

### Denracle CADCAM Implant Abutment Solution - Ti Base & Pre-milled blanks





## CAD/CAM Custom Abutments



### Why CAD/CAM Custom Abutment?



- 1. Customized shape and angle based on each patient's oral environment.
- 2. Patient-specific tissue management in healing phase
- 3. Final restorations adhere precisely to patient's gingiva.
- 4. Better healing result based on clinic researches.
- 5. Computerized controlled to and precision milling to ensure the quality.
- 6. Reduce time for chairside adjustments



### Growing Adoption of Custom Abutment



- CADCAM (custom) abutments are growing at a compound annual growth rate of 22.1%. By 2021, custom abutments are forecast to represent 31.6% of the overall abutment units in Asia Pacific. Growing custom CADCAM abutments VS declining unit share of stock and cast abutments.
- Source: CADCAM, March 2015



### Various Options of Custom Abutment

Full Titanium Abutment (1-piece)

Sufficient strength
Biocompatible
Suitable for
posterior teeth
Suitable for bridge



Zr-Ti Abutment (2-piece)

Stronger than 1
 piece zirconia
 abutment.
 Aesthetic
 consideration

Full Zirconia Abutment (1-piece)

Aesthetic
Suitable for anterior
Suitable for single unit





Denracle Solution for CADCAM abutments – Ti base & Premilled blanks

### Denracle Pre-milled Abutment: Solution for Titanium 1-piece Abutment

- 1 piece abutment solution
- Cost-Effective: no more expansive implant manufacture
- Time saving: no more day long milling time.
- Compatible with major system
- Optimal materials
- Precise production & QC with precise gauges
- CE certified



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### Denracle Ti base: Solution for 2-piece Abutment

- Two piece abutment solution
- Compatible with major implant brands
- Optimal materials
- Precise production & QC with precise gauges
- CE certified





### Available implant systems

#### Compatibility Chart

Brand	System	Platfom	
3i Biomet	Certain	3.1 / 4.1 / 5.0	
Anthogyr	Axion	-	
BioHorizons	Internal	3.5 / 4.0 / 5.0	
	External	3.5 / 4.0 / 5.0	
BBC	Mytis Arrow	C Type35	
Dentsply	Astra Tech OsseoSpeed	3.0 3.5 / 4.0 4.5 / 5.0	
	Xive	3.0 / 3.4 / 3.8 / 4.5 / 5.5	
DIO	SM	Mini Regular	
	UF II	Narrow Standard	
Dentium	Superline	Mini Regular	
Keystone	PrimaConnex	SD / RD / WD	
Megagen	EZ	3.5 / 4.1	
MIS	Seven	NP / CP / WP	
Nobel Biocare	Active	NP / RP	
	Branemark	NP / RP / WP	
	Replace	NP / RP / WP / 6.0	
Osstem	TS	Mini Standard	
Straumann	Bone Level	NC / RC	
	Tissue Level	NN / RN / WN	
SIC	Invent	3.2 / 4.2	
Zimmer	Tapered Screw-Vent	35 / 45 / 57	

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### Denracle Product Quality (Fatigue test)



#### **Quality Assurance**

Denracle products are manufactured under the process conform to GMP & ISO regulations. All products are CE certified.

Dynamic Fatigue Test for Denracle GO abutments. This test determines the strength of abutments (with implants) under cycling loading. See test result below (Table 1).

Coursellor H	Maximum cycle load		Number of	The diam
Sample #	(N)	(Kg)	cycles	Finding
1	215.82	22	5,000,000	No damage
2	215.82	22	5,000,000	No damage
3	215.82	22	5,000,000	No damage

Table 1. Dynamic Fatigue Test Result



Figure 1: Schematic of test setup for systems



Figure 2: Samples on the test machine

Fatigue limit / Maximum endured load at 5,000,000 cycles is 215.82N with maximum bending moment 1187.01 N-mm (conform to CE standard).





#### **Denracle Product Quality**



ISO 13485

CE

GMP



## Workflow: 1-Piece Abutment (with Denracle Pre-milled Blank)







### Model Scan or i/o Scan





### Load in Scan Data in ExoCAD





### Choose Denracle Library and Desired Implant System





### **Custom Abutment Design**





### **Custom Abutment Design**



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### CAM Generation & CNC Milling on Denracle Premilled Blanks

## CAM toolpath







### Finished Custom Abutment





### Scan Milled Abutment



Image: 3shape



### Design Crown in Exocad





### Full Crown Milling



Image: Roland



# Final Prosthetics



## Workflow: 2-piece (Hybrid) Abutment (with Denracle Ti-base)



### Workflow





### Model Scan or i/o Scan





### Load in Scan Data in ExoCAD





### Choose Denracle Library and Desired Implant System



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### Design the Top of the Custom Abutment





### CNC Milling Zirconia Top



Image: Roland



### Cement Zirconia Top on Denracle Ti-Base







# **Final Prosthetics**

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## Thank you for your attention

