

Mini Implant



*Mini Implant
User Guide*

➤ **Thank you for your trust in choosing to work with the Anthogyr Mini Implant solution.**

This document contains necessary information for the use of the Mini Implant device with restoration protocols specific to the system, as well as the entire component list.

Your success will be ours. Our commercial network and our team of experts will be happy to provide you with any further information you may need.

Anthogyr



INSTRUCTIONS AVAILABLE ONLINE

ifu.anthogyr.com

You can now find instructions for use (instructions and manuals) for **Anthogyr implants and prosthetics parts** in PDF format on our site ifu.anthogyr.com using a **PDF reader** (Adobe Player).



HOW DOES THE SITE WORK ?

This portal provides the latest instructions for using Anthogyr products.

To find the instructions for your device, please follow these steps:

1- Enter your product reference number, description or GTIN code (Global Trade Item Number) in the search field.

2- Press submit

Your product's instructions will be available in PDF format, which you can consult online and/or print.

3- Select a language

Our instructions are available in several languages. To select the language you need, click the language choice menu.

This site is optimized for a 1024 x 768 px resolution screen to display instructions on PC or Mac with the following browser versions: Microsoft Internet Explorer 11 or higher, Safari 7.0 or higher (Mac only), Chrome 43 or higher, Firefox 38.0 and higher, and IOS and Android.

INFORMATION UPDATES:

Instructions for use are updated regularly and indicated by the "New" pictogram. Updated instructions can impact patient safety.

For this reason, we suggest you to avoid local back-ups and advise you to always check the Anthogyr portal.

To access archived instructions, click on "View old document versions."

You can also receive paper copies of instructions at no additional cost.

To receive paper copies, fill out the form available under the "Contact" tab or include a request with your next order.

Make sure to include your desired language.

The document will be delivered to you within 7 calendar days.

We are available if you have any comments or suggestions, via the "Contact" tab.

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The Mini Implant system

To meet the needs of its clients, Anthogyr has developed a Mini Implant to allow fully edentate patients to regain their confidence in everyday life.

This single-component Mini Implant reflects all the know-how of Anthogyr:

- Ultra strong medical titanium (Ti-6Al-4V ELI)
- BCP treatment for optimal osteointegration
- A body of small diameter of 2.6 mm to be as minimally invasive as possible
- Cylindrical-conical shape and self-tapping thread for effective primary attachment in hard to medium density bone, with a simplified protocol and an intuitive and ultra compact surgical kit.
- A choice of 3 lengths, 10, 12 and 14 mm to meet all patient needs
- A transgingival neck with a tulip-shaped profile to optimise the volume of soft tissue
- An Optiloc® attachment, optimally sized and highly effective for its retention and durability.

THE MINI IMPLANT

Optiloc® connector
High-performing and effective

Ti-6Al-4V ELI titanium
Ultra strong

BCP treatment
Ostéointégration optimale

Tulip-shaped profile
Optimised soft tissue volume

Body diameter: Ø 2.6 mm
Minimally invasive

Cylindrical-conical shape &
Self-tapping thread
Effective primary stability



OPTILOC® SECONDARY PARTS

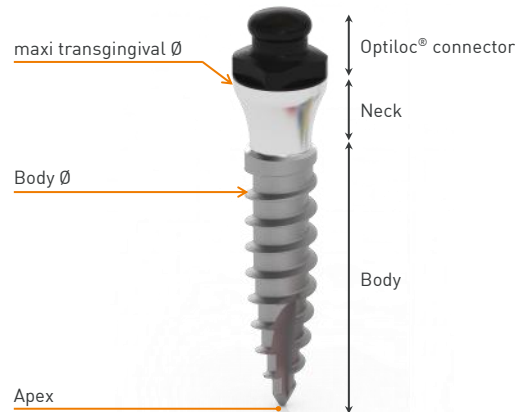


COMPACT SURGICAL KIT



1. The Mini Implant

A. TERMINOLOGY



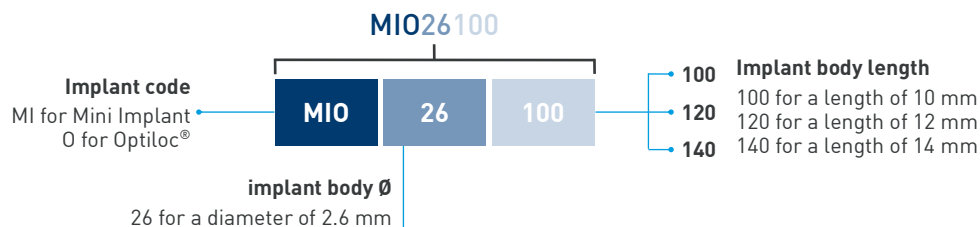
B. COLOUR CODE

We have added colour coding on the Anthogyr implant box to quickly identify the ranges of Anthogyr implants.



Example of Mini Implant label

C. CODING



D. TECHNICAL SPECIFICATIONS

Mini Implants are made of Medical Grade 23 Titanium, a biocompatible material with high dynamic strength (according to American standard ASTM F136 and ISO 5832-3). Its connective part is coated in DLC and its endosseous part features an osteoconductive **BCP** surface made rough by subtractive sandblasting.

Profil:

- Single-component
- Cylindrical-conical
- No thread: 1 mm
- Self-tapping

Neck:

- Smooth
- 1 height: 2.8 mm
- maxi transgingival Ø: 3.4 mm

Connector:

- Optiloc®

E. OPTILOC® RETENTION SYSTEM

The Optiloc® attachment system for removable prostheses combines the benefits of optimal size and excellent wear resistance to wear, thanks to the association of DLC treatment and PEEK matrix inserts.

① The secondary parts

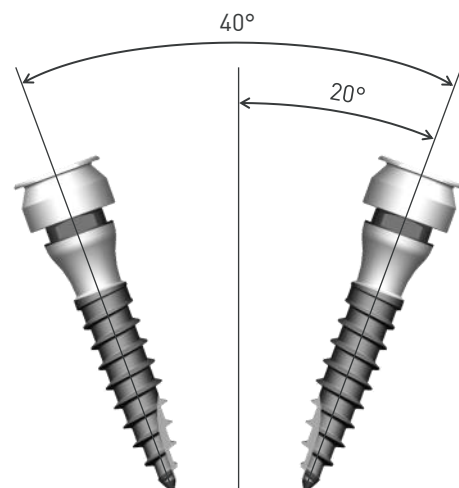
- The matrix can compensate a 20° implant axis divergence per implant.
- The shape of inserts allows the matrix to return automatically to a neutral position in case the prosthesis moves.
- The 6 PEEK inserts offer excellent physical and chemical properties and the possibility of adjusting the level of retention.

② The Mini Implant connector

- The DLC carbon based coating offers very good wear resistance thanks to its superior hardness and an ideal friction coefficient.



The Optiloc® matrix system allows to compensate axis divergence of up to 20° per implant, thereby allowing up to 40° between 2 implants.



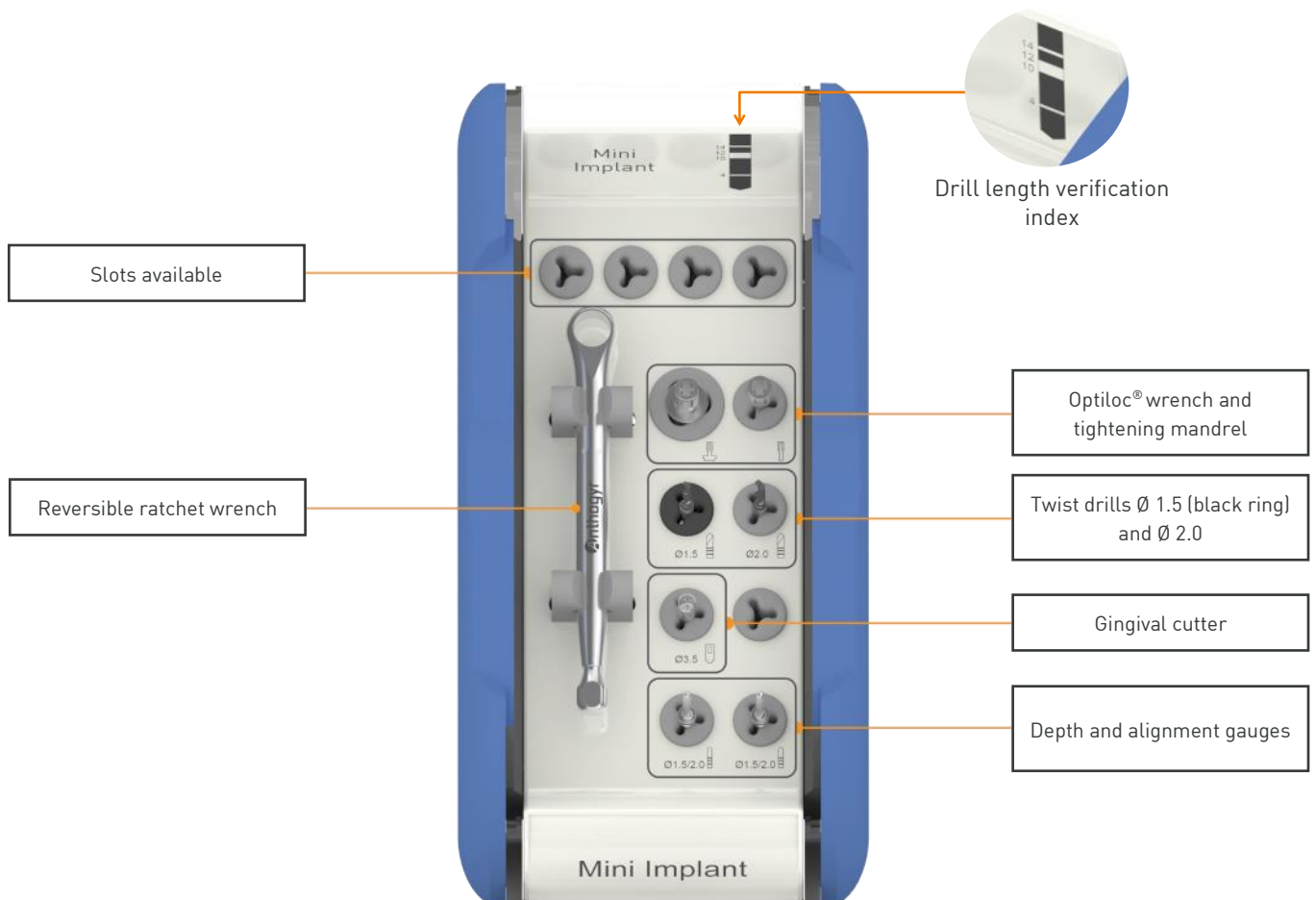
Optiloc® insert retention levels:

Retention force	Extra Light	Light	Medium	Strong	Extra Strong	Ultra Strong
	about 300g	about 750g	about 1200g	about 1650g	about 2100g	about 2550g
Colour	Red	White	Yellow	Green	Blue	Black
Visual						

2. The surgical kit and the instruments

A. COMPACT SURGICAL KIT

The Mini Implant surgical kit comes with a reversible ratchet wrench (Ref. INMODMIO). However, a dynamometric surgical ratchet wrench is available (Ref. INCCDC) as an option.



TECHNICAL SPECIFICATIONS

The kit is designed with medical-grade materials to tolerate thermal disinfection and sterilisation via autoclave.

Adjustable protective caps make the surgical kit modular to optimise instrument access.



B. INSTRUMENTS

GINGIVAL CUTTER

The gingival cutter is an optional tool that allows to realize a flapless surgery.



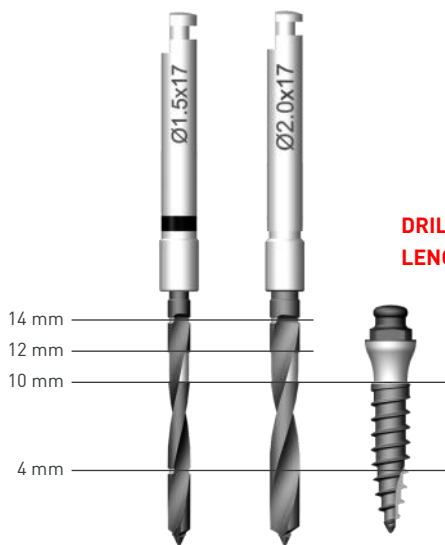
TECHNICAL SPECIFICATIONS

Cutting diameter: Ø 3.5 mm

DRILLS

The two drills of the Mini Implant are marked according to their drilling length of 10, 12 and 14 mm of implants (see chart below).

The drill Ø 1.5 mm (black ring) has an additional mark corresponding to a 4 mm drill for the placement of implants in soft bone



TECHNICAL SPECIFICATIONS

- Drill with black ring: Ø 1.5 mm
- Ringless drill: Ø 2.0 mm

**DRILLING DEPTH =
LENGTH OF BODY OF THE IMPLANT**

GAUGE

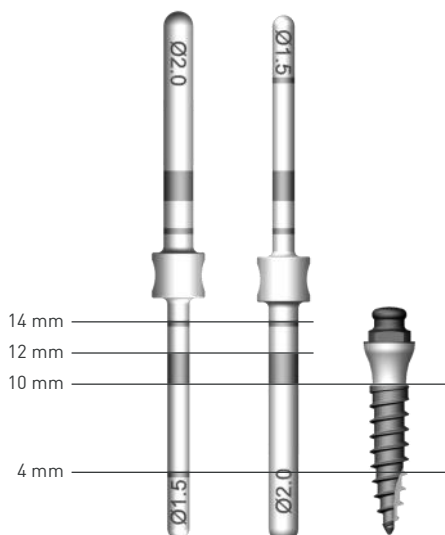
The gauge of the Mini Implant range has two indications:

- Alignment gauge:

It allows to check the correct placement of the drilling and an alignment with other implants.

- Depth gauge:

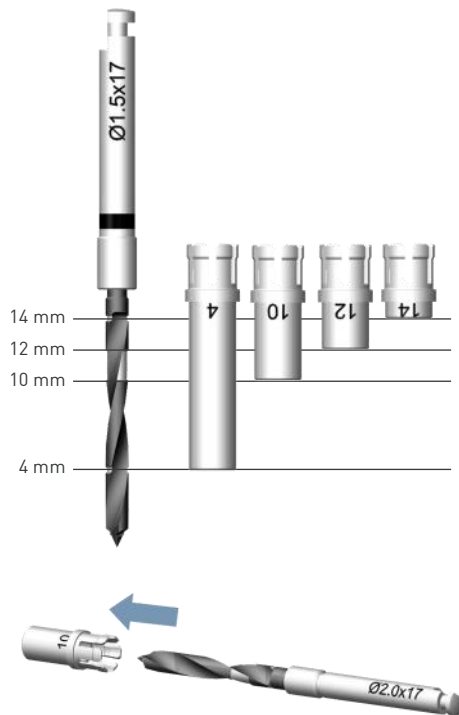
It allows to check the depth of the drilling with the same laser marking as the drills.



TECHNICAL SPECIFICATIONS

- Ø 1.5 mm
- Ø 2.0 mm

DRILL BITS



The drill bits of the Mini Implant range are available to help ensure the drilling depth.

Hence, 4 drill bits are supplied, allowing drilling depths of 4, 10, 12 or 14 mm. They are distinguished by a laser marking indicating the depth.

Drill bits are inserted as shown opposite.

OPTILOC® ADAPTERS

Specific adapters for the insertion of Mini Implants in the contra-angle or manually.

Optiloc® adapter for
ratchet wrench



Optiloc® adapter for
contra-angle



Surgical protocol

1. Planning and restrictions of use

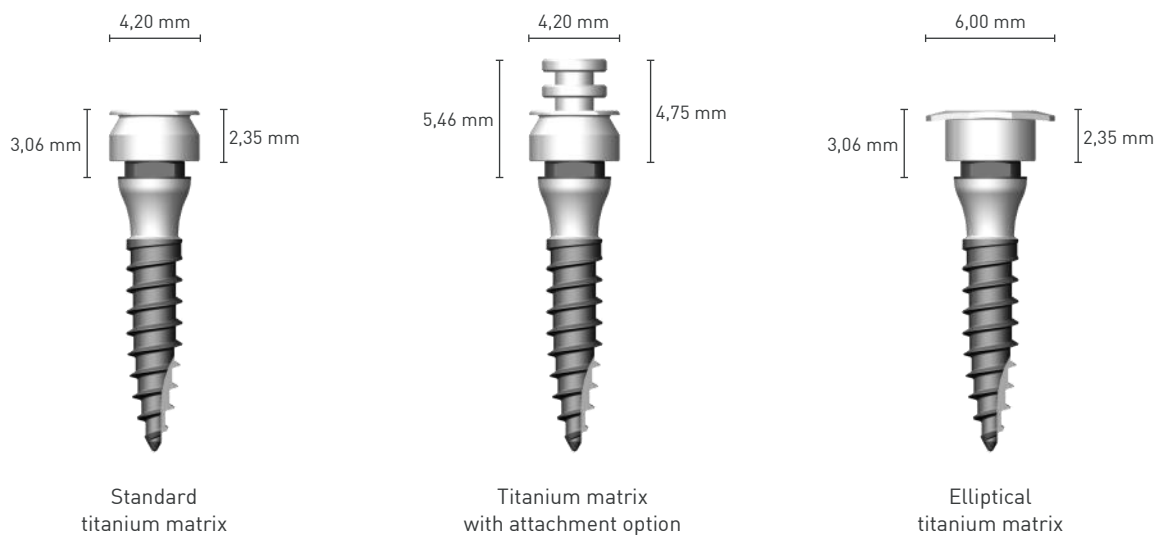
A. PLANNING

The implant must be positioned so that the Optiloc® connection is above the gum line. However, practitioners may adjust the position of the Mini Implant depending on the clinical case, the thickness of soft tissue and anatomical obstacles, and should also adjust the drilling protocol accordingly.

Use the Mini Implant X-ray transparency (*Ref. MIOFC_NOT*) to plan the implant procedure.

SIZE OF MATRIX BOXES

When planning the implant, account for the sizes of the Optiloc® secondary parts.



B. RESTRICTIONS OF USE

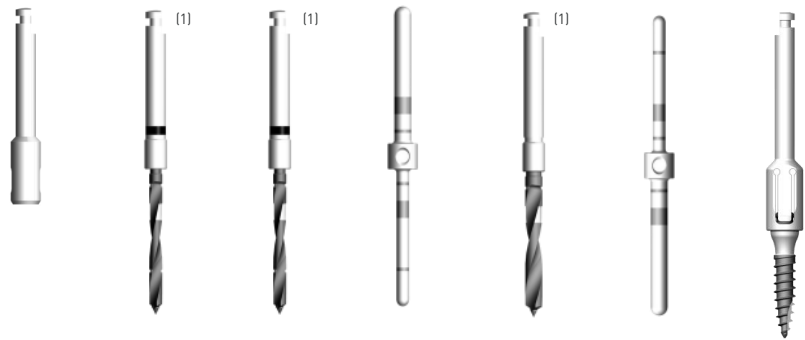
	Bone density				Soft tissue depth		Buccolingual width		
	D1	D2	D3	D4	< 2 mm	≥ 2 mm	< 4,6 mm	≥ 4,6 mm with flap	≥ 5.6mm without flap
Ø2.6 Mini Implant	✓	✓	✓	✗	✗	✓	✗	✓	✓

Flapless surgery procedures are associated with greater planning inaccuracy. A minimum crest thickness of 5.6 mm is recommended for such procedures

2. Preparation of the implant site

Avoid overheating the bone when drilling and tightening the implant to reduce the risk of bone loss during the osteointegration phase. The risk of overheating the bone can be reduced by using irrigation and by controlling the torque.

Drills are designed for axial, not radial drilling.



Cutter Ø3.5 Drill Ø1.5 Drill Ø1.5 Gauge Drill Ø2.0 Gauge Mandrel

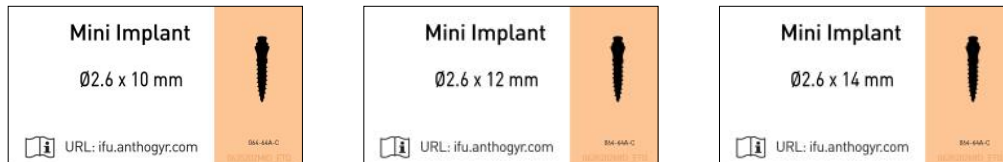
Drilling depth		4 mm	Implant length		Implant length		
Drilling speed	50 rpm	1500 rpm	1500 rpm	-	1500 rpm	-	15 rpm

✓	D1	Very hard bone	○	→	●	→	●	→	●
✓	D2	Hard bone	○	→	●	→	●	→	●
✓	D3	Soft bone	○	→	●	→	●	→	●
✗	D4	Very soft bone							

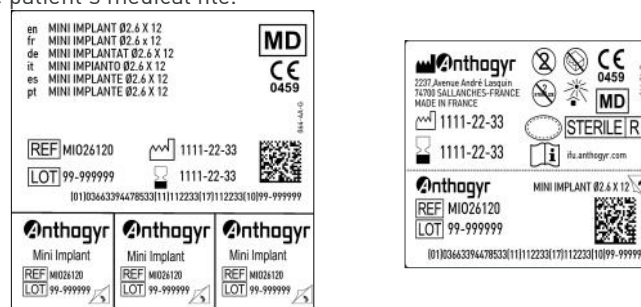
○ Tools for surgical without flap ● or ● Recommended step

3. Implant placement

Always check the dimensions of the desired implant before opening the packaging.
Look at the identification label on the flap of the cardboard box.



All implants come with removable, repositionable traceability labels which must be included in the patient record.
They must be saved in the patient's medical file.

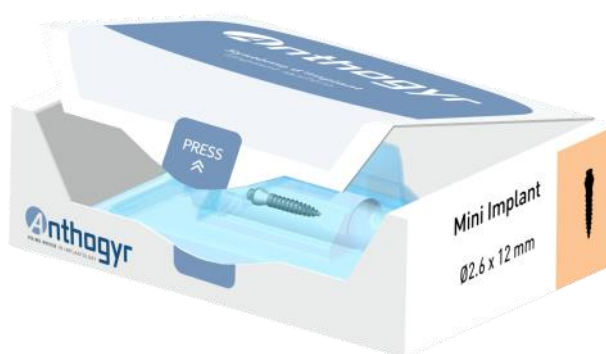


Implants come in primary packaging (tube and stopper) inside a sealed blister.
The set is sterilised by gamma rays.

Never re-sterilise an implant that has been opened.

A. OPENING THE PACKAGE

Remove the blister from the cardboard box outside of the sterile field.



Open the seal without touching the inside of the blister. Carefully place the tube and stopper on a sterile field.

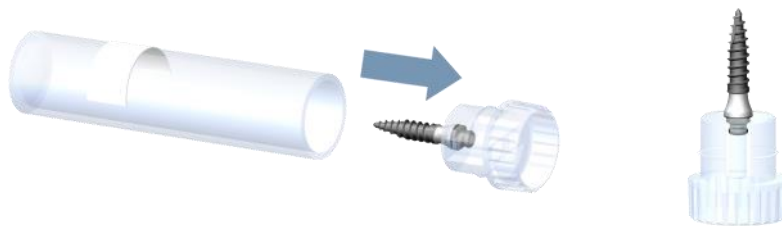


B. TRANSPORTING THE IMPLANT TO THE MOUTH

Reminder

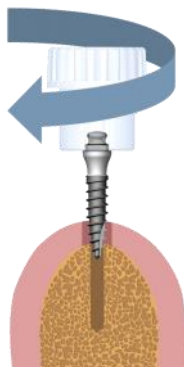
All handling should be done so as to avoid direct contact with the exterior surface of the implant. Ensure the implant does not touch the tube.

The Mini Implants Ø 2.6 are supplied assembled in a sterile capped tube. The cap serves as the first implant holder.



C. INSERTING THE IMPLANT

PRE-TIGHTENING



The insertion of the Mini Implant starts with the cap of the tube/cap until a higher torque is necessary.

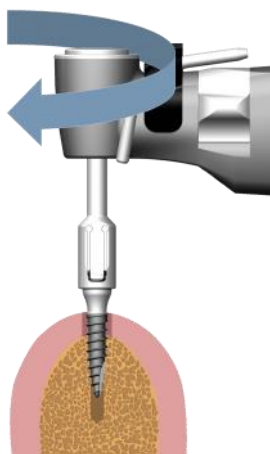
Reminder

Do not use a Mini Implant if it is detached from the cap after opening the blister.

FINAL TIGHTENING

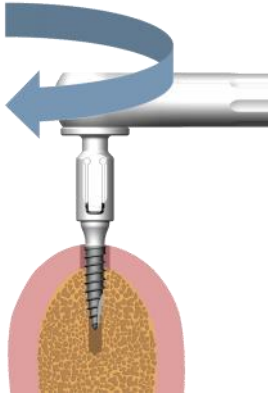
In order to finalise the tightening of the Mini Implant, use one of the Optiloc® adapters.

- **PLACEMENT USING A CONTRA-ANGLE:**



Adjust the output speed of the contra-angle to **15 rpm**. Tighten the implant to the contra-angle with the Optiloc® contra-angle adapter (*Ref. 170.1-OPT*) into the implant channel to the desired depth.

- **MANUAL PLACEMENT:**



Assemble the Optiloc® wrench adapter (Ref. 170.2-OPT) and the surgical ratchet wrench and screw to the desired depth.

It is not necessary to check the tightening torque. However, you can verify the torque **using a surgical dynamometric wrench** (Ref. INCCDC). Do not force the connection. You can always untighten and retighten to reduce the screw pressure.



The Optiloc® connection must be above the gum line

Note

For immediate loading, a minimal insertion torque of 35 N.cm is recommended.

WARNING!

Check the tightening torque frequently to make sure it does not exceed **45 N.cm**, as this could damage the implant. You can always untighten and retighten to reduce the screw pressure.

Note

A minimum of 4 Mini Implants Ø 2.6 must be placed to stabilise a complete mandibular prosthesis and at least 6 Mini Implants Ø 2.6 for a complete maxillary prosthesis.



Prosthetic protocol

1. Prosthetic procedure

WARNING!

As a prerequisite, the complete prosthesis should not require relining by a laboratory technician.



Step 1:

Place a mounting collar on each Optiloc® connection.

The mounting collars protect the implant neck from any resin or adhesive residue.

Place a matrix housing with a retention insert (the yellow retention insert is recommended) so that compression occurs between the mounting collar and the matrix housing.

The following rule applies when mounting the matrices directly in the mouth: It is better to use too little than too much adhesive or synthetic material. This means that excess should be avoided.

Any necessary additions should be made outside the oral cavity as this is the safest method to avoid unwanted permanent attachment in the mouth!



Step 2 – Prepare the prosthesis

Excavate the base of the existing prosthesis in the areas where the Optiloc® matrix housings will be located using a contra-angle and a resin bur. A minimum gap of 1 mm must be left around the matrix housings to allow sufficient thickness of the self-curing resin.



Step 3 – Check the prosthesis

Use a liquid silicone impression to confirm that there is sufficient space between the matrix housings and the base of the prosthesis.

Insert the prosthesis into the patient's mouth and ensure that there is sufficient space. The matrix housings attached to the secondary parts must not touch the base of the prosthesis. Recheck that there is sufficient space using liquid silicone impression material. Adjust the prosthesis base until it is correctly seated in the occlusion without touching the matrix housing.



Step 4 – Prepare the prosthesis

Prepare the cavities in the prosthesis using a monomer. Protect the areas that must not contain any resin with a thin layer of Vaseline.

Step 5 – Polymerise the matrix housings

Fill the excavated areas with PMMA self-curing resin to polymerise the matrix housings in the prosthesis.

Put a small amount of the acrylic resin into the cavity of the prosthetic base and around the matrix housing. Insert the complete lower prosthesis into the oral cavity.



Step 6 – Place the prosthesis in occlusion

When the prosthesis is correctly positioned, keep the patient in full occlusion while the acrylic resin cures.



Step 7 – Remove the Optiloc® mounting collars

After the impression material has cured, remove the prosthesis from the patient's mouth and discard the mounting collars.

Place the prosthesis in hot, but not boiling water in a pressure container if available.



Step 8 – Finishing the prosthesis

After final curing, remove any excess acrylic resin and finish the base of the prosthesis.

If necessary, replace the yellow Optiloc® retention inserts with other Optiloc® retention inserts and place the prosthesis in the patient's mouth.

It is advisable to initially use inserts with a light retention force (white). If the patient feels that it is too loose, replace them with inserts with a higher retentive force.

B. CREATE A NEW PROSTHESIS

IN THE DENTAL PRACTICE:



Step 1 - Place the Optiloc® impression matrices

Place an impression matrix on each Optiloc® connection.



Step 2 – Impression taking

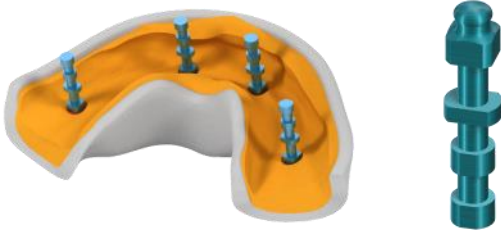
Use the mucodynamic technique for impression taking (vinyl polysiloxane or polyether rubber).

Send the impression to the dental laboratory.

PROCEDURE IN THE DENTAL LABORATORY

Step 1 – Insert the Optiloc® analogs

Insert an Optiloc® analog into each Optiloc® impression matrix (see section 2 - Using Optiloc® tools).



Step 2 – Prepare a plaster model

Cast a plaster model using standard methods.



Step 3 – Place the Optiloc® mounting collars and the matrix housings

Place mounting collars on all the Optiloc® analogs and then a matrix housing with a retention insert (e.g. 2102.0005-OPT, yellow, medium retention).



Step 4 – Preparation of the prosthesis

Prepare the prosthesis according to standard procedures.



The dental laboratory then sends the prosthesis to the dental practice.

PROCEDURE IN THE DENTAL PRACTICE



Step 1 – Select the Optiloc® retention inserts

Select the appropriate Optiloc® retention insert (see Part 1 - E. OPTILOC® RETENTION SYSTEM).

Step 2 – Insert the Optiloc® retention inserts

Remove the Optiloc® retention inserts used in the laboratory from the matrix housing with the retention insert mounting and de-mounting tool (brown) (see section 2 - Using Optiloc® Tools).

Then insert the new inserts using the same tool.

Step 3 – Placement of the prosthesis

Place the prosthesis in the patient's mouth.

2. Using Optiloc® tools

A. OPTILOC® TOOL FOR INSERTION AND REMOVAL OF RETENTION INSERTS



The Optiloc® tool for insertion and removal of retention inserts is included in the Optiloc® equipment box and allows the mounting and demounting of the Optiloc® retention inserts in the Optiloc® matrix housings.

Mounting the Optiloc® retention insert

1. Take the selected retention insert using the grooved metal end of the tool. The retention insert is easily and perceptibly attached to the grooved end of the tool.

2. Press the retention insert into the matrix housing with the tool oriented parallel to the matrix housing. You will feel the interlocking and hear a “click” sound.

Demounting of the Optiloc® retention insert

1. Use the other metal end of the tool, orienting it parallel to the matrix, and place it on the outer surface of the retention insert applying gentle pressure. You will feel the interlocking and hear a “click” sound.

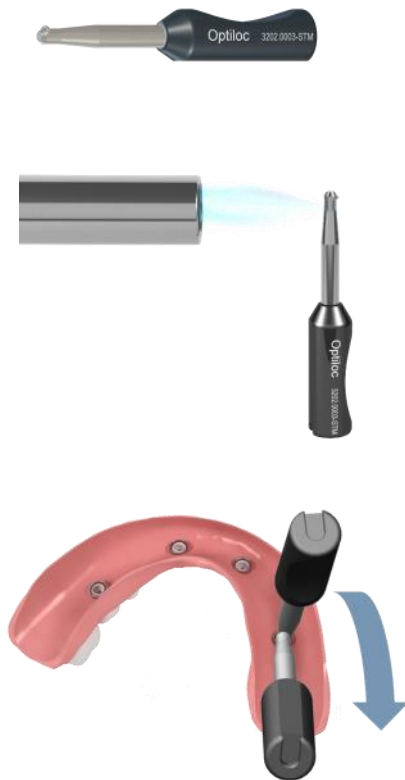
2. Remove the retention insert from the matrix housing applying a slight rotational movement.

3. The removed retention insert can then be extracted from the tool in one of two ways:

- Remove the insert from the tool using your thumb.
- Use the removal device located on the matrix housing extractor. To do this, the retention insert must be inserted into the mounting groove. The retention insert is released from the tool by tilting it sideways.



B. OPTILOC® MATRIX HOUSING EXTRACTOR



The Optiloc® Matrix Housing Extractor is included in the Optiloc® equipment box and is used to remove the Optiloc® matrix housings from the prosthesis as well as to remove the inserts from the Optiloc® instrument for insertion and removal of retention inserts (see part 2.A - Optiloc® tool for insertion and removal of retention inserts).

1. Heat the extractor head of the Optiloc® matrix housing extractor.

2. Place the beak-shaped end of the Optiloc® matrix housing extractor into the matrix housing and allow the heat from the heated extraction head to diffuse over the bottom of the matrix for 2 to 3 seconds.

3. Tilt the Optiloc® matrix housing extractor on the opposite side of the beak-shaped end to remove the Optiloc® matrix housing.

C. OPTILOC® MOUNTING TOOL AND ANALOG REPOSITION AID



The analog reposition aid is available as part of the Optiloc® equipment box and is used to assist in positioning the implant analog in the impression.

1. Grasp the Optiloc® analog with the side marked “analog” of the mounting tool.

2. Position the Optiloc® analog in the impression.

D. SPECIAL OPTILOC® COMPONENTS

OPTILOC® MOUNTING COLLAR



The mounting collar protects the area around the implant, prevents the resin or bonding agent from flowing into the matrix housing and embedding the implant.

OPTILOC® MATRIX HOUSING WITH ATTACHMENT OPTION



This matrix housing offers greater attachment options. It is used for low height abutments or in situations where greater retention is required. The attachment can be shortened according to the desired height.

OPTILOC® ELLIPTIC MATRIX HOUSING



The elliptic matrix housing is indicated when an extremely high retention force of the matrix in the body of the prosthesis is required.

OPTILOC® PROCESSING SPACER



When creating model cast prostheses or metal cast frames, the Optiloc® processing spacer allows the slightly larger dimensions of the matrix to create the ideal space for the subsequent attachment of the original matrix in the dental prosthesis by means of adhesive or synthetic material.

The outer surfaces of the processing spacer are very slightly angulated, providing a self-retaining space to receive the matrix housing in the metal when creating model cast prostheses or metal cast frames.

Cleaning and sterilisation



To clean and sterilise Anthogyr components, please refer to the sterilisation manual (063NETT-STE_NOT) *Research code for the ifu.anthogyr.com web-site: INMODMIO*

Disassembling – Re-assembly

The assembly and disassembly operations of the Anthogyr kits and ratchet wrench (*Ref. INCC*) are described in the sterilisation manual (063NETT-STE_NOT). *Research code for the ifu.anthogyr.com web-site: INMODMIO*



For all other Anthogyr devices, please refer to their respective instructions for use.

Component reference numbers

1. Mini Implants

		REFERENCES
	Mini Implant	STERILE
	Ø Implant 2.6 mm	
	Ti-6Al-4V ELI	
	Mini Implant Ø2.6 x 10 mm	MI026100*
	Mini Implant Ø2.6 x 12 mm	MI026120
	Mini Implant Ø2.6 x 14 mm	MI026140

2. Instruments

DRILLS		REFERENCES
	Step drill Ø1.5	INFH15170
	Medical grade stainless steel Step drill Ø1.5 mm	
	Step drill Ø2.0	INFH20170
	Medical grade stainless steel Step drill Ø2.0 mm	

SURGICAL INSTRUMENTS		REFERENCES
	Gingival cutter	INDG035
	Medical grade stainless steel Gingival cutter Ø3.5 mm	
	Gauges	INJPAPF150200
	Ti-6Al-4V ELI Depth and alignment gauge	

MANDRELS AND WRENCHES		REFERENCES
	Optiloc® mandrel	170.1-OPT**
	Medical grade stainless steel Optiloc® adapter for contra-angle	
	Optiloc® wrench	170.2-OPT**
	Medical grade stainless steel Optiloc® adapter for ratchet wrench	
	Reversible manual ratchet wrench	INCC
	Medical grade stainless steel Ratchet wrench	
	Surgical dynamometric wrench	INCCDC
	Medical grade stainless steel Reversible wrench: Max torque: 80 N.cm	

* Reference number for represented component

** Straumann AG

● These tools are not supplied in the kit INMODMIO

DRILL STOPS		REFERENCES
	Stop drills ● Ti-6Al-4V ELI Stopper for drilling length 4 mm Stopper for drilling length 10 mm Stopper for drilling length 12 mm Stopper for drilling length 14 mm	INB2004 INB2010 INB2012 INB2014
-	Drill stops kit Includes: - 1 Stopper for drilling length 4 mm - 1 Stopper for drilling length 10 mm - 1 Stopper for drilling length 12 mm - 1 Stopper for drilling length 14 mm	KITINB

SURGICAL KITS		REFERENCES
	Mini Implant surgical kit Includes: - 1 Gingival cutter Ø3.5 mm - 1 Step drill Ø1.5 mm - 1 Step drill Ø2.0 mm - 2 Gauges - 1 Ratchet wrench - 1 Optiloc® adapter for contra-angle - 1 Optiloc® adapter for ratchet wrench	INMODMIO
-	Empty Mini Implant surgical kit	INMODMIOV
	Mini Implant X-ray templates	MIOFC_NOT

3. Optiloc® components

OPTILOC® COMPONENTS		REFERENCES
	Matrix housing Titanium In packs of 4	2102.0001-OPT**
	Matrix housing elliptic Titanium In packs of 4	2102.0009-OPT**
	Matrix housing with attachment option Titanium In packs of 4	2102.0010-OPT**
	Retention insert red PEEK In packs of 4 Retention force: <i>Extra-light</i>	2102.0003-OPT**
	Retention insert white PEEK In packs of 4 Retention force: <i>Light</i>	2102.0004-OPT**
	Retention insert yellow PEEK In packs of 4 Retention force: <i>Medium</i>	2102.0005-OPT**
	Retention insert green PEEK In packs of 4 Retention force: <i>Strong</i>	2102.0006-OPT**
	Retention insert blue PEEK In packs of 4 Retention force: <i>Extra-strong</i>	2102.0007-OPT**
	Retention insert black PEEK In packs of 4 Retention force: <i>Ultra-strong</i>	2102.0008-OPT**
	Optiloc® analog for Mini Implant Aluminium In packs of 4	2102.0024-OPT**
	Forming/fixing matrix red PEEK In packs of 4	2102.0012-OPT**
	Processing spacer white POM In packs of 4	2102.0023-OPT**
	Mounting collar Silicone In packs of 10	2102.0011-OPT**

OPTILOC® INSTRUMENTS		REFERENCES
	Optiloc® blue Instrument Aluminum + stainless steel Mounting tool + model analog repositionaid	3202.0002-OPT**
	Optiloc® brown Instrument Aluminum + stainless steel Mounting and demounting tool for retention inserts	3202.0001-OPT**
	Optiloc® gray Instrument Aluminum + stainless steel Matrix housing extractor	3202.0003-OPT**

OPTILOC® BOXES		REFERENCES
	Equipment box incl. 3 tools Includes: - 1 Optiloc® blue Instrument - 1 Optiloc® brown Instrument - 1 Optiloc® gray Instrument	5102.0000-OPT**
	Processing package titanium Includes: - 1 Matrix housing - 2 Retention inserts white (<i>light</i>) - 2 Retention inserts yellow (<i>medium</i>) - 2 Retention inserts green (<i>strong</i>) - 2 Mounting collar	5202.0001-OPT**

 Anthogyr
2 237, Avenue André Lasquin
74700 Sallanches - France
Tél. +33 (0)4 50 58 02 37
www.anthogyr.com

CE 0459