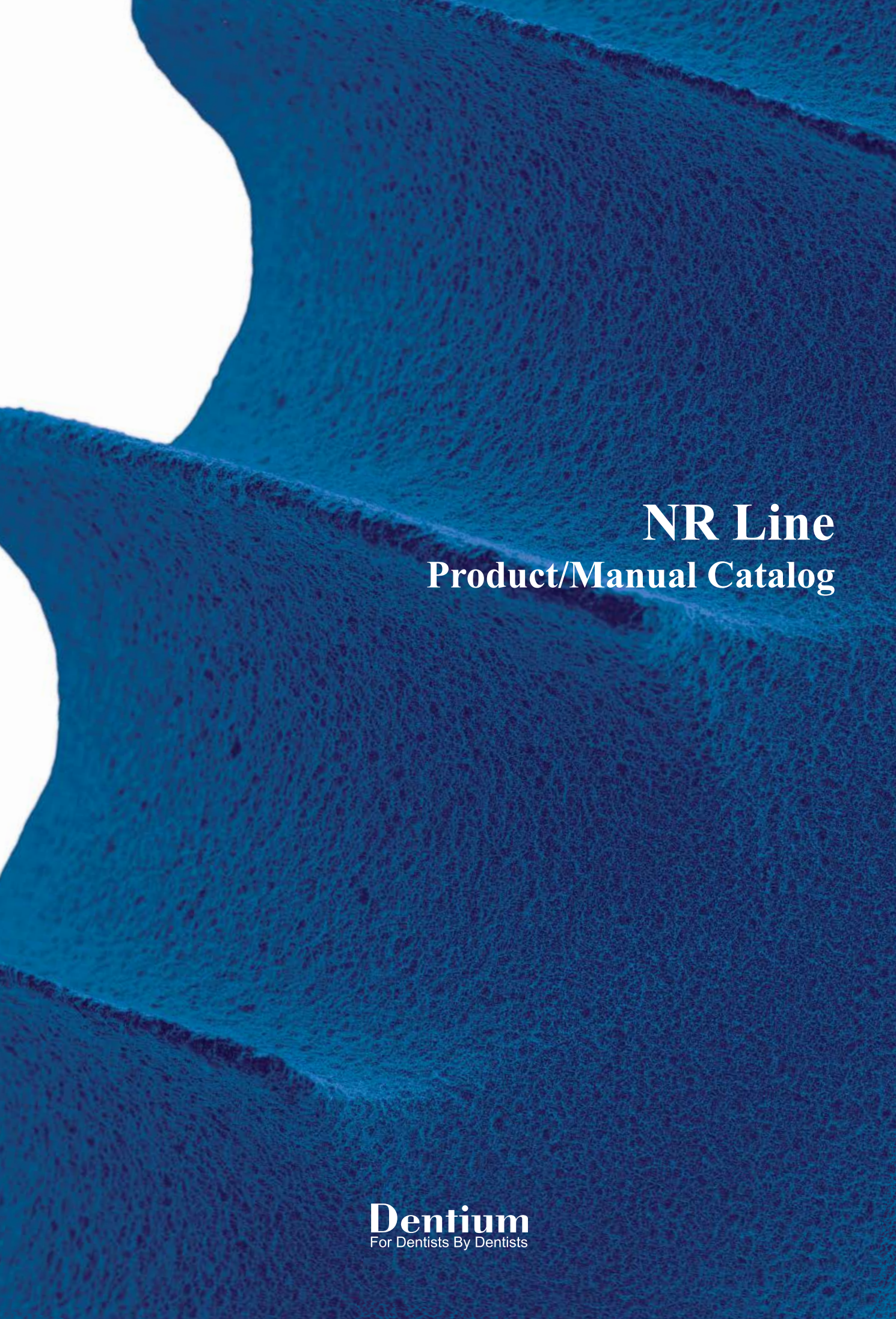


NR Line
Product/Manual Catalog

Dentium
For Dentists By Dentists

NR Line

A New Choice

For the Customer

Contents

S.L.A. Surface

S.L.A. (Sandblasting with Large grit and Acid etching)

· Higher bone-to-implant contact

· Faster bone formation on the surface

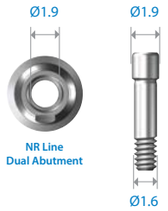
In vivo test

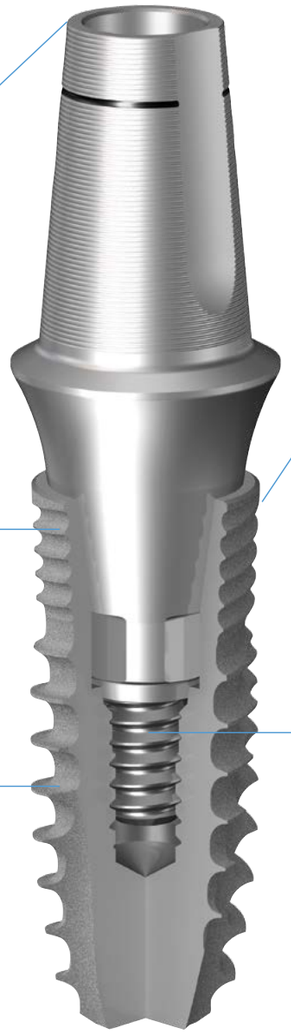
NR Line

NR Line Characteristics

Abutment Screw

• Ø1.9 hole size for abutment screw.





Narrow but Strong

• Body Ø3.1 fixture for narrow ridges
• High occlusal stress tolerance

Simplified GBR procedure

• Easy application combined with simplified GBR procedure on narrow ridge

Firm & Stable Connection

(Internal 10° conical, square shaped connection)

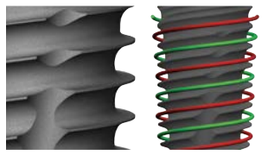
• Reduce the tendency of screw and abutment fracture

• Stable connection with 10 degree taper and square design

Double-threaded Design

• Sharpened thread design promotes better initial stability in soft bone

• Easy & fast insertion can be done due to double threaded straight body design

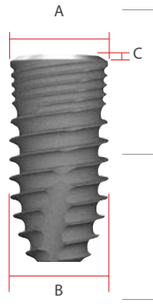


NR Line Color Coding by Diameter

Color Coding by Diameter

· Cover screw is not included in the package.

Unit: mm

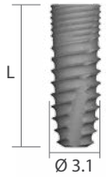
Cap Color		 Yellow	 Yellow	 Green	 Blue
Fixture NR Line (Mount Free)					
	**A** Platform Diameter	3.2	3.6	3.6	4.3
	B Body Diameter	3.1	3.1	3.6	4.3
	C L: 7B Bevel Height		2.0	2.0	2.0
	C L: 7, 9, 11, 13 Bevel Height	0.03	1.0	0.05	0.25
Selection Guideline		Anterior	Anterior	Premolar	Molar

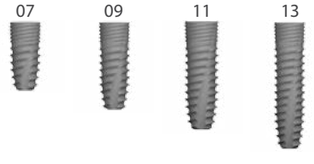
NR Line Fixture

Unit: mm, Scale 1 : 1.5

Body Ø 3.1 | Platform Ø 3.2

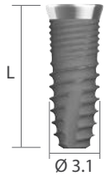
L	Art. No.
7	GFX 30 **07 S**
9	GFX 30 **09 S**
11	GFX 30 **11 S**
13	GFX 30 **13 S**

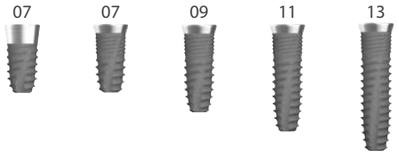




Body Ø 3.1 | Platform Ø 3.6

L	Art. No.
7	GFX 30 **07 B**
7	GFX 30 **07**
9	GFX 30 **09**
11	GFX 30 **11**
13	GFX 30 **13**





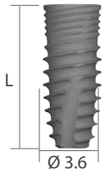
※ Note: To prevent damage to the Implant driver or fixture, do not over torque during fixture insertion

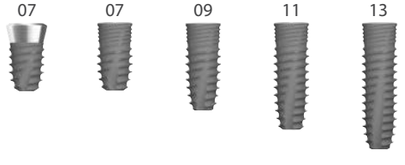
NR Line Fixture

Unit: mm, Scale 1 : 1.5

Body Ø 3.6 | Platform Ø 3.6

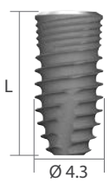
L	Art. No.
7	GFX 36 **07 BS**
7	GFX 36 **07 S**
9	GFX 36 **09 S**
11	GFX 36 **11 S**
13	GFX 36 **13 S**

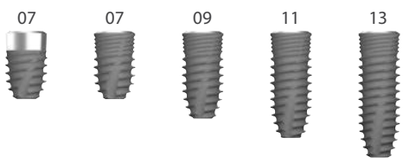




Body Ø 4.3 | Platform Ø 4.3

L	Art. No.
7	GFX 43 **07 BS**
7	GFX 43 **07 S**
9	GFX 43 **09 S**
11	GFX 43 **11 S**
13	GFX 43 **13 S**

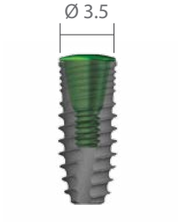




※ Note: To prevent damage to the Implant driver or fixture, do not over torque during fixture insertion

Cover Screw

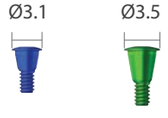
Unit: mm, Scale 1 : 1.5



GCS36 and **GFX3609S**

Cover Screw

Application (Body Ø)	Art. No.
Ø3.1S	GCS 30
Ø3.1 / Ø3.6S / Ø4.3S	GCS 36

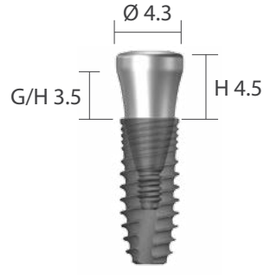


※ Square driver: Use no more than 5N·cm torque when screwing a cover screw to a fixture
If square is worn, slot on the head of the product can be used to rotate it

Healing Abutment

• Single use only

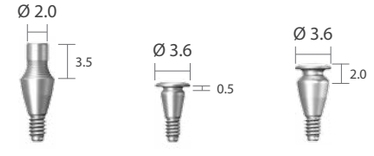
Unit: mm, Scale 1 : 1.5



GHAB433545 and **GFX3609S**

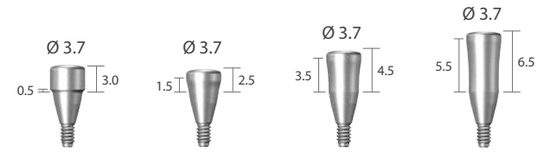
Diameter Ø 3.1 / Ø 3.6

G/H	Art. No.
3.5	GBHA 31 **35**
0.5	GBHA 36 **05**
2.0	GBHA 36 **20**



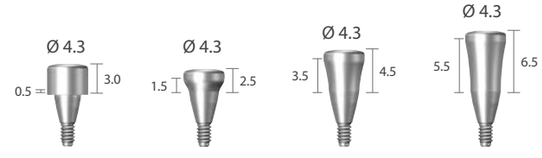
Diameter Ø 3.7

G/H	H	Art. No.
0.5	3.0	GHAB 37 **05** 30
1.5	2.5	GHAB 37 **15** 25
3.5	4.5	GHAB 37 **35** 45
5.5	6.5	GHAB 37 **55** 65



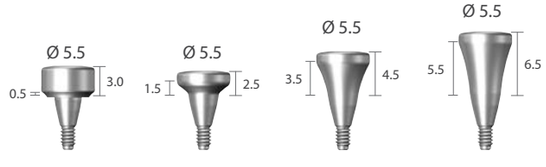
Diameter Ø 4.3

G/H	H	Art. No.
0.5	3.0	GHAB 43 **05** 30
1.5	2.5	GHAB 43 **15** 25
3.5	4.5	GHAB 43 **35** 45
5.5	6.5	GHAB 43 **55** 65



Diameter Ø 5.5

G/H	H	Art. No.
0.5	3.0	GHAB 55 **05** 30
1.5	2.5	GHAB 55 **15** 25
3.5	4.5	GHAB 55 **35** 45
5.5	6.5	GHAB 55 **55** 65



※ Square driver: Use no more than 5N·cm torque when screwing a cover screw to a fixture
If square is worn, slot on the head of the product can be used to rotate it

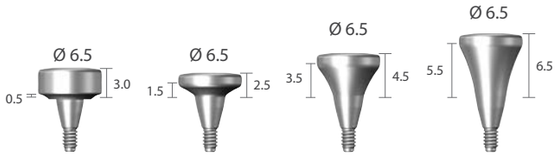
Healing Abutment

• Single use only

Unit: mm, Scale 1 : 1.5

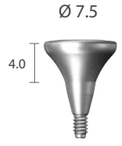
Diameter Ø 6.5

G/H	H	Art. No.
0.5	3.0	GHAB 65 **05** 30
1.5	2.5	GHAB 65 **15** 25
3.5	4.5	GHAB 65 **35** 45
5.5	6.5	GHAB 65 **55** 65



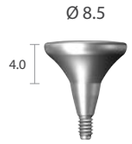
Diameter Ø 7.5

G/H	H	Art. No.
4.0	4.0	GHAB 75 **40** 40



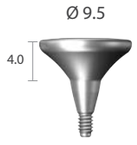
Diameter Ø 8.5

G/H	H	Art. No.
4.0	4.0	GHAB 85 **40** 40



Diameter Ø 9.5

G/H	H	Art. No.
4.0	4.0	GHAB 95 **40** 40



※ Square driver: Use no more than 5N·cm torque when screwing a cover screw to a fixture
If square is wide, slot on the head of the product can be used to rotate it

Prosthetic Procedure 1

Impression Technique and Restoration Selection

Dual Abutment

Abutment Level Impression

Closed Tray Technique

Dual Abutment
Square / Round
Ø3.7 / Ø4.3 / Ø5.5 / Ø6.5
Page **14, 15, 16, 17**

Impression Coping
(Burn-Out Cylinder, Comfort Cap, Abutment Holder)
Ø3.7 / Ø4.3 / Ø5.5 / Ø6.5
Page **18**

Comfort Cap
Ø3.7 / Ø4.3 / Ø5.5 / Ø6.5
Page **18**

Analog
Ø3.7 / Ø4.3 / Ø5.5 / Ø6.5
Page **18**

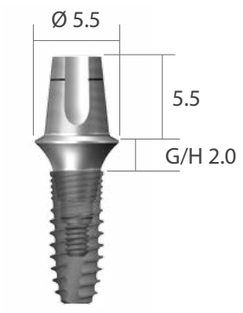
Modification

Cemented Restoration

Dual Abutment [Square]

• Abutment screw is included

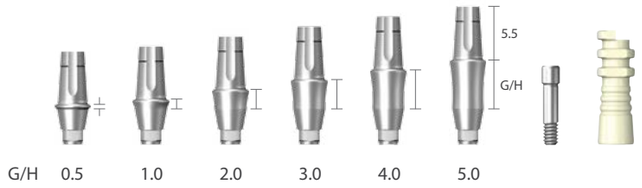
Unit: mm, Scale 1 : 1.5



GDAB5520AS and GFX3609S

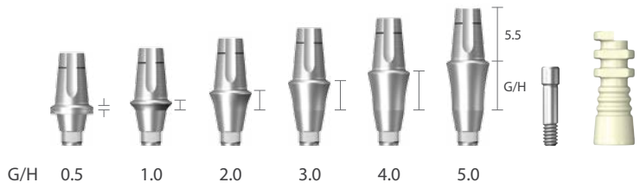
Diameter Ø3.7 | Square

G/H	Art. No.
0.5	GDAB 37 **05 AS(H)**
1.0	GDAB 37 **10 AS(H)**
2.0	GDAB 37 **20 AS(H)**
3.0	GDAB 37 **30 AS(H)**
4.0	GDAB 37 **40 AS(H)**
5.0	GDAB 37 **50 AS(H)**



Diameter Ø4.3 | Square

G/H	Art. No.
0.5	GDAB 43 **05 BAS(H)**
1.0	GDAB 43 **10 AS(H)**
2.0	GDAB 43 **20 AS(H)**
3.0	GDAB 43 **30 AS(H)**
4.0	GDAB 43 **40 AS(H)**
5.0	GDAB 43 **50 AS(H)**



※Note: It is recommended to keep the torque level at 20 N·cm to tighten the dual abutment with fixture

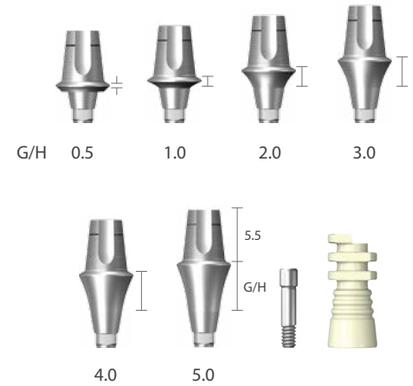
Dual Abutment [Square]

• Abutment screw is included

Unit: mm, Scale 1 : 1.5

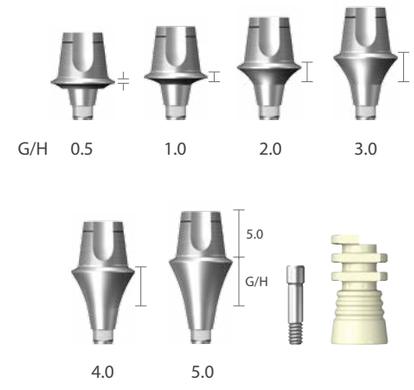
Diameter Ø5.5 | Square

G/H	Art. No.
0.5	GDAB 55 **05 BAS(H)**
1.0	GDAB 55 **10 AS(H)**
2.0	GDAB 55 **20 AS(H)**
3.0	GDAB 55 **30 AS(H)**
4.0	GDAB 55 **40 AS(H)**
5.0	GDAB 55 **50 AS(H)**



Diameter Ø6.5 | Square

G/H	Art. No.
0.5	GDAB 65 **05 BAS(H)**
1.0	GDAB 65 **10 AS(H)**
2.0	GDAB 65 **20 AS(H)**
3.0	GDAB 65 **30 AS(H)**
4.0	GDAB 65 **40 AS(H)**
5.0	GDAB 65 **50 AS(H)**

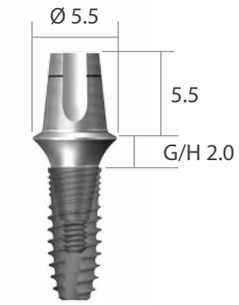


※Note: It is recommended to keep the torque level at 20 N·cm to tighten the dual abutment with fixture

Dual Abutment [Round]

• Abutment screw is included

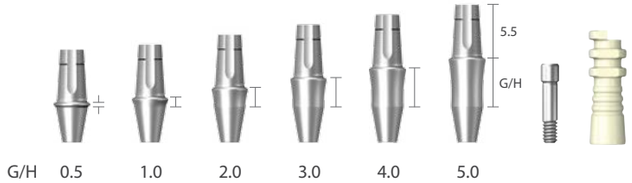
Unit: mm, Scale 1 : 1.5



GDAB5220AR and GFX3609S

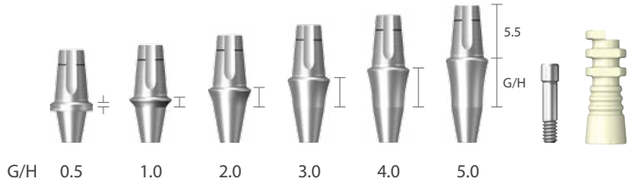
Diameter Ø3.7 | Round

G/H	Art. No.
0.5	GDAB 37 **05 AR(H)**
1.0	GDAB 37 **10 AR(H)**
2.0	GDAB 37 **20 AR(H)**
3.0	GDAB 37 **30 AR(H)**
4.0	GDAB 37 **40 AR(H)**
5.0	GDAB 37 **50 AR(H)**



Diameter Ø4.3 | Round

G/H	Art. No.
0.5	GDAB 43 **05 BAR(H)**
1.0	GDAB 43 **10 AR(H)**
2.0	GDAB 43 **20 AR(H)**
3.0	GDAB 43 **30 AR(H)**
4.0	GDAB 43 **40 AR(H)**
5.0	GDAB 43 **50 AR(H)**



※ Note: It is recommended to keep the torque level at 20 N·cm to tighten the dual abutment with fixture

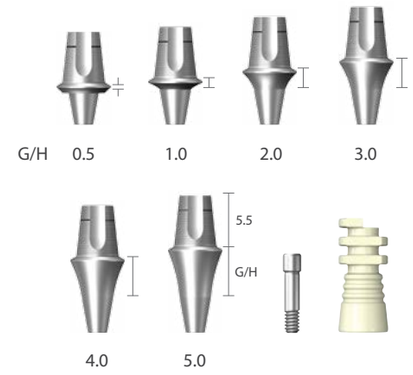
Dual Abutment [Round]

• Abutment screw is included

Unit: mm, Scale 1 : 1.5

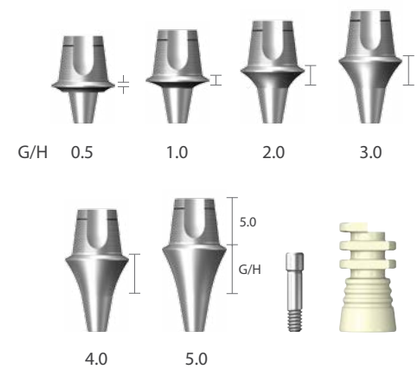
Diameter Ø5.5 | Round

G/H	Art. No.
0.5	GDAB 55 **05 BAR(H)**
1.0	GDAB 55 **10 AR(H)**
2.0	GDAB 55 **20 AR(H)**
3.0	GDAB 55 **30 AR(H)**
4.0	GDAB 55 **40 AR(H)**
5.0	GDAB 55 **50 AR(H)**



Diameter Ø6.5 | Round

G/H	Art. No.
0.5	GDAB 65 **05 BAR(H)**
1.0	GDAB 65 **10 AR(H)**
2.0	GDAB 65 **20 AR(H)**
3.0	GDAB 65 **30 AR(H)**
4.0	GDAB 65 **40 AR(H)**
5.0	GDAB 65 **50 AR(H)**



※ Note: It is recommended to keep the torque level at 20 N·cm to tighten the dual abutment with fixture

Abutment Level Impression Components

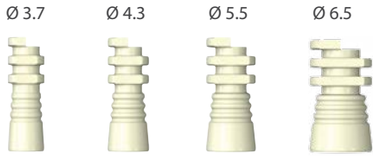
Unit: mm, Scale 1 : 1.5

Comfort Cap

Diameter	Art. No.
Ø3.7	GCC **37**
Ø4.3	GCC **43**
Ø5.5	GCC **55**
Ø6.5	GCC **65**

Impression Coping

Diameter	Art. No.
Ø3.7	GADH **37**
Ø4.3	GADH **43**
Ø5.5	GADH **55**
Ø6.5	GADH **65**



Analog

Diameter	Art. No.
Ø3.7	GCAN **37**
Ø4.3	GCAN **43**
Ø5.5	GCAN **55**
Ø6.5	GCAN **65**

Prosthetic Procedure 2

Impression Technique and Restoration Selection

Dual / Dual Milling / Angled / Metal-Casting / Temporary Abutment

Fixture Level Impression

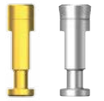
Open Tray Technique
(Complication case)

Closed Tray Technique
(Simple case)

Impression Coping Pick-up
Square / Round
Ø3.7 / Ø4.3 / Ø5.5 / Ø6.5
Page **20, 21**

Impression Coping Transfer
Square / Round
Ø3.7 / Ø4.3 / Ø5.5 / Ø6.5
Page **22, 23**

Analog
Ø3.5 / Ø4.3
Page **21, 23**



Dual Abutment
Square / Round
Ø3.7 / Ø4.3 / Ø5.5 / Ø6.5
Page **14, 15, 16, 17**

Dual Milling Abutment
Square / Round
Ø3.7 / Ø4.3 / Ø5.5 / Ø6.5
Page **24, 25**

Angled Abutment
Square / Round
15° / 25°
Ø3.7 / Ø4.3 / Ø5.5
Page **26, 27, 28, 29**

Metal-Casting Abutment
Square / Round
Ø3.7 / Ø4.3
Page **30**

Temporary Abutment
Square / Round
Ø3.7 / Ø4.3
Page **31**

Modification

Cemented Restoration

Modification

Screw-Retained Restoration

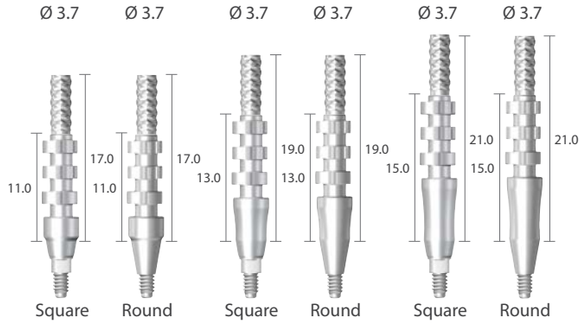
Fixture Level Impression Coping

• Impression coping screw is included with Impression coping

Unit: mm, Scale 1 : 1.5

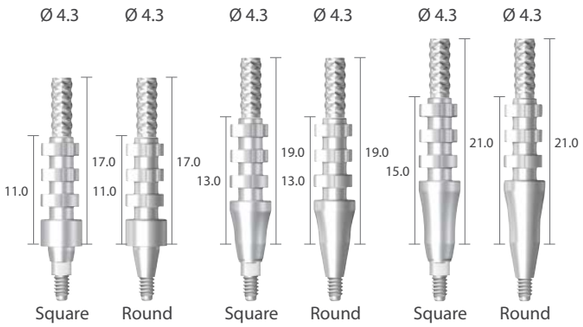
Impression Coping Pick-up Ø 3.7

Size	Type	Art. No.
Short	**Square**	GDPU **37** 11 **S**
Short	**Round**	GDPU **37** 11 **R**
Middle	**Square**	GDPU **37** 13 **S**
Middle	**Round**	GDPU **37** 13 **R**
Long	**Square**	GDPU **37** 15 **S**
Long	**Round**	GDPU **37** 15 **R**



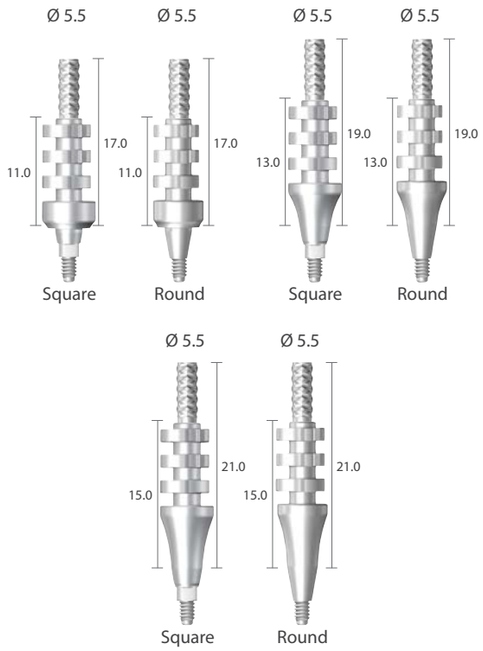
Impression Coping Pick-up Ø 4.3

Size	Type	Art. No.
Short	**Square**	GDPU **43** 11 **S**
Short	**Round**	GDPU **43** 11 **R**
Middle	**Square**	GDPU **43** 13 **S**
Middle	**Round**	GDPU **43** 13 **R**
Long	**Square**	GDPU **43** 15 **S**
Long	**Round**	GDPU **43** 15 **R**



Impression Coping Pick-up Ø 5.5

Size	Type	Art. No.
Short	**Square**	GDPU **55** 11 **S**
Short	**Round**	GDPU **55** 11 **R**
Middle	**Square**	GDPU **55** 13 **S**
Middle	**Round**	GDPU **55** 13 **R**
Long	**Square**	GDPU **55** 15 **S**
Long	**Round**	GDPU **55** 15 **R**



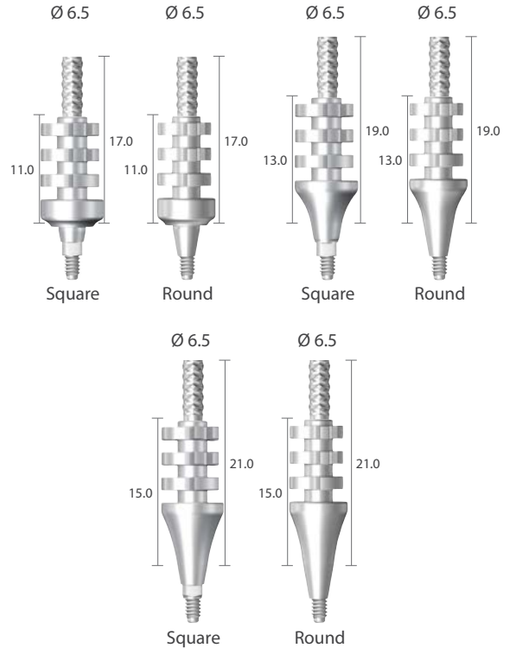
Fixture Level Impression Coping

• Impression coping screw is included with Impression coping

Unit: mm, Scale 1 : 1.5

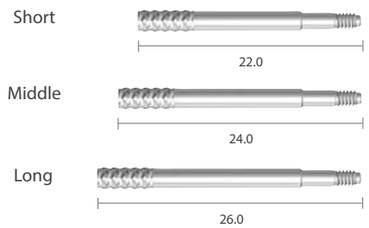
Impression Coping Pick-up Ø 6.5

Size	Type	Art. No.
Short	**Square**	GDPU **65** 11 **S**
Short	**Round**	GDPU **65** 11 **R**
Middle	**Square**	GDPU **65** 13 **S**
Middle	**Round**	GDPU **65** 13 **R**
Long	**Square**	GDPU **65** 15 **S**
Long	**Round**	GDPU **65** 15 **R**



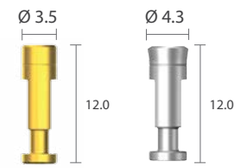
Impression Coping Pick-up Screw

Size	Art. No.
Short	GDPS **11**
Middle	GDPS **13**
Long	GDPS **15**



Analog

Application (Body Ø)	Art. No.
Ø3.1S	GDANR **30**
Ø3.1 / Ø3.6S / Ø4.3S	GDANR **36**



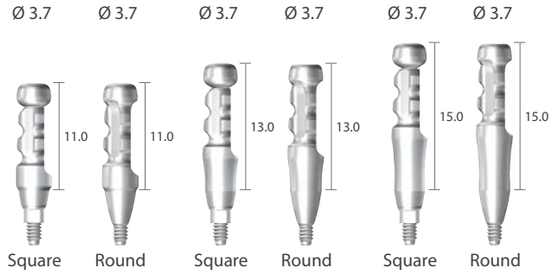
Fixture Level Impression Coping

• Impression coping screw is included with Impression coping

Unit: mm, Scale 1 : 1.5

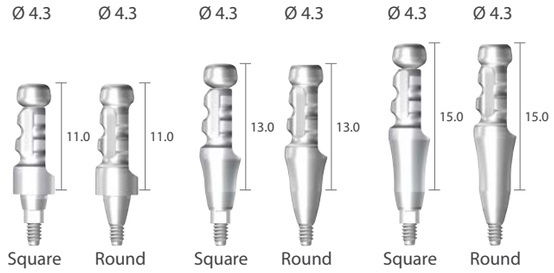
Impression Coping Transfer Ø 3.7

Size	Type	Art. No.
Short	**Square**	GDTF **37** 11 **S**
Short	**Round**	GDTF **37** 11 **R**
Middle	**Square**	GDTF **37** 13 **S**
Middle	**Round**	GDTF **37** 13 **R**
Long	**Square**	GDTF **37** 15 **S**
Long	**Round**	GDTF **37** 15 **R**



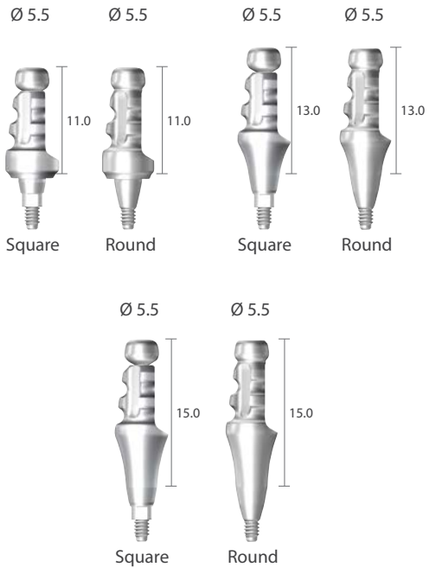
Impression Coping Transfer Ø 4.3

Size	Type	Art. No.
Short	**Square**	GDTF **43** 11 **S**
Short	**Round**	GDTF **43** 11 **R**
Middle	**Square**	GDTF **43** 13 **S**
Middle	**Round**	GDTF **43** 13 **R**
Long	**Square**	GDTF **43** 15 **S**
Long	**Round**	GDTF **43** 15 **R**



Impression Coping Transfer Ø 5.5

Size	Type	Art. No.
Short	**Square**	GDTF **55** 11 **S**
Short	**Round**	GDTF **55** 11 **R**
Middle	**Square**	GDTF **55** 13 **S**
Middle	**Round**	GDTF **55** 13 **R**
Long	**Square**	GDTF **55** 15 **S**
Long	**Round**	GDTF **55** 15 **R**



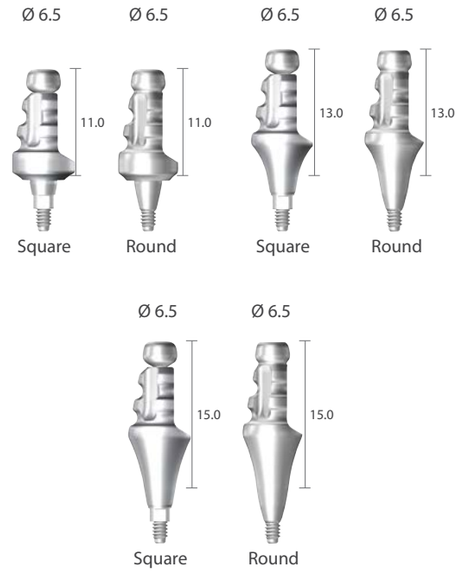
Fixture Level Impression Coping

• Impression coping screw is included with Impression coping

Unit: mm, Scale 1 : 1.5

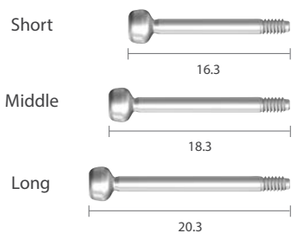
Impression Coping Transfer Ø 6.5

Size	Type	Art. No.
Short	**Square**	GDTF **65** 11 **S**
Short	**Round**	GDTF **65** 11 **R**
Middle	**Square**	GDTF **65** 13 **S**
Middle	**Round**	GDTF **65** 13 **R**
Long	**Square**	GDTF **65** 15 **S**
Long	**Round**	GDTF **65** 15 **R**



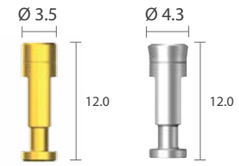
Impression Coping Transfer Screw

Size	Art. No.
Short	GDTS **11**
Middle	GDTS **13**
Long	GDTS **15**



Analog

Application (Body Ø)	Art. No.
Ø3.1S	GDANR **30**
Ø3.1 / Ø3.6S / Ø4.3S	GDANR **36**



Dual Milling Abutment

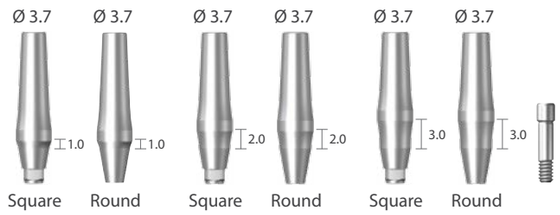
• Abutment screw is included

Unit: mm, Scale 1 : 1.5

GMAB4320AS and **GFX3609S**

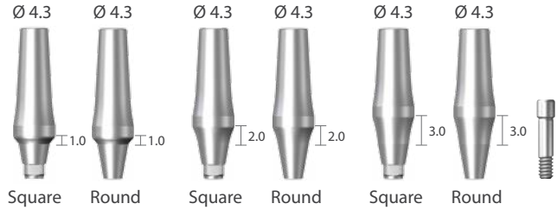
Diameter Ø 3.7

G/H	Type	Art. No.
1.0	**Square**	GMAB 37 10 **AS**
1.0	**Round**	GMAB 37 10 **AR**
2.0	**Square**	GMAB 37 20 **AS**
2.0	**Round**	GMAB 37 20 **AR**
3.0	**Square**	GMAB 37 30 **AS**
3.0	**Round**	GMAB 37 30 **AR**



Diameter Ø 4.3

G/H	Type	Art. No.
1.0	**Square**	GMAB 43 10 **AS**
1.0	**Round**	GMAB 43 10 **AR**
2.0	**Square**	GMAB 43 20 **AS**
2.0	**Round**	GMAB 43 20 **AR**
3.0	**Square**	GMAB 43 30 **AS**
3.0	**Round**	GMAB 43 30 **AR**



※ Note: It is recommended to keep the torque level at 20 N·cm to tighten the dual abutment with fixture

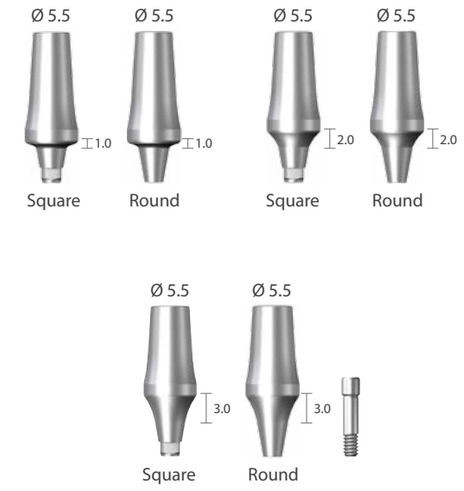
Dual Milling Abutment

• Abutment screw is included

Unit: mm, Scale 1 : 1.5

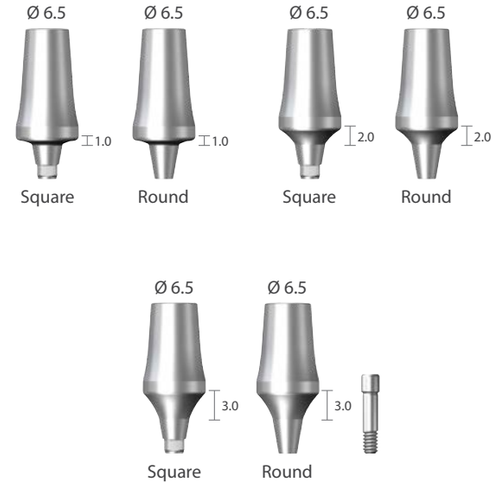
Diameter Ø 5.5

G/H	Type	Art. No.
1.0	**Square**	GMAB 55 10 **AS**
1.0	**Round**	GMAB 55 10 **AR**
2.0	**Square**	GMAB 55 20 **AS**
2.0	**Round**	GMAB 55 20 **AR**
3.0	**Square**	GMAB 55 30 **AS**
3.0	**Round**	GMAB 55 30 **AR**



Diameter Ø6.5

G/H	Type	Art. No.
1.0	**Square**	GMAB 65 10 **AS**
1.0	**Round**	GMAB 65 10 **AR**
2.0	**Square**	GMAB 65 20 **AS**
2.0	**Round**	GMAB 65 20 **AR**
3.0	**Square**	GMAB 65 30 **AS**
3.0	**Round**	GMAB 65 30 **AR**

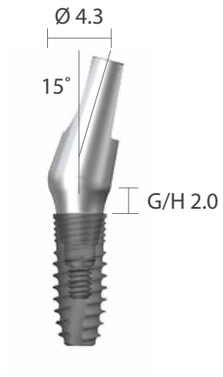


※ Note: It is recommended to keep the torque level at 20 N·cm to tighten the dual abutment with fixture

Angled Abutment [15°]

• Abutment screw is included

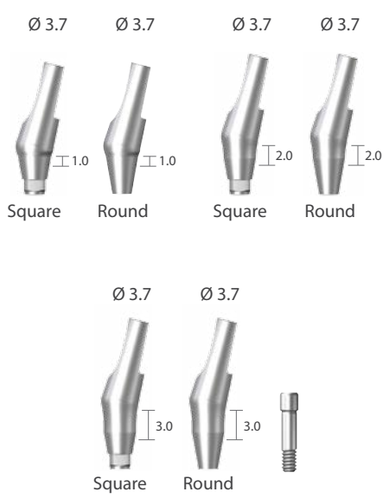
Unit: mm, Scale 1 : 1.5



GAAB154320AS and GFX3609S

Diameter Ø 3.7 | Angled 15°

G/H	Type	Art. No.
1.0	**Square**	GAAB 15 37 10 **AS**
1.0	**Round**	GAAB 15 37 10 **AR**
2.0	**Square**	GAAB 15 37 20 **AS**
2.0	**Round**	GAAB 15 37 20 **AR**
3.0	**Square**	GAAB 15 37 30 **AS**
3.0	**Round**	GAAB 15 37 30 **AR**



※ Note: It is recommended to keep the torque level at 20 N·cm to tighten the dual abutment with fixture

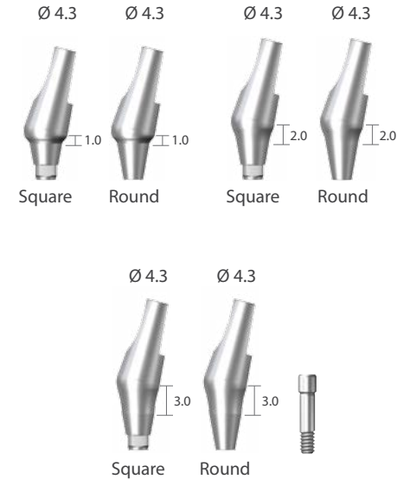
Angled Abutment [15°]

• Abutment screw is included

Unit: mm, Scale 1 : 1.5

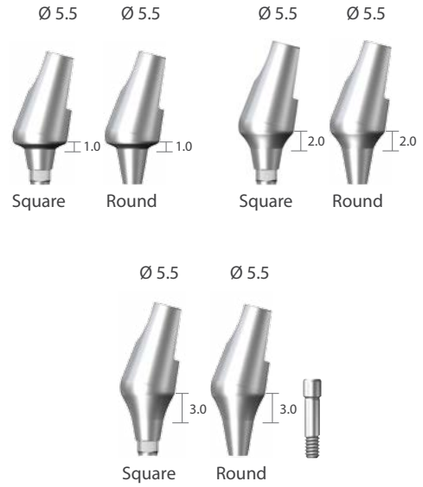
Diameter Ø 4.3 | Angled 15°

G/H	Type	Art. No.
1.0	**Square**	GAAB 15 43 10 **AS**
1.0	**Round**	GAAB 15 43 10 **AR**
2.0	**Square**	GAAB 15 43 20 **AS**
2.0	**Round**	GAAB 15 43 20 **AR**
3.0	**Square**	GAAB 15 43 30 **AS**
3.0	**Round**	GAAB 15 43 30 **AR**



Diameter Ø 5.5 | Angled 15°

G/H	Type	Art. No.
1.0	**Square**	GAAB 15 55 10 **AS**
1.0	**Round**	GAAB 15 55 10 **AR**
2.0	**Square**	GAAB 15 55 20 **AS**
2.0	**Round**	GAAB 15 55 20 **AR**
3.0	**Square**	GAAB 15 55 30 **AS**
3.0	**Round**	GAAB 15 55 30 **AR**

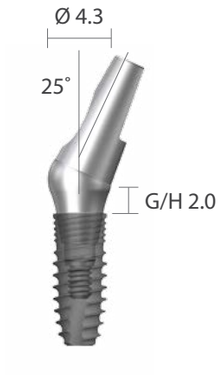


※ Note: It is recommended to keep the torque level at 20 N·cm to tighten the dual abutment with fixture

Angled Abutment [25°]

• Abutment screw is included

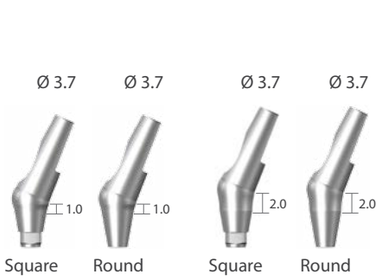
Unit: mm, Scale 1 : 1.5

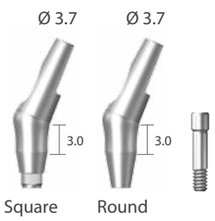


GAAB254320AS and GFX3609S

Diameter Ø 3.7 | Angled 25°

G/H	Type	Art. No.
1.0	**Square**	GAAB 25 37 10 **AS**
1.0	**Round**	GAAB 25 37 10 **AR**
2.0	**Square**	GAAB 25 37 20 **AS**
2.0	**Round**	GAAB 25 37 20 **AR**
3.0	**Square**	GAAB 25 37 30 **AS**
3.0	**Round**	GAAB 25 37 30 **AR**





※ Note: It is recommended to keep the torque level at 20 N·cm to tighten the dual abutment with fixture

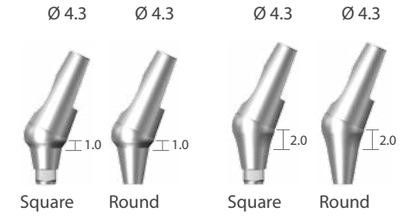
Angled Abutment [25°]

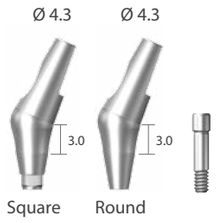
• Abutment screw is included

Unit: mm, Scale 1 : 1.5

Diameter Ø 4.3 | Angled 25°

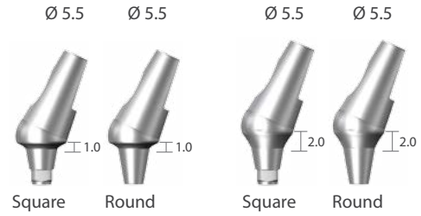
G/H	Type	Art. No.
1.0	**Square**	GAAB 25 43 10 **AS**
1.0	**Round**	GAAB 25 43 10 **AR**
2.0	**Square**	GAAB 25 43 20 **AS**
2.0	**Round**	GAAB 25 43 20 **AR**
3.0	**Square**	GAAB 25 43 30 **AS**
3.0	**Round**	GAAB 25 43 30 **AR**

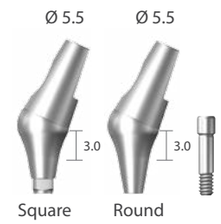




Diameter Ø 5.5 | Angled 25°

G/H	Type	Art. No.
1.0	**Square**	GAAB 25 55 10 **AS**
1.0	**Round**	GAAB 25 55 10 **AR**
2.0	**Square**	GAAB 25 55 20 **AS**
2.0	**Round**	GAAB 25 55 20 **AR**
3.0	**Square**	GAAB 25 55 30 **AS**
3.0	**Round**	GAAB 25 55 30 **AR**





※ Note: It is recommended to keep the torque level at 20 N·cm to tighten the dual abutment with fixture

Metal Casting Abutment

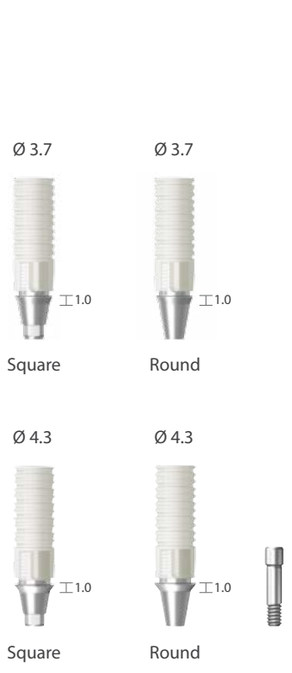
• Abutment screw is included

Unit: mm, Scale 1 : 1.5

GRAB43CS and GFX3609S

Metal-Casting Abutment

G/H	Type	Art. No.
1.0	**Square**	GRAB 37 C**S**
1.0	**Round**	GRAB 37 C**R**
1.0	**Square**	GRAB 43 C**S**
1.0	**Round**	GRAB 43 C**R**



※ Note: It is recommended to keep the torque level at 20 N·cm to tighten the dual abutment with fixture

Temporary Abutment

• Abutment screw is included.

Unit: mm, Scale 1 : 1.5

GRAB43TS and GFX3609S

Ti-Temporary Abutment

G/H	Type	Art. No.
1.0	**Square**	GRAB 37 TS
1.0	**Round**	GRAB 37 TR
1.0	**Square**	GRAB 43 TS
1.0	**Round**	GRAB 43 TR

※ Note: It is recommended to keep the torque level at 20 N·cm to tighten the dual abutment with fixture

Prosthetic Procedure 3

Impression Technique and Restoration Selection

Screw Abutment

Abutment Level Impression

Screw Abutment
Ø5.0
Page **33**

Angled Screw Abutment
Square / Round
10° / 20° / 30°
Ø4.3
Page **34**

Open Tray Technique

Impression Coping Pick-up
Ø5.0
Page **35**

Closed Tray Technique

Impression Coping Transfer
Ø5.0
Page **35**

Analog
Ø5.0
Page **36**

Burn-out Cylinder
Ø5.0
Page **36**

Metal Cylinder
Ø5.0
Page **36**

Ti-Temporary Cylinder
Ø5.0
Page **36**

Ti-Cylinder
Ø5.0
Page **36**

Polishing Protector
Ø5.0
Page **35**

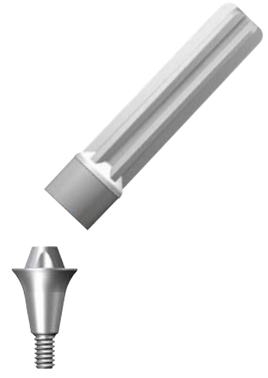
Temporary Restoration

Ti-Retaining Screw
Page **36**

Screw-Retained Restoration

Screw Abutment

Unit: mm, Scale 1 : 1.5



Delivery Holder

GSAB5020A and GFX3609S

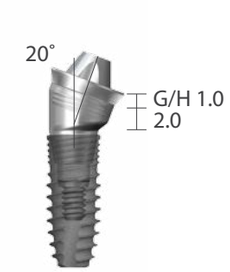
Diameter Ø 5.0

G/H	Art. No.
0.5	GSAB 50 **05** BA
1.0	GSAB 50 **10** A
2.0	GSAB 50 **20** A
3.0	GSAB 50 **30** A
4.0	GSAB 50 **40** A
5.0	GSAB 50 **50** A

※ Note: It is recommended to keep the torque level at 20 N·cm to tighten the dual abutment with fixture

Angled Screw Abutment

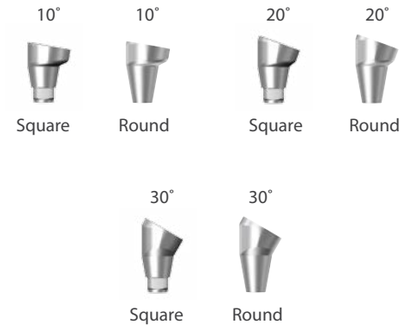
Unit: mm, Scale 1 : 1.5



GAOS5010A and **GAOB432020AS** and **GFX3609S**

Base Abutment

Diameter	Angle	Art. No.
Ø4.3	**10°**	GAOB 43 20 **10 AS**
Ø4.3	**10°**	GAOB 43 20 **10 AR**
Ø4.3	**20°**	GAOB 43 20 **20 AS**
Ø4.3	**20°**	GAOB 43 20 **20 AR**
Ø4.3	**30°**	GAOB 43 20 **30 AS**
Ø4.3	**30°**	GAOB 43 20 **30 AR**



Screw Cap

G/H	Art. No.
1.0	GAOS 50 **10** A
2.0	GAOS 50 **20** A
3.0	GAOS 50 **30** A

Healing Abutment

G/H	Art. No.
1.0	GAOC 50 **10** A
2.0	GAOC 50 **20** A
3.0	GAOC 50 **30** A

Screw

GAOSC1619

※Note: It is recommended to keep the torque level at 20 N·cm to tighten the dual abutment with fixture

Screw Abutment Impression Components

Unit: mm, Scale 1 : 1.5

Impression Coping Pick-up | Bridge

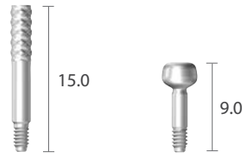
Diameter	Art. No.
Ø5.0	GSPU **50**

Impression Coping Transfer | Bridge

Diameter	Art. No.
Ø5.0	GSTF **50**

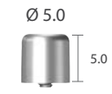
Impression Coping Screw

Type	Art. No.
Pick-up	GSPS **09**
Transfer	GSTS **09**



Comfort Cap

Diameter	Art. No.
Ø5.0	GSCC **50**



Polishing Protector

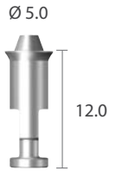
Diameter	Art. No.
Ø5.0	GSPP **50**

Screw Abutment Impression Components

Unit: mm, Scale 1 : 1.5

Analog

Diameter	Art. No.
Ø5.0	GSAN **50**



Ti-Cylinder

Diameter	Art. No.
Ø5.0	GSTA **50** A

Ti-Temporary Cylinder

Diameter	Art. No.
Ø5.0	GSTC **50** AT

Burn-out Cylinder

Diameter	Art. No.
Ø5.0	GSBC **50**

Metal Cylinder

Diameter	Art. No.
Ø5.0	GSGC **50** C

Ti-Retaining Screw

GSRS 16 T

Prosthetic Procedure 4

Impression Technique and Restoration Selection

Overdenture Procedure
Mini Ball / Magnetic Attachment

Abutment Level Impression

Mini Ball Abutment

Ø3.5

Page **38**

Angled Mini Ball Abutment

Square / Round

10° / 20° / 30°

Ø4.3

Page **39**

Implant Keeper

Ø4.5 /Ø5.5

Page **40**

Mini Ball Impression Coping

Page **38**

Mini Ball Analog

Page **38**

Socket Spacer

Page **38**

Mini Denture Socket

Page **38**

Mini O-ring

Page **38**

Mini Ball and Socket Attachment for Overdenture

Magnetic Assay

Page **40**

Magnetic Attachment for Overdenture

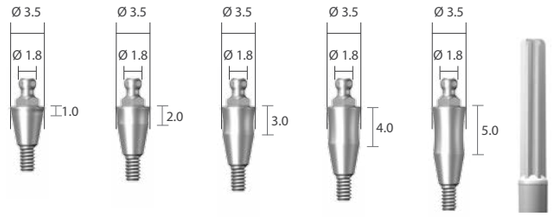
Mini Ball Attachment

Unit: mm, Scale 1 : 1.5

BPF3 and GBAB3520 and GFX3609S

Mini Ball Abutment

G/H	Art. No.
1.0	GBAB 35 **10**
2.0	GBAB 35 **20**
3.0	GBAB 35 **30**
4.0	GBAB 35 **40**
5.0	GBAB 35 **50**



Mini Ball Impression Coping

GICA

Mini Ball Analog

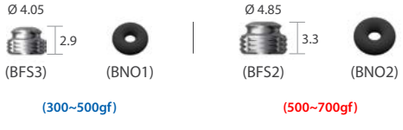
BANL

Socket Spacer

Art. No.	GBIC3L GBIC2L

Female Socket

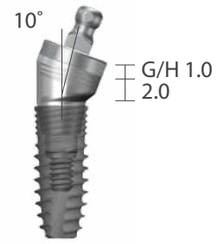
Art. No.	BPF3 (300~500gf) BPF2 (500~700gf)



※Note: It is recommended to keep the torque level at 20 N·cm to tighten the dual abutment with fixture

Angled Mini Ball Attachment

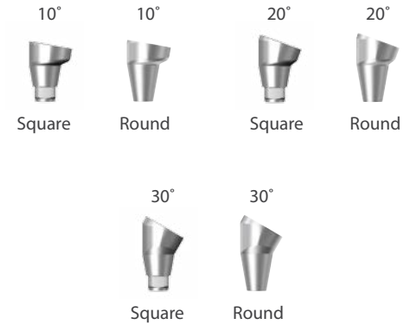
Unit: mm, Scale 1 : 1.5



GAOB4310A and GAOB432010AS and GFX3609S

Base Abutment

Diameter	Angle	Art. No.
Ø4.3	**10°**	GAOB 43 20 **10 AS**
Ø4.3	**10°**	GAOB 43 20 **10 AR**
Ø4.3	**20°**	GAOB 43 20 **20 AS**
Ø4.3	**20°**	GAOB 43 20 **20 AR**
Ø4.3	**30°**	GAOB 43 20 **30 AS**
Ø4.3	**30°**	GAOB 43 20 **30 AR**



Mini Ball Cap

G/H	Art. No.
1.0	GAOB 43**10** A
2.0	GAOB 43 **20** A
3.0	GAOB 43 **30** A

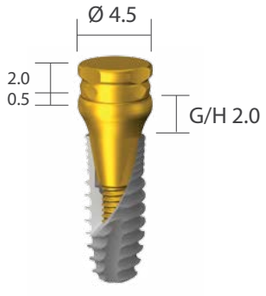
Angled Overdenture Screw

GAOSC1619

※Note: It is recommended to keep the torque level at 20 N·cm to tighten the dual abutment with fixture

Magnetic Attachment

Unit: mm, Scale 1 : 1.5

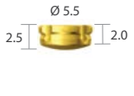


MGT4520D and **GMK4520D** and **GFX3609S**

Magnetic Assay

Application	Diameter	H	Art. No.
MKP45D	**Ø4.5**	**2.0**	MGT 45 **20 D**
MKP55D	**Ø4.5**	**2.0**	MGT 55 **20 D**

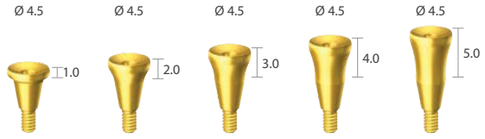
Retention Force 450gf



Retention Force 750gf

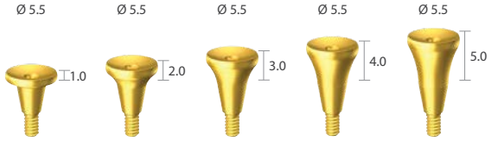
Implant Keeper Diameter Ø 4.5

G/H	Art. No.
1.0	GMK 45 **10 D**
2.0	GMK 45 **20 D**
3.0	GMK 45 **30 D**
4.0	GMK 45 **40 D**
5.0	GMK 45 **50 D**



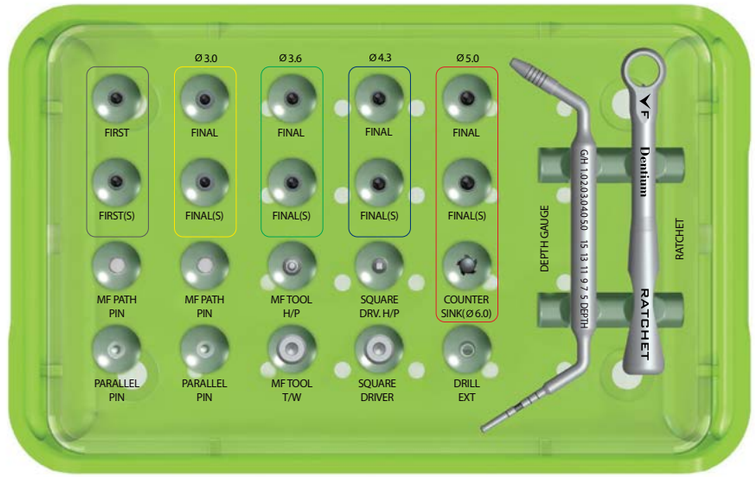
Implant Keeper Diameter Ø 5.5

G/H	Art. No.
1.0	GMK 55 **10 D**
2.0	GMK 55 **20 D**
3.0	GMK 55 **30 D**
4.0	GMK 55 **40 D**
5.0	GMK 55 **50 D**



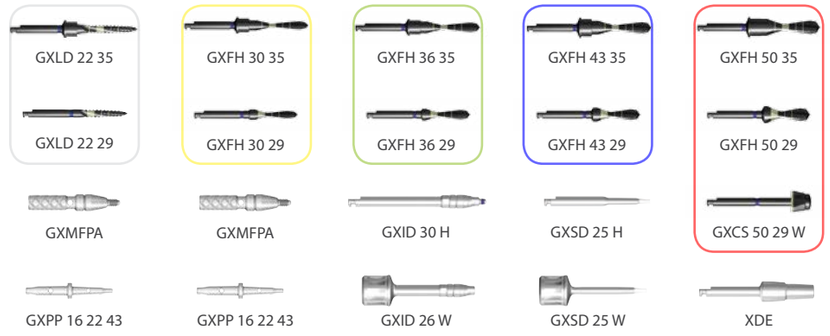
※Note: It is recommended to keep the torque level at 20 N·cm to tighten the dual abutment with fixture

Surgical Kit



NRLine Surgical Kit **GXIFK**

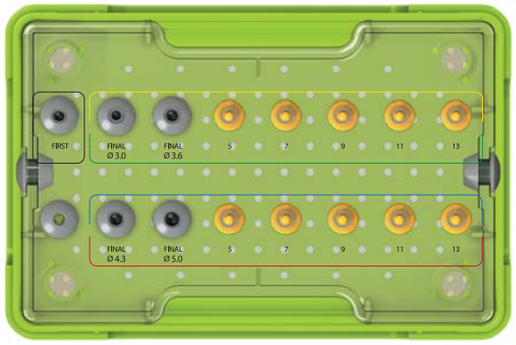
Kit includes



GXDGL

GXRCA

Stopper Kit



NRLine Stopper Kit **GXDS**

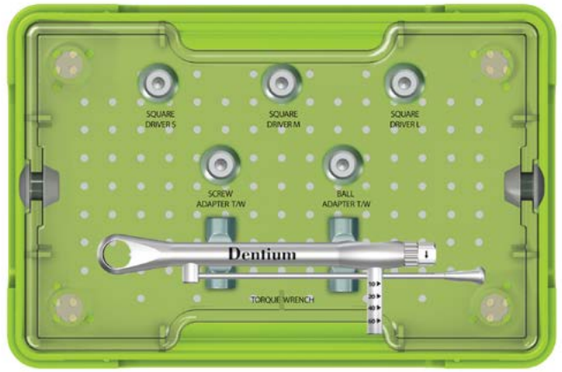
Kit includes

GXLD 22 35

GXFH 30 35 GXFH 36 35 GXDST 13 GXDST 11 GXDST 09 GXDST 07 GXDST 05

GXFH 43 35 GXFH 50 35 GXDST 13 L GXDST 11 L GXDST 09 L GXDST 07 L GXDST 05 L

Prosthetic Kit



NRLine Prosthetic Kit **GXNP**

Kit includes

GXSD 15 W GXSD 21 W GXSD 28 W

GXSA 21W GXBA 21W

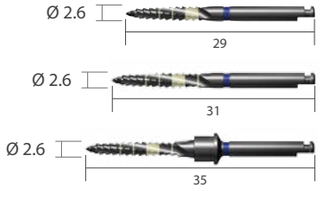
GXNTW

Drill

Unit: mm, Scale 1 : 1

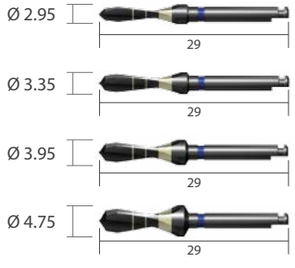
First Guide Drill

Diameter	L	Art. No.
Ø2.6	**29**	GXLD 22 **29**
Ø2.6	**31**	GXLD 22 **31**
Ø2.6	**35**	GXLD 22 **35**



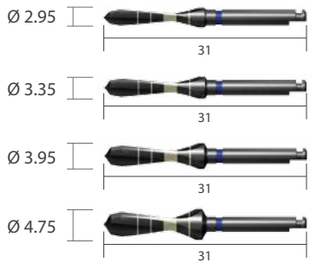
Final Drill

Diameter	L	Art. No.
Ø2.95	**29**	GXFH 30 **29**
Ø3.35	**29**	GXFH 36 **29**
Ø3.95	**29**	GXFH 43 **29**
Ø4.75	**29**	GXFH 50 **29**



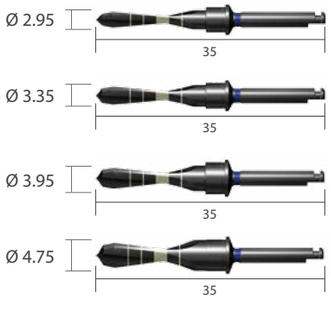
Final Drill

Diameter	L	Art. No.
Ø2.95	**31**	GXFH 30 **31**
Ø3.35	**31**	GXFH 36 **31**
Ø3.95	**31**	GXFH 43 **31**
Ø4.75	**31**	GXFH 50 **31**



Final Drill

Diameter	L	Art. No.
Ø2.95	**35**	GXFH 30 **35**
Ø3.35	**35**	GXFH 36 **35**
Ø3.95	**35**	GXFH 43 **35**
Ø4.75	**35**	GXFH 50 **35**



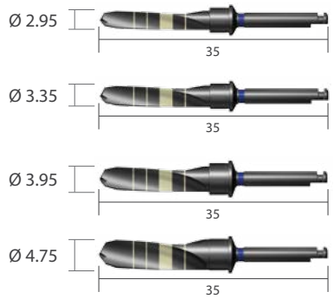
※ Note: Drill speed 1,000rpm, 30~45N·cm with irrigation

Drill

Unit: mm, Scale 1 : 1

Final Drill | Option

Diameter	L	Art. No.
Ø2.95	**35**	GXFD 30 **35**
Ø3.35	**35**	GXFD 36 **35**
Ø3.95	**35**	GXFD 43 **35**
Ø4.75	**35**	GXFD 50 **35**



Countersink

Diameter	L	Art. No.
Ø6.0	**29**	GXCS 50 **29 W**

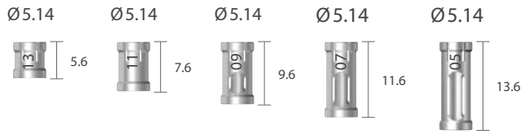
※ Note: Drill speed 1,000rpm, 30~45N·cm with irrigation

Instrument

Unit: mm, Scale 1 : 1

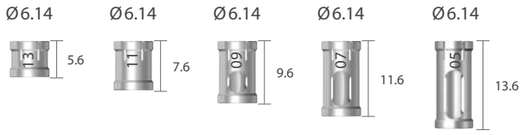
Stopper | For final drill 3035, 3635

Drilling Depth	L	Art. No.
13	**5.6**	GXDST **13**
11	**7.6**	GXDST **11**
9	**9.6**	GXDST **09**
7	**11.6**	GXDST **07**
5	**13.6**	GXDST **05**



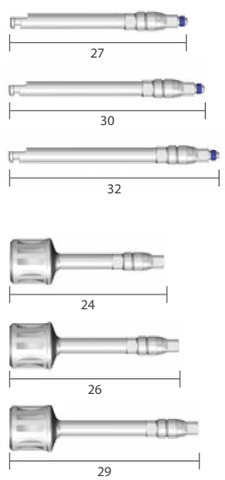
Stopper | For final drill 4335, 5035

Drilling Depth	L	Art. No.
13	**5.6**	GXDST **13 L**
11	**7.6**	GXDST **11 L**
9	**9.6**	GXDST **09 L**
7	**11.6**	GXDST **07 L**
5	**13.6**	GXDST **05 L**



Adapter

Type	L	Art. No.
Hand-piece	**27**	GXID **27** H
	30	GXID **30** H
	32	GXID **32** H
Ratchet	**24**	GXID **24** W
	26	GXID **26** W
	29	GXID **29** W



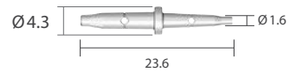
※Note: Drill speed 1,000rpm, 30~45N·cm with irrigation

Instrument

Unit: mm, Scale 1 : 1

Parallel Pin

Diameter	L	Art. No.
Ø4.3	23.6	GXPP 162243

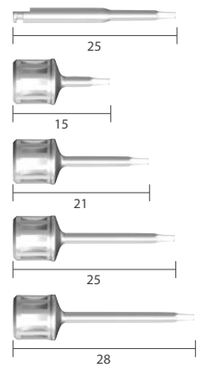


Path Pin

L	Art. No.
17.3	GXMFPA

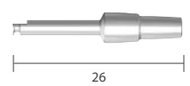
Square Driver

Type	L	Art. No.
Hand-piece	**25**	GXSD **25** H
Ratchet	**15**	GXSD **15** W
	21	GXSD **21** W
	25	GXSD **25** W
	28	GXSD **28** W



Drill Extension

XDE



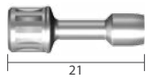
※Note: Drill speed 1,000rpm, 30~45N·cm with irrigation

Instrument

Unit: mm, Scale 1 : 1

Adapter for Screw Abutment

GXSA21W



Adapter for Ball Abutment

GXBA21W

Ratchet

GXRCA

Torque Wrench | Scale 1 : 0.7

GXNTW

Depth Gauge

GXDGL

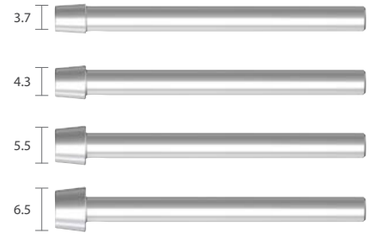
※Note: One side of Depth Gauge measures the osteotomy depth and the other side measures the gingival height from the top of the implant

Prosthetic and Laboratory Instrument

Unit: mm, Scale 1 : 1

Reamer Guide for Dual Abutment

Art. No.
GDRG 37
GDRG 43
GDRG 55
GDRG 65



Reamer Guide for Screw Abutment

GSRG

Reamer

GSRM

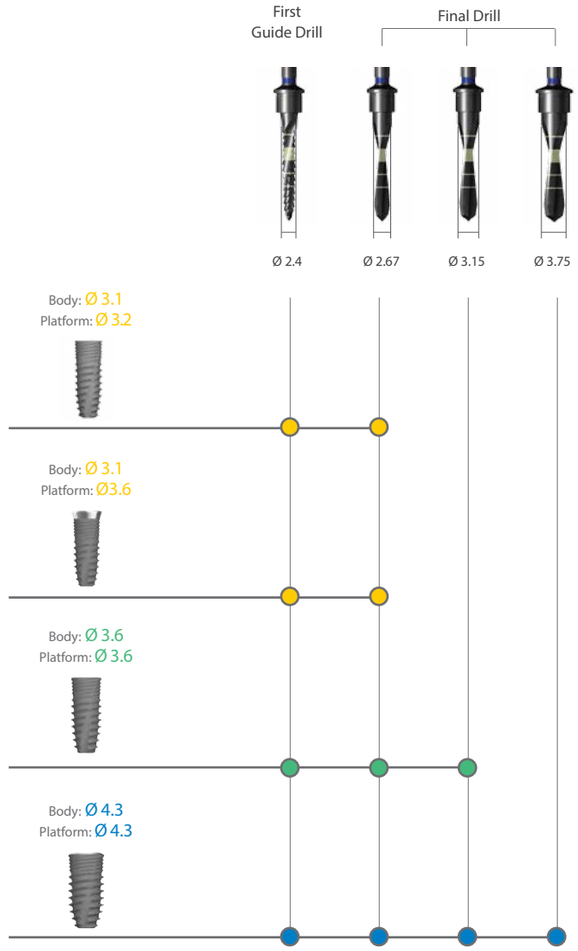
Reamer Handle

CRH

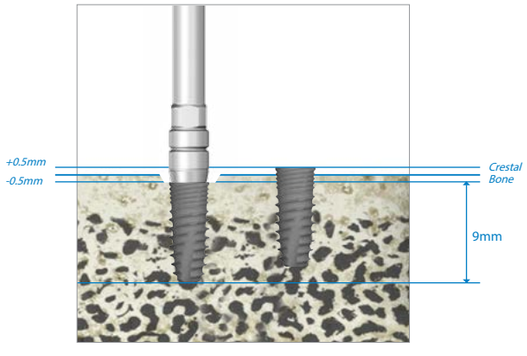
SURGICAL MANUAL

Surgical Drill Sequence

Drilling Sequence Guide

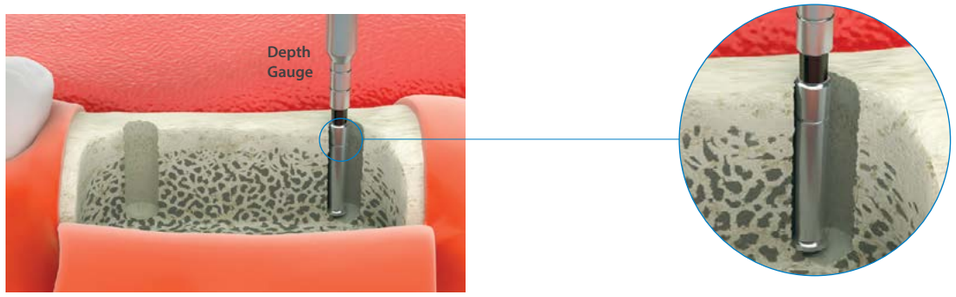


Determination of Fixture Top Level



Top level of fixture needs to be located 0.5mm below the marginal crestal bone level to minimize bone loss after implantation.

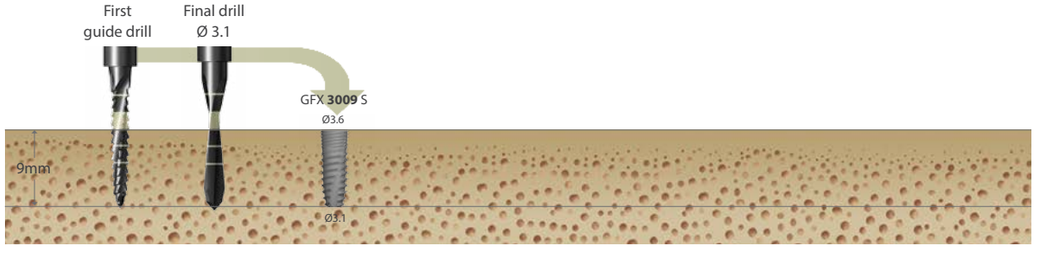
Depth Indication



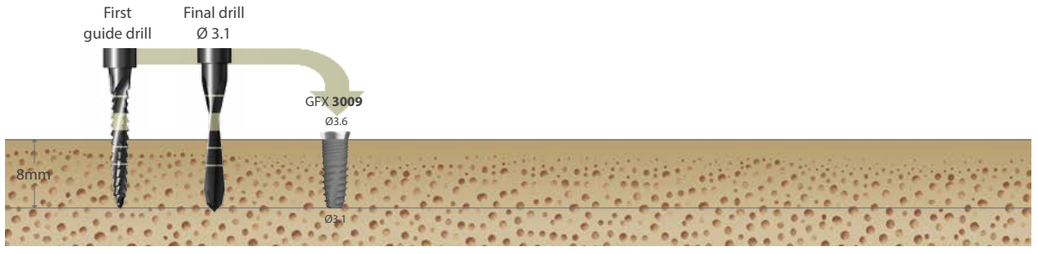
- Use the depth gauge after first guide drill to check depth of drilling.
- Place the depth gauge against the wall of the osteotomy.

Drilling Depth Guide (Bone Level)

Body: Ø 3.1 / Platform: Ø 3.2 **(800~1,200rpm / 30~45N·cm)**

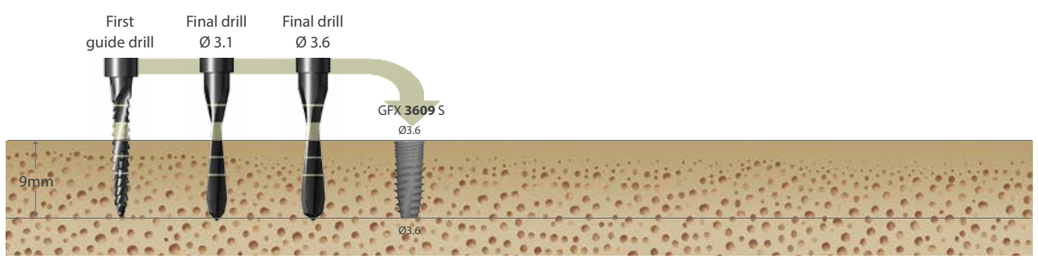


Body: Ø 3.1 / Platform: Ø 3.6 **(800~1,200rpm / 30~45N·cm)**

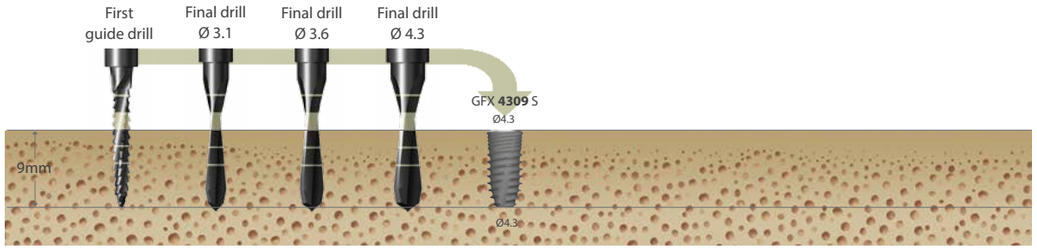


Drilling Depth Guide (Bone Level)

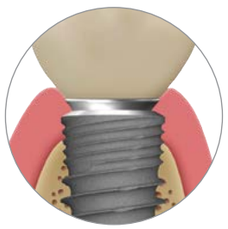
Body: Ø 3.6 / Platform: Ø 3.6 **(800~1,200rpm / 30~45N·cm)**



Body: Ø 4.3 / Platform: Ø 4.3 **(800~1,200rpm / 30~45N·cm)**

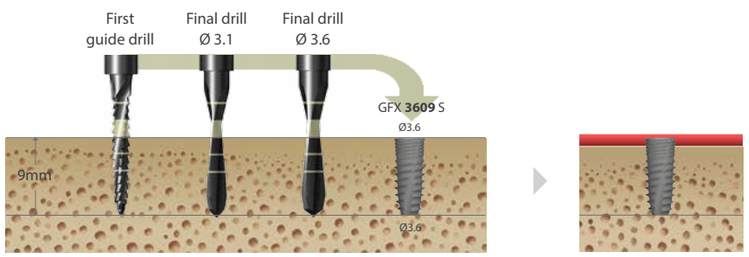


Drilling Depth Guide (Tissue Level)

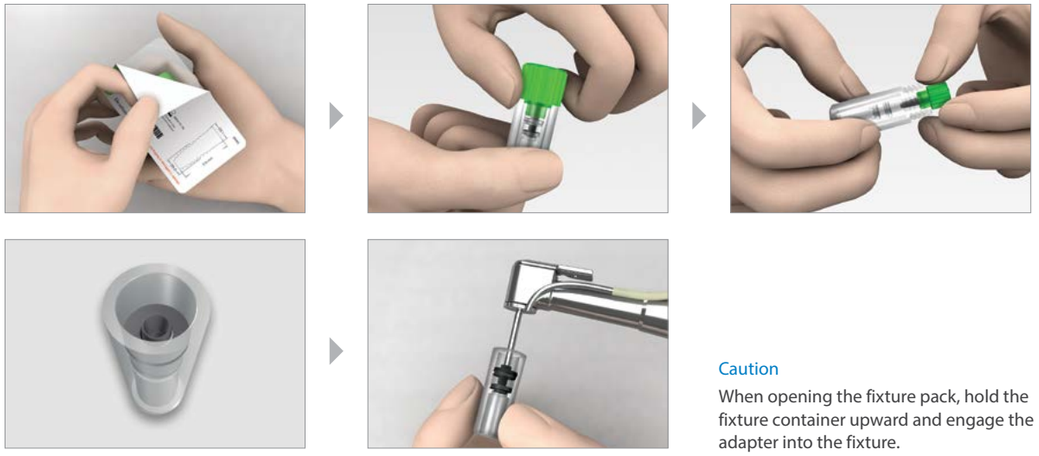


Hybrid zone for bone & soft tissue

- When there is bone loss, it can be applied with tissue level.
- When implanting with tissue level, only countersink can be omitted in the process of bone level drilling.
- Compatible with bone & tissue level



Fixture Connection



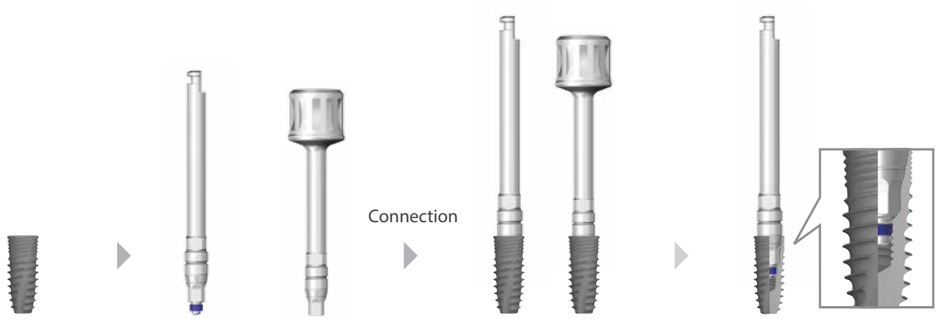
Caution

When opening the fixture pack, hold the fixture container upward and engage the adapter into the fixture.

By hand-piece
20rpm / 35N·cm

By ratchet

Directions Using the Hand-piece / Ratchet Adapter



Hand-piece Adapter

Ratchet Adapter

The hand-piece adapter/ratchet adapter must be connected firmly together with the internal square inside the fixture

Installation Procedure & Warnings

Cover Screw

By square driver

Cover screw (GCS36) connection

Healing Abutment

By square driver

Healing Abutment connection

Healing Abutment (GHAB371525) connection in thin gingiva

Warnings

Dental Implant surgery and restoration involve complex dental procedures. Appropriate and adequate training in proper technique is strongly recommended prior to use.

- Improper medical examination and/or treatment plan can result in implant failure and/or loss of supportive bone.
- Improper initial stability and/or excessive occlusal forces during healing period may lead to osseointergration failure.
- Excessive insertion torque may lead to mechanical failure or implant biologic failure due to bone compression and necrosis.
- When forces or loads are greater than its design, implant or abutment fracture could happen. Therefore clinicians should make careful decisions with regards to clinical treatment planning to minimize the risk of fracture. Appropriate implant quantity, occlusal interface and a nightguard are essential. Potential excessive loading conditions may include the following:

01 Inadequate number of implants are placed.
02 Implant width and/or length are inappropriate for a treatment site.
03 Prosthesis which has excessive cantilever length due to inadequate biomechanical design
04 Continuous occlusal force are generated by incomplete connection between implant and abutment and/or abutment screw loosening.
05 Metal Casting Abutment angles are greater than 30° from the vertical axis of the implant.
06 Occlusal interferences causing excessive lateral forces
07 Patient parafunctions such as bruxism
08 Inadequate dental laboratory casting procedures
09 Improper prosthesis fit
10 Trauma from patient habits or accidents
11 Excessive marginal bone loss caused by inadequate bone width and/or advanced peri-implantitis.

Surgical Kit Maintenance

Manual Cleaning and Sterilization Procedure

It is important to use protective clothing and face shield while cleaning contaminated instruments. Always wear protective glasses, mask, gloves, etc. for your safety.

Cleaning

1 Rinse instruments immediately after use under running tap water (<40°C) for a minimum of one (1) minute to remove all debris including extraneous body fluids, bone debris and tissue.

2 Soak all instruments immediately after rinsing in an enzymatic cleaning solution* for 10 to 20 minutes (Do not soak overnight).

* Follow manufacturer's instructions and observe recommended cleaning solution concentrations (enzymatic detergent with a pH level between 7-10 and temperature not to exceed 40°C). Do not use incompatible cleaning solutions to clean instruments.

3 For internal irrigation drills, use a 1mL syringe and a 25 gauge needle to clean the drill irrigation hole with a minimum of 0.2 mL of the prepared cleaning solution. Repeat this step two (2) more times for a total of three (3) rinses.

4 Scrub with a soft brush for a minimum of 1 (one) minute to remove any debris inside the drill irrigation hole.

5 Rinse the instruments under running tap water (<40°C) for a minimum of 1 minute. Use a 1mL syringe and a 25 gauge needle with a minimum of 0.2 mL of tap water to forcefully flush inside the drill irrigation hole. Repeat flushing of drill irrigation hole two (2) more times for a total of three (3) flushings.

6 Place instruments into an ultrasonic cleaner with neutral detergent**. Keep instruments inside the ultrasonic bath for 15 minutes using a frequency of 25-50 kHz. Ensure multiple instruments placed within the bath remain separated.

** Follow manufacturer's instructions and observe recommended neutral detergent solution concentrations (neutral detergent with a pH level between 7-10 and temperature not to exceed 40°C). Do not use incompatible neutral detergent solutions to clean instruments.

7 Rinse instruments thoroughly with running tap water (<40°C) for a minimum of 1 (one) minute until all traces of neutral detergent solution are removed. Rinse inside drill irrigation hole using a 1mL syringe and a 25 gauge needle with a minimum of 0.2 mL of tap water. Repeat rinsing drill irrigation hole two (2) more times for a total of three (3) rinses.

8 Gently wipe instruments with a soft lint-free cloth or place the instruments in a drying cabinet (60°C for less than 10 hours) until fully dry. Blow residual water from drill irrigation hole using a 1mL syringe and a 25 gauge needle. Visually inspect instruments in a well-lit area to ensure they are clean, dry and free of residue.

9 Clean instrument trays with a germicidal cleaner prior to returning instruments into Kit.

10 Always check for damage or corrosion after rinsing and drying.

Sterilization

Dentium recommends either the Pre-vacuum or Gravity autoclave methods for sterilization under the conditions described below. However, autoclave performance can affect the efficacy of this process. Healthcare facilities should validate their sterilization processes employing the actual equipment and operators that routinely sterilize instruments.

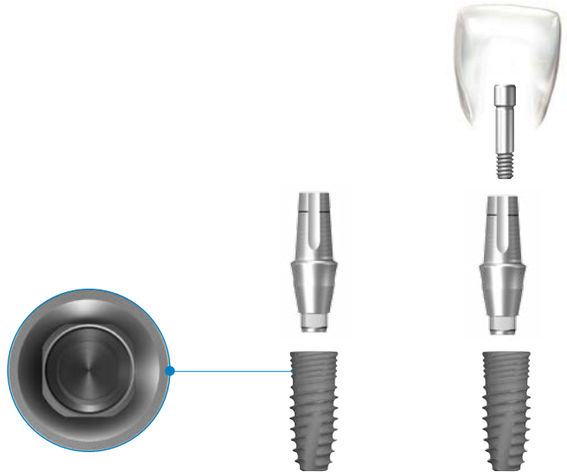
All autoclaves/sterilizers should be regularly validated, maintained and checked in accordance with EN 285/EN 13060, EN ISO 17665, ANSI AAMI ST79 to ensure compliance with these and related standards. Make sure packaging is suitable for steam sterilization.

Recommended Sterilization Parameters

Method-Moist Heat Sterilization	Pre-vacuum	Gravity
Set Point Temperature	132 °C	132 °C
Exposure time	4 minutes	30 minutes
Drying time	20 minutes	40 minutes

PROSTHESIS MANUAL

Understanding the Implant and Prosthesis



Firm & Stable Connection

- The tapered conical square connection between implant and abutment interface provides hermetic sealing.
- The biological connection distributes the load to the fixture evenly. Therefore it may minimize bone loss.
- All implant diameters share the same internal connection. One abutment screw fits all abutments and fixtures.

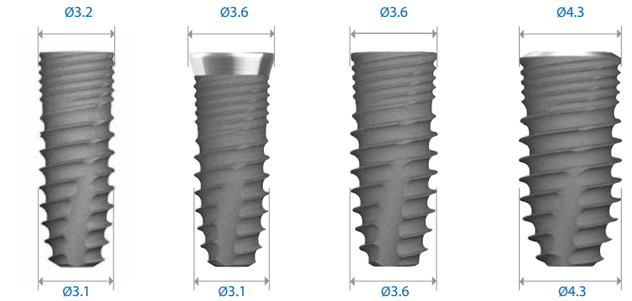
Types of Abutment (Abutments are available in various diameters & gingival heights)

- Dual Abutment — Abutment level
- Dual Abutment
- Dual Milling Abutment
- Angled Abutment (15°/25°)
- Metal-Casting Abutment
- Temporary Abutment — Fixture level
- Screw Abutment
- Angled Screw Abutment (10°/ 20°/ 30°) — Screw retained (Abutment level)
- Mini Ball Attachment
- Angled Mini Ball Attachment
- Magnetic Attachment — For denture use

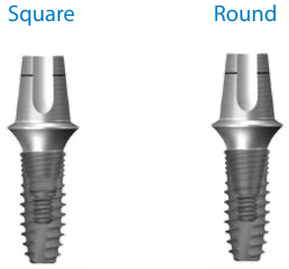
Types of Abutment

- Straight abutments are Dual and Milling Abutment.
- Depending on the insertion angle and position of the fixture, the Angled or Metal-Casting / Temporary Abutment may be used.
- The Screw Abutment can be used when prosthesis retrieval is anticipated.

Selection Guideline



Dual Abutment



Dual Abutment

- It is possible to take an impression at both fixture level and abutment level.
- If the abutment selection is made in the mouth, gauge the thickness of gingiva with depth gauge to decide the appropriate abutment gingival height.
- For abutment level impressions, the impression is taken with the snap cap.
- When using the Dual Abutment with abutment level impression, it remains in the mouth after the impression is taken.
- For fixture level impressions, the abutment selection takes place on the master model.
- For fixture level impressions, a precise positioning jig for abutment may be required.
- Either square or round abutments may be used, according to operators preference.

* If a cement retained restoration requires retrieval, cutting a hole in the occlusal surface would allow access to the screw to permit removal.

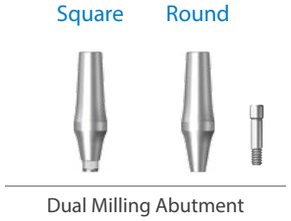
Square / Round

	Square	Round
Positioning Jig	Unnecessary	Required
Radiograph	Required	Unnecessary

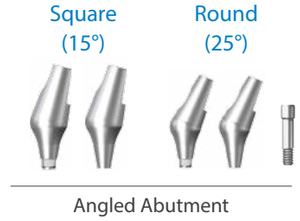
Dual Abutment (Square / Round)

Diameter	G/H	Vertical Angle
Ø3.7	0.5mm, 1.0mm, 2.0mm, 3.0mm, 4.0mm, 5.0mm	3.5°
Ø4.3	0.5mm, 1.0mm, 2.0mm, 3.0mm, 4.0mm, 5.0mm	5°
Ø5.5	0.5mm, 1.0mm, 2.0mm, 3.0mm, 4.0mm, 5.0mm	6°
Ø6.5	0.5mm, 1.0mm, 2.0mm, 3.0mm, 4.0mm, 5.0mm	7°

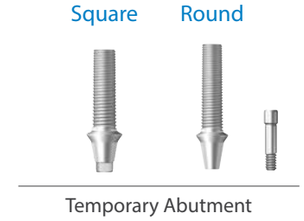
Dual Milling / Angled / Temporary / Metal-Casting Abutment



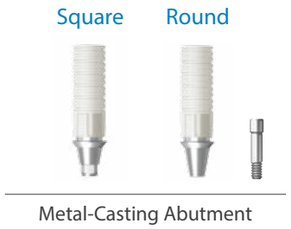
Dual Milling Abutment



Angled Abutment



Temporary Abutment



Metal-Casting Abutment

Angled Abutment

- The Angled Abutment is recommended when the restoration path of insertion is unfavorable in either anterior or posterior sites.
- Retention force can be increased through milling process.

Metal-Casting Abutment

- Equivalent results for a fraction of the price.
- Our highly affordable metal alloy replaces expensive gold to alleviate financial burden to all.

Temporary Abutment

- Temporary Abutments are available with titanium.
- The titanium abutment comes in square and ronud both with a gingival height of 1.0mm.

Dual Milling / Angled / Temporary / Metal-Casting Abutment

Fixture Level Abutment (Square / Round)

Abutment		Diameter	G/H	Angle
Dual Milling Abutment	 Square  Round	Ø3.7	1.0mm 2.0mm 3.0mm	X
		Ø4.3	1.0mm 2.0mm 3.0mm	
		Ø5.5	1.0mm 2.0mm 3.0mm	
		Ø6.5	1.0mm 2.0mm 3.0mm	
Angled Abutment	 Square Round	Ø3.7	1.0mm 2.0mm 3.0mm	15° / 25°
		Ø4.3	1.0mm 2.0mm 3.0mm	15° / 25°
		Ø5.5	1.0mm 2.0mm 3.0mm	15° / 25°
Metal-Casting Abutment	 Square  Round	Ø3.7	1.0mm	X
		Ø4.3	1.0mm	
Temporary Abutment	 Square  Round	Ø3.7	1.0mm	X
		Ø4.3	1.0mm	

Screw Abutment

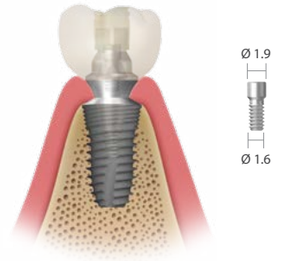
Screw Abutment

If prosthesis repair is anticipated, use of a Screw Abutment retained prosthesis enables easy retrieval.

- Useful for connecting multiple units or when there is a preference for a screw retained prosthesis.
- Useful when respective long axes of implants differ.
  Each side tapers by 30° and this permits up to 60° divergence between two abutments.
- Useful when the prognosis of an adjacent restoration is not ideal thus permitting easy retrieval and modification of the restoration.

Ti-Retaining Screw (1.6mm - body diameter)

- Can minimize screw loosening due to increased approximal space.
- Can endure various kinds of masticatory force.

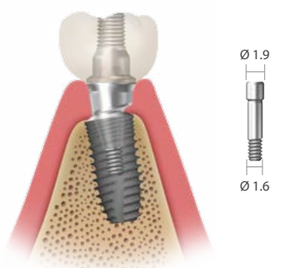


Screw Abutment

Diameter	G/H
Ø5.0	0.5mm, 1.0mm, 2.0mm, 3.0mm, 4.0mm, 5.0mm

Angled Screw Abutment

Diameter	G/H	Angle
Ø4.3	1.0mm, 2.0mm, 3.0mm	10° / 20° / 30°



Points to Consider in Abutment Selection

Considerations in Selecting an Abutment

- Esthetic requirement
- Implant angulation
- Implant location
- Fixture installation depth (Gingival height)
- Interarch distance
- Prosthesis type
- Dentist & dental technician's preference

Impression of Implant

According to the case the impression can be taken at abutment or fixture level.

Fixture Level

1 Dual Abutment
2 Dual Milling Abutment
3 Angled Abutment (15° / 25°)
4 Metal-Casting Abutment
5 Temporary Abutment (Titanium)

Abutment Level

1 Dual Abutment
2 Screw Abutment
3 Angled Screw Abutment (10° / 20° / 30°)

Abutment Impression Recommendation

Dual Abutment	Cementation type, screw-cementation type	Fixture level impression or abutment level impression
Dual Milling Abutment	Cementation type, screw-cementation type	Fixture level impression
Angled Abutment	Cementation type, screw-cementation type	Fixture level impression
Screw Abutment	Screw retained type	Abutment level impression
Metal-Casting Abutment	Cementation type, screw-cementation type	Fixture level impression
Temporary Abutment	Cementation type, screw-cementation type	Fixture level impression

Prosthetic Procedure 1

Impression Technique and Restoration Selection

Dual Abutment

Abutment Level Impression

Closed Tray Technique

Dual Abutment
Square / Round
Ø3.7 / Ø4.3 / Ø5.5 / Ø6.5

Impression Coping
(Burn-Out Cylinder, Comfort Cap, Abutment Holder)
Ø3.7 / Ø4.3 / Ø5.5 / Ø6.5

Comfort Cap
Ø3.7 / Ø4.3 / Ø5.5 / Ø6.5

Analog
Ø3.7 / Ø4.3 / Ø5.5 / Ø6.5

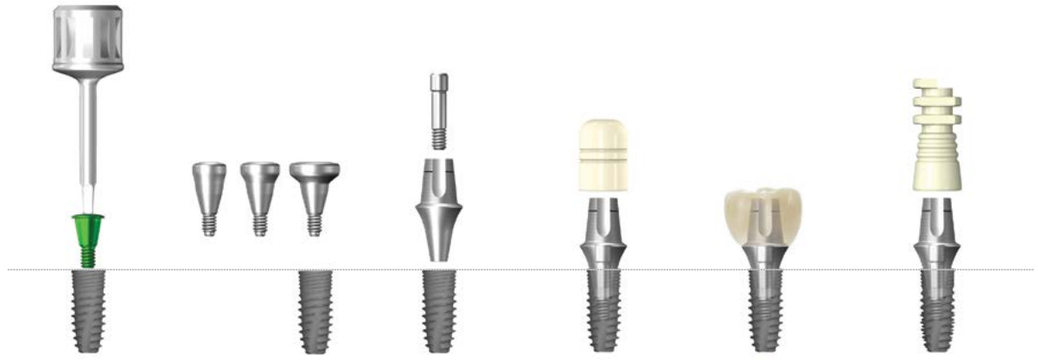
Modification

Cemented Restoration

Abutment Level- Dual Abutment

[Multiple Units]

Clinical Procedure



Cover Screw | Healing Abutment | Dual Abutment | Comfort Cap | Temporary Restoration | Abutment Level Impression

Chairside

Remove the Healing Abutment after formation of soft tissue.

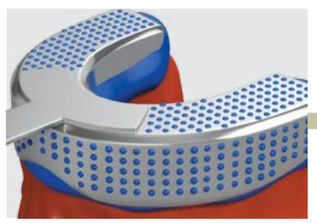
Dual Abutment (Square / Round)

Select the Dual Abutment by diameter and gingival height.

Retighten after 15 minutes tighten it to 20N·cm.

Seat the plastic cap over the abutment.

Injection of impression material



Impression taking

Cap comes off into the impression.

Fabrication of provisional restoration or insertion of comfort cap

Abutment Level- Dual Abutment

[Multiple Units]

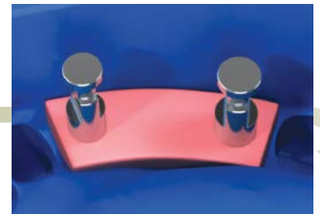
Laboratory Procedure

Lab Analog Connection | Crown Wax-up | Final Restoration Cementation Type

Labside

Insertion of abutment level analog into impression

Make sure analog seats securely into the impression cap (line up the flat side of analog to the flat side of the cap).



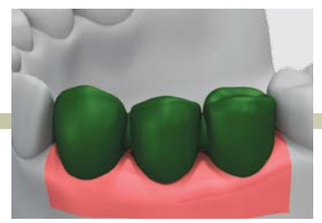
Soft tissue model

Fabrication of master cast

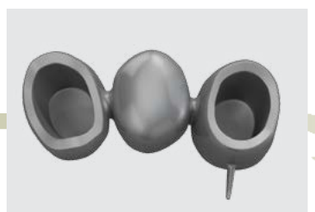
Seat burn-out cylinder securely into analog.

Consider distance of opposing teeth, modify burn-out cylinder to its proper height if needed.

Fabrication of burn-out cylinder and plastic bar in preparation for wax-up



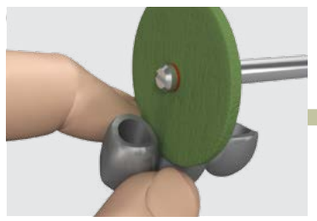
Completion of wax-up



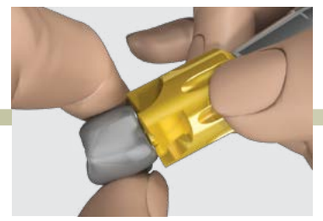
Fabrication of metal framework

Abutment Level- Dual Abutment

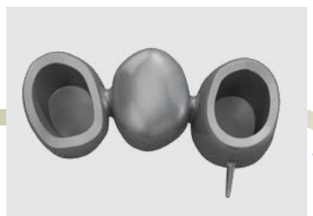
[Multiple Units]



Trimming of the extended margin by using the rubber wheel



Reamer is used to eliminate "Lip" caused by 'snap-on' mechanism.



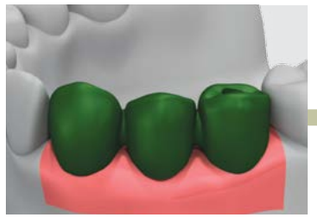
Metal framework after removal of "Lip"

Metal framework

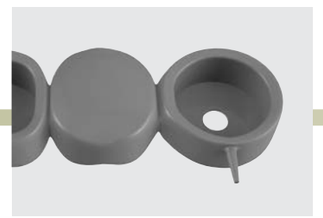
Porcelain build-up

Final prosthesis

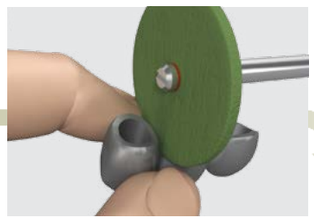
SCRP: Once an access hole has been created, it can be converted to a SCRP (Screw & Cemented Retained Prosthesis).



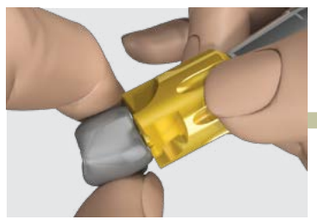
Access hole is made when burn-out cylinder is used to do the wax-up.



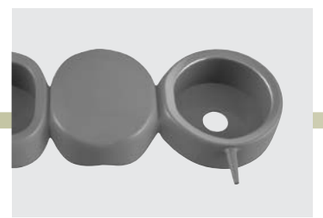
Extended margin around the metal framework due to 'snap-on' mechanism



Trim extended margin by rubber wheel



Eliminate the lip remnant caused by 'snap-on' mechanism by reamer.



Metal framework after removal of "Lip"

Metal framework

Final prosthesis

Prosthetic Procedure 2

Impression Technique and Restoration Selection

Dual / Dual Milling / Angled / Metal-Casting / Temporary Abutment

Fixture Level Impression

Open Tray Technique
(Complication case)

Closed Tray Technique
(Simple case)

Impression Coping Pick-up
Square / Round
Ø3.7 / Ø4.3 / Ø5.5 / Ø6.5

Impression Coping Transfer
Square / Round
Ø3.7 / Ø4.3 / Ø5.5 / Ø6.5

Analog
Ø3.5 / Ø4.3

Dual Abutment
Square / Round
Ø3.7 / Ø4.3 / Ø5.5 / Ø6.5

Dual Milling Abutment
Square / Round
Ø3.7 / Ø4.3 / Ø5.5 / Ø6.5

Angled Abutment
Square / Round
15° / 25°
Ø3.7 / Ø4.3 / Ø5.5

Metal-Casting Abutment
Square / Round
Ø3.7 / Ø4.3

Temporary Abutment
Square / Round
Ø3.7 / Ø4.3

Modification

Cemented Restoration

Modification

Screw-Retained Restoration

Fixture Level [Pick-up Type]- Dual Abutment

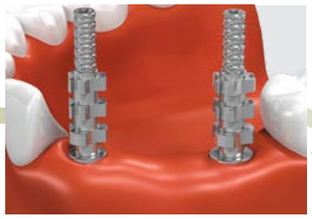
[Multiple Units]

Clinical Procedure

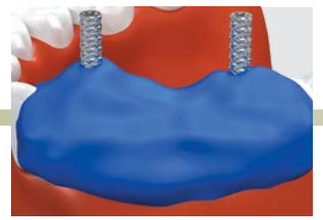
Healing Abutment | Impression Coping Pick-up Type | Fixture Level Impression Open Tray

Chairside

Open tray impression (pick-up)



Apply adhesive on open tray (Individual tray).



Injecting the impression material

Impression taking

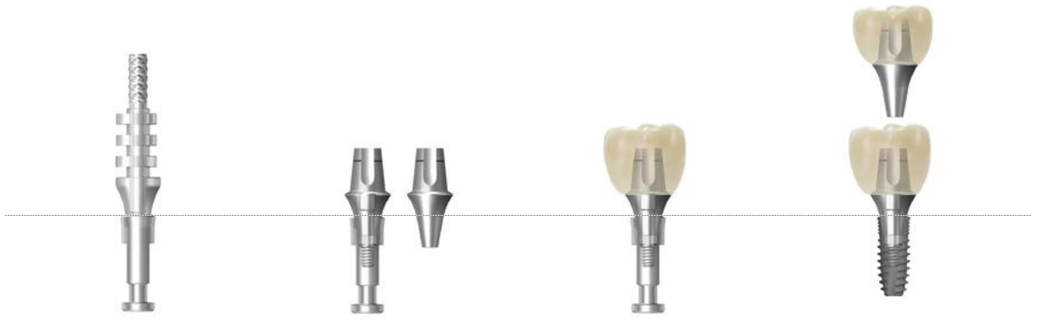
Remove the screw before removing the impression tray.

Inner side of impression

Fixture Level [Pick-up Type]- Dual Abutment

[Multiple Units]

Laboratory Procedure



Lab Analog Connection | Height Modification of Dual Abutment | Crown Wax-up | Final Restoration Cementation Type

Labside

Connect lab analog with impression coping.

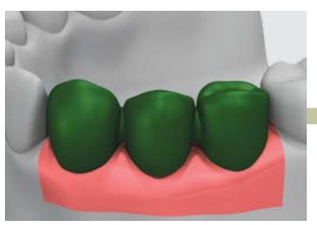
Soft tissue model

Connect a proper abutment.

After surveying of abutment, milling is possible if necessary.

Fabrication of positioning jig

Fabrication of the cap with pattern resin



Wax-up

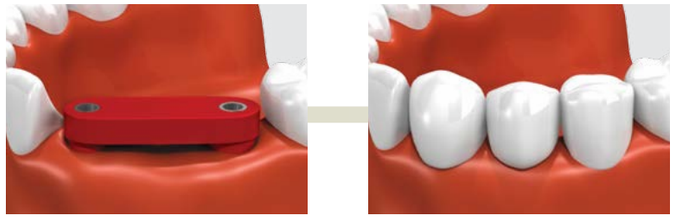
Metal framework

Final prosthesis

Fixture Level [Pick-up Type]- Dual Abutment

[Multiple Units]

Chairside



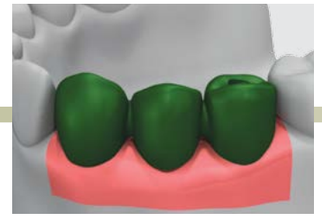
Use positioning jig to transfer the abutment in model to oral cavity then tighten it to 20N·cm.
Retighten after 15 minutes.

Insertion of the final prosthesis and occlusal adjustment

* In the process of seating the prosthesis, the prosthesis can be rebounded by gingival tissue.
In this case it is advised to apply occlusal load on the prosthesis for 10~15 minutes.

SCRP- Labside

Formation of access hole with long transfer coping screw



Wax-up

Metal framework

SCRP- Chairside

Final prosthesis

Use positioning jig to transfer the abutment in model to oral cavity then tighten it to 20N·cm.
Retighten after 15 minutes.

Insertion of final prosthesis and adjustment of occlusion

* In the process of seating the prosthesis, the prosthesis can be rebounded by gingival tissue.
In this case it is advised to apply occlusal load on the prosthesis for 10~15 minutes.

Fixture Level [Transfer Type]- Dual Abutment

[Multiple Units]

Clinical Procedure

Healing Abutment | Impression Coping Transfer Type | Fixture Level Impression Closed Tray

Chairside

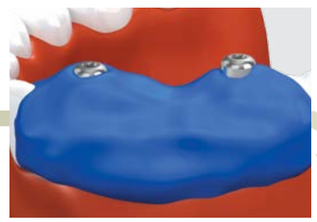
Second stage surgery (Uncovering)

Soft tissue formed around Healing Abutment

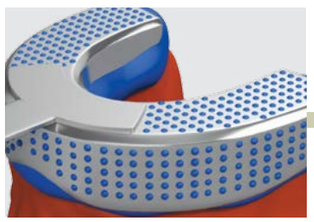
Transfer type impression coping

Seating the impression coping which has the same diameter as Healing Abutment

Impression of fixture level



Injection of impression material



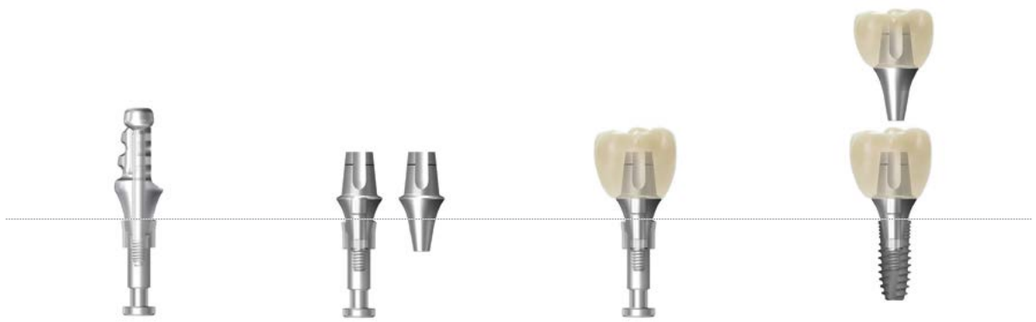
Impression taking

Inner side of the impression

Fixture Level [Transfer Type]- Dual Abutment

[Multiple Units]

Laboratory Procedure



Lab Analog Connection | Height Modification of Dual Abutment | Crown Wax-up | Final Restoration Cementation Type

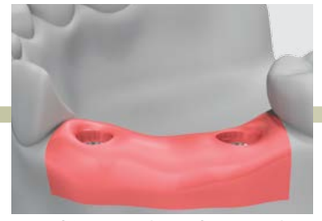
Labside

Impression coping and analog connection. And insert impression coping into the impression.

Make sure the impression coping is fully seated into the impression.

Soft tissue model

Fabrication of master cast



Soft tissue condition after removal of impression coping

Measuring gingival height with depth gauge

Selection of Dual Abutment of proper diameter and gingival height

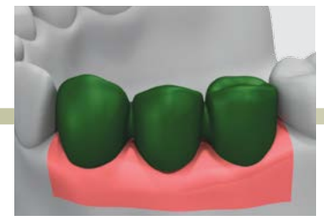
Verify by surveying the selected abutment. (Milling of the abutment is possible if necessary)

Fabrication of positioning jig

Fixture Level [Transfer Type]- Dual Abutment

[Multiple Units]

Seat the cap with pattern resin



Completion of wax-up

Completion of metal framework

Chairside

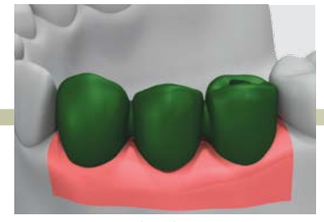
Final prosthesis

Use positioning jig to transfer the abutment in model to oral cavity then tighten it to 20N·cm.
Retighten after 15 minutes.

Insertion of final prosthesis, and adjustment of occlusion. Prior to cementation, place wax into abutment screw hole to protect screw head.

SCRP- Labside

Make an access hole in the resin cap by using the long transfer coping screw.



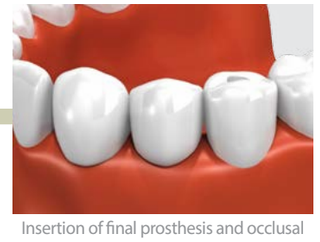
Completed wax-up

Metal framework

SCRP- Chairside

Final prosthesis

Use positioning jig to transfer the abutment in model to oral cavity then tighten it to 20N·cm.
Retighten after 15 minutes.



Insertion of final prosthesis and occlusal adjustment. Place wax into screw hole of the abutment prior to sealing with composite.

* In the process of seating the prosthesis, the prosthesis can be rebounded by gingival tissue.
In this case it is advised to apply occlusal load on the prosthesis for 10~15 minutes.

Fixture Level [Transfer Type]- Dual Milling Abutment

[Single Unit]

Clinical Procedure

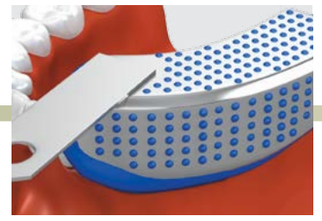
Healing Abutment | Impression Coping Transfer Type | Fixture Level Impression

Chairside

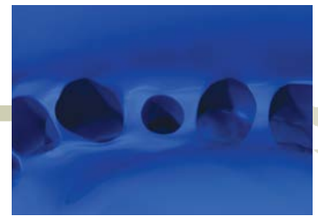
Placement of Healing Abutment

Placement of impression coping with the same diameter as Healing Abutment

Injecting of impression material

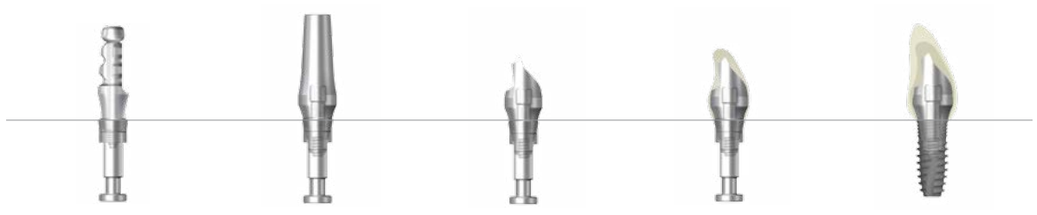


Impression taking



Impression coping formation on the inside of impression is observable. (Traces of impression coping on the inner surface of impression)

Laboratory Procedure



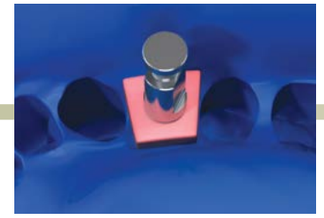
Lab Analog Connection | Dual Milling Abutment Connection | Modification | Crown Wax-up | Final Restoration Cementation

Fixture Level [Transfer Type]- Dual Milling Abutment

[Single Unit]

Labside

Impression coping and analog connection and insert impression coping into the impression.



Soft tissue model

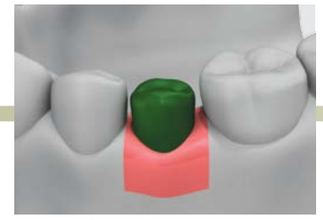
Master cast

Selection of appropriate Dual Milling Abutment

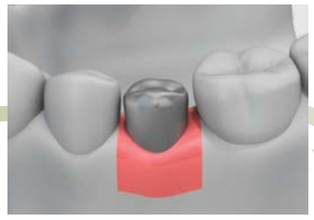
Abutment after milling process

Fabrication of positioning jig

Fabrication of pattern resin cap



Completion of wax-up

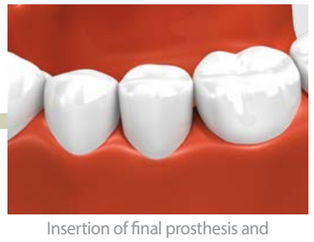


Metal framework

Chairside

Final prosthesis

Use positioning jig to transfer the abutment in model to oral cavity then tighten it to 20N·cm.
Retighten after 15 minutes.



Insertion of final prosthesis and occlusal adjustment

* In the process of seating the prosthesis, the prosthesis can be rebounded by gingival tissue. In this case it is advised to apply acclusal load on the prosthesis for 10~15 minutes.

Fixture Level [Pick-up Type]- Angled Abutment

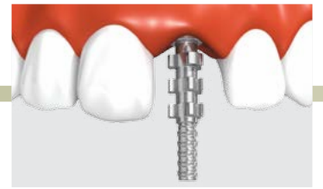
[Single Unit]

Clinical Procedure

Angled Abutment | Impression Coping Pick-up Type | Fixture Level Impression

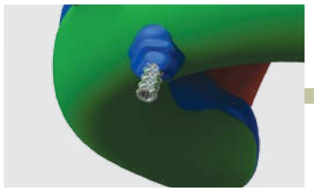
Chairside

Pick-up type impression coping



Placement of pick-up impression coping

Injecting impression material



Impression taking
(individual tray with holes)

Unscrew, then remove the impression.

Removed impression

Laboratory Procedure

Lab Analog Connection | Angled Abutment Connection | Modification | Framework Wax-up | Final Restoration Cementation

Fixture Level [Pick-up Type]- Angled Abutment

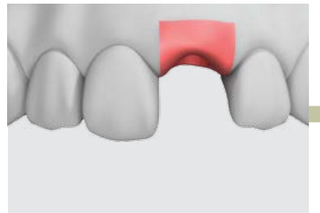
[Single Unit]

Labside

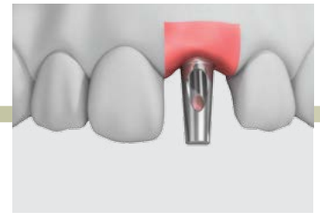
Impression coping with analog connections

Soft tissue formation and fabrication of master model

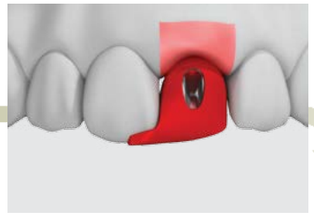
Unscrew then separate impression from the model.



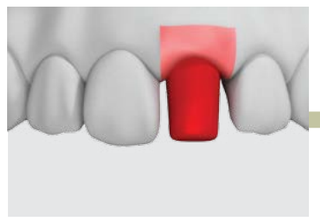
Master cast



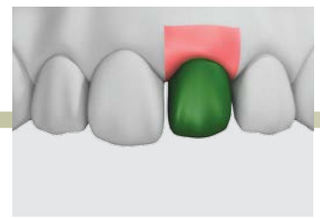
Select an Angled Abutment.



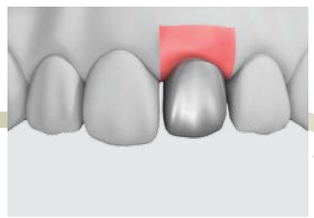
Modification of Angled Abutment & fabrication of positioning jig



Fabrication of pattern resin cap

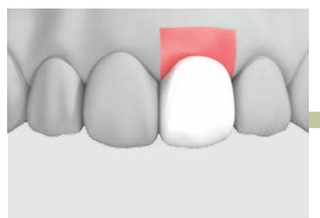


Wax-up

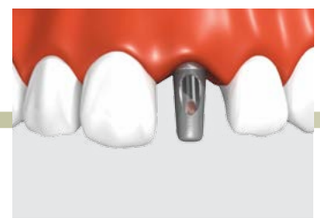


Metal or zirconia framework

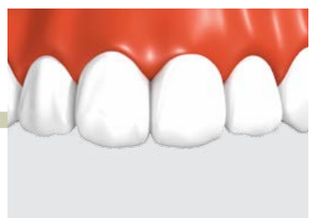
Chairside



Final prosthesis



Insertion of the Angled Abutment using positioning jig

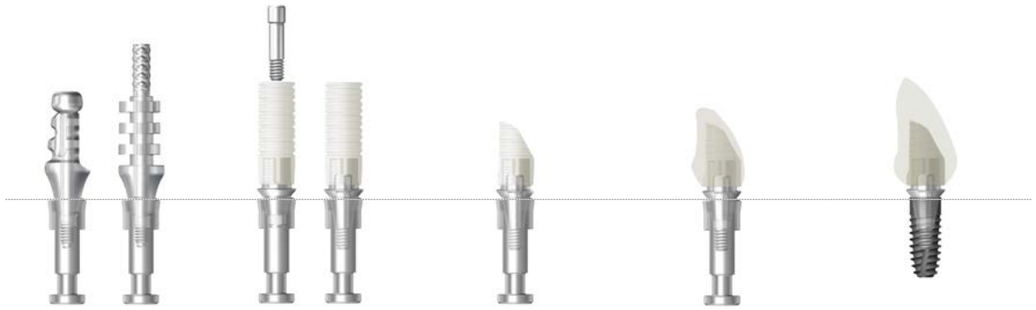


Insertion of final prosthesis and occlusal adjustment

Fixture Level- Metal-Casting Abutment

[Single Unit]

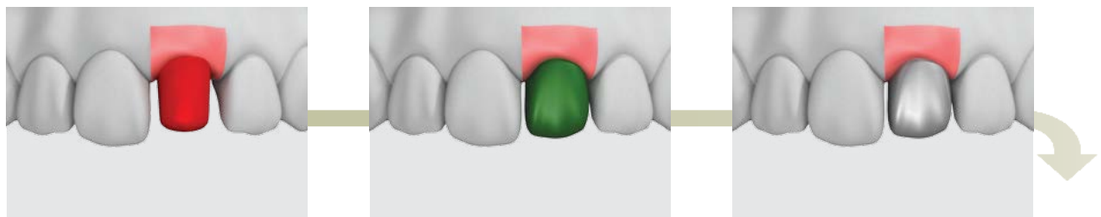
Laboratory Procedure



Lab Analog Connection | Metal-Casting Abutment Connection | Modification | Abutment Wax-up | Final Restoration Cementation

Labside

Placement of Metal-Casting Abutment | Completed custom abutment | Fabrication of positioning jig



Fabrication of pattern resin cap | Wax-up | Metal framework

Chairside

Final prosthesis | Insertion of custom abutment using positioning jig | Insertion of final prosthesis and occlusal adjustment

Fixture Level [Pick-up Type]- Temporary Abutment

[Single Unit]

Temporary Abutment

<Using Temporary Abutment>

Considering the opposing teeth before seating the Temporary Abutment, trim off the abutment if needed and complete the Temporary Abutment prosthesis with direct resin.

Prosthetic Procedure 3

Impression Technique and Restoration Selection

Screw Abutment

Abutment Level Impression

Screw Abutment
Ø5.0

Angled Screw Abutment
Square / Round
10° / 20° / 30°
Ø4.3

Open Tray Technique

Closed Tray Technique

Impression Coping Pick-up
Ø5.0

Impression Coping Transfer
Ø5.0

Analog
Ø5.0

Burn-out Cylinder
Ø5.0

Metal Cylinder
Ø5.0

Ti-Temporary Cylinder
Ø5.0

Ti-Cylinder
Ø5.0

Polishing Protector
Ø5.0

Temporary Restoration

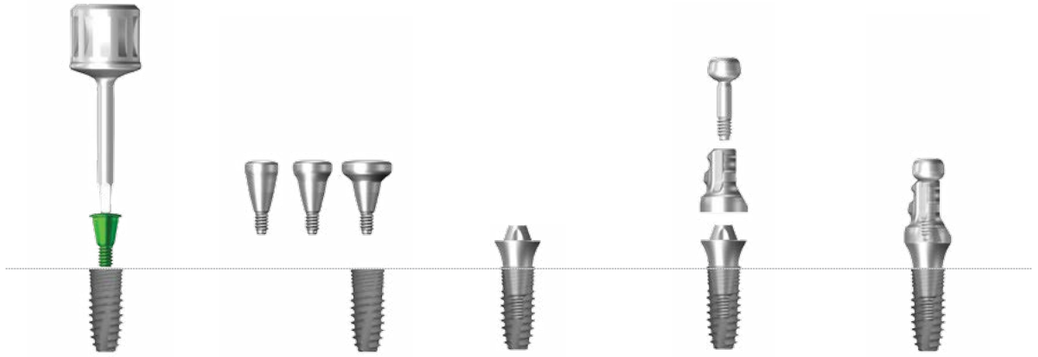
Ti-Retaining Screw

Screw-Retained Restoration

Abutment Level [Transfer Type]- Screw Abutment

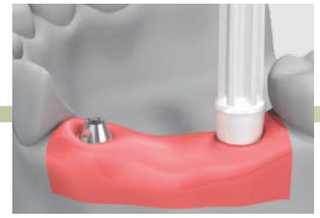
[Multiple Units]

Clinical Procedure



Cover Screw | Healing Abutment | Screw Abutment | Impression Coping Transfer Type | Abutment Level Impression

Chairside

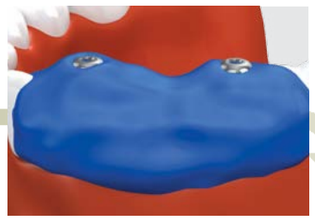


Select and seat an appropriate Screw Abutment with delivery holder.

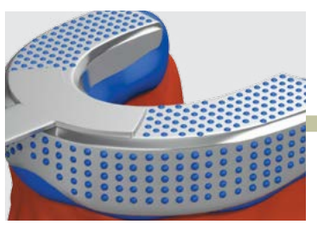
Tighten it to 20N·cm.
Retighten after 15 minutes with Screw Abutment adaptor.

Screw Abutment transfer coping (abutment level)

Placement of impression copings



Injecting impression material



Impression taking

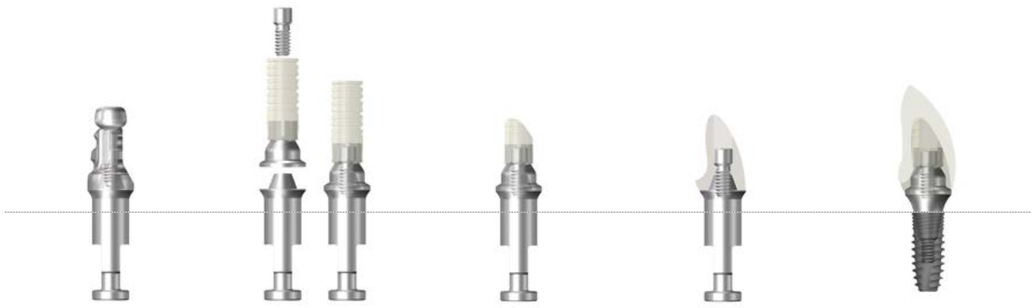
Inner-side of impression

Placement of comfort cap on Screw Abutment

Abutment Level [Transfer Type]- Screw Abutment

[Multiple Units]

Laboratory Procedure



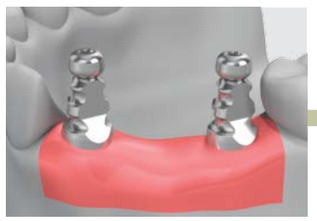
Lab Analog Connection | Cylinder Connection | Modification | Abutment Wax-up | Final Restoration Screw Retained

Labside

Connecting impression coping with Screw Abutment analog

Positioning impression coping and analog assembly in the exact location of the impression

Soft tissue model



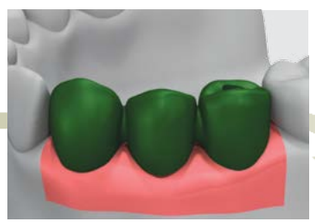
Fabrication of master cast

Removal of impression coping

Connect the Screw Abutment cylinder then tighten it with ti-retaining screw.

Consider the distance with opposing teeth, then trim cylinder to its appropriate height.

Connect the plastic bar in the middle of trimmed Screw Abutment to help support the wax pattern.
Wax pattern may have shrinkage.

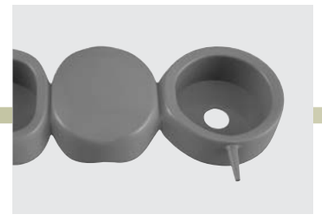


Wax-up

Abutment Level [Transfer Type]- Screw Abutment

[Multiple Units]

Metal framework



Removal of lip remnant in the interior of metal framework using reamer

Completion of metal framework

Completion of final prosthesis

Insertion of final prosthesis and occlusal adjustment. Tighten with ti-retaining screw (20N·cm).

Cementation Repair Method (SCRP)

[Screw & Cement Retained Prosthesis]

In Light of Implant Prosthesis:

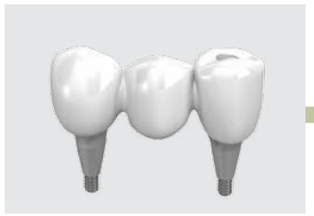
- A screw type restoration helps to simplify prosthesis repair, including insertion and removal of the prosthesis if necessary.
- Cement type restoration tend to have a stable occlusion and may enhance the adaptability. However the weak point is that it cannot be removed after permanent cementation.
- A dual abutment can be cemented or screw retained.

In Case of Screw Loosening or if Prosthesis Repair is Needed

In case of the following: screw loosing or prosthesis repair

In order to unscrew, form access hole on the occlusal surface with bur.

Unscrew, then remove the prosthesis from the oral cavity.



Both cemented prosthesis and abutment are removed.

Finish the repair then seat it inside the oral cavity.

Tighten the prosthesis with 20N·cm by a screw driver

* It is recommended that the abutment screw is retightened after 15 minutes.

Fill the access hole with cotton.

Fill the access hole with resin.

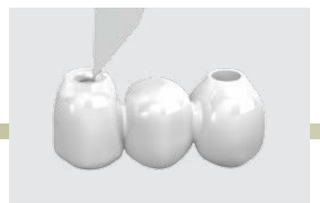
Final prosthesis

Cementation Repair Method (SCRP)

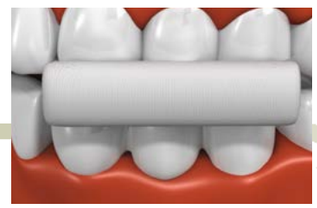
[Screw & Cement Retained Prosthesis]

Separation of Prosthesis with Abutment due to Cement Loss

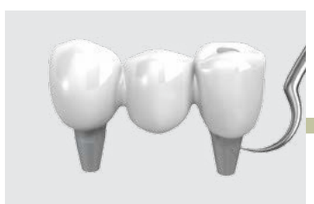
Remove the screw completely with square driver and remove prosthesis from the patient's mouth.



Apply cement to the prosthesis.



Place it back into the patient's mouth.



After the cement setting, unscrew and remove the excessive cement.

Finish the repair and seat it inside the patient's mouth.

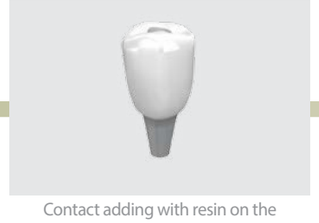
Tighten the prosthesis with 20N·cm with a screw driver.

Adding to the Interproximal Contact Surface due to Prosthesis Loosening

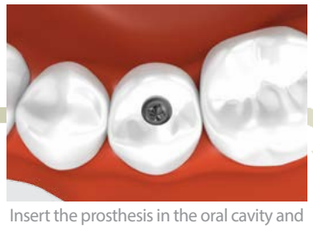
Prosthesis loosening due to contact loosening.

Form access hole using bur.

Unscrew, then remove the cemented prosthesis with abutment in the oral cavity.

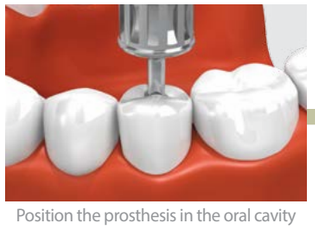


Contact adding with resin on the prepared under space.



Insert the prosthesis in the oral cavity and screw it in afterwards perform light curing. And then polish the contact area.

It is recommended that the abutment screw is retightened after 15 minutes.



Position the prosthesis in the oral cavity and tighten the screw with 20N·cm, then fill up the access hole.

Prosthetic Procedure 4

Impression Technique and Restoration Selection

Overdenture Procedure
Mini Ball / Magnetic Attachment

Abutment Level Impression

Mini Ball Abutment

Ø3.5

Angled Mini Ball Abutment

Square / Round
10° / 20°/ 30°
Ø4.3

Implant Keeper

Ø4.5 / Ø5.5

Mini Ball Impression Coping

Mini Ball Analog

Socket Spacer

Mini Denture Socket

Mini O-ring

Mini Ball and Socket Attachment for Overdenture

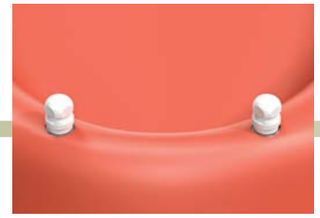
Magnetic Assay

Magnetic Attachment for Overdenture

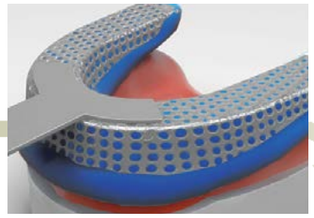
Mini Ball Attachment

Chairside

Connect the Mini Ball Abutment onto the fixture.

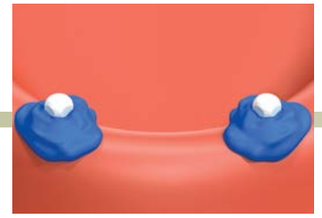


Affix the impression coping on the Mini Ball Abutment.

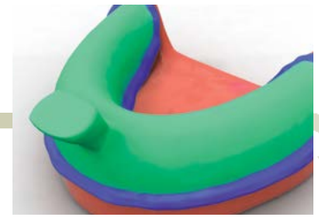


Take impression for the making of individual tray.

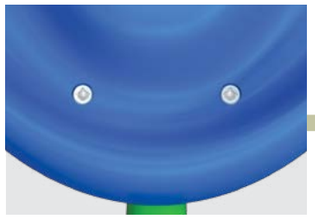
Produce the individual tray for denture impression.



Apply the impression material.



Take the final impression with the prepared individual tray.

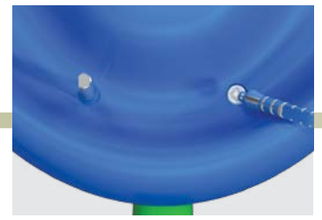


After the impression material is set, discard the individual tray.

Image of the final impression (with impression coping)

Labside

Mini Ball Analog



Insert analogs into the embedded impression coping.

Create the master model.

Socket spacer

Fabrication of denture with conventional method

Mini Ball Attachment

Case 1

Secure spaces for the female sockets.

Chairside

Connect the female sockets to the Mini Ball Abutments in the intra-oral.

Apply small amount of the resin into the secured area.

Position the denture in the oral cavity and wait until the resin is completely set.

Female sockets are placed in the denture.

After polishing, the overdenture is completed.

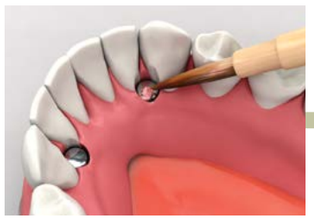
Case 2

Create holes for placement of female sockets.

Chairside

Connect the female sockets to the Mini Ball Abutments in the intra-oral.

Examine the interference between inner surface of the holes and the female sockets.



Apply the resin into the holes and wait until it is completely set.

Female sockets are placed in the denture.

Apply resin around the female sockets.

After polishing, the overdenture is completed.

Angled Mini Ball Attachment

Case 1

Secure spaces for the female sockets.

Chairside

Connect the female sockets to the Angled Mini Ball Abutments in the intra-oral.

Apply small amount of the resin into the secured area.

Position the denture in the oral cavity and wait until the resin is completely set.

Female sockets are placed in the denture.

After polishing, the overdenture is completed.

Angled Mini Ball Attachment

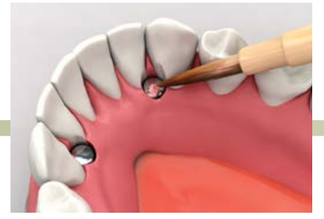
Case 2

Chairside

Create holes for placement of female sockets.

Connect the female sockets to the Angled Mini Ball Abutments in the intra-oral.

Examine the interference between inner surface of the holes and the female sockets.



Apply the resin into the holes and wait until it is completely set.

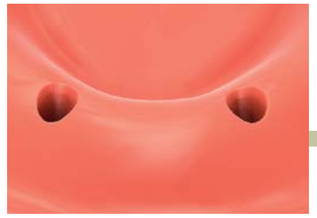
Female sockets are placed in the denture.

Apply resin around the female sockets.

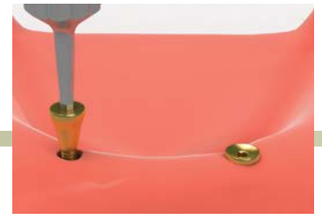
After polishing, the overdenture is completed.

Magnetic Attachment

Chairside



After Healing Abutment removal



Connect implant keeper with fixture and tighten it with 20N-cm.

Implant keepers connected with the fixtures

Position the Magnetic Assay on the implant keeper.

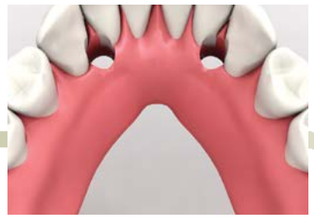
Secure spaces for the Magnetic Assays.

Examine the interference between inner divot of the denture and the magnets.

Case 1

Apply resin on the divot of the denture's inner surface.

Position the denture into the mouth and wait until the resin is completely set.



Magnetic Assays are placed in the denture.

Apply some of resin around the Magnetic Assays.

After the resin is completely set, remove excess. After polishing, the overdenture is completed.

Magnetic Attachment

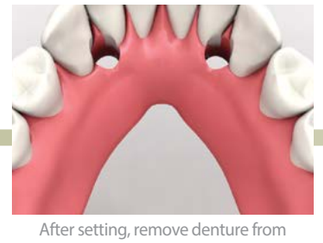
Case 2

Create holes for the placement of the magnets.

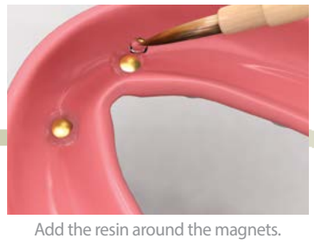
Examine the interference between inner surface of the holes and the magnets.

Position the denture in the mouth and apply small amount of resin into the hole.

Wait until the resin is completely set.



After setting, remove denture from the mouth.



Add the resin around the magnets.

After polishing, the overdenture is completed.

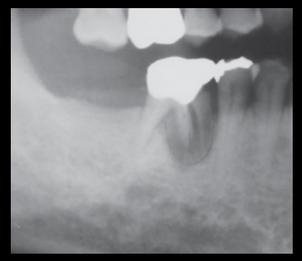
NR Line

DENTIUM
LONG-TERM
CLINICAL
DATA

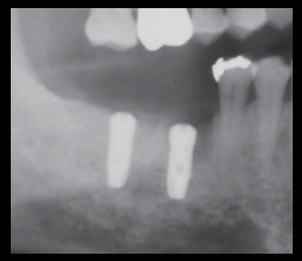
Dentium
For Dentists By Dentists

2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

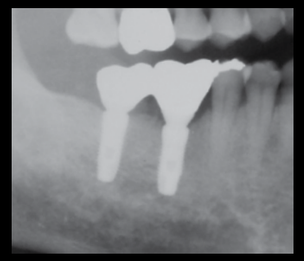
11 YEARS



2002. 05. 17
Pre-op

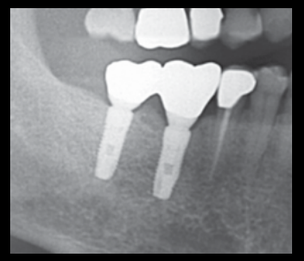


2002. 09. 04
Post-op



2003. 03. 15
Final prosthesis

2008. 04. 14
5 years



2013. 12. 05
11 years

over 10 years of Long term data

OVER A **DECADE** OF COMMITMENT TO THE **BEST PRODUCTS** FOR DENTISTS AND PATIENTS

Dentium
For Dentists By Dentists