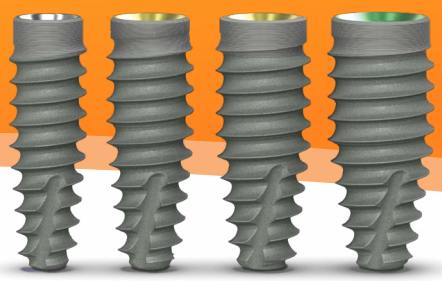
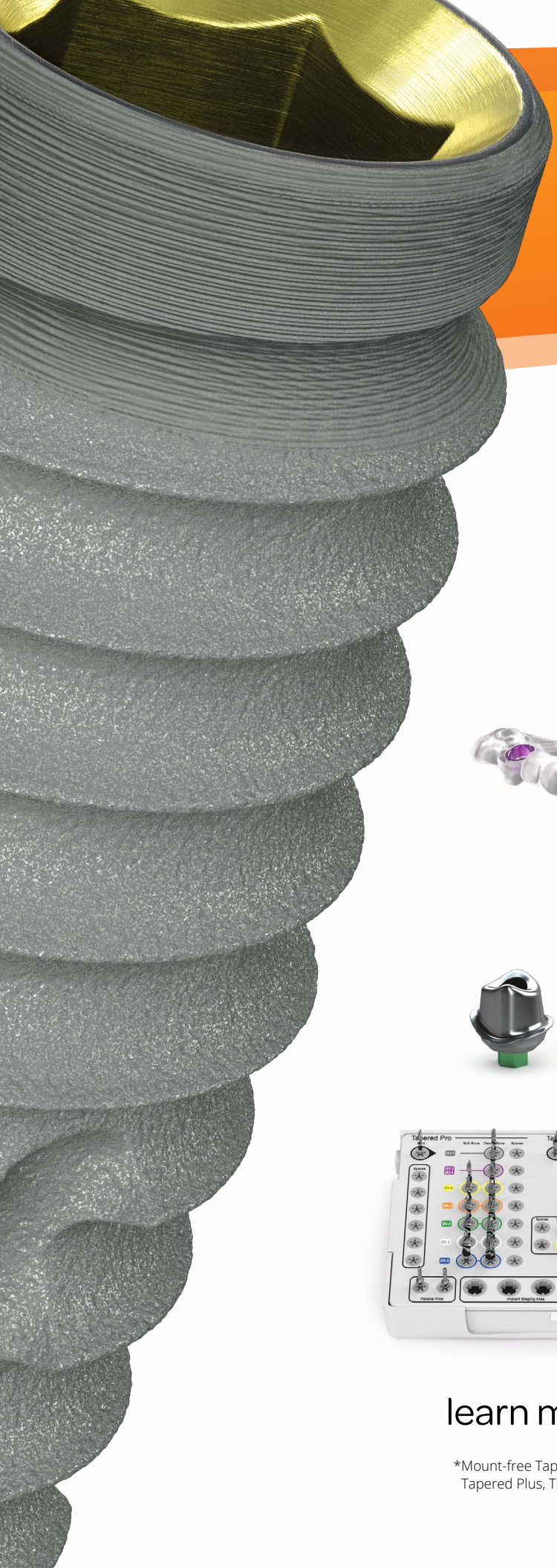
Tapered Pro

catalog & surgical manual



BIOHORIZONS®



your workflow, your choice

BioHorizons Tapered implants

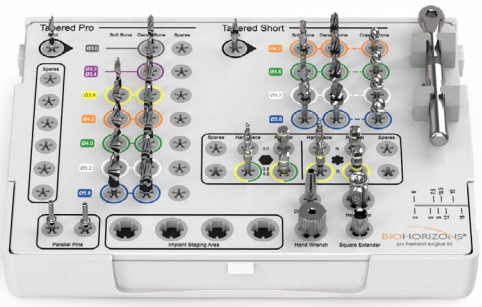
Every implant treatment presents its own challenge. BioHorizons broad portfolio of Tapered implants provides solutions for all indications. Choose from narrow-diameter 3.0mm implants to wide-diameter immediate molar implants or short 6mm-length implants to 18mm-length implants. Whatever your preference, there's a workflow to suit your need, from fully digital to traditional.

guided workflow

BioHorizons guided surgery system uses an open architecture design, providing compatibility with various software providers and guide manufacturers.*

digital restorative workflow

Custom abutments can be sourced through validated milling centers or designed and fabricated in-house.



traditional workflow

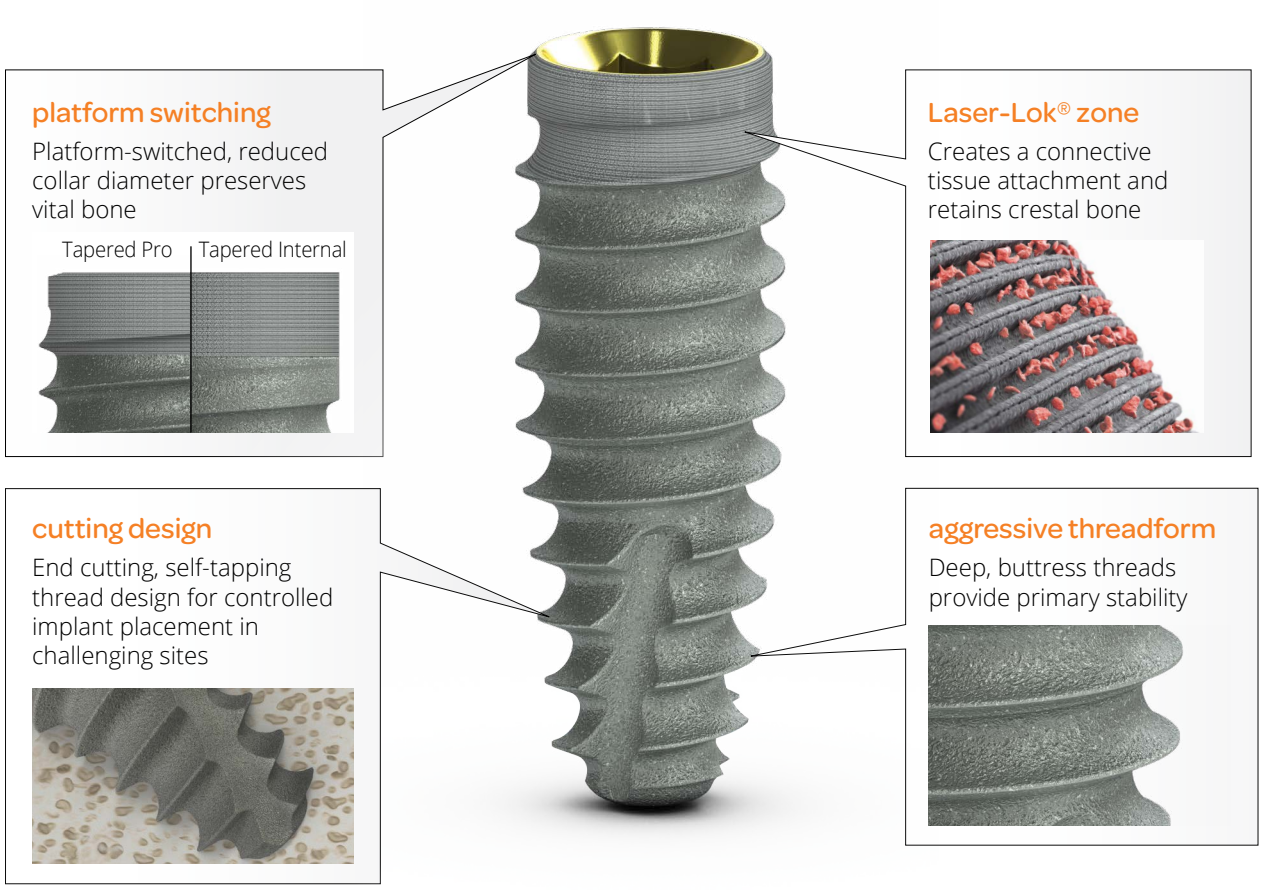
BioHorizons comprehensive surgical kit and wide range of prosthetics support traditional workflows.

learn more at biohorizons.com

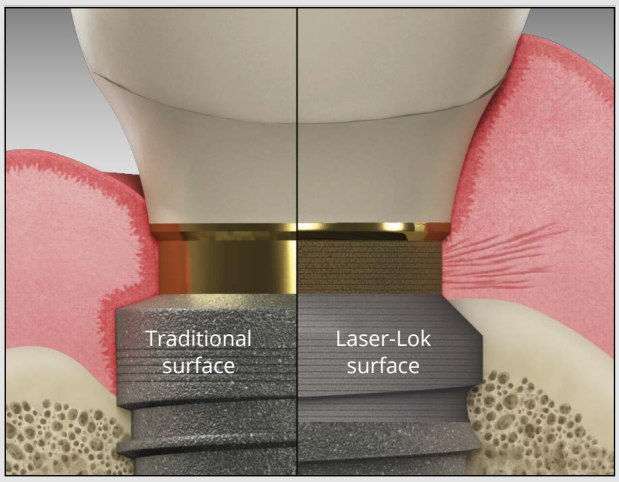
*Mount-free Tapered Pro Conical, Tapered Pro, Tapered PTG, Tapered Internal, Tapered Plus, Tapered Short, Tapered 3.0 and Tapered Tissue Level implants

table of contents

Tapered Pro
Product Information



Laser-Lok® microchannels
better science, better implants



- Over 25 years of in vitro, animal and human studies at leading universities[1]
- Reduced incidence of peri-implantitis compared to traditional surfaces[2]
- Only surface shown to attract a physical, connective tissue attachment[3-11]
- Overdenture study showing only 0.42mm of bone loss compared to 1.13mm for NobelReplace™ Select[12]

learn more at
www.laser-lok.com

Tapered Pro

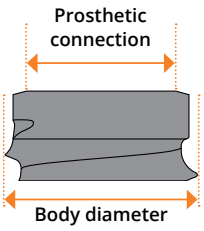
Ordering Information

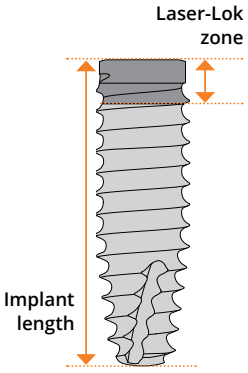
BioHorizons Tapered Pro dental implants deliver predictable results for immediate treatment. The tapered body and aggressive, self-tapping buttress threads provide progressive insertion torque and compressive loading for primary stability while helical cutting flutes promote self-tapping and disperse bone chips. The Tapered Pro's reduced collar diameter minimizes stress on cortical bone and eliminates the need for crestal bone drills. The unique Laser-Lok microchannels create a connective tissue attachment and retain crestal bone, allowing better control of esthetic outcomes.

features:

- Dual affinity Laser-Lok surface creates a connective tissue attachment, retaining crestal bone
- Excellent primary stability from anatomically tapered body
- Compressive bone loading from proprietary buttress threads
- Conical internal hex connection provides a rigid connection and stable biological seal

Body diameter	3.8mm	4.2mm	4.6mm	5.2mm
Prosthetic connection	3.0mm	3.5mm	3.5mm	4.5mm
Laser-Lok zone	1.8mm	1.8mm	1.8mm	1.8mm
Apical diameter	2.8mm	3.0mm	3.2mm	3.3mm
9.0mm length	BTA3809	BTA4209	BTA4609	BTA5209
10.5mm length	BTA3810	BTA4210	BTA4610	BTA5210
12.0mm length	BTA3812	BTA4212	BTA4612	BTA5212
15.0mm length	BTA3815	BTA4215	BTA4615	BTA5215
18.0mm length	BTA3818	BTA4218	BTA4618	-





Laser-Lok collar with Resorbable Blast Texturing (RBT) on implant body.
Mount-free for quick placement and maximum site visibility.
Comes packaged with a Cover Cap. Titanium Alloy (Ti-6Al-4V ELI).

Supplemental Implants

Narrow Diameter, Short & IM

BioHorizons full range of implants offers a variety of solutions with specialized designs that complement the Tapered Pro system. Whether working in narrow ridges, vertically resorbed bone, or posterior extraction sites, these implants, together with Tapered Pro, provide a complete solution for any treatment type.

Tapered 3.0 Implants with Laser-Lok

Body diameter	Prosthetic connection	Laser-Lok zone	9.0mm length	10.5mm length	12.0mm length	15.0mm length	18.0mm length
3.0mm	3.0mm	2.1mm	—	**TLX3010**	**TLX3012**	**TLX3015**	—
3.4mm	3.0mm	1.8mm	**TLX3409**	**TLX3410**	**TLX3412**	**TLX3415**	**TLX3418**

BioHorizons Tapered 3.0 Line offers the stability and reliability of BioHorizons Tapered Internal implants in narrower diameters. Designed for placement in challenging anterior regions, the 3.0 diameter implant uses a tapered body with buttress threads for stability during placement and Laser-Lok surface treatment for long term healing. The 3.4 diameter implants provide the same features but are indicated for all placement options. Reference L02024 for more information.

Tapered Short Implants with Laser-Lok

Body diameter	Prosthetic connection	Laser-Lok zone	Platform switch	6.0mm length	7.5mm length
4.6mm implant	3.5mm	1.8mm	0.5mm	**TSL4606**	**TSL4607**
5.8mm implant	4.5mm	1.8mm	0.6mm	**TSL5806**	**TSL5807**

BioHorizons Tapered Short implants provide a solution for cases with limited vertical bone height, potentially expediting treatment by eliminating the need for bone grafting, and can now be placed using a fully guided workflow with the Tapered Short Guided kit. The Tapered Short implant design features an aggressive thread profile and tapered body for primary stability, even in compromised situations. A platform-switched, dual-affinity, Laser-Lok surface offers crestal bone retention and connective tissue attachment for flexible placement. Reference L02027 for more information.

Tapered IM Implants with Laser-Lok

Body diameter	Prosthetic connection	Laser-Lok zone	7.5mm length	9.0mm length	10.5mm length
7.0mm implant	5.7mm	1.8mm	**TIM7007**	**TIM7009**	**TIM7010**
8.0mm implant	5.7mm	1.8mm	**TIM8007**	**TIM8009**	**TIM8010**

BioHorizons Tapered Immediate Molar family includes large diameter implants designed to be placed in molar extraction sockets, featuring aggressive buttress threads to assist with primary stability. A narrow collar diameter ensures that the implant maintains its path of insertion during final seating. Tapered IM implants platform-switch to BioHorizons 5.7mm prosthetic platform. The dual affinity Laser-Lok surface offers crestal bone retention and connective tissue attachment for flexible placement. Reference L01060 for more information.

Surgical Kits

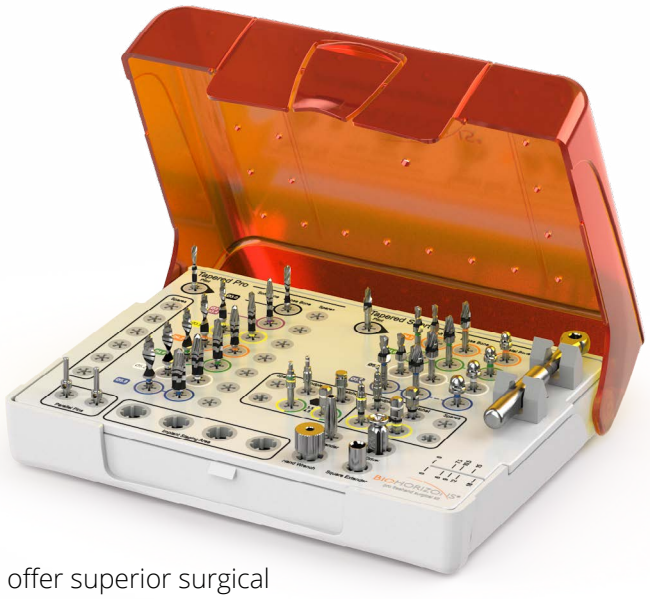
Pro Freehand & Guided Surgery Kits

Pro Freehand Surgical Kit

FSK5000 **Pro Freehand Surgical Kit**

Includes the instrumentation required to place:
Tapered Pro, Tapered Pro Conical and Tapered Short Conical.
Also supports: Tapered Short, Tapered PTG, Tapered Plus, Tapered 3.0, Tapered Tissue Level and Tapered Internal implants.

FSK4500 **Pro Freehand Empty Kit**
(without instruments)



The Pro Freehand Surgical Kit from BioHorizons is designed to offer superior surgical efficiency. The surgical kit is equipped with a parabolic drill design which provides flexibility with the choice of two different implant placement protocols in a single kit, reduced and conventional. The Pro Freehand kit is compatible with conical and internal hex connections and places regular and short implant lines.

features:

- Compact layout for easy use in all operatory settings
- Flexible implant placement with the choice between reduced and conventional protocols
- Versatile lid with opening greater than 180° and removable
- Intuitive color-coded layout based on implant diameter for simplified surgical workflow
- Drills are marked and color-coded for seamless identification of selected protocol
- Simplified layout and color-coding for easier dissassembly and reassembly during cleaning
- Empty spare slots allowing personalization of kit

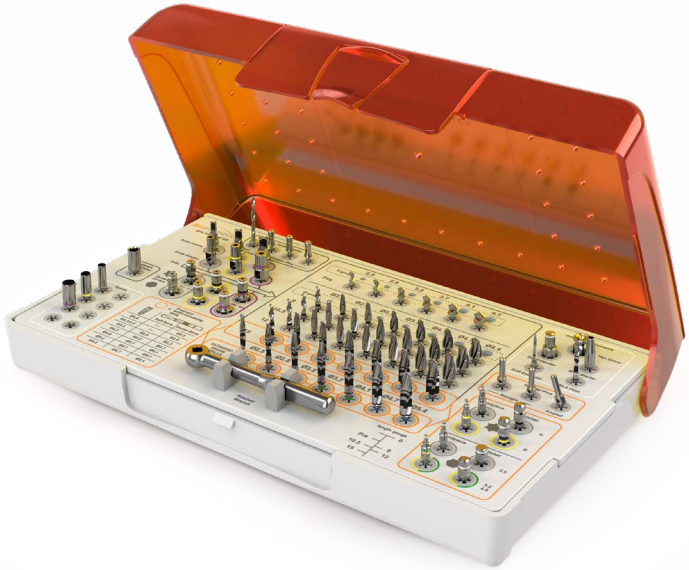
Guided Surgery Kit

PRO5000 **Pro Guided Kit** *(with instruments)*

Includes the instrumentation required to place:
Tapered Pro, Tapered Pro Conical.
Also supports: Tapered PTG, Tapered Plus, Tapered 3.0, Tapered Tissue Level and Tapered Internal implants.*

** Not all diameters and lengths are supported. See L02087 for more information.*

Important Note about Guided Surgery Kit:
Surgical protocol & guide partners for the PRO5000 can be found at:
https://www.biohorizons.com/Products/ProSurgicalSystem



Individual Components

Pro Surgical Drills

Tapered Pilot Drill

TSD2020PD	Tapered Pilot Drill, 2.0mm

Tapered Soft Bone Drills

TSD2028SB	Tapered Soft Bone Drill, 2.8mm
TSD2032SB	Tapered Soft Bone Drill, 3.2mm
TSD2037SB	Tapered Soft Bone Drill, 3.7mm
TSD2041SB	Tapered Soft Bone Drill, 4.1mm
TSD2047SB	Tapered Soft Bone Drill, 4.7mm

The tapered soft bone drills feature a parabolic design which allows for highly efficient drilling. The simplified drill markings correspond to the implant lengths and are color-coded by implant diameter.

Tapered Dense Bone Drills

TSD2025DB	Tapered Dense Bone Drill, 2.5mm
TSD2028DB	Tapered Dense Bone Drill, 2.8mm
TSD2032DB	Tapered Dense Bone Drill, 3.2mm
TSD2037DB	Tapered Dense Bone Drill, 3.7mm
TSD2041DB	Tapered Dense Bone Drill, 4.1mm
TSD2047DB	Tapered Dense Bone Drill, 4.7mm
TSD2054DB	Tapered Dense Bone Drill, 5.4mm

Used to widen the osteotomy in a dense bone environment. The dense bone drills come with depth markings for reference and their matte finish allows for increased visibility in an operatory setting.

Individual Components

Short Surgical Drills

Tapered Short Pilot Drill

TDS32PD	Tapered Short Pilot Drill, 2.2/3.2mm

Tapered Short Soft Bone Drills

TDS33SB	Tapered Short Soft Bone Drill, 2.4/3.3mm
TDS37SB	Tapered Short Soft Bone Drill, 2.8/3.7mm
TDS42SB	Tapered Short Soft Bone Drill, 3.2/4.2mm
TDS47SB	Tapered Short Soft Bone Drill, 3.6/4.7mm

The tapered short soft bone drills feature a parabolic design which allows for highly efficient drilling. The drills are color coded by implant diameter.

Tapered Short Dense Bone Drills

TDS37DB	Tapered Short Dense Bone Drill, 3.7mm
TDS42DB	Tapered Short Dense Bone Drill, 4.2mm
TDS48DB	Tapered Short Dense Bone Drill, 4.8mm
TDS54DB	Tapered Short Dense Bone Drill, 5.4mm

The Tapered Short Dense Bone drills feature highly efficient cutting flutes for crisp osteotomies in even the densest bone.

Tapered Short Crestal Bone Drills

TDS42CB	Tapered Short Crestal Bone Drill, 4.2mm
TDS46CB	Tapered Short Crestal Bone Drill, 4.6mm
TDS52CB	Tapered Short Crestal Bone Drill, 5.2mm
TDS58CB	Tapered Short Crestal Bone Drill, 5.8mm

Used to remove cortical bone at ridge crest to facilitate pressure-free seating of the implant collar; indicated when dense cortical bone is present at crest; rounded non-end cutting hub centers drill in osteotomy. The drill's rounded non-end cutting hub centers drills in the osteotomy.

Individual Components

Surgical Instruments

3.0mm Implant-level Drivers*

TP3IDRL	3.0mm Implant-level Driver, Ratchet, Long *(sold separately)*
TP3IDHR	3.0mm Implant-level Driver, Handpiece, Regular
TP3IDRR	3.0mm Implant-level Driver, Ratchet, Regular

Drivers are color-coded by prosthetic connection:
- 3.0mm platform - no color indicator

3.5/4.5mm Implant-level Drivers*

TYGIDH	3.5/4.5mm HD Implant-level Driver, Handpiece
TYGIDR	3.5/4.5mm HD Implant-level Driver, Ratchet

Drivers are color-coded by prosthetic connection:
- 3.5mm platform - yellow
- 4.5mm platform - green

130-000
Ratchet

300-205
4mm Square
Drive Extender

300-400
Hand
Wrench

135-351
050" (1.25mm)
Hex Driver

122-100
Drill
Extender

144-100
Straight
Parallel Pins
(2 per kit)

144-200
20° Angled
Parallel Pins
(sold separately)

144-230
30° Angled
Parallel Pins
(sold separately)

** Instrument c-rings wear out over time. If an instrument is no longer held securely by its associated driver, order a replacement ring through Customer Care.*

Ancillary Instruments

Surgical Instruments

2.5mm Tapered Depth Drills with Stops

TSD202507HD	2.5mm Tapered Depth Drill, 7.5mm Stop
TSD202509HD	2.5mm Tapered Depth Drill, 9mm Stop
TSD202510HD	2.5mm Tapered Depth Drill, 10.5mm Stop
TSD202512HD	2.5mm Tapered Depth Drill, 12mm Stop
TSD202515HD	2.5mm Tapered Depth Drill, 15mm Stop

Stops are set to same length as each implant for crestal placement.

Extended Shank HD Drills

TSD4020HD	2.0mm Extended Shank HD Drill
TSD4025HD	2.5mm Extended Shank HD Drill
TSD4028HD	2.8mm Extended Shank HD Drill
TSD4032HD	3.2mm Extended Shank HD Drill
TSD4037HD	3.7mm Extended Shank HD Drill
TSD4041HD	4.1mm Extended Shank HD Drill
TSD4047HD	4.7mm Extended Shank HD Drill

Extended Shank Drills are 8mm longer than standard drills.

Burs

122-015	1.5mm starter drill

The 1.5mm starter drill facilitates precise initiation of osteotomies and features a 10.5mm depth marking.

122-110	2.0mm Lindemann Bone Cutter

Side-cutting drill used to correct eccentric osteotomy preparations.

122-106	#6 Round Bur

Ancillary Instruments

Miscellaneous Instruments

BioHorizons Adjustable Torque Wrench

BIOTORQ	BioHorizons Adjustable Torque Wrench

Adjustable torque wrench designed to attach to all 4mm drivers from BioHorizons. Supplied with a dual direction mechanism that allows for insertion and removal functions. When the desired torque is reached (a choice of 10Ncm to 30Ncm) the torque wrench snaps to avoid over torquing.

Elos Adjustable Torque Wrench

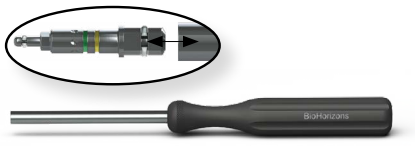
C12374	Elos Adjustable Torque Wrench
C8521	Elos Replacement Bit, 4mm Square
C8381	Elos Replacement Bit, Handpiece

Lightweight titanium design is easy to use as a ratchet or adjustable torque wrench with visual indicators for 15, 30, 40, 50, 60, 70, 80 and 90 Ncm. Comes packaged with a 4mm square adaptor. Quickly disassembles for cleaning. No calibration required.

ITL Adjustable Torque Wrench

ATW	ITL Precise Adjustable Torque Wrench

Place both implants and abutments with 9 distinct torque settings (15, 20, 25, 30, 35, 40, 45, 50 and 60 Ncm). A simple twist of the handle locks in precision-engineered torque values and guarantees accuracy and repeatability. Fits any 4mm square component.



Surgical Driver

150-000	Surgical Driver

Use to drive implants into the osteotomy, particularly in the anterior region. Holds the 4mm Square implant-level drivers and the bone taps.

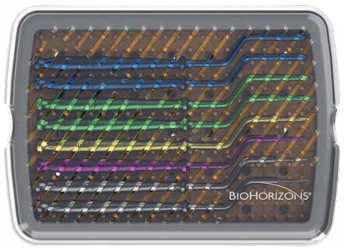
Implant Spacer / Depth Probe

144-300	Implant Spacer / Depth Probe

Use to provide intraoral measurements. Multi-functional tool for marking implant spacing on the ridge and probing osteotomy depth.

Ancillary Instruments

Miscellaneous Instruments



Tapered Offset Dilator Kit

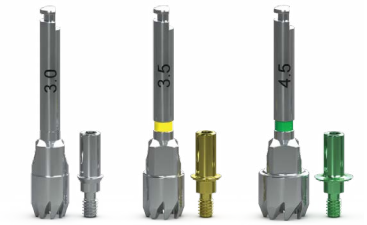
TODKIT2	**Tapered Offset Site Dilator Kit**

The Tapered Implant site dilators match the geometry of the Tapered surgical drills and are used to create or enlarge osteotomies in soft maxillary bone. These instruments compress the bone laterally rather than removing valuable bone from the surgical site, creating a more dense bone-to-implant interface.

Tissue Punches

122-200	**3.0mm Tissue Punch** *(for a 3.3mm incision)*
PYTP	**3.5mm Tissue Punch** *(for a 3.9mm incision)*
PGTP	**4.5mm Tissue Punch** *(for a 4.7mm incision)*

Use in flapless surgical procedures to remove a minimal amount of the soft tissue from the crest of the ridge prior to osteotomy preparation or during implant uncovery.



Bone Profiling Burs

TP3DBP	**3.0mm Bone Profiler & Guide**
PYDBP	**3.5mm Bone Profiler & Guide**
PGDBP	**4.5mm Bone Profiler & Guide**

Use at implant uncovery to remove excess crestal bone for proper abutment seating. Screw the guide into the implant and align the profiling bur for precise bone removal. Match profiler & guide color to prosthetic connection.

Multi-Unit Bone Profiling Burs

TP3MUBP	**3.0mm Multi-unit Bone Profiler & Guide**
PYMUBP	**3.5mm Multi-unit Bone Profiler & Guide**
PGMUBP	**4.5mm Multi-unit Bone Profiler & Guide**

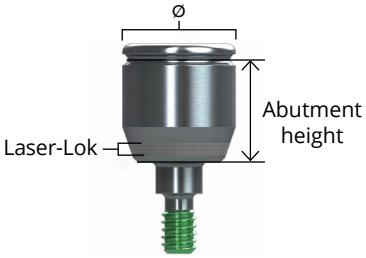
The multi-unit bone profilers are a designed instrument to aid in the placement of angled multi-unit abutments. The profilers have a wider cutting profile to allow seating of multi-unit abutments when implants have been placed subcrestally.

Profiler Guide Pins

TP3BPGP	**3.0mm Bone Profiler Guide Pin (pack of 4)**
PYBPGP	**3.5mm Bone Profiler Guide Pin (pack of 4)**

Healing Abutments

Standard & Laser-Lok Abutments



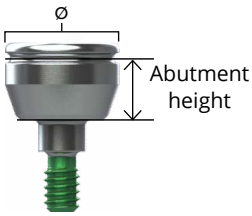
Laser-Lok Healing Abutments

Narrow emergence	ø	3mm height	5mm height
3.5mm platform, Laser-Lok	4.0mm	**PYNHA3L**	**PYNHA5L**
4.5mm platform, Laser-Lok	5.0mm	**PGNHA3L**	**PGNHA5L**

Regular emergence	ø	3mm height	5mm height
3.0mm platform, Laser-Lok	3.5mm	**TP3HA3L**	**TP3HA5L**
3.5mm platform, Laser-Lok	4.5mm	**PYRHA3L**	**PYRHA5L**
4.5mm platform, Laser-Lok	5.5mm	**PGRHA3L**	**PGRHA5L**

Wide emergence	ø	3mm height	5mm height
3.0mm platform, Laser-Lok	4.0mm	**TP3WHA3L**	**TP3WHA5L**
3.5mm platform, Laser-Lok	6.0mm	**PYWHA3L**	**PYWHA5L**
4.5mm platform, Laser-Lok	7.0mm	**PGWHA3L**	**PGWHA5L**

Use Laser-Lok healing abutments when a Laser-Lok abutment restoration is planned to inhibit epithelial downgrowth, establish a soft tissue seal and protect the bone. Refer to the Prosthetic Technique Manual (L02015) for appropriate handling techniques.



Standard Healing Abutments

Narrow emergence	ø	1mm height	2mm height	3mm height	5mm height
3.0mm platform	3.0mm	-	**TP3NHA2**	**TP3NHA3**	**TP3NHA5**
3.5mm platform	4.0mm	**PYNHA1**	**PYNHA2**	**PYNHA3**	**PYNHA5**
4.5mm platform	5.0mm	**PGNHA1**	**PGNHA2**	**PGNHA3**	**PGNHA5**

Regular emergence	ø	1mm height	2mm height	3mm height	5mm height
3.0mm platform	3.5mm	-	**TP3HA2**	**TP3HA3**	**TP3HA5**
3.5mm platform	4.5mm	-	**PYRHA2**	**PYRHA3**	**PYRHA5**
4.5mm platform	5.5mm	-	**PGRHA2**	**PGRHA3**	**PGRHA5**

Wide emergence	ø	1mm height	2mm height	3mm height	5mm height
3.0mm platform	4.0mm	-	-	**TP3WHA3**	**TP3WHA5**
3.0mm platform *(extra wide)*	5.0mm	-	-	**TP3EWHA3**	**TP3EWHA5**
3.5mm platform	6.0mm	-	-	**PYWHA3**	**PYWHA5**
4.5mm platform	7.0mm	-	-	**PGWHA3**	**PGWHA5**

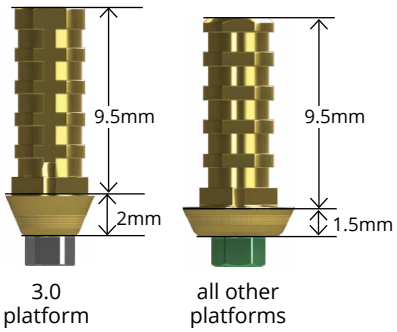
Hand-tighten with the .050" (1.25mm) Hex Driver. Titanium Alloy.

The 3.5mm and 4.5mm healing abutments are laser marked for easy intraoral identification of the prosthetic platform, emergence and height. 3.0 healing abutments are not laser marked due to their small size.

Y = Yellow (3.5mm) platform
G = Green (4.5mm) platform
N, R or W = Narrow, Regular or Wide emergence
1, 2, 3 or 5 = 1mm, 2mm, 3mm or 5mm abutment height
L = Laser-Lok

Temporary Abutments & Cover Caps

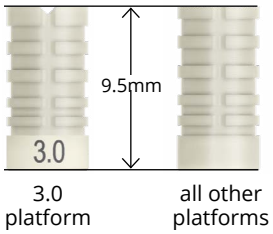
Laser-Lok Easy Ti Abutments



Laser-Lok Easy Ti Abutments

hexed	non-hexed	
TP3ETHL	**TP3ETNL**	**3.0mm platform**
PYETHL	**PYETNL**	**3.5mm platform**
PGETHL	**PGETNL**	**4.5mm platform**

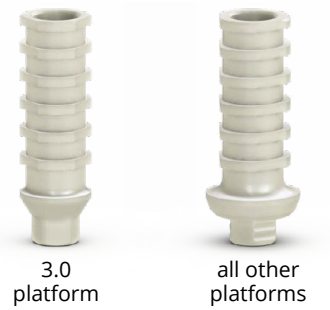
Use hexed for single-unit screw retained, long term temporary restorations that require superior esthetics (>30 days). Use non-hexed for multiple-unit, screw retained, long term temporary restorations (>30 days). Packaged with an abutment screw (PXAS). Titanium Alloy for strength. TiN coated for esthetics. Final torque: 30Ncm. Refer to the Prosthetic Technique Manual (L02015) for appropriate handling techniques.



Easy Ti Temp Sleeves

TP3ETPS	**3.0mm platform, PEEK** *(pack of 3)*
PXETPS	**3.5mm, 4.5mm & 5.7mm platform, PEEK** *(pack of 3)*

Use for fabrication of cement- or screw-retained provisional restorations (up to 30 days). Packaged in packs of three. PEEK (PolyEtherEtherKetone) material.



PEEK Temporary Cylinder Abutments

hexed	non-hexed	
TP3PTC	**TP3PTCN**	**3.0mm platform**
PYPTC	**PYPTCN**	**3.5mm platform**
PGPTC	**PGPTCN**	**4.5mm platform**

Use for fabrication of cement- or screw-retained provisional restorations (up to 30 days). A direct coping screw (PXDCS, purchased separately) may be used to maintain screw access hole during fabrication of screw-retained provisional prostheses. Packaged with an abutment screw (PXAS). PEEK (PolyEtherEtherKetone) material. Final torque: 30Ncm.

Cover Caps

TP3CC	**3.0mm Cover Cap**
PYCC	**3.5mm Cover Cap**
PGCC	**4.5mm Cover Cap**

Use during submerged surgical healing. Hand-tighten with the .050" (1.25mm) Hex Driver. Titanium Alloy.

A Cover Cap is included with each implant, but can also be ordered separately.

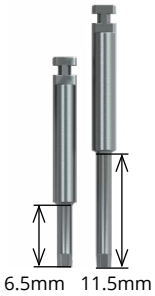
Restorative Instruments

Hex Drivers & Osstell

.050 (1.25mm) Manual Hex Drivers

135-251	Manual Hex Driver, Short
135-351	Manual Hex Driver
135-451	Manual Hex Driver, Long

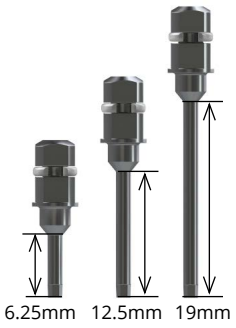
For installation and removal of cover screws, healing abutments and abutment screws.



.050 (1.25mm) Handpiece Hex Drivers

134-350	Handpiece Hex Driver
134-450	Handpiece Hex Driver, Long

For installation and removal of cover screws, healing abutments and abutment screws. The handpiece hex drivers are used with latch-type contra-angle handpieces. The Handpiece Hex Driver, Long (134-450) is 5mm longer than the standard version (134-350).



.050 (1.25mm) Square Hex Drivers*

300-350	4mm Square Hex Driver
300-351	4mm Square Hex Driver, Long
300-354	4mm Square Hex Driver, Extra Long

For installation and removal of cover screws, healing abutments and abutment screws.

Osstell ISQ

OSS-103000	Osstell Beacon

The Osstell Beacon provides an objective and non-invasive method to determine implant stability in a matter of seconds. Measurements are calculated using Resonance Frequency Analysis (RFA) technology, which is based on over 1000 scientific studies.

SmartPegs (packs of 5)

OSS-100425	3.0mm platform
OSS-100440	3.5mm platform
OSS-100431	4.5mm & 5.7mm platform

** Instrument c-rings wear out over time. If an instrument is no longer held securely by its associated driver, order a replacement ring through Customer Care.*

Tapered Pro Surgical Manual

This surgical manual serves as a reference for using the Tapered Pro implants and surgical instruments. It is intended solely to provide instructions on the use of BioHorizons products. It is not intended to describe the methods or procedures for diagnosis, treatment planning, or placement of implants, nor does it replace clinical training or a clinician's best judgment regarding the needs of each patient. BioHorizons strongly recommends appropriate training as a prerequisite for the placement of implants and associated treatment.

The procedures illustrated and described within this manual reflect idealized patient presentations with adequate bone and soft tissue to accommodate implant placement. No attempt has been made to cover the wide range of actual patient conditions that may adversely affect surgical and prosthetic outcomes. **Clinician judgment as related to any specific case must always supersede any recommendations made in this or any BioHorizons literature**.

Before beginning any implant surgical procedure with BioHorizons implants:

- Read and understand the Instructions for Use that accompany the products.
- Clean and sterilize the surgical tray and instruments per Instructions for Use.
- Become thoroughly familiar with all instruments and their uses.
- Study surgical kit layout and iconography.
- Design a surgical treatment plan to satisfy the prosthetic requirements of the case.

Small diameter implants are intended for the anterior region of the mouth and are not intended for the posterior region of the mouth due to possible failure of the implant.

Indications

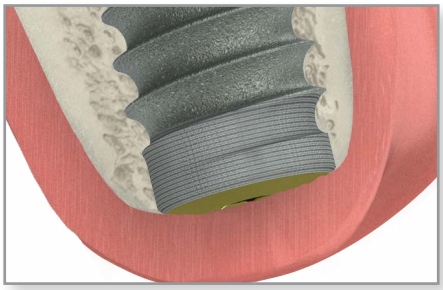
Tapered Pro, Tapered Internal, Tapered Plus and Tapered Tissue Level Implants are intended for use in the mandible or maxilla as an artificial root structure for single tooth replacement or for fixed bridgework and dental retention. The implants may be restored immediately:

1) with a temporary prosthesis that is not in functional occlusion, or
2) when splinted together for multiple tooth replacement or when stabilized with an overdenture supported by multiple implants.

Tapered Internal 3.0 and Tapered Tissue Level 3.0 Implants may be used as an artificial root structure for single tooth replacement of mandibular central and lateral incisors and maxillary lateral incisors. The implants may be restored immediately:

(1) with a temporary prosthesis that is not in functional occlusion, or
(2) when splinted together as an artificial root structure for multiple tooth replacement of mandibular incisors,
(3) for denture stabilization using multiple implants in the anterior mandible and maxilla.

The implants may be placed in immediate function when good primary stability has been achieved and with appropriate occlusal loading.

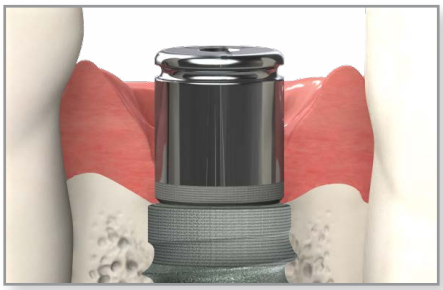


Implant with cover cap in a two-stage protocol.

Two-Stage Protocol

In a two-stage surgery, the implant is placed below the soft tissue and protected from occlusal function and other forces during osseointegration. A low-profile cover cap is placed on the implant to protect it from the ingress of soft tissue.

Following osseointegration, a second procedure exposes the implant and a transmucosal healing abutment is placed to allow for soft tissue healing and development of a sulcus. Prosthetic restoration begins after soft tissue healing.



Implant with healing abutment in a single-stage protocol.

Single-Stage Protocol

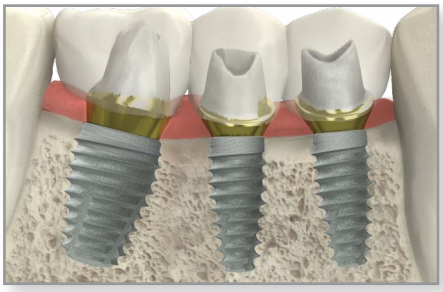
Single-stage surgery may be accomplished by placing a healing abutment at the time of implant surgery. This eliminates the need for a second procedure. Although the implant is not in occlusal function, some forces can be transmitted to it through the exposed transmucosal element.

Prosthetic restoration begins following osseointegration of the implant and soft tissue healing.

Implant restored with a non-functional provisional prosthesis.

Non-functional Immediate Restoration

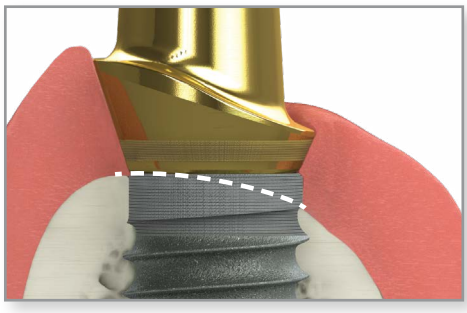
Single-stage surgery with non-functional immediate provisionalization provides the patient a non-functioning provisional prosthesis early in the treatment plan. An abutment is placed on the implant at or shortly after surgery, and a provisional restoration is secured using temporary cement. The provisional can help contour the soft tissue profile during healing.



Implants with a splinted prosthesis in immediate function.

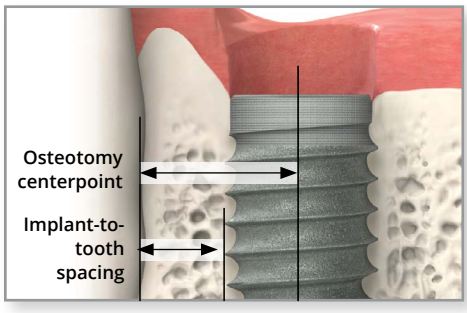
Immediate Function Restoration

Single-stage surgery with immediate function is possible in good quality bone where multiple implants exhibiting excellent initial stability can be splinted together. Splinting implants together may offer a biomechanical advantage over individual, unsplinted prostheses.



Placement in Uneven Ridges

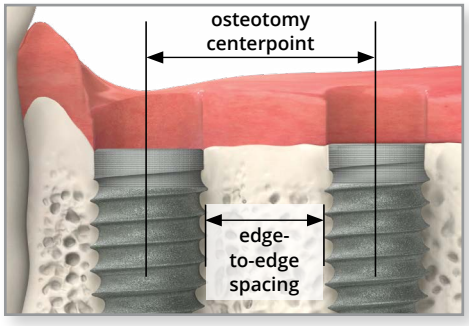
When placing the implant in an uneven ridge, prepare the osteotomy and place the implant so the bone/soft-tissue junction is within the Laser-Lok transition zone. This will allow both soft tissue and bone to attach to the Laser-Lok collar. If the ridge discrepancy is more than the Laser-Lok transition zone, leveling the ridge can be considered.



Implant-to-Tooth Spacing

The osteotomy centerpoint required to maintain a specific implant-to-tooth spacing is calculated according to this formula:
1/2 (implant body diameter) + the desired spacing.

During implant placement, clinicians must apply their best judgment as to the appropriate spacing for individual patient conditions.



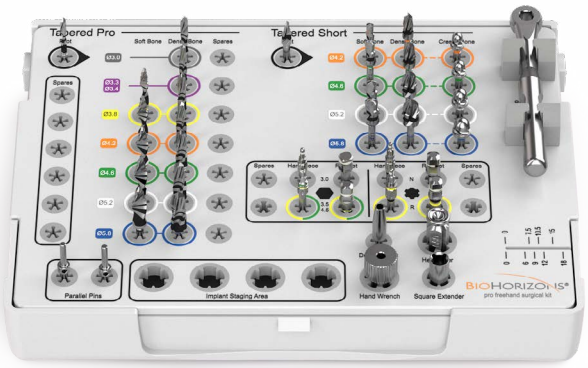
Implant-to-Implant Spacing

The osteotomy center-to-center measurement required to maintain a specific edge-to-edge spacing between two implants is calculated according to this formula:
1/2 (sum of 2 implant body diameters) + the desired spacing.

During implant placement, clinicians must apply their best judgment as to the appropriate spacing for individual patient conditions.

Surgical Manual

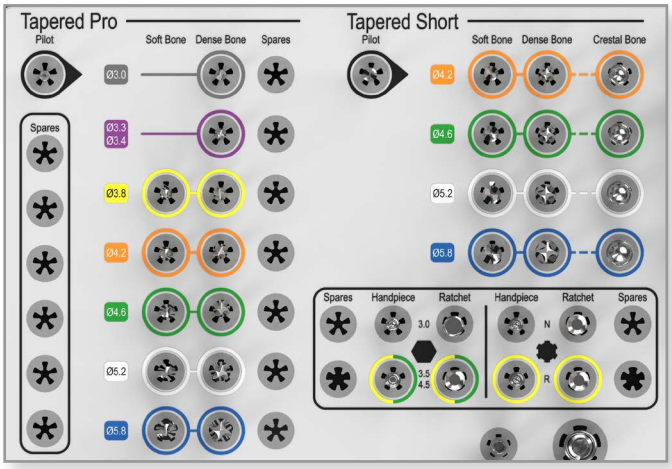
Surgical Kit & Drill Sequence



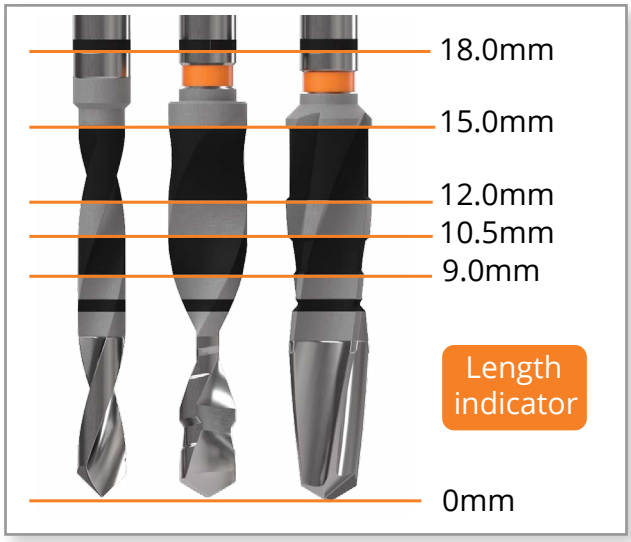
Surgical Kit Instructions

Prior to use, clean and sterilize the surgical tray and instruments according to the Instructions for Use. Study the surgical kit layout, color coding and iconography. Surgical assistants should be thoroughly familiar with all instruments and their uses prior to initiating the surgical procedure.

The surgical kit uses an intuitive layout to guide the surgeon through the instrument sequence. The sequence begins in the upper left hand corner and works left-to-right for each implant diameter.



The freehand kit's drills increase in diameter as you work down the kit.



Drill Markings

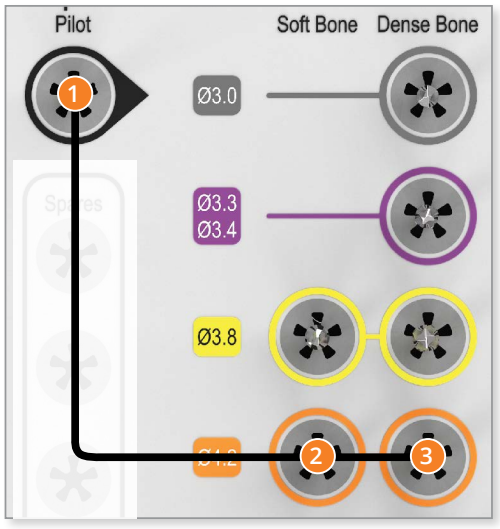
All surgical drills included with this system are externally irrigated and designed to be used with steady sterile irrigation. Reduced drill speed may be indicated in softer bone or as drill diameter increases.

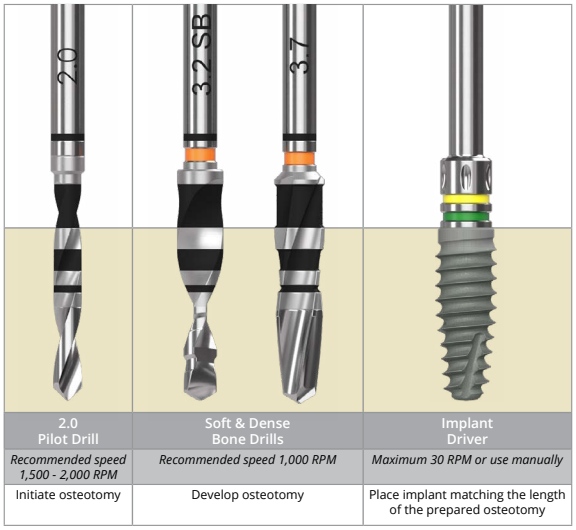
Note:The depth marks are consistent throughout all drills.

Surgical Manual

Drill Overview

Reduced Drill Sequence (4.2mm implant)

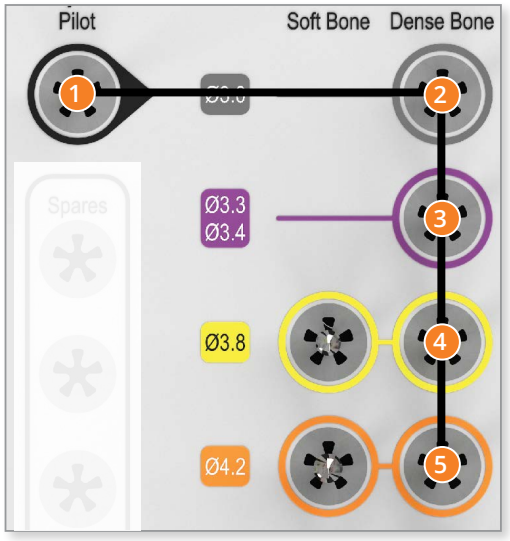


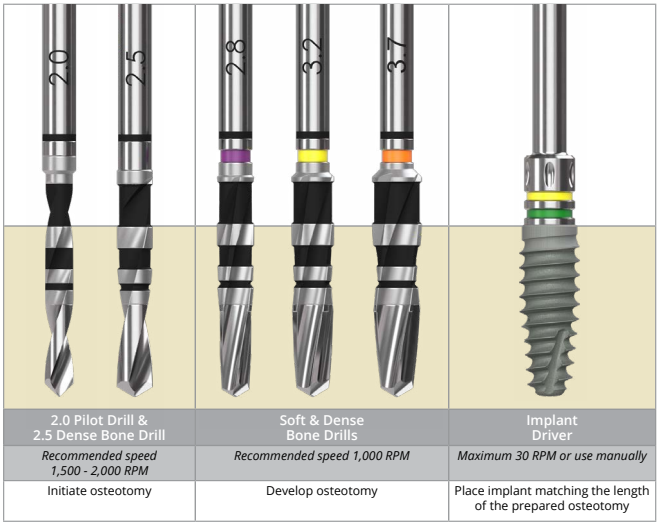


Using the **Reduced Protocol** allows the preparation of the osteotomy for implant placement by using two to three drills only.

- Study the surgical kit layout, color-coding and iconography of the kit.
- Initiate the osteotomy using the pilot drill. The pilot drill may also be used to set the depth of the osteotomy.
- Use the appropriate soft bone drill to prepare the recommended soft bone osteotomy.
- **Optional:** Use the appropriate dense bone drill for final revision and widening of the osteotomy in dense bone environment.

Conventional Drill Sequence (4.2mm implant)





Using the **Conventional Protocol** allows the gradual preparation of the osteotomy for implant placement.

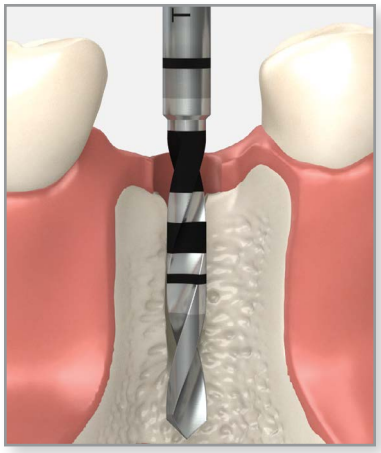
- Study the surgical kit layout, color-coding and iconography of the kit.
- Initiate the osteotomy using the pilot drill. The pilot drill may also be used to set the depth of the osteotomy.
- Use the dense bone drill dedicated for the 3.0mm diameter implant to widen the osteotomy and gradually work down the column of dense bone drills until the dense bone drill corresponding to the diameter of the implant being placed.
- **Under preparation of the osteotomy:** To under prepare the osteotomy, gradually work down the dense bone drill column and stop once the dense bone drill corresponding to a size smaller than the implant diameter is achieved.

Important Considerations

• Peri-operative oral rinses with a 0.12% Chlorhexidine Digluconate solution have been shown to significantly lower the incidence of post-implantation infectious complications.[13] A pre-operative 30-second rinse is recommended, followed by twice daily rinses for two weeks following surgery.

• Drilling must be done under a constant stream of sterile irrigation. A pumping motion should be employed to prevent over-heating the bone. Surgical drills and taps should be replaced when they are worn, dull, corroded or in any way compromised. BioHorizons recommends replacing drills after 12 to 20 osteotomies.[14] A Drill-Usage Tracking Chart is available at biohorizons.com to record this important information.

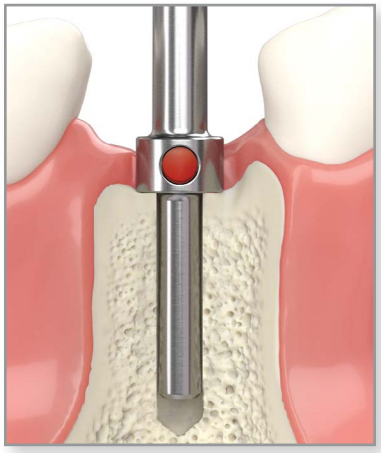
• There is a risk of injury to the mandibular nerve associated with surgical drilling in posterior mandibular regions. To minimize the risk of nerve injury, it is imperative that the clinician understands the drill depth markings as they relate to the implant length to produce the desired vertical placement of the implant.



Pilot Drill

Purpose: Increase and/or set the depth of the osteotomy.

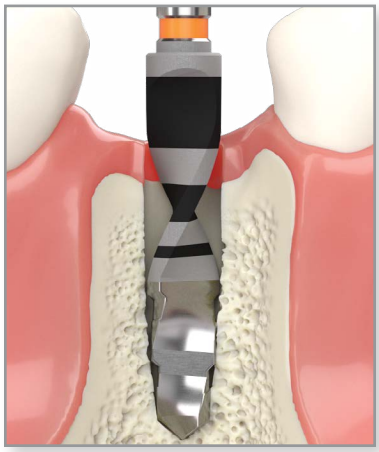
- Chisel-tip design eliminates "skating" on osseous crest
- Prepares site for paralleling pins
- Matte finish for increased visibility under operatory lights
- 1,500 - 2,000 RPM



Paralleling Pins

Purpose: Evaluate osteotomy position and angle.

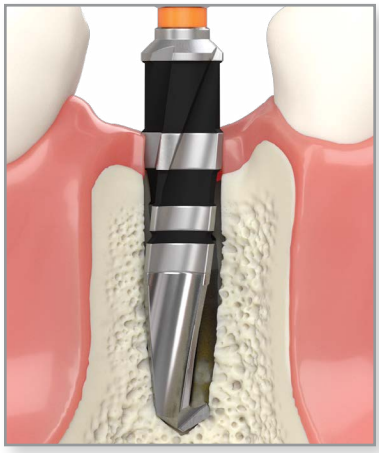
- Provided straight or with a 20° angle *(not included)*
- Use after 2.0mm Starter Drill
- 9mm shank for radiographic evaluation of proximity to adjacent anatomy
- Hub diameter is 4.0mm
- Pin diameter 2.0mm & 2.5mm



Soft Bone Drills

Purpose: Prepare recommended soft bone osteotomy

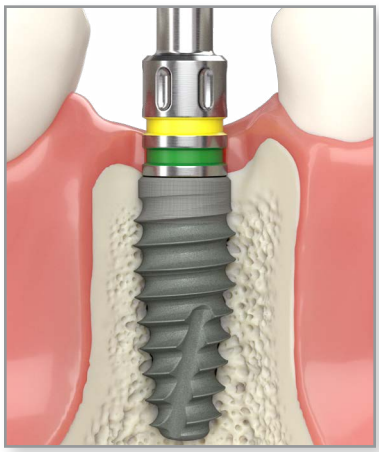
- Matte finish for increased visibility under operatory lights
- 1,000 RPM



Dense Bone Drills *(optional)*

Purpose: For final revision and widening of the osteotomy in dense bone environment.

- Matte finish for increased visibility under operatory lights
- 1,000 RPM



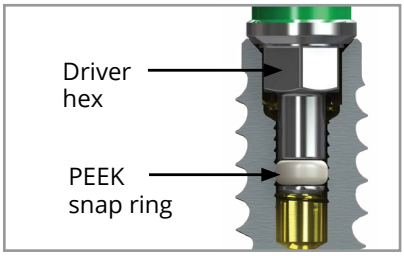
Implant Drivers

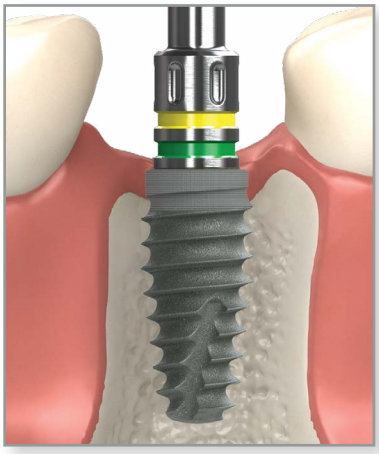
Purpose: Engage the implant's internal hex to drive implants into the osteotomy

- Implant level drivers are color-coded by prosthetic connection:
- Gray = 3.0mm platform
- Yellow/green = 3.5/4.5mm platform
- 30 RPM or less[6]

Implant Pick-up

To pick-up the implant, align the driver hex with the implant hex and press firmly to engage the PEEK snap ring.





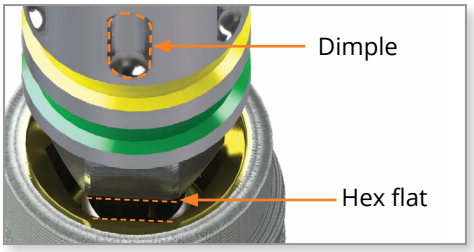
Implant Placement

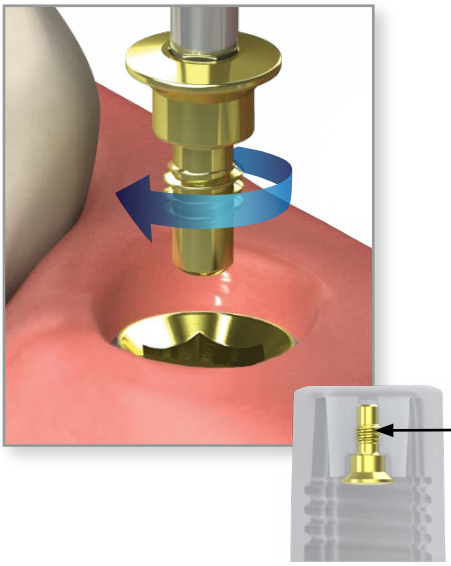
Place the apex of the implant into the osteotomy and begin rotating slowly.

If too much resistance is felt during insertion, reverse the implant to relieve pressure and re-insert into the osteotomy. If the final drill was not used while preparing the osteotomy, remove the implant and revise the osteotomy with the final drill.

Internal Hex Orientation

When seating the implant, use the corresponding dimples on the driver to orient one internal hex flat perpendicular to the implant angulation plane. Doing so verifies that an angled abutment will correct the angulation.





Cover Caps for Two-stage Protocol

Purpose: Protects prosthetic platform in two-stage (submerged) surgical protocol for bone level implants.

- Irrigate implant to remove blood and other debris:
- Use an antibacterial paste to decrease the risk of bacterial growth
- Thread clockwise into implant body
- Color-coded by prosthetic platform
- Hand-tighten (10-15 Ncm) utilizing .050" (1.25mm) Hex Driver

Cover cap
The cover cap for the mount-free implant is mounted in the vial cap.

Healing Abutments for Single-stage Protocol

Purpose: Transmucosal element for developing soft tissue emergence with narrow, regular, wide emergence or Simple Solutions prosthetic components.

- Color-coded by prosthetic platform
- The 3.5, 4.5mm and 5.7mm healing abutments are laser marked for easy intraoral identification; for example:
  YR3 = Yellow (3.5mm) platform / Regular Emergence / 3mm High
- If a Laser-Lok temporary or final restoration is planned, a Laser-Lok healing abutment is required
- Hand-tighten (10-15 Ncm) utilizing .050" (1.25mm) Hex Driver

Immediate Provisional Restorative Options

Purpose: Titanium and PEEK temporaries are easily modified for fabrication of cement or screw-retained provisional restorations. A long direct coping screw (purchased separately) may be used to maintain the screw access hole during the fabrication of a screw-retained provisional prosthesis.

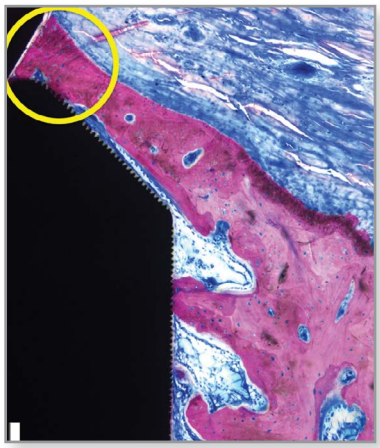
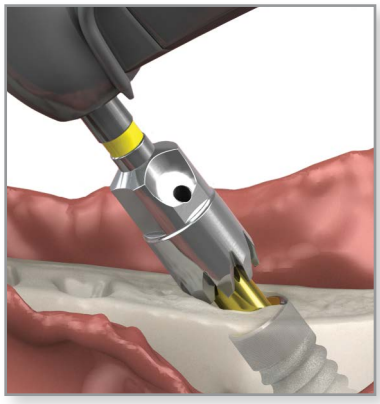


Image showing exceptional bone growth at 3 months. (Myron Nevins, DDS.)

Bone Profilers

Purpose: In cases where excess crestal bone has been created, use a bone profiler at implant uncovery to contour the bone. This will provide the necessary clearance for proper abutment seating.

- Profiler guide protects implant platform
- Color-coded by prosthetic platform (gray = 3.0mm, yellow = 3.5mm, green = 4.5mm, blue = 5.7mm)
- 800 RPM drill speed with steady sterile irrigation



Do not use the profiler without the guide in place.

Using an .050" hex driver, remove the surgical cover cap from the implant and place the profiler guide that matches the color of the prosthetic platform. Use the profiler with copious amounts of sterile irrigation. Once the excess bone and soft tissue are removed, unscrew the guide and seat the appropriate prosthetic component.

Post-operative Instructions

A period of unloaded healing time is often recommended to allow for integration between the bone and implant surface. This is dependent on individual patient healing rates and bone quality of the implant site. Each case must be independently evaluated.

The patient should be instructed to follow a post-surgical regimen including cold packs for 24 hours post-implantation. The patient's diet should consist of soft foods and possibly dietary supplements. Pharmacological therapy should be considered as the patient's condition dictates.

If a removable prosthesis is used during the initial healing phase, a soft liner material should be used to prevent pressure on the surgical site. Relieve the prosthesis over the implant site prior to the soft liner application. Periodically check the patient's soft tissue and bone healing using clinical and radiographic evaluations.

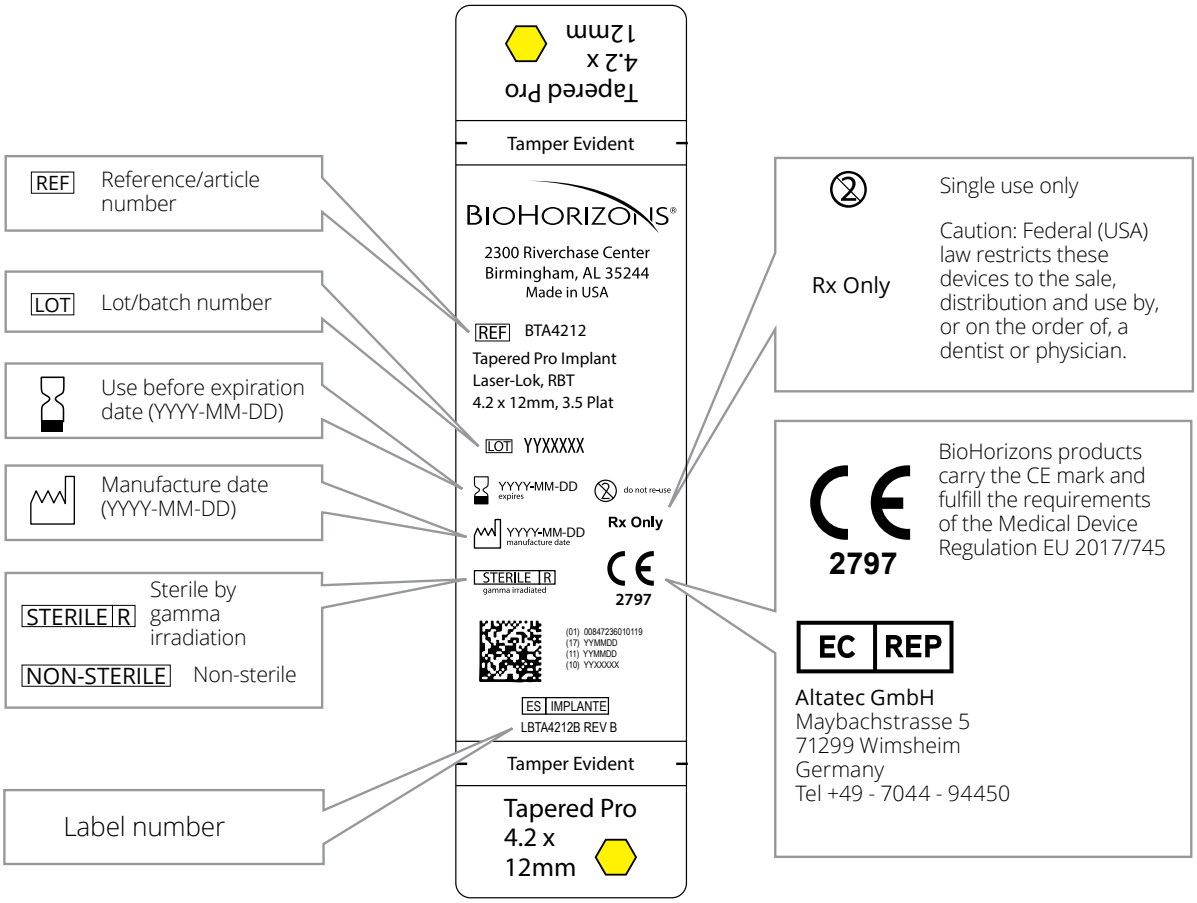
Ongoing hygiene for the implant patient is vital. Hygiene recall appointments at three month intervals are suggested. Instruments designed for implant abutment scaling, such as Implacare® instruments from Hu-Friedy® should be utilized. The stainless steel handles may be fitted with assorted tip designs for hygiene on natural teeth. The Implacare® scalers contain no glass or graphite fillers that can scratch titanium implant abutments.

Surgical Manual

Icon Legend

Symbol Descriptions for Product Labeling

The example labeling below is to demonstrate content and symbology, and may differ on individual product labeling.



Tapered Pro Product Labeling

body diameter	prosthetic platform
3.8mm	**3.0mm** (gray internal hex & cover cap)
4.2mm	**3.5mm** (yellow internal hex & cover cap)
4.6mm	**3.5mm** (yellow internal hex & cover cap)
5.2mm	**4.5mm** (green internal hex & cover cap)

References

1. Incidence of Peri-Implant Diseases on Implants with and without Laser-Microgrooved Collar: A 5-Year Retrospective Study Carried Out in Private Practice Patients.
Guarnieri R, Grande M, Zuffetti F, Testori T. *Int J Oral Maxillofac Implants*. 2018 Mar/Apr;33(2):457-465. R11082c

2. For a complete research summary, please see Laser-Lok Clinical Overview (BioHorizons document ML0606).

3. Human histologic evidence of a connective tissue attachment to a dental implant.
M Nevins, ML Nevins, M Camelo, JL Boyesen, DM Kim. *International Journal of Periodontics & Restorative Dentistry*. Vol. 28, No. 2, 2008. R11005c

4. The effects of laser microtextured collars upon crestal bone levels of dental implants.
S Weiner, J Simon, DS Ehrenberg, B Zweig, JL Ricci. *Implant Dentistry.* Volume 17, Number 2, 2008. p. 217-228. R11010a

5. Influence of a microgrooved collar design on soft and hard tissue healing of immediate implantation in fresh extraction sites in dogs.
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