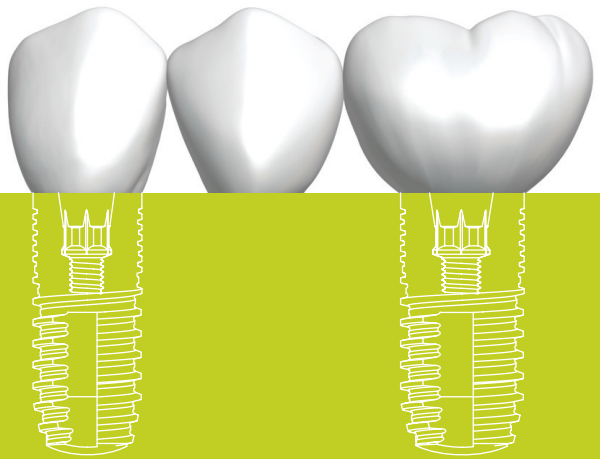
biodenta®
we're all about teeth

Bone Level	BL
Bone Level Tapered	TP



Prosthetic Guideline

Dental Implant System

Bone Level and Bone Level Tapered

This guideline was developed in close collaboration with experienced implant dentists and dental technicians. Experts from America, Europe and Asia significantly contributed to this handbook. The highest quality, international application, and ease of use are of highest importance to us. Biodenta Swiss AG would like to thank all participating experts for their great support!

This documentation is valid from March 24, 2014.
Please find latest updates and information on our homepage
www.biodenta.com

Some products may not be regulatory
cleared / released for sale in all markets.

MM-BPG
ver1413

Contents

Preface

Preface

This prosthetic guideline will assist in the understanding and the implementation of prosthetic solutions based on the Biodenta implants placed at bone level.

Each prosthetic restoration requires careful planning and expertise. Dentists and dental technicians should be familiar with the use of all components and procedures prior to use.

Please contact Biodenta if you have any questions or concerns.

The Biodenta Support Team welcomes your request and is here to assist you:

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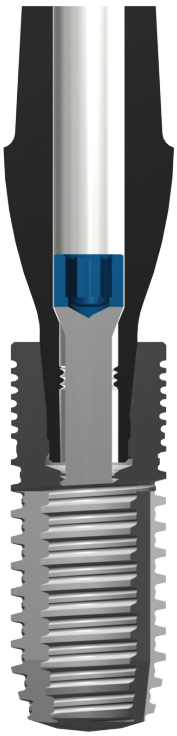
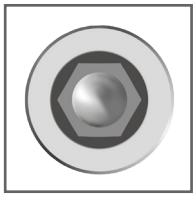
Dental Implant System



Implant Characteristics

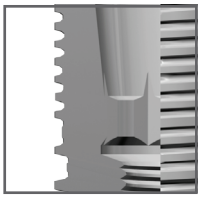
Implant Characteristics

1



Hex connection system

2



Tight-Fit connection

3

Platform switching

Implant Platform Types

The Biodenta bone level and bone level tapered implants have three different platform types. They include:

Platform Type	Platform ø	Platform Identification Color
B0	2.3 mm	
B1	2.7 mm	
B2	3.1 mm	

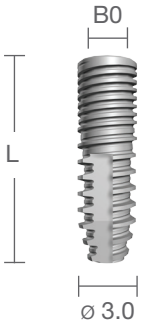
Implant Series | Bone Level

Biodenta Dental Implants I Bone Level
BST Surface

3.0 mm Endosteal Ø 3.0 mm I B0

Length	REF Number
10.0 mm	I-BA30B0L10A
12.0 mm	I-BA30B0L12A
14.0 mm	I-BA30B0L14A

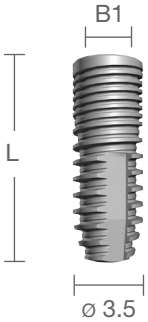
* B0 0.5 mm Closure Screw included



3.5 mm Endosteal Ø 3.5 mm I B1

Length	REF Number
8.0 mm	I-BA35B1L08A
10.0 mm	I-BA35B1L10A
12.0 mm	I-BA35B1L12A
14.0 mm	I-BA35B1L14A

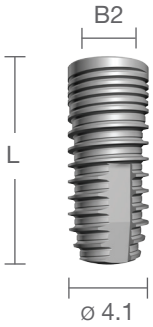
* B1 0.5 mm Closure Screw included



4.1 mm Endosteal Ø 4.1 mm I B2

Length	REF Number
6.5 mm	I-BA41B2L65A
8.0 mm	I-BA41B2L08A
10.0 mm	I-BA41B2L10A
12.0 mm	I-BA41B2L12A
14.0 mm	I-BA41B2L14A

* B2 0.5 mm Closure Screw included

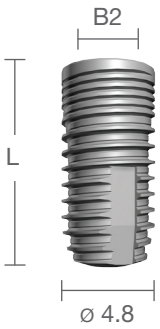


Unit: millimeters
ø = Diameter
L = Length
W = Width
GH = Gingiva Height

4.8 mm Endosteal Ø 4.8 mm I B2

Length	REF Number
6.5 mm	I-BA48B2L65A
8.0 mm	I-BA48B2L08A
10.0 mm	I-BA48B2L10A
12.0 mm	I-BA48B2L12A
14.0 mm	I-BA48B2L14A

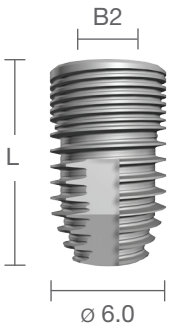
* B2 0.5 mm Closure Screw included



6.0 mm Endosteal Ø 6.0 mm I B2

Length	REF Number
6.5 mm	I-BA60B2L65A
8.0 mm	I-BA60B2L08A
10.0 mm	I-BA60B2L10A
12.0 mm	I-BA60B2L12A

* B2 0.5 mm Closure Screw included



Unit: millimeters
ø = Diameter
L = Length
W = Width
GH = Gingiva Height

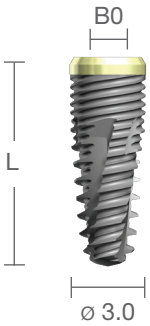
Implant Series | Bone Level Tapered

Biodenta Dental Implants I Bone Level Tapered
BST Surface

3.0 mm Endosteal Ø 3.0 mm I B0

Length	REF Number
10.0 mm	I-PA30B0L10A
12.0 mm	I-PA30B0L12A
14.0 mm	I-PA30B0L14A

* B0 0.5 mm Closure Screw included



3.5 mm Endosteal Ø 3.5 mm I B1

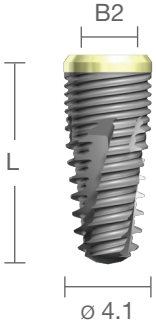
Length	REF Number
8.0 mm	I-PA35B1L08A
10.0 mm	I-PA35B1L10A
12.0 mm	I-PA35B1L12A
14.0 mm	I-PA35B1L14A

* B1 0.5 mm Closure Screw included

4.1 mm Endosteal Ø 4.1 mm I B2

Length	REF Number
6.5 mm	I-PA41B2L65A
8.0 mm	I-PA41B2L08A
10.0 mm	I-PA41B2L10A
12.0 mm	I-PA41B2L12A
14.0 mm	I-PA41B2L14A

* B2 0.5 mm Closure Screw included



Unit: millimeters
ø = Diameter
L = Length
W = Width
GH = Gingiva Height

4.8 mm Endosteal Ø 4.8 mm I B2

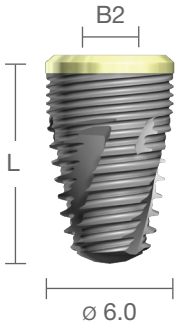
Length	REF Number
6.5 mm	I-PA48B2L65A
8.0 mm	I-PA48B2L08A
10.0 mm	I-PA48B2L10A
12.0 mm	I-PA48B2L12A
14.0 mm	I-PA48B2L14A

* B2 0.5 mm Closure Screw included

6.0 mm Endosteal Ø 6.0 mm I B2

Length	REF Number
6.5 mm	I-PA60B2L65A
8.0 mm	I-PA60B2L08A
10.0 mm	I-PA60B2L10A
12.0 mm	I-PA60B2L12A

* B2 0.5 mm Closure Screw included



Unit: millimeters
ø = Diameter
L = Length
W = Width
GH = Gingiva Height

Healing Abutment Guide

Healing Abutment Guide

The following table demonstrates the best possible combinations between healing abutments and final abutments. We carefully harmonised the shape of the healing abutments to the shape of the final abutments. Healing abutments and final abutments fit exactly when the same diameter is chosen (show black dot). In that case there will be no compression on the gingiva. After measuring the gingiva height (use Biodenta abutment depth gauge), a choice should be made according to the table below.

Healing abutment should be selected according to the clinical outcome and the patient's gingiva height for LOCATOR®- or ball abutments you should choose a gingiva height which is higher as the patient's gingiva height.

Platform B0	Healing Abutment		
	D4 GH2	D4 GH4	D4 GH6
Straight Abutment			
D4 GH1	●	●	●
D4 GH2	●	●	●
Profile 15° Abutment			
D4 GH1	●	●	●
D4 GH2	●	●	●
LOCATOR® Abutment			
GH2	●		
GH4		●	
GH6			●
Ball Abutment			
GH2	●		
GH4		●	
GH6			●
Gold Abutment			
Healing abutment will be selected according to the clinical situation			
Bar Abutment			
Healing abutment will be selected according to the clinical situation			
Temporary Abutment			
Ideal for forming the emerged profile			

Platform B1	Healing Abutment						
	D4 GH2	D4 GH4	D4 GH5	D5 GH4	D5 GH5	D6 GH4	D6 GH5
Straight Abutment							
D4 GH1	●	●	●	○	○		
D4 GH2	●	●	●	○	○		
D4 GH4	●	●	●	○	○		
D5 GH1	○	○	○	●	●	○	○
D5 GH2	○	○	○	●	●	○	○
D5 GH4	○	○	○	●	●	○	○
D5 GH5	○	○	○	●	●	○	○
D6 GH2				○	○	●	●
D6 GH4				○	○	●	●
D6 GH5				○	○	●	●
Angled Abutment							
D4 GH1	●	●	●	○	○		
D4 GH2	●	●	●	○	○		
D4 GH4	●	●	●	○	○		
D5 GH1	○	○	○	●	●	○	○
D5 GH2	○	○	○	●	●	○	○
D5 GH4	○	○	○	●	●	○	○
D5 GH5	○	○	○	●	●	○	○
Swift Abutment							
D4 GH1/AH4.0	●	●	●	○	○		
D4 GH2/AH4.0	●	●	●	○	○		
D4 GH4/AH4.0	●	●	●	○	○		
D4 GH1/AH5.5	●	●	●	○	○		
D4 GH2/AH5.5	●	●	●	○	○		
D4 GH4/AH5.5	●	●	●	○	○		
D4 GH1/AH7.0	●	●	●	○	○		
D4 GH2/AH7.0	●	●	●	○	○		
D4 GH4/AH7.0	●	●	●	○	○		
LOCATOR® Abutment							
GH2	●						
GH4		●					
GH6			●				
Ball Abutment							
GH2	●						
GH4		●					
GH6			●				
Gold Abutment							
Healing abutment will be selected according to the clinical situation							
Bar Abutment							
Healing abutment will be selected according to the clinical situation							
Temporary Abutment							
Ideal for forming the emerged profile							

Platform B2	Healing Abutment								
	D4 GH2	D4 GH4	D4 GH5	D5 GH4	D5 GH5	D6 GH4	D6 GH5	D7 GH4	D7 GH5
Straight Abutment									
D4 GH1	●	●	●	○	○				
D4 GH2	●	●	●	○	○				
D4 GH4	●	●	●	○	○				
D5 GH1	○	○	○	●	●	○	○		
D5 GH2	○	○	○	●	●	○	○		
D5 GH4	○	○	○	●	●	○	○		
D5 GH5	○	○	○	●	●	○	○		
D6 GH2				○	○	●	●	○	○
D6 GH4				○	○	●	●	○	○
D6 GH5				○	○	●	●	○	○
Angled Abutment									
D4 GH1	●	●	●	○	○				
D4 GH2	●	●	●	○	○				
D4 GH4	●	●	●	○	○				
D5 GH1	○	○	○	●	●	○	○		
D5 GH2	○	○	○	●	●	○	○		
D5 GH4	○	○	○	●	●	○	○		
D5 GH5	○	○	○	●	●	○	○		
Swift Abutment									
D5 GH1/AH4.0	○	○	○	●	●	○	○		
D5 GH2/AH4.0	○	○	○	●	●	○	○		
D5 GH4/AH4.0	○	○	○	●	●	○	○		
D5 GH1/AH5.5	○	○	○	●	●	○	○		
D5 GH2/AH5.5	○	○	○	●	●	○	○		
D5 GH4/AH5.5	○	○	○	●	●	○	○		
D5 GH1/AH7.0	○	○	○	●	●	○	○		
D5 GH2/AH7.0	○	○	○	●	●	○	○	○	○
D5 GH4/AH7.0	○	○	○	●	●	○	○	○	○
D6 GH1/AH4.0				○	○	●	●	○	○
D6 GH2/AH4.0				○	○	●	●	○	○
D6 GH4/AH4.0				○	○	●	●	○	○
D6 GH1/AH5.5				○	○	●	●	○	○
D6 GH2/AH5.5				○	○	●	●	○	○
D6 GH4/AH5.5				○	○	●	●	○	○
LOCATOR® Abutment									
GH2	●								
GH4		●							
GH6			●						

Ball Abutment									
GH2	●								
GH4		●							
GH6			●						

Gold Abutment
Healing abutment will be selected according to the clinical situation

Bar Abutment
Healing abutment will be selected according to the clinical situation

Temporary Abutment
Ideal for forming the emerged profile

● Healing abutments and final abutments have the same diameter

● Healing abutments and final abutments have the same diameter but GH differs more than 3mm

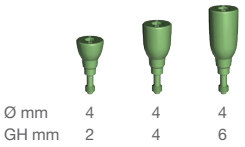
○ Healing abutments and final abutments differ 1 mm

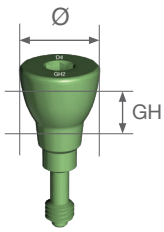
Healing Abutments & Closure Screws I Bone Level

Healing Abutments

B0

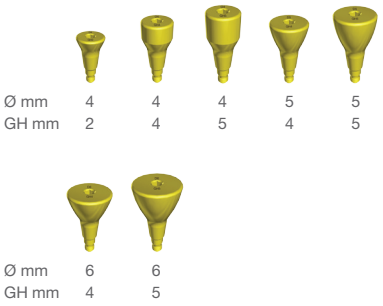
Ø	GH	REF Number
4.0 mm	2.0 mm	HA-B2040B0H
4.0 mm	4.0 mm	HA-B4040B0H
4.0 mm	6.0 mm	HA-B6040B0H

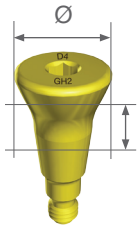




B1

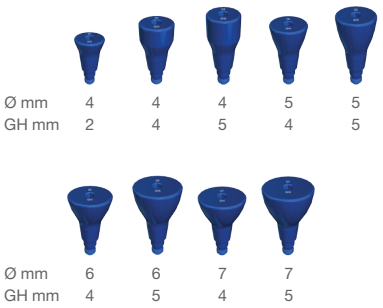
Ø	GH	REF Number
4.0 mm	2.0 mm	HA-B2040B1H
4.0 mm	4.0 mm	HA-B4040B1H
4.0 mm	5.0 mm	HA-B5040B1H
5.0 mm	4.0 mm	HA-B4050B1H
5.0 mm	5.0 mm	HA-B5050B1H
6.0 mm	4.0 mm	HA-B4060B1H
6.0 mm	5.0 mm	HA-B5060B1H

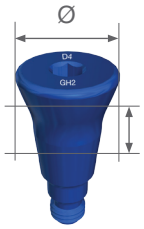




B2

Ø	GH	REF Number
4.0 mm	2.0 mm	HA-B2040B2H
4.0 mm	4.0 mm	HA-B4040B2H
4.0 mm	5.0 mm	HA-B5040B2H
5.0 mm	4.0 mm	HA-B4050B2H
5.0 mm	5.0 mm	HA-B5050B2H
6.0 mm	4.0 mm	HA-B4060B2H
6.0 mm	5.0 mm	HA-B5060B2H
7.0 mm	4.0 mm	HA-B4070B2H
7.0 mm	5.0 mm	HA-B5070B2H

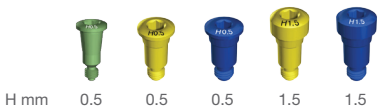


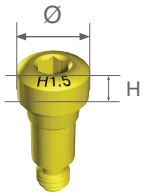


Unit: millimeters
ø = Diameter
L = Length
W = Width
GH = Gingiva Height

Closure Screws

Ø	H	REF Number
B0	0.5 mm	CS-B0030B0C
B1	0.5 mm	CS-B0035B1C
B2	0.5 mm	CS-B0018B2C
B1	1.5 mm	CS-B0135B1C
B2	1.5 mm	CS-B0118B2C



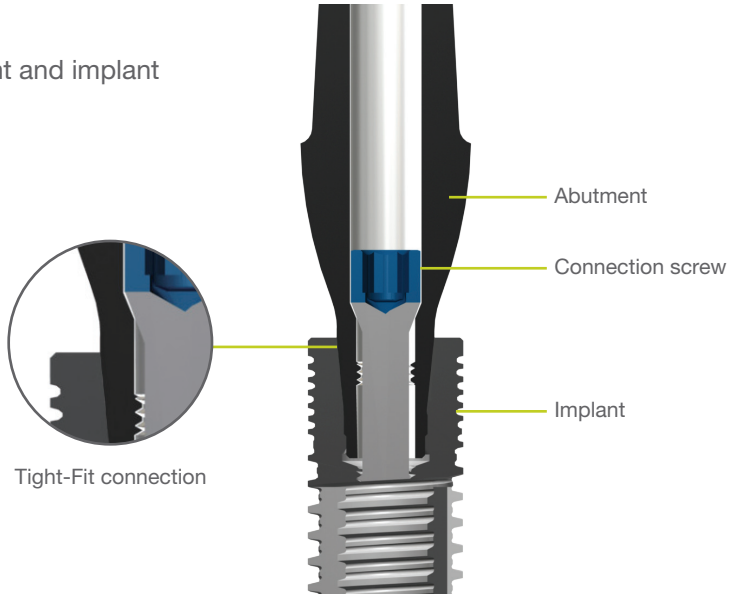


Unit: millimeters
ø = Diameter
L = Length
W = Width
GH = Gingiva Height

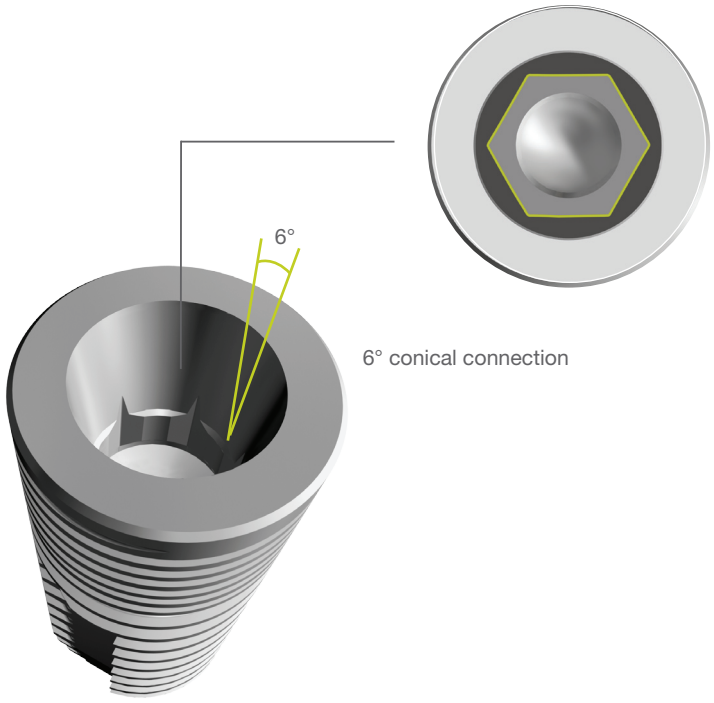
Tight-Fit Connection

Tight-Fit Connection

- 6° conical connection between abutment and implant
- Tight-Fit connection
- Abutment screw locks the connection
- The design intends to minimize micro-movements, micro-leakage and maintain a tight-fit *



Hex connection system



* This assessment is based on bench testing conducted using x-ray analysis of the implant abutment connection without load and under load. These parameters have not shown to provide a meaningful effect clinically.

Mechanical Stability

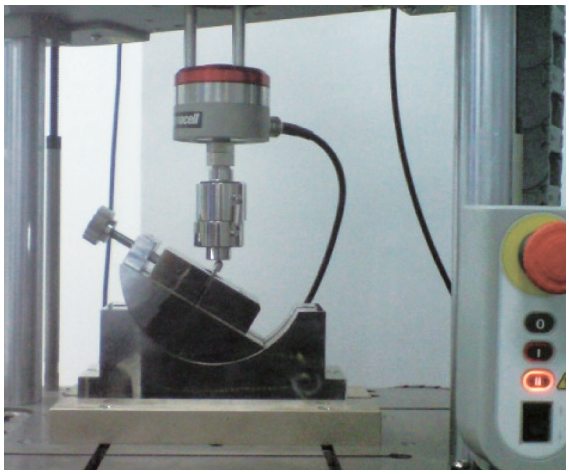
Mechanical Stability

Our well designed implant with a 6° conical connection is tested according to ISO 14801. The implant has a standard abutment that is screwed together and then mounted at a fixed 30° off-axis orientation, with a bone level 3 mm higher than the fixture surface.

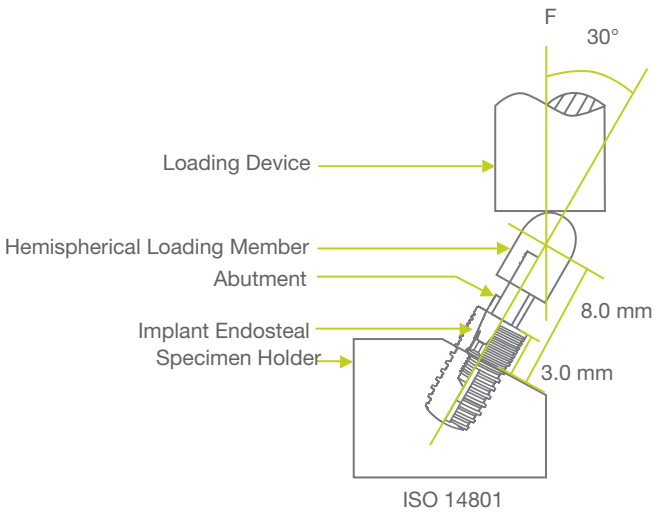
A hemisphere cap, at the top of abutment, adds compressed force, which intersects the off-axis at a point 8 mm higher than bone level.

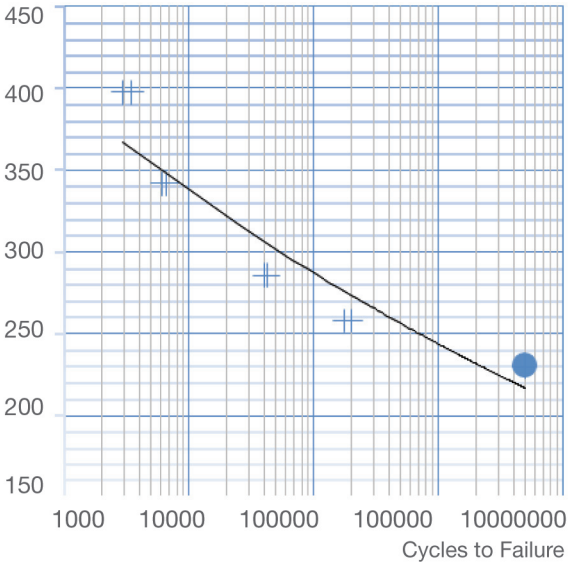
The fatigue force testing is started at 80% of static fracture strength and controlled in 15 Hz sine wave. Failure was defined as permanent deformation of material yield, or fracture of any component of test samples. Testing is considered complete at 3 samples, of five million cycles, without failures.

The test confirmed the high mechanical stability of the Biodenta implant system above 200 N for 5 million cycles for the smallest implant with B1 platform.



Implant mount test





X axis : number of cycles, n
Y axis : peak load in Newton
+ : fractured samples
• : surviving samples

Biodenta Quality and Certificates

Biodenta Quality and Certificates

The products of Biodenta Swiss AG are developed and manufactured by following highest international quality standards. As a manufacturer of medical equipment we are following the strict requirements of the European Medical Device Directive 93/42/EEC.

Our products are entitled for the CE sign and Biodenta Swiss AG is frequently controlled by an independent Notified Body.

Research, development, production, sales and logistics are strictly following the quality management systems ISO 9001, ISO 13485 and the GMP guidelines.

Biodenta Swiss AG ensures that the quality of our products and services fulfills the high expectations of our customers.

External and internal specialists are permanently taking care to achieve best solutions of design, reliability and efficiency.

Biodenta Swiss AG only cooperates with well established business partners and high priority is given to sustainability. We support fair business relations and pay high regard to environmental and social conditions.

510(k) cleared by the US Food and Drug Association (FDA).

CE 0197
Medical Device Directive 93/42/EEC

510(k) cleared FDA

EN 556-1

EN 980

EN 1041

EN 1642

EN ISO 10451

EN ISO 10993

EN ISO 11137

EN ISO 14630

EN ISO 14971

ISO 14801

ISO 7405

ISO 9001

ISO 13485

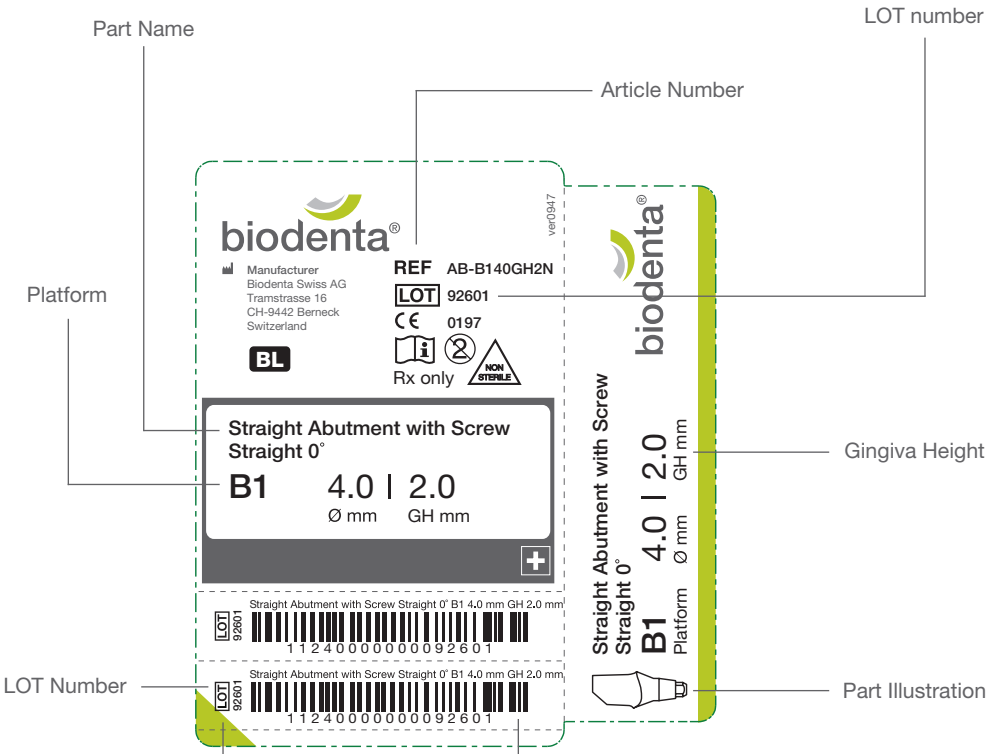
Product Packaging

Product Packaging

Blister packaging for prosthetic parts

Bar code labels

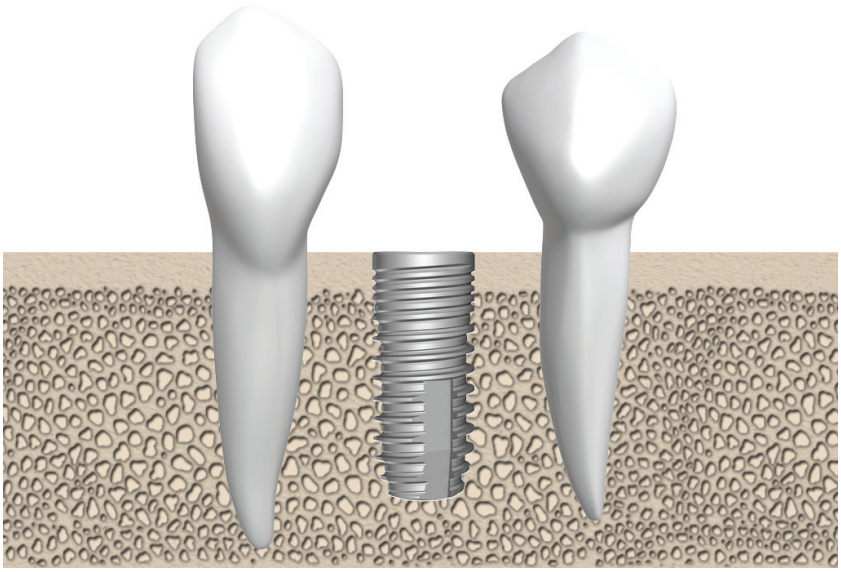
Label Explanation



92601 First digit is year, 2009.
Next two digits: production week 26.
Last 2 digits: running number from 01 to 99

Storage Element System for clear overview

Preoperative Planning



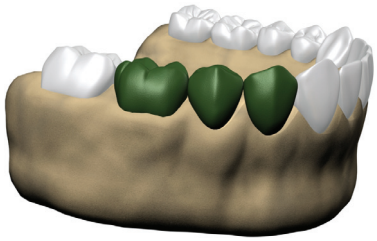
Preoperative Planning

Preoperative Planning

Radiographic and drill templates are a perfect aid for positioning implants so that the subsequent prosthetic provision restoration has optimum function (from an aesthetic, functional and financial aspect). The best results are only possible if adequate preoperative planning is carried out. Close communication between the patient, dentist and dental technician is essential in order to achieve implant-supported prosthesis.

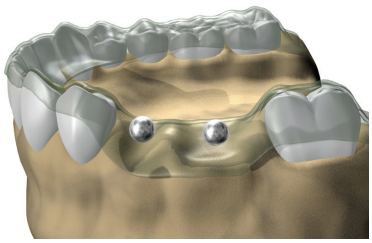
Radiographic Templates

The radiographic templates are produced with the help of the Ø 5.0 mm X-ray reference sphere. The desired implant position is marked on the diagnostic model, the X-ray reference sphere is fixed to the place marked and the templates are produced by means of a thermo-plastic.



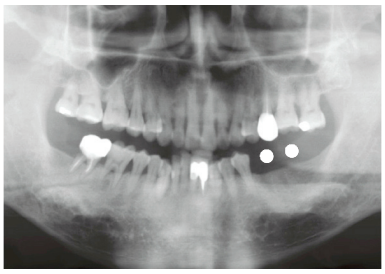
Diagnostic Wax-Up

The diagnostic wax-up is crucial in the treatment planning process. It gives information on what the expected outcome will be following the onset of therapy. Which implants and implants size and implant axes can also be selected at this step. The type of supra-construction can also be established by means of this wax-up.



Radiograph

The film produced with the radiographic templates then imparts information regarding the localised bone supply and the quantity of the available bone. Based on this information the number, positions, diameter and lengths of the implants can be defined. The image of the sphere on the radiographic image supplies the reference value for the magnification factor.

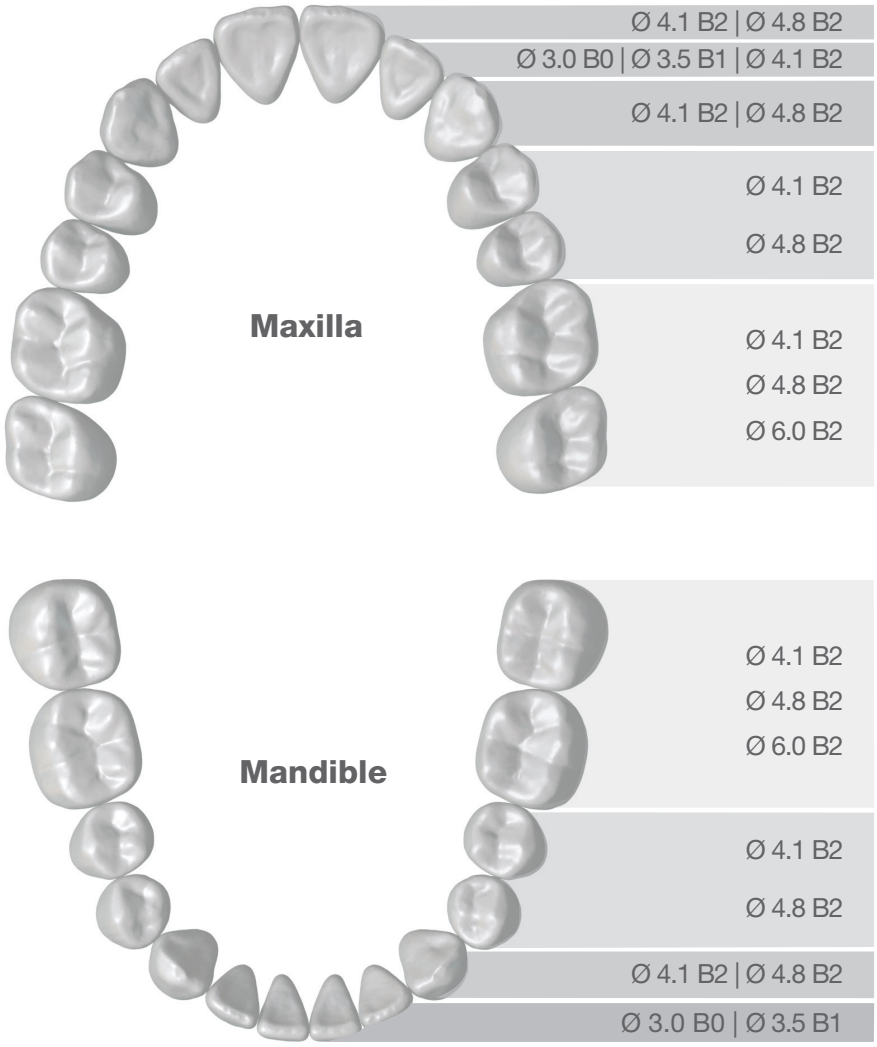


Implant Positioning

The recipient site of the implant should have sufficient width and height to accommodate the amount of planned implants and sizes selected. The bone quality should be adequate to support the implant and withstand the function of the initial pressure. If the size or the quantity of bone is insufficient, or the biomechanical load is excessive, it can lead to immediate failure. If the position of the implant is improper or deviated, the forces generated may lead to mechanical failure or damage to the implant, including fracture of the implant, abutment, or screw.

Given the greater forces generated in the posterior region, 3.0 mm and 3.5 mm implants are not recommended in the molar area.

The implant surgery and the prosthetic design should be adapted to the patient's individual conditions. Patients with poor occlusion or with heavy occlusal forces such as bruxism may not be ideal candidates for implants.



Suggested implant sizes based on region.

⚠ *Do not use Ø 3.0 mm and Ø 3.5 mm implants in the molar area or premolar area.*

⚠ *Immediate loading of single-tooth restoration is not recommended for all 3.0 mm implant diameters.*

Distances

Selection of implant position is imperative for dentist and dental technician to achieve a desired prosthetic result in later stage of implant treatment. Consideration should include adequate distances between implants and implant and teeth.

To improve soft tissue aesthetics and quality, overall teeth orientation, and proper implant selection, Biodenta recommend the following step before implant treatment.

1. A diagnostic wax-up on a prepared study model.
2. Define the type of implant restoration.

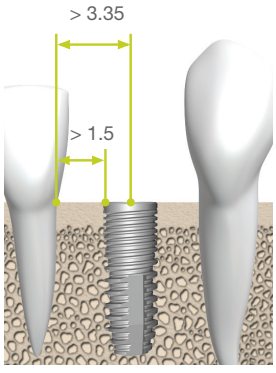
The following minimum guidelines should be included: implant diameter, implant length, position and quantity of implants. Depending on the planned position of the implant abutment, the following dimensions should be considered:

1. Distance between implant and teeth, or between implants at the level of the bone. Adequate distance must be available between the implants or implant and teeth.
2. Bone width must be adequate in the region of planned implant placement, i.e. buccal and lingual width.

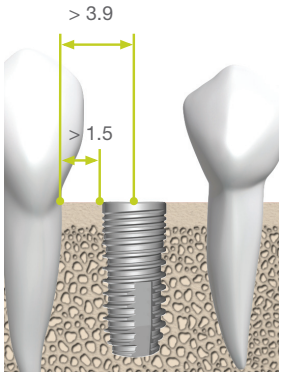
Minimum distances between implants and implant and teeth.
A. Maintain > 1.5 mm from the implant shoulder to the adjacent tooth.*
B. Maintain > 3.0 mm between two adjacent implant shoulders.
C. Maintain > 1.0 mm between implant shoulder and inter dental contact point.

Distance for Single Implant Placement

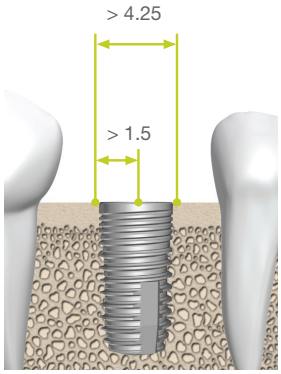
The following graphics indicate the distances for all three platforms. The table gives figures which are rounded up. These are suggested guidelines.



Distance for B1 / Ø 3.5



Distance for B2 / Ø 4.1



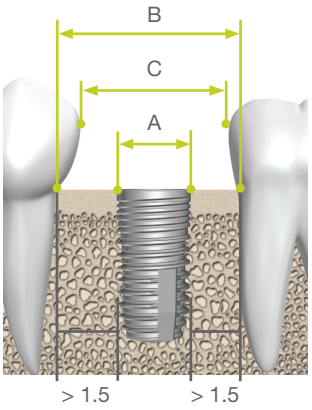
Distance for B2 / Ø 4.8

Unit: millimeters
Ø = Diameter
L = Length
GH = Gingiva Height

* Maintain wider distances if possible.

From the measurements obtained from the patient's radiographs, the following chart can be utilized to assist in determining the gap width along with the appropriate implant platform size and restoration.

Platform diameter (mm) A	Distance between mesial and distal tooth at bone (mm) B	Tooth gaps (mm) C
B1 Ø 3.5	7.0	6.0
B2 Ø 4.1	8.0	7.0
B2 Ø 4.8	8.5	7.5



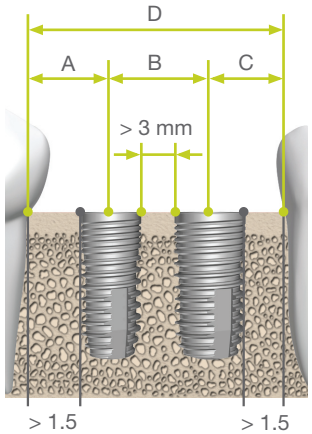
Single implant gap

Cases involving multiple Teeth and Implants

In order to comply with the recommended spacing as described above, the following figure shows multiple teeth and implant gaps. This distance requires > 1.5 mm from the implant body diameter to the adjacent tooth. The table below indicates the minimum required distances for different implant combinations.

The following chart is a measurement of bone level from adjacent tooth to the center of implant and between implants when measured from center to center. The minimum distance between two implant shoulders is 3.0 mm. The table gives figures which are rounded up. These are suggested guidelines.

Platform diameter I (mm) I	Platform diameter II (mm) II	Mesial (mm) A	Implant Center (mm) B	Distal (mm) C	Proximal cervical (mm) D
B1 Ø 3.5	B1 Ø 3.5	3.5	7.0	3.5	14.0
B1 Ø 3.5	B2 Ø 4.1	3.5	7.5	4.0	15.0
B1 Ø 3.5	B2 Ø 4.8	3.5	8.0	4.5	16.0
B2 Ø 4.1	B2 Ø 4.1	4.0	8.0	4.0	16.0
B2 Ø 4.1	B2 Ø 4.8	4.0	8.5	4.5	17.0
B2 Ø 4.8	B2 Ø 4.8	4.5	8.5	4.5	17.5



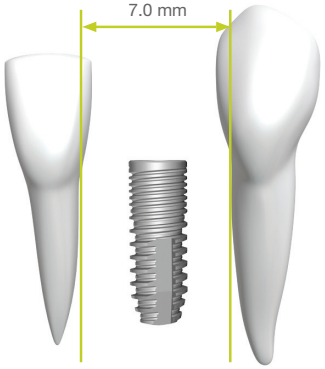
Implant & tooth gaps

Unit: millimeters
Ø = Diameter
L = Length
GH = Gingiva Height

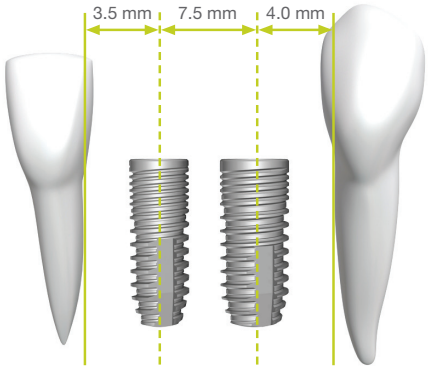
Distance Examples

In the following examples, distance measurement is from the bone level of the adjacent teeth to the center of the implant.

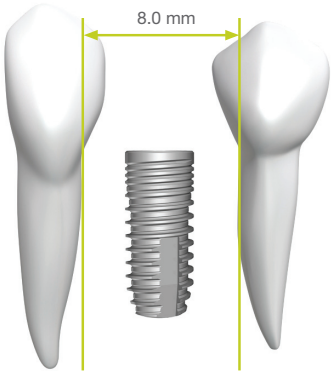
B1



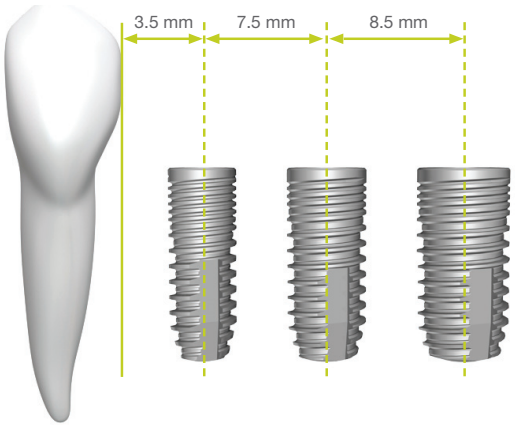
B1 & B2 4.1



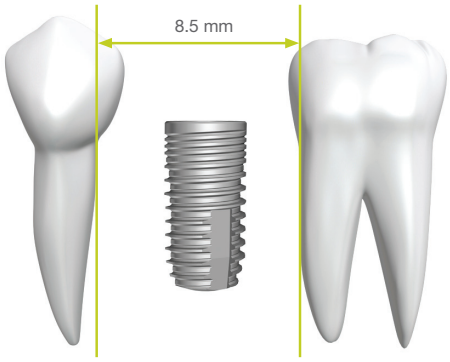
B2 4.1



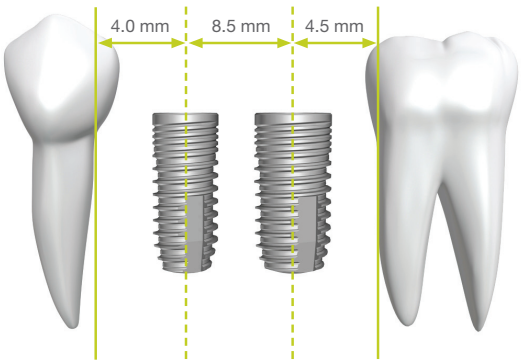
B1 / B2 4.1 / B2 4.8



B2 4.8



B2 4.1 & B2 4.8

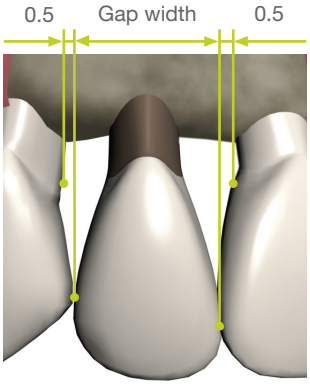


Recommended Mesio-Distal Distances for Implants

Depending on the anatomy and space available, select implant diameter, implant length, number of implants, and position. The dimensions described here should be deemed the minimum criteria.

When the minimum distances are observed, it is imperative to design and restore the implant with the ability to maintain hygiene. It is essential to allow the patient to reach the area of the implant neck to keep the area clean.

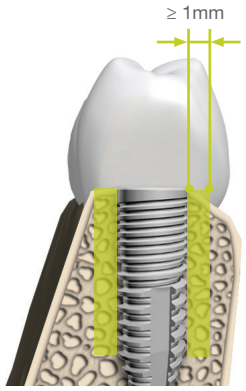
When evaluating the recipient site of anterior single implant, the distance from the planned implant crown at the level of the bone to the adjacent root structure must be a minimum of 0.5 mm on each side (total 1.0 mm).



Bone layer at least 1 mm thickness

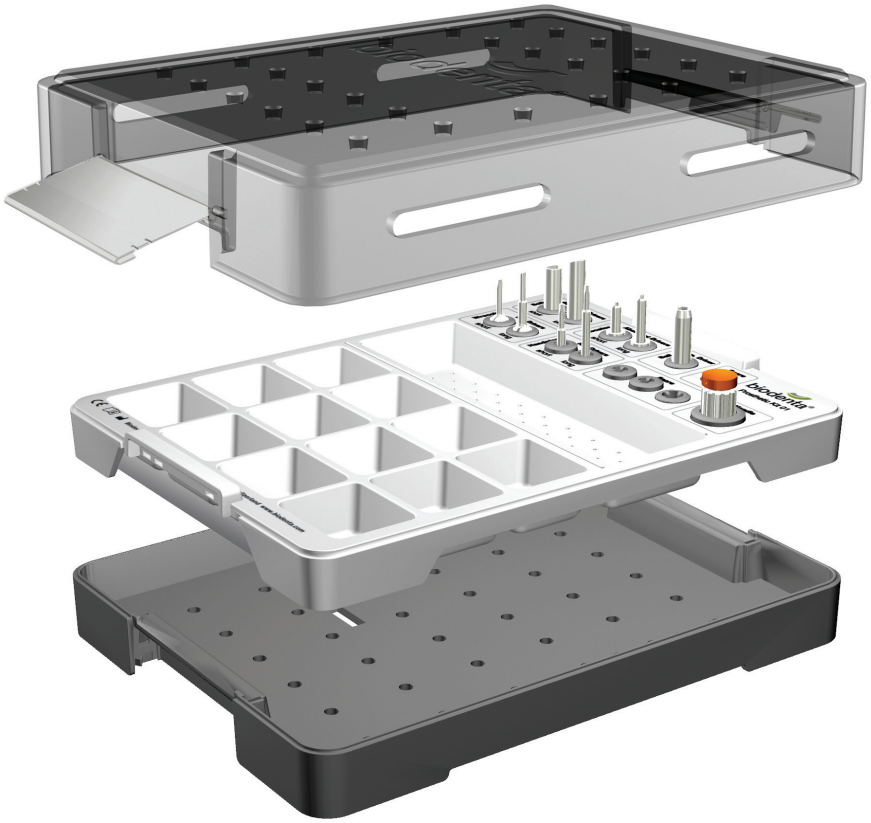
Buccal Lingual Position of Implants

The thickness of bone must be adequate to ensure that once the implant is placed, there is at least 1 mm of bone on each side to secure the implant.



At least 1 mm thickness

Prosthetic Instruments



Prosthetic Instruments

Prosthetic Instruments

Biodenta Prosthetic Kit tray has been improved to be even more compact and easy to use. Dentists can create a custom tool kit to meet their needs. The autoclavable tray contains various sized wells where you can store more optional drills, hex tools and any assortment of abutments. It may be used for cement- and screw- retained restorations.

⚠ All parts used intraoraly must be secured against aspiration!

Prosthetic Kit diagram

Soild & Swift Abutment Drivers

Length	REF Number
Short	PI-DRSA17S01
Long	PI-DRSA23L01

LOCATOR® Abutment Drivers

Length	REF Number
Short	PI-IDLA15S01
Long	PI-IDLA21L01

Ball Abutment Driver

REF Number
PI-DRBB19001

Hex Drivers for Torque Wrench

Length	REF Number
Extra Short	SI-HDTW14S01
Extra Long	SI-HDTW35L01

Abutment Depth Gauge

REF Number
PI-B01

Abutment Removal Tools

Ø	REF Number
B0	PI-B00
B1	PI-B10
B2	PI-B20

Swift Abutment Drivers B1

Length	REF Number
Short	PI-DRSW17S01
Long	PI-DRSW23L01

Multi-Use Straight Abutment Drivers

Length	REF Number
Short	PI-DRMU17S01
Long	PI-DRMU23L01

1

Soild & Swift
Abutment Drivers

2

LOCATOR®
Abutment Drivers

3

Ball Abutment
Driver

4

Hex Drivers for
Torque Wrench

5

Hex Drivers
for Handpiece

6

Handle for
Hex Drivers

7

Abutment
Depth Gauge

8

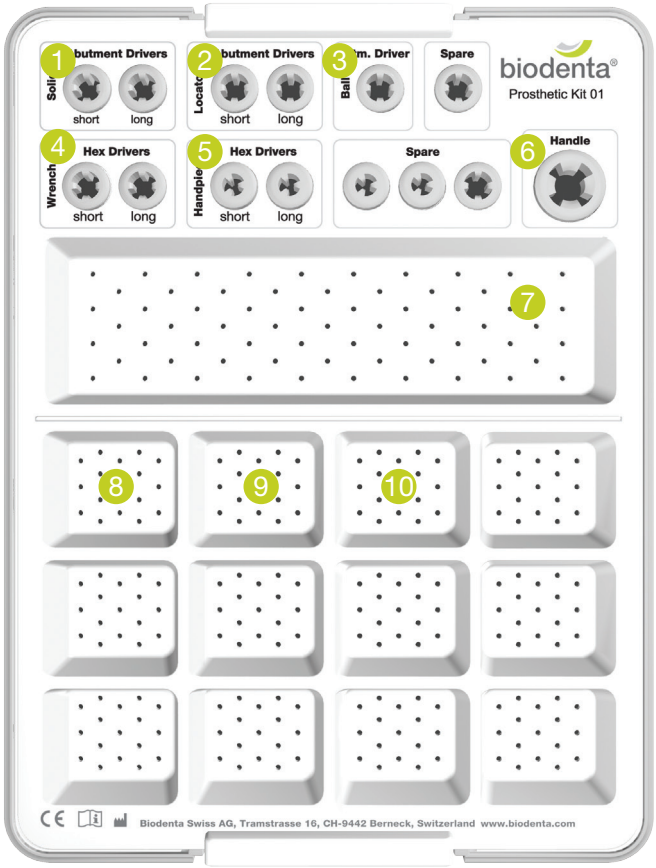
Abutment
Removal Tools

9

Swift Abutment
Drivers B1

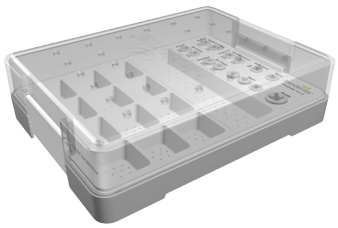
10

Multi-Use Straight
Abutment Drivers



Prosthetic Kit 01 (without instruments)

L x W x H	REF Number
186 x 141 x 50	PI-PK0000001



Prosthetic Kit 01 (with instruments, without torque wrench)

L x W x H	REF Number
186 x 141 x 50	PI-PKSK00001

Prosthetic Kit 02 (with instruments and torque wrench)

L x W x H	REF Number
186 x 141 x 50	PI-PKSK00002

LOCATOR® Parallel Post (4 pcs. per set)

Height	REF Number
8.0 mm	PI-PPLA08001


*

LOCATOR® Angle Measurement Guide

REF Number
PI-MGLA15001

*

LOCATOR® Core Tool

REF Number
PI-ADLA10001


*

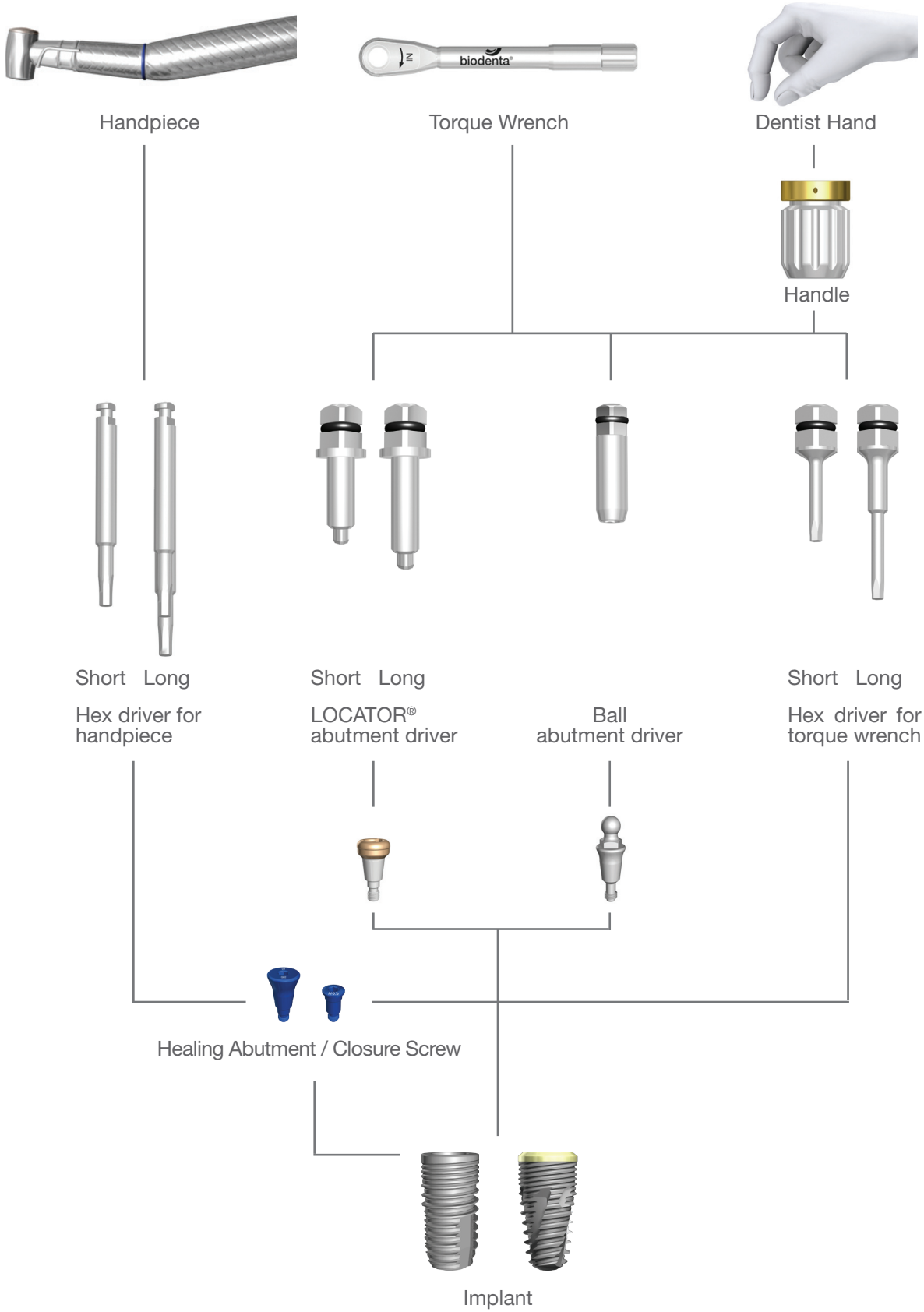
Reamer (incl. Guide Pins)

REF Number
PI-RM4565001


*

* instruments marked by * are not included in the Prosthetic Kit Set

Connection Procedure Chart



Torque Wrench

Torque Wrench

The torque wrench is used to insert the implant into the implant bed or for tapping. It is also used to connect prosthetic components to the implant for the appropriate connection torque. Please refer to the prosthetic guideline for detailed explanation related to connection of prosthetic components.

Please refer to the connection procedure chart to see which components can be connected with the wrench. The wrench can be applied in two different directions. 'IN' for tightening (clockwise as indicated by the arrow). 'OUT' for loosening (counter-clockwise as indicated by the arrow). The wrench has different torque markings. By turning the torque adjustment screw at the end of the wrench, the torque wrench can be set to the desired torque value. To set the torque value correctly, the torque adjustment screw must be turned clockwise to reach the required torque value and set to the exact line marking. Ensure the line on the handle is in straight alignment with the line on the adjustment screw. In order to change from a higher to a lower value, screw two turns counterclockwise beyond the desired value, then screw clockwise to the exact line marking.

The torque wrench will automatically release if excess torque is applied.

⚠ Follow the indications in this guide to adjust correct torque values for specified procedures.

⚠ When using the wrench, please turn it slowly and make sure that it stays in the same axis as the implant. If it is off axis, the torque value will be incorrect.

⚠ Disassemble the wrench for cleaning as described in the section, cleaning, disinfection and sterilization.

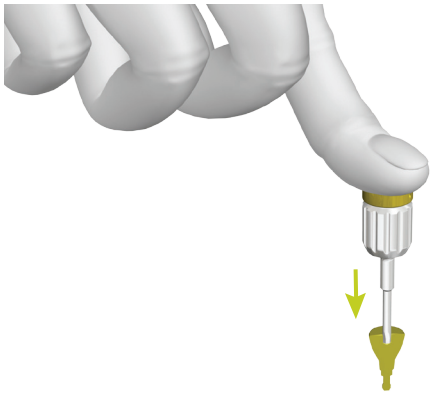
⚠ Follow the instructions that are supplied with the wrench for proper handling, disassembling, sterilization, and maintenance.

Torque Guide

The following table shows which torque should be applied to related procedures.

Procedure	Torque
Inserting implants with B0 platform	max. 35 Ncm
Inserting implants with NP or B1 platform	max. 50 Ncm
Inserting implants with RP, WP or B2 platform	max. 70 Ncm
Connecting healing cap / abutment or closure screw with the implant	Hand Force
Connecting temporary abutments with the implant	20 Ncm
Connecting B0 profile 15° / straight / ball / LOCATOR® abutments with the implant	20 Ncm
Connecting B1 and B2 angled / straight / solid / gold / ball / LOCATOR® / swift / multi-use / hybrid sleeve / bar abutments with the implant	35 Ncm
Connecting bridge screw with multi-use abutment	20 Ncm
Connecting prosthetic screw with hybrid sleeve	20 Ncm

⚠ Please ensure the hex driver is fully engaged into the head of the prosthetic screw.



⚠ If it is necessary to reverse a torque tightened abutment screw, we suggest to **replace the abutment screw** once the torque is reversed, in order to maintain the full torque capacity of the abutment screw.

Screw Guide

The screw guide shows which abutment screw should be used for which abutment type and platform type.

BL **TP**

Bone Level & Bone Level Tapered Abutment Screws		REF	Platform	Abutmemt	Straight	Profile B0	Angled	Angled
				Angulation	0°	15°	15°	15°
				Type	GH1 - 5	GH1-2	GH1	GH2 - 5
				Application				
Abutment Screw - Straight & Angled		SC-B3023M0A	B0	Straight abutment, B0 15° Profile abutment, GH2, Temporary abutment crown / bridge	●	●		
		SC-B3023M1A	B1	Straight abutment , Angled abutment GH2/4/5, Temporary abutment crown / bridge, Gold abutment crown / bridge, Bar abutment Ti / Gold alloy	●			●
		SC-B3023M2A	B2	Straight abutment , Angled abutment GH2/4/5, Temporary abutment crown / bridge, Gold abutment crown / bridge, Bar abutment Ti / Gold alloy	●			●
Abutment Screw - Angled GH1		SC-B3023M1B	B1	Angled abutment, GH1			●	
		SC-B3023M2B	B2	Angled abutment, GH1			●	
Abutment Screw - MUA		SC-B1MUASCW	B1	MUA abutment				
		SC-B2MUASCW	B2	MUA abutment				
Abutment Screw - PEEK		SC-B3023M1P	B1	Peek abutment				
		SC-B3023M2P	B2	Peek abutment				
Bridge Screw MUA		SC-BMUABSCW	B1 B2	MUA Full Burnout Cylinders, MUA Semi Burnout Cylinders, MUA Temporary Cylinders, MUA Protective Cap				
Prosthetic Screw for Sleeve Kits		incl. in Kit	B1 B2	Sleeve Kit				

Temporary	Gold	Bar	PEEK	PEEK	MUA	MUA Cylinder	MUA Protective Cap	Sleeve Kit
0°	0°	0°	0°	0°	18° & 30°	0°	0°	0°
Crown & Bridge	Crown & Bridge	Ti & Gold Alloy	D 4.0	D6.5	Hexed & Non-Hexed	"Burnout & Temp."		
								
●								
●	●	●						
●	●	●						
					●			
					●			
			●	●				
			●	●				
						●	●	
								●

TL

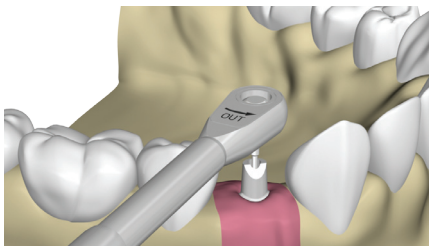
Tissue Level Abutment Screws		REF	Platform	Abutmemt	Straight	Angled	Angled	Temporary	Gold	Bar
				Angulation	0°	15°	20°	0°	0°	0°
				Type	H 4.5 - 5.5	H 5.7	H 5.7	Crown & Bridge	Crown & Bridge	Ti & Gold Alloy
				Application						
Abutment Screw - Straight		SC-A3023M1A	NP	Straight abutment, Temporary abutment crown / bridge	●			●		
Abutment Screw - Angled		SC-A1818M1M	NP	Angled abutment 15°/ 20°		●	●			
Abutment Screw - Straight		SC-A3023M2A	RP	Straight abutment, Temporary abutment crown / bridge, Gold abutment crown / bridge, Bar abutment Ti / gold alloy	●			●	●	●
			WP	Straight abutment, Temporary abutment crown / bridge, Gold abutment crown / bridge	●			●	●	
Abutment Screw - Angled		SC-A1822M2M	RP	Angled abutment 15°/ 20°		●	●			
			WP	Angled abutment 15°		●				

Removing the Abutment from the Implant or the Model Analog

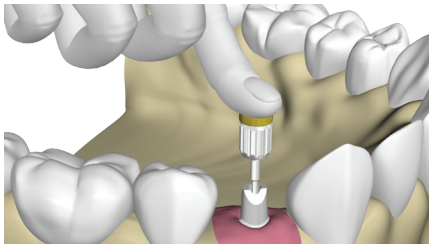
Removing the Abutment from the Implant or the Model Analog

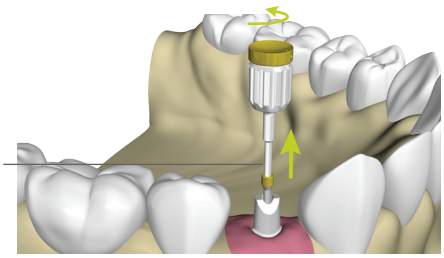
1. There are three different abutment removal tools available. One for B0 platform, marked without black ring, another for B1, marked by one black ring, the other for B2, marked by two black rings.

2. If you want to remove the abutment from the implant, please first loosen the connection screw using the torque wrench: Connect the hex driver with the wrench and make sure that the marking "**OUT**" at the head of the wrench indicates upwards. Torque wrench setting slightly above **35 Ncm**. Insert the hex driver into the head of the connection screw and **make sure that it really sits inside the screw head!** Press it down in order to get a tight connection between the driver and the head of connection screw. Screw until the connection screw is completely loosened. Disconnect the wrench from the hex driver and put the handle on.

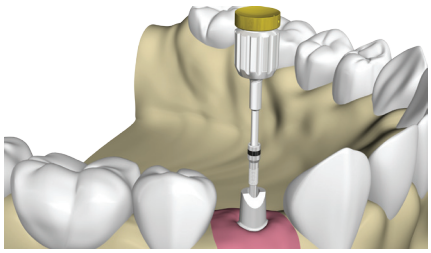


3. Take the connection screw out of the abutment with the hex driver: Insert the hex driver into the head of the connection screw and press it down in order to get a tight connection. The screw head is now firmly connected with the hex driver and it can pick up the screw. The screw can be screwed through the inner thread of the abutment.

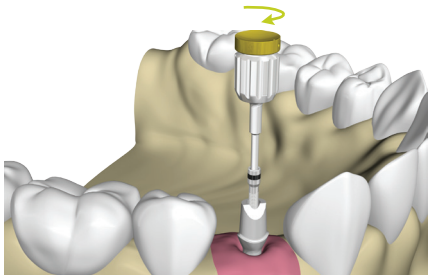




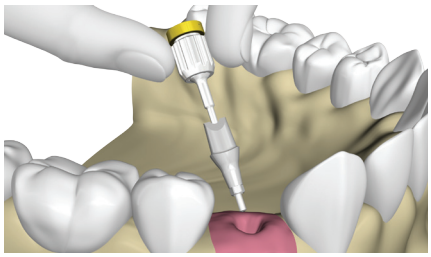
4. Connect the abutment removal tool with the hex driver. Make sure to select the correct type of removal tool. Screws with a green colored head belong to the B0 platform and require the plain removal tool. Screws with a yellow colored head belong to the B1 platform and require the removal tool marked by one black ring. Blue colored screws belong to the B2 platform and require the removal tool marked by two black rings.



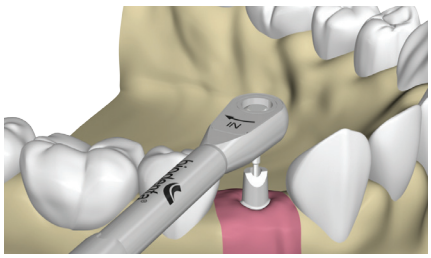
5. Screw the abutment removal tool into the abutment and continue turning it clockwise until the abutment moves out of the implant. The removal tool automatically presses the abutment out of the implant.



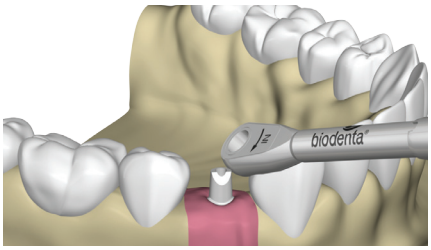
6. You can finally take the abutment out of the implant together with the removal tool.



7. In rare cases the abutment cannot be removed as easily as explained above. In such a case, please use the torque wrench to screw the removal tool into the abutment. Make sure that the marking "**IN**" at the head of the wrench indicates upwards and the wrench torque setting is **20 Ncm**. Screw in the removal tool until the abutment comes out.

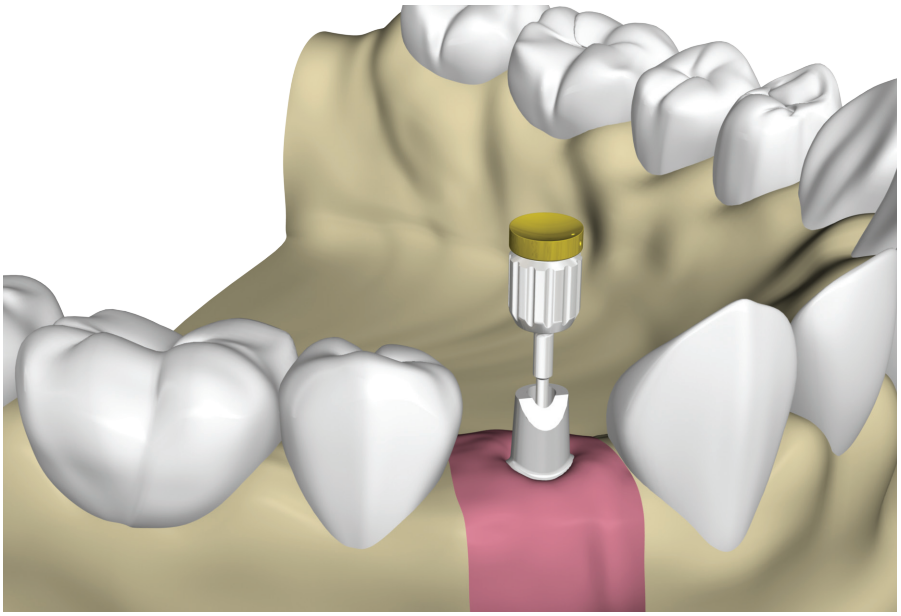


8. If the abutment still cannot be removed, slightly knock with the wrench to the side of the abutment as this will help to remove it.



9. A very tightly connected abutment might require even higher removal force. Repeat the steps 7 and 8 with a setting of **35 Ncm** at the torque wrench.

Prosthetic Options



Prosthetic Options

Prosthetic Options

Each implant platform offers several prosthetic options. One can follow the charts in the chapter ”Prosthetic Flow Charts” to identify the appropriate system and abutments for the type of restoration you are performing: Impression on implant level, cement-retained, screw-retained or overdenture restoration. When selecting abutment, the dentist or dental technician needs to know the following:

Platform:	The platform of the abutment must correspond to the implant platform.
Vertical Space:	In addition to the height of the selected abutment, an additional 1.5 to 2.0 mm space must be available over the prosthetic components to allow for casting and / or veneering material.
Angulation:	The position of each implant will determine which abutment can be used, straight or angled, or whether a customized abutment is needed.

Abutment Selection

1. **Temporary Abutment:** B0 / B1 / B2	If necessary, the temporary abutment can be modified by the dentist after implant surgery or by the lab technician in the laboratory.
2. **Straight Abutment:** B0 / B1 / B2	Abutment for cement-retained crowns and bridges.
3. **Angled Abutment:** B0 / B1 / B2	Abutment for cement-retained crowns and bridges. Abutments of 15° are available.
4. **Profile 15° Abutment:** B0	Abutment for cement-retained crowns and bridges. Abutments of 15° are available.
5. **Swift Abutment:** B1 / B2	Abutment for cement-retained crowns and bridges.
6. **Gold Abutment:** B1 / B2	Abutment for screw-retained crowns and bridges. This one-part solution is also ideal for esthetic restorations in the anterior region.
7. **Ball Abutment:** B0 / B1 / B2	Abutment for overdenture restoration. It’s ideal for lower denture construction.
8. **LOCATOR® Abutment:** B0 / B1 / B2	Abutment for overdenture restoration.
9. **Bar Abutment:** B1 / B2	Abutment for overdenture restoration.
10. **Multi-Use Abutment:** B1 / B2	Abutment for screw-retained bridge. This solution can also be considered if the implants are not placed parallel. Abutments of 18° and 30° are available.
11. **Hybrid Sleeve:** B1 / B2	Kit for screw-retained bridges or full arch. This solution can also be considered if the implants are not placed parallel and offers a tension free restoration on the implants.

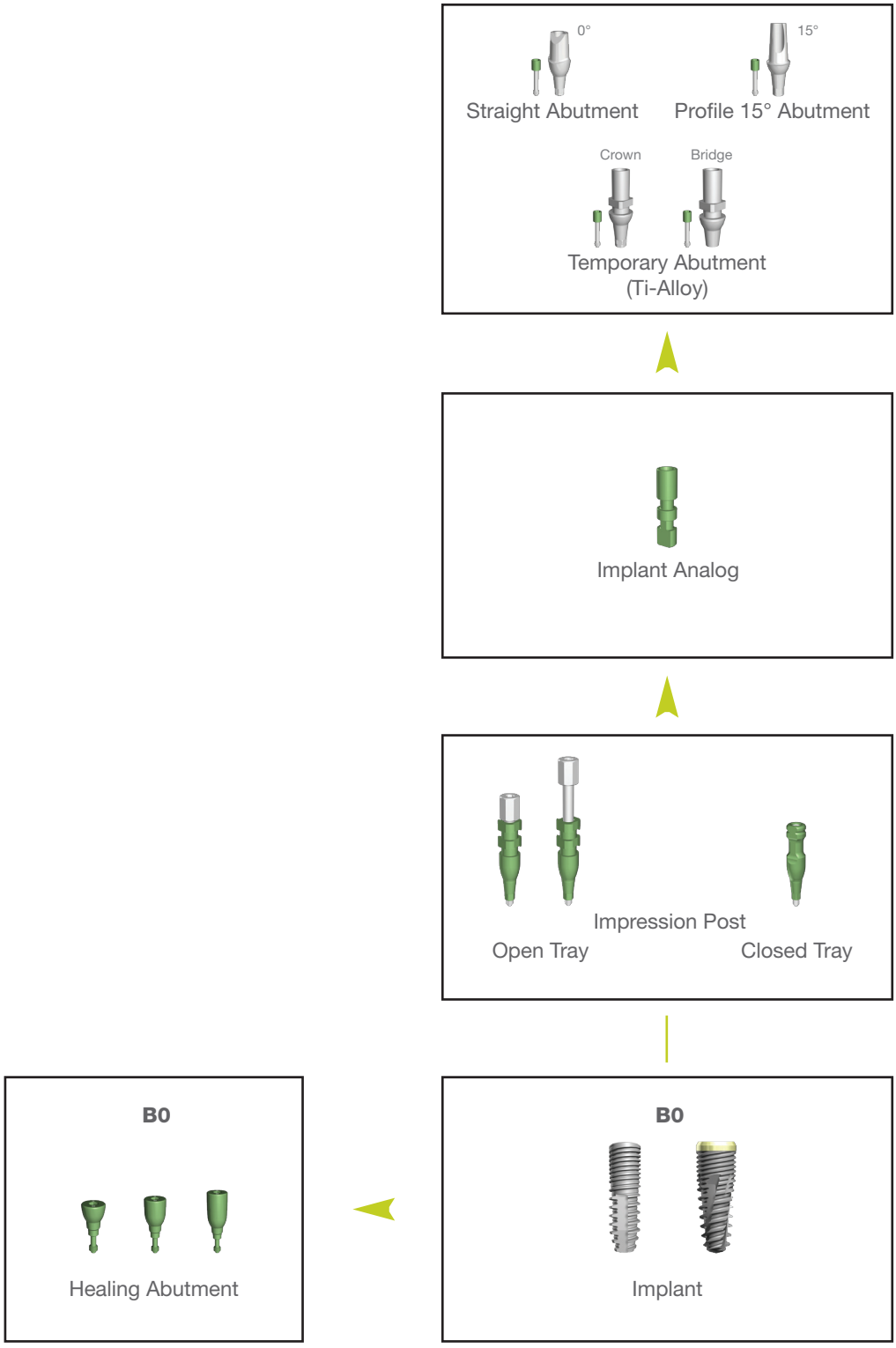
Prosthetic Flow Charts

Prosthetic Flow Charts

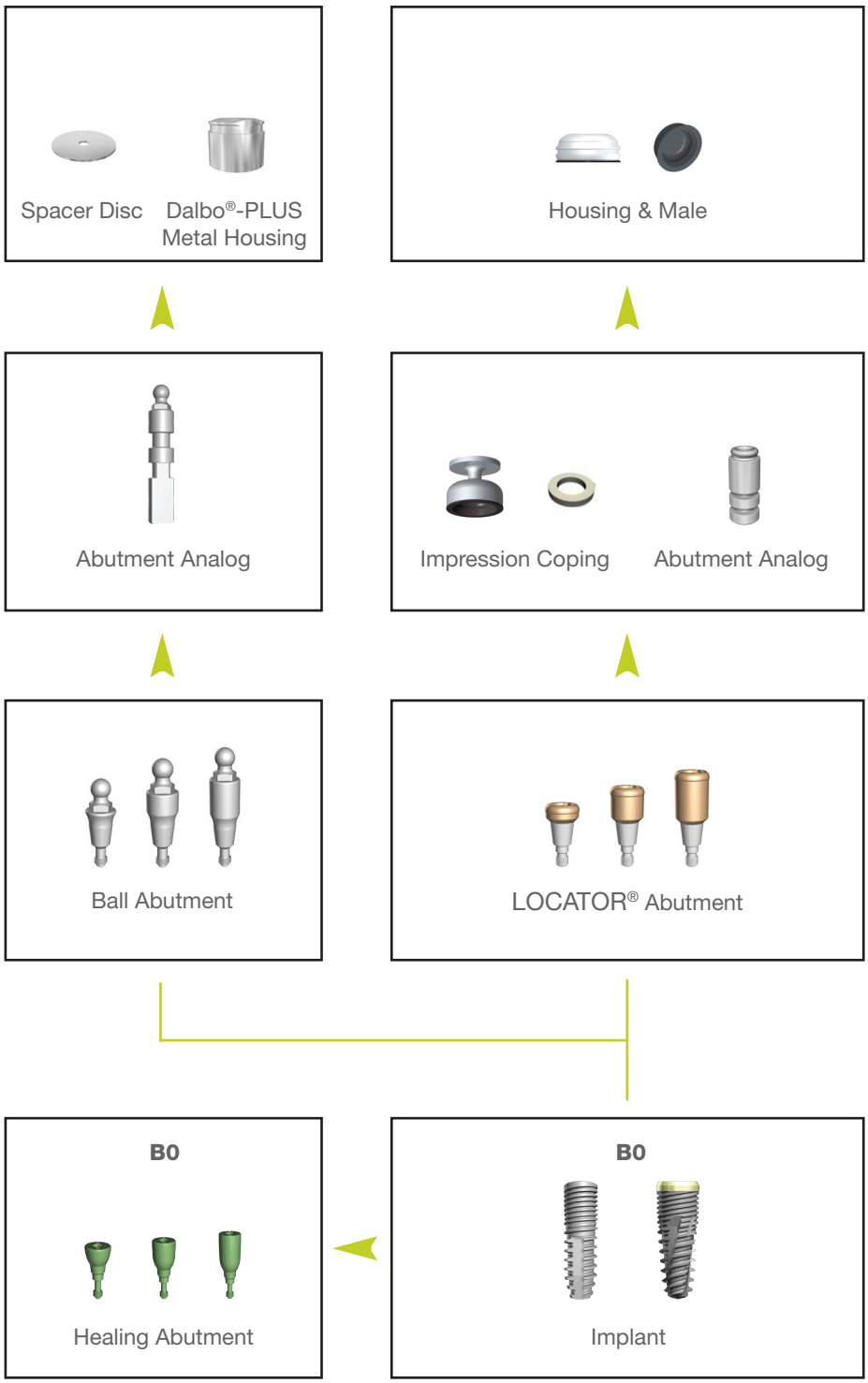
The following flow charts illustrate all prosthetic options related to the implant platform.

Flow Chart based on Implant Level B0 / Crown and Bridge

Flow Chart based on implant level B0 / Crown and Bridge.

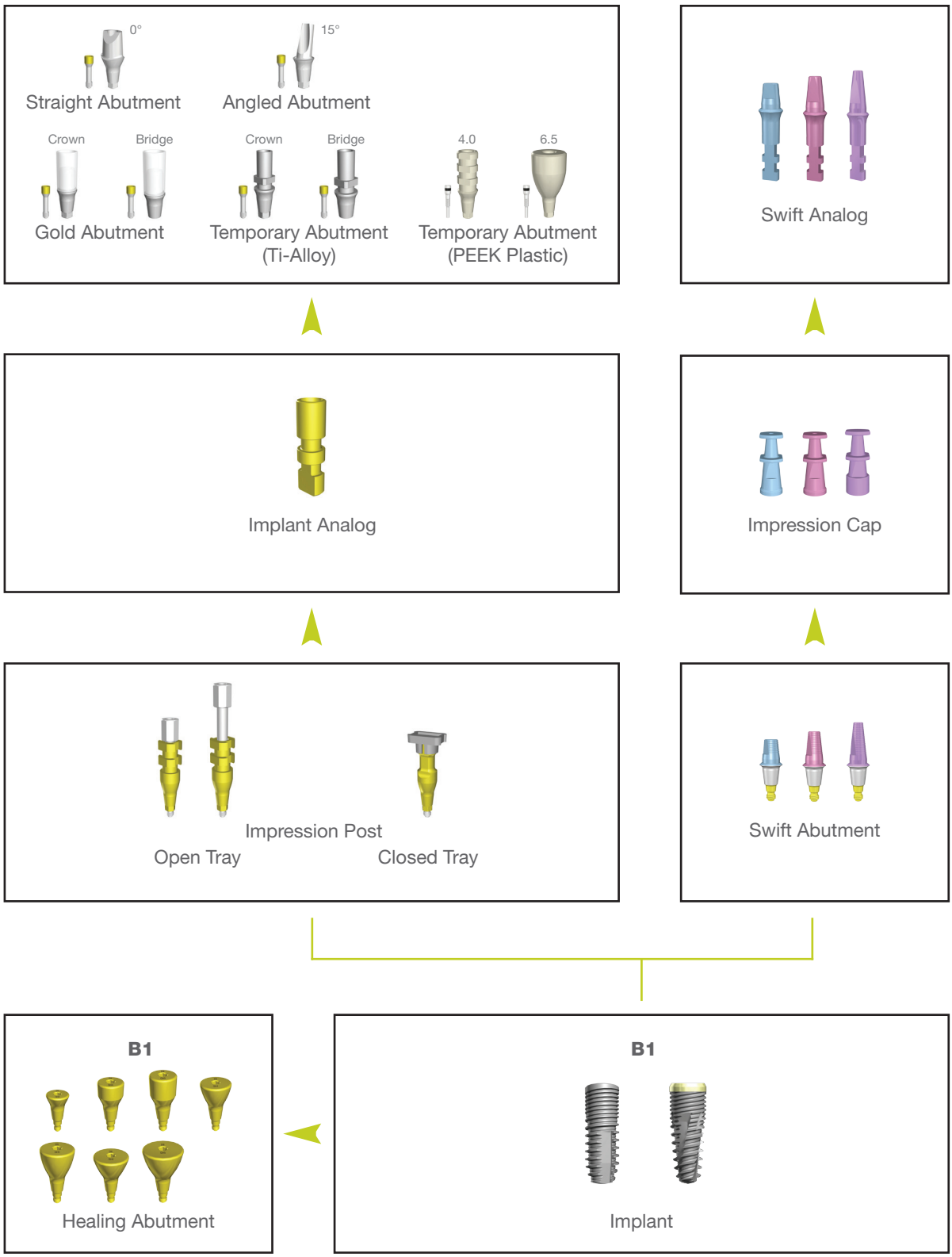


Flow Chart based on Implant Level B0 / Overdenture

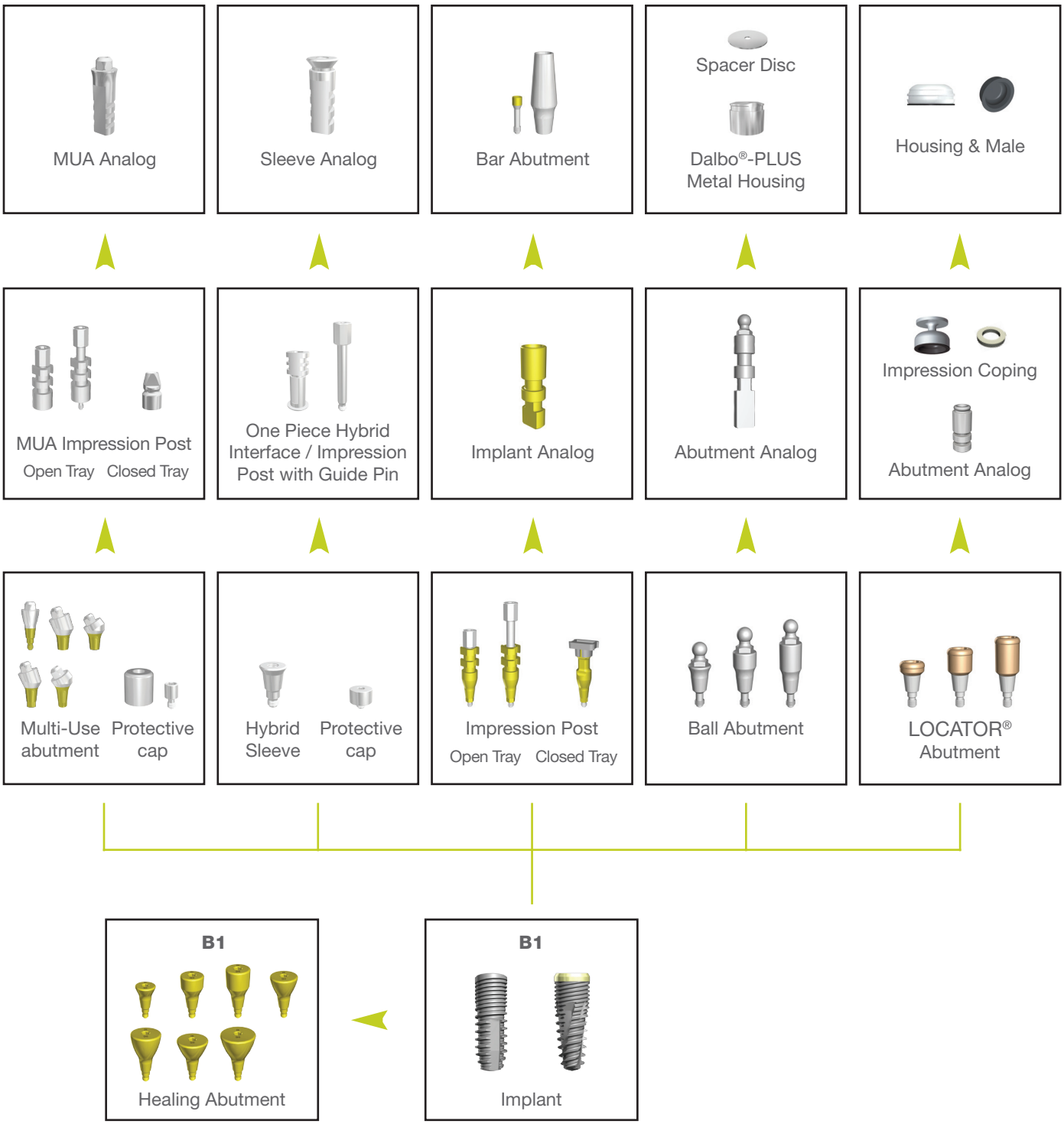


Flow Chart based on Implant Level B1 / Crown and Bridge

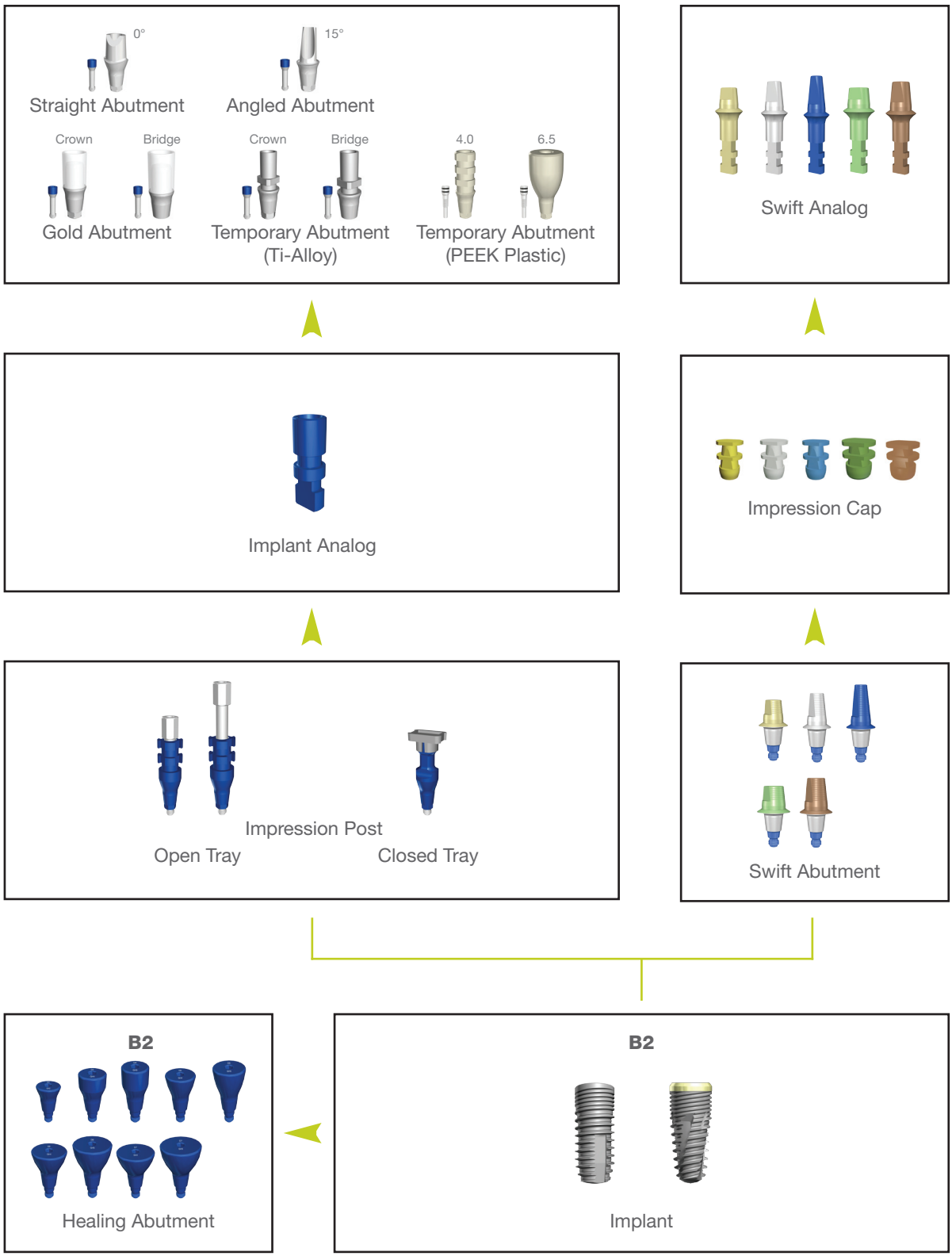
Flow Chart based on implant level B1 / Crown and Bridge.



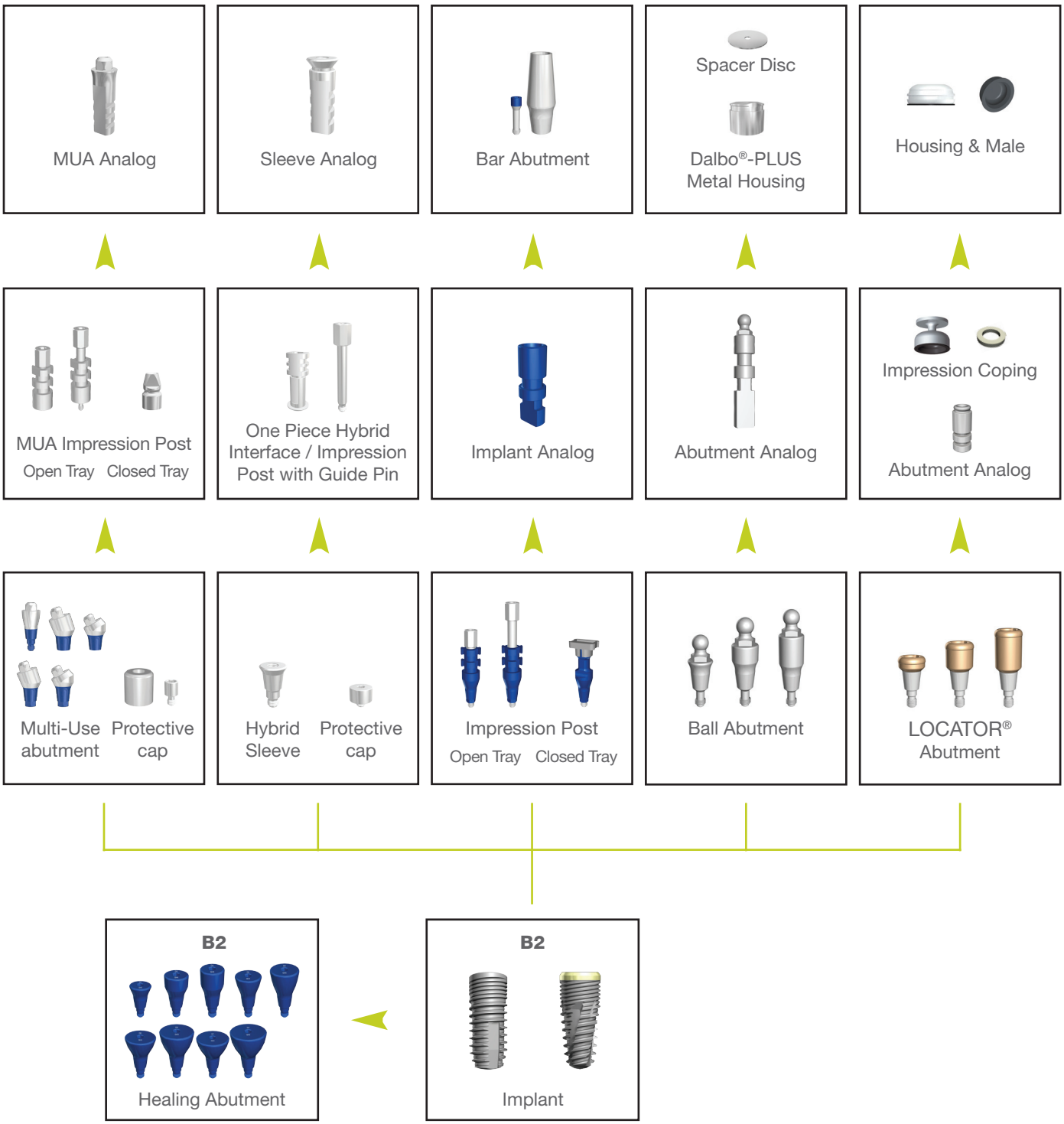
Flow Chart based on Implant Level B1 / Overdenture



Flow Chart Based on Implant Level B2 / Crown and Bridge



Flow Chart Based on Implant Level B2 / Overdenture



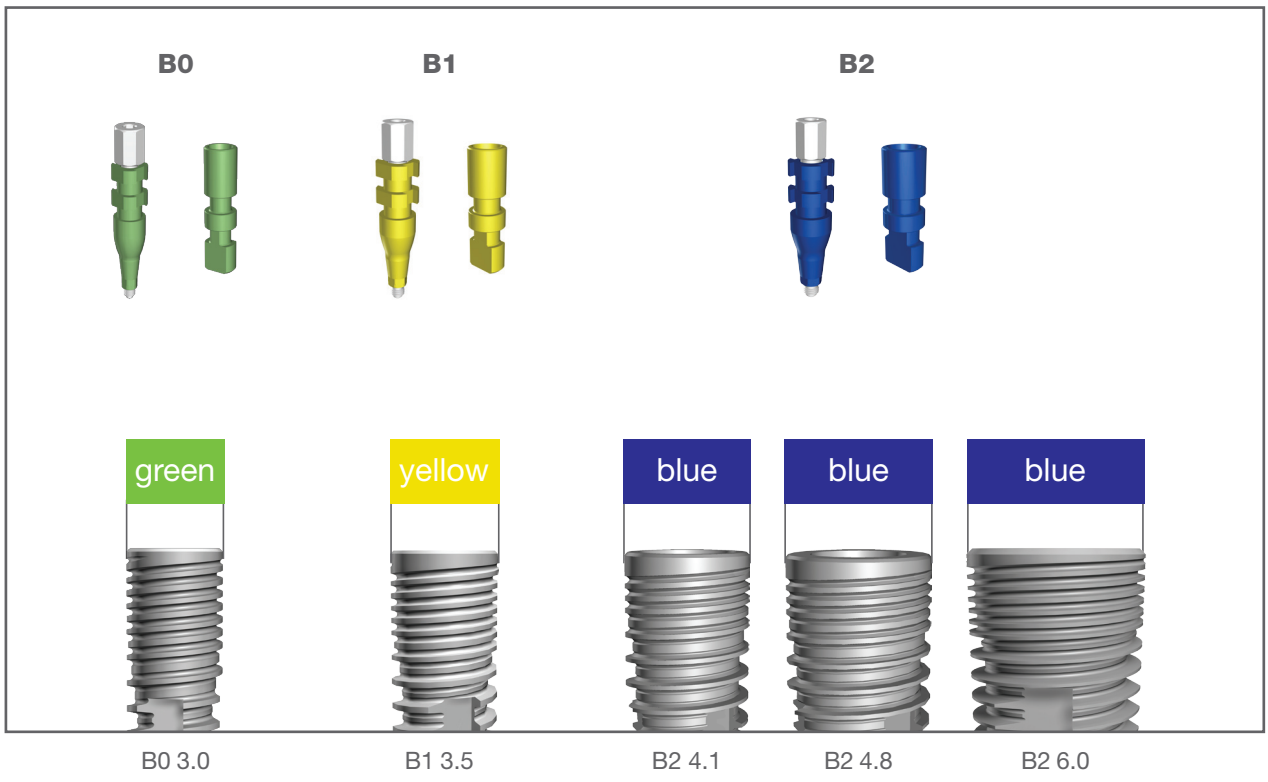
Impression & Transfer based on Implant Level

Impression at Implant Level

Base on the hexagonal shaped internal implant connection, the impression can be made directly on the implant. With precise transfer parts, the dental technician can transfer the implant position accurately on to the model. In addition, the color-coded platform identification on the transfer parts simplifies handling of the different platforms.

This system is characterized by its variety of prosthetic provision options. Screwed or cemented crowns and bridges, as well as various options for over-denture prosthetics can be easily solved with this system.

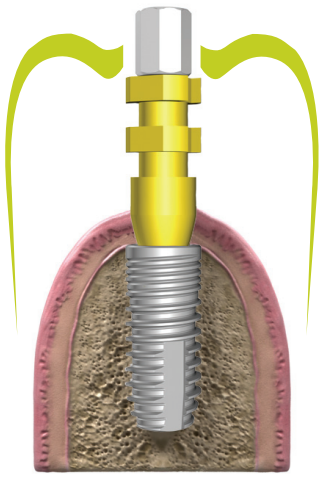
A planning kit is available to the technician for the selection of secondary parts. This enables the correct prosthetics for each case to be designed simply and efficiently.



For impression based on implant level, there are two options:

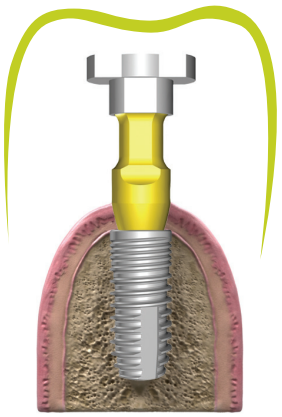
Open tray

With this impression technique the impression tray must be perforated. The impression post is screwed firmly on to the implant by hand. After impression material has set, the guide pin is loosened by hand or with the hex driver and the impression post, together with the impression, can be removed from the patient's mouth. The working model can now be produced with the appropriate color analog model.

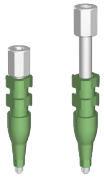


Closed tray

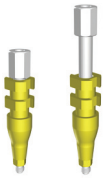
With this impression technique, a closed tray is necessary. The impression post is screwed firmly on the implant. After impression material has set, the impression tray is taken out of the patient's mouth and the impression post will remain in the mouth. The guide can then be loosened in the mouth with the hex driver and the impression post can be removed from the patient's mouth. The impression post is screwed together with the appropriate colored analog and reset into the impression. The working model can be produced.



Implant B0

	Closed tray	Open tray
Impression Post with Guide Pin		
Implant Analog		

Implant B1

	Closed tray	Open tray
Impression Post with Guide Pin		
Implant Analog		

Implant B2

	Closed tray	Open tray
Impression Post with Guide Pin		
Implant Analog		

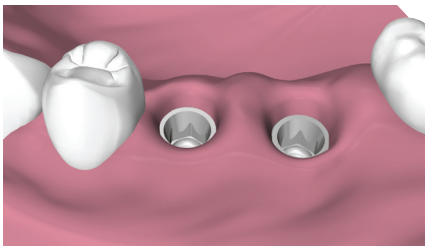
Impression Technique - Open Tray

1. Use the impression post with guide pin.

   ⚠ The Biodenta impression post with guide pin is “self-seating”. This means that the screw will not engage the implant if the impression post is not correctly seated. However a radiograph is recommended if there is any uncertainty or risk of soft tissue entrapment.

Step 1

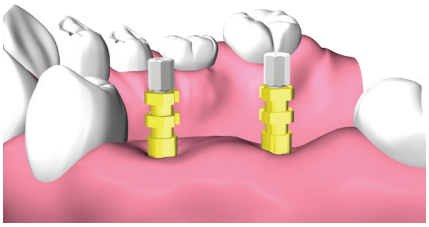
2. Expose the platform surface of the implant: Remove the healing abutment or temporary abutment and ensure that the top of the implant is clear of any soft or hard tissue.



Step 2

3. Place impression post with guide pin onto the implant and tighten the screw. This can be accomplished either by hand or use of the hex driver.

   ⚠ Before screwing down guide pin, make sure connection between implant and impression post is precisely connected.



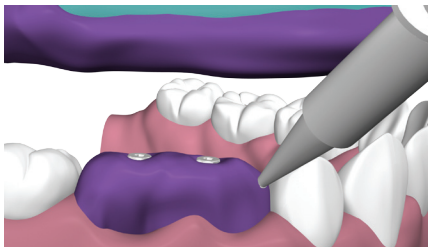
Step 3

4. Try-in the custom impression tray and prepare holes so that the screws can protrude through the tray when the impression is taken.

Step 4

5. Using a medium to heavy body impression material (polyvinyl siloxane or polyether rubber), inject around the impression post and fill the impression tray. Ensure that the screw is clearly visible.

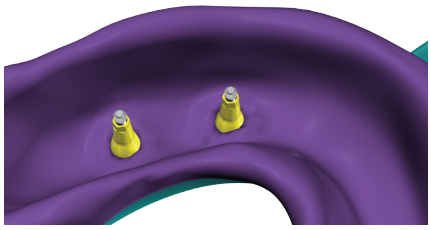
   ⚠ Block the holes on top of the screws with wax or other suitable material.



Step 5

6. Seat the impression tray into the patient's mouth. After the impression material has set, use tweezers to clean out extra impression material or wax on top of the screw.

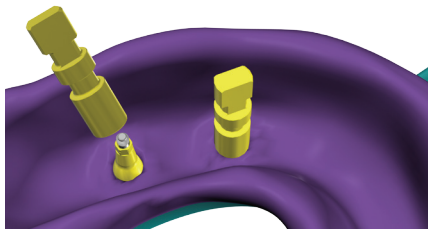
   Remove the tray with the impression post. Verify the impression post is securely positioned in the impression material. Remove the tray with the impression post. Verify the impression post is securely positioned in the impression material.



Step 6

7. Screw the impression post with guide pin and implant analog together with hex screwdriver. Make sure that the seating is correct and tighten by hand.

   ⚠ When tightening the screw, hold the retentive section of the analog in order to prevent the impression post with guide pin from rotating.



Step 7

The dentist can either restore the implant with a temporary crown by using the temporary abutment or replace the healing abutment on the implant after taking the impression.

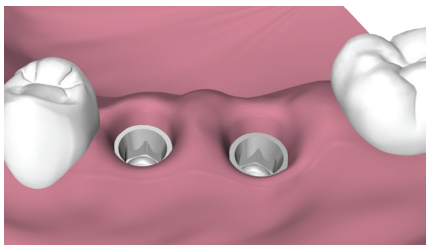
Impression Technique - Closed Tray

1. Use the impression post with guide pin as supplied.

   ⚠ The Biodenta impression post with guide pin is “self-seating”. This means that the screw will not engage the implant if the impression post is not correctly seated. However a radiograph is recommended if there is any uncertainty or risk of soft tissue entrapment.

Step 1

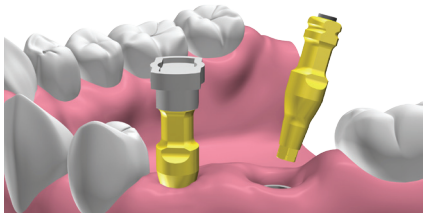
2. Expose the platform surface of the implant: Remove the healing abutment or temporary abutment and ensure that the top of the implant is clear of any soft or hard tissue.



Step 2

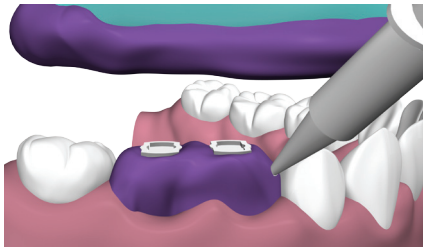
3. Place impression post with guide pin onto the implant and tighten the screw. This can be accomplished by use of the hex driver. Place the plastic housing on the impression post before taking an impression.

   ⚠ Before screwing down guide pin, make sure connection between implant and impression post is precisely connected.



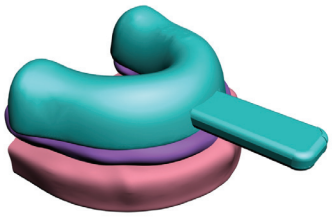
Step 3

4. Using a medium to heavy body impression material (polyvinyl siloxane or polyether rubber), inject around the impression post and fill the impression tray.



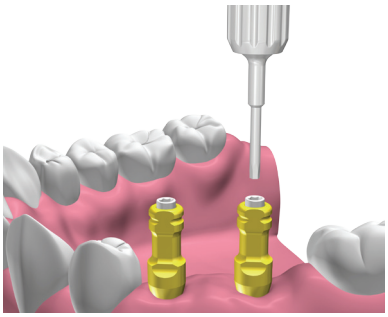
Step 4

5. Seat the impression tray into the patient mouth. After the impression material has set, remove the impression tray from the patient's mouth. The housing will remain in the impression.



Step 5

6. Unscrew and remove the guide pin and impression post from the patient.



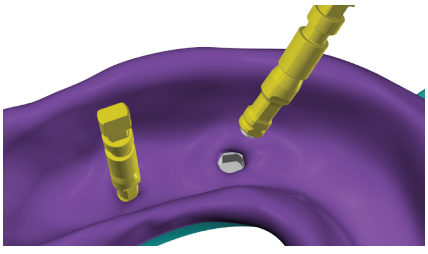
Step 6

7. Screw impression post with guide pin to the corresponding implant analog with the hex driver. Make sure that the seating is correct and hand tighten.

   ⚠ When tightening the screw, hold the retentive section of the analog in order to prevent the impression post with the guide pin from rotating.

Step 7

8. Position the impression post into the tray. Ensure the position is directly in the housing.



Step 8

The dentist can either restore the implant with a temporary crown by using the temporary abutment or replace the healing abutment on the implant after taking the impression.

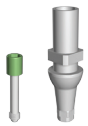
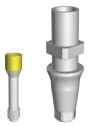
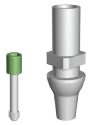
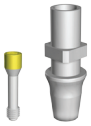
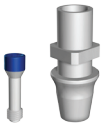
Temporary Restoration

Temporary Abutment

Temporary abutment can be utilized for chairside fabrication by the dentist or by a laboratory. Temporary abutment is suitable for the provisionalization of crowns or bridges to be insitu for several weeks. Biodenta offers Temporary abutments in two different materials: Ti-Alloy and PEEK plastic.

There are two options: A. chairside by the dentist
B. by the dental technician

Ti-Alloy

	B0	B1	B2
Crown			
Bridge			

Please note: there are two types of Temporary Abutments (Ti-Alloy) available: One with rotation security for individual crowns and one without rotation security for bridges.

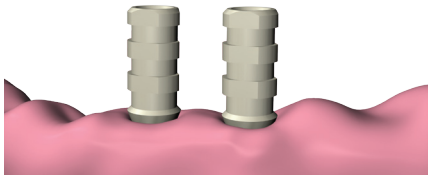
PEEK plastic

	B1	B2
Ø 4.0 mm		
Ø 6.5 mm		

Please note: there are two types of temporary abutment (PEEK plastic) available. As illustrated above one with diameter 4.0mm and the other with 6.5mm diameter.

Restoration with Temporary Abutments
Option A: chairside by the dentist

1. The temporary abutment can be modified out of the mouth by screwing the temporary abutment into a lab analog. This way the patient does not need to retain their mouth open for long periods of time. First, place the temporary abutments into the implants to ensure their fit and to measure the necessary length of the temporary abutment requirements, then cut to length and angulation as required. Ti-Alloy type of temporary abutments to be cut by a diamond burr.



Step 1

2. To ensure the color of a temporary abutment does not show through the temporary crown. It is advisable to mask the abutment before applying composite. The temporary crown is constructed with conventional coating techniques or with preformed acrylic temporary crowns.

Step 2

3. Once the occlusion is adjusted, the screw channel is reopened and the temporary crown is taken out of the mouth. The temporary restoration is then adjusted, if necessary, further polishing once the implant and the screw channel is sealed.

Step 3

4. The temporary crown is tightened as specified in the Biodenta “Torque Guide”.

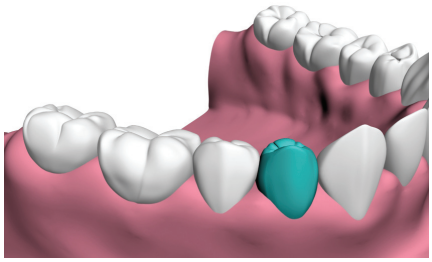
Step 4

Restoration with Temporary Abutments
Option B: by the dental technician

1. Temporary abutment is fabricated in a laboratory. Once the dentist has taken an impression of the implant and sent to the laboratory for fabrication. The temporary abutment is connected into a lab analog.

Step 1

2. A temporary crown has two methods made by means of custom wax up or by a silicone index. To avoid the temporary abutment showing through the acrylic, it can be coated with an opaque liner prior to veneering.

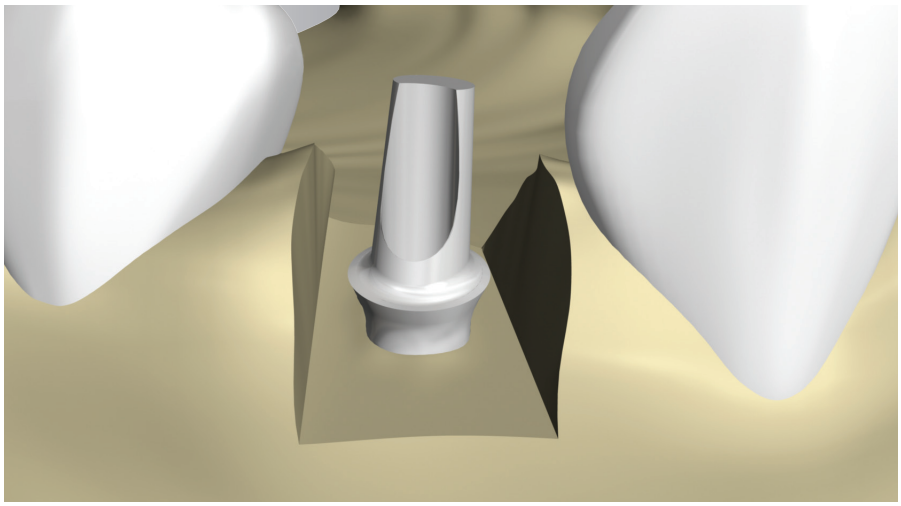


Step 2

3. The completed temporary restoration is inserted into the patient's mouth and tightened as specified in the Biodenta "Torque Guide".

Step 3

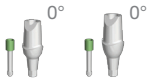
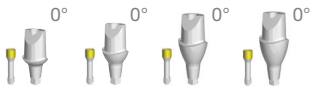
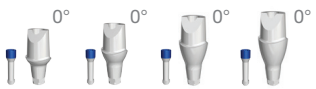
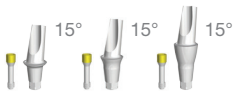
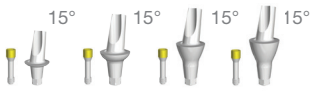
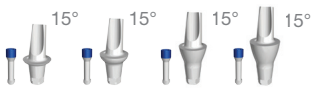
Crown & Bridge Solutions based on Implant Level



Crown & Bridge Solutions based on Implant Level

Based on the location and angulation of the implant, we offer different implant abutments for the treatment of implant supported crowns and bridges. The following table is a list of available abutments.

1. Cement-retained restoration

	B0	B1	B2
Straight Abutment (with screw) Ø: 4 mm / GH: 1 mm GH: 2 mm GH: 4 mm			
Ø: 5 mm / GH: 1 mm GH: 2 mm GH: 4 mm GH: 5 mm			
Ø: 6 mm / GH: 2 mm GH: 4 mm GH: 5 mm			
Profile 15° Abutment (with screw) Ø: 4 mm / GH: 1 mm GH: 2 mm			
Angled Abutment 15° (with screw) Ø: 4 mm / GH: 1 mm GH: 2 mm GH: 4 mm			
Ø: 5 mm / GH: 1 mm GH: 2 mm GH: 4 mm GH: 5 mm			
Gold Abutment (with screw) Crown Bridge			
Swift Abutment Ø: 4 mm AH: 4 mm / CH: 1 mm CH: 2 mm CH: 4 mm AH: 5.5 mm / CH: 1 mm CH: 2 mm CH: 4 mm AH: 7.0 mm / CH: 1 mm CH: 2 mm CH: 4 mm			

	B0	B1	B2
Ø: 5 mm AH: 4.0 mm / CH: 1 mm CH: 2 mm CH: 4 mm AH: 5.5 mm / CH: 1 mm CH: 2 mm CH: 4 mm AH: 7.0 mm / CH: 1 mm CH: 2 mm CH: 4 mm			
Ø: 6 mm AH: 4.0 mm / CH: 1 mm CH: 2 mm CH: 4 mm AH: 5.5 mm / CH: 1 mm CH: 2 mm CH: 4 mm			

2. Screw-retained restoration

	B0	B1	B2
Gold Abutment (with screw) Crown Bridge			
Multi-Use Abutment 0° / GH: 1 mm 4 mm 2 mm 5 mm 3 mm			
Multi-Use Abutment 18° (with screw) Hexed & Non-Hexed / GH: 2 mm 4 mm 3 mm 5 mm			
Multi-Use Abutment 30°(with screw) Hexed & Non-Hexed / GH: 3 mm 5 mm 4 mm			
Hybrid Sleeve System			

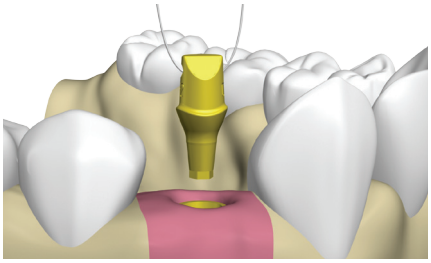
Plan Set

Plan Set

For planning of the prosthetic components on the model or directly in patient mouth. Biodenta offers a planning abutment kit which helps to decide which abutment offers the best solution.

Planning Abutment Kit

Place the planning abutment into the analog. Check the height, axial alignment and screw axis.



⚠ The planning abutments can be autoclaved up to 20 times. When using the planning abutments on patients, please ensure they are sterile.

⚠ To prevent the patient from swallowing the planning abutment, we recommend you to secure the planning abutment with either floss or suture.

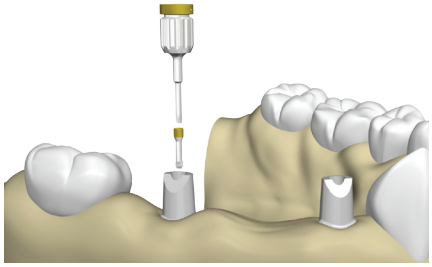
Straight Abutment System

Straight Abutment System

Straight abutments enable the production of cementable crowns and bridge restorations.

Laboratory Technique:

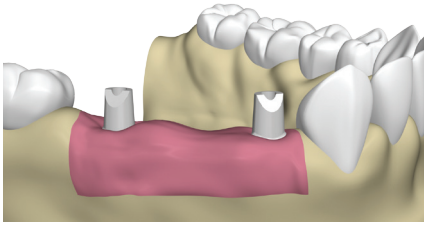
1. Fabrication of the substructure:
   Insert the abutment into the implant analog inside the working case by using the hex driver.



Step 1

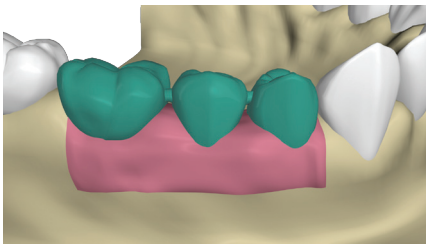
2. When occlusal space is limited, the abutment can be shortened.

   ⚠ The minimum height of the abutment is recommended to be no less than 4 mm.



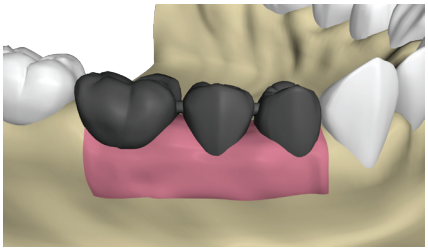
Step 2

3. Wax an individual resin cap onto the abutment. Contour a wax model according to the anatomical circumstances of the individual cast.



Step 3

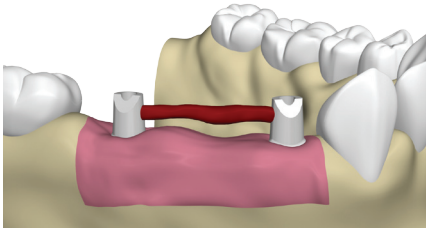
4. After the casting, it can now be veneered with porcelain in the conventional way. Proceed to next step, carrying out the porcelain.



Step 4

5. Delivering the final restoration:
   The restoration is delivered to the dentist with the original abutment and original screw on the master cast.

   To ensure correct transfer of the position of the abutment from the master cast to the patient, an individual index can be fabricated on the cast. Use Duralay or pattern resin.



Step 5

6. Remove the healing abutment or temporary restortion. Thoroughly clean and dry the interior of the implants. Remove the original abutment from the implant analog by using the hex driver. Place the abutment in the patient's mouth and tightening the abutment screw as specified in the Biodenta "Torque Guide". The suprastructure can now be cemented by the conventional technique.

   ⚠ Before cementing the superstructure, the occlusal abutment opening must be re-sealed with wax or gutta-percha.

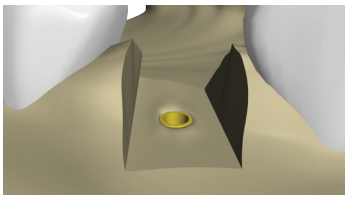
Step 6

Angled Abutment System

Angled Abutment System

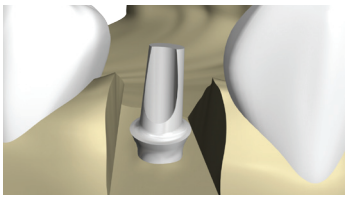
The angled abutments enable the production of cementable crowns and bridges with synchronized balance for diverging implant axes. The abutments can be obtained with angles of 15° and in different diameters (D) and gingiva heights (GH). To determine the ideal abutment to be utilized, please consult the plan set. The abutments can be filed and modified.

1. Fabricating a cementable single crown on an angled abutment.



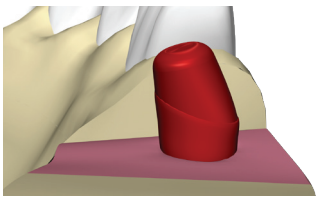
Step 1

2. The abutment must be properly positioned in the implant before the screw is hand-tightened. The occlusal opening must be sealed (e.g. composite, gutta-percha, silicone).



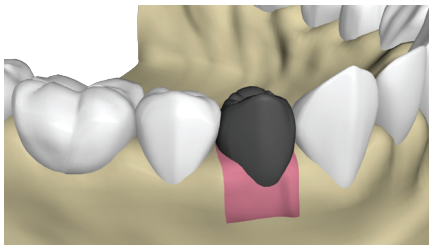
Step 2

3. Wax an individual resin cap onto the abutment.



Step 3

4. After the casting, it can be placed back onto the laboratory analog. Proceed to the next step, stacking the porcelaint.



Step 4

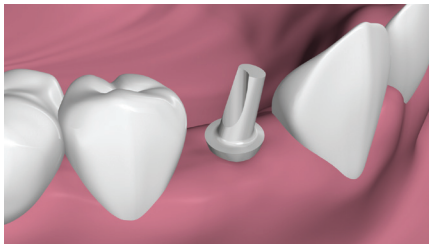
5. Delivering the final restoration:
   The restoration is delivered to the dentist with the original abutment and screw on the master cast. Remove the original abutment from the analog by using the hex driver.

   ⚠ Use a hard material such as Duralay to make a transfer indication and to fit the suprastructure then place the abutment in the patient's mouth.

Step 5

6. The abutment screw is tightened as specified in the Biodenta "Torque Guide".

   ⚠ Before cementing the suprastructure, the occlusal abutment opening must be resealed with wax or gutta-percha.



Step 6

Swift Abutment System

Swift Abutment System

The system is very simple in its application. Swift abutments are used for cement retained crowns and bridges on both B1 and B2 in all locations. It is important to ensure all excess cement is removed.

Parts for Dentist

		Material
Swift Abutments B1 / B2	B1  B2 	Ti-Alloy
Protective Caps	B1  B2 	Plastic
Impression Caps	B1  B2 	Plastic
Hex Drivers for Torque Wrench		Stainless Steel
Hex Drivers for Hand-Piece		Stainless Steel
Swift Abutment Drivers	B1  B2 	Stainless Steel
Torque Wrench		Stainless Steel

Parts for Dental Laboratory

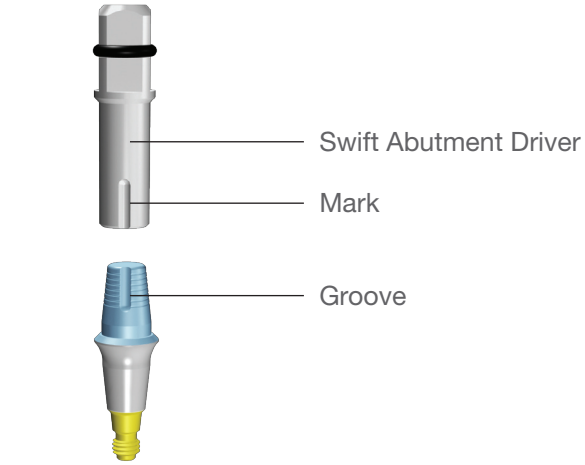
		Material
Abutment Analogs	B1  B2 	Ti-Alloy
Planning Abutments	B1  B2 	Plastic
Burnout Plastic Copings	B1   Engaged Non-Engaged B2   Engaged Non-Engaged	Plastic
Reamer		Stainless Steel

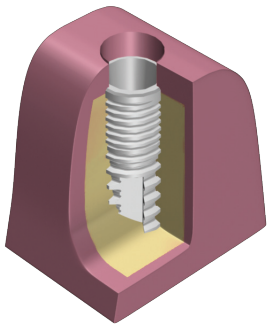
Procedure of Placing the Swift Abutments

Swift abutment diameters 4.0 & 5.0 require the Swift abutment driver for insertion. The key feature to the Swift abutment driver is a groove on the shaft, this in turn corresponds with the groove on the Swift abutment. Hand tighten the abutment in place. Once securely placed apply the torque wrench and tighten to 35Ncm.

Connection Torque: 35 Ncm

⚠ Ensure the correct use of the Swift abutment driver. Incorrect application may lead to imprecise Swift abutments.

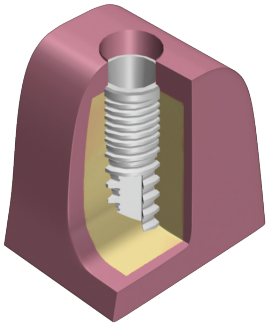




Swift abutment diameter 6.0 is inserted with the hex drivers only.

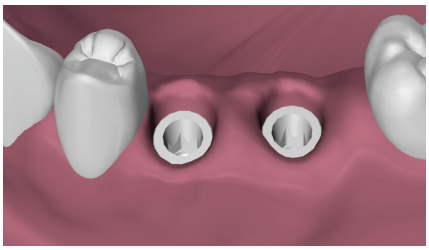
The hex driver connects into the occlusal opening of the abutment. To engage and hand tighten the Swift abutment rotate clockwise. Position the torque wrench onto the hex driver and tighten to 35Ncm.

Connection Torque: 35 Ncm



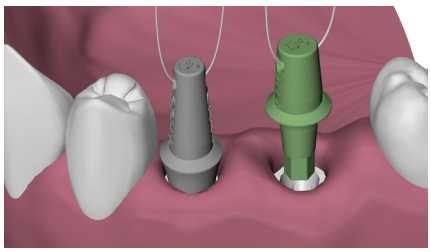
Swift Abutment - no modification option

1. Expose the platform surface of the implant: Remove the healing abutment and ensure the top of the implant is clear of any soft or hard tissue.



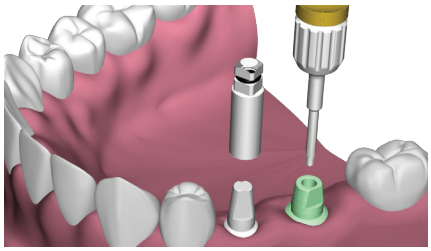
Step 1

2. It is recommended the dentist utilizes the planning abutment kit in order to select the correct height and diameter of the Swift abutment.



Step 2

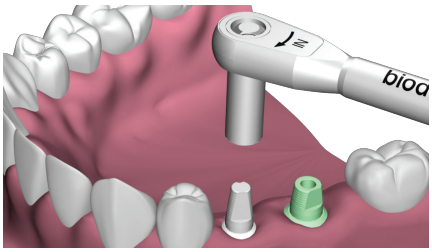
3. Hand tighten the Ø4.0 and Ø5.0 Swift abutment onto the implant by using the Swift abutment driver. Tighten the Ø6.0 Swift abutment by using the hex driver.



Step 3

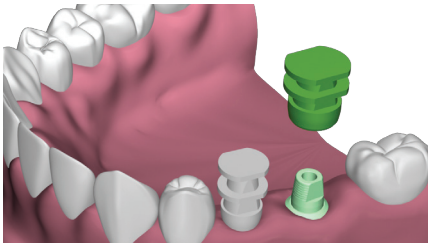
4. The abutments are inserted into the implant by hand and tightened with the torque wrench to 35 Ncm.

   Connection Torque: 35 Ncm



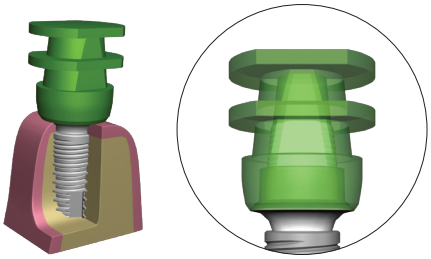
Step 4

5. Insert the corresponding color impression cap. Position the impression cap on the abutment and firmly push until it clicks.



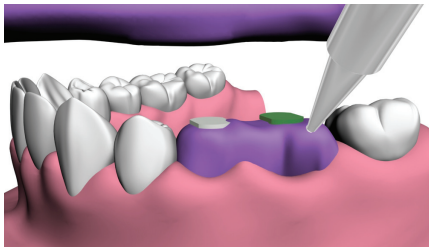
Step 5

6. ⚠ Please take care when positioning the impression cap. Ensure the flat surface of the cap and the flat side of the abutment corresponds.



Step 6

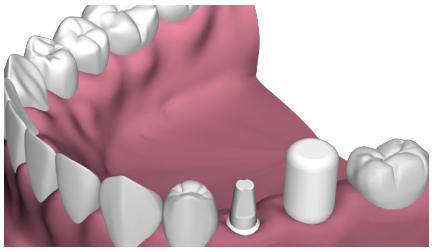
7. Using a medium to heavy body impression material (polyvinylsiloxame or polyether rubber), inject around the impression cap and fill the impression tray. Seat the impression tray into the patient's mouth. Once set, remove the impression tray from the patient's mouth. The impression cap must remain in the impression tray as one. Check to ensure there is no mobility of the cap within the impression material.



Step 7

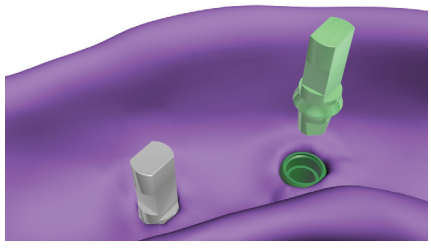
8. Option of temporization utilizing the protective caps.

   ⚠ Only temporary cement should be used to secure the protective caps.



Step 8

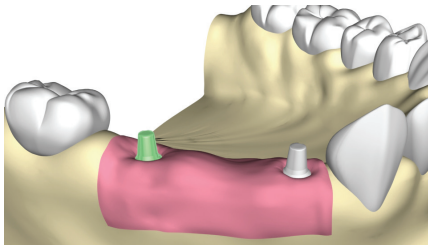
9. Place the corresponding analog in the position of the impression. The coresponding analog is then positioned in the impression. Care should be taken to properly align the flat side of the analog with the flat side of the impression cap. The analog is then pushed into the impression until it snaps securely into place.



Step 9

10. Process the working model.

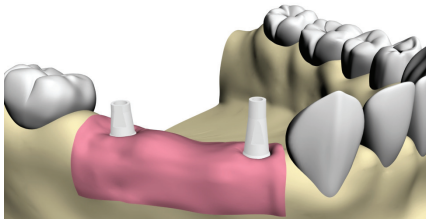
    ⚠ Please ensure when restoring a multiple Swift abutment case the implants are parallel. The Swift abutment is not recommended if the implants are not in parallelism.



Step 10

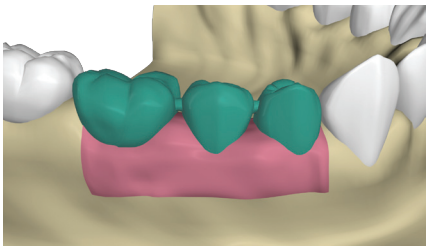
11. Process of the copings:
    A plastic coping for crown or bridge is available for the lab technician. The plastic coping can be adjusted according to the height of the abutment.

    ⚠ The plastic copings are equipped with a click-on mechanism, which makes them easier to fix onto the analog. The click-on mechanism must be removed after casting.



Step 11

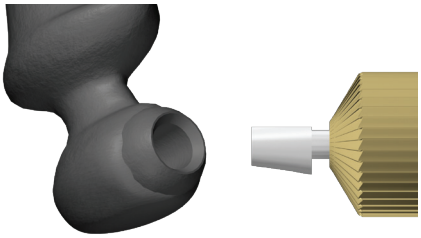
12. Proceed with the wax up model for the prosthesis on the plastic copings.



Step 12

13. After casting crown / bridge, remove the click-on mechanism using the reamer.

    ⚠ Working under a stereo microscope is highly recommended.



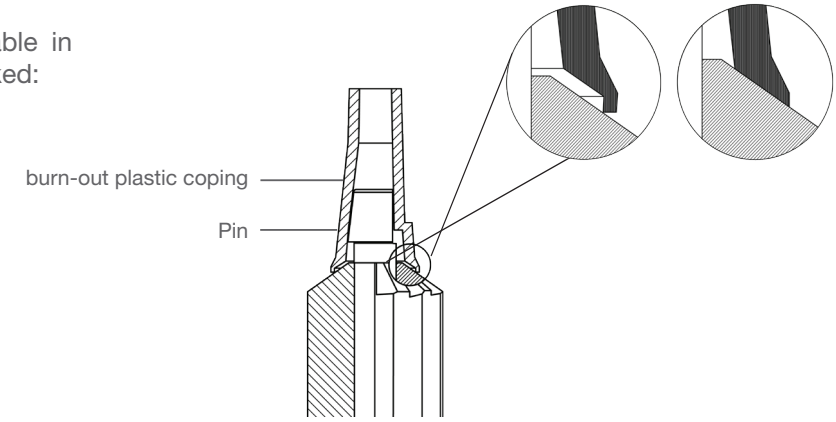
Step 13

The guide pins for the reamer for Swift abutments can be obtained to correspond to the shoulder platform. The pins are marked accordingly, and can be used for engaged and non-engaged copings:

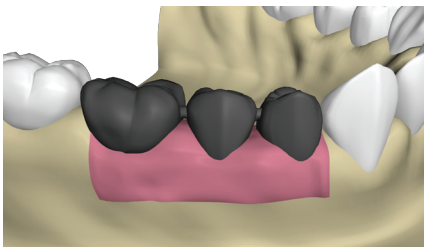
- B1 / Swift Engaged & Non-Engaged
- B2 / Swift Engaged & Non-Engaged

The reamer heads are obtainable in two types and are likewise marked:

- Reamer head B1
- Reamer head B2

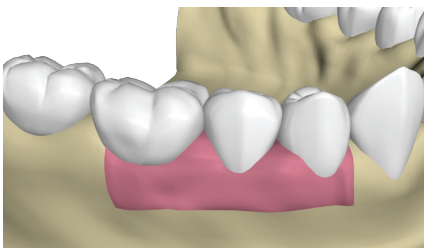


14. After the cast coping is trimmed and polished, it can be placed back onto lab analog. Proceed with porcelain stacking / placement.



Step 14

15. Delivering the final restoration.



Step 15

Gold Abutment System

Gold Abutment System

Gold Abutment is intended for the fabrication of single screw retained crown or bridge restorations. Alternatively, individually manufactured customized abutments for cemented crowns and bridges can be made. The abutment is meant to be processed and consists of cast-alloy Ceramicor® and a residue free burn out plastic.

Please note that there are two types of gold abutments available: One with rotation security for individual crowns and one without rotation security for bridges.

	B1	B2
Crown		
Bridge		

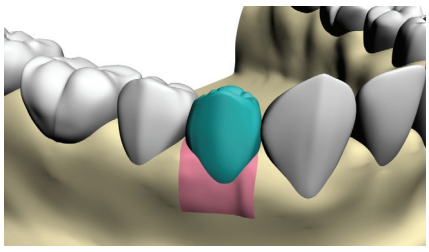
Screw-Retained Crowns or Bridges

1. Fabricating the coping :
   Screw the gold abutment into the implant analog. When occlusal space is limited, the plastic shell can be shortened. The screw head should always be out of occlusion in order to prevent torquing of the screw head.

Step 1

2. Proceed to prosthetic wax up :
   For optimal esthetic result, a diagnostic wax up should be performed. A silicone or PVS impression should be made over the wax up. There should be adequate room for sufficient thickness of wax between the abutment and impression. This is especially important in the region of the margin.

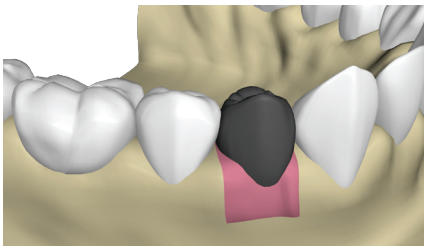
   ⚠ 0.7 mm wax up coating is recommended. The cement margin must not be no more than 2.0 mm below the gingiva.



Step 2

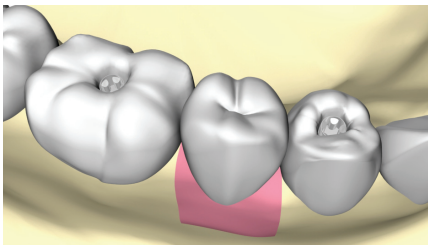
3. Trimming the cast coping:
   Care must be taken during the trimming process. If the casting is trimmed where the abutment is exposed, the surface cannot be covered with ceramic. It is a non-oxidizing alloy and porcelain will not adhere to it.

   ⚠ Never use sand-blasting for removing the invinvdevestment. It will destroy the abutment. Casting pearls cannot be removed from the shoulder part of the gold abutment with the reamer.



Step 3

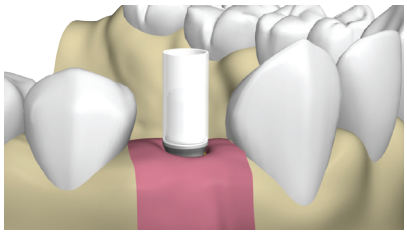
4. Delivering the final restoration:
   The restoration is delivered to the dentist with the prosthesis on the master cast. Remove the prosthesis from the implant analog by using the hex driver. Thread the prosthetics with the abutment screw in the patient's mouth by using the hex driver. Apply a connection torque as specified in the Biodenta "Torque Guide".



Step 4

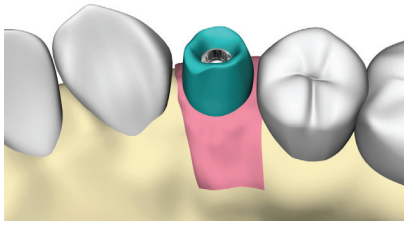
Customized Abutments for Cemented Crowns or Bridges

1. Fabricating the customized abutment of a cement-retained crown or bridge:
   Screw the gold abutment onto the implant analog. When occlusal space is limited, the plastic shell can be shortened. The recommended minimum height of the abutment is 4.0 mm.



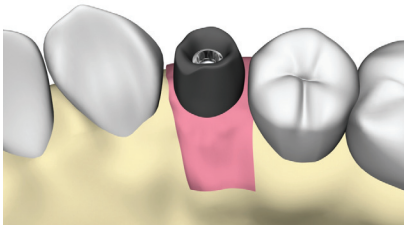
Step 1

2. The wax up of customized abutment :
   The wax layer must be a minimum of 0.7 mm. Do not cover the margin of the abutment with wax. Make sure a clean and sharp-edged finish of the screw channel.



Step 2

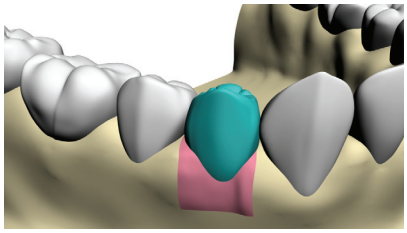
3. After casting, the finished customized abutment is trimmed and polished and ready for the fabricated single crown or bridge.



Step 3

4. After blocking out the screw channel, the metal coping is waxed directly over the customized abutment.

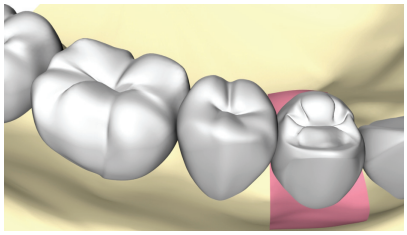
   After the trimming of the cast coping, the metal coping will fit precisely on the customized abutment.



Step 4

5. The restoration is delivered to the dentist with the prosthesis on the master cast. Cement the prosthesis with permanent cement. Upon placement of the substructure, the substructure abutment screw is tightened to a torque as specified in the Biodenta “Torque Guide”. Cement the prosthesis with a permanent cement.

   ⚠ Before cementing prosthetic, screw channel need to be sealed with wax or cotton pellet.



Step 5

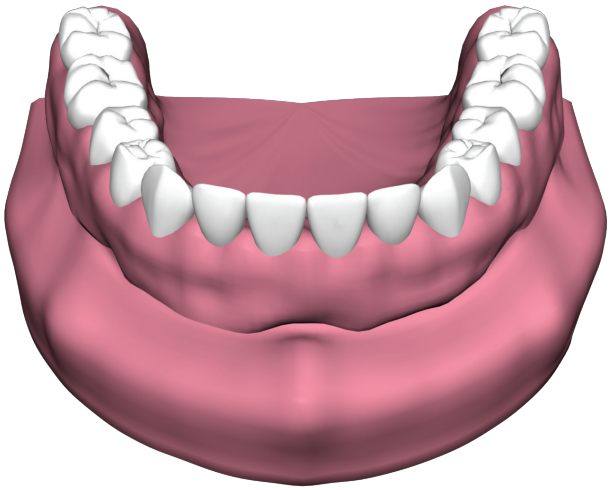
⚠ Important Information and Tips

Gold Abutment / Ceramicor®

- The wax thickness on the Ceramicor® alloy must be at least 0.7 mm. The delicate edge of the secondary part must not be covered by wax.
- In order to avoid the cast alloy overflowing on to the sensitive circular edge and the interior of the secondary part, the secondary part must be thoroughly cleaned before embedding with a cotton bud soaked in alcohol or a brush.
- When selecting the cast alloy it is imperative to make sure that it is compatible with the high-melting alloy of Ceramicor®. Ceramicor® forms no adherence oxide for ceramic blending materials. The melting area of the cast alloy must not exceed the liquid temperature of 1350 °C / 2462 °F.

Suitable dental cast alloys:

- High-quality genuine alloys
  Genuine metal alloys with a minimum content of gold and platinum metals of 25 %.
  Alloys based on palladium with a minimum palladium content of 50 %.
- Base metal casting alloys may not be cast on to Ceramicor® as gold combined with nickel or cobalt will lead to destruction of the Ceramicor® components!
- Alloys which comply with the ISO norms 9693, 1562 and 8891 are suitable for casting processes with prefabricated Ceramicor® components.
- The alloy manufacturer's recommendations relating to the respective alloy used must be observed.
- Components made from a non-suitable alloy may create reduced corrosion resistance or low melting intervals due to "diffusion processes" in the border area of the alloy / gold cap phases where there is less stability.
- Embedding may not be done by sand blasting as this destroys the secondary parts.
- In cases where the casting alloy is drilled through during processing and the Ceramicor® upper surface can be seen, the abutment cannot be veneered with ceramic. The casting must be repeated, as Ceramicor® is a non-oxidising alloy as described above.
- With errors in casting, such as incomplete effluxion, metal excess, casting beads or casting streaks in the internal configuration, the work must be repeated. The long-term success of the implants also depends on the accuracy of fit of the prosthetic work.



Ball Abutment System

Ball Abutment System

The retentive ball abutment system allows the simple and secure mounting of full prosthetics. Mounting by means of ball abutments enables easy insertion and removal of the prosthesis. Impression can be done without any kind of aids.

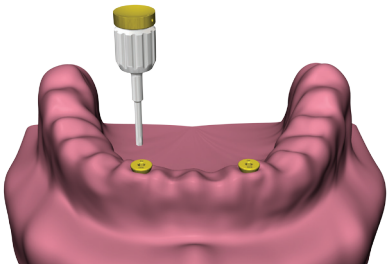
An elliptical matrix with an individually activated gold lamella insert is provided in the prosthetic as a counter support. The gold lamella insert can be changed if necessary.

⚠ To ensure the retentive ball abutment function perfectly over a long period of time, the implants must be placed as parallel as possible to one another and vertical to the occlusal plane to create a tangential axis of rotation.

		Material
Ball Abutment		Titanium Alloy
Ball Abutment Analog		Stainless Steel
Metal Housing Dalbo®-PLUS Matrix		Elitor® Metal Alloy
Spacer Disc		Metal
Duplicating Aid		Plastic
Ball Abutment Screwdriver		Stainless Steel

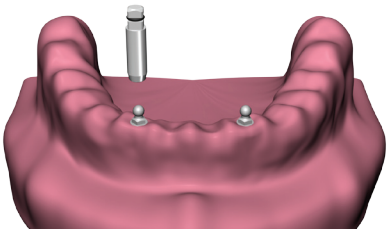
Impression technique for ball overdenture

1. Remove the healing abutment from the implant and measure the tissue depth. This will allow you to select the appropriate abutment height.



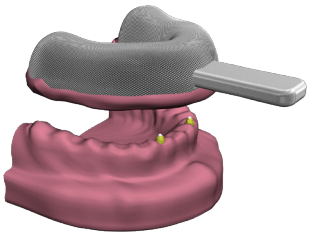
Step 1

2. Insert the ball abutment into the implant by using the ball abutment driver and tighthen it to a torque as specified in the Biodenta “Torque Guide”.The ball abutment has a square neck to accommodate the driver.



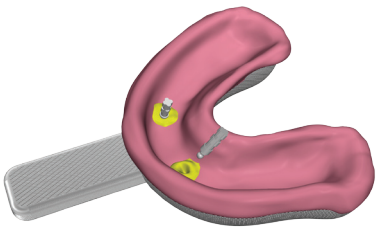
Step 2

3. The impression is taken with an elastomeric impression material (polyvinylsiloxane or polyether rubber) directly over the ball abutment without any aids.



Step 3

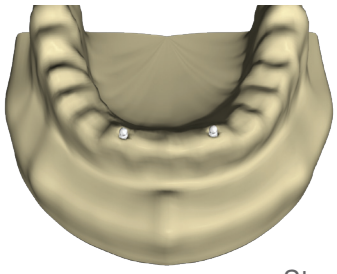
4. Insert the ball abutment analog into the impression. The laboratory fabricates the working model.



Step 4

Ball Overdenture Construction

1. Fabricating working model:
   Ensure that the ball abutment analog is correctly seated into the impression opening and pour up the stone model.



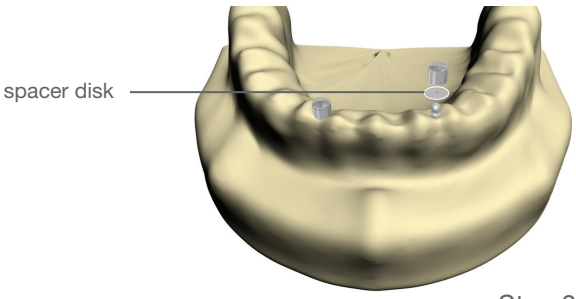
Step 1

2. Fabricate an appropriate denture wax-up for patient try-in.

   The manufacture and integration of a metal reinforced housing is recommended for stabilization of the prosthesis especially in mandibular prosthesis.

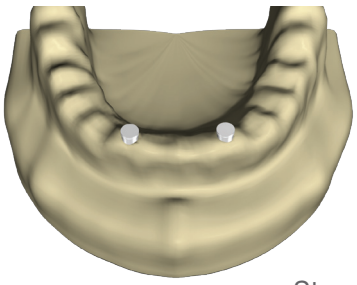
Step 2

3. For the completion of the prosthesis, place the spacer disc over the ball abutment analog (to preserve a space for the finished denture) and then connect the metal housing.



Step 3

4. The metal housings must be aligned to the correct axis position (parallel insertion direction).



Step 4

5. The prosthesis can now be finished in the usual style and manner.

   Initially, use the lowest retaining force of the matrix. Refer to the chapter “Adjusting the Retentive Force”. Proceed in small increments as necessary, until the desired retention force is obtained. Problems can occur with removing the prosthesis from the mouth, when the retention is too great.

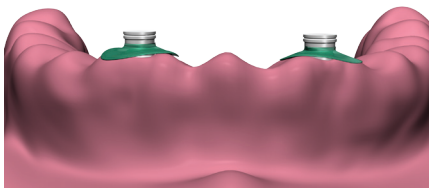
Step 5

Insertion of the Metal Housing into an existing Prosthesis

1. The position of the metal housing is cut out through the prosthesis and space is then created in the denture base.

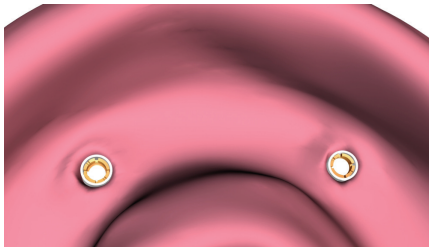
Step 1

2. Cofferdam is laid over the metal housing which prevents the plastic from flowing in.
   The metal housings must be aligned to the correct axis position (parallel insertion direction). The prepared prosthetics are fixed into the mouth and the plastic is inserted through the perforations.



Step 2

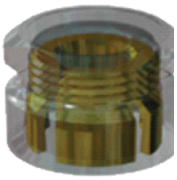
3. The rough areas are adjusted and polished.

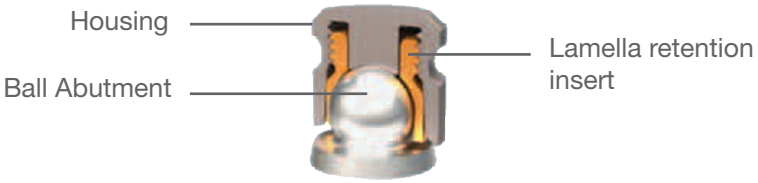


Step 3

Explanation of the Metal Housing (Dalbo®-PLUS Matrix)

The metal housing is used for the fixation of removable full dentures on Biodenta implants in conjunction with the ball abutment. It consists of a housing in which a gold lamella retention insert is screwed (Elitor= Protor® 3, yellow precious metal alloy).

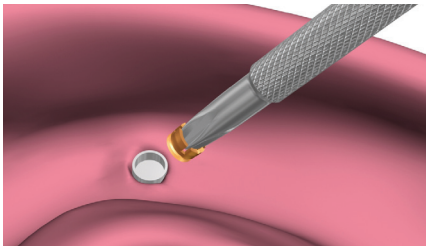


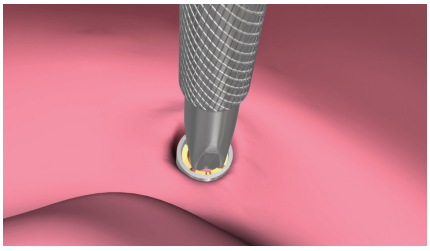


Titanium female part with threaded precious metal lamella insert allows the retention force to be finely, permanently and instantly adjusted with a special screwdriver (can be purchased from dental material supplier). Tuning female part with a reduced inner diameter for integration into an existing denture can be used with worn spherical anchors of other manufacturers. This enables the retention of existing dentures to be improved.

Special Screwdriver to adjust the retention force

To replace the Lamella retention insert, the thread on the metal housing is unscrewed counter clockwise using the special screwdriver. The threaded ring is then screwed back in place and hand tightened.



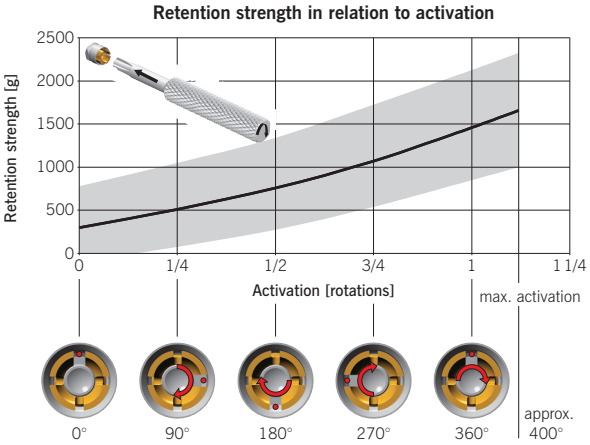


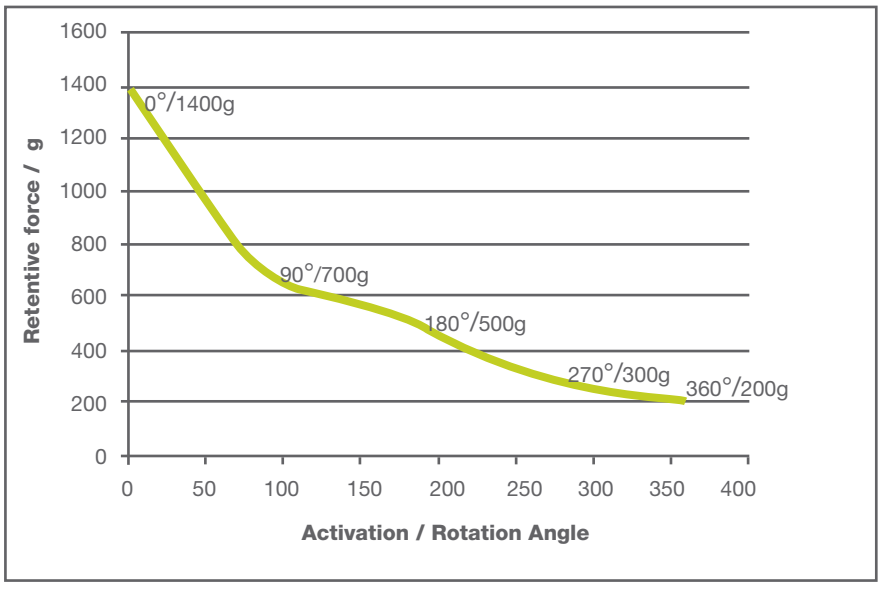
The integrated Lamella retention insert can be identified by its yellow color. It is activated by rotating the special screwdriver clockwise and deactivated by rotating it counter clockwise. The initial retention force is approximately 200 g, which is also the minimum that can be set. The maximum retention force is approximately 1400 g. The lamella retention insert must not project out of the housing.

⚠ The retentive force should only be adjusted when trying in the finished denture.

The connection between tightening angle and retention force:

Activation / Rotation angle	0°	90°	180°	270°	360°
Retentive force	1400g	700g	500g	300g	200g





LOCATOR® Abutment System

LOCATOR® Abutment System

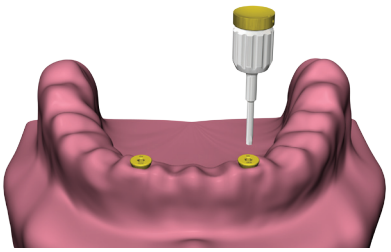
The LOCATOR® abutment system is designed for use with overdentures or partial dentures. The self locating design allows patients to seat their denture easily. The system is characterised by its low construction height and its dual retention. In addition, a 40° divergence between two implants can be easily accommodated. Incorporating the male retentive element into the denture can be made in two ways.

A. By lab technician on the model.
B. Chair-side by the dentist: directly connecting into the patient's denture in the mouth.

					Ø	Material
LOCATOR® Abutment					H: 2.0 mm / 4.0 mm / 6.0 mm	Titanium Alloy
Female Abutment Analog					Length: 10.0 mm	Aluminum
Impression Coping					Height: 4.0 mm	Aluminum housing with LDPE insert
Processing Cap with Black Male					Height: 1.9 mm	LDPE
Block-Out Spacer					Thickness 0.4 mm	Teflon
Replacement Male					Height: 1.7 mm	Nylon
Clear	0 - 10	5.0	2.28	LC-A099CC1N		
Pink	0 - 10	3.0	1.36	LC-A099CP1N		
Blue	0 - 10	1.5	0.68	LC-A099CB1N		
Green	10 - 20	4.0	1.81	LC-A099CG2N		
Orange	10 - 20	2.0	0.90	LC-A099CO2N		
Red	10 - 20	1.0	0.45	LC-A099CR2N		
Parallel Post					Height: 8.0 mm	LDPE, Low Density Polyethylene
Angle Measurement Guide					Length: 5.0 mm Width: 15.0 mm	Stainless Steel
Core Tool						Stainless Steel
LOCATOR® Abutment Driver					L: 21.0 mm S: 15.0 mm	Stainless Steel

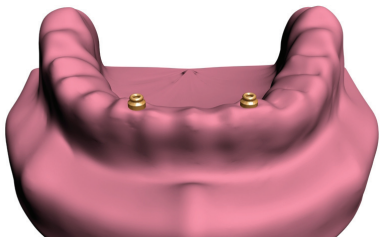
A. By lab technician on the model

1. Expose the platform surface of the implant, remove the healing abutment and ensure that the top of the implant is clear of any soft or hard tissue.



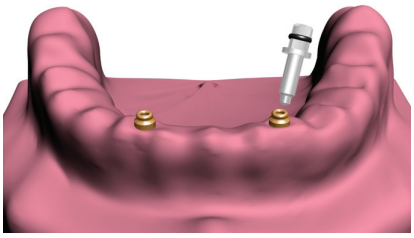
Step 1

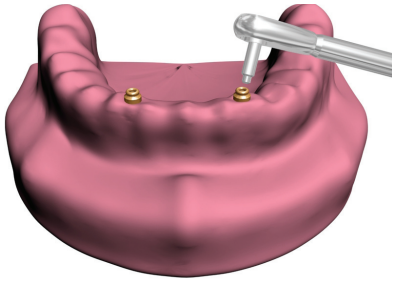
2. Select the height of the LOCATOR® abutment by determining the height of the gingiva. The top margin of the abutment should be 1.0 mm above the mucosa. Inserting the prosthesis is easier for the patient if the LOCATOR® abutments are at the same level as the gingiva.



Step 2

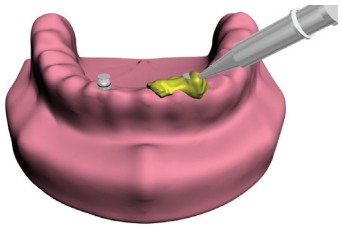
3. Connect the locator abutment driver with abutment and use the torque wrench to screw in the abutment. Apply a torque as specified in the Biodenta “Torque Guide”.





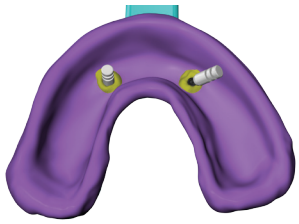
Step 3

4. The block out spacer is placed on the abutments. The spacer prevents plastic from penetrating the region below the impression coping. To take the impression, place the impression copings on the abutments and put the impression material directly over the impression copings.



Step 4

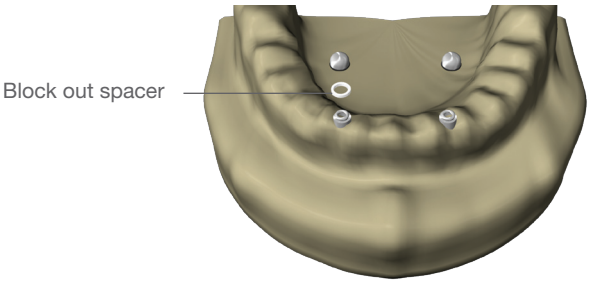
5. After the impression process is completed, insert the female abutment analog into the impression coping which is located within the impression material. Fabricate the working model and denture in the usual way.



Step 5

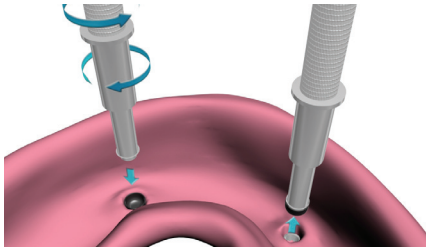
6. Place the processing caps onto the female analogs. The processing male serves to fix the cap on the analog, giving optimal stability.

   ⚠ The caps with the black processing males must be securely seated on the analogs. Then the denture is relined using the conventional technique.



Step 6

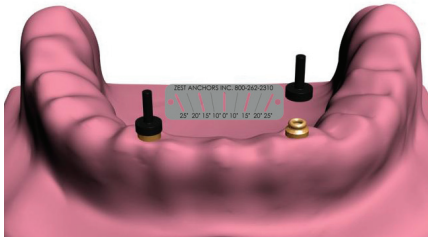
7. Remove the black male by using the core tool. Place the removal tip end into the black processing male and turn the handle two rotations counter clockwise. Please refer to the chapter “Function of the LOCATOR® Core Tool”.



Step 7

8. For checking angulation of LOCATOR® abutments, attach the parallel posts to the abutments and determine the degree of divergence. Hold the angle measurement guide behind the placed parallel posts and read off the angle for each abutment.

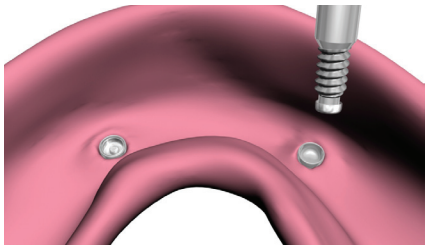
   ⚠ If the divergence is less than 10°, use the clear, pink or blue replacement males. If the angle is greater than 10° use the green, orange or red replacement males. Please refer to the chapter “choice of LOCATOR® Replacement Males”.



Step 8

9. Use the LOCATOR® core tool to firmly push the replacement male into the empty processing cap located within the denture. Please refer to the chapter “Function of the LOCATOR® Core Tool”. The male replacement must sit flush with the rim of the processing cap.

   ⚠ For this step, the dentist can process chairside or via an appointed lab technician to place the male replacement male before sending the case back to the dental clinic.



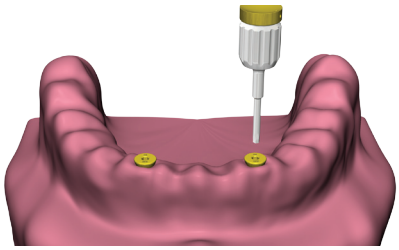
Step 9

10. Check for pressure spots and adjust the occlusion after the replacement male insertion.

Step 10

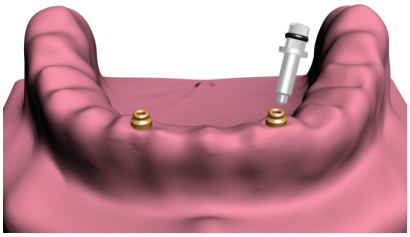
B. Chair-side by the dentist: directly connecting into the patient's denture in the mouth.

1. Expose the platform surface of the implant: Remove the healing abutment and ensure that the top of the implant is clear of any soft or hard tissue.



Step 1

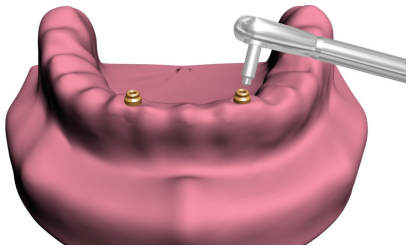
2. Select the height of the LOCATOR® abutment by determining the height of the gingiva. The top margin of the abutment should be 1.0 mm above the mucosa. Inserting the prosthesis is easier for the patient if the LOCATOR® abutments are at the same level as the gingiva.



Step 2

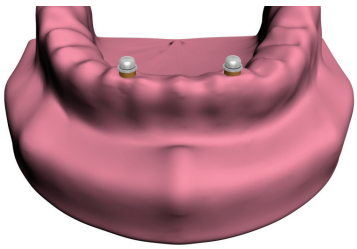
3. Hand-tighten the abutment onto the implant using the LOCATOR® driver.

   ⚠ A radiograph is recommended to determine if the abutment is completely seated on the implant. Then torque the abutment by using the torque wrench. Apply a torque as specified in the Biodenta "Torque Guide".



Step 3

4. The block out spacer is placed on the abutments. The spacer prevents plastic from penetrating the region below the impression coping. Then place the processing caps with black male on the abutments.



Step 4

5. Try in the denture over the processing cap to verify that it is fully seated on the ridge without contact to the cap.

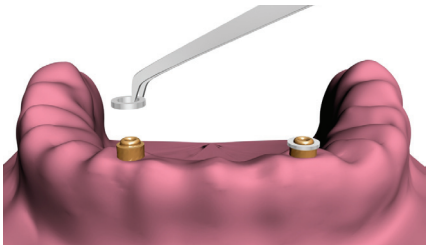
Step 5

6. Bond the processing cap to the denture by using a light cured composite resin or permanent selfcuring acrylic. Place the denture into position in the mouth and have the patient gently close into a very light centric occlusion. Stay in this position until the acrylic / resin sets.

Step 6

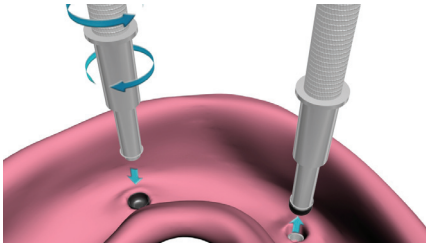
7. After the acrylic / resin is cured, remove the denture and discard the block out spacers.

   ⚠ It is critical that there is NO space between the tissue and the processing cap. It is necessary to block any remaining undercuts to prevent acrylic / resin from locking the denture onto the abutment. This can be done by stacking additional block out material.



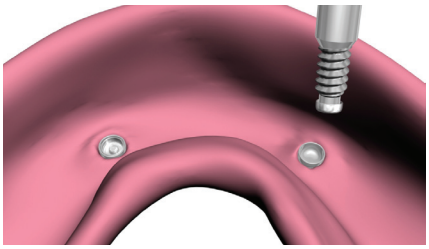
Step 7

8. Remove the black male by using the core tool. Place the removal tip end into the black processing male and turn the handle two rotations counter clockwise. Please refer to the chapter “Function of the LOCATOR® Cap Tool”.



Step 8

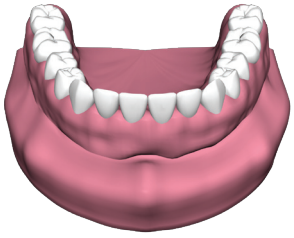
9. Select the proper replacement male. Please refer to the chapter ”choice of LOCATOR® Replacement Males”. Use the LOCATOR® Core Tool to firmly push the replacement male into the empty located within the denture. The male replacement must sit flush with the rim of the processing cap.



Step 9

10. Check for pressure spots and adjust occlusion after the replacement male insertion.

    ⚠ The attachment retention on the abutment may be reduced by placing the pink replacement male or the blue male rather than the clear male. The dentist should place different replacement males depending on patient’s desires.



Step 10

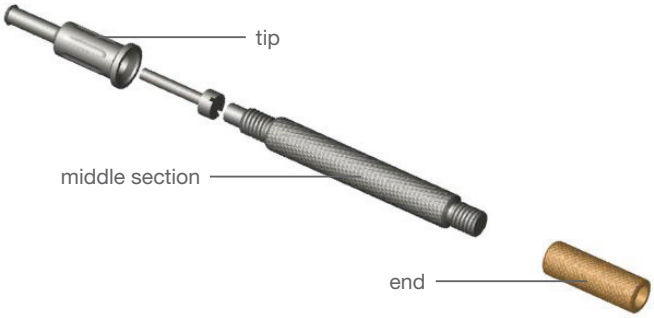
Choice of LOCATOR® Replacement Males

Patients should be able to insert and remove their LOCATOR® retained dentures easily and reliably. In order to achieve this, the divergence of the path of insertion of the individual abutment must be determined to assist in selecting the appropriate replacement males. If the divergence is less than 10˚, clear, pink or blue males are recommended. If the divergence between implants are between 10˚ and 20˚, green, orange, or red replacement males are recommended.

Choose the final replacement males determined by angle measurement of each implant. See the following chart for appropriate replacement males:

Color	°	lbs	kg	REF Number	
Clear	0 - 10	5.0 lbs	2.28	LC-A099CC1N	
Pink	0 - 10	3.0 lbs	1.36	LC-A099CP1N	
Blue	0 - 10	1.5 lbs	0.68	LC-A099CB1N	
Green	10 - 20	4.0 lbs	1.81	LC-A099CG2N	
Orang	10 - 20	2.0 lbs	0.90	LC-A099CO2N	
Red	10 - 20	1.0 lbs	0.45	LC-A099CR2N	

Function of the LOCATOR® Core Tool



The tip is used for removing replacement males from the processing cap. Unscrew the tip by turning it two full turns. A gap is visible between the tip and the middle section.

The sharp edges of the tip hold the replacement male while it is being removed. To remove the replacement male from the instrument, the tip must be screwed clockwise completely onto the middle section.

The middle section of the core tool is used for inserting replacement males into the processing cap located inside of the denture. When a click is heard, the replacement male is fixed firmly in the housing.

The end (gold-colored) of the core tool is used by the dental technician for screwing and unscrewing the abutments.

Bar Abutment System

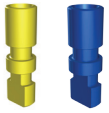
Bar Abutment System

The bar abutment system stabilizes the implants by means of stress distribution. This type of restoration also offers security for the prosthesis against pulling and lifting forces. The force distribution can be optimally designed and consequently the implants will bear less strain.

Depending on which bar principle and profile used, a resilient mounting with mucous membrane support or a bar abutment provision will be formed.

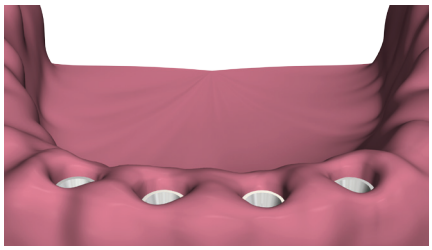
A 15° cone allows implant divergence flexibility up to 30°. The bar abutment can be easily shortened.

The bar abutments can be obtained in two types:
- Bar abutment in Ceramicor® for soldered or laser-welded gold bar.
- Bar abutment in titanium for titanium laser welding.

		Material
Bar Abutment with Screw		Titanium Alloy
Bar Abutment with Screw Ceramicor®		Ceramicor®
Hex Driver		Stainless Steel
Bar Abutment Holder		Stainless Steel
Implant Analog		Titanium Alloy

Impression Technique for Bar Overdenture

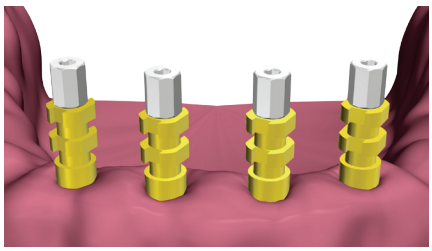
1. Expose the platform surface of the implant: Remove the healing abutment or temporary abutment and ensure that the top of the implant is clear of any soft or hard tissue.



Step 1

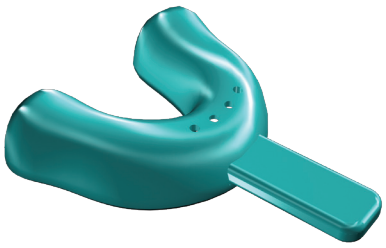
2. Place the impression post with guide pin onto the implant and tighten the screw. If hand tightening is insufficient, use the hex driver.

   ⚠ The Biodenta impression post with guide pin is “self-seating”. This means that the screw will not engage the implant if the impression post is not correctly seated. However a radiograph is recommended if there is any uncertainty or risk of soft tissue entrapment.



Step 2

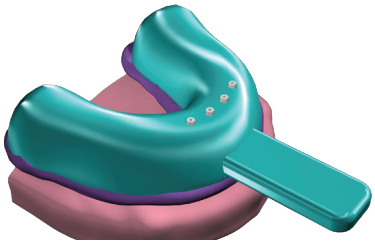
3. Try-in the custom impression tray. Prepare holes so that screws can protrude through the custom during the impression.



Step 3

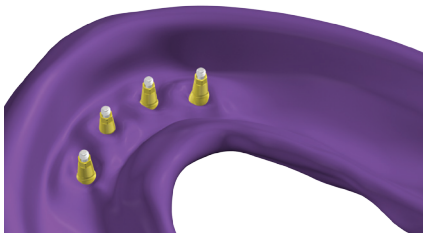
4. Using a medium to heavy body impression material (polyvinylsiloxame or polyether rubber), inject around the impression post with guide pin and fill the impression tray. Ensure that the screw is clearly visible.

   ⚠ Block out the holes on top of the screws with wax or other suitable material.



Step 4

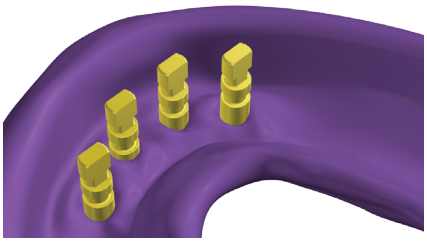
5. Seat the impression tray into the patient's mouth. After the impression material has set, use tweezers to clean out extra impression material or wax on top of the screw. Unscrew and remove the screw from the impression post with guide pin, and then remove the impression from the patient's mouth.



Step 5

6. Screw the impression post with guide pin and implant laboratory analog with a hex screwdriver. Make sure the seating is correct then tighten by hand.

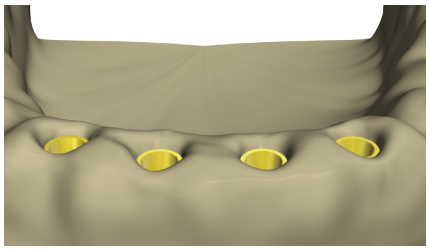
   ⚠ When tightening the screw, hold the retentive section of the analog in order to prevent the impression transfer coping from rotating.



Step 6

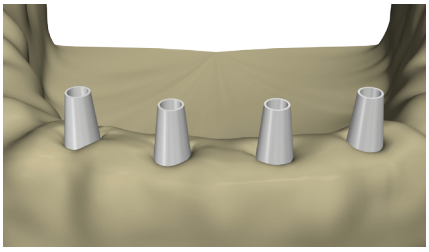
Bar Framework

1. The laboratory fabricates the working model with the implant analogs.



Step 1

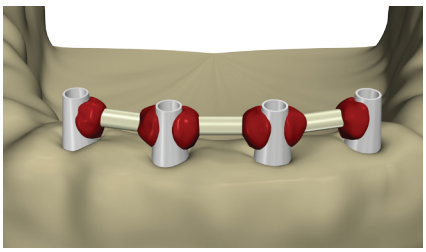
2. Fabrication of the suprastructure:
   Screw the bar abutment into the implant analog with the abutment screw by using a hex driver. The 15° cone allows implant divergence flexibility up to 30°.



Step 2

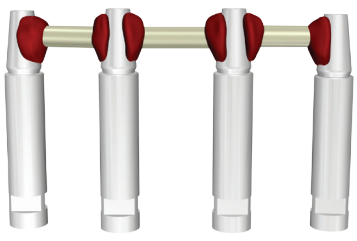
3. Joining the segments between bar abutments. There needs to be adequate space between the bar and gingiva for proper hygiene (a min. 2.0 mm is recommended). Use a residue free burn out plastic to fix the bar segments to the abutments. Laser welding can take place directly on the plaster model.

   ⚠ Bar segments can be purchased from dental material supplier; the melting temperature needs to be lower than it is for bar abutment.



Step 3

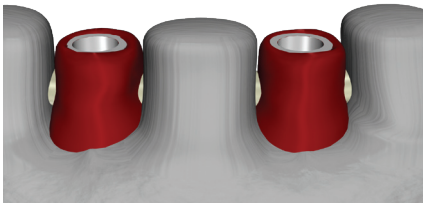
4. Remove the bar framework from the working model after loosening the screws. Place the framework on the abutment holder and hand-tighten the screws. The abutment holder ensures that the abutments are connected accurately in the soldering investment during soldering.



Step 4

5. The bar segments can be soldered or laser welded, depending on the dentist. Proceed to the soldering investment.

   ⚠ Preheat the soldering investment to 500°C ~ 600°C (932 ~ 1112°F) in a preheating furnace.

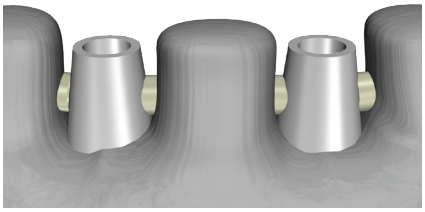


Step 5

6. After the invested bar has been preheated, it is ready for soldering. Once soldering has been completed and before taking out bar framework, the investment should be cooled to room temperature. Devest and clean the bar in an ultrasonic bath.

   Remove the oxides and soldering flux residues in an acid bath. Stress-free repositioning of the bar on the implant analogs should be possible without securing it with the screws.

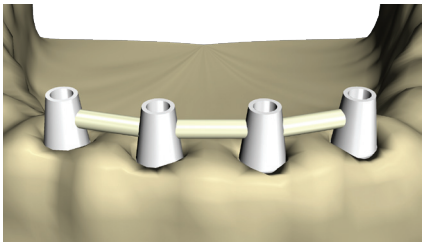
   Shorten the bar abutment if necessary and polish it.



Step 6

7. The finished bar framework is screwed back into the stone model. After polishing and cleaning, it can be send back to the dentist for try in.

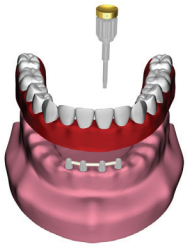
   ⚠ Use a new screw for the final insertion of the abutment.



Step 7

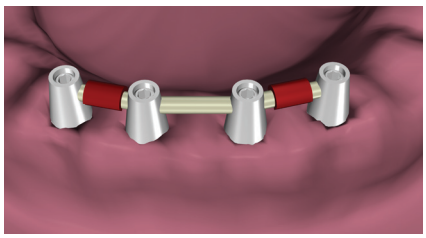
Bar Overdenture Fabrication

1. Do an aesthetic try in according to modern full denture principles. Upon satisfactory esthetics and verified bite, the denture can be sent back to the lab for the final denture processing.



Step 1

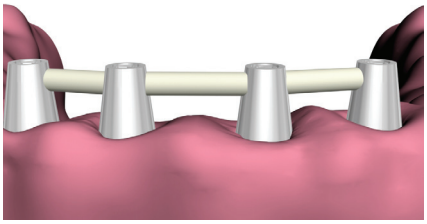
2. Vary the retention strength of the bar system. Once the bar system is confirmed, it is ready for the completion of the denture processing.



Step 2

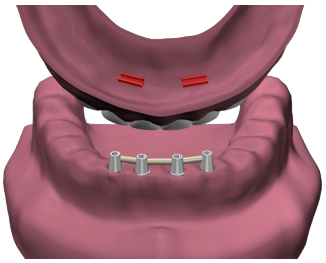
3. Connection of final restoration. Screw the bar framework back into patient's mouth by using the hex driver and apply a torque as specified in the Biodenta "Torque Guide".

   ⚠ A new screw is needed to be replaced when final restoration is sent back to dentist office.



Step 3

4. Deliver the final denture to the patient. Depending on patient's desires and preferences, the dentist can adjust the retention of the bar matrix. Check the occlusal relationships, confirm the resiliency and hinge axis movement.



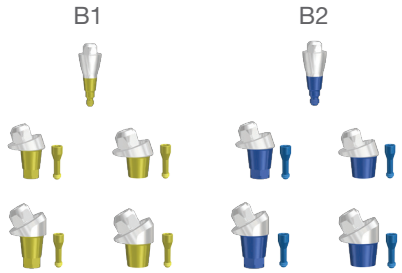
Step 4

Multi-Use Abutment System

Multi-Use Abutment System

Biodenta offers multi-use abutments as an alternative and reliable concept to enable screw retained bridge solutions directly on Biodenta bone level and bone level tapered implants. This solution can also be considered if the implants are not placed parallel. The angled abutments can be obtained with angles of 18° and 30° and in different gingiva heights (GH). There is a side wall taper of 10 degrees in each multi-use abutment, so the overall abutment alignment may deviate by as much as 20 degrees.

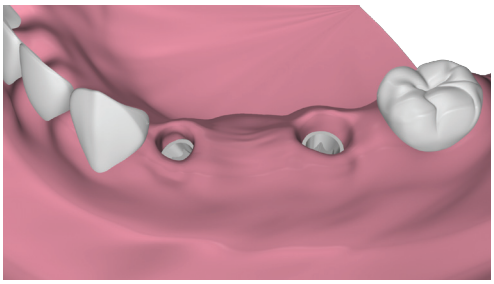
Parts for Dentist

		Material
Multi-Use Abutments 0° (Non-Hexed) 18° (Hex & Non-Hexed) 30° (Hex & Non-Hexed)		Ti-Alloy
Protective cap		Ti-Alloy
Impression post (Open & Closed tray)		Ti-Alloy
Hex Driver for Torque Wrench		Stainless Steel
Hex Driver for Handpiece		Stainless Steel
Multi-Use Straight Abutment Driver		Stainless Steel
Torque Wrench		Stainless Steel

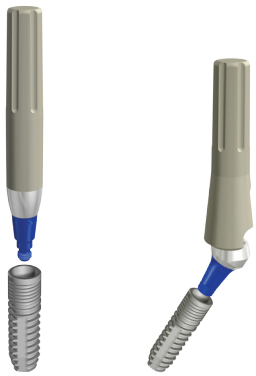
		Material
Abutment Analogs		Ti-Alloy
Full Burnout Cylinders (Non-Hexed)		Plastic
Semi Burnout Cylinder (Non-Hexed)		Gold Alloy
Temporary Cylinder (Non-Hexed)		Ti-Alloy
Reamer		Stainless Steel

Step by Step instruction:

1. Remove the healing abutment and ensure the top of the implant is clear of any soft or hard tissue.

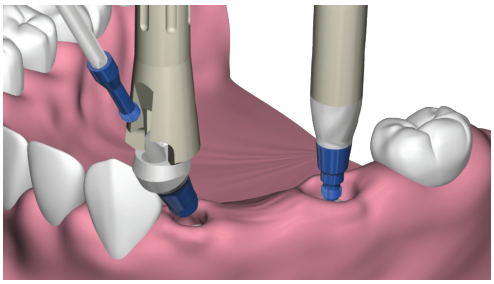


2. Select the multi-use abutment with appropriate gingiva height.



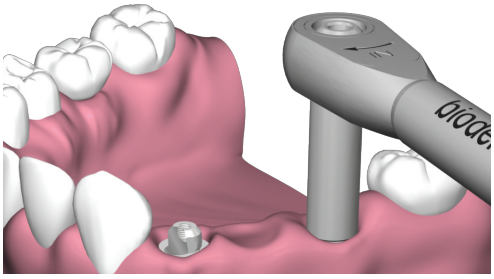
3a. Place the straight multi-use abutment:

The pre-mounted plastic carrier will assist and guide to place the one piece abutment connection to the implant, hand tighten.



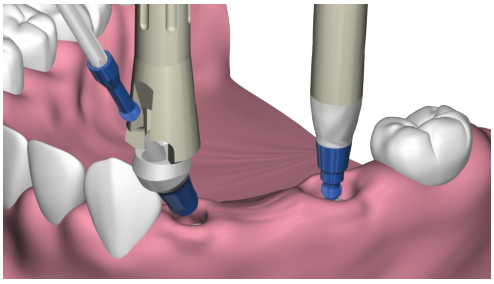
Once in place remove the plastic carrier with a slight bending movement.

Utilizing the multi-use abutment driver, tighten the multi-use abutment to 35Ncm of torque.



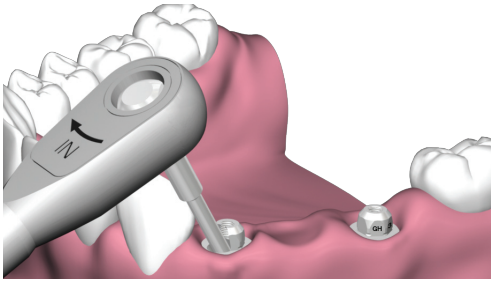
3b. Place the angled multi-use abutment:

The pre-mounted plastic carrier will assist and guide to place the two piece abutment connection to the implant, hand tighten.



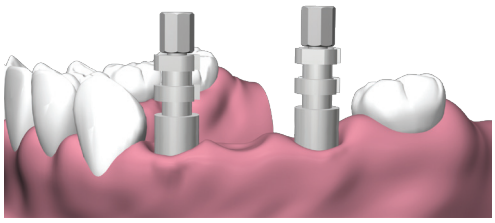
Once in place remove the plastic carrier with a slight bending movement.

Utilizing the hex driver tighten the multi-use abutment to 35Ncm of torque.

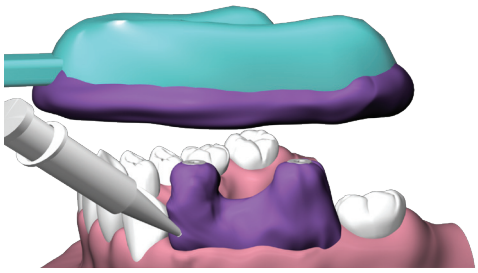


4a. Abutment level impression - open tray:

Place impression post with guide pin onto the abutment and tighten.

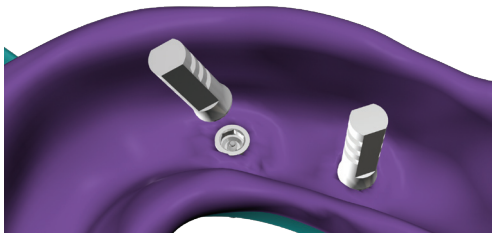


Using a medium to heavy body impression material, inject around the impression post and fill the impression tray ensuring the guide pin head is clearly visible.



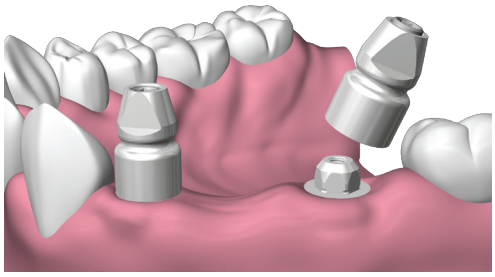
After the impression material has set, clear out the extra impression material or impression tray. Loosen or remove the guide pin and remove the tray with the impression post. Verify the impression post is securely positioned in the impression material.

Connect the impression post with guide pin and abutment analog together with hex driver, ensure the seating is correct and tighten by hand.



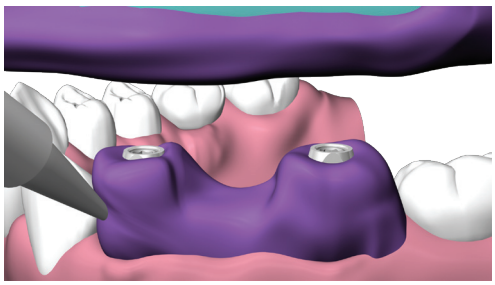
4b. Abutment level impression - closed tray:

Place impression post with guide pin onto the abutment and tighten.

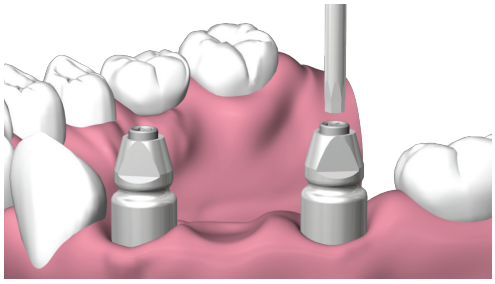


Using a medium to heavy body impression material, inject around the impression post and fill the impression tray.

Seat the impression tray. Once the impression material has set, remove the impression tray from the patient's mouth.

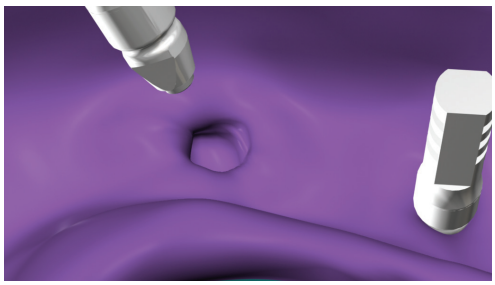


Unscrew and remove the guide pin and impression post.

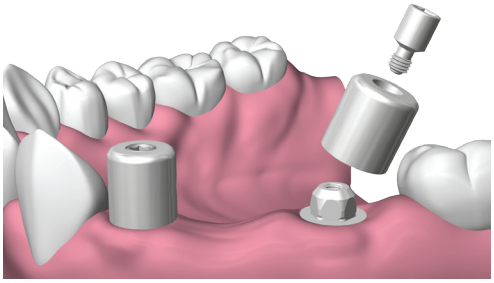


Connect impression post with guide pin to the abutment analog with the hex driver, ensure the seating is correct and hand tightened.

Re-insert the impression post back into the impression tray.



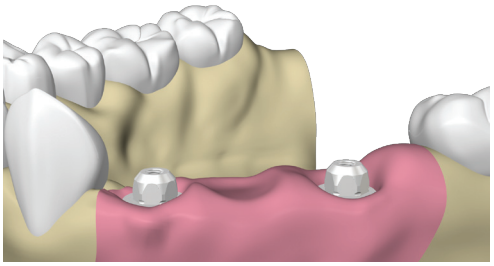
5. Insert protective caps



6. Process of the Non-Hexed cylinder:

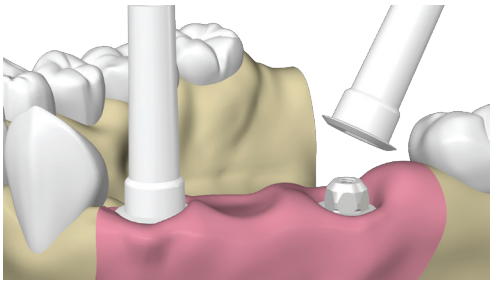
The cylinder is used for bridge restorations.

There are three different materials of cylinders available to the lab technician, full burnout cylinder (plastic), semi burnout cylinder (gold alloy) and titanium cylinder (titanium alloy). They are utilized for the final fabrication of the restoration.



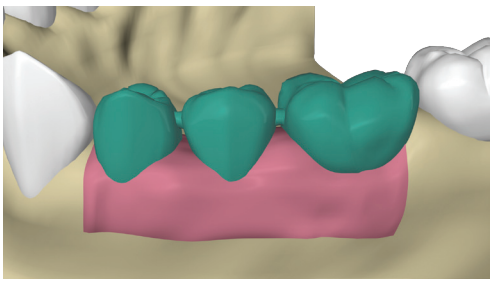
The recommended minimum height of the cylinder is 4.0 mm.

⚠ No additional angular correction may be fabricated into the design of the casts.



7. Proceed with wax up model for the prosthesis on the cylinder:

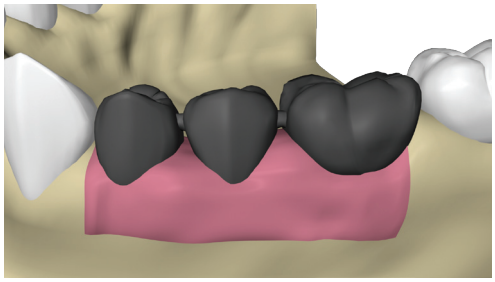
For optimal esthetic result, a diagnostic wax up should be performed. A silicone or PVS impression should be made over the wax up. There should be adequate room for sufficient thickness of wax between the abutment and impression. This is especially important in the region of the margin.



8. Casting and trimming the cylinder:

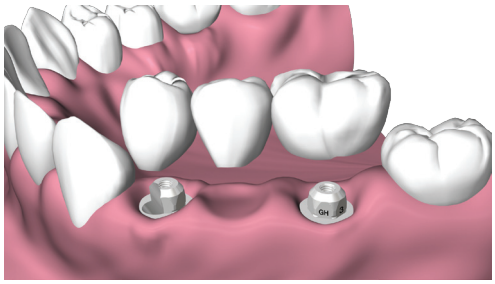
The casting alloy to be used in combination with the multi-use abutment shall have at least following mechanical properties.
Tensile strength: 700 MPa
Yield strength: 565 MPa

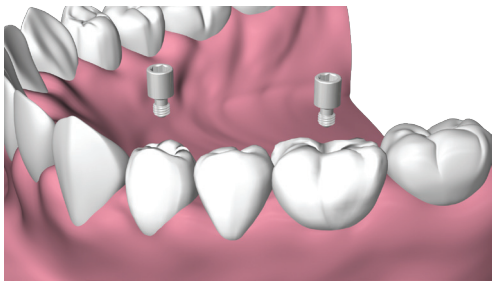
Care must be taken during the trimming of semi cylinder. If the casting is trimmed where the gold alloy basement is exposed, the surface cannot be covered with ceramic. It is a non-oxidizing alloy and porcelain will not adhere to it.



9. Delivering the final restoration:

The restoration is delivered to the dentist with the prosthesis on the master cast. Remove the prosthesis from the abutment analog by using the hex driver. Try in the prosthetics with the bridge screw in the patient's mouth by using the hex driver. Tighten the bridge screw with torque wrench to 20Ncm.





Sleeve Kits for Hybrid Solutions

Sleeve Kits for Hybrid Solutions

Biodenta offers Sleeve Kits for Hybrid Solutions as an easy to use and reliable concept to enable screw retained bridges or full arch solutions directly on Biodenta Bone Level and Bone Level Tapered implants. This solution can also be considered if the implants are not placed parallel and offers a tension free restoration on the implants.

The following restorations can be realized:
- Hybrid bridges: Zirconia/Full Contour
- Hybrid bridges: Zirconia/Framework

⚠ **Please Note:** This application ought to be using at least three Implant/Hybrid-Sleeve parts as a basis to achieve sufficient stability!

The following description explains the components and how to use them by the dentist and dental laboratory technicians.

Components of the Sleeve Kits for Hybrid Solutions

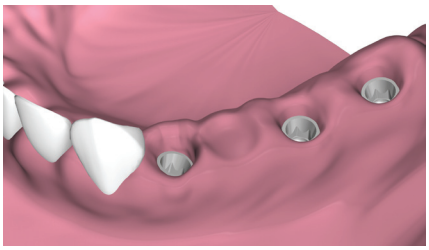
Each Kit consists of the connection specific Hybrid Sleeve and 5 additional components. Biodenta actually offers this concept for the Bone Level platforms B1 and B2. The 5 additional components are same for B1 or B2.

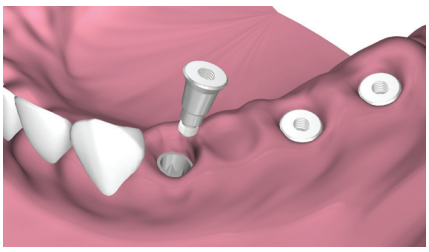
Components of the Sleeve Kits for Hybrid Solutions		
		
Hybrid Sleeve	One Piece Hybrid Interface/Impression Post	Guide Pin for Hybrid Impression Post
		
Protection Cap for Sleeve	Analog for Sleeve	Prosthetic Screw for Hybrid Sleeve

All parts are made of Titanium Alloy

Step by Step Instruction

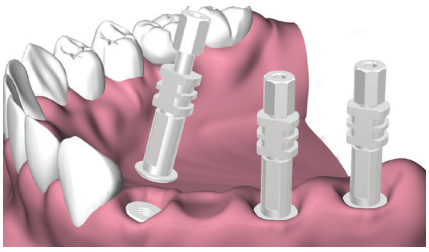
1. The dentist screws the hybrid sleeves into the implant utilizing the final torque of 35 Ncm. The hybrid sleeves remain within the implants and will not be removed.

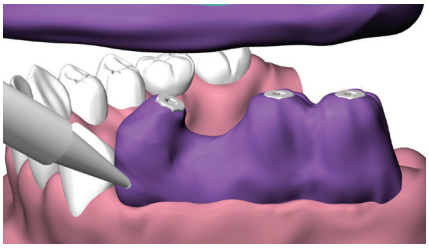




Step 1

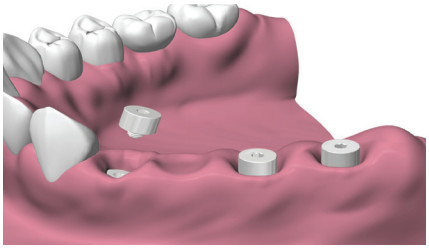
2. The dentist takes an impression on the sleeve and inserts the one piece hybrid interface/impression posts into the hybrid sleeves utilizing the guide pin for hybrid impression post. Take an impression with open, individual tray. The upper parts of the one piece hybrid interface/impression posts ensure retention within the impression material. The dentist sends the impression together with the remaining parts (analog for sleeve and prosthetic screw for hybrid sleeve) to the laboratory.





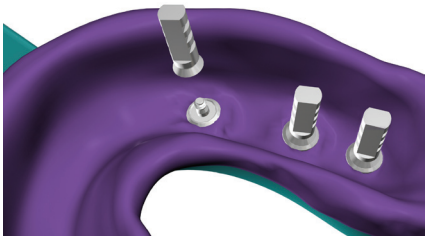
Step 2

3. The dentist tightens the protection caps for sleeves onto the hybrid sleeves by hand tightening.



Step 3

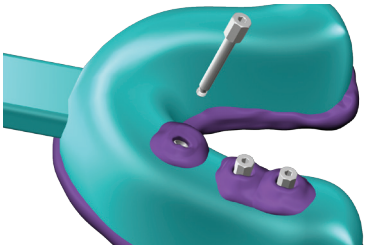
4. The laboratory technician places the analogs for sleeve into the impression and fabricates the model.



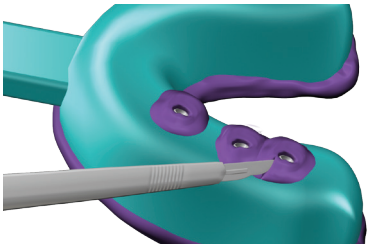
Step 4

5. Remove the one piece hybrid interface/impression posts from the impression material:

   Take off guide pin for hybrid impression post.

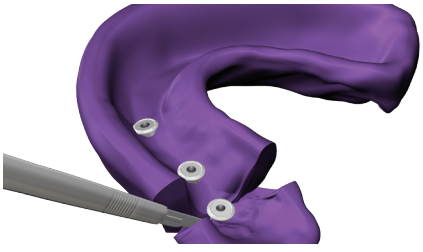


Remove the upper part impression material from tray.



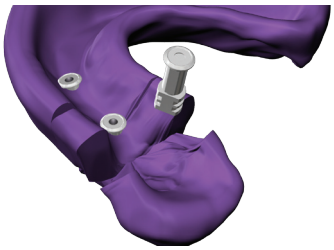
Remove the lower part impression material from tray.

Cut the impression material in order to access the one piece hybrid interface/impression posts.



Take the one piece hybrid interface/impression posts out of the impression material.

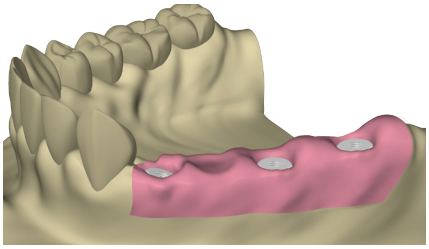
⚠ Inspect the one piece hybrid interface/impression post in order to ensure complete removal of impression and stone modeling material, and make sure that there is no mechanical damage.

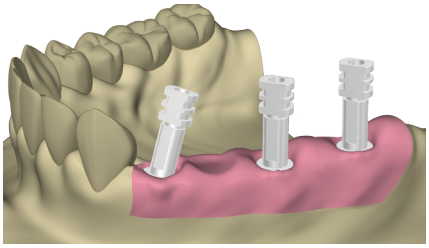


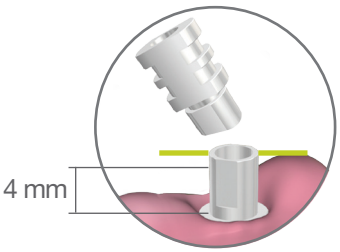
Step 5

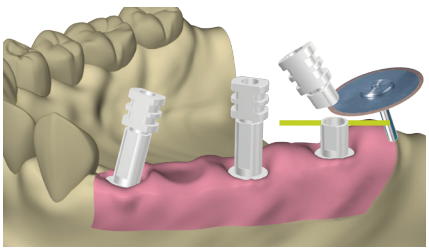
6. The laboratory will use the one piece hybrid interface/impression posts for the bridge or full arch. For this purpose, the posts are taken out of the impression and the upper portion is cut away at the green line as shown in the illustration.

   Please ensure you remain at least 4 mm above the collar of the post.



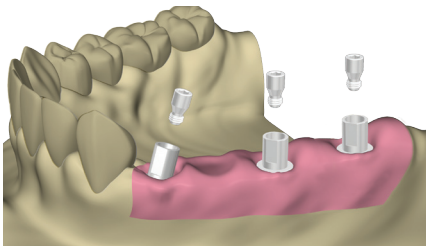






Step 6

7. The lab technician screws the modified one piece hybrid interface/impression posts onto the model and designs the bridge.

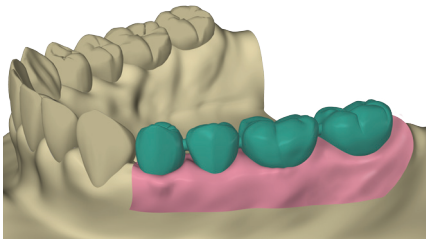


Step 7

8. **There are two options to design the bridge:**
   A. Traditional Solution
   B. Digital Solution

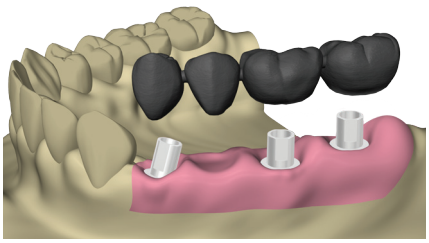
Design the bridge
Option A. Traditional solution

8.A1 Wax an individual resin cap onto the abutment. Contour a wax model according to the anatomical circumstances of the individual cast.



Step 8.A1

8.A2 After the casting, it can now be veneered with porcelain in the conventional way.
Proceed to next step, carrying out the porcelain.



Step 8.A2

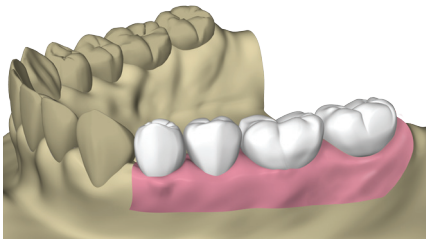
Design the bridge
Option B. Digital solution

8.B1 The milling center is milling, sintering the bridge and sending the parts back to the dental lab.

Step 8.B1

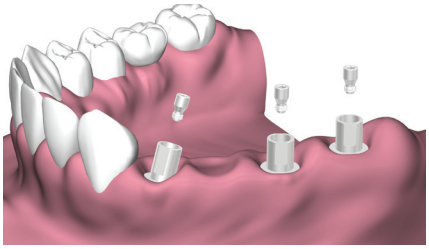
9. The lab technician fits the bridge on the one piece hybrid interface/impression posts and glazes the bridge or applies porcelain. Upon completion the restoration is sent to the dentist.

   ⚠ Cleaning and sterilization should follow our standard procedure as defined in the prosthetic guideline.



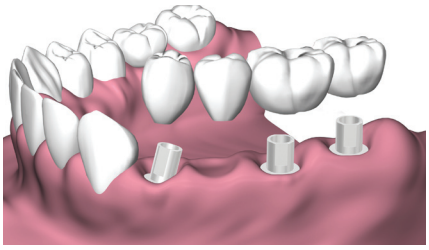
Step 9

10. The dentist unscrews the protection caps from the hybrid sleeves in the patient's mouth.
    The next step is to screw the one piece hybrid interface/impression posts onto the hybrid sleeves by hand tightening with the prosthetic screw for hybrid sleeve.

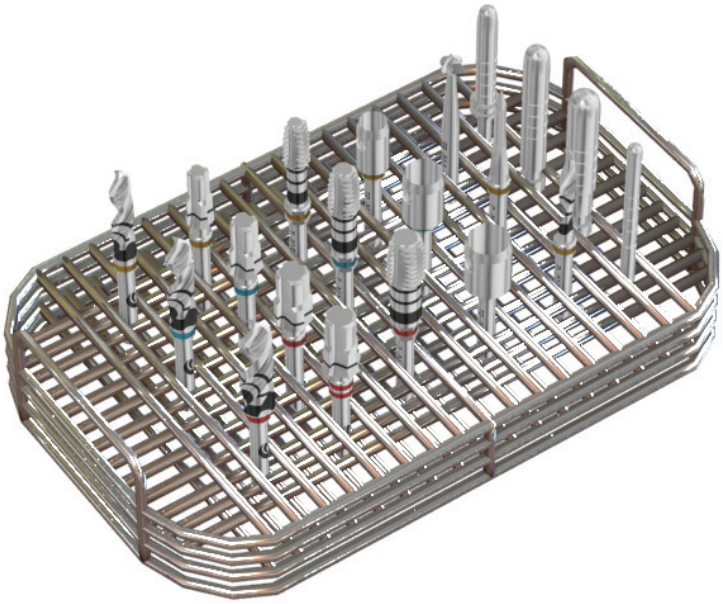


Step 10

11. The dentist adheres the bridge onto the one piece hybrid interface/impression posts in the patient's mouth. This procedure allows for a tension free restoration on the implants.



Step 11



Cleaning, Disinfection and Sterilization

Important information

⚠ Successful implantation requires optimized hygienic conditions. Please follow those instructions carefully.

Improper care of instruments may lead to damage.

New instruments must be cleaned and sterilized prior to initial use. If the instrument is reused, it must be re-sterilized prior to each use.

The Biodenta reprocessing procedure of the instruments was successfully validated with the use of the following equipment and material:

- Automated thermal disinfection washer: Miele G 7735 CD, cleaning program: Vario TD
- Rack for dental instruments: Miele E 491za
- Instrument detergent: Mediclean 0.5%, mixture of cold water and Mediclean (Mediclean, Dr. Weigert, Hamburg, Germany)

Cleaning and disinfection detergents are commercially available. Use as directed by the manufacturer.

The dentist is responsible for the applied reprocessing process, equipment and material to achieve the required results. Routine controls of the standardized reprocessing procedure should be carried out. If a different procedure, equipment or material is applied, the effectiveness and possible adverse effects should be evaluated.

Drills may lose cutting performance when they are not handled carefully. Never allow drills to touch each other during the cleaning process. It is highly suggested that a proper rack (such as the Miele E 491 rack) be utilized during the cleaning process.

Care should be taken to immediately remove remnants from surgery (blood, tissue, bone, etc.) to reduce the risks of these debris drying on the instruments.

Parts made of stainless steel should not be exposed to cleaning or disinfection solutions containing a high percentage of chlorine and / or oxalic acid.

Parts made of plastics should not be sterilized by chemical or dry heat.

Products for Sterilization or Disinfection

Please refer to the "Material Declaration". It indicates which products should be sterilized or disinfected. Please follow this declaration carefully. The table also indicates which parts are intended for intraoral application and which ones are for extraoral use only.

Parts indicated for **sterilization** should be cleaned using the following steps consecutively:

1. Pre-cleaning
2. Cleaning
3. Disinfection
4. Drying
5. Visual inspection for cleanliness
6. Packing
7. Sterilization
8. Storage

Parts indicated for **disinfection** are for single use and should follow the following steps prior to use:

1. Cleaning
2. Disinfection
3. Drying

Each individual step is explained in detail below.

Instruments for Disassembly

The table in the chapter "Material Declaration" shows instruments which are required to be disassembled during the cleaning and disinfection process. Upon completion, these instruments are required to be reassembled prior to sterilization. Please refer to the related description of those instruments about components, correct assembly and maintenance.

Automated or Manual Procedure

Automated or Manual Procedure

It is optional to utilize manual or automated procedures for cleaning, disinfection and drying.
In the automated thermal disinfection washer, the three procedures are performed automatically.

1. Pre-cleaning

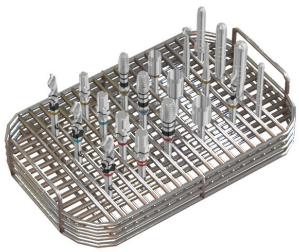
Soak the instruments in an instrument detergent (mild alkaline, aldehydefree) for minimum 5 minutes and a maximum 15 minutes. Prolonged soaking in the detergent may lead to surface damage.

Scrub the inside and outside of the instruments with a suitable soft bristled nylon brush until all visible debris is removed.

2. Cleaning

A. Automated Cleaning

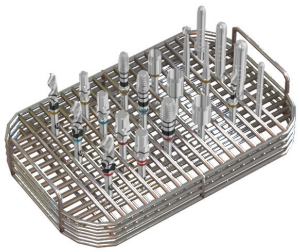
Put the parts on a rack for dental instruments and put the rack into the automated thermal disinfection washer and start the cycle. The following is a minimum amount of time per cycle.



- 4 min pre-washing with cold water, then emptying
- 5 min washing at 55°C (131°F) with instrument detergent, then emptying
- 3 min neutralizing with warm water > 40°C (104°F), then emptying
- 2 min intermediate rinsing with warm water > 40°C (104°F), then emptying

⚠ Special instructions of the manufacturer of the automated thermal disinfection washer have to be followed.

B. Manual Cleaning



Put the parts on a rack for dental instruments and place the rack into the ultrasonic bath for 15 min at 40°C (104°F).

Care should be taken so that cutting instruments such as blades and burs do not contact other instruments and metal surfaces.

Flush the parts, and if applicable the internal chambers, with water to remove the disinfection detergent.

3. Disinfection

A. Automated Disinfection

Perform automated thermal disinfection in the automated thermal disinfection washer under consideration of national requirements in regards to the A0-Value (A0 value: 3000, e.g. 5 min. at 90°C (194°F); refer to EN 15883).

B. Manual Disinfection

Submerge the parts in a suitable disinfection detergent for rotary instruments (alkaline, aldehyde-free, VAH approved) as permanufacturer's recommendations. Appropriate time, temperature and concentration of the disinfecting detergent must be followed.

Flush the parts, and if applicable the internal chambers, with water to remove the disinfection detergent.

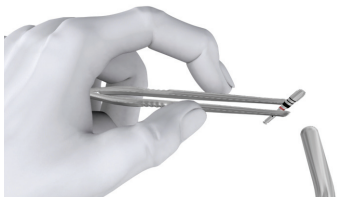
4. Drying

⚠ Make sure that the parts are completely dry before packing them!

A. Automated Drying

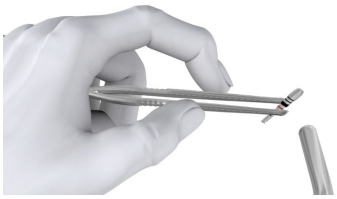
Parts need to be dried by going through the drying cycle of the automated thermal disinfection washer.

If needed, additional manual drying can be performed by using sterile compressed air.



B. Manual Drying

Manual drying can be performed by using sterile compressed air.



5. Visual Inspection for Cleanliness

Visually inspect the parts to ensure that they are clean and undamaged. If residues or contamination remains, repeat the procedures until no visible contamination is left.

Parts showing the following defects are to be discarded immediately: deformations (e.g. bent, fractured), corroded surfaces, blunt / chipped blades. Cutting instruments are not allowed to be used more than 10 times.

6. Packing

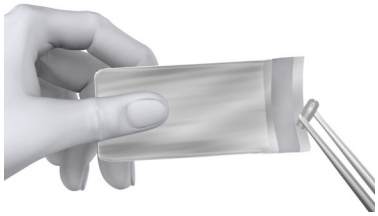
For sterilization, the surgical instruments should be placed into the Surgical Kit. Please place each instrument back to its correct position.

The instruments should be placed in the center of each holder so that it has minimum surface contact.

Place the completed Surgical Kit into a sterilization bag. Do not use a form fitting sterilization pouch. Adequate space is necessary to allow circulation of air.

Healing caps and closure screws can be placed into the removable box of the Surgical Kit for sterilization.

Abutments and further parts designated for sterilization should be packed into sterilization bags.



7. Sterilization

Sterilization should be performed by applying a pre-vacuum steam sterilization process under consideration of the respective country requirements (for USA refer to ANSI/AAMI ST79; for EU, CH and NO refer to EN 13060, EN ISO 17665-1, EN ISO 14937).

Please follow the following parameters for the pre-vacuum process:

- 3 pre-vacuum phases with at least 60 mbar
- heat up to a sterilization temperature of 132°C (270°F)
- holding time: minimum 4 min
- drying time: minimum 20 min

8. Storage

Store the sterilized products in a dry, clean and dust free environment at temperatures between 5 to 40°C (41 to 104°F).

Annex

Product Information

Biodenta Dental Implant System
Tissue Level, Bone Level, Bone Level Tapered and One Piece Implants.

The following content is relevant to the dental implants, surgical instruments and prosthetic components of the Biodenta dental implant system.

⚠ For detailed information about the products, implantation and prosthetic procedures, the following Biodenta manuals should be consulted:

Product Catalog for an overview of products and components, **Surgical Guidelines** for surgical protocol of implant placement, **Prosthetic Guidelines** for abutment placement, prosthetic protocol and dental lab procedures. You will also find detailed and updated information on our home page: www.biodenta.com

Product Description
Biodenta dental implants with BST surface are manufactured from biocompatible pure grade 4 titanium. Other associated surgical instruments and components are manufactured from medical grade titanium alloy, noble metal alloy, stainless steel and polymers. Please refer to respective product labels for individual product information.

Indications for Use
Biodenta dental implants are intended for surgical placement in mandibles or maxilla to support single or multiple tooth restorations, terminal or intermediate abutment support for fixed or removable bridgework and to retain overdentures.

Intended Use
The products are to be implanted in a surgical procedure by trained and experienced dental practitioners in a professional setting. The implantation is conducted with specified tools. The implants are intended to be used in a manner in which they integrate with the bone (osseointegration).

Supplementary Indications
Biodenta healing caps, -abutments and closure screws are used to cover the platform surface of the implants to prevent bone and soft tissue growth into the internal implant connection during osseointegration.

The abutments are intended for use as additions to endosseous dental implants to support prosthetic devices in a partially or edentulous patient. These are intended for use to support single and multiple tooth prostheses in the mandible or maxilla. The prostheses can be screw-retained, cement-retained or attachment-retained to the implant.

The transfer parts are used to transfer the implant position to the model analog.

Handling & Storage
Products should be stored at room temperature in a dry location.

Contraindications
⚠ Placement of dental implants may be contraindicated based on patient's medical condition. Contraindications contain but are not limited to: uncontrolled diabetes, vascular diseases, clotting disorders, bone metabolism disturbances, chemotherapy or radiation therapy, metabolic or systemic disorders associated with wound and / or bone healing, use of pharmaceuticals that inhibit or alter natural bone remodeling, any disorders which inhibit a patient's ability to maintain adequate daily oral hygiene, chronic periodontal inflammation, insufficient soft tissue coverage, poor general state of health, psychoses, drug / alcohol abuse or uncontrollable endocrine disorders.

Oral contraindications include but are not limited to: uncontrolled parafunctional habits (e.g. bruxism, clenching), insufficient height and / or width of bone, insufficient interarch space, intraoral infection, xerostomia, inadequate patient oral hygiene. Please refer to surgical guideline for detailed contraindications.

⚠ **Important Warning**
This routine treatment is not recommended for children and teenagers until epiphyseal closure has occurred (growth has stopped). Treatment planning and placement of dental implants requires special considerations. Improper technique in either implant placement or restoration can result in implant failure and substantial loss of surrounding bone.

(1) The following should be evaluated before implantation surgery: sufficient bone quality and quantity, proper oral hygiene and other contraindications as mentioned previously.

(2) Inserting the implant into the osteotomy deeper than the depth established by the drills will have the consequence of stripping the driver interface inside the implant, the driver, or the walls of the osteotomy and may reduce initial implant fixation.

(3) It is not recommended to place small diameter implants (implants with platforms NP, B0, B1, P1) in the molar or premolar region due to risk of implant fracture. Highly angled abutments on small diameter implants are not recommended for use in the molar region.

(4) It is recommended to place smaller diameter implants (NP, B0, B1 and P1) in the maxillary lateral incisors and mandibular anterior zone.

(5) Physiological and anatomic conditions may negatively affect the performance of dental implants. When an implant or abutment is loaded excessively beyond its functional capability, bone loss, breakage of a dental implant or restoration malfunction may occur.

(6) Misuse of small unsecured components inside the mouth of the patient has the potential of being aspirated.

(7) If the irrigation is not flowing during the drilling process, discontinue immediately. Disregarding this can lead to necrosis of bone and failure of the implant to integrate.

(8) Re-using single use devices may damage the device or lead to contaminations.

(9) Allow the standard 12 week healing period for osseointegration to occur, immediately loading is not recommended. The clinician should closely monitor patients for any of the following conditions: peri-implantitis, peri-implant bone loss, changes to implant's response to percussion or radiographic changes in bone to implant contact along the implant's length. If the implant indicates mobility or greater than 50% bone loss, the implant should be evaluated for possible removal. If the clinician has chosen a short implant, the clinicians should consider a two-stage surgical approach, allow longer periods of osseointegration, splinting a short implant to an additional implant, and placement of the widest possible implant.

Sterile Packaging
All sterile products are labeled 'STERILE'. All implants are supplied "sterile". They are sterilized by gamma irradiation.

⚠ All products sold sterile are for single use only and should be used before the expiry date printed on the product label. Do not use sterile products if the packaging has been previously opened or broken. To use re-sterilized implants is forbidden.

Unsterile Packaging
Components and instruments which are not delivered sterile (e.g. abutments, instruments) are labeled 'NON STERILE'.

⚠ Before every use, all instrumentation products intended for intraoral application must be sterilized (Use ANSI/AAMI ST79 conform pre-vacuum steam sterilizers and pouches. Sterilization parameters: pre-vacuum steam sterilization at 132°C (270°F) with minimum
4 minutes exposure time. Allow a drying time of at least 20 min).

⚠ Precautions

These products or devices should only be used by trained and experienced professionals. The surgical and restorative techniques required to properly utilize these devices are highly specialized and complicated procedures. Improper technique can lead to implant failure, loss of supporting bone, restoration fracture, screw loosening and aspiration.

"RX only" indicated on the product means that Federal law restricts this device to sale by or on the order of a dentist.

The Biodenta Dental Implant System has not been evaluated for safety and compatibility in the MR environment and has not been tested for heating or migration in the MR environment.

⚠ Procedural Precautions of Surgery

All efforts must be made to minimize damage to the host tissue, paying special attention to thermal and surgical trauma and to the elimination of contaminants and sources of infection. Please refer to the surgical guideline for details of the procedural precautions.

(1) In the planning stage before surgery, it is important to determine the vertical dimension from the alveolar crest to the opposing dentition for the confirmation of the available space which will conform to the selected abutment and the final crown restoration. Each patient will have different dimensions and suitable abutments. Therefore, it should be carefully evaluated before surgery. The final prosthesis should be designed prior to the placement of the dental implant.

(2) Continuous use of irrigation with a cool, irrigating sterile saline to avoid thermal damage to the surrounding tissue during the entire procedure.

(3) Avoid excessive pressure during preparation of the bone site. Please check the recommended speed and torque of the contra angle handpiece for surgical tools in the surgical guideline. Minimizing trauma to the bone and surrounding tissue by using sharp instruments enhances the potential for successful osseointegration.

(4) All non-sterile devices should be cleaned and / or sterilized prior to use, to eliminate contaminants and other sources of infection.

(5) Cutting instruments (such as drills) are not recommended to be used more often than 10 times.

Procedural Precautions of Restoration

The healing period of each implant depends on bone quality at the implantation site, the tissue response to the implant and the surgeon's evaluation of the patient's bone density at the time of the surgical procedure. To avoid excessive force applied to the dental implant during the healing period, proper occlusion should be evaluated on the implant restoration.

The indication for all overdenture abutment restorations is the following recommendations. The maxilla will require a minimum of 4 implant placements and two implant placements in the mandible.

Potential unfavorable consequences

Potential unfavorable consequences associated with the use of dental implants may include: failure to integrate initially, dehiscence of bone, perforation of bone or oral soft tissue, infection symptoms (like inflammation, suppuration abscess, radiolucency, etc.), numbness, paresthesia, persistent pain, excessive bone loss, implant breakage or fracture, systemic infection, nerve injury, loss of integration eventually.

Guarantee

Biodenta declares the terms and conditions of guarantee on our home page: www.biodenta.com.

Disclaimer of liability

The Biodenta dental implant is part of an overall concept and may only be used in conjunction with the associated original components and instruments according to the instructions and recommendations of Biodenta Swiss AG. Use of products made by third parties in conjunction with the Biodenta dental implant system will void any warranty or other obligation, express or implied, of Biodenta Swiss AG.

Instrument Application Table

Surgical and Prosthetic Instruments		REF Number	TL	BL	TP	OPI
Tissue Punches	NP / BL 3.5	SI-A370E23P	●	●	●	
	BL 4.1	SI-B410E23P		●	●	
	RP / BL 4.8	SI-A480E23P	●	●	●	
	WP / BL 6.0	SI-A550E23P	●	●	●	
	OPI 3.25	SI-C300E23P				●
	OPI 4.0	SI-C370E23P				●
	OPI 5.0	SI-C480E23P				●
	OPI 5.6	SI-C550E23P				●
Round Bur	Ø 3.0	SI-A300E26R	●	●	●	●
Guide Drill	Ø 1.8	SI-A180E32U	●	●	●	●
Pilot Drills	TL / BL Ø 2.0	SI-A200E31D	●	●	●	
	OPI Ø 2.0	SI-C200E40D				●
Drills	TL / BL Ø 2.8	SI-A280E31D	●	●		
	TL / BL Ø 3.5	SI-A350E31D	●	●		
	TL / BL Ø 4.2	SI-A420E31D	●	●		
	Ø 2.0 Short	SI-A200E2SD	●	●	●	
	TP Ø 3.0 L 10	SI-P300E10D			●	
	TP Ø 3.0 L 12	SI-P300E12D			●	
	TP Ø 3.0 L 14	SI-P300E14D			●	
	TP Ø 3.5 L 6.5	SI-P350E65D			●	
	TP Ø 3.5 L 8	SI-P350E08D			●	
	TP Ø 3.5 L 10	SI-P350E10D			●	
	TP Ø 3.5 L 12	SI-P350E12D			●	
	TP Ø 3.5 L 14	SI-P350E14D			●	
	TP Ø 4.1 L 6.5	SI-P410E65D			●	
	TP Ø 4.1 L 8	SI-P410E08D			●	
	TP Ø 4.1 L 10	SI-P410E10D			●	
	TP Ø 4.1 L 12	SI-P410E12D			●	
	TP Ø 4.1 L 14	SI-P410E14D			●	
	TP Ø 4.8 L 6.5	SI-P480E65D			●	
	TP Ø 4.8 L 8	SI-P480E08D			●	
	TP Ø 4.8 L 10	SI-P480E10D			●	
	TP Ø 4.8 L 12	SI-P480E12D			●	
	TP Ø 4.8 L 14	SI-P480E14D			●	
	TP Ø 6.0 L 6.5	SI-P600E65D			●	
	TP Ø 6.0 L 8	SI-P600E08D			●	
	TP Ø 6.0 L 10	SI-P600E10D			●	
	TP Ø 6.0 L 12	SI-P600E12D			●	
	OPI Ø 2.7	SI-C270E40D				●
	OPI Ø 3.4	SI-C340E40D				●

Surgical and Prosthetic Instruments		REF Number	TL	BL	TP	OPI
	OPI Ø 4.4	SI-C440E40D				●
	OPI Ø 5.0	SI-C500E40D				●
Dense Bone Drills	TP Ø 3.0	SI-P300E00C			●	
	TP Ø 3.5	SI-P350E00C			●	
	TP Ø 4.1	SI-P410E00C			●	
	TP Ø 4.8	SI-P480E00C			●	
	TP Ø 6.0	SI-P600E00C			●	
Dense Bone Drills +	TP Ø 4.8	SI-P480E01C			●	
	TP Ø 6.0	SI-P600E01C			●	
Direction Indicator	Ø 2.0	SI-P200E20G	●	●	●	
Depth Gauges	Ø 2.0	SI-A200E24G	●	●	●	
	Ø 2.8	SI-A280E24G	●	●		
	Ø 3.5	SI-A350E24G	●	●		
	Ø 4.2	SI-A420E24G	●	●		
	Ø 2.0 / L 14	SI-C200E14G				●
	Ø 2.0 / L 22	SI-C200E22G				●
Profile Drills	3.5 NP / BL 3.5	SI-A350E29S	●	●		
	4.1 RP / BL 4.1	SI-A410E29S	●	●		
	4.8 RP / BL 4.8	SI-A480E29S	●	●		
	4.8 WP	SI-A550E29S	●			
	OPI 3.25	SI-C362E27C				●
	OPI 4.0	SI-C460E27C				●
	OPI 5.0	SI-C560E27C				●
	OPI 5.6	SI-C620E27C				●
Taps	TL / BL 3.5	SI-A350E30T	●	●		
	TL / BL 4.1	SI-A410E30T	●	●		
	TL / BL 4.8	SI-A480E30T	●	●		
Shaping Drills	OPI Ø 3.0	SI-C300E33S				●
	OPI Ø 3.8	SI-C380E33S				●
	OPI Ø 4.8	SI-C480E33S				●
	OPI Ø 5.4	SI-C540E33S				●
Drill Extension		SI-A350E25E	●	●	●	●
Tap Adaptor		SI-WATW00001	●	●	●	
Kirschner Bur		SI-C101E33K				●
Implant Drivers for Handpiece	Short	SI-IDHP21S01	●	●		
	Long	SI-IDHP26L01	●	●		
		SI-IDHP24N01				●
Implant Drivers for Torque Wrench	Short	SI-IDTW13S01	●	●		
	Long	SI-IDTW18L01	●	●		

Surgical and Prosthetic Instruments		REF Number	TL	BL	TP	OPI
Implant Drivers for Wrench / P1	Short	SI-IDW116S01				●
	Long	SI-IDW121L01				●
Implant Drivers for Wrench / P2	Short	SI-IDW211S01				●
	Long	SI-IDW216S01				●
	Extra Long	SI-IDW221L01				●
Implant Driver Extension for Wrench		SI-IDW016E01				●
Direct Implant Drivers	Short	SI-B300IIDS		●	●	
	Long	SI-B300IIDL		●	●	
	Short	SI-B350IIDS		●	●	
	Long	SI-B350IIDL		●	●	
	Short	SI-B180IIDS		●	●	
	Long	SI-B180IIDL		●	●	
Hex Drivers for Handpiece	Short	SI-HDHP23S01	●	●	●	
	Long	SI-HDHP28L01	●	●	●	
Hex Drivers for Torque Wrench	Short	SI-HDTW16S01	●	●	●	
	Long	SI-HDTW23L01	●	●	●	
	Extra Short	SI-HDTW14S01	●	●	●	
	Extra Long	SI-HDTW35L01	●	●	●	
Handle for Hex Drivers		SI-HLHD00001	●	●	●	
Holding Key		SI-A550999H	●	●		
Healing Abutment Box		SI-PHABOX			●	
Metal Tray		SI-PMTRAY	●	●	●	●
Metal Container		SI-PBGCONT	●	●	●	●
Plastic Mat		SI-PLASM	●	●	●	●
Depth Indicator Gauge		PI-P01		●	●	
Titanium Forceps		PI-P02	●	●	●	●
Torque Wrench	20 - 70 Ncm	AI-002	●	●	●	
Wrench		AI-003				●
X-ray Reference Sphere	Ø 5.0 mm	SI-001	●	●	●	●
X-ray Templates		SI-002	●			
		SI-B02		●		
		SI-P02			●	
		SI-C02				●
Guide Cylinders	3.5 B1	SI-B350S50C		●	●	
	4.1 B2	SI-B410S50C		●	●	
	4.8 B2	SI-B480S50C		●	●	
Reamer (incl. Guide Pins)		PI-RM4565001	●	●	●	
LOCATOR® Core Tool		PI-ADLA10001	●	●	●	
LOCATOR® Parallel Post		PI-PPLA08001	●	●	●	
LOCATOR® Angle Measurem. Guide		PI-MGLA15001	●	●	●	

Surgical and Prosthetic Instruments		REF Number	TL	BL	TP	OPI
Plan Set (with all Planning Abutm.)		PI-A001PBOX	●			
		PI-B001PBOX		●	●	
Swift Plan Set (with all Planning Abutm.)		PL-BS001PBOX		●	●	
Storage Box for Planning Abutm.		PI-A000PBOX	●			
		PL-BS000PBOX		●	●	
Abutment Depth Gauge		PI-B01		●	●	
LOCATOR® Abutment Drivers	Short	PI-IDLA15S01	●	●	●	
	Long	PI-IDLA21L01	●	●	●	
Solid and Swift Abutment Drivers	Short	PI-DRSA17S01	●	●	●	
	Long	PI-DRSA23L01	●	●	●	
Swift Abutment Drivers B1	Short	PI-DRSW17S01		●	●	
	Long	PI-DRSW23L01		●	●	
Multi-Use Straight Abutment Driver	Short	PI-DRMU17S01		●	●	
	Long	PI-DRMU23L01		●	●	
Ball Abutment Driver		PI-DRBB19001	●	●	●	
Abutment Removal Tools	B0	PI-B00		●	●	
	B1	PI-B10		●	●	
	B2	PI-B20		●	●	
Surgical Kit (without instr.)		SI-ABOX9991	●	●		
		SI-CBOX9991				●
Surgical Kit (instr. & wrench)		SI-ASKS0001	●	●		
		SI-CSKS0001				●
Surgical Box TP 01		SI-PBOX9991			●	
Surgical Kit TP 01 - Complete Kit		SI-PSKS0001			●	
Surgical Kit TP 01 - Basic Kit		SI-PSKS0002			●	
Storage Element		SI-ABOX0001	●	●	●	●
Prosthetic Kit (without instr.)		PI-PK0000001	●	●	●	
Prosthetic Kit (without wrench)		PI-PKSK00001	●	●	●	
Prosthetic Kit (instr. & wrench)		PI-PKSK00002	●	●	●	

TL: Tissue Level Implant Line

BL: Bone Level Implant Line

TP: Bone Level Tapered Implant Line

OPI: One Piece Implant Line

Healing Abutment Guide

Healing Abutment Guide

The following table demonstrates the best possible combinations between healing abutments and final abutments. We carefully harmonised the shape of the healing abutments to the shape of the final abutments. Healing abutments and final abutments fit exactly when the same diameter is chosen (show black dot). In that case there will be no compression on the gingiva. After measuring the gingiva height (use Biodenta abutment depth gauge), a choice should be made according to the table below.

Healing abutment should be selected according to the clinical outcome and the patient's gingiva height for LOCATOR®- or ball abutments you should choose a gingiva height which is higher as the patient's gingiva height.

Platform B0	Healing Abutment		
	D4 GH2	D4 GH4	D4 GH6
Straight Abutment			
D4 GH1	●	●	●
D4 GH2	●	●	●
Profile 15° Abutment			
D4 GH1	●	●	●
D4 GH2	●	●	●
LOCATOR® Abutment			
GH2	●		
GH4		●	
GH6			●
Ball Abutment			
GH2	●		
GH4		●	
GH6			●
Gold Abutment			
Healing abutment will be selected according to the clinical situation			
Bar Abutment			
Healing abutment will be selected according to the clinical situation			
Temporary Abutment			
Ideal for forming the emerged profile			

Platform B1	Healing Abutment						
	D4 GH2	D4 GH4	D4 GH5	D5 GH4	D5 GH5	D6 GH4	D6 GH5
Straight Abutment							
D4 GH1	●	●	●	○	○		
D4 GH2	●	●	●	○	○		
D4 GH4	●	●	●	○	○		
D5 GH1	○	○	○	●	●	○	○
D5 GH2	○	○	○	●	●	○	○
D5 GH4	○	○	○	●	●	○	○
D5 GH5	○	○	○	●	●	○	○
D6 GH2				○	○	●	●
D6 GH4				○	○	●	●
D6 GH5				○	○	●	●
Angled Abutment							
D4 GH1	●	●	●	○	○		
D4 GH2	●	●	●	○	○		
D4 GH4	●	●	●	○	○		
D5 GH1	○	○	○	●	●	○	○
D5 GH2	○	○	○	●	●	○	○
D5 GH4	○	○	○	●	●	○	○
D5 GH5	○	○	○	●	●	○	○
Swift Abutment							
D4 GH1/AH4.0	●	●	●	○	○		
D4 GH2/AH4.0	●	●	●	○	○		
D4 GH4/AH4.0	●	●	●	○	○		
D4 GH1/AH5.5	●	●	●	○	○		
D4 GH2/AH5.5	●	●	●	○	○		
D4 GH4/AH5.5	●	●	●	○	○		
D4 GH1/AH7.0	●	●	●	○	○		
D4 GH2/AH7.0	●	●	●	○	○		
D4 GH4/AH7.0	●	●	●	○	○		
LOCATOR® Abutment							
GH2	●						
GH4		●					
GH6			●				
Ball Abutment							
GH2	●						
GH4		●					
GH6			●				
Gold Abutment							
Healing abutment will be selected according to the clinical situation							
Bar Abutment							
Healing abutment will be selected according to the clinical situation							
Temporary Abutment							
Ideal for forming the emerged profile							

Platform B2	Healing Abutment								
	D4 GH2	D4 GH4	D4 GH5	D5 GH4	D5 GH5	D6 GH4	D6 GH5	D7 GH4	D7 GH5
Straight Abutment									
D4 GH1	●	●	●	○	○				
D4 GH2	●	●	●	○	○				
D4 GH4	●	●	●	○	○				
D5 GH1	○	○	○	●	●	○	○		
D5 GH2	○	○	○	●	●	○	○		
D5 GH4	○	○	○	●	●	○	○		
D5 GH5	○	○	○	●	●	○	○		
D6 GH2				○	○	●	●	○	○
D6 GH4				○	○	●	●	○	○
D6 GH5				○	○	●	●	○	○
Angled Abutment									
D4 GH1	●	●	●	○	○				
D4 GH2	●	●	●	○	○				
D4 GH4	●	●	●	○	○				
D5 GH1	○	○	○	●	●	○	○		
D5 GH2	○	○	○	●	●	○	○		
D5 GH4	○	○	○	●	●	○	○		
D5 GH5	○	○	○	●	●	○	○		
Swift Abutment									
D5 GH1/AH4.0	○	○	○	●	●	○	○		
D5 GH2/AH4.0	○	○	○	●	●	○	○		
D5 GH4/AH4.0	○	○	○	●	●	○	○		
D5 GH1/AH5.5	○	○	○	●	●	○	○		
D5 GH2/AH5.5	○	○	○	●	●	○	○		
D5 GH4/AH5.5	○	○	○	●	●	○	○		
D5 GH1/AH7.0	○	○	○	●	●	○	○		
D5 GH2/AH7.0	○	○	○	●	●	○	○	○	○
D5 GH4/AH7.0	○	○	○	●	●	○	○	○	○
D6 GH1/AH4.0				○	○	●	●	○	○
D6 GH2/AH4.0				○	○	●	●	○	○
D6 GH4/AH4.0				○	○	●	●	○	○
D6 GH1/AH5.5				○	○	●	●	○	○
D6 GH2/AH5.5				○	○	●	●	○	○
D6 GH4/AH5.5				○	○	●	●	○	○
LOCATOR® Abutment									
GH2	●								
GH4		●							
GH6			●						

Ball Abutment									
GH2	●								
GH4		●							
GH6			●						

Gold Abutment
Healing abutment will be selected according to the clinical situation

Bar Abutment
Healing abutment will be selected according to the clinical situation

Temporary Abutment
Ideal for forming the emerged profile

● Healing abutments and final abutments have the same diameter

● Healing abutments and final abutments have the same diameter but GH differs more than 3mm

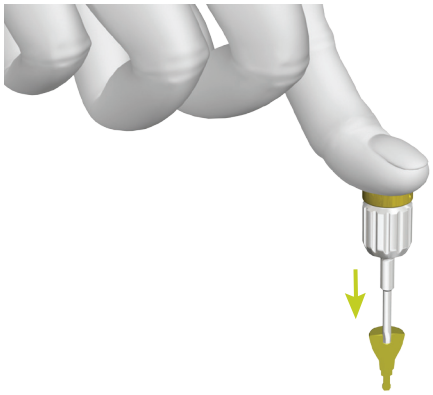
○ Healing abutments and final abutments differ 1 mm

Torque Guide

The following table shows which torque should be applied to related procedures.

Procedure	Torque
Inserting implants with B0 platform	max. 35 Ncm
Inserting implants with NP or B1 platform	max. 50 Ncm
Inserting implants with RP, WP or B2 platform	max. 70 Ncm
Connecting healing cap / abutment or closure screw with the implant	Hand Force
Connecting temporary abutments with the implant	20 Ncm
Connecting B0 profile 15° / straight / ball / LOCATOR® abutments with the implant	20 Ncm
Connecting B1 and B2 angled / straight / solid / gold / ball / LOCATOR® / swift / multi-use / hybrid sleeve / bar abutments with the implant	35 Ncm
Connecting bridge screw with multi-use abutment	20 Ncm
Connecting prosthetic screw with hybrid sleeve	20 Ncm

⚠ Please ensure the hex driver is fully engaged into the head of the prosthetic screw.



⚠ If it is necessary to reverse a torque tightened abutment screw, we suggest to **replace the abutment screw** once the torque is reversed, in order to maintain the full torque capacity of the abutment screw.

Screw Guide

BL **TP**

Bone Level & Bone Level Tapered Abutment Screws		REF	Platform	Abutmemt	Straight	Profile B0	Angled	Angled
				Angulation	0°	15°	15°	15°
				Type	GH1 - 5	GH1-2	GH1	GH2 - 5
				Application				
Abutment Screw - Straight & Angled		SC-B3023M0A	B0	Straight abutment, B0 15° Profile abutment, GH2, Temporary abutment crown / bridge	●	●		
		SC-B3023M1A	B1	Straight abutment , Angled abutment GH2/4/5, Temporary abutment crown / bridge, Gold abutment crown / bridge, Bar abutment Ti / Gold alloy	●			●
		SC-B3023M2A	B2	Straight abutment , Angled abutment GH2/4/5, Temporary abutment crown / bridge, Gold abutment crown / bridge, Bar abutment Ti / Gold alloy	●			●
Abutment Screw - Angled GH1		SC-B3023M1B	B1	Angled abutment, GH1			●	
		SC-B3023M2B	B2	Angled abutment, GH1			●	
Abutment Screw - MUA		SC-B1MUASCW	B1	MUA abutment				
		SC-B2MUASCW	B2	MUA abutment				
Abutment Screw - PEEK		SC-B3023M1P	B1	Peek abutment				
		SC-B3023M2P	B2	Peek abutment				
Bridge Screw MUA		SC-BMUABSCW	B1 B2	MUA Full Burnout Cylinders, MUA Semi Burnout Cylinders, MUA Temporary Cylinders, MUA Protective Cap				
Prosthetic Screw for Sleeve Kits		incl. in Kit	B1 B2	Sleeve Kit				

Temporary	Gold	Bar	PEEK	PEEK	MUA	MUA Cylinder	MUA Protective Cap	Sleeve Kit
0°	0°	0°	0°	0°	18° & 30°	0°	0°	0°
Crown & Bridge	Crown & Bridge	Ti & Gold Alloy	D 4.0	D6.5	Hexed & Non-Hexed	"Burnout & Temp."		
								
●								
●	●	●						
●	●	●						
					●			
					●			
			●	●				
			●	●				
						●	●	
								●

TL

Tissue Level Abutment Screws		REF	Platform	Abutmemt	Straight	Angled	Angled	Temporary	Gold	Bar
				Angulation	0°	15°	20°	0°	0°	0°
				Type	H 4.5 - 5.5	H 5.7	H 5.7	Crown & Bridge	Crown & Bridge	Ti & Gold Alloy
				Application						
Abutment Screw - Straight		SC-A3023M1A	NP	Straight abutment, Temporary abutment crown / bridge	●			●		
Abutment Screw - Angled		SC-A1818M1M	NP	Angled abutment 15°/ 20°		●	●			
Abutment Screw - Straight		SC-A3023M2A	RP	Straight abutment, Temporary abutment crown / bridge, Gold abutment crown / bridge, Bar abutment Ti / gold alloy	●			●	●	●
			WP	Straight abutment, Temporary abutment crown / bridge, Gold abutment crown / bridge	●			●	●	
Abutment Screw - Angled		SC-A1822M2M	RP	Angled abutment 15°/ 20°		●	●			
			WP	Angled abutment 15°		●				

Material Declaration

Implant

Item	Material	Sterilization Disinfection	Disassembly	Reusability	Intraoral Application
Dental Implants	Pure Titanium	Delivered Sterile	NO	NO	YES

Surgical Instruments

Item	Material	Sterilization Disinfection	Disassembly	Reusability	Intraoral Application
Tissue Punches	Stainless Steel	Sterilization	NO	YES	YES
Round Bur	Stainless Steel	Sterilization	NO	YES	YES
Guide Drill	Stainless Steel	Sterilization	NO	YES	YES
Pilot Drill	Stainless Steel	Sterilization	NO	YES	YES
Drills	Stainless Steel	Sterilization	NO	YES	YES
Dense Bone Drills	Stainless Steel	Sterilization	NO	YES	YES
Dense Bone Drills+	Stainless Steel	Sterilization	NO	YES	YES
Drill Extension	Stainless Steel	Sterilization	NO	YES	YES
Depth Gauges	Titanium Alloy	Sterilization	NO	YES	YES
Profile Drills	Stainless Steel	Sterilization	NO	YES	YES
Taps	Stainless Steel	Sterilization	NO	YES	YES
Holding Key	Stainless Steel	Sterilization	NO	YES	YES
Surgical Kit 01 Box	Plastics	Sterilization	YES	YES	NO
Metal Container	Stainless Steel	Sterilization	NO	YES	NO
Removable Box	Plastics	Sterilization	NO	YES	NO
Metal Tray	Stainless Steel	Sterilization	NO	YES	NO
Torque Wrench 20 - 70 Ncm	Stainless Steel	Sterilization	YES	YES	YES
Hex Drivers for Wrench	Stainless Steel	Sterilization	NO	YES	YES
Handle for Hex Drivers	Stainless Steel	Sterilization	NO	YES	YES
Hex Drivers for Handpiece	Stainless Steel	Sterilization	NO	YES	YES
Implant Drivers for Handpiece	Stainless Steel	Sterilization	NO	YES	YES
Implant Drivers for Wrench	Stainless Steel	Sterilization	NO	YES	YES
Tap Adaptor for Wrench	Stainless Steel	Sterilization	NO	YES	YES
X-ray Reference Sphere	Stainless Steel	Sterilization	NO	YES	YES
Healing Abutment Box	Plastic	Sterilization	YES	YES	NO
Plastic Mat	Plastic	Sterilization	NO	YES	NO
Depth Indicator Gauge	Titanium Alloy	Sterilization	NO	YES	YES
Titanium Forceps	Titanium	Sterilization	NO	YES	YES

Closure Screws & Healing Abutments

Item	Material	Sterilization Disinfection	Disassembly	Reusability	Intraoral Application
Closure Screws	Titanium Alloy	Sterilization	NO	NO	YES
Healing Abutments	Titanium Alloy	Sterilization	NO	NO	YES

Abutments

Item	Material	Sterilization Disinfection	Disassembly	Reusability	Intraoral Application
Bar Abutments	Titanium Alloy	Sterilization	NO	NO	YES
Bar Abutments	Gold Alloy	Sterilization	NO	NO	YES
Bar Abutment Holder	Stainless Steel	Sterilization	NO	NO	NO
Straight Abutments	Titanium Alloy	Sterilization	NO	NO	YES
Angled Abutments	Titanium Alloy	Sterilization	NO	NO	YES
Abutment Screws	Titanium Alloy	Sterilization	NO	NO	YES
Temporary Abutments	Titanium Alloy	Sterilization	NO	NO	YES
Temporary PEEK Abutments	Plastics	Sterilization	NO	NO	YES
Swift Abutments	Titanium Alloy	Sterilization	NO	NO	YES
Multi-Use Abutments	Titanium Alloy	Sterilization	NO	NO	YES
Hybrid Sleeve	Titanium Alloy	Sterilization	NO	NO	YES
Multi-Use Temporary Cylinder	Titanium Alloy	Sterilization	NO	NO	YES
Protective Caps for Swift Abutments	Plastics	Disinfection	NO	NO	YES
Protective Caps for Multi-Use	Titanium Alloy	Sterilization	NO	NO	YES
Protection Cap for Sleeve	Titanium Alloy	Sterilization	NO	NO	YES
Burnout Plastic Copings for Swift Abutments	Plastics	NO	NO	NO	NO
Multi-Use Full Burnout Cylinder	Plastics	NO	NO	NO	NO
Multi-Use Bridge Screw	Titanium Alloy	Sterilization	NO	NO	YES
Prosthetic Screw for Hybrid Sleeve	Titanium Alloy	Sterilization	NO	NO	YES

Gold Abutments

Item	Material	Sterilization Disinfection	Disassembly	Reusability	Intraoral Application
Gold Abutments	Ceramicor®	Sterilization	NO	NO	YES
Sheath	Plastics	NO	NO	NO	NO
Multi-Use Semi Burnout Cylinder	Ceramicor	Sterilization	NO	NO	YES

Transfer Parts

Item	Material	Sterilization Disinfection	Disassembly	Reusability	Intraoral Application
Screw Type Impression Posts	Titanium Alloy	Disinfection	NO	NO	YES
Impression Cap for Swift Abutments	Plastics	Disinfection	NO	NO	YES
Multi-Use Impression Post	Titanium Alloy	Disinfection	NO	NO	YES
One Piece Hybrid Interface / Impression Post	Titanium Alloy	Disinfection	NO	NO	YES
Guide Pins	Stainless Steel	Disinfection	NO	NO	YES
Implant Analogs	Titanium Alloy	NO	NO	NO	NO
Implant Analogs for Swift Abutments	Titanium Alloy	NO	NO	NO	NO
Multi-Use Analog	Titanium Alloy	NO	NO	NO	NO
Analog for Sleeve	Titanium Alloy	NO	NO	NO	NO

LOCATOR® - and Ball Abutments

Item	Material	Sterilization Disinfection	Disassembly	Reusability	Intraoral Application
LOCATOR® Abutments	Titanium Alloy	Sterilization	NO	NO	YES
LOCATOR® Processing Cap	Stainless Steel	Sterilization	NO	NO	YES
LOCATOR® Replacement Males	Plastics	Disinfection	NO	NO	YES
LOCATOR® Block Out Spacer	Plastics	NO	NO	NO	NO
LOCATOR® Female Analog	Aluminum	NO	NO	NO	NO

Item	Material	Sterilization Disinfection	Disassembly	Reusability	Intraoral Application
LOCATOR® Female Analog	Aluminum	NO	NO	NO	NO
LOCATOR® Impression Coping	Aluminum	Disinfection	NO	NO	YES
Ball Abutments	Titanium Alloy	Sterilization	NO	NO	YES
Ball Abutment Analog	Titanium Alloy	NO	NO	NO	NO
Metal Housing for Ball Abutments	Elitor® - Metal Alloy	Disinfection	NO	NO	YES

Prosthetic Instruments

Item	Material	Sterilization Disinfection	Disassembly	Reusability	Intraoral Application
Prosthetic Kit Box	Plastics	Sterilization	NO	YES	NO
LOCATOR® Abutment Driver	Stainless Steel	Sterilization	NO	YES	YES
Ball Abutment Driver	Stainless Steel	Sterilization	NO	YES	YES
LOCATOR® Core Tool	Stainless Steel	Sterilization	YES	YES	NO
LOCATOR® Parallel Post	Plastics	Sterilization	NO	YES	NO
LOCATOR® Angle Measurement Guide	Stainless Steel	Sterilization	NO	YES	NO
Abutment Depth Gauge BL1	Titanium Alloy	Sterilization	NO	YES	YES
Solid and Swift Abutment Drivers	Stainless Steel	Sterilization	NO	YES	YES
Multi-Use Straight Abutment Drivers	Stainless Steel	Sterilization	NO	YES	YES
Reamer (incl. Guide Pin)	Special Steel	NO	YES	YES	NO

Planning Abutments

Item	Material	Sterilization Disinfection	Disassembly	Reusability	Intraoral Application
Planning Abutment / Straight	Plastics	YES	NO	YES	YES
Planning Abutment / Angled	Plastics	YES	NO	YES	YES
Planning Abutment / Swift	Plastics	YES	NO	YES	YES
Storage Box for Planning Abutments	Plastics	NO	NO	YES	NO

Material Information

Pure Titanium

The properties of pure grade 4 titanium for Biodenta implants

a) Chemical Composition (wt%):

	C	O	N	H	Fe	Ti
Max.	0.10	0.40	0.05	0.0125	0.50	Balance

b) Mechanical Properties:

	Elongation (A)	Tensile Strength (Rm)	Yield Strength (Rp)	Reduction of Area (Z)
Unit	%	Mpa	Mpa	%
Min.	15	550	483	25

c) Technical Information:
Grade 4 titanium conforms to ASTM F67-06 Grade 4 & ISO 5832-2:1999

Titanium Alloy

The properties of wrought titanium 6-Al 4-V alloy for biodenta abutments, abutment screws, closure screws, healing abutments and depth gauges.

a) Chemical Composition (%):

	Al	V	C	O	N	H	Ir	Ti
Max.	5.5 to 6.5	3.5 to 4.5	0.08	0.13	0.05	0.012	0.25	Balance

b) Mechanical Properties:

	Tensile Strength (Rm)	Proof stress of nonproportional elongation (Rp)	Percentage elongation after fracture (A)	Mandrel diameter for bend test
Unit	Mpa	Mpa	Min.	
Sheet and Strip	860	795	10	10 t[1)]
Bar[2)]	860	795	10	Not applicable

1) t = thickness of the sheet or strip
2) Maximum diameter or thickness = 44.45 mm

c) Technical Information:
Wrought titanium 6-Al 4-V alloy conforms to ISO 5832-3:1996 and ASTM F136-11

Material Data Sheet for Ceramicor®

1. Composition		
Pt group - metals +	Au	100.00 %
	Au	60.00 %
	Pd	20.00 %
	Pt	19.00 %
	Ir	1.00 %

2. Physical Properties	
Melting range	1400 - 1490°C
Density	17.5 g/cm^{3}12.2X10^{-6}/K
Young's Modulus	136 GPa
Linear Coeff. of thermal expansion (25 - 500°C)	11.9 x10^{-6}K^{-1}
Linear Coeff. of thermal expansion (25 - 600°C)	12.2 x10^{-6}K^{-1}
Color	white

3. Mechanical Properties	**cold worked**
Condition	15 - 75 %KV
Hardness HV5	> 215 Mpa
Tensile Strength (Rm)	> 750 Mpa
0.2 % Proof stress (Rp 0.2 %)	> 650 Mpa
Elongation	> 2 %

Symbols

Lot number

Article reference number

Do not reuse

Use before expiry date

Sterilized by gamma irradiation

Manufacturer

Refer to instructions for use

Not for intraoral application

Rx only U.S. Federal Law restricts this device to sale by or on the order of a licensed dentist or physician

Non sterile. This product is not sterilized

Attention! Important warning

Implant surface. Indicates which implant surface is applied

CE 0197

Unit : millimeters
Ø : Diameter
L : Length
GH : Gingiva Height

Notes

Biodenta Swiss AG products should only be used according to the manufacturer instructions and recommendations. The user of Biodenta products should determine their suitability for particular patients and indications. Biodenta disclaim any liability, expressed or implied and shall have no responsibility for any direct, indirect, punitive or other damages arising out of, or in connection with, any inaccuracy in professional judgment or practice in the use or placement of the Biodenta products. The user is also obligated to regularly study the latest developments of the Biodenta Dental Implant System and their applications .

biodenta®
we're all about teeth

+swiss design

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