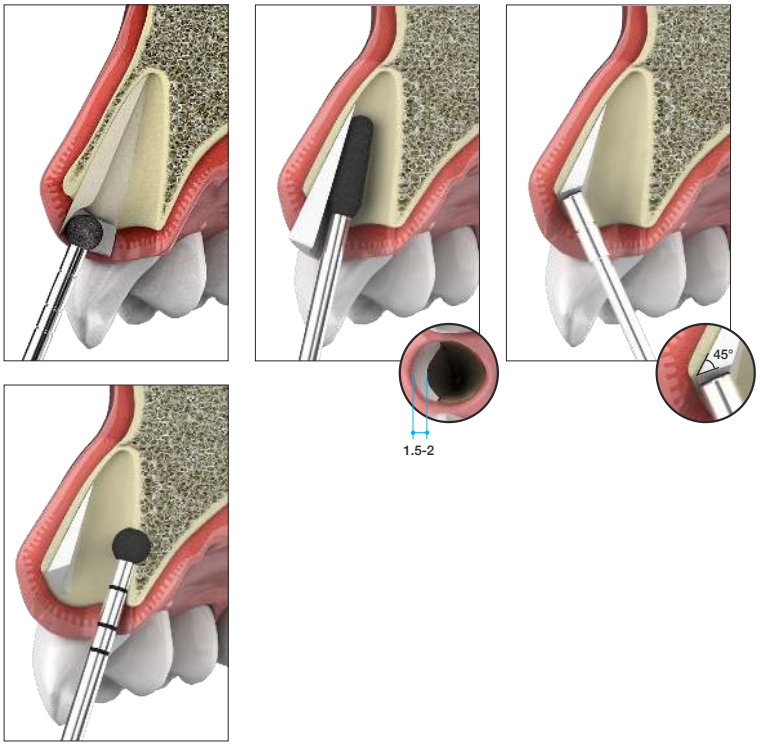
4. Trim the form of root fragments left on the labial side.

5. After trimming the form of root fragments on the labial side, perform extraction and curettage with a round diamond bur.

6. Make space between the root membrane and the implant so that they are not in contact. To facilitate bone formation, make the surface smooth by trimming with a root membrane bur.

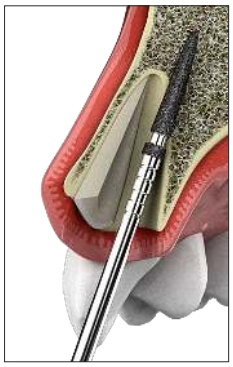
7. Prepare the root fragments in the bone margin area with a crestal trimming bur to make it inclined at 45 degrees.

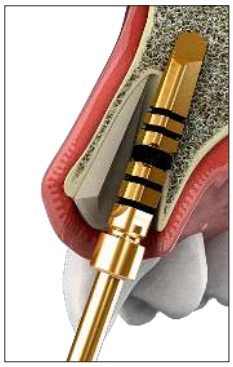
8. To prepare for the palatally and apically positioned immediate implant placement, use a 3.0 mm diameter round diamond bur to make indentation on the solid palatal bone.



9. To prevent slip of the common drill along the slot, initial drilling should be done using an initial shaper (IS2) after matching the direction in which the fixture is to be placed.

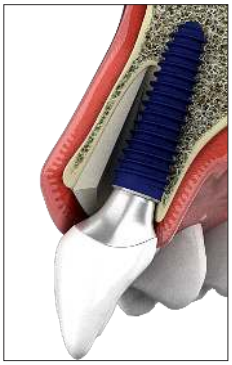
10. After that, it needs step-by-step drilling.

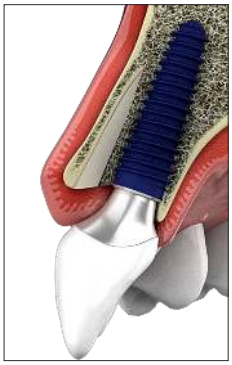




11. Due to the feature of immediate placement, there is no resistance on the labial side, so labial shifting is likely to occur when the fixture is placed.
To prevent this, trim the palatal side bone before fixture placement by using tapered diamond.
It's kind of counter sinking drilling. You can adjust the depth of the tapered diamond according to the diameter of the fixture being placed.

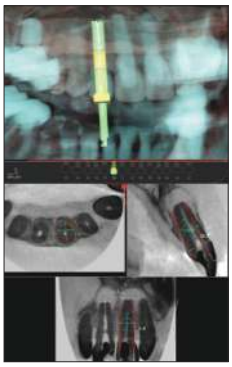
12. Place the fixture without touching the remaining root fragment.
If a gap between the root fragment and the fixture is wide, perform a little bone graft.



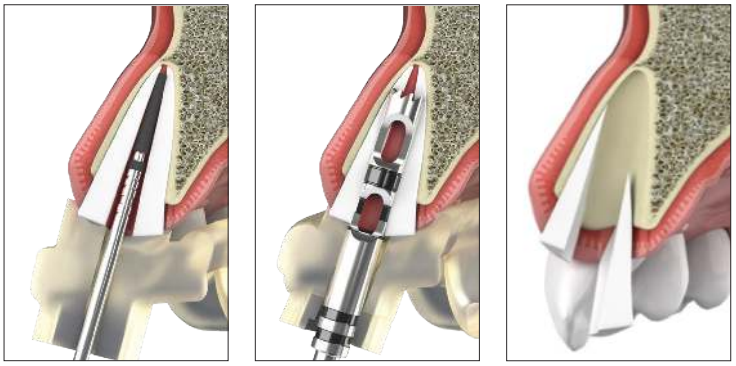


▸▸ How to use Root Membrane Kit easily using R2GATE

1. Diagnose trephine bur, drill and fixture that fits the root fragment's length and size using R2GATE



2. Place the guide made according to the diagnosis(for Root Membrane) and remove the root fragment on the palatal side by drilling with the Trephine Bur holding on to the position of the middle of the root using IS2.



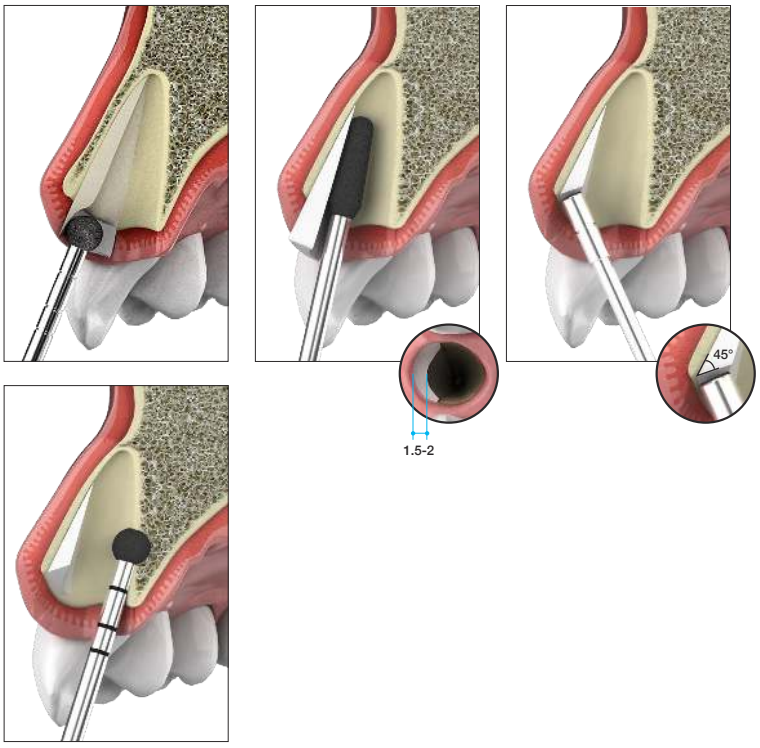
3. Trim the form of root fragments left on the labial side.

4. After trimming the form of root fragments on the labial side, perform extraction and curettage with a round diamond bur.

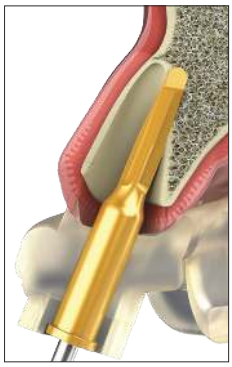
5. Make space between the root membrane and the implant so that they are not in contact. To facilitate bone formation, make the surface smooth by trimming with a root membrane bur.

6. Prepare the root fragments in the bone margin area with a crestal trimming bur to make it inclined at 45 degrees.

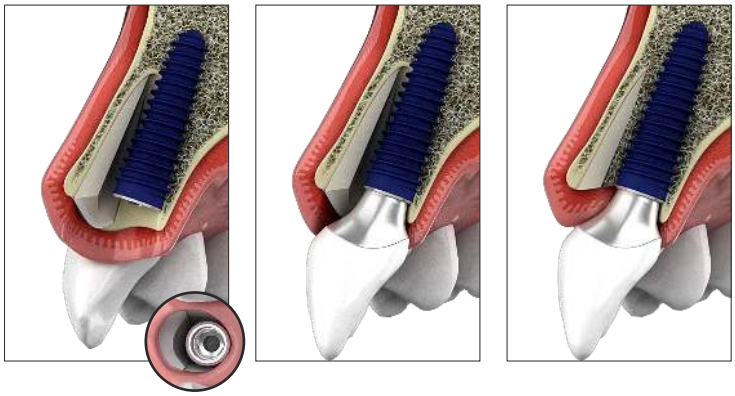
7. To prepare for the palatally and apically positioned immediate implant placement, use a 3.0 mm diameter round diamond bur to make indentation on the solid palatal bone.



8. Place the guide made according to the diagnosis (for fixture placement) and proceed drilling step by step.



9. Place the fixture without touching the remaining root fragment.
If a gap between the root fragment and the fixture is wide, perform a little bone graft.



For detailed instructions, refer to R2GATE Website
(https://www.r2gate.com/)

Root Membrane Clinical Case

Clinical Case 1

- Courtesy of Dr. Yoshiharu Hayashi

Patient : 65 year old female
#7, 8, 9 on the left in maxilla have only roots remaining and #10 on the left is defective. As there were no residual tooth structure in the root region, it was highly likely the root would fracture even with new prosthesis (Figure 01, 02).
The plan was to have immediate placement after extraction with the root membrane technique for #7 on the right, delayed placement where placement is done after bone is matured for #10 on the left, and root membrane pontic for #8, 9
The sequence of the root membrane technique is to be revisited through this case.

Progress of Treatment
After cutting the roots of #7, 8, 9 on the left in maxilla mesio - distally with an ISF bur (Figure 03, 04), the palatal roots are removed.
Then, space should be created between the residual labial root fragments and the implants so that they do not touch with each other, and the surface of the root fragments facing the implants should be smoothed to facilitate bone regeneration. If it is trimmed with a round diamond bur it would be hard to make the surface smooth as bumps can be made.

Therefore, the root fragments should be trimmed using a root membrane bur that can create wide smooth surface (Figure 05). After that, the root fragments should be reduced up to the bone margin using a round diamond bur (Figure 06), and then 45 degree inclination should be made with a crestal trimming bur (Figure 07, 08).

As a result, gingiva will be inclined and the form of prosthesis can be relatively freely selected.
In summary, after forming the root fragments in 1-1.5mm thickness, the implant facing side should be trimmed smoothly followed by implant placement in a position where some space can be secured.


Fig 1
Intraoral frontal view at the first visit.


Fig 2
Intraoral occlusal view of anterior maxilla at the first visit. As only roots remained without healthy ferrule at #7, 8, 9 there was a very high risk of possible root fracture even if prosthesis were remade. Only root remained at #7, 8, 9


Fig 3
Residual root of #7, 8, 9 was divided mesiodistally using an ISF bur.


Fig 4
Residual root of mesiodistally divided #7, 8, 9.


Fig 5
After removing the divided palatal root fragment, the inner wall of the labial root fragment was trimmed smoothly in thickness of around 1.5mm using a root membrane bur.

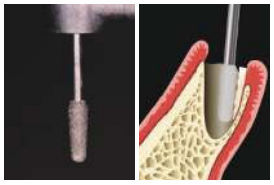



Fig 6

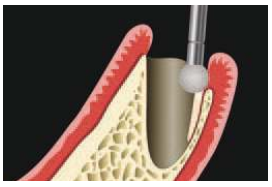

With a round diamond bur, the root fragment was prepared until its height was the same as the bone margin.


Fig 7


Fig 8
About 45 degree inclination was given to the root fragment in the bone margin area using a crestal trimming bur. With this, gingiva would inline and the shape of prosthesis can be relatively freely chosen.
Completed root membrane.


Fig 9
A placement hole needs to be formed while checking the bone quality of the site because initial stability is key to Implant success. The bone quality of #7 was checked first and a hole was drilled appropriate for the bone quality.


Fig 10
Implant was placed apically and palatally with around 60 Ncm torque.


Fig 11

Implant Stability Quotient, ISQ, was over 70. ISQ can be used as an indicator to diagnose implant stability.
The device uses RFA (Resonance Frequency Analysis) to measure and numerically represent the biomechanic property of bone tissue around implant and the strength of the interface between implant and bone. In general, low ISQ values, compared with the higher values, are considered to have higher risk of failure3).

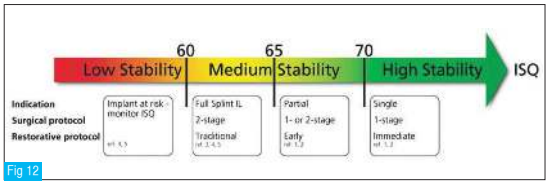


Fig 12

The relations between ISQ values and implant stability in bone.


Fig 13

Delayed implant placement was performed after waiting for the bone to mature at #10. A hole was formed by checking the bone quality at this site too. During drilling, a straight abutment was temporarily inserted on the implant already placed at #7 and was used as a guide for parallelism.


Fig 14

Implant was placed apically and palatally with about 65 Ncm torque. The depth of placement was adjusted so that the platform was set at 4 mm below the gingival margin.


Fig 15

ISQ value was over 70.


Fig 16

Occlusal view of anterior maxilla after implant placement. The Root membrane technique was used for #7, delayed placement for #10, and the Root membrane pontic for #8, 9.


Fig 17

Intraoral frontal view immediately after surgery. Temporary restoration with contour adjusted to the patient's gingival line was delivered. As delayed placement was carried out at #10 after waiting for the bone to mature, subgingival form was Flat -contoured.


Fig 18

Intraoral frontal view #12 week post-op.

Implant is placed in a normal way but caution should be exercised during drilling as primary stability is crucial for Implant. It is important to drill the hole for implant by checking the bone quality of the site as bone quality varies depending on the location on the jaw bone. Especially in this case, as root membrane pontic installation was done for #8, 9 in the upper jaw at the same time to reduce the treatment time, immediate provisionalization would be impossible if implant primary stability is not obtained, lowering quality of life for patients during the treatment period.

In this case, after appropriate drilling is made by checking the bone quality of upper right #7 site, implant was placed palatally and slightly apically with the torgue of 60 Ncm (Figure 09~11). Next, delayed placement was done at #10 on upper left by also checking the bone quality to create the hole for placement followed by implant placement palatally and slightly apically with the torque of 65 Ncm (Figure 02~16). The implant can be placed in parallel direction based on the temporary straight abutment mounted to the implant placed first at #7 on the right. As each implant showed ISQ 70 or more, it was determined good enough for immediate provisionaliztion.

Provisional restoration contoured according to the current gingival line right after the procedure was delivered. (Figure 17).

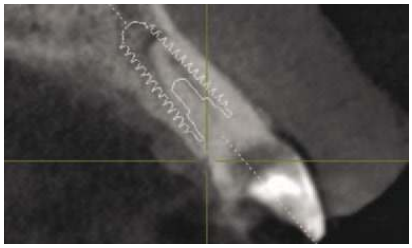
As delayed placement which awaits bone to mature was performed for #10 the subgingival form was under-contoured.
Symmetric and erengingival was maintained 12 week post-op.
(Figure 18).

Clinical Case 2

- Courtesy of Dr. Chang Hoon Han

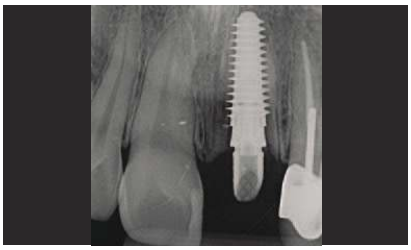
Case (24/F)
A 24-year-old female patient came to the office complaining severe carries in the upper left central incisor crown area, and wanted implants for the tooth, maxillary left premolar and bilateral mandibular molar region.

Clinical pre-op photo. In this case, if immediate implant placement after extraction is to be planned, firstly atraumatic extraction should be made before drilling along the lingual wall of the extraction socket. Initial stability can be obtained more easily with tapered implant. The preferred method is to place autogenous bone graft or allograft into the gap between the buccal bone fragment and implant, and xenograft which is resistant to resorption on the buccal side of the buccal bone.



The buccal bone of the root was very thin on CT and was anticipated to be lost after extraction even if it were preserved during extraction. After discussing various treatment options with the patient, the minimally invasive "Root-membrane technique" which can obtain good outcome was chosen.

#21 : AnyRidge 4.5 x13 mm (ITV 50 N/cm, ISQ 72)
After decoronation and hemisection, lingual portion of the root fragment was removed and the remaining root fragment on the buccal side was trimmed to the crestal bone level. The lingual side of the remaining root fragment was smoothly trimmed using a diamond bur. In terms of root membrane thickness, the thickest central part should be 1.5 ~ 2 mm from the occlusal view.
As the implant was positioned 1~2 mm inferior to the bone margin, the bone margin of the root membrane was made inclined with a 45 degree angle palatally (lingually) before implant placement to enable proper formation of emergence profile for future prosthesis. Drilling was performed to place implant on the lingual side of the root membrane in a normal way. Before AnyRidge 4.5x13 mm was placed, final checking was done to see if the completed root membrane was mobile. Relatively large diameter implant was placed but a 2 mm or bigger gap existed between the implant and the root membrane remaining on the buccal side.
In general, it is recommended to fill the gap with autogenous bone graft or allograft. In this case, the top portion of the gap was simply blocked with absorbable hemostat and suturing was done minimally hoping the blood clot filling the gap would turn into bone later. The implant placement torque was 50 Ncm and the ISQ value right after the placement was 72. As the initial stability was good, pick-up impression coping was connected right after surgery for immediate provisionalization and impression was taken.

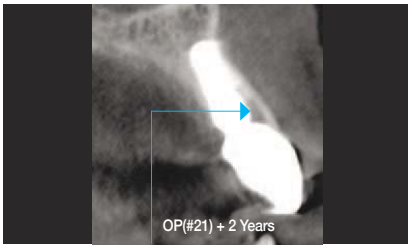


OP + 1 day
On the next day of implant placement, provisional using temporary abutment was delivered and the patient was advised not to use the anterior region during the healing period.

OP + 8 months
At 8 month post-op, the provisional crown was modified to look similar to the final prosthesis.

OP + 9 months
The area around the implant prosthesis was confirmed to remain healthy without any sign of inflammation while provisional restoration period. At 9 month post-op, screw retained type final prosthesis was delivered. After the delivery of the final prosthesis, it was confirmed that continuity of the buccal bone to the adjacent teeth was maintained on the occlusal

OP + 9 months
At 9 month post-op, prosthetic treatment was completed for implants in the upper central incisors as well as upper left premolar and bilateral mandibular posterior region.



OP(#21) + 2 years
On the 2 year post-op CT, the very thin remaining buccal bone before the surgery was fused with the root membrane and resembled cortical bone (corticalization). Although the gap between the implant and the root membrane remaining on the buccal side was simply blocked with absorbable hemostat without any graft, it was filled with blood clot and was replaced by cancellous bone.

NEW PRODUCT

Partial Extraction Therapy(PET) Kit

I. PET Kit

- Socket Shield Technique
- Pontic Shield Technique
- Root Submergence Technique

Ref.C

PET 3000

Developer

• Dr. Howard Gluckman

- Ph.D. Partial Extraction Therapy: Past, Present and Future, Szeged University, Hungary
- DDS & Postgraduate Diploma in Implantology, University of Stellenbosch & University of Western Cape, SA
- Private Clinic in Cape Town, SA
- Director, Implant & Aesthetic Academy, SA
- Immediate Past President, South African Society for Dental Implantology
- Diplomat, International Congress of Oral Implantologists
- Board Member, Southern African Association of Osseointegration
- Dental XP Expert Panel & Scientific Board Member

The Partial Extraction Kit has been developed specifically to make the Partial Extraction Therapy Techniques more achievable. The step by step process helps to standardize the procedure to enable faster and more predictable results. The development of the kit was made possible through research which highlighted the complications associated with the techniques.

The internal and external shield exposure are the main complications associated with socket shield and pontic shield. The use for the PET kit has specific drills that enable the simple reduction of the shield without damage to the adjacent mucosa as well as preparation of the chamfer below the bone level in order to create the prosthetic space necessary for ideal soft tissue healing over the shield.

The large round diamonds are ideal for both socket shield as well as Root Submergence Technique. The size of the round drills allows fast and easy reduction of the roots to the ideal position reducing treatment time and achieving predictability.

Components for Partial Extraction Therapy Kit

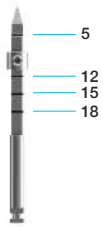
Maximum Speed (RPM) of Drill		
R1	1,200	LD2037, GD40G, FS40G, FD3010B
R2	40,000	LMD1225, LMD1231
R3	100,000	RD2025B, RD2034B, RD3025K, RD3034K

No. 1

Lance Drill

RPM	Diameter	Length(mm)	Ref.C
R1	Ø2.0	37	LD2037

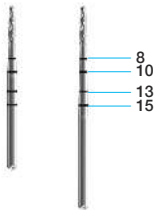
* Depth stopper adjustment is possible with Hand Driver 0.9 Hex.



No. 2

Diamond Drill
(Lindermann Drill)

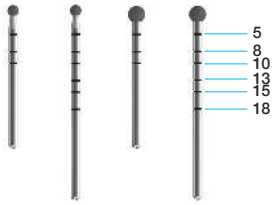
RPM	Diameter	Length(mm)	Ref.C
R2	Ø1.2	25	LMD1225
		31	LMD1231



No. 3

Diamond Drill
(Round Diamond Bur)

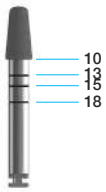
RPM	Diameter	Length(mm)	Ref.C
R3	Ø2.0	25	RD2025B
		34	RD2034B
	Ø3.0	25	RD3025K
		34	RD3034K



No. 4

Diamond Drill
(Finishing Diamond Bur)

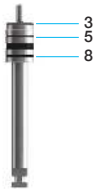
RPM	Diameter	Length(mm)	Ref.C
R1	Ø3.0	34	FD3010B



No. 5

Diamond Drill
(Final Shaper)

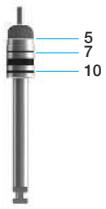
RPM	Diameter	Length(mm)	Ref.C
R1	Ø4.0	28	FS40G



No. 6

Diamond Drill
(Guided Drill)

RPM	Diameter	Length(mm)	Ref.C
R1	Ø4.0	30	GD40G

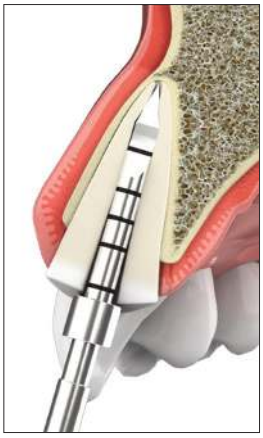


▸▸ How to use Partial Extraction Therapy(PET) Kit

Socket Shield Technique

From a CBCT, measure the length of the root from the level of the gingiva to the apex.

Referencing the CBCT, remove the coronal portion of the tooth flush with the gum line.



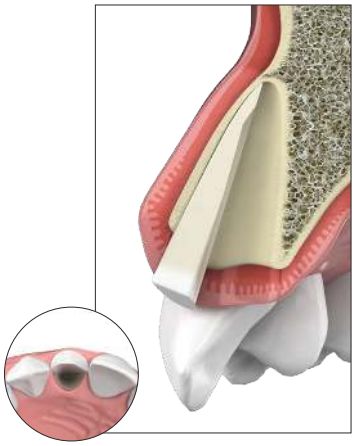
Set the length of the No.1 drill using the depth stopper and the 0.9 Hex Hand Driver.

Drill with copious irrigation and intermittent pump action until you reach the level of the depth stopper.

Take an X-ray to confirm that you have reached the apex of the root.

Use the long shanked No. 2 drill to section the root from mesial to distal in a sweeping motion that runs from mesial line angle to distal line angle.

Ensure that you have measured and marked the length of the root, referencing the markings on the drill to make sure you don't drill past the apex.



Gently remove the palatal portion of the root by luxating motion.

Your finger should rest on the buccal eminence for support and to ensure no movement of the buccal shield. If there is movement, the palatal portion is not correctly resected.

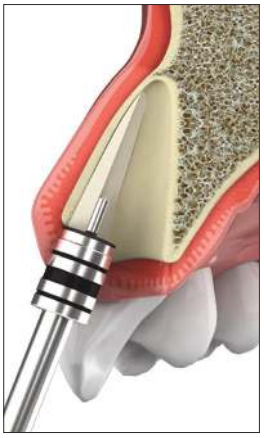
Once the palatal portion has been removed the apical portion needs to be addressed. The root apex and any gutta percha material must be removed using the No.3 round drill.

Place the drill at the most apical portion against the root and move coronally in a gentle painting motion. The drill should not be pushed apically at the apex as this may lead to perforation of the buccal plate.

Use the No.4 finishing diamond drill in the final preparation of the shaping and smoothing of the shield.

Use the No.3 round drill to reduce the coronal portion as close to the crest of the bone as possible.

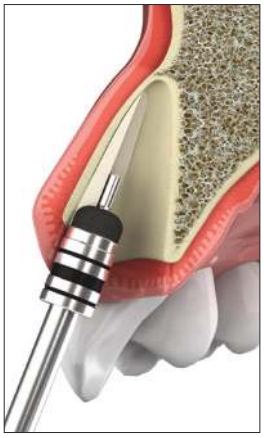
Make sure that the gingiva is retracted with a gingival retractor to prevent damage to the gum during preparation.



Use the No.5 Final Shaper Drill for final preparation and reduction of the coronal portion.

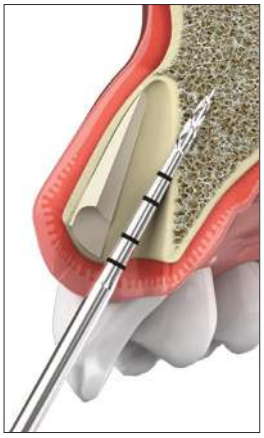
The shield should be prepared to bone level. Use the markings on the drill to get the shield to the correct depth.

Verify shield height at bone level with CBCT.



The No.6 guided chamfer drill creates the space that allows the soft tissue to grow between the shield and the implant.

Use the markings on the drill to prepare the chamfer to the correct depth, reshaping and smoothing the coronal portion of the shield.



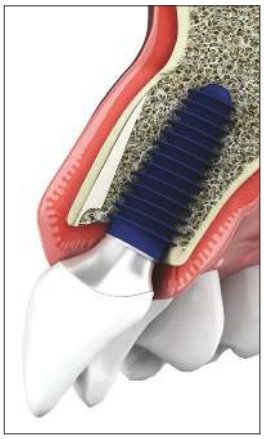
Implant preparation according to the normal protocols of AnyRidge or AnyOne implants.

Proceed according to AnyRidge and AnyOne drilling protocol to prepare site to appropriate size for implant placement.

The implant should be placed about 0.5mm above the widest part of the chamfer to allow for maximum space between the implant and the shield.

This will minimize the risk of internal shield exposure. The implant can touch the shield if there is limited space, however more space is preferable.

The jump gap should be filled with bone graft material.
This can be done either before or after the implant has been placed.

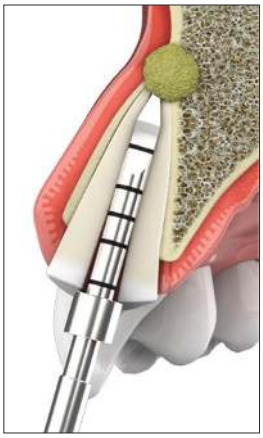


Either a provisional crown or custom temporary abutment with an emphasis on the distance between the shield and subcritical notch is crucial. 2-3 mm of space is necessary to allow good soft tissue coverage of the shield. Failure to accomplish this may lead to an internal shield exposure.

Pontic Shield Technique

From a CBCT, measure the length of the root from the level of the gingiva to the apex.

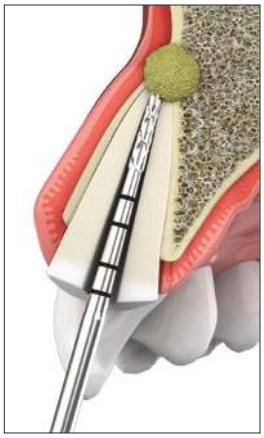
Referencing the CBCT, remove the coronal portion of the tooth flush with the gum line.



Set the length of the No.1 drill using the depth stopper and the 0.9 Hex Hand Driver.

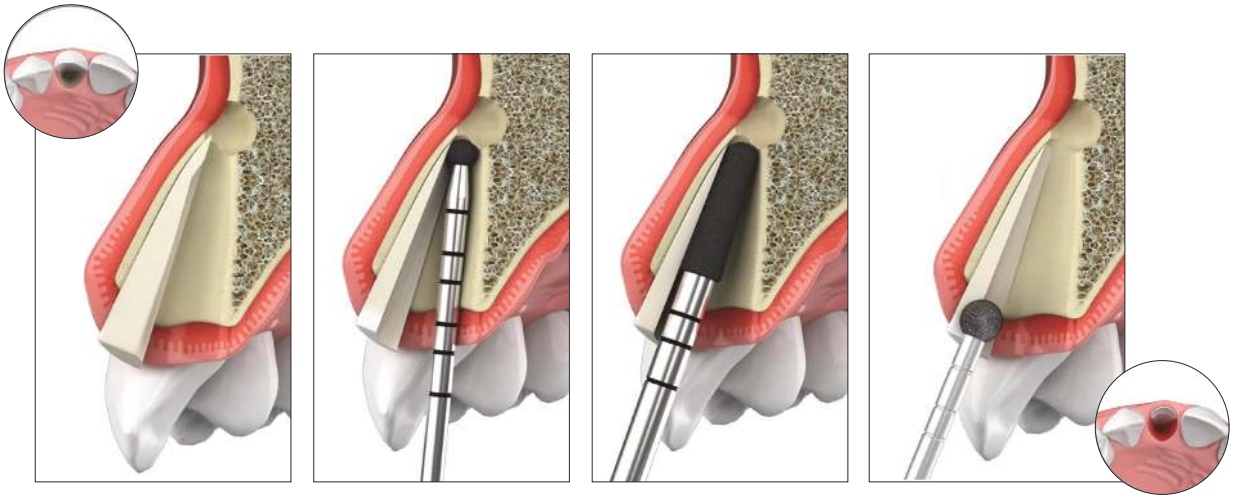
Drill with copious irrigation and intermittent pump action until you reach the level of the depth stopper.

Take an X-ray to confirm that you have reached the apex of the root.



Use the long shanked No. 2 drill to section the root from mesial to distal in a sweeping motion that runs from mesial line angle to distal line angle.

Ensure that you have measured and marked the length of the root, referencing the markings on the drill to make sure you don't drill past the apex.



Gently remove the palatal portion of the root by luxating motion.

Your finger should rest on the buccal eminence for support and to ensure no movement of the buccal shield. If there is movement, the palatal portion is not correctly resected.

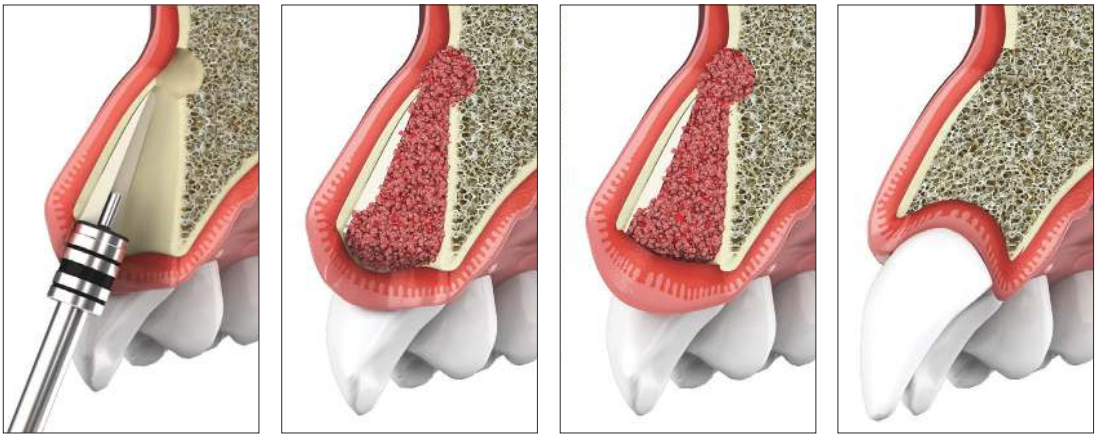
Once the palatal portion has been removed the apical portion needs to be addressed. The root apex and any gutta percha material must be removed using the No.3 round drill.

Place the drill at the most apical portion against the root and move coronally in a gentle painting motion. The drill should not be pushed apically at the apex as this may lead to perforation of the buccal plate.

Use the No.4 finishing diamond drill in the final preparation of the shaping and smoothing of the shield.

Use the No.3 round drill to reduce the coronal portion as close to the crest of the bone as possible.

Make sure that the gingiva is retracted with a gingival retractor to prevent damage to the gum during preparation.



Use the No.5 Final Shaper Drill for final preparation and reduction of the coronal portion.

The shield should be prepared to bone level. Use the markings on the drill to get the shield to the correct depth.

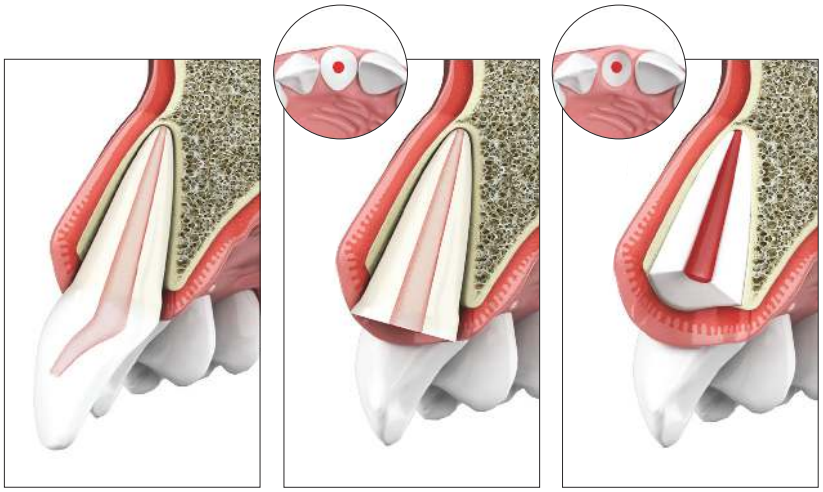
Verify shield height at bone level with CBCT.

After the socket has been curetted and all the infected material has been removed, the socket is filled with a bone substitute. A soft tissue graft is used to cover the socket. This can either be in the form of a connective tissue graft or a free gingival graft that has been deepithelialized.

The tissue should be tucked under the buccal and palatal flaps at least 4-5mm deep. The other alternative is a rotated palatal flap which will need to be inserted into a buccal pouch at least 4-5mm. It is essential that the tissue is sutured in an immobile fashion. Once healed an ovate pontic is used with light pressure to form the soft tissue.

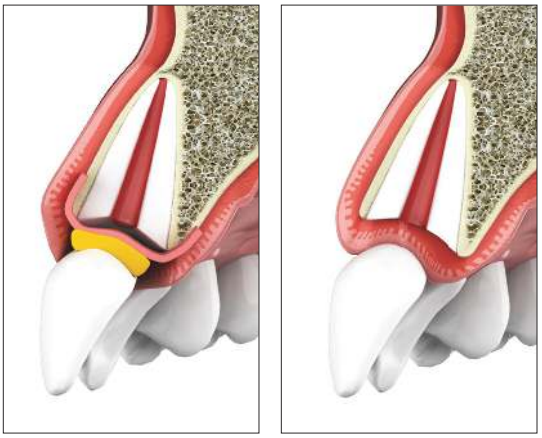
Root Submergence Technique

➲ Vital Root Submergence



Vital teeth can be used in the Root Submergence Technique.

Cut the coronal portion off the tooth to gingival level. Use the large No. 3 round bur to then reduce the root surface interface to bone level. The internal root area (concave shape) should be about 2mm below bone level to allow adequate soft tissue thickness between the root and the future pontic.

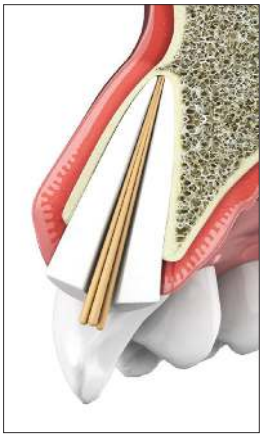


The vital root surface interface is left exposed. No graft material is applied to the surface area of the root.
Coverage of the root is essential using either a free gingival graft or a vascularized rotated palatal flap.
It is essential that the free gingival graft extends at least 4mm into a pouch created both buccally and palatally to ensure adequate blood supply to the graft.

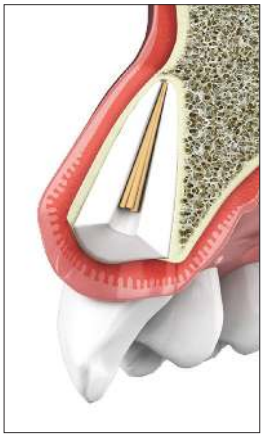
Once healed (about 8-12 weeks) an ovate pontic is used with light pressure to form the soft tissue.
It is imperative that there is only light pressure on the tissue as to not put too much pressure on the gingiva, which could lead to exposure of the root.

Root Submergence Technique

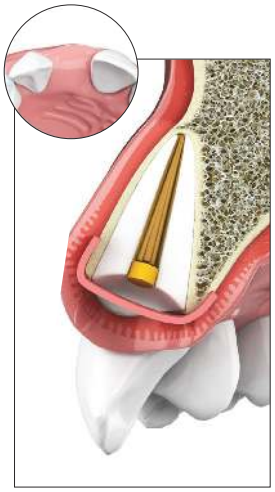
➲ Non-vital Root Submergence



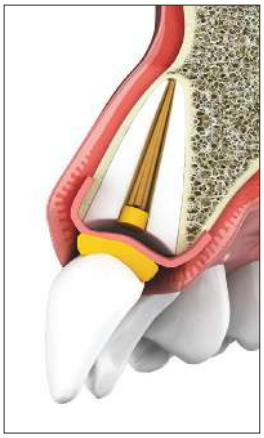
Root submergence of a non-vital root requires that the root canal treatment is well sealed and has NO apical radiolucency.



Cut the coronal portion off the tooth to gingival level. Use the large No. 3 round bur to then reduce the root surface interface to bone level. The internal root area (concave shape) should be about 2mm below bone level to allow adequate soft tissue thickness between the root and the future pontic.
Remove 2mm of root canal material and seal the canal with glass ionomer cement or MTA.



Coverage of the root is recommended using either a free gingival graft or a vascularized rotated palatal flap.
It is essential that the free gingival graft extends at least 4mm into a pouch created both buccally and palatally to ensure adequate blood supply to the graft.



Once the soft tissue has healed in 8-12 weeks an ovate pontic can be placed onto the tissue.
It is imperative that there is only light pressure on the tissue as to not put too much pressure on the gingiva which could lead to exposure of the root.