

# *PROTEM* [SECURE]-H

## Implant System

### **DIO Protem/Secure Implant System**

The ProTem/Secure Implants are multi - functional implant system available in case of the enhancement of the denture retention, the application to the narrow gap where the full - sized implants can not be placed in such as maxillary or mandibular centrals, and the retention of provisional prosthesis after the conventional implant surgery.

ProTem/Secure Implants are available in two types (Post /Ball) , three diameters (2.0 / 2.5 /3.0) and four lengths (10/12/14/16) that are applicable to various cases



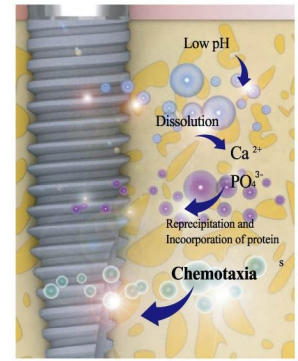
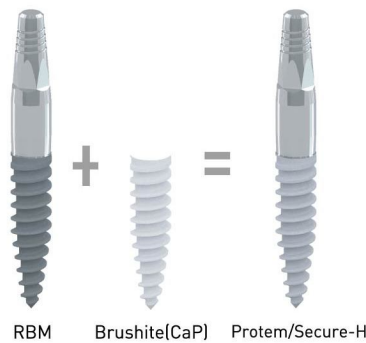
## PROTEM<sup>[SECURE]</sup>-H

Faster and improved osseointegration  
Higher success rate regardless of bone type  
solution for exfoliation

### Dual Surface treatment

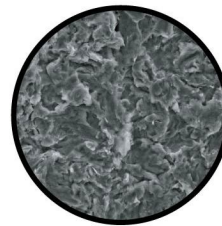
*ProTem/Secure Implant + RBM + Brushite*

- Abundant blood supply by capillary effect
- Heavy release of  $\text{Ca}^{2+}$  and  $\text{PO}_4^{3-}$  ions during the dissolution phase
- Increase of osteoblast the blood on implant surface
- Faster and improved osseointegration between implant and bone



OSSEointegration MECHANISM

Brushite(CaP) coating enhances osseointegration in poor bone quality and exhibit greater resistance to micromotion.



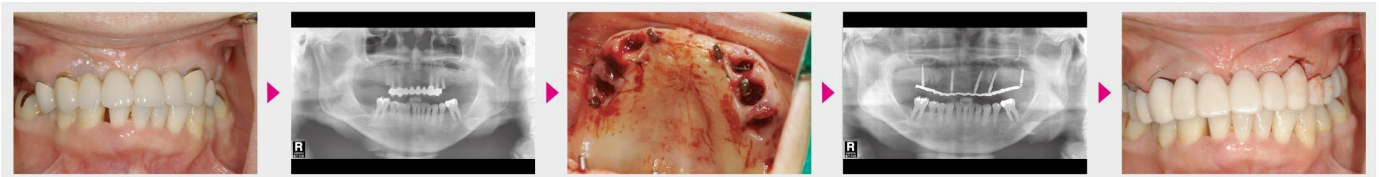
RBM



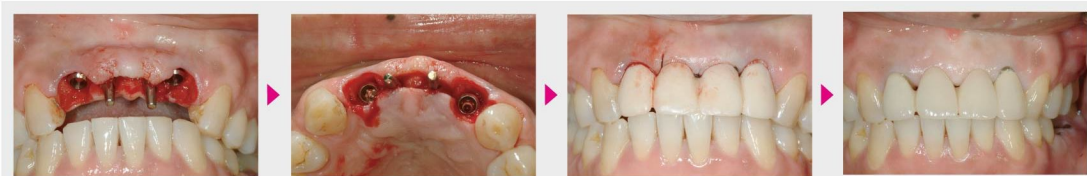
Brushite (CaP)

## Clinical Cases

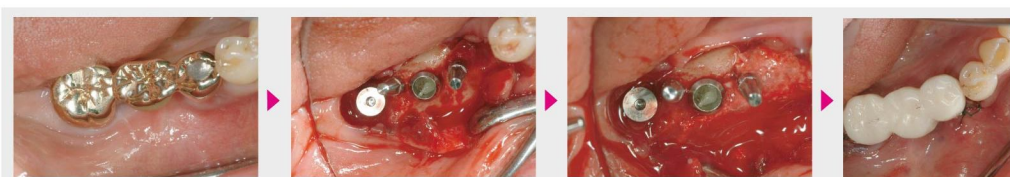
### Case 1 - Protem / Secure-H



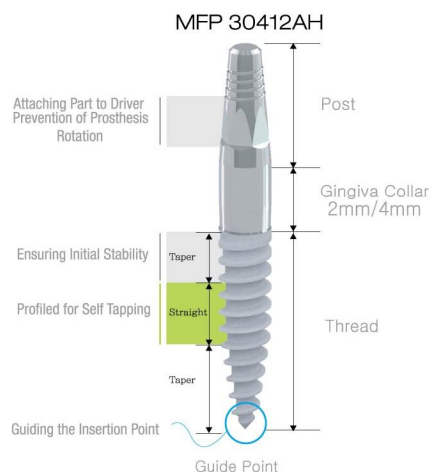
### Case 2 - ProTem / Secure



### Case 3 - ProTem / Secure



# POST Type



## PROTEM/ SECURE ( Post Type ) Implant

- Suitable for narrow spaces on the upper mandible
- Single body Fixture and Abutment designed to withstand the stress of mastication
- Highly bio - compatible RBM / Brushite(CaP) Surface
- Optimal abutment size and form to ensure successful implantation
- Self - Tapping body design for secure initial entry and firm gripping power



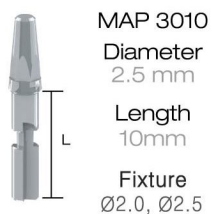
|                                      | Diameter | Collar | Pitch | 10 mm       | 12 mm       | Length      | 14 mm       | 16 mm |
|--------------------------------------|----------|--------|-------|-------------|-------------|-------------|-------------|-------|
| B<br>r<br>u<br>s<br>h<br>i<br>t<br>e | 2.5 mm   | 2.0 mm | 1     | MFP 25210H  | MFP 25212H  | MFP 25214H  | —           | —     |
|                                      | 2.5 mm   | 4.0 mm | 1     | MFP 25410H  | MFP 25412H  | MFP 25414H  | —           | —     |
|                                      | 3.0 mm   | 2.0 mm | 1     | MFP 30210AH | MFP 30212AH | MFP 30214AH | MFP 30216AH | —     |
|                                      | 3.0 mm   | 4.0 mm | 1     | MFP 30410AH | MFP 30412AH | MFP 30414AH | MFP 30416AH | —     |
| R<br>B<br>M                          | 2.0 mm   | 2.0 mm | 0.6   | MFP 20210   | MFP 20212   | MFP 20214   | —           | —     |
|                                      | 2.0 mm   | 4.0 mm | 0.6   | MFP 20410   | MFP 20412   | MFP 20414   | —           | —     |
|                                      | 2.5 mm   | 2.0 mm | 1     | MFP 25210   | MFP 25212   | MFP 25214   | —           | —     |
|                                      | 2.5 mm   | 4.0 mm | 1     | MFP 25410   | MFP 25412   | MFP 25414   | —           | —     |
|                                      | 3.0 mm   | 2.0 mm | 1     | MFP 30210A  | MFP 30212A  | MFP 30214A  | MFP 30216A  | —     |
|                                      | 3.0 mm   | 4.0 mm | 1     | MFP 30410A  | MFP 30412A  | MFP 30414A  | MFP 30416A  | —     |

### Prosthetic Components

### Surgical Kit

### Surgical Kit : Post / Ball Type Common Use

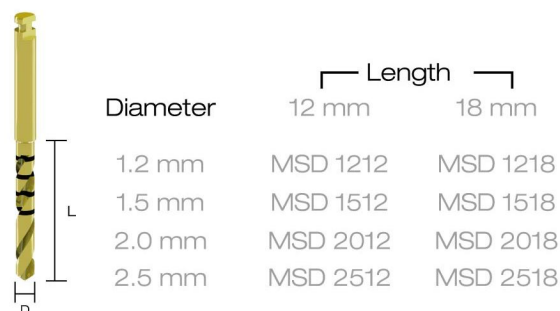
#### ANALOG



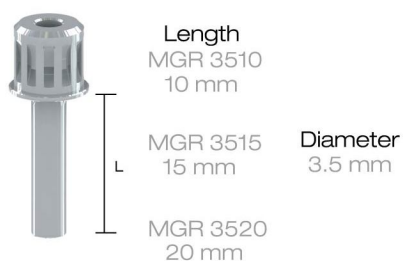
#### CONTRA ANGLE DRIVER



#### STRAIGHT DRILL



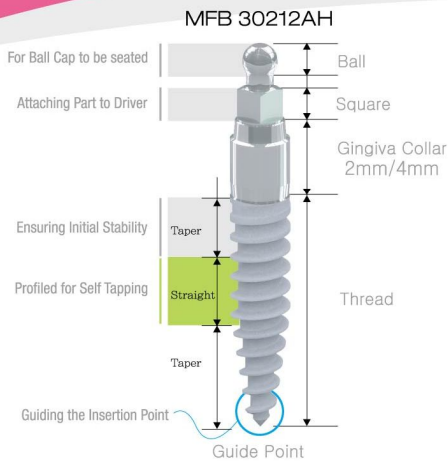
#### RATCHET DRIVER



#### TISSUE PUNCH

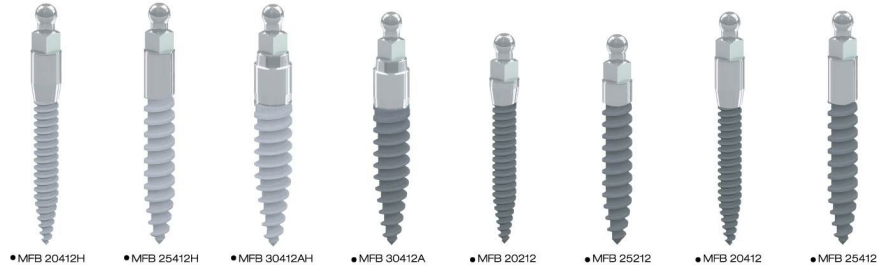


# BALL Type



## PROTEM/ SECURE ( Ball Type ) Implant

- Used in creating an immediate temporary system for removable prosthetics
- Peek system healing cap and analog provides simple and convenient temporary prosthetic fabrication
- Body designed for secure initial entry firm gripping power
- Opimal self - tapping thread design



|                                      | Diameter | Collar | Pitch | 10 mm       | 12 mm       | Length      | 14 mm       | 16 mm |
|--------------------------------------|----------|--------|-------|-------------|-------------|-------------|-------------|-------|
| B<br>r<br>u<br>s<br>h<br>i<br>t<br>e | 2.5 mm   | 2.0 mm | 1     | MFB 25210H  | MFB 25212H  | MFB 25214H  | —           | —     |
|                                      | 2.5 mm   | 4.0 mm | 1     | MFB 25410H  | MFB 25412H  | MFB 25414H  | —           | —     |
|                                      | 3.0 mm   | 2.0 mm | 1     | MFB 30210AH | MFB 30212AH | MFB 30214AH | MFB 30216AH | —     |
|                                      | 3.0 mm   | 4.0 mm | 1     | MFB 30410AH | MFB 30412AH | MFB 30414AH | MFB 30416AH | —     |
| R<br>B<br>M                          | 2.0 mm   | 2.0 mm | 0.6   | MFB 20210   | MFB 20212   | MFB 20214   | —           | —     |
|                                      | 2.0 mm   | 4.0 mm | 0.6   | MFB 20410   | MFB 20412   | MFB 20414   | —           | —     |
|                                      | 2.5 mm   | 2.0 mm | 1     | MFB 25210   | MFB 25212   | MFB 25214   | —           | —     |
|                                      | 2.5 mm   | 4.0 mm | 1     | MFB 25410   | MFB 25412   | MFB 25414   | —           | —     |
|                                      | 3.0 mm   | 2.0 mm | 1     | MFB 30210A  | MFB 30212A  | MFB 30214A  | MFB 30216A  | —     |
|                                      | 3.0 mm   | 4.0 mm | 1     | MFB 30410A  | MFB 30412A  | MFB 30414A  | MFB 30416A  | —     |

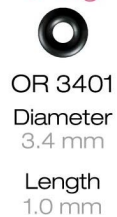
## Prosthetic Components

## Surgical Kit

### BALL CAP



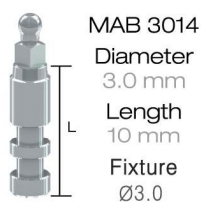
### O-ring



### HEALING CAP



### ANALOG



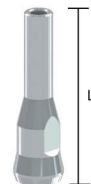
### CEMENTED ABUTMENT

#### MCB 3508



Length  
8 mm

#### MCB 3512



Length  
12 mm

Fixture  
Ø3.0  
Diameter  
3.5 mm

### CUSTOM ABUTMENT



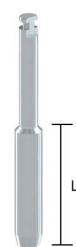
Fixture  
Ø3.0  
Square

### IMPRESSION COPING



Fixture  
Ø3.0  
Square

### CONTRA ANGLE DRIVER



Diameter  
3.4 mm  
Length  
10 mm  
MGC 3410  
15 mm  
MGC 3415  
20 mm  
MGC 3420

### RATCHET DRIVER



Diameter  
3.4 mm  
Length  
10 mm  
MGR 3410  
15 mm  
MGR 3415  
20 mm  
MGR 3420

# Surgical Protocol

**1**

**2**

**3**

**4**



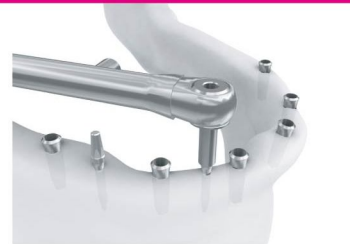
Select an insertion point. Drill the cortical bone using a 1.2mm straight drill by repeating a smooth pumping motion. Drilling depth is to be one third of the implant length that will be inserted.(800~1,200rpm)

**5**

**6**

**7**

**8**



Attach the implant head to the contra angle driver that is connected with the handpiece. Set the torque to 35Ncm. The guide point of the ProTem implants initiates the self tapping as the implant is inserted by a low speed high torque handpiece (10~20rpm). The initial stability will be enhanced as the implant is inserted and bone expands.

**9**

**10**



As the final process of the implant insertion, attach the ratchet wrench to the torque wrench, and then connect them with the ratchet driver that holds the implant head. Finish the surgical process by slowly turning the ratchet driver in clockwise.

A slow turning-in protects the implants from fractures and provides the wider contact area between bone and thread to ensure the initial stability by providing a time for bone to be expanded .

| No. | Diameter | Pitch | Dense Bone(D1) |           | Medium Bone(D2) |              | Poor Bone(D3,D4) |           |
|-----|----------|-------|----------------|-----------|-----------------|--------------|------------------|-----------|
|     |          |       | Drill(Ø)       | Depth(mm) | Drill(Ø)        | Depth(mm)    | Drill(Ø)         | Depth(mm) |
| 1   | Ø2.0     | 0.6   | 1.2            | 1/2~3/4   | 1.2             | Cortical~1/2 | —                | —         |
| 2   | Ø2.5     | 1     | 2.0            | 1/2~3/4   | 1.5             | 1/2          | 1.5              | Cortical  |
| 3   | Ø3.0     | 1     | 2.5            | 3/4~Full  | 2.0~2.5         | 1/2~Full     | 2.0~2.5          | 1/3~1/2   |



## DIO Corporation

### Headquarter

12, Centum 6 gil (1464, U-dong),  
Haeundae-gu Busan, 612-020, Korea  
Tel.+82-51-745-7777 Fax.+82-51-745-7778

### Seoul office

Room 1004, Ssangnim B/D. 151-11 Ssangnim-dong,  
Jung-gu, Seoul, 100-400, Korea  
Tel.+82-2-2268-2850 Fax.+82-2-2275-2850



### Overseas Branches

DIO U.S.A (Los Angeles)  
Tel. +1 213 365 2875  
DIO China (Beijing / Shanghai)  
Tel. +86 10 8188 0183 / +86 21 3431 9504  
DIO Australia (Sydney)  
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