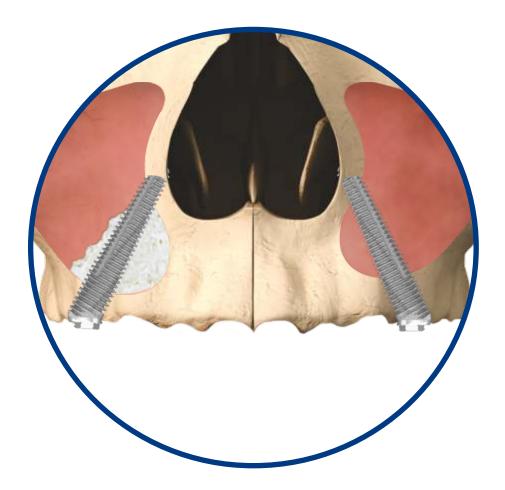


**NAZALUS** Implants Product Catalogue and Surgical Manual





Southern Implants® is a leading provider of unique and innovative dental implant products with a focus on top-end professional users who want more choices. Southern's expertise in research, development and manufacturing of dental implants allows us to provide Innovative Treatment Solutions that will reduce treatment times and improve patient outcomes.

Striving for excellence and meeting customer needs, has led to our wide product range characterised by Unique and Innovative products which include:

- Multiple interfaces, to suit customer preference.
- INVERTA® implant, featuring a Body-Shift™ design, engineered for primary stability and suitable for immediate loading.
- Co-Axis®, Subcrestal Angle Correction® implants, available in angulations of 12°, 24° and 36° and various internal and external connections.
- MAX implant, specifically designed for immediate molar tooth replacement.
- The ZYGAN®, ZYGEX and ZYGIN implants for severely resorbed maxilla and craniofacial reconstruction.
- The Machined Surface Coronally (MSC) dental implant surface treatment offers practitioners an innovative way to take advantage of the best characteristics of both smooth and moderately rough implant surfaces.

Our product portfolio is in synchronised evolution with protocol improvements and technological advances.

My sincere thanks to all specialists, dentists and technicians who put their trust in our company.

Graham Blackbeard
Managing Director, Southern Implants

#### **CONTENTS**

NAZALUS Concept	Page 05
Surgical Guidelines.	Page 06
NAZALUS Ø4.0 mm, External Hex, 24° Co-Axis® Implant (Tapered) Implants and Surgical Components Prosthetic Flowchart	Page 08 Page 09
Implant Drill Depth.	Page 12
Surgical Placement	Page 13
Loading Times. Troubleshooting.	Page 18 Page 18
Two-Stage Procedure	Page 19
One-Stage Procedure.	Page 20
Torque Table for Southern Screws	Page 21
Instrument Trays I-HEX-EG. I-PPTN-EG. I-PROS-EG.	Page 22 Page 24 Page 26
Implant Dimensions and Information.	Page 27
Instruments for implants packaged with a fixture mount	Page 28
Key Features and Benefits	Page 29
Southern is Going Green	Page 30
Explanation of Symbols.	Page 31
Platform Interface	Page 31

For more information scan the below



or visit

SOUTHERNIMPLANTS.COM

 $\textbf{NOTE:} \quad \text{images are for illustration purposes only and do not necessarily accurately represent the product.}$ 

- $\boldsymbol{\cdot}$  all dimensions in this catalogue are in mm, unless otherwise specified.
- not all products are cleared for sale in all countries.

#### **NAZALUS CONCEPT**

# This innovative implant technology allows full arch rehabilitation using the maxillary bone surrounding the nasal cavity.

Because of inadequacies in both the quantity and quality of available bone in the maxilla, it can be challenging for full arch rehabilitation with implants, especially when immediate loading is considered. For this reason, bone augmentation or sinus floor elevation is often prescribed, followed by delayed placement.

To avoid complex bone grafting procedures, Pterygoid or Zygomatic implants have been advocated, but these surgical approaches have some limitations and potential for complications.

The Nazalus implant was developed as an alternative to the Zygomatic and Pterygoid implants. The Nazalus concept is based on utilising an extra long 24° Co-Axis® implant that will be anchored in the cortical bone mass of the lateral nasal wall.

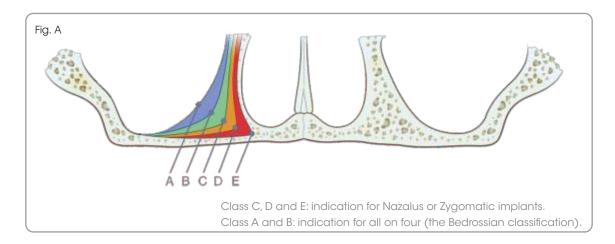
The Nazalus implants are designed for either trans-sinus placement or in combination with a sinus lift procedure. They are equipped with an angled platform to improve fixation at the alveolar process.

#### **SURGICAL GUIDELINES**

A thorough clinical assessment must be done to determine physical and psychological health of the patient. Take care when treating patients with local or systemic factors that could affect the healing process of the tissues or interfere with the osseointegration process (e.g. smoking, uncontrolled diabetes, radiotherapy, steroid therapy, poor oral hygiene, infection of the oral tissue and/or bisphosphonate therapy etc.).

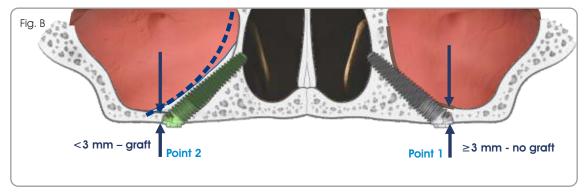
#### PREOPERATIVE EVALUATION

Before surgery a proper radiographic examination should be done. Panoramic and CBCT should be taken. Analysis of the structure and shape of the maxillary region should be done with regards to the intranasal sinus morphology and alveolar bone quality and shape (Fig.A).



When analysing the patient morphology to determine if a Nazalus implant would be a potential treatment solution, it is important to consider the below criteria:

Patient morphology	Potential treatment solution					
Amount of bone in the alveolar ridge and/or lateral nasal wall.	In cases with insufficient bone in these areas, it is contraindicate to place a Nazalus implant.					
If the alveolar crest has more than 3 mm (Fig. B, point 1).	No grafting of the sinus cavity is necessary.					
If available bone is less than 3 mm (Fig. B, point 2) or if the available bone is soft.	It is recommended to do a sinus-lift procedure. Open a window in the lateral sinus wall in the area where the implant is crossing the sinus cavity.  Gently reflect the membrane and apply the bone graft.					



#### Cautions:

- in cases of soft bone and minimal bone height, it is recommended to do a 2-stage procedure with prolonged healing time before the implants are loaded.
- make sure that the mouth opening capacity is sufficient for implant surgery.
- choose the appropriate size implant for the volume of bone available.

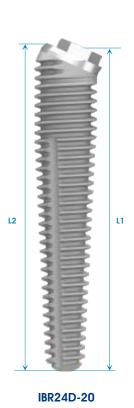
# **EXTERNAL HEX**

Ø4.0 mm

24° Co-Axis<sup>®</sup> **REDUCED PLATFORM** 



Restore with External Hex **Ø3.25 mm** prosthetics







IBR24D-24

#### Implants are premounted and available in lengths of:

NOTE: implant dimensions and information - page 22.

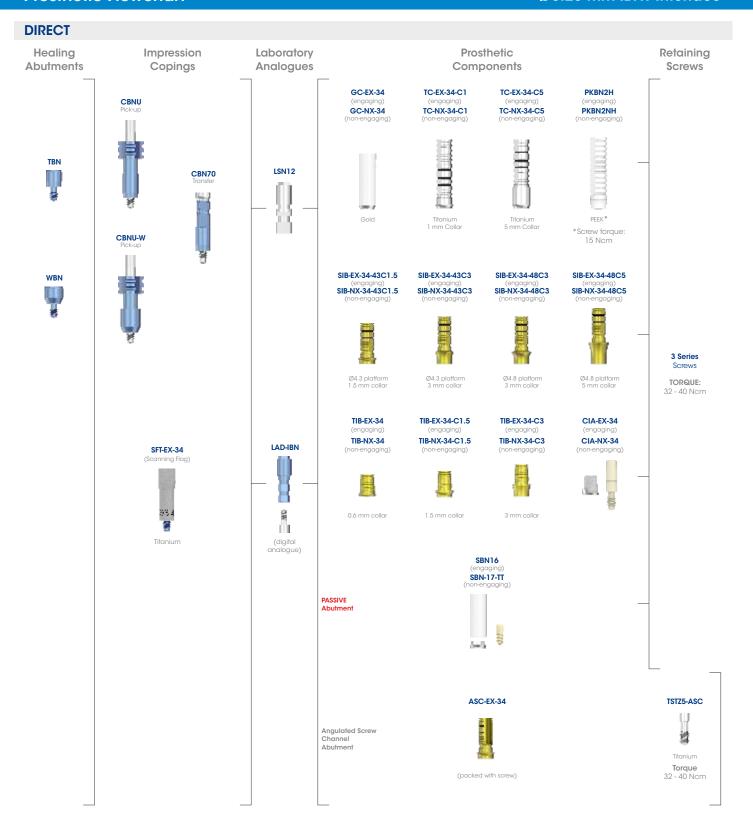
ITEM CODE	IMPLANT LENGTHS (in mm)					
TAPERED	L1	L2				
IBR24D-20	20.0	21.6				
IBR24D-22	22.0	23.6				
IBR24D-24	24.0	25.6				

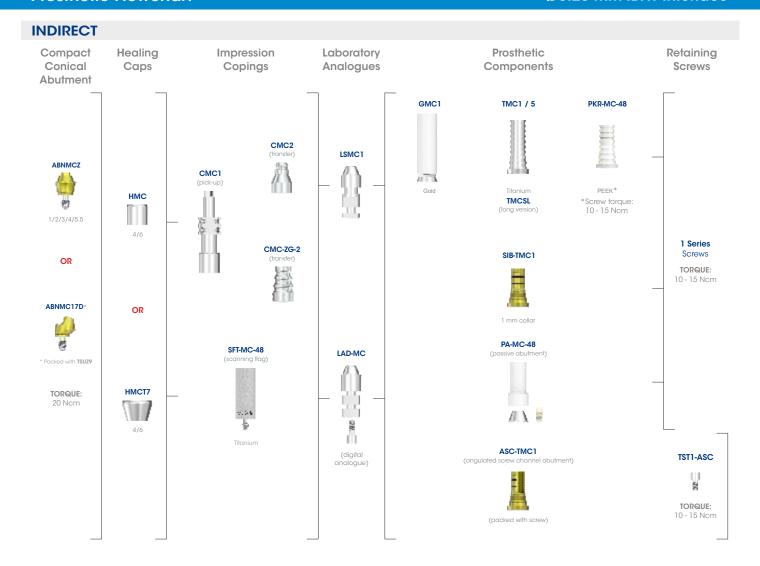
### **Surgical Components**





(where x is length)

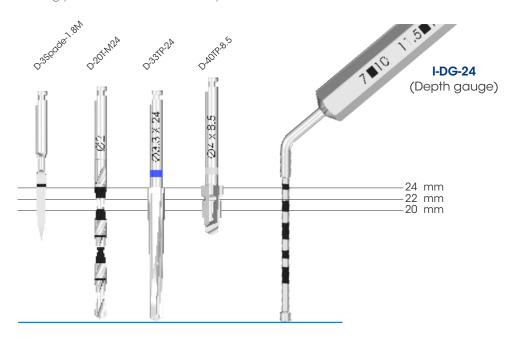




# **SURGICAL PROCEDURES**

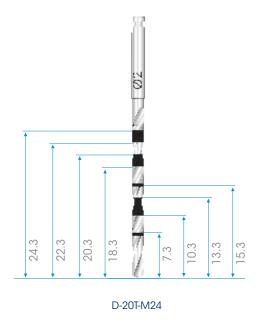
#### **IMPLANT DRILL DEPTH**

Illustrating placement of a 24 mm implant.



#### **TWIST DRILL MARKINGS**

The laser markings on the twist drills indicate millimeter lengths.





#### **SURGICAL PLACEMENT**

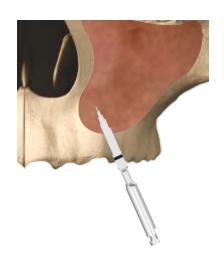
#### Step 1: initiate the osteotomy

**NOTE**: it is recommended to raise a full-thickness mucoperiosteal flap.

The spade/lance drill (D-3Spade-1.8M) is used to initiate the osteotomy by perforating the cortical plate at the desired location.

All drilling should be performed at a speed of 1000-1500 rpm with copious irrigation.

An intermittent technique should always be used to avoid overheating of the bone.



#### Step 2: pilot drilling - Ø2 mm twist drill

Drill in the planned direction to the appropriate depth, as indicated by the depth markings on the  $\emptyset 2$  mm twist drill (D-20T-M24).

Drill through the alveolar bone, into and across the sinus (should the surgical approach planned be a trans-sinus protocol), engaging the lateral nasal wall.

**NOTE**: the planned drilling depth should be in accordance with aiming to place the Nazalus implant either level or 1 - 2 mm subcrestal to the alveolar bone ridge.



#### Step 3: check alignment

Insert the direction indicator (I-DI-24D) to verify the alignment with adjacent teeth or implants and opposing dentition.

A radiograph may be taken at this point to verify depth and direction.

If the drilling direction is incorrect, start a new direction with the pilot drill as in step 2 and continue with the remaining steps.



#### **SURGICAL PLACEMENT**

#### Step 4: depth gauge - implant length selection

The 24 mm depth gauge (I-DG-24) can be used to palpate the osteotomy site for implant selection.

Make sure that the maxillary alveolar bone height is more than 3 mm in thickness. If not, it is recommended to perform a sinus lift and bone grafting procedure.



#### Step 5: enlarge the osteotomy (final drill)

After confirming the trajectory with the direction indicator, use the appropriate drill protocol depending on the bone quality and dental practitioners' preference.

The Nazalus implants are available in 20 mm, 22 mm and 24 mm lengths which each have a corresponding tapered drill. The dedicated tapered drills are length and diameter-specific.

Care should be taken to drill to the planned depth. The implant should be placed at the same vertical level as the prepared osteotomy. If the implant is forced deeper, there is a risk of perforating the nasal bone.

If the maxillary bone is dense or the bone is brittle in texture, widening of the osteotomy can be done with a short 4 mm diameter tapered drill (D-40TP-8.5) to avoid the risk of fractures of the buccal bone plate.

#### Step 5.1: soft bone protocol

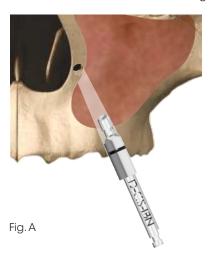
Widen the osteotomy to full depth with the Ø3.3 mm tapered drill (D-33TP-xx).



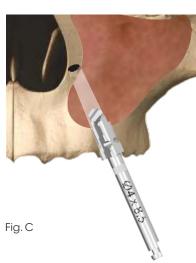
#### Step 5.2: medium to hard bone protocol

Use the counter sink (D-CS-IBN) (Fig. A) to widen the alveolar bone slightly before commencing with the Ø3.3 mm tapered drill (D-33TP-xx). In medium bone, this will allow the tapered drill to be inserted easily in the Ø2.0 mm pilot drill hole (Fig. B).

Widen the alveolar bone with the  $\emptyset$ 4.0 tapered drill, 8.5 mm length, (D-40TP-8.5) (Fig. C). This will prevent the implant head/fixture mount from catching on to the alveolar bone.



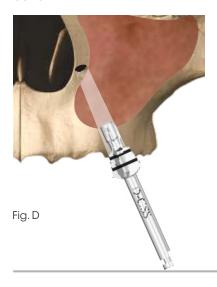




Step 5.3: hard bone protocol

For medium to hard bone, perform the drilling steps indicated in step 5.2 followed by use of the counter sink (D-CSS) (Fig. D) to widen the alveolar bone.

Drill up to the line on the countersink. This will prevent the implant head/fixture mount from interference with the alveolar bone.





#### NOTE:

#### Point 1

This corner of the drill is to be at bone level.

#### Point 2

This corner of the drill will be subcrestal.

#### **SURGICAL PLACEMENT**

#### Step 6: implant placement

The Nazalus Co-Axis® implants are supplied premounted with a fixture mount. This enables the Co-Axis® implant to be placed in the same manner as a straight implant.

Connect the fixture mount driver (I-CON-X/XS) to the handpiece. Carefully remove the implant and fixture mount assembly from the sterile vial.

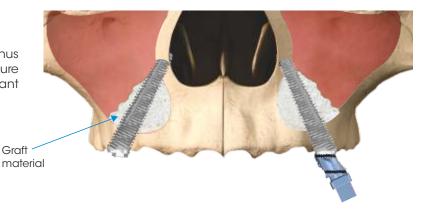
The fixture mount is laser marked 3 mm above the implant platform to indicate depth of placement. One full turn of the implant corresponds to 0.6 mm in placement depth.

Insert the implant at low speed (15 - 25 rpm) with no irrigation. Set the maximum torque to  $50\,\mathrm{Ncm}$ .



#### Grafting

If it is indicated that grafting is needed in the sinus cavity to support the implant, the grafting procedure can be applied either prior to or after implant placement.



#### **SURGICAL PLACEMENT**

#### Step 7: fully seat the implant

The ratchet and torque attachment wrench (I-TWS with I-TWS-B100), in combination with the wrench converter (I-WI-SS), is used on the fixture mount for final manual seating of the implant.

Use light finger force on the wrench when levelling the implant.

Avoid excessive torque (>100 Ncm) with the wrench, as this can cause damage to the implant. A torque exceeding the maximum limit indicates that the implant should be retrieved and additional drilling should be performed to increase the depth and diameter of the osteotomy site.



**NOTE:** because the implants are self-tapping, it is recommended to stop rotation once the implant has reached the prepared depth. The implant may continue to advance beyond the drilled depth with further rotations. Care should be taken not to sink the implant too far, especially in soft bone.

Once the implant is placed and the position verified with a final radiograph, remove the fixture mount by using a 1.22 mm hex driver.

**NOTE:** a useful tool for stabilising the Co-Axis® implant, is the Southern spanner (I-SP-X) in combination with the 1.22 mm hex driver as a direction indicator to show the prosthetic axis (direction).



#### **LOADING TIMES**

Healing periods may vary for each patient. When a shorter healing time or immediate loading is being considered, the assessment must be based on the individual clinical situation (i.e. bone quality, bone quantity, primary stability achieved, loading conditions and design of super-structure etc.).

If good primary stability is achieved and sufficient anchorage is present at the coronal part of the implant, the implants may be immediately temporised on splinted multiple unit restorations. Immediately temporised restorations should have good occlusal profile, limited cantilevers and flattened cusps in order to minimise prosthetic load on the implants.

The patient should adhere to a soft diet and place minimal force on the restoration for 12 weeks.

#### **TROUBLESHOOTING**

**Implant mobility:** if the implant is very loose, remove the implant and allow the surgical site to heal for approximately six months. Repeat surgery on the same area after the healing period.

**Poor implant alignment:** if the angular misalignment is less than 35°, the problem can be addressed using angulated abutments. If the angle is greater than 35°, remove the implant and allow the surgical site to heal for approximately six months. Repeat surgery on the same area after the healing period with improved placement.

**Exposed threads:** if the implant threads are exposed in the coronal region, perform a bone augmentation procedure.

**Over countersinking:** avoid countersinking in soft and medium bone. Over countersinking can cause complications with primary stability in cortical bone.

**Lack of primary stability:** this might cause misalignment due to soft bone, error in site preparation or volume of bone in implant contact. In such cases immediate loading is to be avoided.

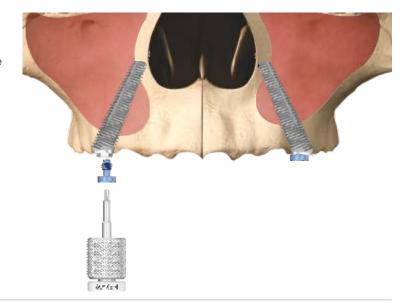
#### **TWO-STAGE PROCEDURE**

In the event that immediate loading criteria is not met, a conventional one or two-stage protocol can be adopted.

#### Step 8

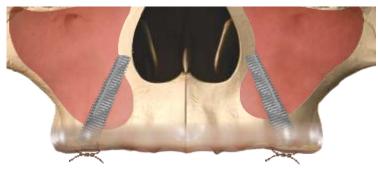
After the implant is fully seated in the osteotomy, place the cover screw with a  $0.9\,\mathrm{mm}$  hex driver.

#### Tighten to 10 Ncm.



#### Step 9

Reposition the flap margins together and suture closed.

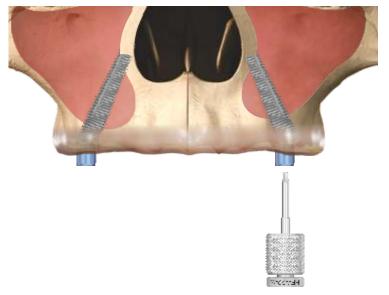


#### Step 10

After an appropriate healing period, locate and expose the cover screw. Proceed to remove the cover screw using the  $0.9\,\mathrm{mm}$  hex driver.

Place the selected healing abutment or appropriate definitive abutment, using the 1.22 mm hex driver.

#### Tighten to 15 Ncm.



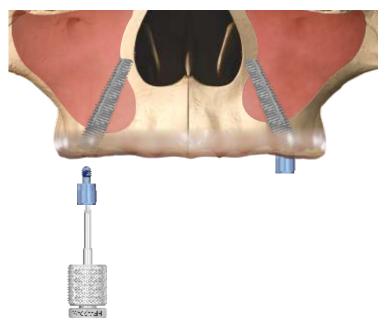
#### **ONE-STAGE PROCEDURE**

#### Step 11

If high primary stability is achieved, a one-stage protocol can be followed.

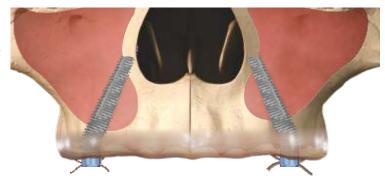
After the implant is fully seated in the osteotomy, place the selected healing abutment with a 1.22 mm hex driver.

Tighten to 15 Ncm.



#### Step 12

Arrange the flap margins around the healing abutment for a tight seal and suture.



#### Bone milling

Should the cover screw or healing abutment not seat fully due to bone structures protruding on the implant platform, a bone mill can be used to remove the excess bone around the implant (I-BNM-45 / I-BPM-55).

Secure the protector cap (I-BNM-CAP) on the implant with a 1.22 mm hex driver.

Connect the bone mill to the handpiece and set the speed to 20 rpm. Proceed to use the mill over the protector cap to remove any impinging bone surrounding the implant.

After the surrounding bone has been removed, ensure that the implant platform is clean of any bone particles.

Reposition the cover screw, healing abutment or prosthesis.



#### TORQUE TABLE FOR SOUTHERN SCREWS

#### 2 Series screws (M2)





# **SLOTTED**





TORQUE: 32 - 40 Ncm Head diameter: 2.70 mm

#### 3 Series screws (M2)











TORQUE: 32 - 40 Ncm Head diameter: 2.40 mm

TORQUE:

2.40 mm

Finger tighten

Head diameter:

**NOTE:** screw TORQUE with PEEK prosthetics:  $< \emptyset 4.0$  mm implant interfaces: 15 Ncm ≥ Ø4.0 mm implant interfaces: 20 Ncm

#### **ASC** abutment screws

#### **ASC 1 Series screw**



**TORQUE:** 32 - 40 Ncm **Head diameter:** 2.2 mm



TST1-ASC

10 - 15 Ncm **Head diameter** 2.30 mm

#### 9 Series, Angled Compact Conical Abutment screws (M2)

#### **Digital Laboratory Analogue screw**





(supplied with angled compact conical abutment)

TORQUE: 20 Ncm Head diameter: 2.50 mm



1.22 Hex

LAD-S

**TORQUE:** 

(supplied with all digital analogues)

#### Screw product codes

1 Series screws (M1.4) 1.22 Hex





Unigrip TSU1

TORQUE: 10 - 15 Ncm Head diameter: 2.25 mm

Southern screws are manufactured from different materials. This is indicated with the first letter of

the product code: T = Titanium

G = В = Brass

P Passive screws - Titanium

#### **Screw Head Connections**

Hex



NOTE: screw TORQUE with PEEK prosthetics: 10 - 15 Ncm

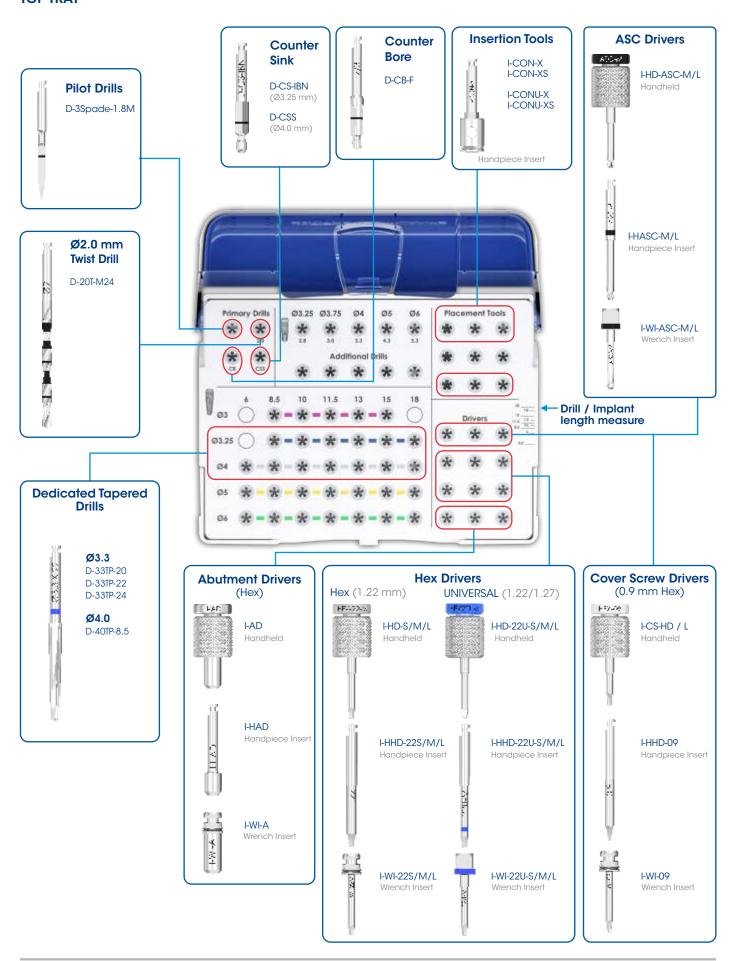




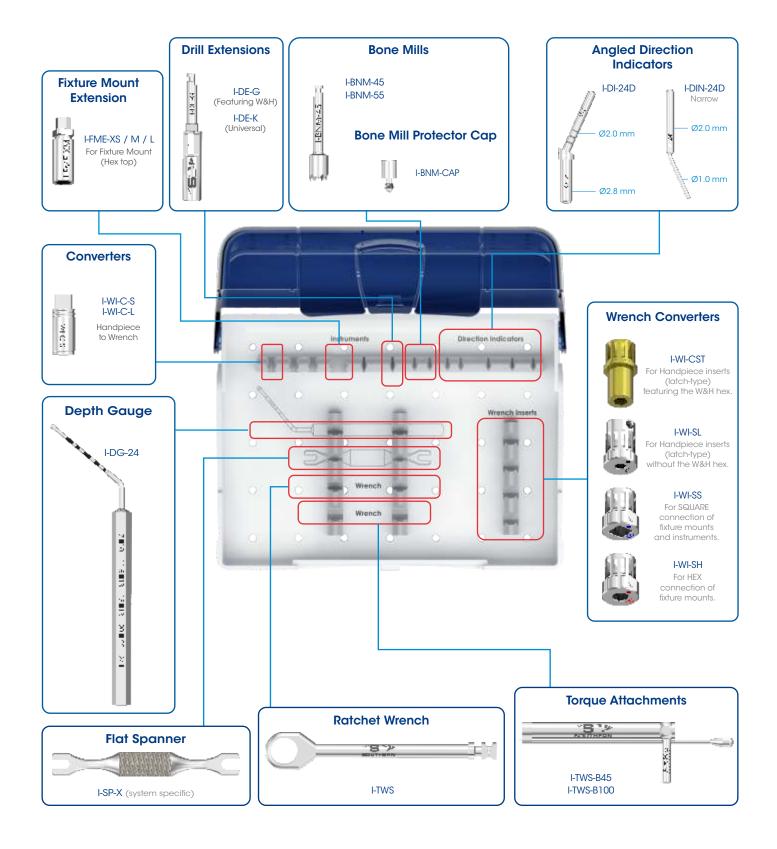
#### NOTE:

- due to design revisions screw tips may be flat or rounded.
- always ensure that the correct screw is used for the relevant implant and component.
- blackened and for laboratory use only.
- universal drivers are compatible with both 1.22 and 1.27 Hex screws:
  - I-HD22U-S/M/L
  - I-HHD-22U-S/M/L
  - I-WI-22U-S-/M/L

#### **TOP TRAY**

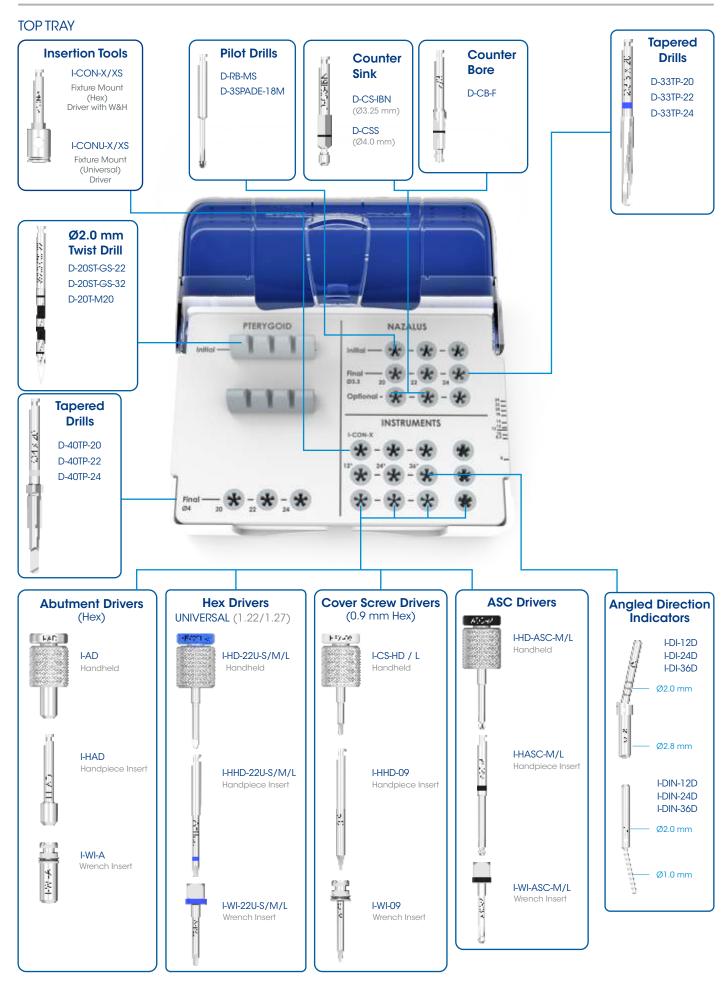


#### **BOTTOM TRAY**

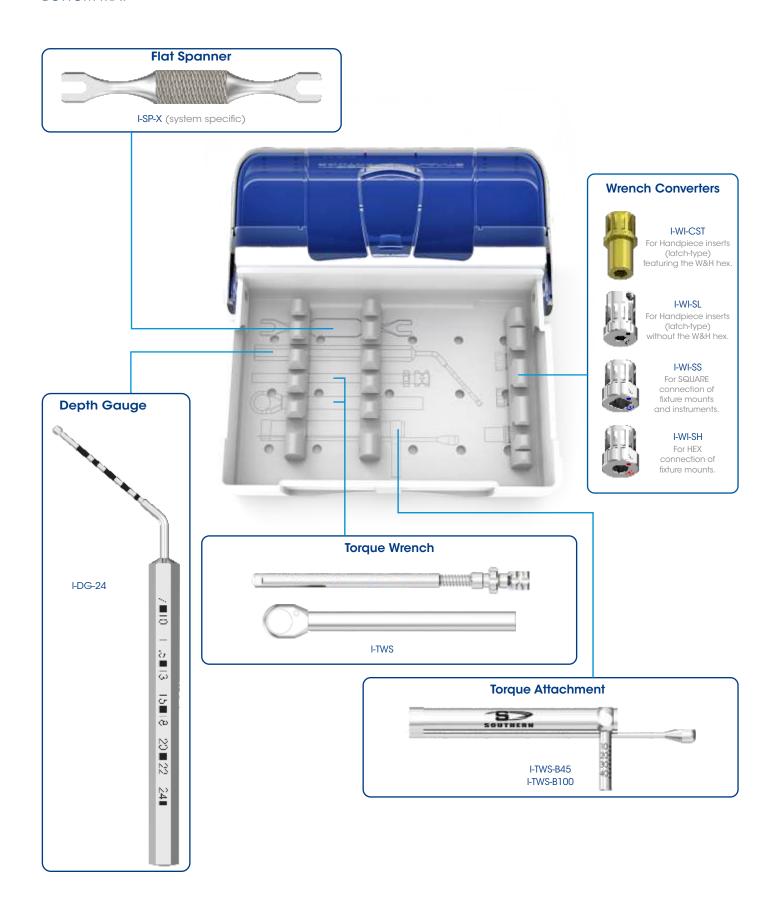


#### NOTE:

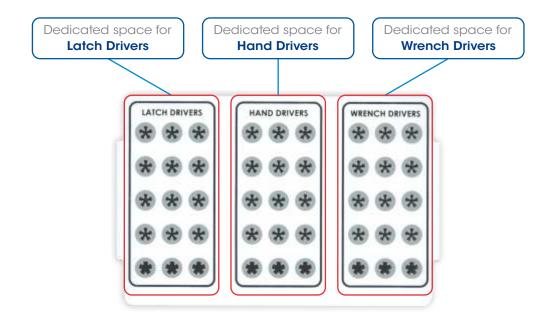
- the surgical kit has an intuitive layout to guide the surgeon through the drill sequence.
- most instruments are available in various lengths.
- all instruments and tooling used during the procedure must be maintained in good condition, cleaned and sterilised prior to use. Please consult the
  Instructions for Use: Southern Implants instrument tray and reusable instruments (CAT-8003 and CAT-8070) for guidance concerning the maintenance of
  instruments and surgical trays. Please consult the corresponding drill Instructions for Use regarding care and maintenance of drills.
- refer to CAT-8021 for more information on bone mills and polishing protector caps.

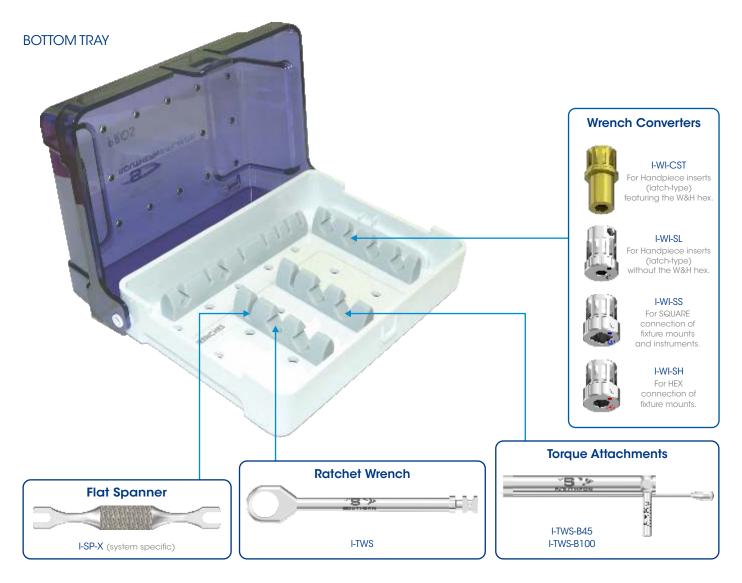


#### **BOTTOM TRAY**



#### **TOP TRAY**



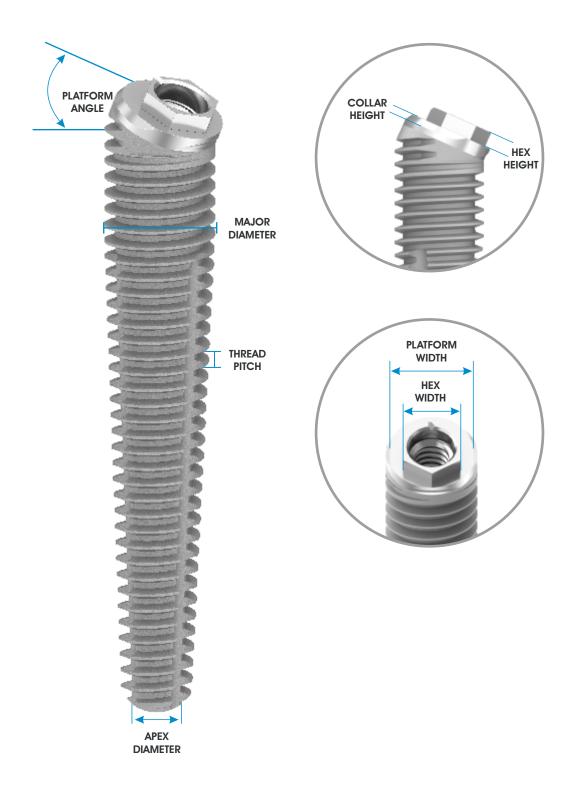


#### NOTE:

- this instrument tray is to be customised by the user to be suitable for use with the preferred implant system and its surgical or prosthetic items.
- most instruments are available in various lengths.

## **IMPLANT DIMENSIONS AND INFORMATION**

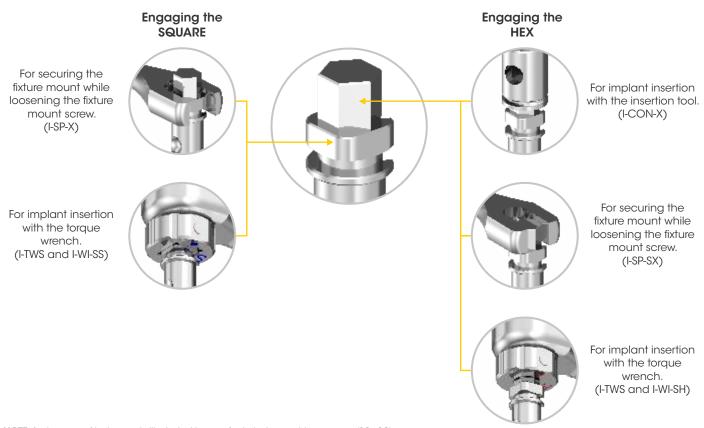
RANG	E	AJOR METER	TFORM VIDTH	STHETICS	HEX MDTH	нех еіднт	OLLAR	READ ITCH	APEX IMETER	NDRICAL TAPERED	ATFORM INGLE	l .	IPLAN	NT ODES
		2 2	A7 >	PRO O	>	=	ÖΞ	₹ ~	70	CYLI	PLA A	20	22	24
IBR24D	Ø4.0 mm	4.0	3.89	Ø3.25 mm	2.54	0.7	0.6	0.6	2.6	T	24°	√	√	√

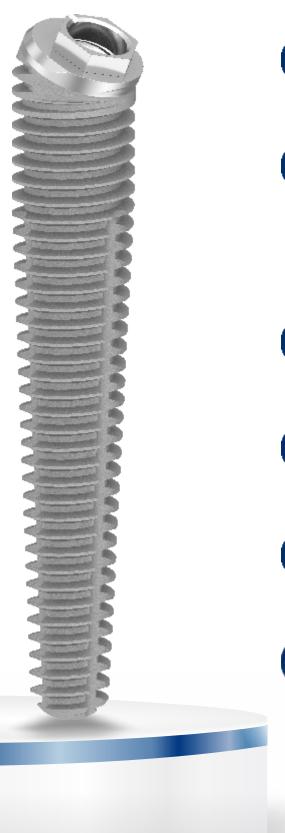


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### Instruments for implants packaged with a fixture mount







#### **EXTERNAL HEX CONNECTION**

The most established and versatile connection system.



#### **CO-AXIS® ENABLED**

24° angled platform to utilise existing bone while maintaining a restorative platform at an angle that ensures an optimal aesthetic result.

Biomechanically effective to eliminate the need for angled abutments.



#### **INCREASED PARALLELISM AND AP SPREAD**

Allows for simplified restorations in multi-implant cases.



#### **LONGER TAPERED BODY**

Enabling the use of the maxillary bone surrounding the nasal cavity.



#### **DIFFERENT LENGTHS**

Available in 18 mm, 20 mm, 22 mm and 24 mm implant variants.



#### SINERGY SURFACE

Over 20 years of documented successful clinical results, manufactured from grade 4 commercially pure titanium (> 920 MPa).

# SOUTHERN

IS GOING

# GREEN

Our journey towards a more sustainable future.





# More than 300kW generated

**Enabling entire** manufacturing facility to run

Off-Grid!



# Over 1000 Solar **Panels**

Spread across our facility in Irene, South Africa.



# **New Cardboard Packaging**

New packaging in our new SP1 range decreases our

**Carbon Footprint.** 

#### **EXPLANATION OF SYMBOLS**

The following symbols are used on packaging labels and they indicate the following:



- Colour code indicating platform diameter
- 3 Implant image
- 4 Implant details and size
- 5 STERILE | R Sterilisation using irradiation

**EC** REP European representative

**REF** Catalogue number

**LOT** Batch code

Do not resterilise

Consult instruction for use

2 Do not reuse

CE mark and notified body number

Use by date

M Date of manufacture

(S) Do not use if package is damaged

MD Identifies the product as a medical device

MR conditional / Magnetic resonance conditional

Single sterile barrier system

Double sterile barrier

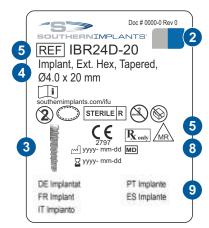
6 2D Bar coding Contains the GTIN, Use by date and LOT number

7 Patient sticker for documentation purposes (to be used by health care provider on patient file)

8 R Prescription device

**CAUTION:** FEDERAL LAW RESTRICTS THE DEVICE TO SALE BY OR ON THE ORDER OF A LICENCED HEALTH CARE PROVIDER.

9 Product description (translated as per international standards)











For more information on Instructions for Use of our products, please scan the below,



or visit our website southernimplants.com/ifu

#### **Platform Interface**



For more information scan the below



to contact your Southern Implants Representative or visit southernimplants.com



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#### USA and Canada

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