

# CAS KIT



Crestal  
Approach  
Sinus Kit

**OSSTEM<sup>®</sup>**  
IMPLANT

The Crestal Approach Sinus KIT (CAS-KIT) is specifically designed to easily and safely lift the membrane in the maxillary sinus from a crestal approach.



### Features of CAS-KIT

- Unique CAS-Drill safely and rapidly lifts the sinus membrane while drilling.
- Unique stopper system that prevents over drilling into the sinus cavity.
- Hydraulic Lift System that easily and safely lifts the membrane.
- New Bone Carrier System for transferring and filling bone graft materials.
- Simple and intuitive surgical system.

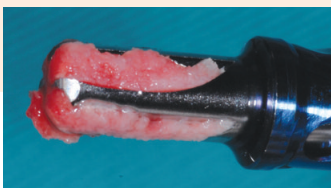
**OSSTEM**<sup>®</sup>  
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# CAS KIT

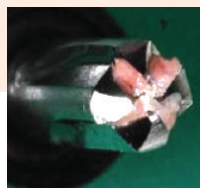
## The CAS-Drill

The unique component of the CAS kit is the CAS-Drill. The CAS-Drill is designed to safely and rapidly lift the maxillary sinus membrane from a crestal approach. The CAS-Drill can be used for either straight or tapered implants. It is optimised for insertion torque, initial fixation strength, and tactile feedback when using OSSTEM's TA III Implants.

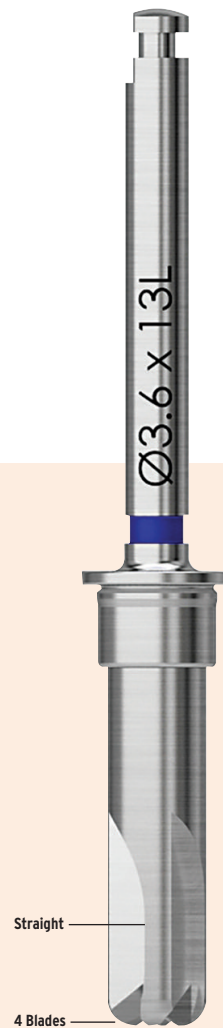
- CAS-Drill forms a conical bone barrier, protecting the membrane.
- The atraumatic design of the drill tip allows the user to perform sinus surgery even if the sinus floor is flat, inclined septum and inferior alveolar canal.
- The CAS-Drill tip has an inverse conical shape. This shape will form a conical bone chip when drilling, which assists with safely lifting the membrane. In addition, bone particles generated when drilling discharge upwards, producing a Membrane Auto-Lift Function.
- Option to drill from low speed to high enabling the harvesting of autogenous bone at low speed.
- Unique stopper system (in 1mm increments) that prevents over drilling into the sinus cavity.
- Final drill diameter selected according to fixture diameter and bone density, independently of straight or tapered fixture type.



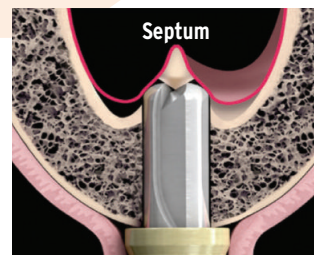
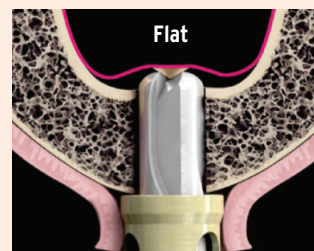
Extraction of bone particles (at low speed of -50rpm)



Bone particle formation between the cutting blades



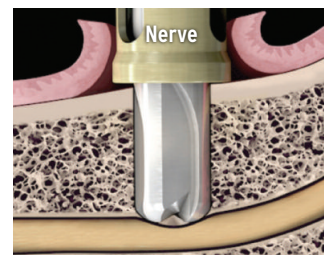
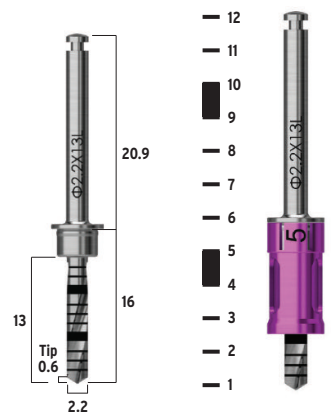
The drill is designed with four blades, which reduces deflection off the bone and the straight sides dampen vibrations.



## CAS Kit Components

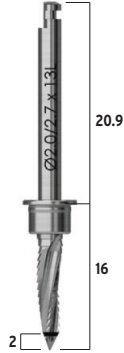
### 2.2 Twist Drill

- The drill tip is 0.6mm and is 13mm long.
- Recommended drill speed: 1000-1500 RPM Irrigation with saline solution.
- 1mm spaced markers with wide brands at 4-5, 9-10.
- Unique Stopper System.
- It is recommended to stop drilling when there is about 2mm of bone left. Calculate this beforehand when using CT images or radiography as a guide.



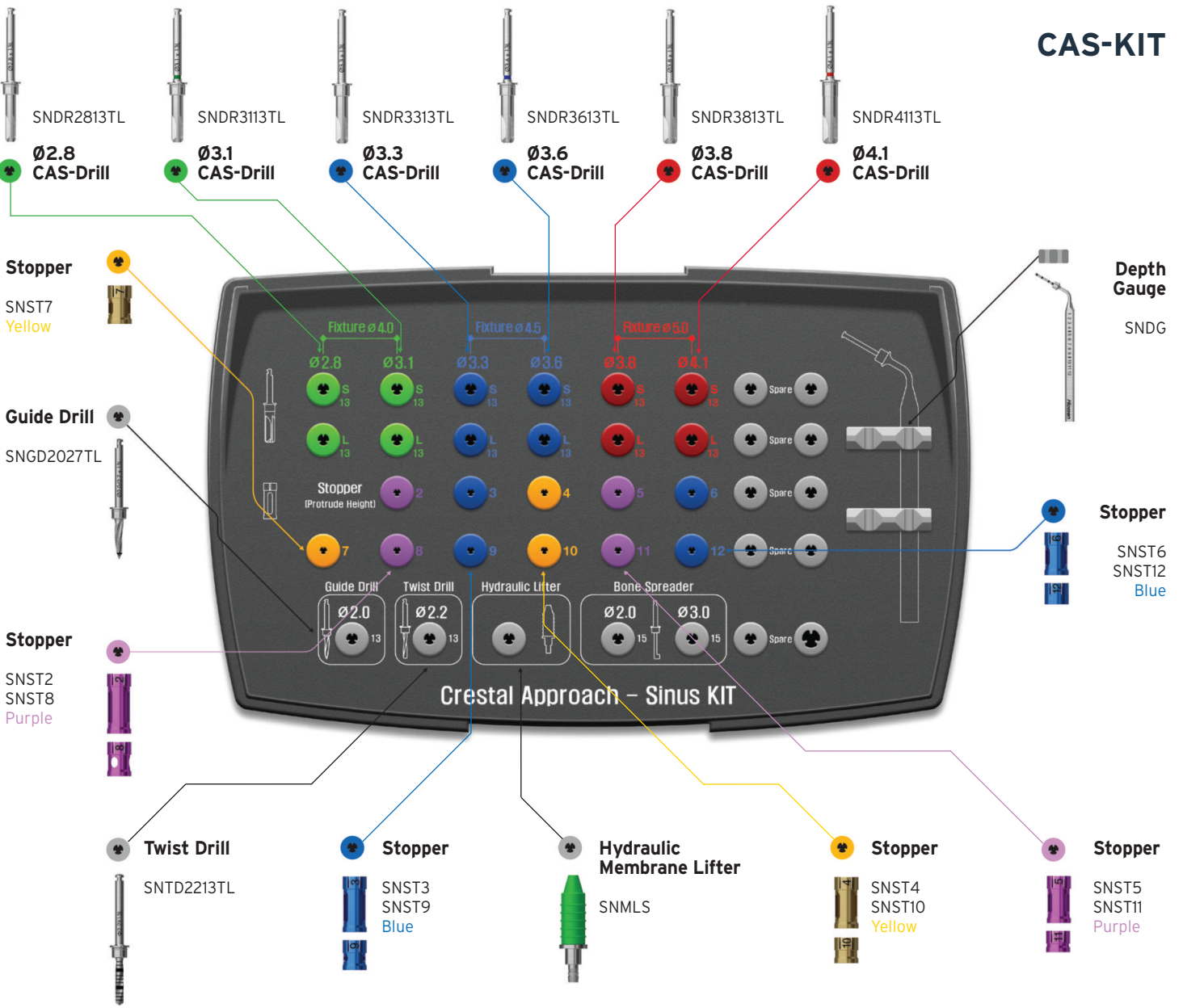
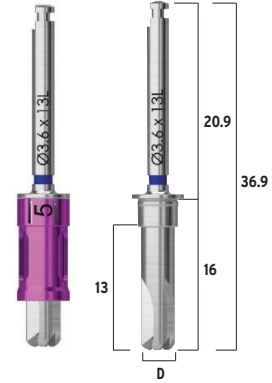
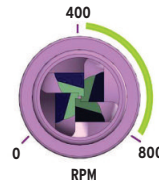
### 2.0 Guide Drill

- Marking drill to mark fixture insertion location.
- Used to remove side wall of tooth extraction with its blade formation.
- Marking on apex at 2mm.



### CAS-Drill

- Comes in six diameters: 2.8/3.1/3.3/3.6/3.8/4.1
- Allows a 13mm Fixture to be implanted.
- Drilling is dependent upon the Fixture diameter and the bone density.
- Drilling speed ranges from low speed to high speed (800rpm), allowing flexibility during surgery.
- Experienced: 800rpm
- Beginner: 400 to 600rpm
- Is recommended irrigation with saline solution.
- Can be used up to 50 times depending on the type of bone.



### CAS-KIT

# Base Components

## Stopper System:

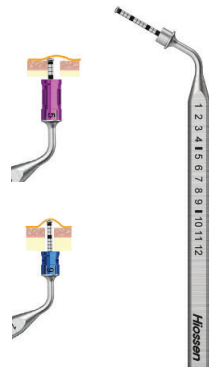
- A total of eleven (11) stoppers; labelled 2 to 12mm.
- Labels indicate the remaining length of the

- drill (from drill tip to stopper top).
- Each stopper is anodized and colour coded. Labels are laser marking.



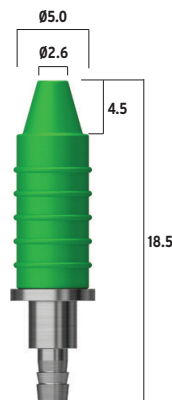
## Depth Gauge

- Measures the thickness of the remaining bone.
- The atraumatic tip can be used to confirm membrane lifting.
- Can be used with the Stopper system.
- Caution: Do not use the Depth Gauge to lift membrane beyond 1mm.



## Hydraulic Lifter

- The Hydraulic Lifter uses normal saline to raise the membrane.
- Infuse 1cc or 3cc with a syringe.
- Required volume of saline solution to expand 3mm of the membrane, generally 0.2 to 0.3cc of saline solution is injected. Inject saline solution **very slowly**.



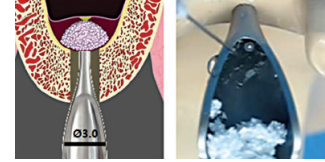
## Contraindications:

- Not recommended for patients with inflammation of the maxillary Sinus (Sinusitis).
- Not recommended for patients with complex morphology of the sinus floor (including the septum)



## Bone Carrier

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



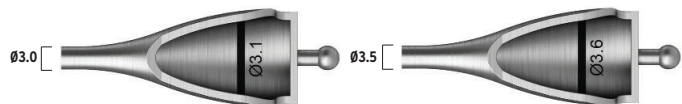
Herry Y and Lee DY, 2005

Lift Height	Volume of Bone Matrix
3mm	0.36cc
4mm	0.5cc
5mm	0.7cc
6mm	0.9cc



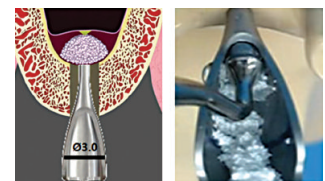
## Bone Carrier Head

- Used to fill bone graft materials inside sinus cavity.
- SNBCH30: Use after drilling with CAS-Drill 3.1/3/3.
- SNBCH35: Use after drilling with CAS-Drill 3.6/3.8/4.1.
- Fill in bone material to the back of marking line on head part, separate gradually with bone condenser to fill inside of sinus completely, and repeat the procedure.



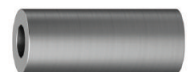
## Bone Condenser

- Tool to push in when filling bone materials inside sinus cavity.
- SNBCH30: Uses 1.1
- SNBCH35: Uses 1.4
- Code: SNBC1114



## Hydraulic Membrane Lifter Tube

- Connect to hydraulic membrane lifter.
- Code: SNMT



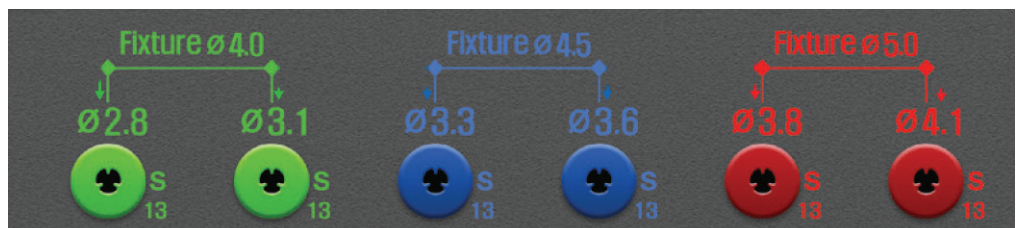
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## Surgical Procedure

The CAS-Drill design is optimised for OSSTEM's TS III Implants.

Use the table on the right to prepare for surgery.

There are a few things that need to be taken into consideration; the diameter of the implant, bone density into the sinus floor, and the necessary force for a stable implant. In the case of a general straight type implant, use a CAS-Drill that is 1mm smaller in diameter than that of the implant.



Implant Selection		Guide Drill Ø	Twist Drill Ø	CAS-Drill Ø						Depth Gauge	Hydraulic Membrane Lifter	Bone Carrier	Bone Condenser
F(Ø)	Bone Density	2.0/2.7	2.2	2.8	3.1	3.3	3.6	3.8	4.1				
Ø4.0	Soft	●	●	●						●	●	●	●
		●	●	●		●				●	●	●	●
		●	●	●				●		●	●	●	●
Ø4.0	Normal	●	●		●					●	●	●	●
		●	●		●		●			●	●	●	●
		●	●		●				●	●	●	●	●

● : Required ● : Optional