Azure™ Implant System

Surgical and Restorative Manual

ZIMMER BIOMET

Your progress. Our promise.®

Table Of Contents

Azure Implant System Overview

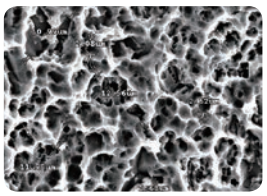
Surface Technology

The Azure Implant System is designed to provide a high quality, easy to use system so that you can confidently deliver implant treatment to your patients.

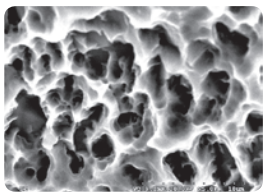
Biodegradable Sand Blasting and Acid-Etching (BSA) is applied to the Azure Implants for the enhancement of osseointegration. The porosities are sequentially produced by HA + Beta - TCP grit blasting and then double acid-etching to increase surface area and create the right microtopography for Bone to Implant Contact (BIC). The blasting utilizes biocompatible and bioabsorbable media instead of traditional aluminum grit particles.

Porous Surface Texture

The average pore diameter of 1.5 µm facilitates osteoblast attachment, activation and proliferation.



SEM 2000x

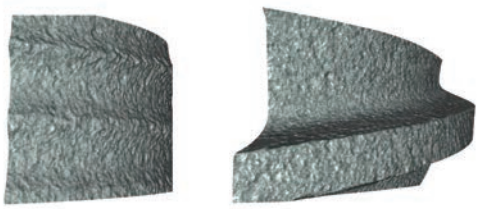


SEM 5000x

Scanning Electron Micrographs (SEM) showing the macroporosity and microporosity of BSA-treated titanium surface

Topographic Studies

The roughness (Ra) value is one of the key factors in the mediation of osseointegration.[1] The average Ra value of the Azure Implant surface is 2.3-2.7 µm



Ra value = 2.3-2.7 µm

BSA implant surface under magnification

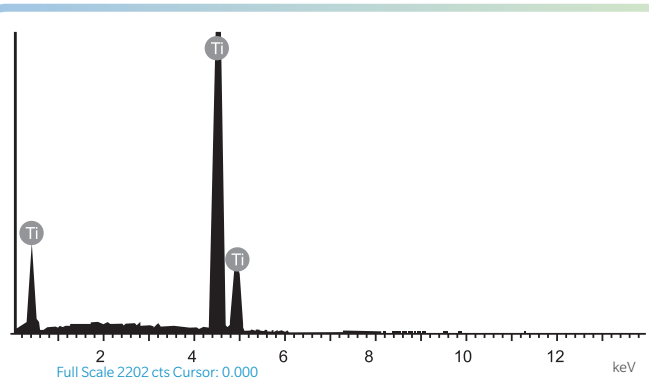
1. Bernal IMO, Risa I, Hiroki K, Ken-Ichiro T, Naoko Y, Toshi-Ichiro T, Kunteru N, Masahiko M. (2009). Dental implant surface roughness and topography: A review of the literature. J Gifu Dent Soc 35(3): 89-95.

Biosafety Inspection

Energy Dispersive Spectroscopy (EDS) analysis of the titanium surface post-ultrasonic cleaning with ultra pure water shows the implant surface does not contain any residual elements.*

Element	Weight %	Atomic %
Ti	100	100
Others	0	0
Total	100	100

*Data on file with INTAI



EDS analysis of the BSA surface post-cleaning

Azure Implant System Overview

Evidence

Histologic Analysis

The postoperative canine histological jawbone sections at 8 & 12 weeks and Backscattered Electron Image (BEI) show a significant change in the amount of osseointegration over time. A significant increase in the BIC ratio from 31.87% (8 weeks) to 74.6% (12 weeks) was observed.

Fig. A
The histological cross-section of the Azure C-System Implant with new bone formation.

Fig. B
The BEI.

The Implant Stability Quotient (ISQ) values were measured with an overall average of 70 ISQ during healing time (see below ISQ chart). An ISQ value greater than or equal to 70 is an indicator of high primary stability. Results showed an inverse relationship between the observed micromotion and the ISQ values, indicating that micromotion decreased with increasing ISQ values.[2]

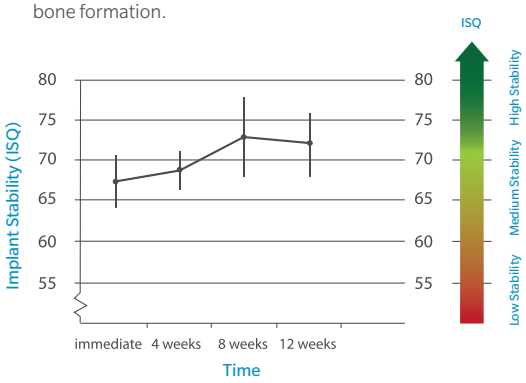


Fig. C
Graph showing implant stability over time*

2. Trisi P, Carlesi T, Colagiovanni M, Perfetti G (2010). Implant Stability Quotient (ISQ) vs direct in vitro measurement of primary stability (micromotion) : effect of bone density and insertion torque. J of Osteology and Biomaterials. 1(3): 141-149

* Data on file with INTAI

Long-Term Mechanical Stability

Fatigue tests were conducted on the Azure C- and E-System Implants with straight and angled abutments. A cyclical load was applied vertically downward to the hemispherical contact cap and transferred in an off-axis orientation for 5 million cycles in accordance with ISO 14801 [Figure D]. The ratio of minimum and maximum force, R value, was set as 0.1 and the load frequency was set as 15 Hz in a sine wave.

Results show that the Azure C- and E-System Implants with straight abutments demonstrated high fatigue strength. [Figure E]. The implant system with angled abutments showed survivorship at the same 5 million cycle loading.

Fig. D

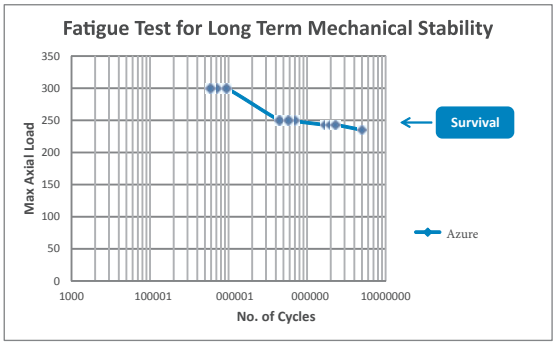


Fig. E

Finite Element Analysis

Zimmer Biomet Dental provides the stress concentration and stress distribution for the implant, screw and abutment interface. For both C- and E-System Implants, two areas of the system were analyzed: the implant to simulated bone contact area, and the implant to abutment interface.

For this simulation, specific mechanical properties were taken into account. Poisson's Ratios of 0.31, 0.37, and 0.30 were chosen for the implant, abutment and simulated bone, respectively. Elastic modulus values of 104, 105, 13.7, and 13.7 GPa were used for a Ti-6AI-4V abutment, a CP4 titanium implant, cortical bone, and cancellous bone, respectively.

As shown in the following Figures F and H, both the C- and E-Systems alleviate stress concentrations when loaded with a 20 N force from both the axial and mesial directions in simulated bone. Figure G below shows the stress concentrations occurring at the implant and abutment interface for both the C- and E-Systems when loaded 30 degrees off axis at 50 N.

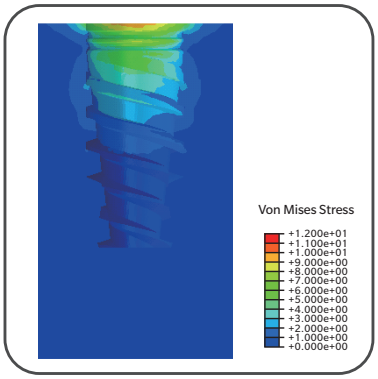


Fig. F
C-System Implant in simulated bone

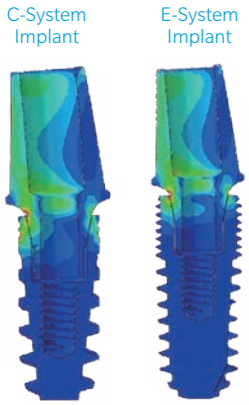


Fig. G
Implant to abutment interface.

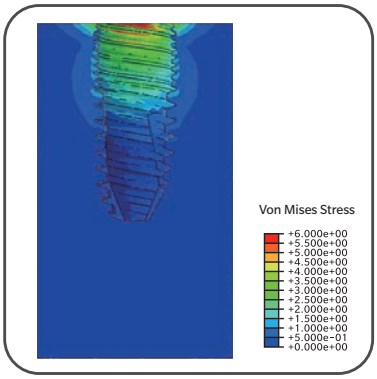


Fig. H
E-System Implant in simulated bone

The enhanced wall thickness of the E-System and the geometric design of the C-System are both key features that help dissipate the loading stresses, thus resulting in a more successful implant long-term.

Azure Implant System Overview

C-System Features

Back-Tapered Microthread Collar

The back-tapered microthread collar design helps provide stress relief in cortical bone after implant placement and microthreads at the collar help reduce bone resorption.

3-Step Thread Design

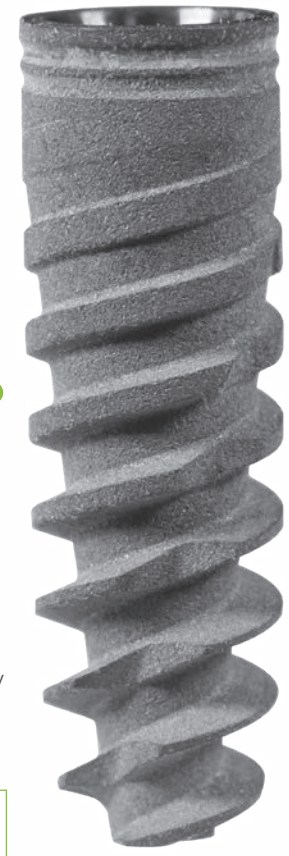
Condenses bone and gradually widens the osteotomy to facilitate high initial stability.

Natural Tooth Look

The implant geometry mimics that of a natural tooth root to give the alveolar bone balanced biomechanics.

Self-Tapping

The self-cutting edge makes implant insertion easier by moving bone chips up the implant and leading with a thinner, more aggressive thread.



C- and E-System Features

Built-in Platform Switch

Positions implant to abutment junction (IAJ) away from the bone to facilitate hard and soft tissue maintenance.

Conical Connection

11 degree conical connection design provides a tight seal at the implant to abutment interface with high mechanical strength.

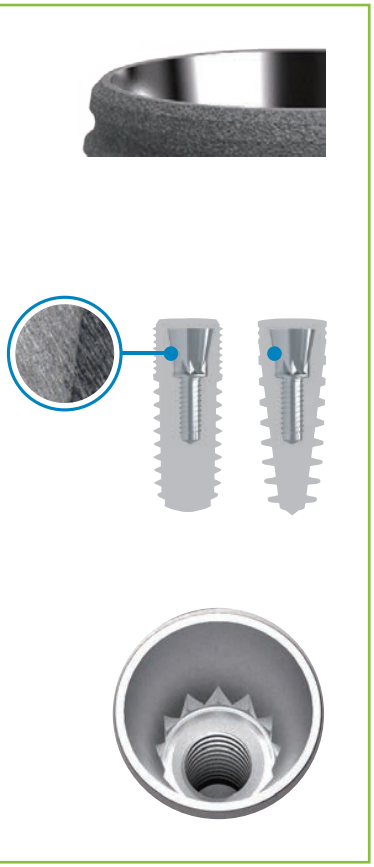
Internal Double-Hexagon Interface

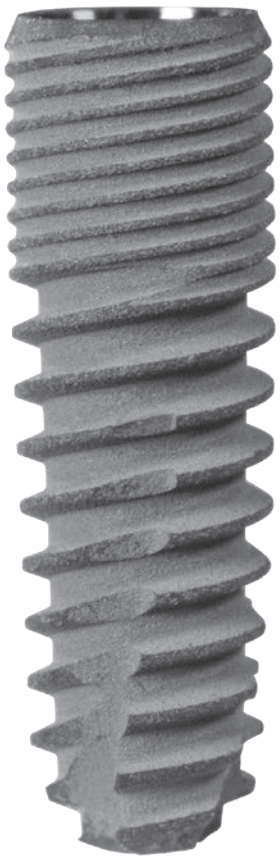
Provides aesthetic options through more restorative positions, especially when utilizing an angled abutment.

Diameters			Lengths				
Implant	Platform	Endosteal	8.5 mm	10 mm	11.5 mm	13 mm	15 mm
3.5 mm	3.5 mm	3.4 mm	DI0FS03308	DI0FS03510	DI0FS03511	DI0FS03513	DI0FS03515
3.9 mm	3.5 mm	3.8 mm	DI0FS03908	DI0FS03910	DI0FS03911	DI0FS03913	DI0FS03915
4.3 mm	3.9 mm	4.2 mm	DI0FS04308	DI0FS04310	DI0FS04211	DI0FS04313	DI0FS04315
5.0 mm	4.6 mm	4.9 mm	DI0FS05008	DI0FS05010	DI0FS05011	DI0FS05013	DI0FS05015

● Small Implant-Abutment Interface
● Large Implant-Abutment Interface

E-System Features





Microthread Collar

Provides cortical bone stress relief post-implant placement and reduces bone resorption.

Double-Lead Thread

Facilitates quick implant insertion and reduces heat generation from the insertion process.

Three-Bladed Cutting Edge

Provides self-tapping and preserves bone.

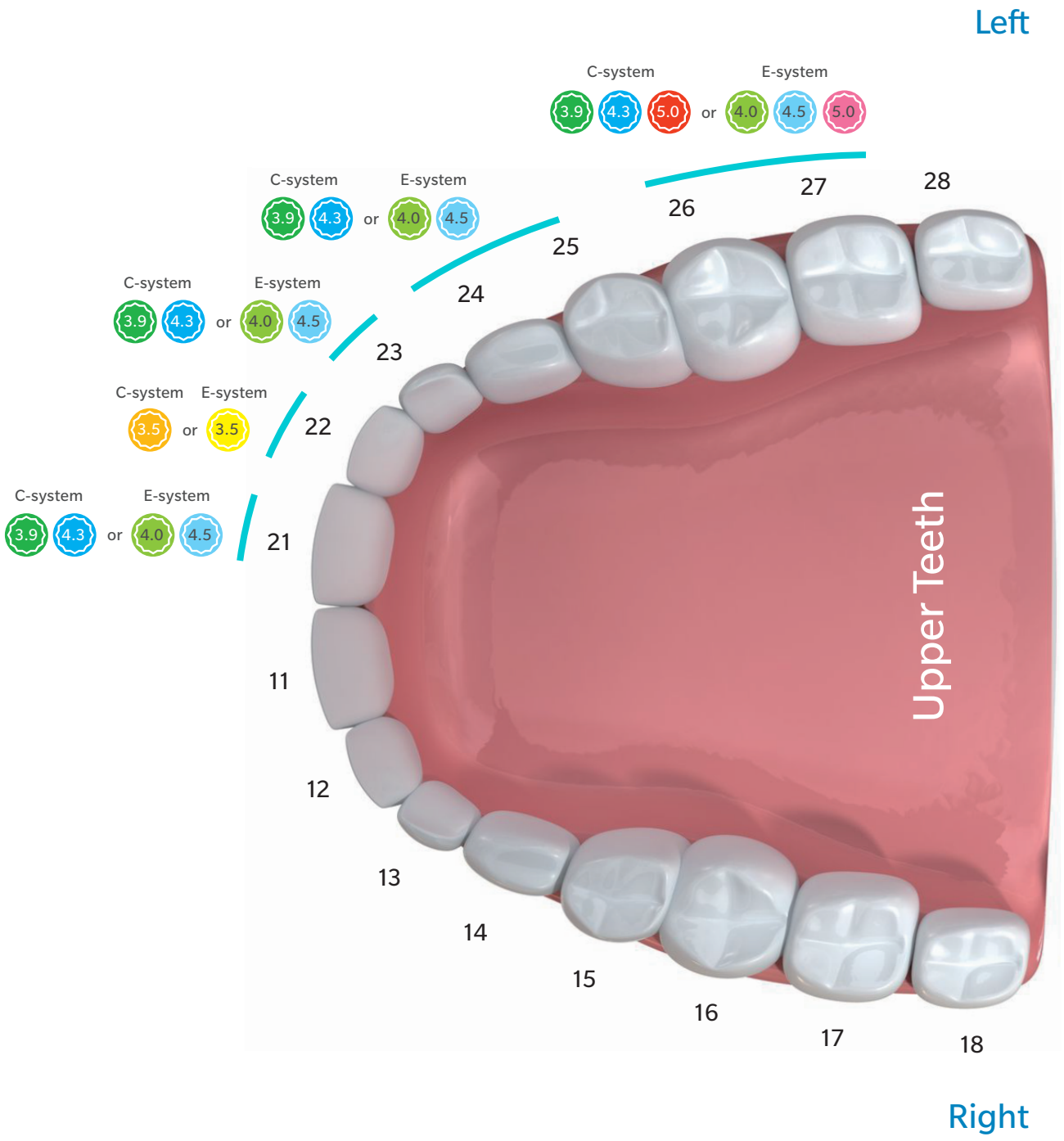
Rounded Apex

The blunt edge is designed to reduce the likelihood of injury to patient's vital structures.

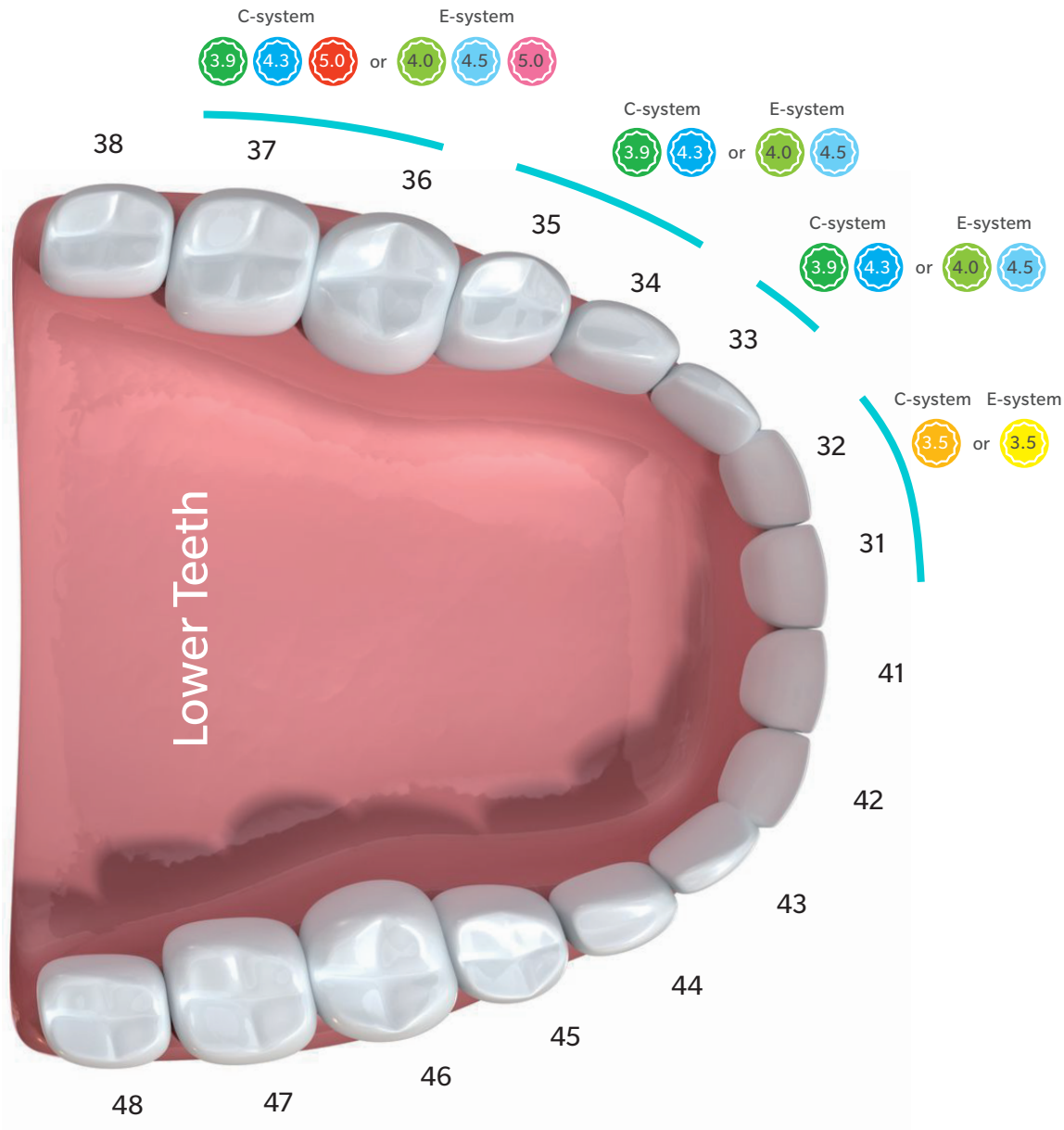
Diameters			Lengths				
Implant	Platform	Endosteal	8.5 mm	10 mm	11.5 mm	13 mm	15 mm
3.5 mm	3.4 mm	3.3 mm	DI0FS13508	DI0FS13510	DI0FS13511	DI0FS13513	DI0FS13515
4.0 mm	3.8 mm	3.8 mm	DI0FS14008	DI0FS14010	DI0FS14011	DI0FS14013	DI0FS14015
4.5 mm	4.2 mm	4.3 mm	DI0FS14508	DI0FS14510	DI0FS14211	DI0FS14513	DI0FS14515
5.0 mm	4.7 mm	4.8 mm	DI0FS15008	DI0FS15010	DI0FS15011	DI0FS15013	DI0FS15015

● Small Implant-Abutment Interface
● Large Implant-Abutment Interface

Recommended Implant Size By Tooth Location



Left

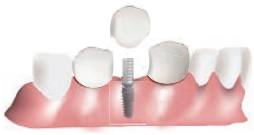

C-system
E-system
3.9
4.3
5.0
or
4.0
4.5
5.0
38
37
36
C-system
E-system
3.9
4.3
or
4.0
4.5
35
34
C-system
E-system
3.9
4.3
or
4.0
4.5
33
C-system
E-system
3.5
or
3.5
32
31
Lower Teeth
41
42
43
44
45
46
48
47

Right

Prosthetic System Flow Chart

C-System Implant  Cover Screw 

E-System Implant  Cover Screw 

	Temporary Abutment	Cement-Retained Abutment	
Dental Prosthesis			
Type Of Abutments	 Temporary Cylinder	 Straight	 Angled
Replica/Analog		 Implant Analog	
Impression Copings		 Transfer	 Pick-up
Healing		 Healing Screw	

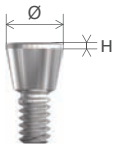
Screw-Retained Abutment		Ball Attachment
		
 Straight	 Angled	 Ball Abutment and Attachment
 Abutment Analog	 Abutment Analog	 Abutment Analog
 Transfer  Pick-up	 Pick-up	 Pick-up
 Straight	 Angled	 Healing Screw

Prosthetic Components

Connection Size Chart

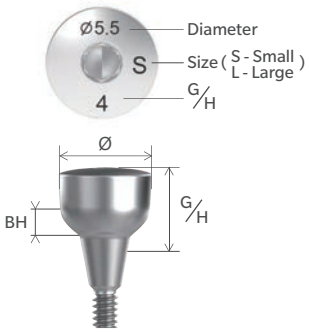
C-System Implant Size		E-System Implant Size	
Ø3.5	●	Ø3.5	●
Ø3.9	●	Ø4.0	●
Ø4.3	●	Ø4.5	●
Ø5.0	●	Ø5.0	●

Cover Screw



Catalog Number	Screw	H	
DI0CS2800S	2.87 mm	0.35 mm	●
DI0CS3101S	3.11 mm	1.0 mm	●
DI0CS3800L	3.89 mm	0.35 mm	●
DI0CS3901L	3.92 mm	1.0 mm	●

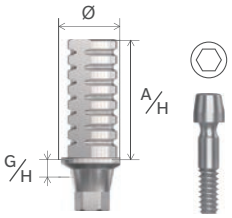
Healing Screw



Catalog Number	Screw	G/H	BH	
DI0HA4002S	4.0 mm	2 mm	0.4 mm	●
DI0HA4501S	4.5 mm	1 mm	0.1 mm	●
DI0HA4502S	4.5 mm	2 mm	0.5 mm	●
DI0HA4503S	4.5 mm	3 mm	0.4 mm	●
DI0HA4504S	4.5 mm	4 mm	0.4 mm	●
DI0HA5501S	5.5 mm	1 mm	0.2 mm	●
DI0HA5502S	5.5 mm	2 mm	0.4 mm	●
DI0HA5503S	5.5 mm	3 mm	0.4 mm	●
DI0HA5504S	5.5 mm	4 mm	0.4 mm	●
DI0HA6501S	6.5 mm	1 mm	0.2 mm	●
DI0HA6502S	6.5 mm	2 mm	0.4 mm	●
DI0HA6503S	6.5 mm	3 mm	0.4 mm	●
DI0HA6504S	6.5 mm	4 mm	0.4 mm	●
DI0HA5501L	5.5 mm	1 mm	0.2 mm	●
DI0HA5502L	5.5 mm	2 mm	0.2 mm	●
DI0HA5503L	5.5 mm	3 mm	0.2 mm	●
DI0HA5504L	5.5 mm	4 mm	0.2 mm	●
DI0HA5506L	5.5 mm	6 mm	0.2 mm	●
DI0HA6501L	6.5 mm	1 mm	0.2 mm	●
DI0HA6502L	6.5 mm	2 mm	0.2 mm	●
DI0HA6503L	6.5 mm	3 mm	0.2 mm	●
DI0HA6504L	6.5 mm	4 mm	0.2 mm	●
DI0HA6506L	6.5 mm	6 mm	0.2 mm	●

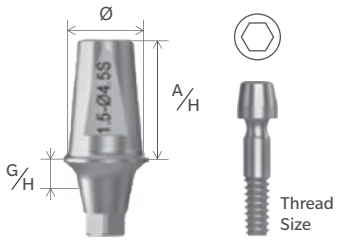
● Small Implant-Abutment Interface
● Large Implant-Abutment Interface

Temporary Abutment



Catalog Number	Ø	G/H	A/H	Hexed / Non-Hexed	
DI0TA4190S	4.1 mm	1.0 mm	8.0 mm	⬡	●
DI0TA419VS	4.1 mm	1.0 mm	8.0 mm	○	●
DI0TA4590L	4.5 mm	1.0 mm	8.0 mm	⬡	●
DI0TA459VL	4.5 mm	1.0 mm	8.0 mm	○	●

Cement-Retained Abutment



Catalog Number	Ø	G/H	A/H	
DI0CRA451S	4.5 mm	1.5 mm	7.5 mm	●
DI0CRA453S	4.5 mm	3.0 mm	7.0 mm	●
DI0CRA415S	4.5 mm	1.0 mm	5.5 mm	●
DI0CRA425S	4.5 mm	2.0 mm	5.5 mm	●
DI0CRA435S	4.5 mm	3.0 mm	5.5 mm	●
DI0CRA445S	4.5 mm	4.0 mm	5.5 mm	●
DI0CRA551S	5.5 mm	1.5 mm	7.5 mm	●
DI0CRA553S	5.5 mm	3.0 mm	7.0 mm	●
DI0CRA515S	5.5 mm	1.0 mm	5.5 mm	●
DI0CRA525S	5.5 mm	2.0 mm	5.5 mm	●
DI0CRA535S	5.5 mm	3.0 mm	5.5 mm	●
DI0CRA545S	5.5 mm	4.0 mm	5.5 mm	●
DI0CRA651S	6.5 mm	1.5 mm	7.5 mm	●
DI0CRA653S	6.5 mm	3.0 mm	7.0 mm	●
DI0CRA615S	6.5 mm	1.0 mm	5.5 mm	●
DI0CRA625S	6.5 mm	2.0 mm	5.5 mm	●
DI0CRA635S	6.5 mm	3.0 mm	5.5 mm	●
DI0CRA645S	6.5 mm	4.0 mm	5.5 mm	●
DI0CRA551L	5.5 mm	1.5 mm	7.5 mm	●
DI0CRA553L	5.5 mm	3.0 mm	7.0 mm	●
DI0CRA515L	5.5 mm	1.0 mm	5.5 mm	●
DI0CRA525L	5.5 mm	2.0 mm	5.5 mm	●
DI0CRA535L	5.5 mm	3.0 mm	5.5 mm	●
DI0CRA545L	5.5 mm	4.0 mm	5.5 mm	●
DI0CRA651L	6.5 mm	1.5 mm	7.5 mm	●
DI0CRA653L	6.5 mm	3.0 mm	7.0 mm	●
DI0CRA615L	6.5 mm	1.0 mm	5.5 mm	●
DI0CRA625L	6.5 mm	2.0 mm	5.5 mm	●
DI0CRA635L	6.5 mm	3.0 mm	5.5 mm	●
DI0CRA645L	6.5 mm	4.0 mm	5.5 mm	●

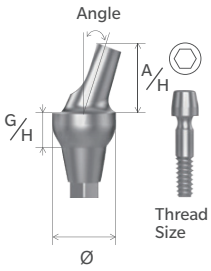
Catalog Number	Thread	Screw Type	
DI0ASM160S	M1.6	⬡	●
DI0ASM200L	M2.0	⬡	●

● Small Implant-Abutment Interface
● Large Implant-Abutment Interface

Ø = Diameter

Cement-Retained Abutments

Cement-Retained Angled Abutment



Catalog Number	Ø	G/H	A/H	Angulation	
DI0CRA45AS	4.5 mm	3.5 mm	6.0 mm	20°	●
DI0CRA45BS	4.5 mm	3.5 mm	6.0 mm	15°	●
DI0CRA55AL	5.5 mm	3.5 mm	6.0 mm	20°	●
DI0CRA55BL	5.5 mm	3.5 mm	6.0 mm	15°	●

Catalog Number	Thread	Screw Type	
DI0ASM160S	M1.6	⬡	●
DI0ASM200L	M2.0	⬡	●

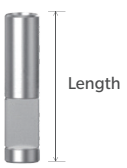
Cement-Retained Implant Transfer

Catalog Number	L	Hexed / Non-Hexed	Thread	
DI0IT0160S	8 mm	⬡	M1.6 mm	●
DI0IT0190S	11 mm	⬡	M1.6 mm	●
DI0IT012HS	12 mm	⬡	M1.6 mm	●
DI0IT016HS	16 mm	⬡	M1.6 mm	●
DI0IT0180L	8 mm	⬡	M2.0 mm	●
DI0IT0210L	11 mm	⬡	M2.0 mm	●
DI0IT012HL	12 mm	⬡	M2.0 mm	●
DI0IT016HL	16 mm	⬡	M2.0 mm	●

Cement-Retained Implant Pick-up

Catalog Number	L	Hexed / Non-Hexed	Thread	
DI0IPU210S	13 mm	⬡	M1.6 mm	●
DI0IPU260S	17 mm	⬡	M1.6 mm	●
DI0IPU21VS	13 mm	○	M1.6 mm	●
DI0IPU26VS	17 mm	○	M1.6 mm	●
DI0IPU220L	12 mm	⬡	M2.0 mm	●
DI0IPU270L	16 mm	⬡	M2.0 mm	●
DI0IPU22VL	12 mm	○	M2.0 mm	●
DI0IPU27VL	16 mm	○	M2.0 mm	●

Cement-Retained Implant Analog



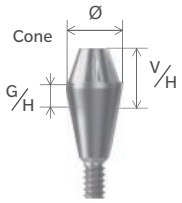
Catalog Number	Length	
DI0IR0150S	15.0 mm	●
DI0IR0155L	15.5 mm	●

● Small Implant-Abutment Interface
● Large Implant-Abutment Interface

Ø = Diameter L = Length

Screw-Retained Abutments

Screw-Retained Abutment



Catalog Number	Ø	G/H	V/H	Cone	
DI0SRA220S	3.5 mm	0.5 mm	2.5 mm	20°	●
DI0SRA320S	3.5 mm	1.0 mm	3.0 mm	20°	●
DI0SRA420S	3.5 mm	2.0 mm	4.0 mm	20°	●
DI0SRA620S	3.5 mm	4.0 mm	6.0 mm	20°	●
DI0SRA145S	3.5 mm	0.5 mm	1.0 mm	45°	●
DI0SRA245S	3.5 mm	1.0 mm	2.0 mm	45°	●
DI0SRA345S	3.5 mm	2.0 mm	3.0 mm	45°	●
DI0SRA545S	3.5 mm	4.0 mm	5.0 mm	45°	●
DI0SRA220L	3.5 mm	0.5 mm	2.5 mm	20°	●
DI0SRA320L	3.5 mm	1.0 mm	3.0 mm	20°	●
DI0SRA420L	3.5 mm	2.0 mm	4.0 mm	20°	●
DI0SRA620L	3.5 mm	4.0 mm	6.0 mm	20°	●
DI0SRA145L	3.5 mm	0.5 mm	1.0 mm	45°	●
DI0SRA245L	3.5 mm	1.0 mm	2.0 mm	45°	●
DI0SRA345L	3.5 mm	2.0 mm	3.0 mm	45°	●
DI0SRA545L	3.5 mm	4.0 mm	5.0 mm	45°	●

● Small Implant-Abutment Interface
● Large Implant-Abutment Interface

Screw-Retained Cylinder

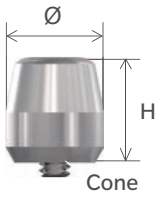
Catalog Number	Material	Intended Use	Cone
DI0SRCT020	Ti6Al4V	Temporary	20°
DI0SRCT045	Ti6Al4V	Temporary	45°

Catalog Number	Ø	Screw Type	H
DI0SRBS18H	2.3 mm	⬡	1.8 mm

Ø = Diameter

Screw-Retained Abutments

Screw-Retained Healing Cap



Catalog Number	Ø	H	Cone
DI0SRHC442	4.3 mm	4.3 mm	20°
DI0SRHC532	5.5 mm	3.8 mm	20°
DI0SRHC552	5.5 mm	5.8 mm	20°
DI0SRHC424	4.3 mm	2.7 mm	45°
DI0SRHC534	5.5 mm	3.8 mm	45°
DI0SRHC554	5.5 mm	5.8 mm	45°

Screw-Retained Abutment Transfer

Catalog Number	Cone
DI0SRAT000	20° / 45°

Screw-Retained Abutment Pick-up

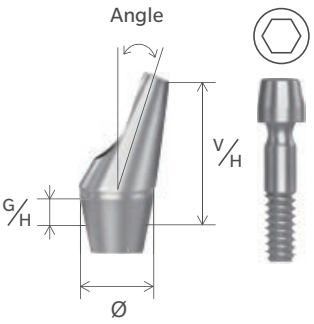
Catalog Number	Ø	Cone
DI0SRAPU42	4.3 mm	20°
DI0SRAPU52	5.5 mm	20°
DI0SRAPU44	4.3 mm	45°
DI0SRAPU54	5.5 mm	45°

Screw-Retained Abutment Analog

Catalog Number	Cone
DI0SRAR020	20°
DI0SRAR045	45°

Ø = Diameter

Screw-Retained Angled Abutment

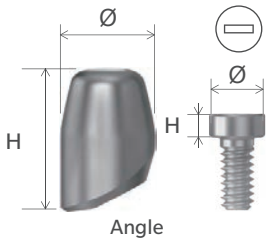


Catalog Number	Ø	G/H	V/H	Angulation	Hexed / Non-Hexed	
DI0SRAA60S	4.0 mm	0.8 mm	6.0 mm	20°	⬡	●
DI0SRAA70S	4.0 mm	2.0 mm	7.0 mm	20°	⬡	●
DI0SRAA6VS	4.0 mm	0.8 mm	6.0 mm	20°	○	●
DI0SRAA7VS	4.0 mm	2.0 mm	7.0 mm	20°	○	●
DI0SRAA60L	4.0 mm	0.5 mm	6.0 mm	20°	⬡	●
DI0SRAA70L	4.0 mm	2.0 mm	7.0 mm	20°	⬡	●
DI0SRAA6VL	4.0 mm	0.5 mm	6.0 mm	20°	○	●
DI0SRAA7VL	4.0 mm	2.0 mm	7.0 mm	20°	○	●

Catalog Number	Thread	
DI0SRAA16S	M 1.6	●
DI0SRAA20L	M 2.0	●

● Small Implant-Abutment Interface
● Large Implant-Abutment Interface

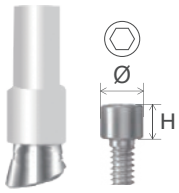
Screw-Retained Angled Healing Cap



Catalog Number	Ø	H
DI0SRAHC57	5.0 mm	7.5 mm

Catalog Numbers	Ø	Screw Type	H
DI0SRBS10S	2.3 mm	Slot	1.0 mm

Screw-Retained Angled Cylinder



Catalog Number	Material	Intend Use	Cone
DI0SRCT00A	Ti6Al4V	Temporary	Angled

Catalog Number	Ø	Screw Type	H
DI0SRBS18H	2.3 mm	⬡	1.8 mm

Screw-Retained Angled Abutment Pick-up

Catalog Number
DI0SRAAPU0

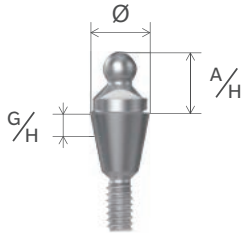
Screw-Retained Angled Abutment Analog

Catalog Number
DI0SRAR00A

Ø = Diameter

Ball Abutments

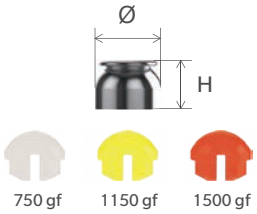
Ball Abutment



Catalog Number	Abutment	G/H	A/H	
DI0BA1040S	3.5 mm	1.0 mm	3.0 mm	●
DI0BA2050S	3.5 mm	2.0 mm	3.0 mm	●
DI0BA4070S	3.5 mm	4.0 mm	3.0 mm	●
DI0BA1040L	3.5 mm	0.5 mm	3.0 mm	●
DI0BA1041L	3.5 mm	1.0 mm	3.0 mm	●
DI0BA1042L	3.5 mm	2.0 mm	3.0 mm	●
DI0BA1043L	3.5 mm	4.0 mm	3.0 mm	●

● Small Implant-Abutment Interface
● Large Implant-Abutment Interface

Ball Abutment Clix Female And Insert



Catalog Number	Ø	H	Tightness
DI0BACF001	4.0 mm	2.65 mm	750 gf / 1150 gf / 1500 gf

Ball Abutment Pick-Up

Catalog Number
DI0BAPU001

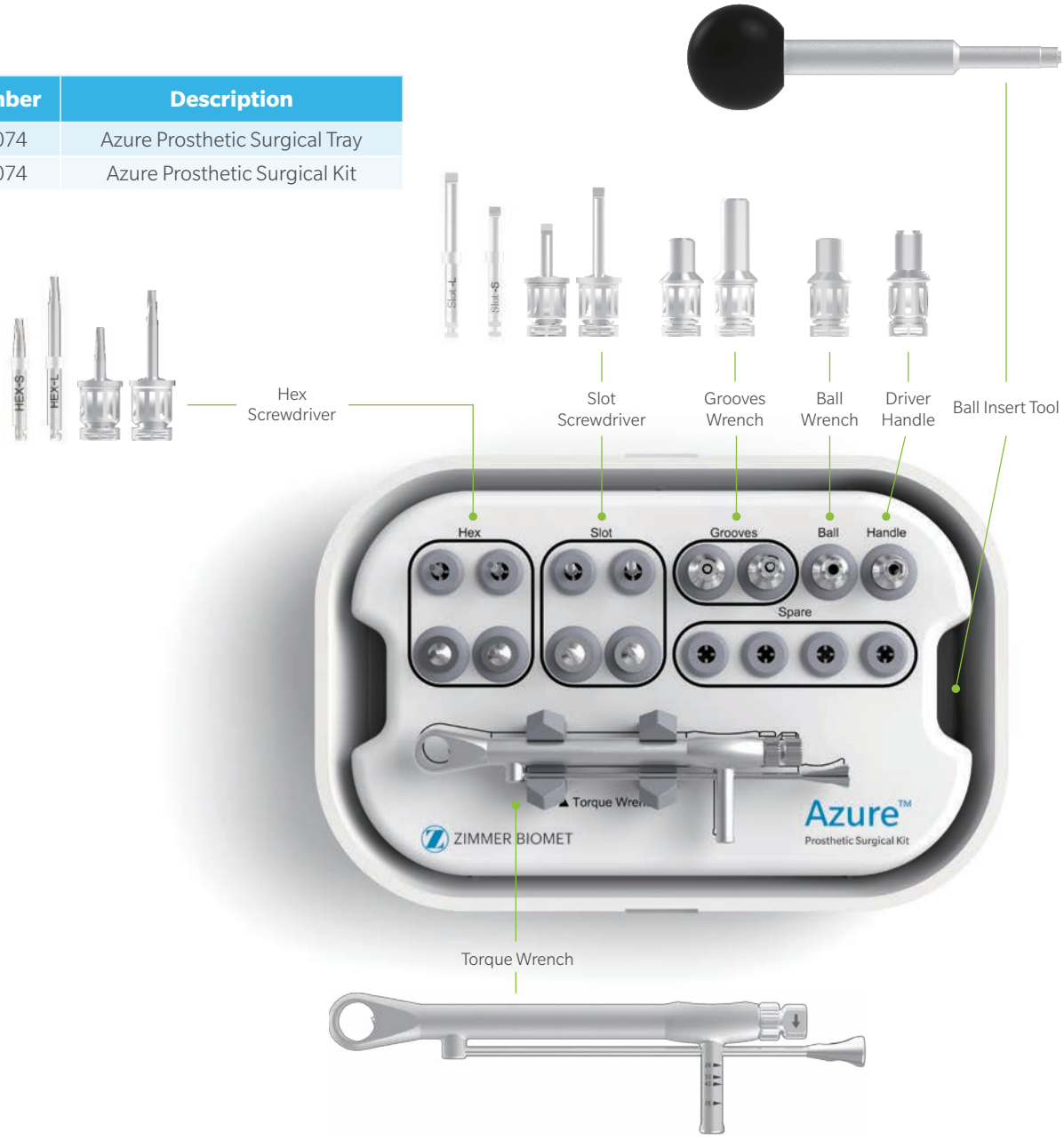
Ball Abutment Analog

Catalog Number
DI0BAR0001

Ø = Diameter

Prosthetic Kit

Catalog Number	Description
0745-DI0SK00074	Azure Prosthetic Surgical Tray
0748-DI0SK00074	Azure Prosthetic Surgical Kit



Prosthetic Kit Components

Slot Screwdriver

Catalog Number	Length	Compatible Instrument
DI0SK00023	Short	Handpiece
DI0SK00024	Long	Handpiece
DI0SK00025	Short	Handle / Torque Wrench
DI0SK00026	Intermediate	Handle / Torque Wrench

Function: The driver is designed for placing prosthetic screws with a slot-connection.

Description: The slot screwdriver is fabricated from medical grade stainless steel.

Groove Wrench

Catalog Number	Length
DI0SK00027	Short
DI0SK00028	Long

Function: Designed to drive slotted prosthetic screws in conjunction with a ratchet wrench.

Description: Fabricated from medical grade stainless steel.

Ball Wrench

Catalog Number
DI0SK00029

Function: Applied to set up or remove ball abutment in conjunction with a torque wrench.

Description: The wrench is fabricated from medical grade stainless steel.

Ball Insert Tool

Catalog Number
DI0SK00057

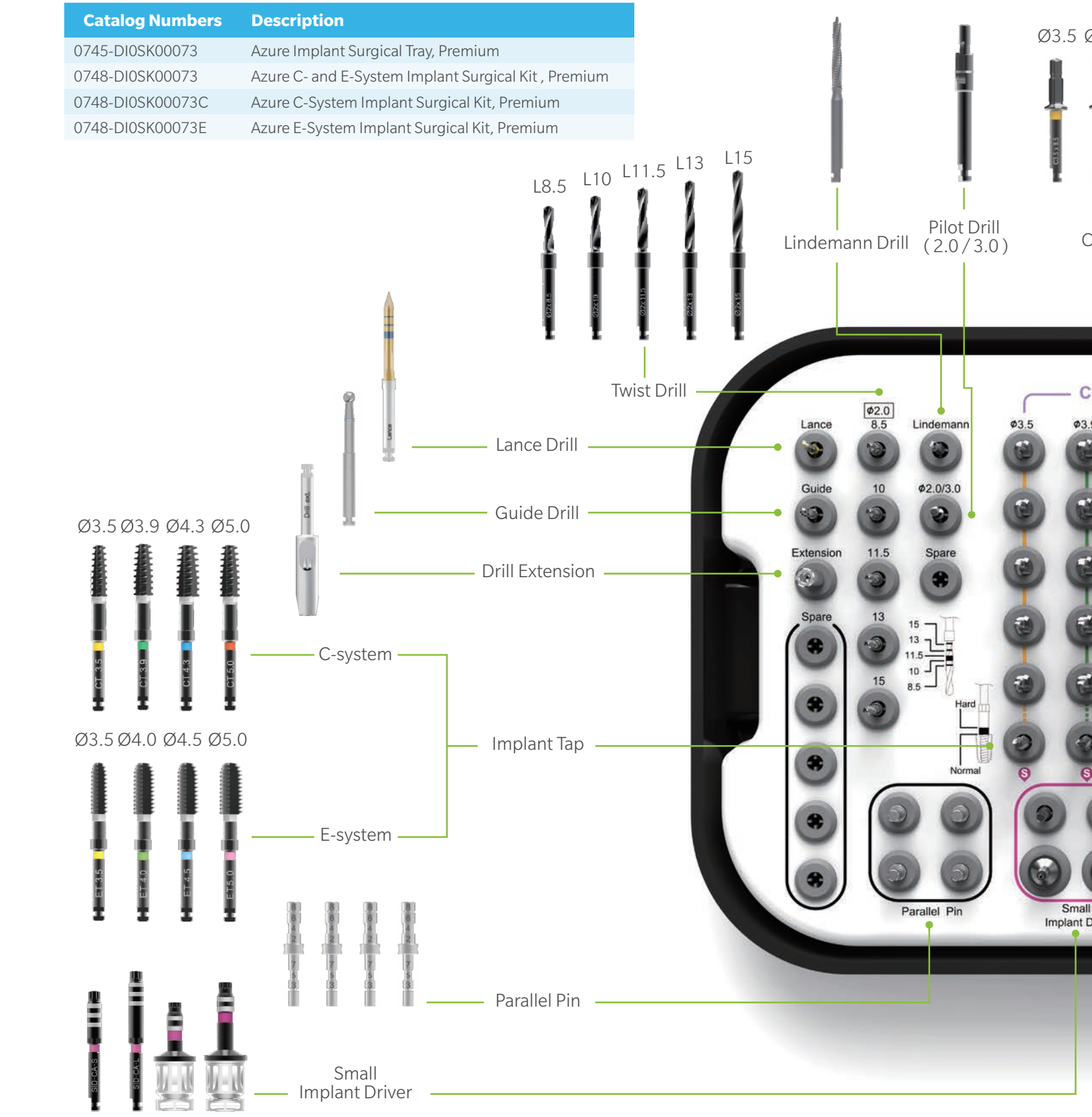
Function: Used to assemble the insert and female metal housing.

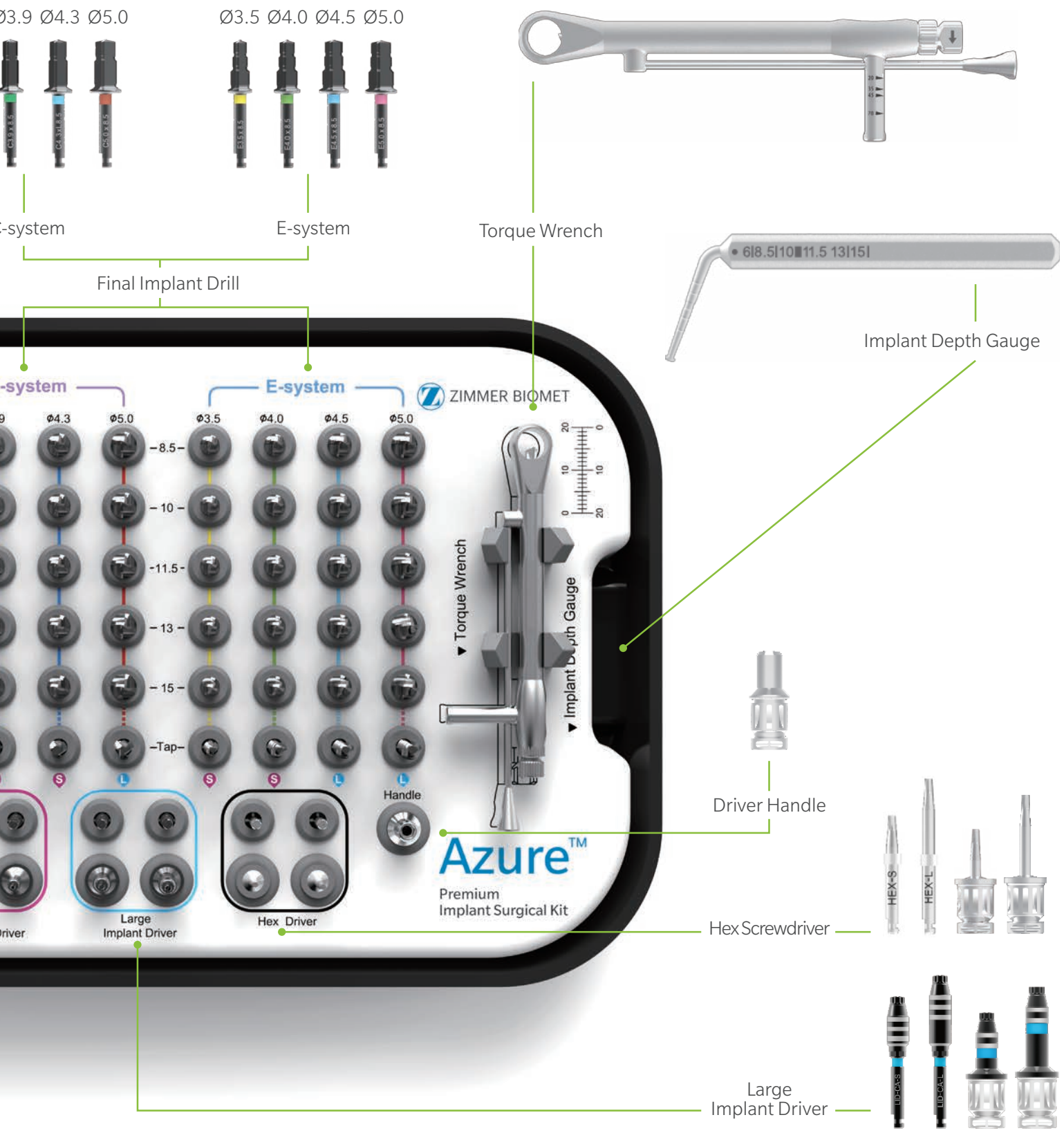
Description: The tool is fabricated from medical grade stainless steel.

Azure Surgical Kits

Premium Surgical Kit

Catalog Numbers	Description
0745-DI0SK00073	Azure Implant Surgical Tray, Premium
0748-DI0SK00073	Azure C- and E-System Implant Surgical Kit , Premium
0748-DI0SK00073C	Azure C-System Implant Surgical Kit, Premium
0748-DI0SK00073E	Azure E-System Implant Surgical Kit, Premium




Ø3.9 Ø4.3 Ø5.0
Ø3.5 Ø4.0 Ø4.5 Ø5.0
C-system
E-system
Final Implant Drill
Torque Wrench
6|8.5|10|11.5 13|15|
Implant Depth Gauge
C-system
E-system
ZIMMER BIOMET
Ø4.3
Ø5.0
Ø3.5
Ø4.0
Ø4.5
Ø5.0
–8.5–
– 10 –
-11.5-
– 13 –
– 15 –
–Tap–
Torque Wrench
Implant Depth Gauge
Handle
Driver Handle
Azure™
Premium
Implant Surgical Kit
Large
Implant Driver
Hex Driver
Hex Screwdriver
HEX-S
HEX-L
Large
Implant Driver

Azure Surgical Kits

Premium Kit Site Preparation Instrumentation

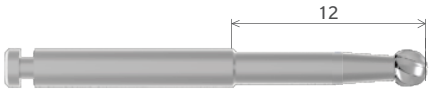
Lance Drill

Catalog Number	Diameter
DI0SK00002	Ø2.0 mm
DI0SK00058	Ø1.8 mm

Function: Drill for initial pilot hole

Description: The drill is fabricated from medical grade stainless steel. The laser markings indicate depth location.

Round Bur

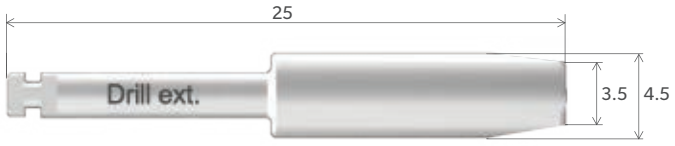


Catalog Number	Diameter
DI0SK00059	Ø2.3 mm

Function: Leveling bone or creating initial pilot hole.

Description: The drill is fabricated from medical grade stainless steel.

Drill Extension

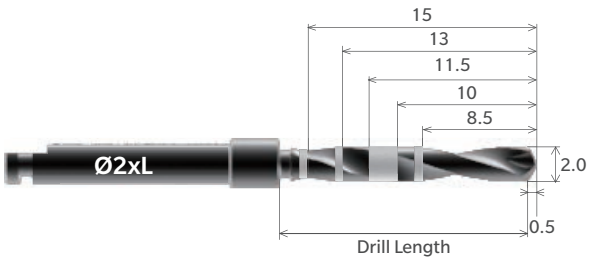


Catalog Number
DI0SK00001

Function: Lengthening drill shank.

Description: The drill extension is fabricated from medical grade stainless steel. The drill extension connects to the handpiece and fits over the drill shank.

Twist Drills



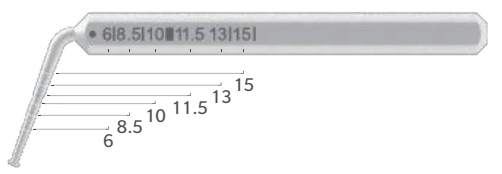
Catalog Number	Ø	L	Drill Length
DI0SK00060	Ø2.0 mm	8.5 mm	9.5 mm
DI0SK00061	Ø2.0 mm	10 mm	11 mm
DI0SK00062	Ø2.0 mm	11.5 mm	12.5 mm
DI0SK00063	Ø2.0 mm	13 mm	14 mm
DI0SK00064	Ø2.0 mm	15 mm	16 mm

Function: Preparing a specific depth of osteotomy for implantation.

Description: The twist drills are fabricated from medical stainless steel.

Ø = Diameter L = Length to the laser line.

Implant Depth Gauge

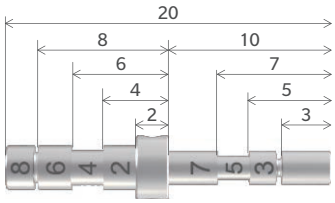


Catalog Number
DI0SK00005

Function: Measures the depth of drilled hole with laser markings.

Description: The device is fabricated from medical grade stainless steel.

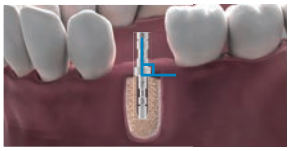
Parallel Pin



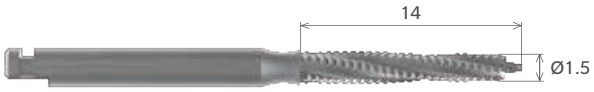
Catalog Number
DI0SK20008

Function: Used to check the direction of the drilled hole or the alignment of multiple implants.

Description: The device is fabricated from medical grade titanium alloy, Ti-6Al-4V. The grooves indicate the length. The hole in the pin allows suture passage for retention to prevent patient aspiration.



Lindemann Drill

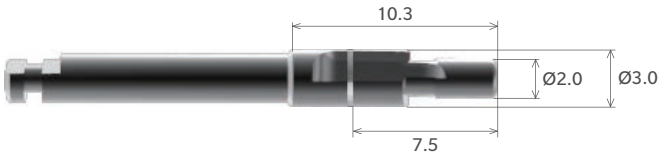


Catalog Number	Diameter
DI0SK00004	Ø1.5 mm

Function: Side cutting drill used to adjust a pilot osteotomy.

Description: The drill is fabricated from medical grade stainless steel.

Pilot Drill



Catalog Number	Dimension
DI0SK20006	Ø2.0 / 3.0 mm

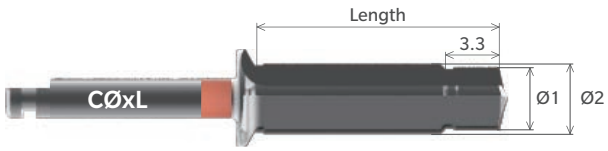
Function: Creates the pilot hole of the osteotomy.

Description: The drill is fabricated from medical grade stainless steel. The 3.0 mm diameter section functions as the cutting edge.

Azure Surgical Kits

Premium Kit Site Preparation Instrumentation

Final Implant Drill (C-System)



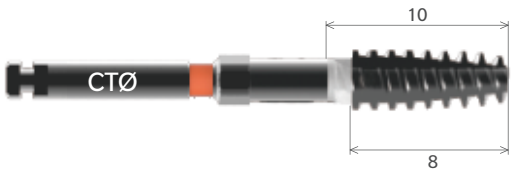
Implant Ø	Ø1	Ø2
Ø3.5 mm	2.4 mm	2.8 mm
Ø3.9 mm	2.8 mm	3.2 mm
Ø4.3 mm	3.2 mm	3.6 mm
Ø5.0 mm	3.8 mm	4.2 mm

Catalog Number	Implant	Length
DI0SK10018	Ø3.5 mm	8.5 mm
DI0SK10019	Ø3.5 mm	10 mm
DI0SK10020	Ø3.5 mm	11.5 mm
DI0SK10021	Ø3.5 mm	13 mm
DI0SK10022	Ø3.5 mm	15 mm
DI0SK10023	Ø3.9 mm	8.5 mm
DI0SK10024	Ø3.9 mm	10 mm
DI0SK10025	Ø3.9 mm	11.5 mm
DI0SK10026	Ø3.9 mm	13 mm
DI0SK10027	Ø3.9 mm	15 mm
DI0SK10028	Ø4.3 mm	8.5 mm
DI0SK10029	Ø4.3 mm	10 mm
DI0SK10030	Ø4.3 mm	11.5 mm
DI0SK10031	Ø4.3 mm	13 mm
DI0SK10032	Ø4.3 mm	15 mm
DI0SK10033	Ø5.0 mm	8.5 mm
DI0SK10034	Ø5.0 mm	10 mm
DI0SK10035	Ø5.0 mm	11.5 mm
DI0SK10036	Ø5.0 mm	13 mm
DI0SK10037	Ø5.0 mm	15 mm

Function: These drills widen the osteotomy by following the appropriate drilling sequence for the implant diameter being placed. Consider the bone quality prior to selection of the final drill.

Description: The drills are fabricated from medical grade stainless steel. Each drill dimension corresponds to its designated implant size.

Dense Bone Tap (C-System)

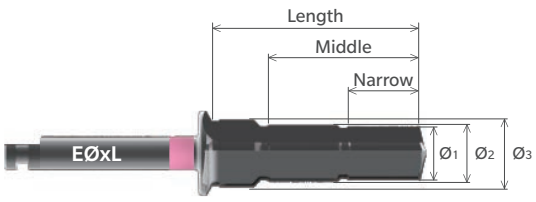


Catalog Number	Dimension
DI0SK10015	Ø3.5 mm
DI0SK10016	Ø4.3 mm
DI0SK10017	Ø5.0 mm
DI0SK10038	Ø3.9 mm

Function: The taps may pre-thread the osteotomy for placement of implants in dense cortical bone.

Description: The taps are fabricated from medical grade stainless steel.

Final Implant Drill (E-System)



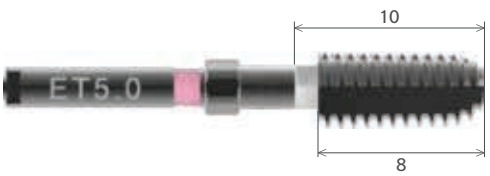
Implant Ø	Ø1	Ø2	Ø3
Ø3.5 mm	2.5 mm	2.89 mm	3.45 mm
Ø4.0 mm	2.8 mm	3.19 mm	3.95 mm
Ø4.5 mm	3.3 mm	3.5 mm	4.25 mm
Ø5.0 mm	3.8 mm	4.0 mm	4.75 mm

Catalog Number	Implant	Length	Middle	Narrow
DI0SK20024	Ø3.5 mm	8.5 mm	5 mm	2.5 mm
DI0SK20025	Ø3.5 mm	10 mm	6.5 mm	3.3 mm
DI0SK20026	Ø3.5 mm	11.5 mm	8 mm	4 mm
DI0SK20027	Ø3.5 mm	13 mm	9.5 mm	4.8 mm
DI0SK20028	Ø3.5 mm	15 mm	11.5 mm	5.8 mm
DI0SK20029	Ø4.0 mm	8.5 mm	5 mm	2.5 mm
DI0SK20030	Ø4.0 mm	10 mm	6.5 mm	3.3 mm
DI0SK20031	Ø4.0 mm	11.5 mm	8 mm	4 mm
DI0SK20032	Ø4.0 mm	13 mm	9.5 mm	4.8 mm
DI0SK20033	Ø4.0 mm	15 mm	11.5 mm	5.8 mm
DI0SK20034	Ø4.5 mm	8.5 mm	5 mm	2.5 mm
DI0SK20035	Ø4.5 mm	10 mm	6.5 mm	3.3 mm
DI0SK20036	Ø4.5 mm	11.5 mm	8 mm	4 mm
DI0SK20037	Ø4.5 mm	13 mm	9.5 mm	4.8 mm
DI0SK20038	Ø4.5 mm	15 mm	11.5 mm	5.8 mm
DI0SK20039	Ø5.0 mm	8.5 mm	5 mm	2.5 mm
DI0SK20040	Ø5.0 mm	10 mm	6.5 mm	3.3 mm
DI0SK20041	Ø5.0 mm	11.5 mm	8 mm	4 mm
DI0SK20042	Ø5.0 mm	13 mm	9.5 mm	4.8 mm
DI0SK20043	Ø5.0 mm	15 mm	11.5 mm	4.8 mm

Function: These drills widen the osteotomy by following the appropriate drilling sequence for the implant diameter being placed. Consider the bone quality prior to selection of the final drill.

Description: The drills are fabricated from medical grade stainless steel. Each drill dimension corresponds to its designated implant size.

Dense Bone Tap (E-System)



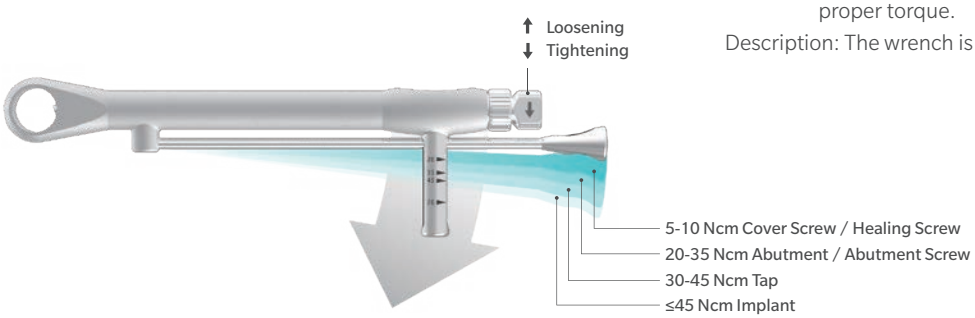
Catalog Number	Dimension
DI0SK20020	Ø3.5 mm
DI0SK20021	Ø4.0 mm
DI0SK20022	Ø4.5 mm
DI0SK20023	Ø5.0 mm

Function: The taps may pre-thread the osteotomy with placement of implants in dense cortical bone.

Description: The taps are fabricated from medical grade stainless steel.

Premium Kit Site Preparation Instrumentation

Torque Wrench



Catalog Number
DI0SK00006

Function: Used to insert implants and tighten prosthetic components with proper torque.

Description: The wrench is fabricated from medical grade stainless steel.

Driver Handle Adapter

Catalog Number	Dimension
DI0SK00007	Ø10x15 mm

Function: Connects the implant driver to the torque wrench.

Description: The handle is fabricated from medical grade stainless steel. The O-ring is replaceable.

Implant Drivers

Catalog Number	Length	Compatible Instrument	
DI0SK00065	Short	Handpiece	●
DI0SK00066	Long	Handpiece	●
DI0SK00067	Short	Handle / Torque Wrench	●
DI0SK00068	Long	Handle / Torque Wrench	●
DI0SK00069	Short	Handpiece	●
DI0SK00070	Long	Handpiece	●
DI0SK00071	Short	Handle / Torque Wrench	●
DI0SK00072	Long	Handle / Torque Wrench	●

● Small Implant-Abutment Interface
● Large Implant-Abutment Interface

Function: To pick up the implant from the packaging and drive it into the osteotomy. There are two options in order to deliver the implant: either handpiece or torque wrench.

Description: The device is fabricated from medical grade stainless steel. The laser marking shows the depth of placement.

Hex Drivers

Catalog Number	Length	Compatible Instrument
DI0SK00012	Short	Handpiece
DI0SK00013	Long	Handpiece
DI0SK00016	Short	Handle / Torque Wrench
DI0SK00017	Intermediate	Handle / Torque Wrench

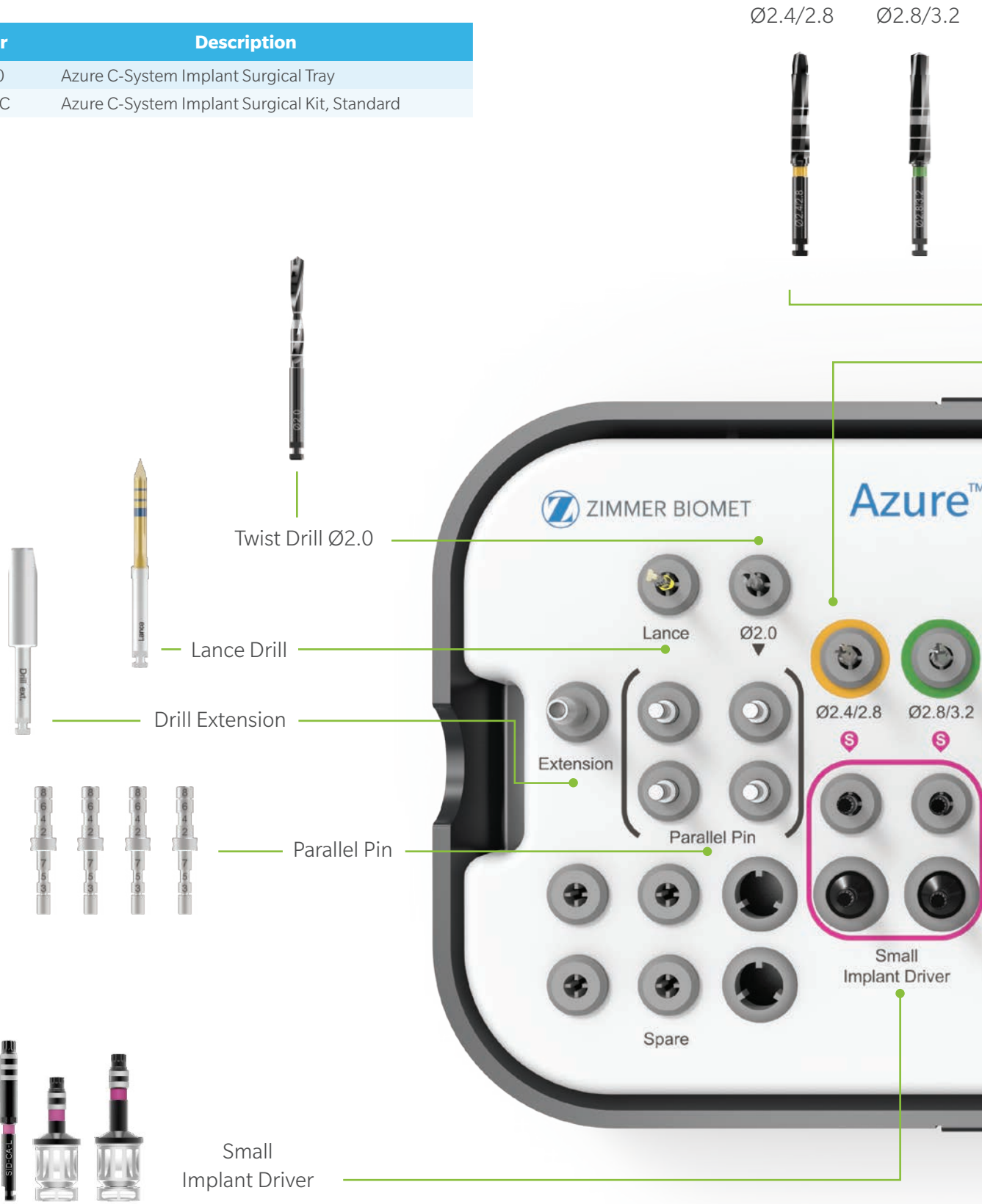
Function: To insert any restorative components that have a hex connection.

Description: The device is fabricated from medical grade titanium alloy (Ti-6Al-4V). The grooves indicate the length. Dental floss can be placed through the hole in the pin to prevent dropping the driver.

Azure Surgical Kits

Standard C-System Surgical Kit

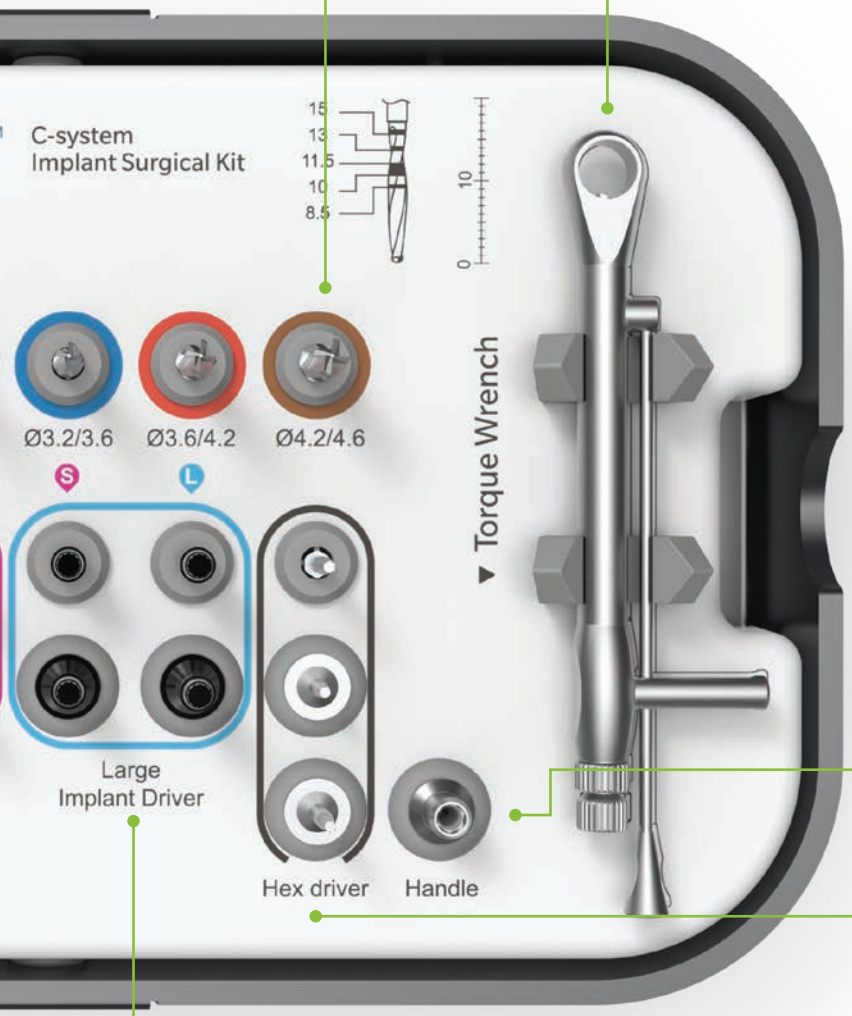
Catalog Number	Description
0745-DI0SK00030	Azure C-System Implant Surgical Tray
0748-DI0SK00030C	Azure C-System Implant Surgical Kit, Standard



Ø3.2/3.6 Ø3.6/4.2 Ø4.2/4.6

Twist Drill

Torque Wrench



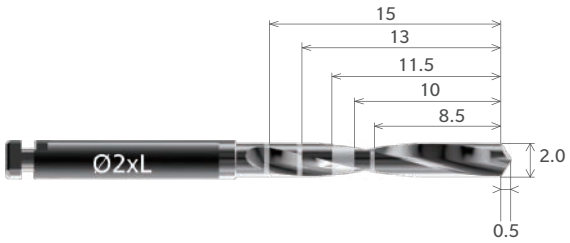
Driver Handle

Hex Screwdriver

Large
Implant Driver

Standard C-System Kit Instrumentation

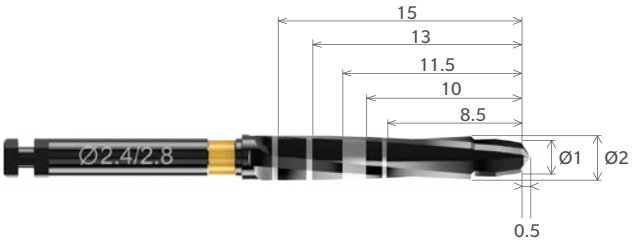
Twist Drill Ø2.0



Catalog Number	Implant	L
DI0SK10001	Ø2.0 mm	8.5 - 15 mm

Function: Preparing specific depth of osteotomy for implantation.
Description: The twist drills are fabricated from medical stainless steel.

Twist Drill



Catalog Number	Ø1/Ø2	L
DI0SK10002	Ø2.4/2.8 mm	8.5 - 15 mm
DI0SK10003	Ø2.8/3.2 mm	8.5 - 15 mm
DI0SK10004	Ø3.2/3.6 mm	8.5 - 15 mm
DI0SK10005	Ø3.6/4.2 mm	8.5 - 15 mm
DI0SK10006	Ø4.2/4.6 mm	8.5 - 15 mm

Function: Preparing a larger osteotomy based on the implant size and according to the protocol.
Description: The twist drills are fabricated from medical stainless steel.

Ø = Diameter L = Length of Depth Indicator Lines.

Azure Surgical Kits

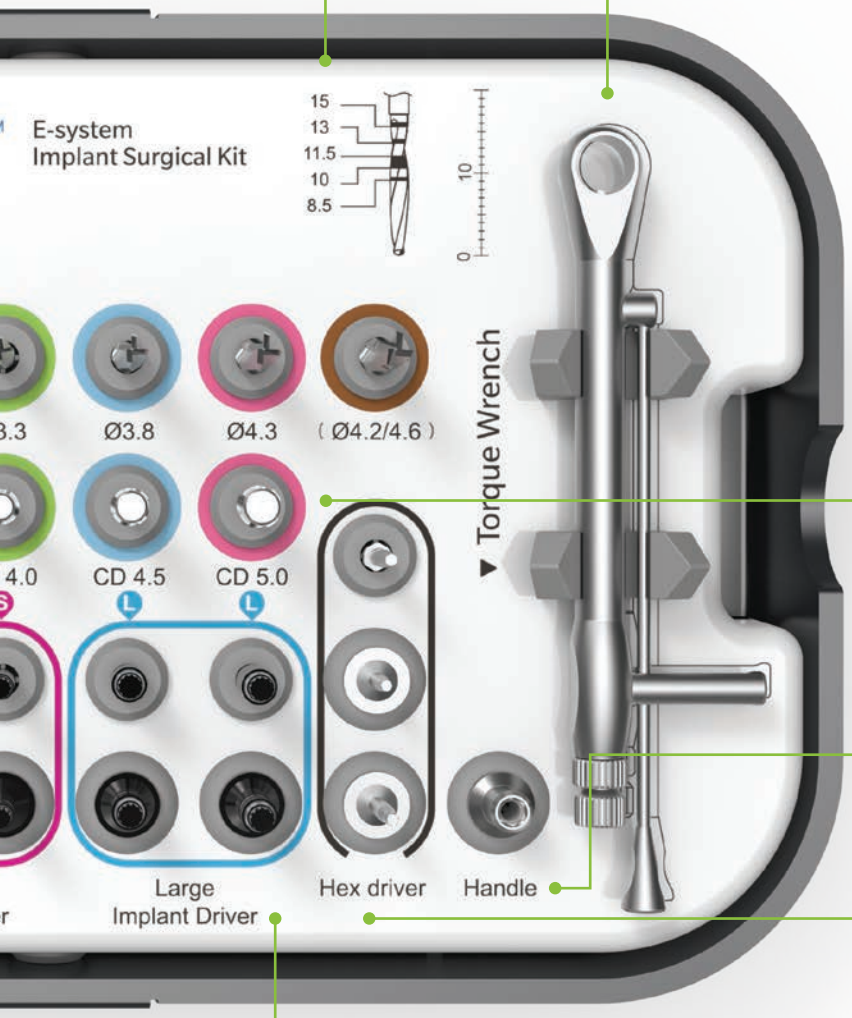
Standard E-System Surgical Kit

Catalog Number	Description
0745-DI0SK00036	E-System Implant Surgical Tray
0748-DI0SK00036E	E-System Implant Surgical Kit, Standard

Ø3.8 Ø4.3 (Ø4.2/4.6)*

Twist Drill

Torque Wrench



Cortical Drill

Driver Handle

Hex Screwdriver

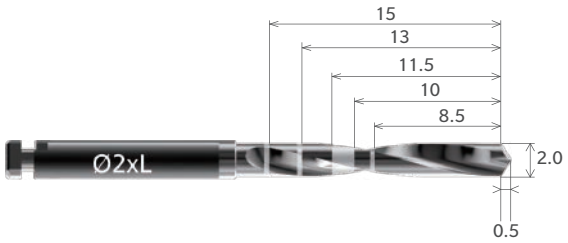
Large
Implant Driver

*Parenthesis denotes optional twist drill

Azure Surgical Kits

Standard E-System Kit Instrumentation

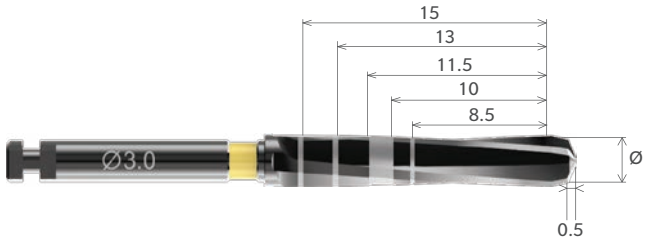
Twist Drill 2.0



Catalog Number	Implant	L
DI0SK10001	Ø2.0 mm	8.5 - 15 mm

Function: Preparing specific depth of osteotomy for implantation.
Description: The twist drills are fabricated from medical stainless steel.

Twist Drill



Catalog Number	Ø	L
DI0SK20004	Ø3 mm	8.5 - 15 mm
DI0SK20002	Ø3.3 mm	8.5 - 15 mm
DI0SK20005	Ø3.8 mm	8.5 - 15 mm
DI0SK20003	Ø4.3 mm	8.5 - 15 mm
DI0SK10006	Ø4.2/4.6 mm	8.5 - 15 mm

Function: Preparing a larger osteotomy based on the implant size and according to the protocol.
Description: The twist drills are fabricated from medical stainless steel.

Cortical Drill

Catalog Number	Ø
DI0SK20010	3.5 mm
DI0SK20011	4.0 mm
DI0SK20012	4.5 mm
DI0SK20013	5.0 mm

Function: Used after the twist drill to cut the cortical layer and expand the osteotomy for implant placement.
Description: Cortical drills are fabricated from medical grade stainless steel.

Ø = Diameter L = Length of Depth Indicator Lines.

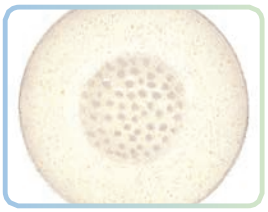
Bone Density

D1

Dense Cortical Bone.

Anterior bone in lower jaw.

Bone Density ●●●●
Bone Healing Time:
Approximately three months
Distribution in Jaw:
Anterior area of mandible.



D2

Dense - to - porous cortical bone on the crest, and coarse trabecular bone below the crest.

Anterior bone in upper jaw & posterior bone in lower jaw.

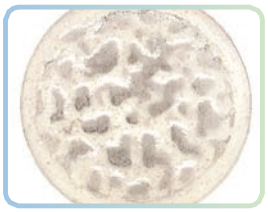
Bone Density ●●●●
Bone Healing Time:
Approximately three months
Distribution in Jaw:
Anterior maxilla and posterior mandible.

D3

Thinner porous cortical crest surrounding trabecular bone.

Anterior and posterior bone in upper jaw.

Bone Density ●●
Bone Healing Time:
Approximately six months
Distribution in Jaw:
Anterior and posterior maxilla.



D4

All coarse trabecular bone.

Posterior bone in upper jaw.

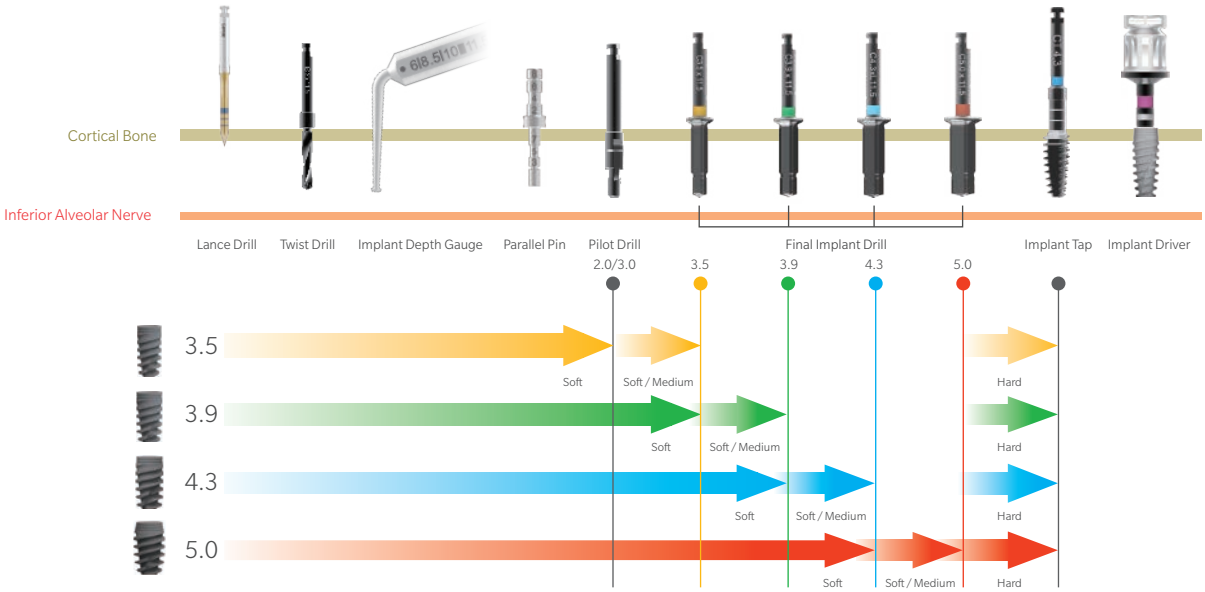
Bone Density ●
Bone Healing Time:
Approximately eight months
Osseointegration:
Posterior of maxilla.

Hard Bone (D1-D2)	Medium Bone (D2-D3)	Soft Bone (D3-D4)

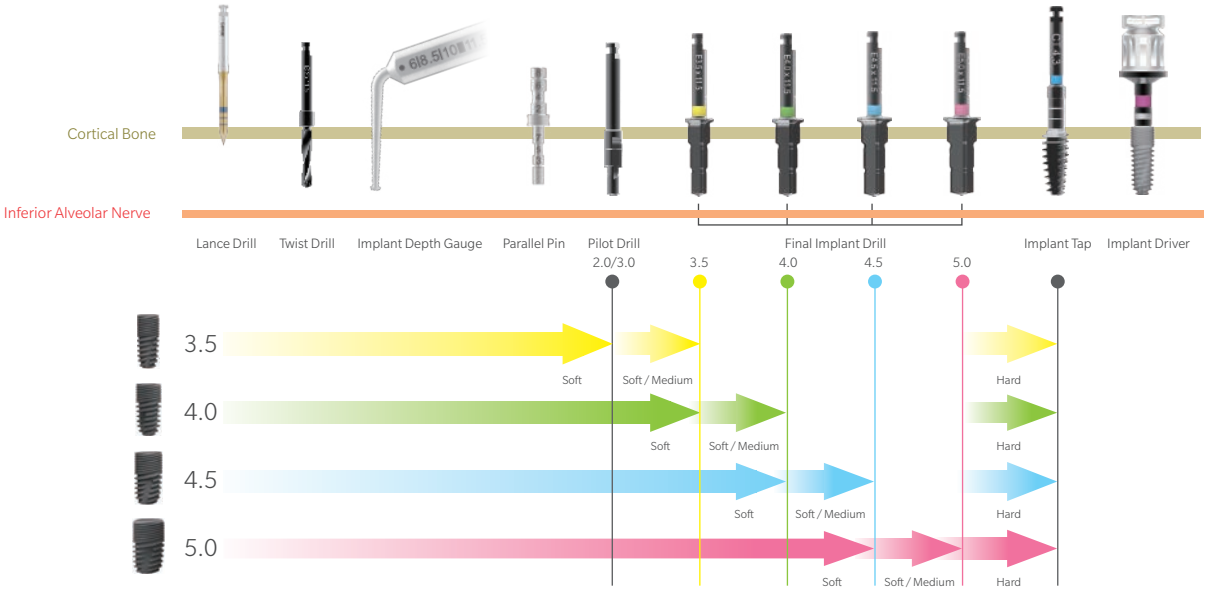
Surgical & Prosthetic Guidelines

Premium Kit
Site Preparation Guidelines

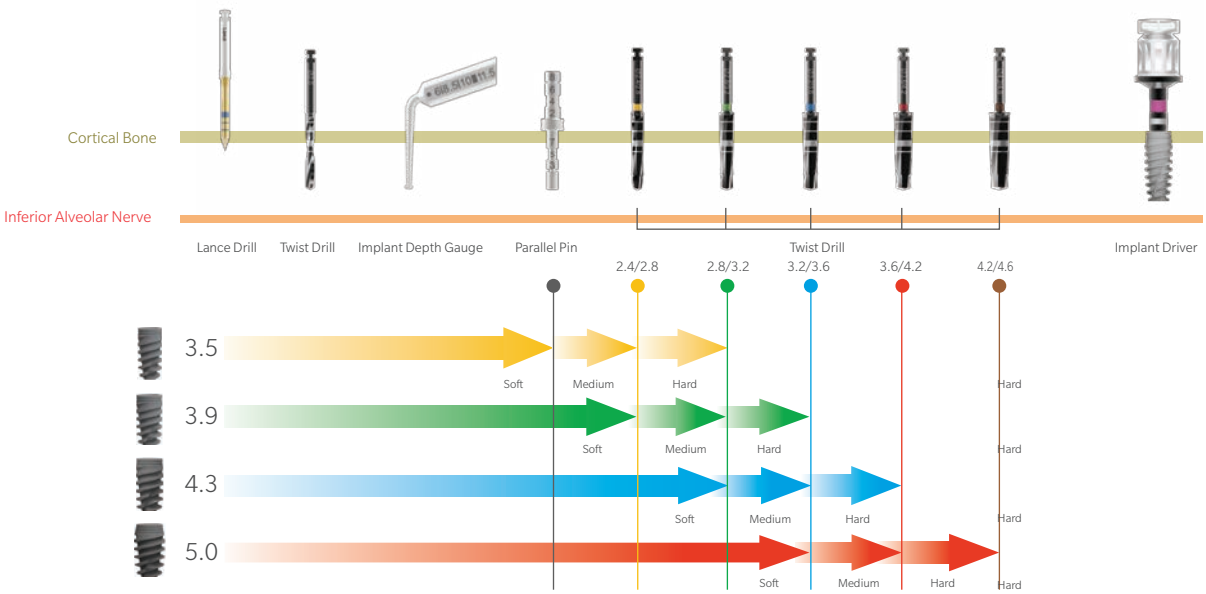
Premium C-System Implant Surgical Protocol



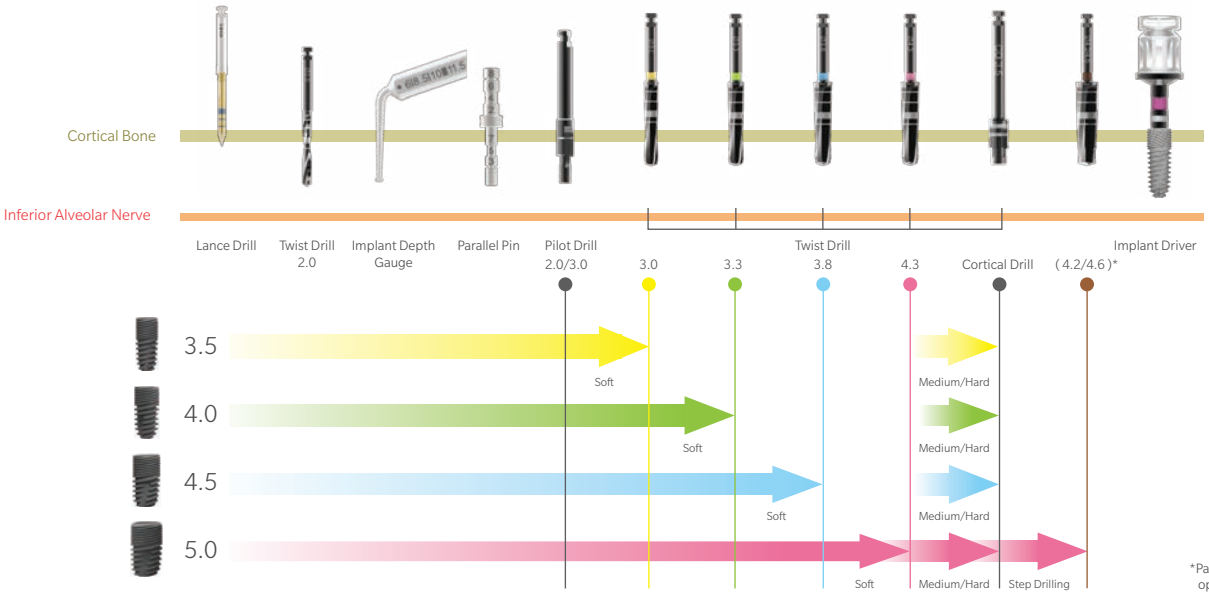
Premium E-System Implant Surgical Protocol



Standard C-System Implant Surgical Protocol



Standard E-System Implant Surgical Protocol



*Parenthesis denotes optional twist drill

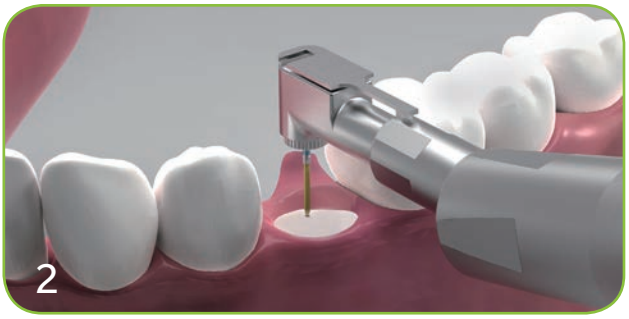
Surgical & Prosthetic Guidelines

Step By Step Surgical Instructions

1. Confirm the surgical plan and position of implantation. Blade is used to make an incision in the gingiva and open a flap.

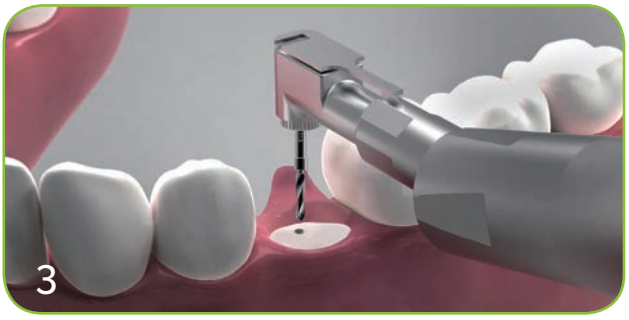
2. Use the Lance Drill to initiate a location and then drill slightly through the cortical bone in order to guide subsequent drilling.

   (Recommended drill speed: 1200 RPM)

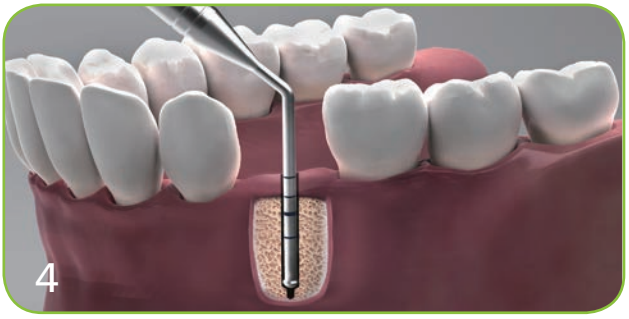


3. The 2.0 mm diameter twist drill will be applied at the correct position (hole drilled in previous step) and drilled until desired depth is reached.

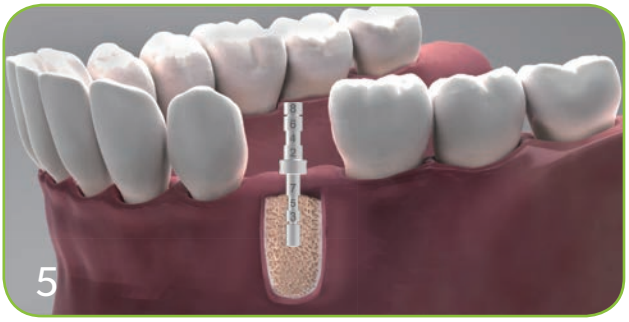
   (Recommended drill speed: 1200 RPM)



4. Use the depth gauge to confirm sufficient depth.

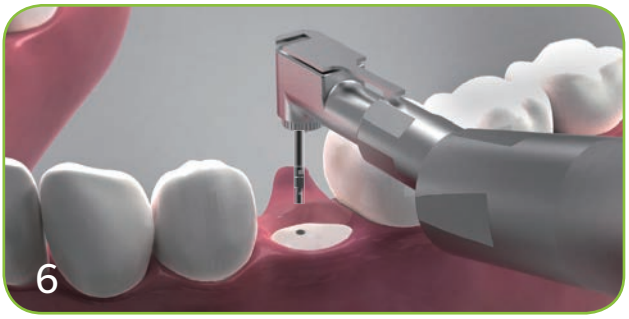


5. The Parallel pin can be used to confirm adequate depth and alignment. X-Ray equipment can be applied when necessary.



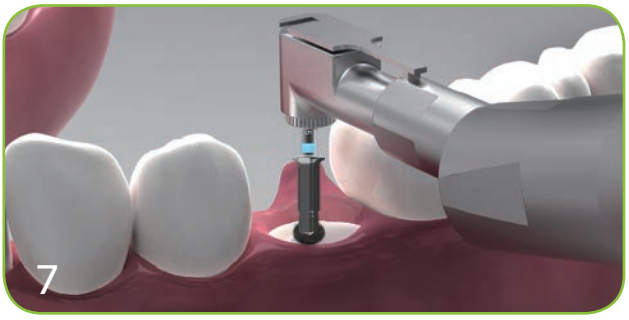
6. Pilot drill of step diameter 2.0/3.0 mm enlarges the osteotomy to 3.0 mm.

   (Recommended drill speed: 700 RPM)



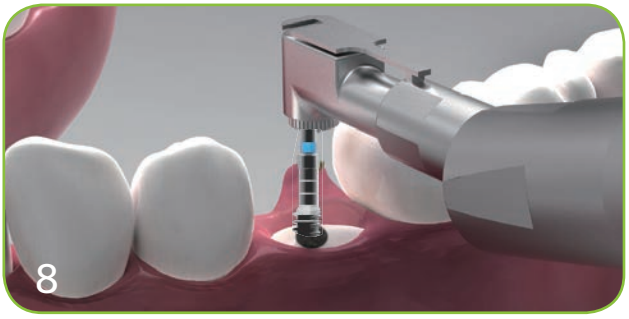
7. The final implant drill of the correct length shapes the osteotomy to appropriately fit the implant.

   (Recommended drill speed: 700 RPM)



8. In dense bone, use the tap to to prepare the osteotomy for implant placement.

   (Recommended torque: 35-45 Ncm)



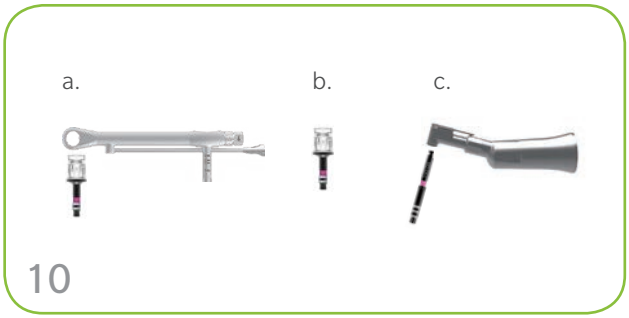
Step By Step Surgical Instructions

9. Opening the Implant Package

(a) Confirm that the implant specification shown on label is what you need.
(b) Open the box, and remove all contents.
(c) The chart label can be affixed to the medical chart for record of traceability.
(d) Peel back the Tyvek® lid, and take out the bottle.
(e) Carefully rotate and remove the cap from the bottle.

10. Implant Driver Options

(a) Torque wrench and driver
(b) Hand driver
(c) Drill motor and handpiece driver



11. Implant Pickup

(a) Insert the driver into the implant while it is in the bottle. Confirm the implant is connected to the driver and pick up the implant.
(b) Do not use the implant if it has made contact with a non-sterile area.

12. Placement of Implant

(a) The maximum torque recommended to place the implant is ≤45 Ncm. Place the tip of the implant into the osteotomy and begin driving the implant until it is fully seated.
(b) The final position of the implant in the alveolar bone should be crestal or slightly lower, depending on the clinical situation.

13-A. One-Stage Surgery: Healing Screw

The appropriate healing screw can be connected to the implant with a torque wrench (5-10 Ncm) if the clinician feels conditions are adequate for a one-stage procedure.

13-B. Two-Stage Surgery: Cover Screw

The implant connection can be covered by the cover screw which is found in the top of the implant bottle. 5-10 Ncm torque is required to place the cover screw. Finally, suture the gingiva over the cover screw and allow time for osseointegration of the implant.

Impression Procedures

A. Transfer Impression

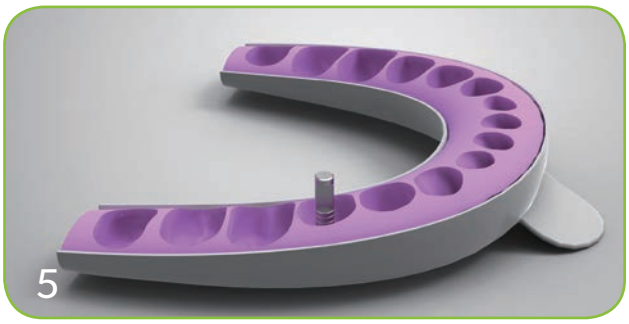
1. Take the cover screw, healing screw, or temporary abutment off of the implant.

2. Place the implant transfer body and tighten guide screw.

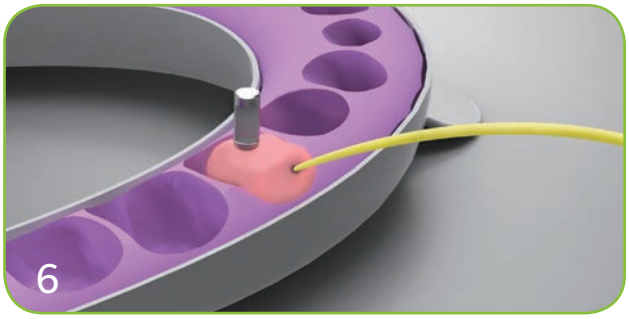
3. Place the impression material in the tray and around the impression transfer. Place the tray in the mouth and allow the impression material to set. Once the impression material has set, take the tray out and then unscrew the implant transfer.

4. Connect the analog to implant transfer.

5. Insert the combined implant transfer with analog back into the impression.



6. Inject the silicone gingival replica around the transfer impression coping and analog. Fill the tray with gypsum to create a stone model.



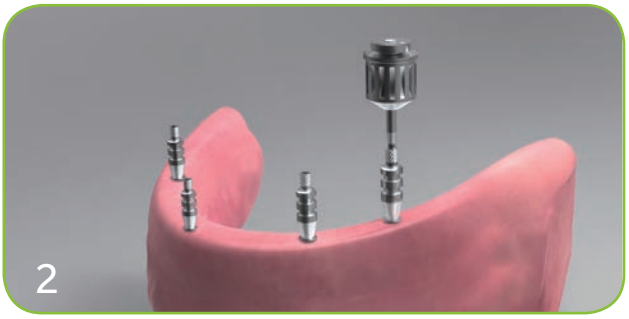
7. Wait for the hardening of gypsum model. Take off the tray. The model is ready now.

Impression Procedures

B. Pick-up Impression

1. Take the cover screw, healing screw, or temporary abutment off of the implant.

2. Place open tray impression post onto the implant(s) (Implant Pick-Up).

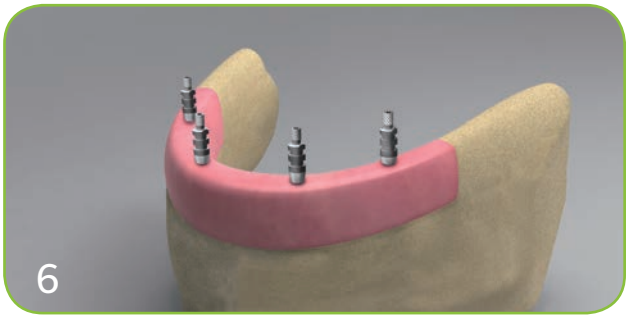


3. Make the holes corresponding to the implant location(s). Inject the impression material into tray and fit to the upper or lower jaw.

4. Wait for the impression material to set and take off the guide screw using the hex driver. Remove the tray.

5. Connect the implant analog to the open tray impression post (implant pick-up). Connect the guide screw to the implant analog through the open tray impression body. Inject the silicone gingival replica around the pick up impression coping and analog. Fill the tray with gypsum to create a stone model.

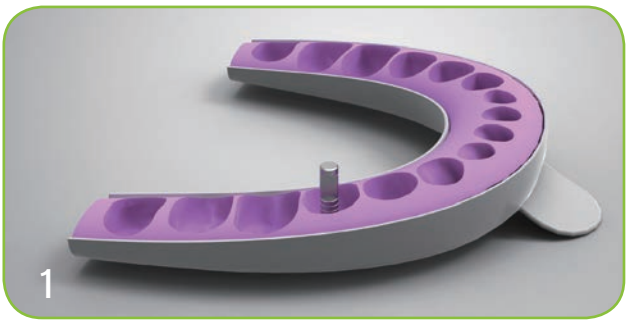
6. After hardening of the model, take off the open tray impression post and screw. The analogs will remain in the stone model as a working mastercast.



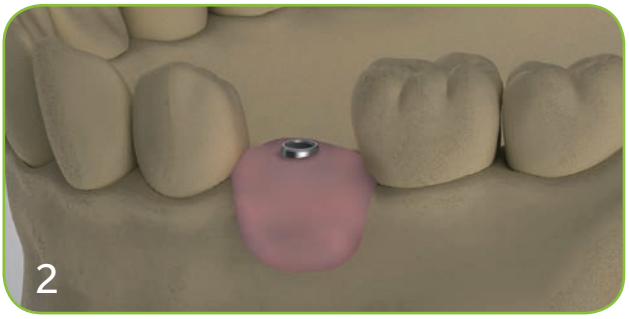
Restorative Procedures

Cement-Retained Abutment

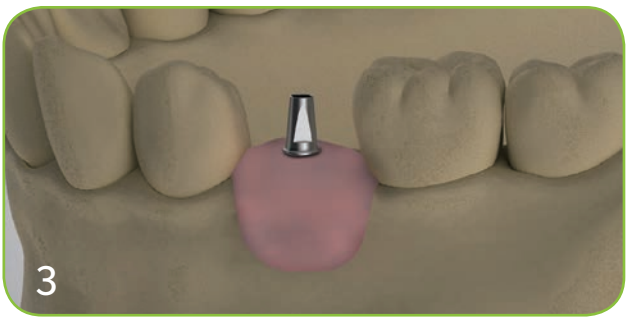
1. Dentist selects the proper impression technique, and transfers the components, tray, and other essential information to dental technician.



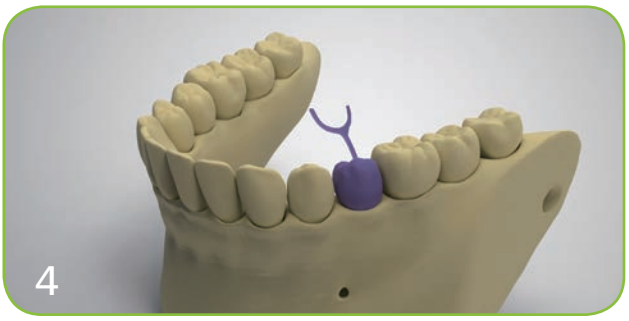
2. The model will be created by dental technician.



3. The dental technician will assemble the cement-retained abutment into the analog in the model. They also will assess the restoration. The milling and modification of the abutment with a bur may be necessary.



4. The dental technician fabricates the metal coping via a wax-up.



5. Fabrication of metal coping.

6. The dental technician delivers the coping to dentist who will try in with patient. The dental technician will prepare crown in the next step after confirmation of coping fit.

7. The dental technician fabricates the ceramic crown by sintering. After that, modify the crown for occlusal fit. Finally, polish and deliver to dentist.

8. The cement-retained abutment will be fixed in the implant permanently.

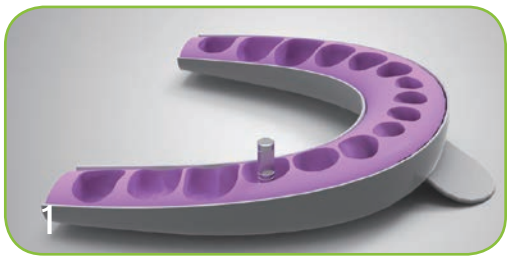
(Recommended torque: 35 Ncm)

9. The final crown is cemented and fixed to the abutment by the dentist who will also check the completion of fixation and restoration.

Restorative Procedures

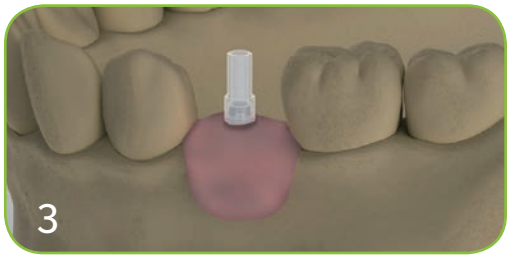
Screw-Retained Abutment

1. The dentist selects the proper impression technique, and transfers the components, tray, and other essential information to dental technician.



2. The model will be created by the dental technician using screw retained restorative parts.

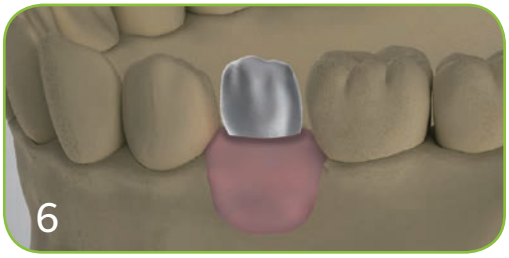
3. The dental technician places the proper screw-retained cylinder in the abutment and assesses the fabrication of crown.



4. The dental technician fabricates the metal coping via a wax up.

5. The dental technician creates the wax up around the restorative parts. The crown incorporates a screw access hole for screw retention at seating.

6. Fabrication of metal crown.



7. The dental technician delivers the metal crown to dentist who will try in with patient. The dental technician will prepare crown in the next step after confirmation of fit.

8. The dental technician fabricates the ceramic crown by sintering. After that, modify the crown for occlusal fit. Finally, polish and deliver to dentist.

9. Dentist places the crown with abutment into implant. Afterwards, place the screw into the crown and tighten it.

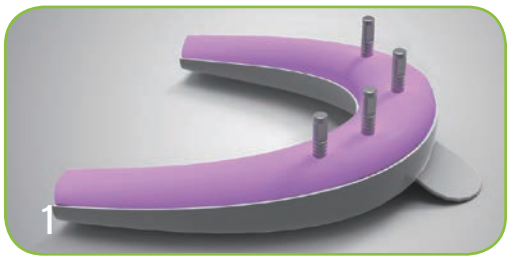
(Recommended torque: 20 Ncm)

10. Use both a cotton pellet and resin to fill the hole for screwing. Check and modify the occlusal face. The resin curing is a final procedure.

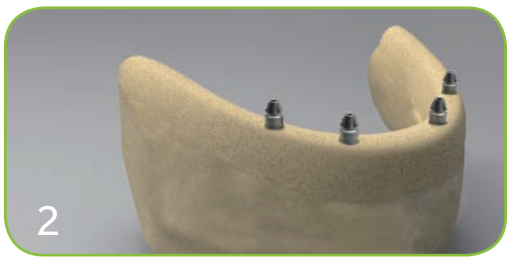
Restorative Procedures

Screw-Retained Abutment Full-Arch Denture

1. The dentist selects the proper impression technique, and transfers the components, tray, and other essential information to the dental technician.

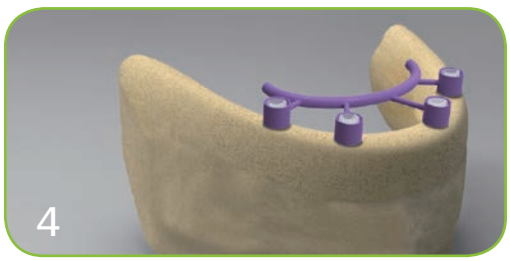


2. The model will be created by the dental technician using screw-retained restorative parts.

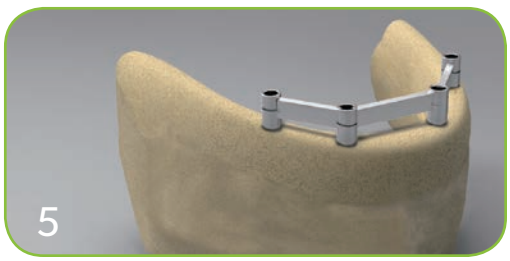


3. The dental technician places the proper screw-retained cylinders in the abutments in the model and assesses the fabrication of crown.

4. The dental technician waxes up the modified abutments using a wax casting technique. The metal bar will be delivered to dentist. Try-in of the prosthesis is important for patient. Fabricate the dental bar by dental technician after checking stability and alignment.



5. The dental technician fabricates the full-arch denture on the dental bar. Deliver back to dentist when finished.



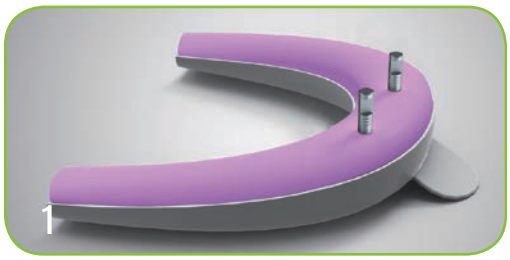
6. Try in for patient is necessary. Confirm the stability and alignment again in patient's mouth.

7. Dental technician fabricates the full-arch denture on the dental bar. Deliver back to dentist after finished. Fix the denture with bar in patient's mouth.

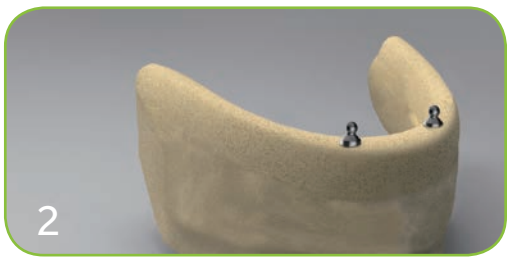
Restorative Procedures

Ball Abutment

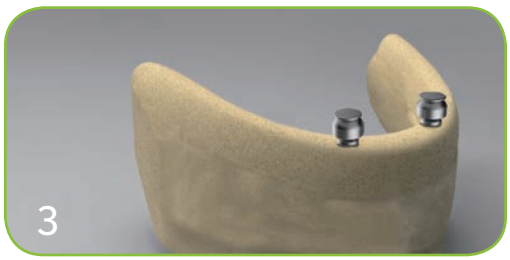
1. The dentist selects the proper impression technique, and transfers the components, tray, and other essential information to dental technician.



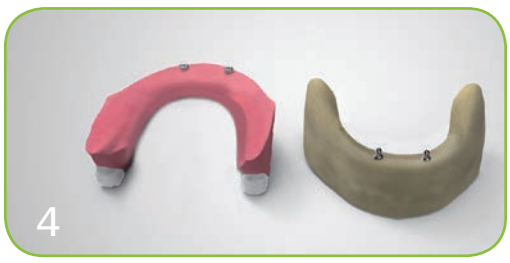
2. The model will be created by dental technician using ball abutment restorative parts.



3. Select the right tightening clix insert and squeeze to the clix female part, metal housing. Set up the clix female onto ball abutment in the model.



4. The dental technician fabricates the overdenture in accordance with model. The clix female with insert will also be connected to overdenture which is going to be delivered back.



5. The ball abutment with recommended 35 Ncm torque is ready in patient's mouth. The overdenture will fit tightly to ball abutments. The overdenture restoration is finished.

ZIMMER BIOMET
Your progress. Our promise.

Contact us at 1-800-342-5454 or visit
zimmerbiometdental.com

Zimmer Biomet Dental
Global Headquarters
4555 Riverside Drive
Palm Beach Gardens, FL 33410
Tel: +1-561-776-6700
Fax: +1-561-776-1272