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# Neodent® Control System

Surgical Manual

# Neodent controlsystem

The surgical procedure for implant placement can be perceived as complex, especially when performed in the posterior regions with limited visibility, or in proximity with anatomical structures such as nerve canals.

The Neodent® Control System brings confidence and efficiency building trust during the surgical procedure.

## Neodent® Control System is composed by:

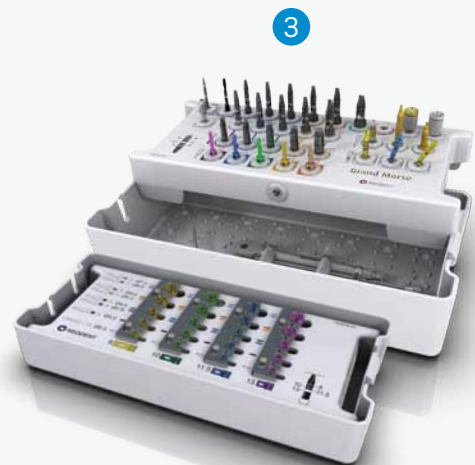
- 1 Neodent® Control Stop Drills;
- 2 Neodent® Control Drill Stops;
- 3 Neodent® Control Kits.



Neodent® Control  
Stop Drills.



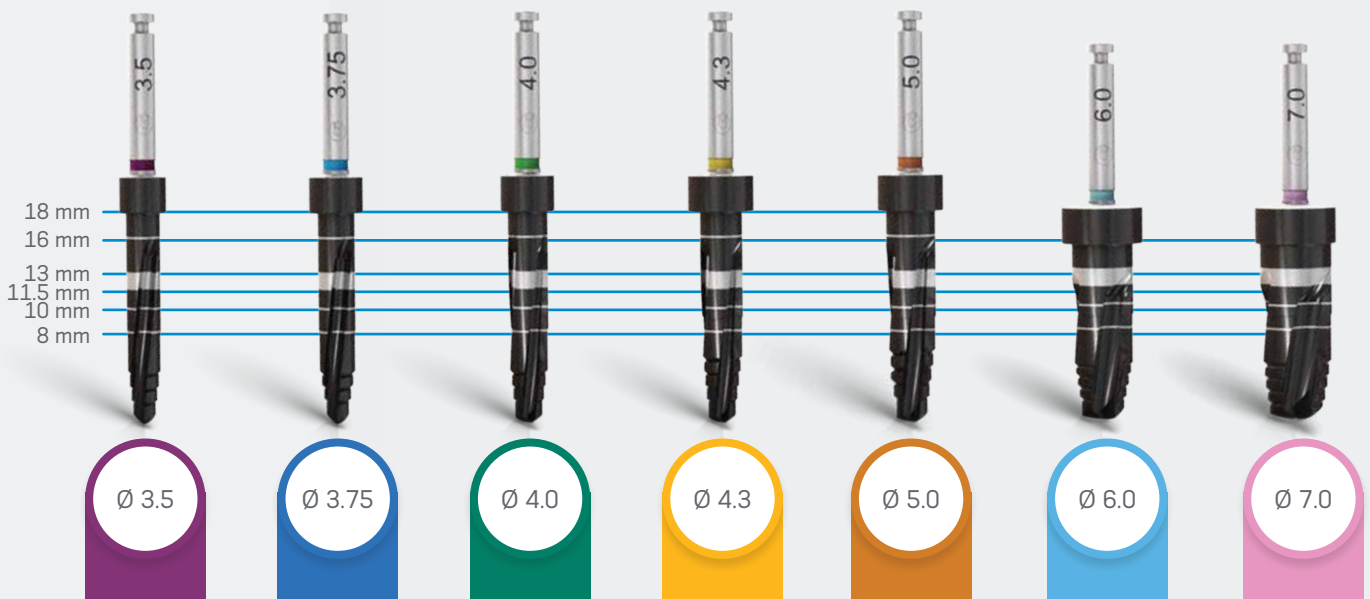
Neodent® Control Drill Stops.



Neodent® Control Stop Kit and  
Neodent® Helix GM Compact Surgical  
Kit Control Stop Drills.

# NEODENT® CONTROL STOP DRILLS

Neodent® Tapered Control Stop Drills are available for bed preparation for Helix GM® implants in all bone types, from Ø 2.0 to Ø 7.0 mm. They were designed to be used with stops, but the laser marks on the drills also enable their use without them. The drills are connected to the contra-angle handpiece, with a rotation speed of approximately 500-800 rpm in bone types III-IV and 800-1200 rpm in bone types I-II. They have a color code according to the diameter, as shown below, and a total length of 35 mm. For diameters Ø 6.0 and Ø 7.0, the drills are available with 32 mm in length.



Neodent® Tapered + Control Stop Drills are especially indicated as supplementary instruments for osteotomy when implanting Helix GM® in bone types I and II. This step is intended to keep the insertion torque at a desirable level in harder bones. They follow the same color code as the Neodent® Tapered Control Stop Drills and have two stripes of color, and the "+" laser-marked.

Differentiation for Tapered + drills:



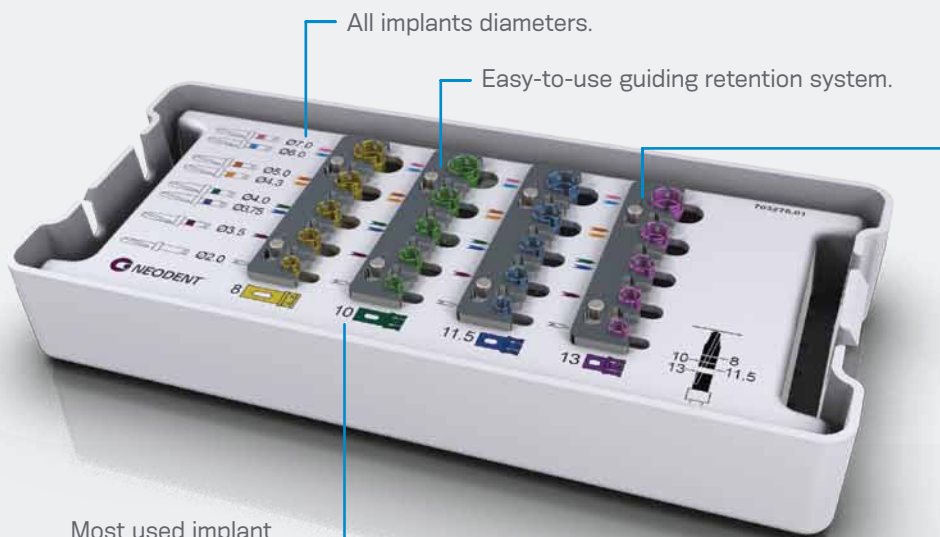
# NEODENT® CONTROL DRILL STOPS

Attached to the Stop Drills, Neodent® Control Drill Stops allow easy depth control during the osteotomy. They come in different diameters and lengths, to be selected according to the implant to be placed and related drilling sequence. Neodent® Control Drill Stops are reusable and made of titanium.



# NEODENT® CONTROL STOP KITS

The kit is used for storage and sterilization procedure for Neodent® Control Drill Stops. During surgery, it allows easy engagement and disengagement of the stops on the stop drills. The holders can be purchased separately, in the case they need to be replaced.



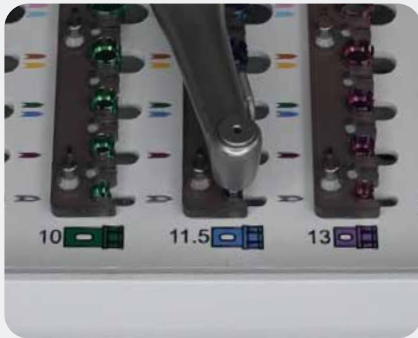
Most used implant lengths: 8, 10, 11.5, 13 mm.



Holders that are used to engage the stops can also be ordered separately .

# NEODENT® CONTROL SYSTEM PROTOCOL

To capture the stop in the Control Drill Stop Kit, follow the steps below:



1 Initially position the Tapered Control Stop Drill inside the Stop.



2 Slide it to the right.



3 Remove the set Tapered Control Stop Drill and Stop from the case.

To remove the stop in the Control Drill Stop Kit, follow the steps below:



1 Initially position the set Tapered Control Stop Drill and Stop on the right.



2 Slide to the left.



3 Pull the Drill so that it can be removed from the Stop.

## PILOT DRILLS

Pilot Drills help to position the platform of the Helix GM® implants according to the bone bed, if there is a denser cortical bone bed of 1, 2 or 3 mm below bone level. Pilot Drills are generally used in this manner in bone types I and II, with a maximum rotation speed of 1200 rpm. They follow the same color code as Neodent® Control Stop Drills.




Pilot Drill for the refined implant bed preparation for the implant. The drill helps in the cervical positioning of the implant in areas of greater bone density: if at bone level, 1, 2 or 3 mm below bone level.


# IMPLANT BED PREPARATION FOR HELIX GM® IMPLANTS




Bone types I and II

Drill \ Implant	Ø 3.5	Ø 3.75	Ø 4.0	Ø 4.3	Ø 5.0
 103.170 Initial	Optional	Optional	Optional	Optional	Optional
 103.492 Ø 2.0	✓	✓	✓	✓	✓
 103.493 Ø 3.5		✓	✓	✓	✓
 103.500 Ø 3.5+	✓				
 103.513 Ø 2.8/3.5	✓				
 103.494 Ø 3.75			✓	✓	✓
 103.501 Ø 3.75+		✓			
 103.514 Ø 3.0/3.75		✓			
 103.495 Ø 4.0				✓	Optional
 103.502 Ø 4.0+			✓		
 103.515 Ø 3.3/4.0			✓		
 103.496 Ø 4.3					✓
 103.503 Ø 4.3+				✓	
 103.516 Ø 3.6/4.3				✓	
 103.504 Ø 5.0+					✓
 103.517 Ø 4.3/5.0					✓

 single stripe represents a tapered drill








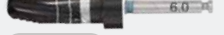
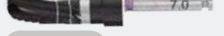
 double stripe represents a tapered + drill


 square represents a pilot drill

# IMPLANT BED PREPARATION FOR HELIX GM<sup>®</sup> IMPLANTS



Bone types III and IV

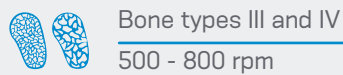
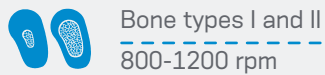
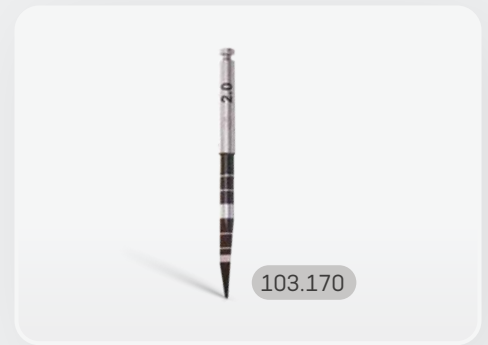
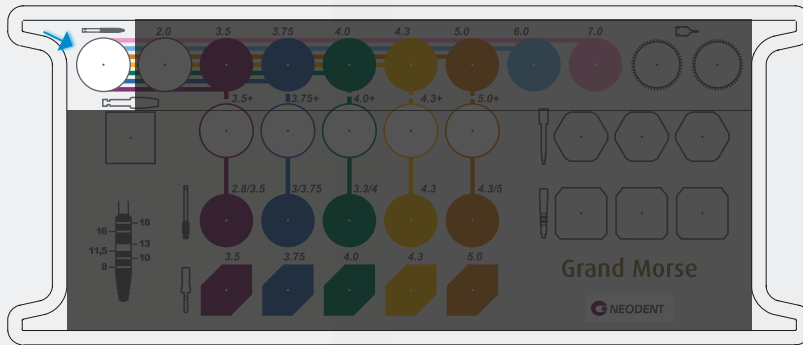
Drill \ Implant	Ø 3.5	Ø 3.75	Ø 4.0	Ø 4.3	Ø 5.0	Ø 6.0	Ø 7.0
 103.170 Initial	Optional	Optional	Optional	Optional	Optional	Optional	Optional
 103.492 Ø 2.0	✓	✓	✓	✓	✓	✓	✓
 103.493 Ø 3.5	✓	✓	✓	✓	✓	✓	✓
 103.494 Ø 3.75		Optional					
 103.495 Ø 4.0			Optional				
 103.496 Ø 4.3				Optional	✓	✓	✓
 103.497 Ø 5.0					Optional	✓	✓
 103.498 Ø 6.0						✓	✓
 103.499 Ø 7.0							Optional

 single stripe represents a tapered drill

# DRILLING SEQUENCE FOR THE HELIX GM<sup>®</sup> IMPLANT (Ø 4.3X11.5 MM)

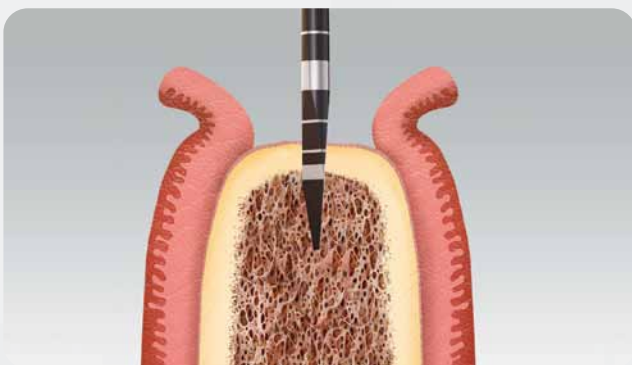
## 1 Preparing the site of the implant and initial drilling with the Initial Drill

Neodent<sup>®</sup> Helix GM Compact Surgical Kit Control Stop Drills



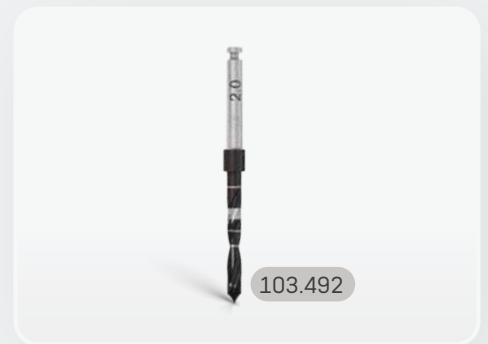
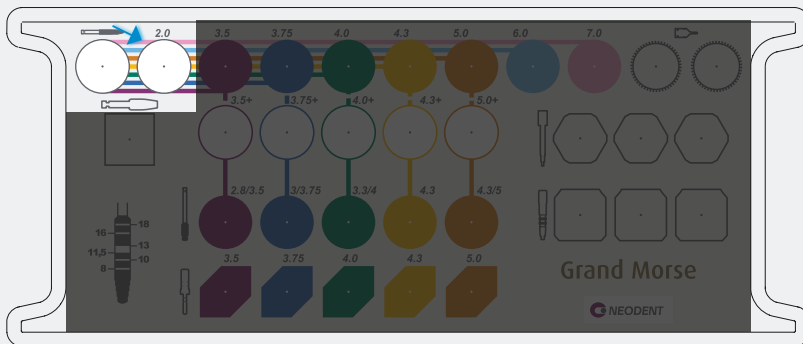
Carefully reduce and regularize the bone surface before marking the position of the implant with the initial needle drill. Insert the initial drill to approximately 5-7 mm with a drill speed consistent with the bone density.

Note: Bone reduction/preparation should be considered in the preoperative plan, because it affects the choice of implant diameter and length.

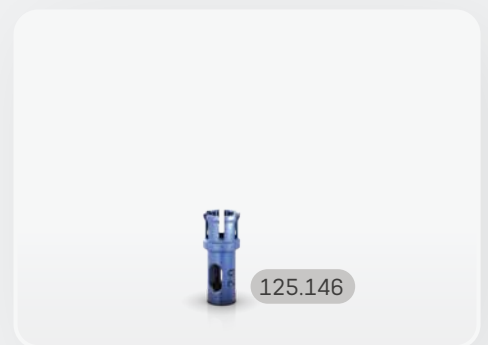
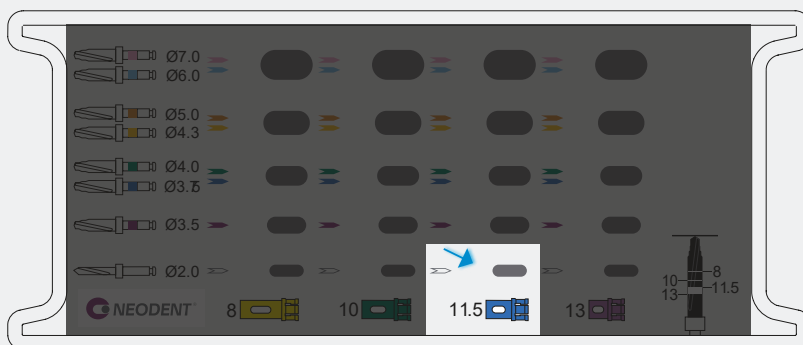



## 2 Tapered Control Stop Drill Ø 2.0


Neodent® Helix GM Compact Surgical Kit Control Stop Drills



Neodent® Control Stop Kit



 Bone types I and II  
800-1200 rpm

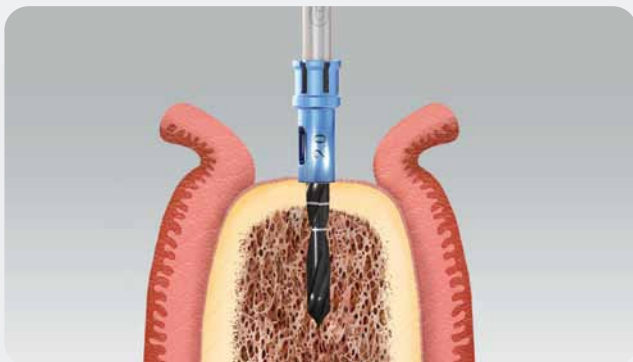
 Bone types III and IV  
500 - 800 rpm



Use the Neodent® Tapered Control Stop Drill Ø 2.0 and the 11.5 Control Drill Stop Ø 2.0. to reach the planned drilling length. Use of the depth gauge is recommended for checking the depth.

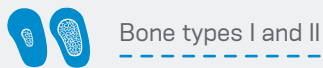
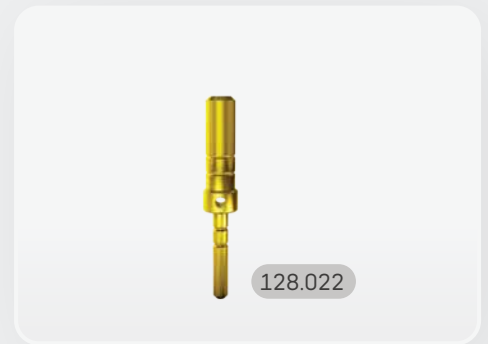
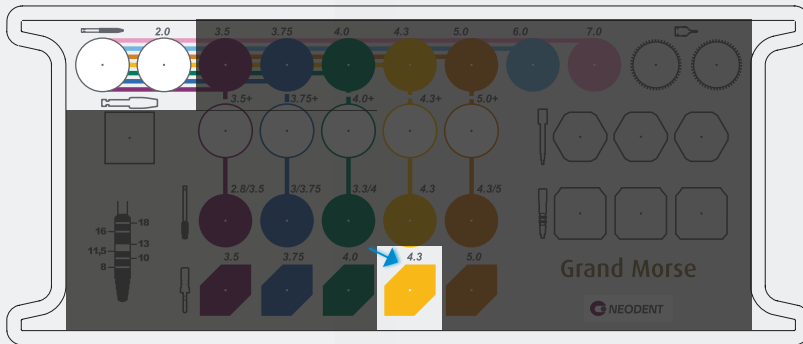
Note 1: Periapical radiography is recommended at this point to check for available vertical bone or to verify the long axis of the drilling in relation to the adjacent roots, for example. The Direction Indicator should be completely inserted into the instrumented area, allowing for visualization of the entry of the drilling in relation to the anatomical structures.

Note 2: The Neodent® Tapered Control Stop Drill Ø 2.0 has an active apex that can be used as an initial drill. For flat bone ridges, this drill can replace the initial drill.



### 3 Checking the long axis of the implant

Neodent® Helix GM Compact Surgical Kit Control Stop Drills



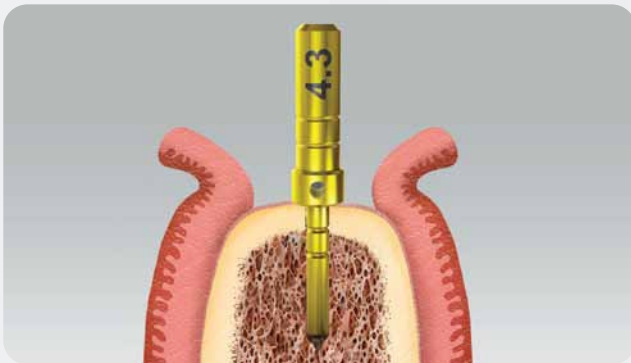
Bone types I and II



Bone types III and IV

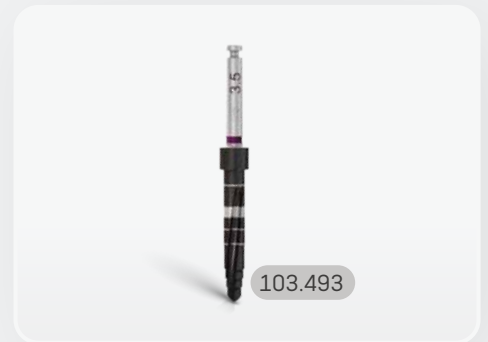
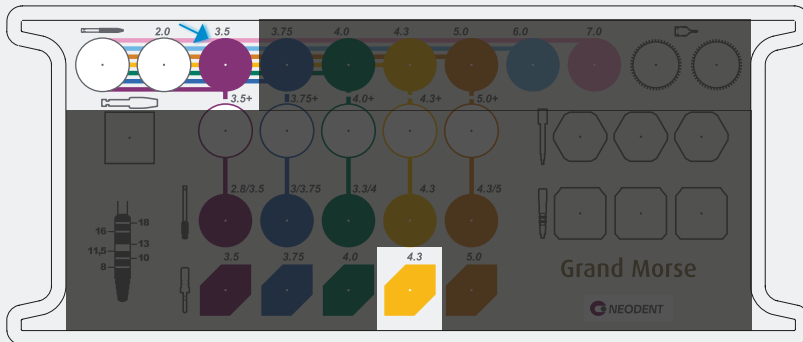


After using the initial drills, check the long axis of the implant using the direction indicator.

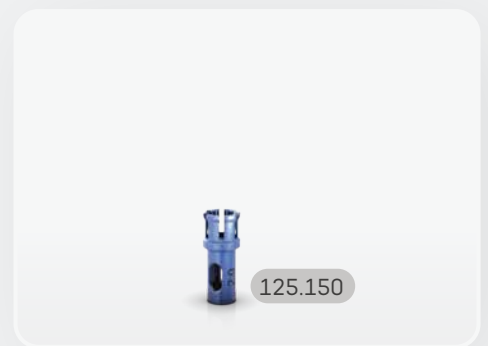
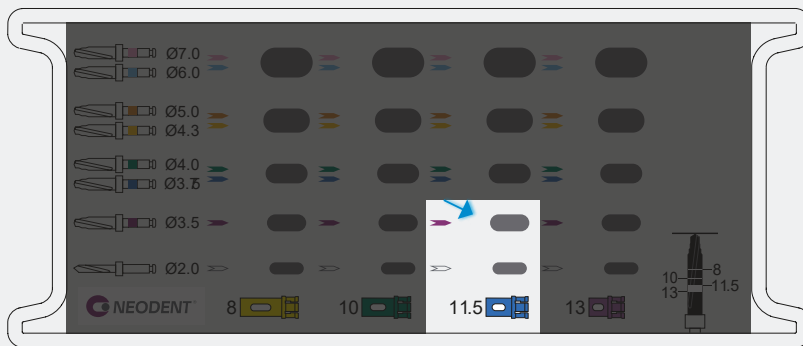



## 4 Tapered Control Stop Drill Ø 3.5


Neodent® Helix GM Compact Surgical Kit Control Stop Drills



Neodent® Control Stop Kit



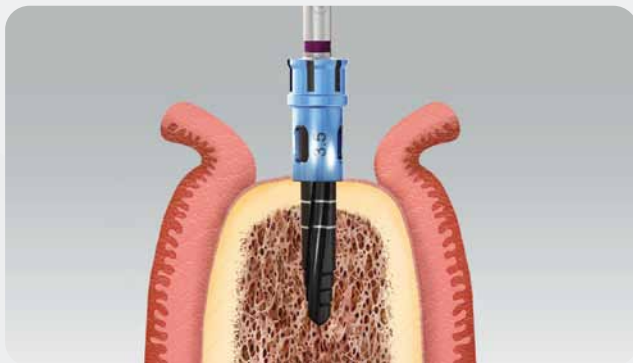
 Bone types I and II  
800-1200 rpm

 Bone types III and IV  
500 - 800 rpm



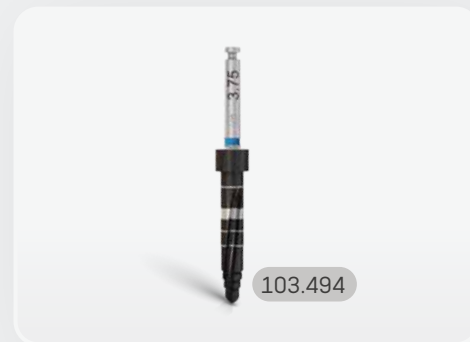
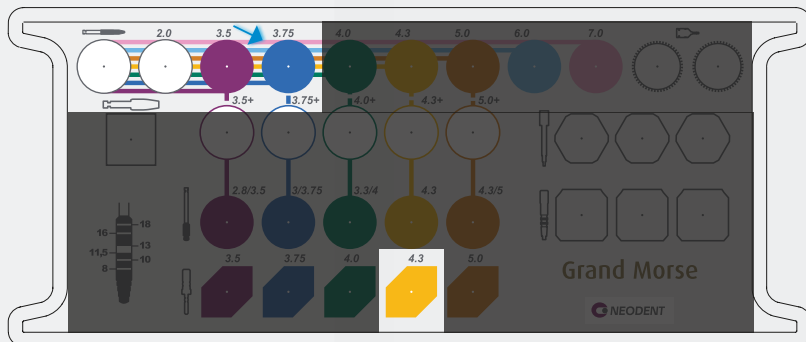
Drill with the Tapered Control Stop Drill Ø 3.5 and 11.5 Control Drill Stop Ø 3.5.

Note: perform the osteotomy under constant and abundant irrigation, whether from the surgical motor, manual or combined.

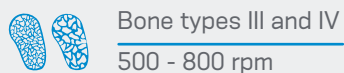
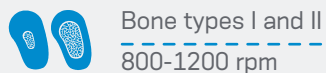
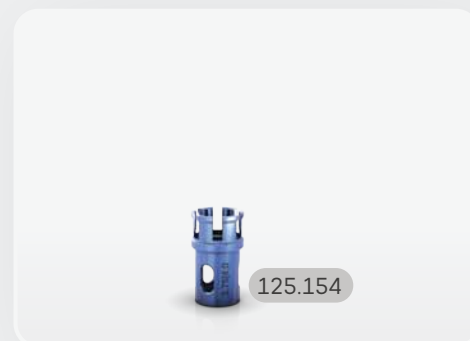
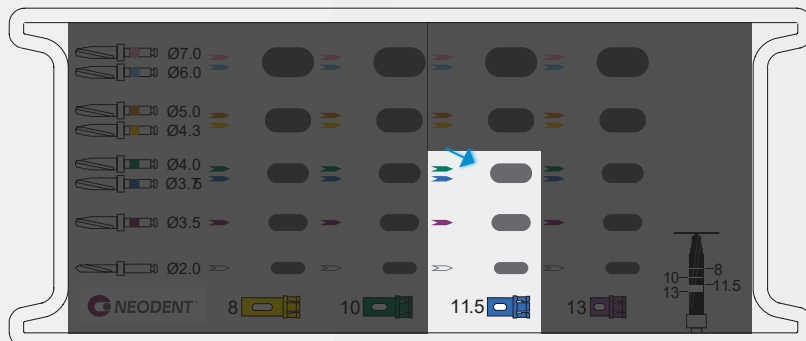


## 5 Tapered Control Stop Drill Ø 3.75

Neodent® Helix GM Compact Surgical Kit Control Stop Drills

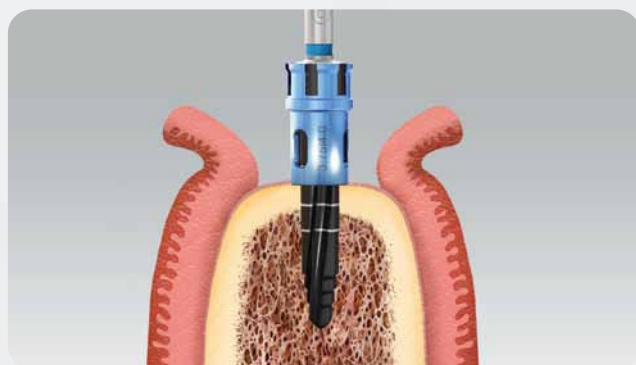


Neodent® Control Stop Kit



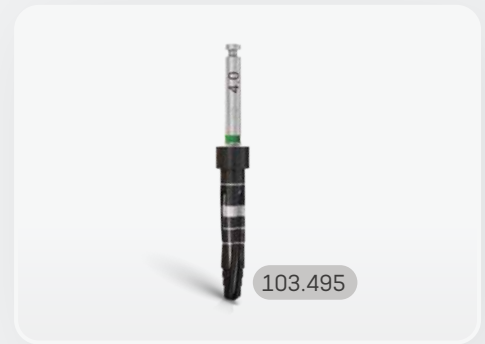
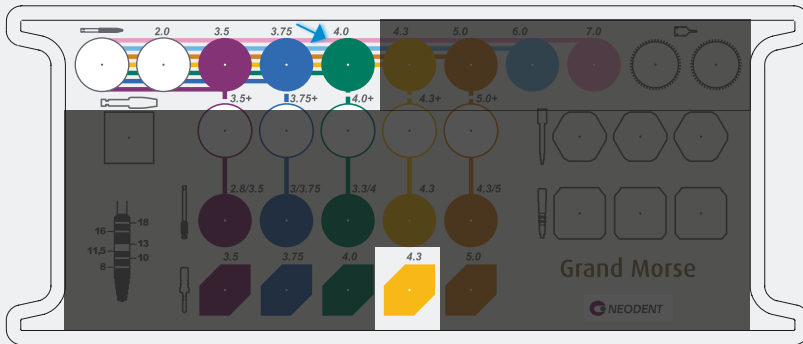
Drill with the Tapered Control Stop Drill Ø 3.75 and 11.5 Control Drill Stop Ø 3.75/4.0.

Note: perform the osteotomy under constant and abundant irrigation, whether from the surgical motor, manual or combined.

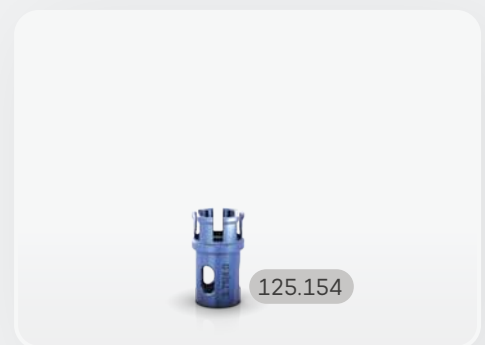
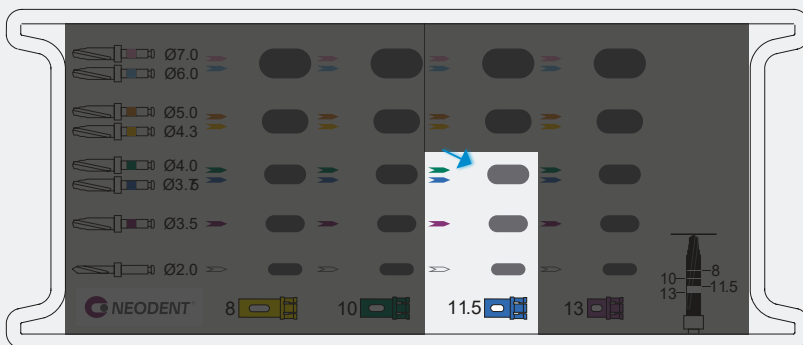



## 6 Tapered Control Stop Drill Ø 4.0


Neodent® Helix GM Compact Surgical Kit Control Stop Drills



Neodent® Control Stop Kit



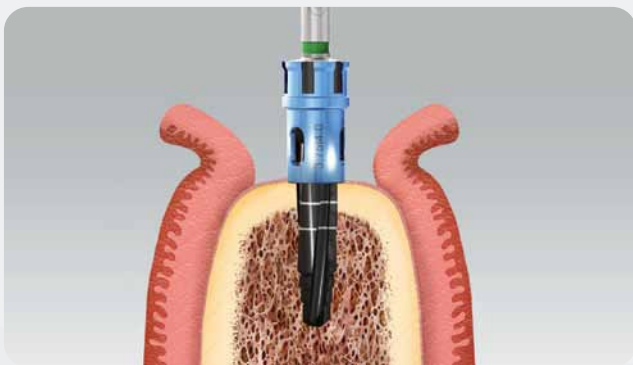
 Bone types I and II  
800-1200 rpm

 Bone types III and IV  
500 - 800 rpm





Drill with the Tapered Control Stop Drill Ø 4.0 and 11.5 Control Drill Stop Ø 3.75/4.0.

Note: perform the osteotomy under constant and abundant irrigation, whether from the surgical motor, manual or combined.



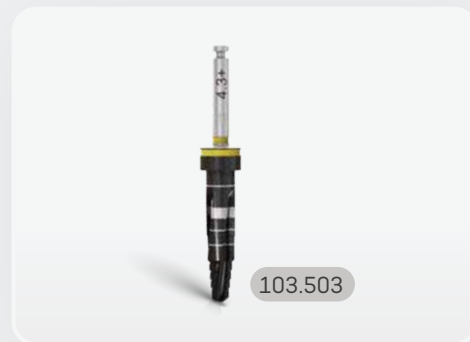
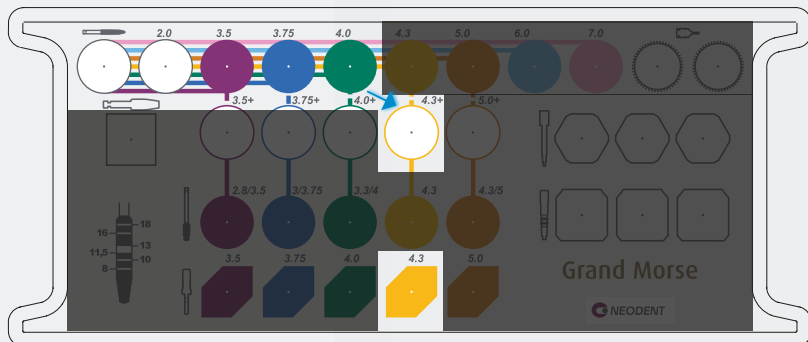
### Attention

 If you are placing a Helix GM® Implant in bone type III or IV: stop the drilling sequence at step 6 and position the Helix GM® Implant.

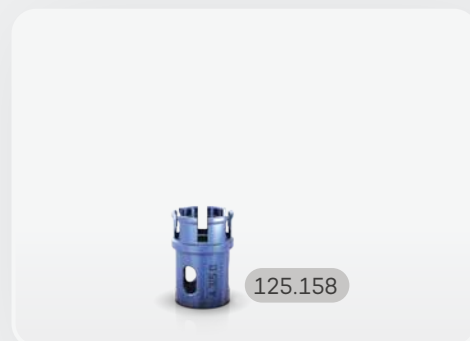
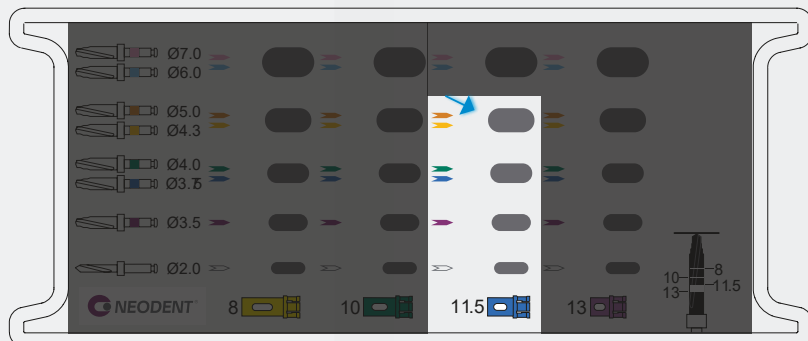
 If you are placing a Helix GM® Implant in bone type I or II: use the Tapered Control Stop Drill Ø 4.3+ and Pilot Drill Ø 4.3 to finalize the implant bed preparation.


## 7 Tapered Control Stop Drill Ø 4.3+

Neodent® Helix GM Compact Surgical Kit Control Stop Drills



Neodent® Control Stop Kit

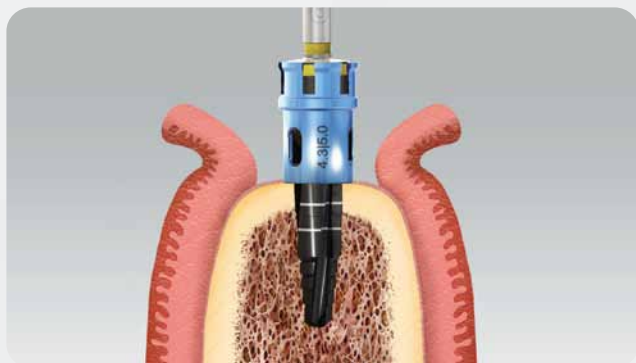


 Bone types I and II  
800-1200 rpm



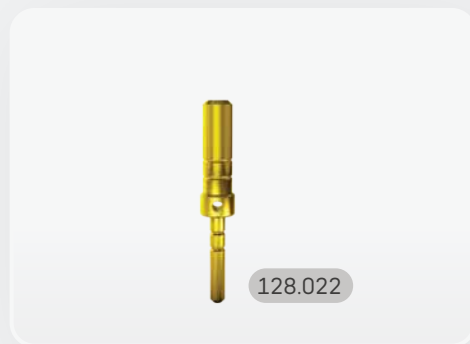
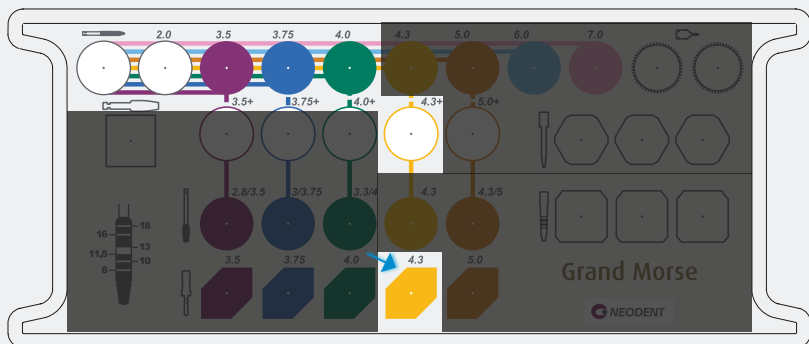
Drill with the Tapered Control Stop Drill Ø 4.3+ and 11.5 Control Drill Stop Ø 4.3/5.0.


Note: perform the osteotomy under constant and abundant irrigation, whether from the surgical motor, manual or combined.



## 8 Checking the long axis of the implant

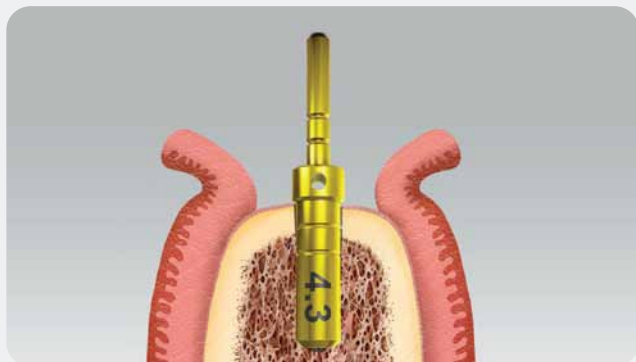
Neodent® Helix GM Compact Surgical Kit Control Stop Drills



 Bone types I and II

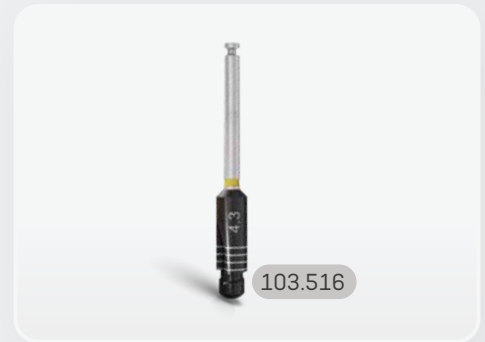
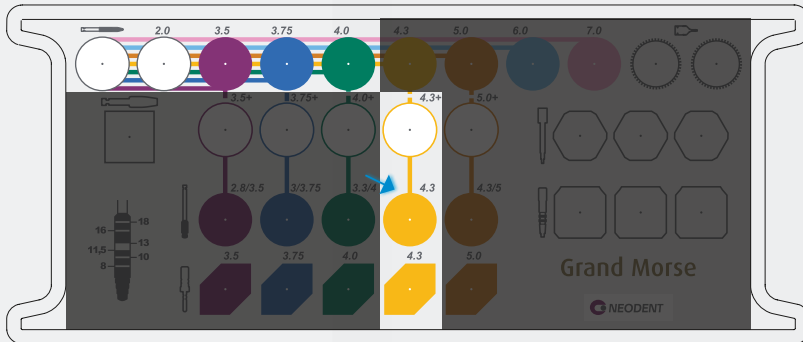


Position the Ø 3.6/4.3 Direction Indicator.



## 9 Pilot Drill Ø 4.3

Neodent® Helix GM Compact Surgical Kit Control Stop Drills

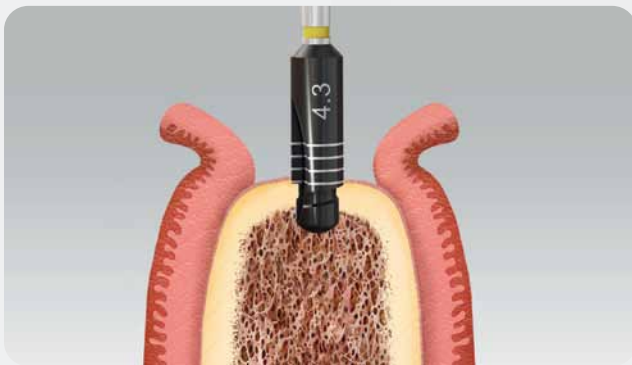


Bone types I and II  
800-1200 rpm



Drill with Pilot Drill Ø 4.3, according to the level planned for the implant.

Note: perform the osteotomy under constant and abundant irrigation, whether from the surgical motor, manual or combined.



# NEODENT® IMPLANT PACKAGING

Neodent® implant packaging has been updated to a concept that provides convenience and safety through all steps of the procedure, from storage to the placement of the implant.

The new packaging aids in identification of both the implant model as well as its diameter and length, regardless of its storage position.



**1** After breaking the sterility seal on the blister, hold the primary package (vial) and twist the lid to open it.



**2** To remove the implant from the vial lift the cap up, which has the stand and implant attached to it.



**3** To secure the implant, grip both sides of the implant carrier.



**4** While gripping the implant carrier, remove the lid.



**5** To capture the implant with the contra-angle handpiece attachment, grip the implant carrier while placing the attachment into the implant chamber.



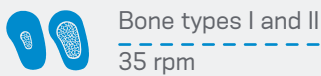
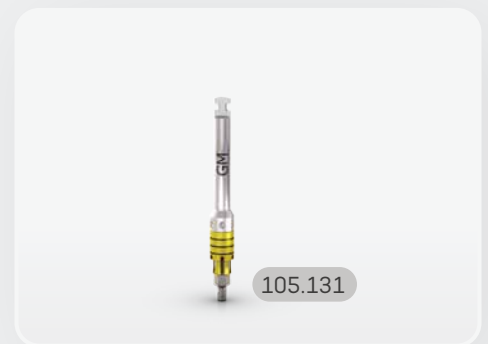
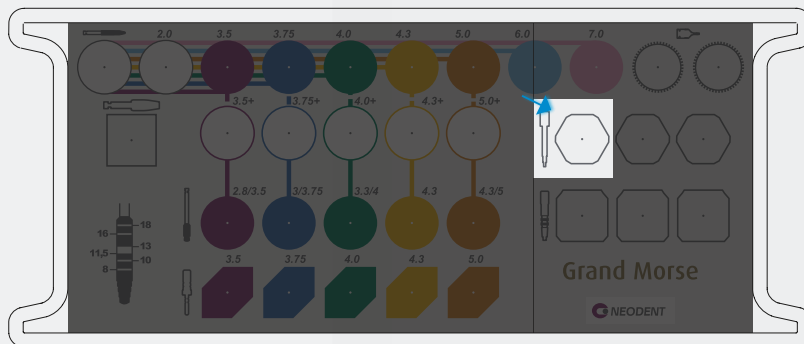
**6** The implant can now be transported to the surgical site.

# PLACING OF THE HELIX GM<sup>®</sup> IMPLANT

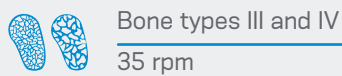
Neodent<sup>®</sup> Helix GM<sup>®</sup> implants were developed to begin placement with the contra-angle handpiece or manually and completed with the Torque-indicating Wrench. Ensure that the final position of the implant shows one of the prosthetic orientation marks facing the oral cavity.

## 1 Initial placement

Neodent<sup>®</sup> Helix GM Compact Surgical Kit Control Stop Drills



Bone types I and II  
35 rpm



Bone types III and IV  
35 rpm

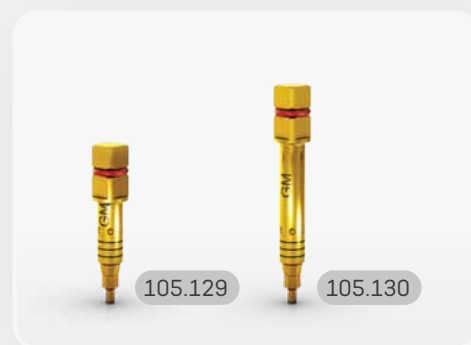
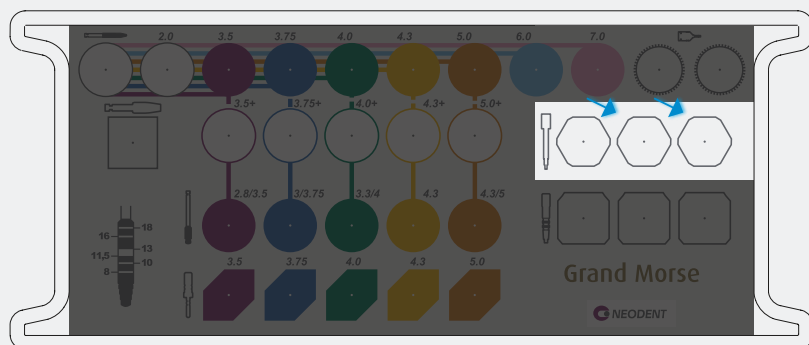


Initial placement with GM Implant Driver for contra-angle. Implant insertion speed: 30 rpm. Maximum torque: 35 N.cm.



## 2 Final placement

Neodent® Helix GM Compact Surgical Kit Control Stop Drills



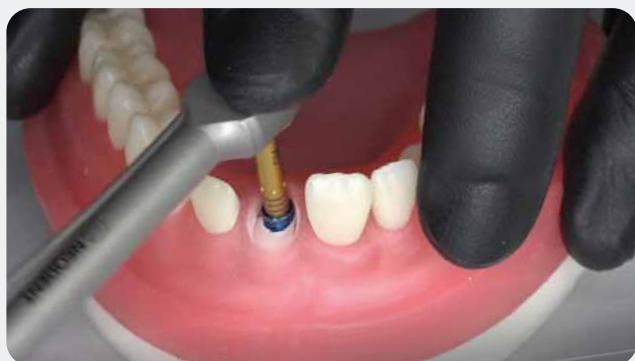
Bone types I and II



Bone types III and IV

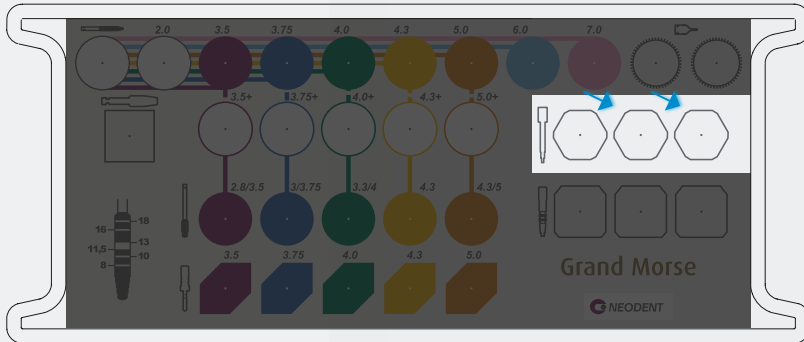


For final placement, use the GM Implant Driver for Torque-wrench. Maximum torque: 60 N.cm.



### 3 Final position of the implant

Neodent® Helix GM Compact Surgical Kit Control Stop Drills



Bone types I and II



Bone types III and IV



### Manual placement of the implant

The entire sequence described can be repeated manually, using the Manual Implant Driver - Contra-angle instead of the contra-angle handpiece.



Manual Implant Driver -  
Contra-angle.

104.028



GM Implant Driver for  
Contra-angle Handpiece

105.131

All instruments for contra-angle handpieces can be fitted to the Manual Implant Driver - Contra-angle.





**Distributed in Israel**



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