

Operative technique



Eba One
SINGLE LAG SCREW
NAILING SYSTEM

**Single lag screw
nailing system**

Surgeons must always decide on the best approach to follow according to their clinical judgement and the patient's needs. Citieffe does not dispense medical advice and recommends that surgeons be trained in the use of any particular product before using it in surgery. The information presented is intended to demonstrate the extent of Citieffe product offerings.

Before use a surgeon must always consult the package insert, product label and/or instructions for use. Products may not be available in all markets because product availability is subject to the regulatory and/or medical practices in individual markets.

Please contact your Citieffe representative if you have questions about the availability of Citeffe products in your area.

CONTENTS

PRODUCT DESCRIPTION	4
INDICATIONS	8
PATIENT POSITIONING AND ENTRY POINT	9
GUIDE WIRE INSERTION	10
INTRAMEDULLARY CANAL REAMING	11
NAIL INSERTION	12
PROXIMAL LOCKING	13
EBA ONE STANDARD (SHORT) DISTAL LOCKING	19
DISTAL LOCKING WITH EBA ONE LONG CENTERING GUIDE	21
EBA ONE LONG DISTAL LOCKING WITH FREE-HAND TECHNIQUE	27
TARGETING DEVICE REMOVAL	29
IMPLANT COMPLETION	30
IMPLANT REMOVAL	31
ORDERING INFORMATION	34

PRODUCT DESCRIPTION

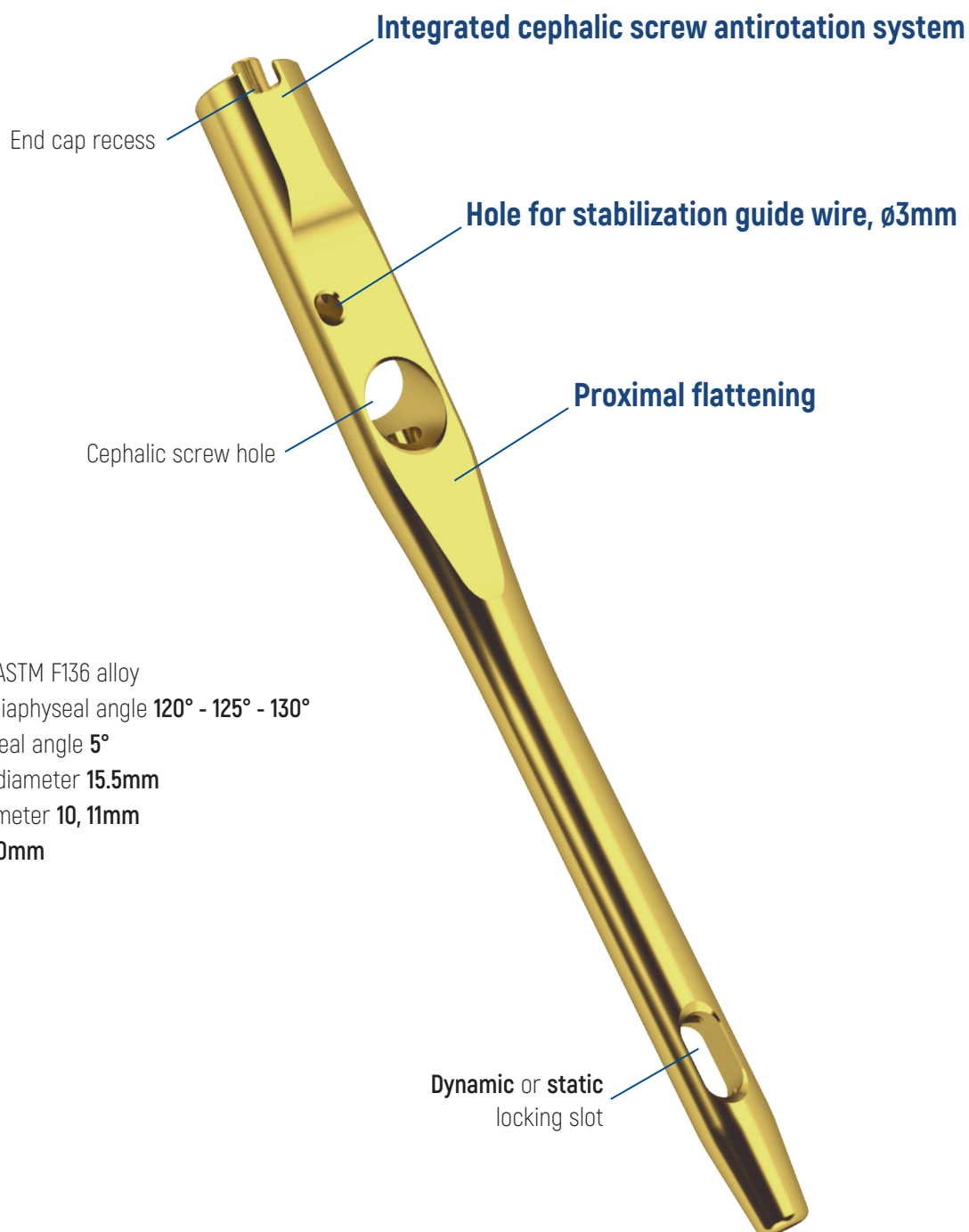
TITANIUM

STERILE



Single lag screw nailing system for the treatment of proximal femoral fractures, available in the standard and long version.

Eba One standard nail



- Titanium ASTM F136 alloy
- Cervical-diaphyseal angle **120° - 125° - 130°**
- Metaphyseal angle **5°**
- Proximal diameter **15.5mm**
- Distal diameter **10, 11mm**
- Length **170mm**

Eba One long nail

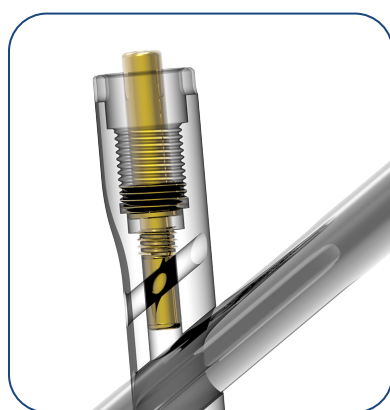


- Titanium ASTM F136 alloy
- Cervical-diaphyseal angle **130°**
- Metaphyseal angle **5°**
- Proximal diameter **15.8mm**
- Distal diameter
 - **solid nail: 9mm**
 - **cannulated nail: 10, 11, 12, 13mm**
- Length
 - **solid nail: from 280mm to 380mm**
with 20mm increments
 - **cannulated nail: from 280mm to 460mm**
with 20mm increments
- Radius of curvature **1.0 m**, RIGHT - LEFT
- Proximal anterversion of **10°**

Integrated cephalic screw antirotation system

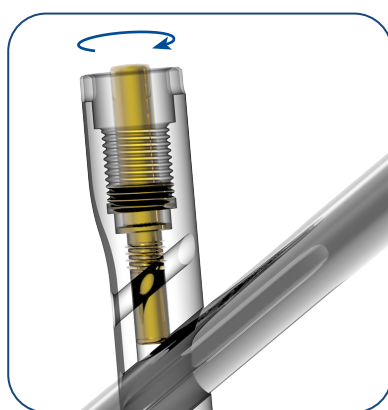
Eba One features an integrated cephalic screw antirotation system that prevents the rotation and the medial migration of the cephalic screw.

The **locking screw is cannulated and integrated into** the nail; a single movement prevents the cephalic screw from turning, whilst allowing it to slide. Eba One nails are supplied with the Integrated Locking screw in the OPEN position.



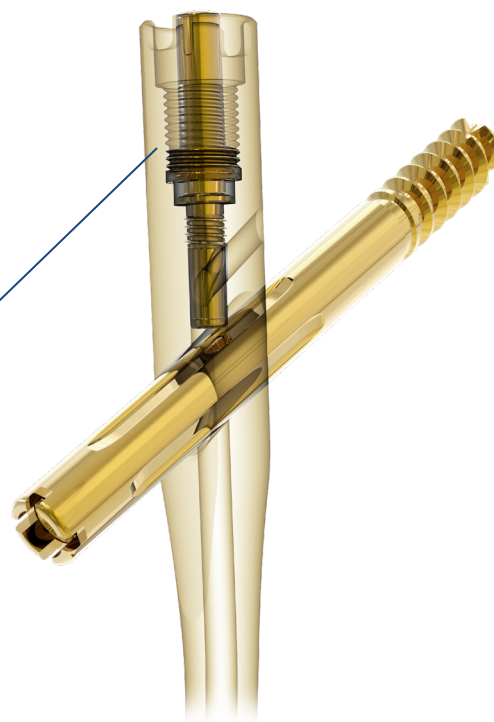
OPEN position

Enables the free insertion of the cephalic screw.



CLOSED position

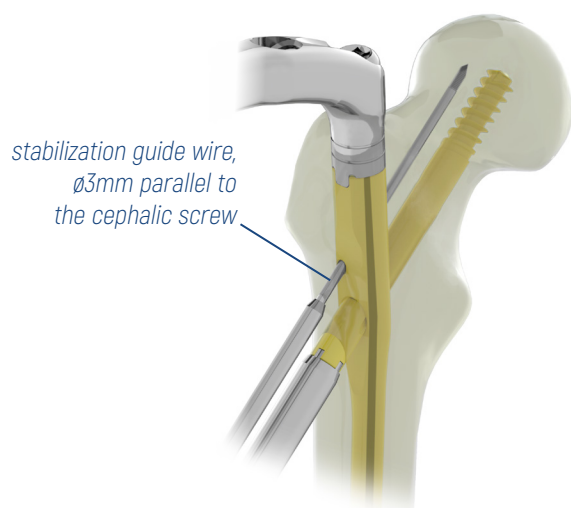
Enables the sliding of the cephalic screw alone, in order to allow fracture compaction.



Hole for stabilization guide wire, ø3mm

The Eba One nail features a hole for the insertion of the stabilization guide wire, ø3mm through the Eba One targeting device.

The guide wire is positioned parallel to the cephalic screw in order to enable fracture compaction without requiring the removal of the wire.



Proximal flattening

The proximal flattening favours easy insertion of the Eba One nail.



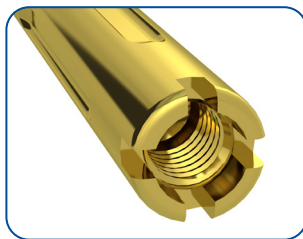
TITANIUM**STERILE**

Screws and end caps

The screws and caps of the Eba One system are characterized by a retention system that keeps them integral with the screwdriver during insertion.

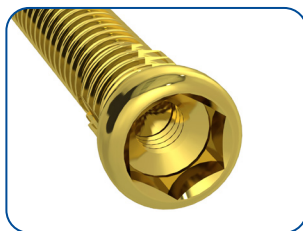
The cortical screw and end cap Eba One have a head with a 5mm hexagonal insert that allows the use of a single T-screwdriver.

Cephalic screw $\varnothing 10.5\text{mm}$



- Titanium alloy
- Self-tapping
- $\varnothing 3\text{mm}$ cannulated
- Available lengths: from 70mm to 130mm with 5mm increments
- Available also with hydroxyapatite coated thread
- Screw shaft with 4 grooves allowing to slide in the lateral direction only

Cortical screw $\varnothing 5.2\text{mm}$



- Titanium alloy
- Self-tapping
- Blunt tip
- Available lengths: from 22.5mm to 110mm with 2.5mm increments (up to 55mm) and 5mm increments (from 60mm to 110mm)

$\varnothing 4\text{mm}$ cortical screw for the distal holes of the $\varnothing 9\text{mm}$ solid nail is on request.

End cap



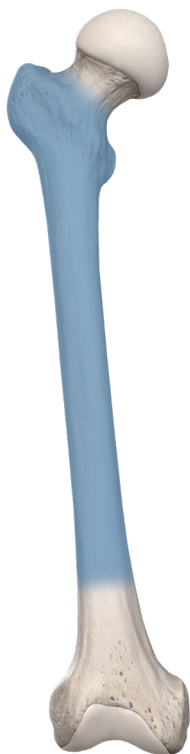
- Titanium alloy
- Available sizes: standard, medium, long
- To prevent bone growth on the nail tip
- To increase nail length in case of excessive sinking

INDICATIONS



The **Eba One standard** trochanteric nail is indicated for the treatment of:

- stable and unstable intertrochanteric fractures;
- pertrochanteric fractures;
- mal-unions;
- non-unions.



The **Eba One long** trochanteric nail is indicated for the treatment of:

- pertrochanteric and subtrochanteric fractures with extension of the fracture lines to the diaphysis;
- pertrochanteric and subtrochanteric fractures with diaphyseal fracture (bifocal fractures);
- pathological fractures;
- mal-unions;
- non-unions.

PATIENT POSITIONING AND ENTRY POINT

Patient positioning

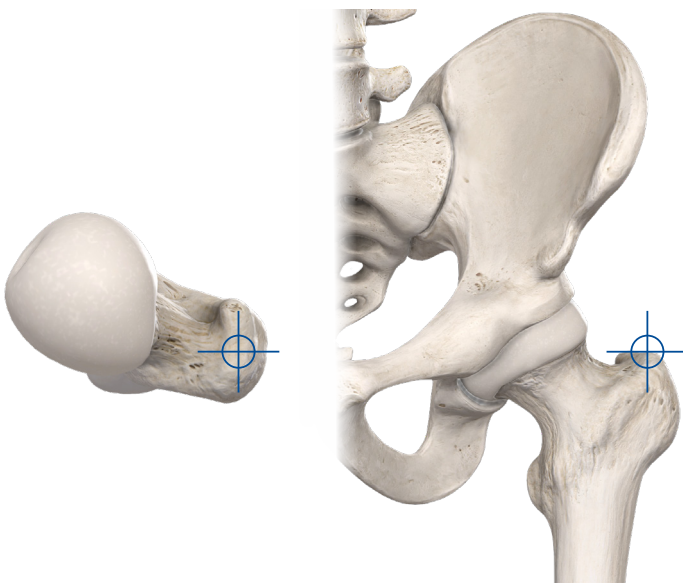


Place the patient in a supine position on the radiolucent operating table, with the limb to be treated under skeletal traction.

Flex the contralateral hip and knee by 90°. Adduct the limb to be treated by 20° - 30° to facilitate surgical approach and avoid hindering the use of the image intensifier.

Once fracture reduction has been obtained, proceed with synthesis, select the correct implant and the optimal nail angle with x-ray in anterior-posterior view.

Incision and entry point



Under normal circumstances, the incision can be made starting 2cm proximally from the tip of the greater trochanter with a proximal extension of about 3-4cm.

However, a different incision can be chosen if required by the build of the patient.

The entry point for the introduction of the nail should be located slightly medially of the greater trochanter in the lateral projection.

GUIDE WIRE INSERTION

The steps of the operative technique described below refer to Eba One standard nail with a 130° cervical-diaphyseal angle. All the power tools mentioned in the surgical technique must be used with a low speed drill.

Opening the cortex



Under the image intensifier, use the Cannulated awl to prepare the entry point.

Guide wire insertion

Eba One standard

Insert the Guide wire $\varnothing 3 \times 800$ mm into the Chuck for $\varnothing 3$ mm wire and turn the ring nut counter-clockwise to lock the wire in place.

Use the cannulated awl to introduce the wire into the intramedullary canal.

Remove the chuck by turning the ring nut clockwise.

Remove the cannulated awl and keep the guide wire in place.

Eba One long

The Fracture alignment guide wire exchange tool can be used to facilitate fracture reduction and the introduction of the guide wire in the correct position.

Insert the Guide wire with olive $\varnothing 3 \times 800$ mm into the intramedullary canal.

At the end of the reaming procedure, insert the fracture alignment guide wire exchange tool to replace the guide wire with olive with the guide wire $\varnothing 3 \times 800$ mm.

INSTRUMENTS REQUIRED



EBA-5315
cannulated awl



EBA-5345
Chuck for $\varnothing 3$ mm wire



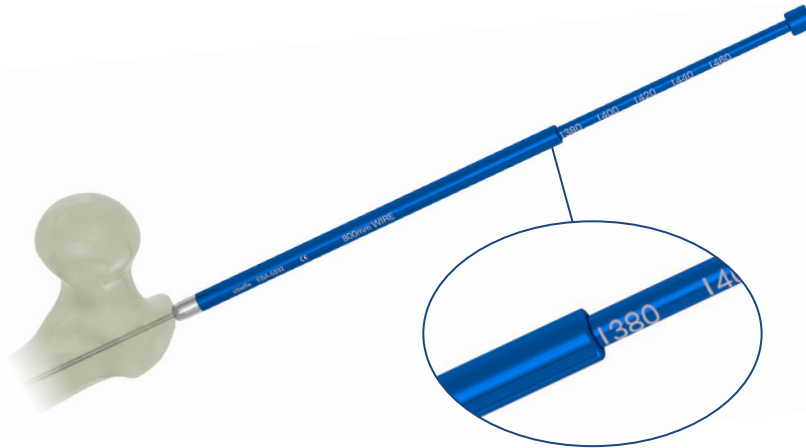
EBA-5316
Fracture alignment guide wire



EBA-5301
Guide wire $\varnothing 3 \times 800$ mm
or EBA-5302 [STERILE]

INTRAMEDULLARY CANAL REAMING

Nail length measurement and diaphyseal reaming (Eba One long only)



The image refers to the 380mm size

Check the position of the guide wire: it must be in the center of the medullary canal and the tip must correspond to the end of the nail to be implanted. Fit the Nails ruler, wire 800mm to the guide wire and bring it into contact with the cortex at the tip of the greater trochanter.

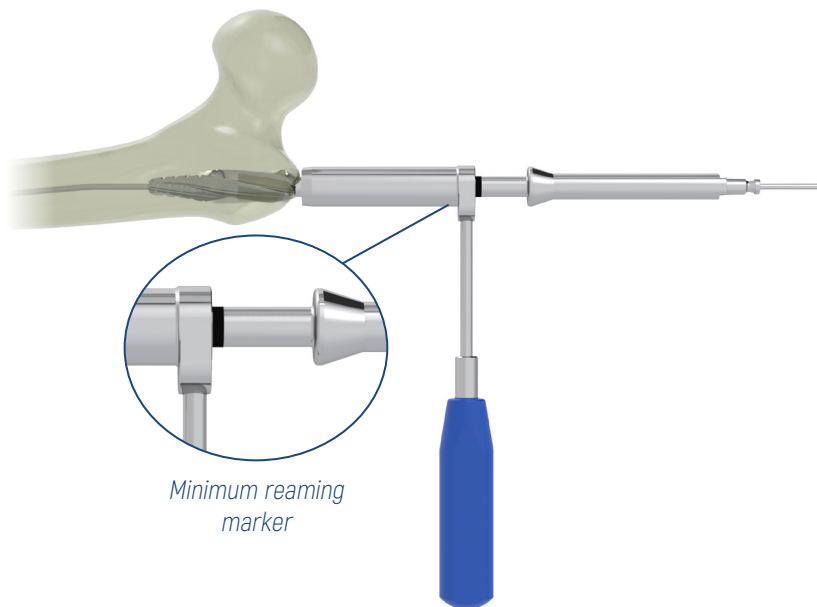
Make sure that the proximal tip of the guide wire is against the slot of nails ruler.

Use the ruler to measure the length of the nail.

Ream the canal with progressive reamers (it is suggested to use a diameter at least 1.5mm greater than the nominal diameter of the nail to be implanted).

NOTE: for intermediate readings, it is advisable to use the shorter nail.

Proximal reaming of the medullary canal



Insert the Tissue protection sleeve until it is in contact with the bone.

Insert the Cannulated reamer, $\varnothing 16\text{mm}$ through the guide wire into the intramedullary canal and proceed with the proximal reaming monitoring its progression inside the intramedullary canal.

The marker on the reamer indicates the minimum reaming to be made.

The maximum reaming is obtained once the reamer comes into contact with the protection sleeve.

During reaming it is recommended to use the Obturator with handle in order to maintain the correct position of the guide wire.

Remove the reamer and protection sleeve keeping the guide wire in place.

INSTRUMENTS REQUIRED



EBA-5332
Nails ruler, wire 800mm



EBA-5322
Tissue protection sleeve



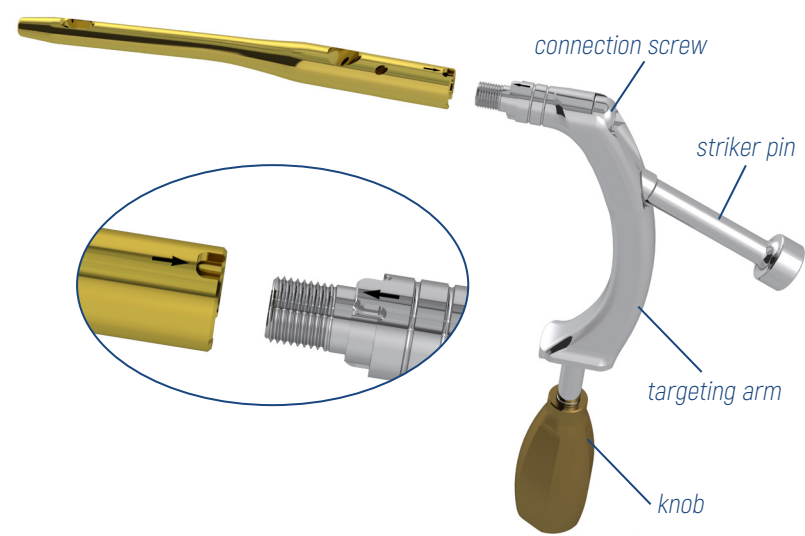
EBA-5275
Cannulated reamer, $\varnothing 16\text{mm}$



DT030090
Obturator with handle

NAIL INSERTION

Nail-targeting arm assembly



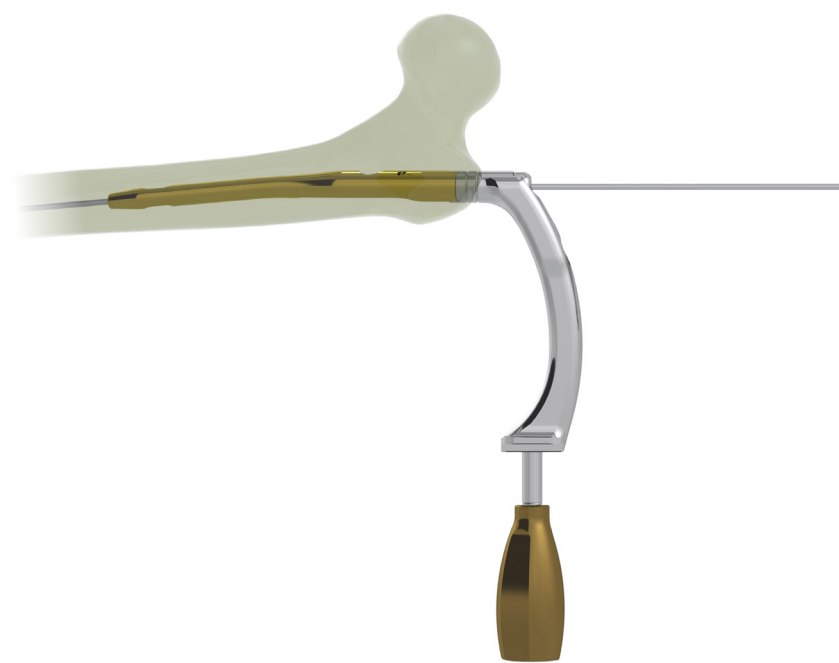
Connect the chosen nail on the Eba One targeting arm and tighten the connection screw with the Allen T-wrench, 8mm.

Make sure that the reference markers (visible both on the nail targeting arm and on the nail) are aligned and the position tabs fit into the corresponding slots on the proximal part of the nail.

When using Eba One long, fit the striker pin on the Eba One targeting arm.

NOTE: when treating "oversize" patients use the Eba One targeting device XXL.

Nail insertion



Insert the Eba One nail on the guide wire by hand and, under image intensifier, check the correct nail depth and antversion.

NOTE: when using Eba One long, hammer on the striker pin until the desired depth is achieved.

Remove the guide wire.

INSTRUMENTS REQUIRED



EBA-5310
Eba One targeting arm



EBA-5350
Allen T-wrench 8mm

PROXIMAL LOCKING

Eba One targeting device assembly

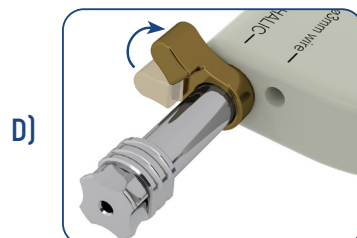
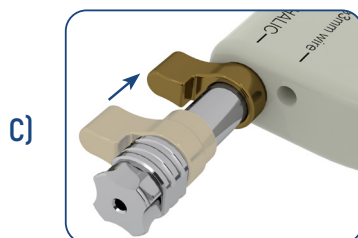


Remove the knob from the Eba One targeting arm.

Connect the right Eba One targeting device for the cervical-diaphyseal angle of the implanted nail to the Eba One targeting arm.

Screw the knob back on.

Cannula and trocar insertion



A) Insert the Cephalic trocar and screw it into the Cephalic cannula.

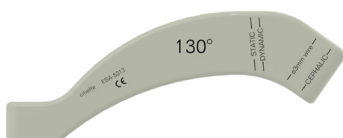
B) To locate the incision point, introduce the trocar with the cannula into the hole labelled "CEPHALIC" on the Eba One targeting device until it comes into contact with the skin. At the point of contact perform an incision down to the bone.

Once the incision has been made, insert the cannula into the fascia lata until it has contact to the lateral cortex.

C) Bring the cannula lever close to the targeting device.

D) Turn the lever to lock the cannula on the targeting device.

INSTRUMENTS REQUIRED



EBA-5313
Eba One targeting device 130°

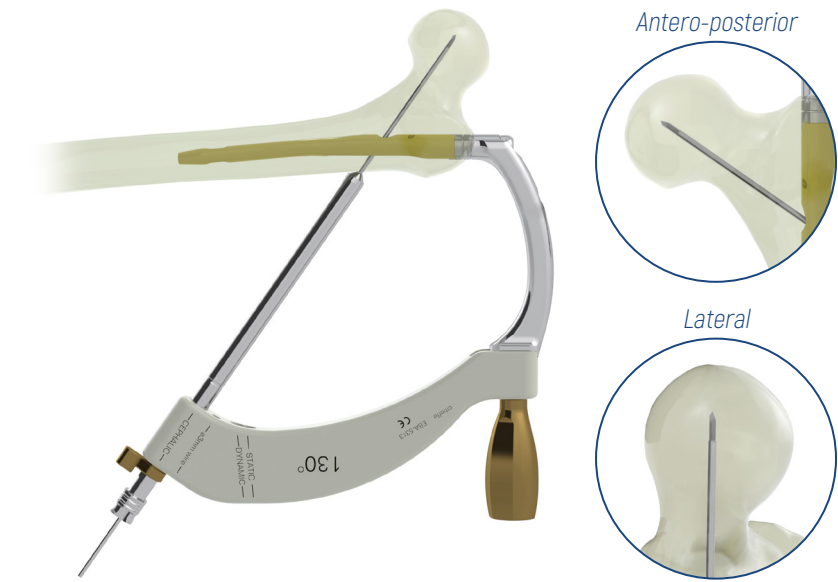


EBA-5320
Cephalic cannula



EBA-5325
Cephalic trocar

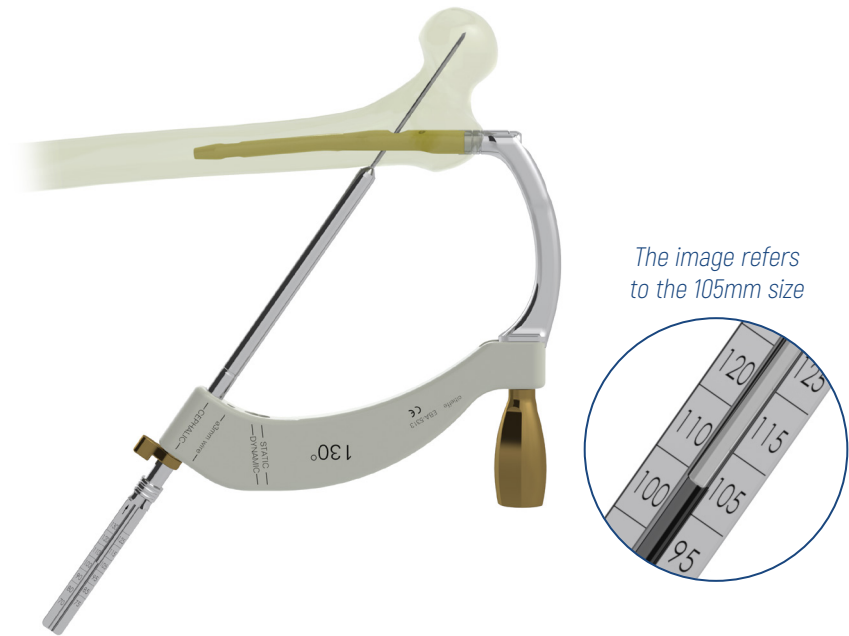
Guide wire insertion for the cephalic screw



Drill a Guide wire, threaded trocar tip $\varnothing 3 \times 410 \text{ mm}$ through the cephalic trocar, making sure that it is positioned 10mm from the subchondral bone.

Use the image intensifier to make sure the guide wire is positioned correctly in both projections: in the lower half of the head of the femur on the anteroposterior projection and on the midline on the lateral projection.

Cephalic screw measurement



Fit the Cephalic screw ruler onto the guide wire until it touches the cephalic trocar.

The end of the wire on the cephalic screw ruler, shows the length of the screw to be used.

The position of the tip of guide wire corresponds to the tip of the screw (the thread of the wire corresponds to 10mm).

NOTE: when compression is required, it is advisable to choose a shorter cephalic screw so that it does not protrude excessively from the lateral cortex once compression is complete.

INSTRUMENTS REQUIRED

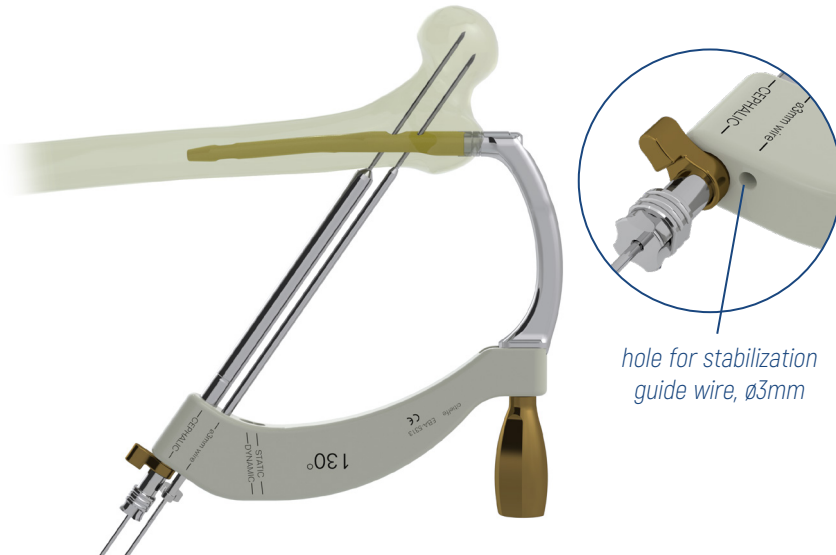


66975N
Guide wire, threaded trocar tip
 $\varnothing 3 \times 410 \text{ mm}$ (STERILE)



EBA-5330
Cephalic screw ruler

Stabilization guide wire, $\varnothing 3$ mm insertion



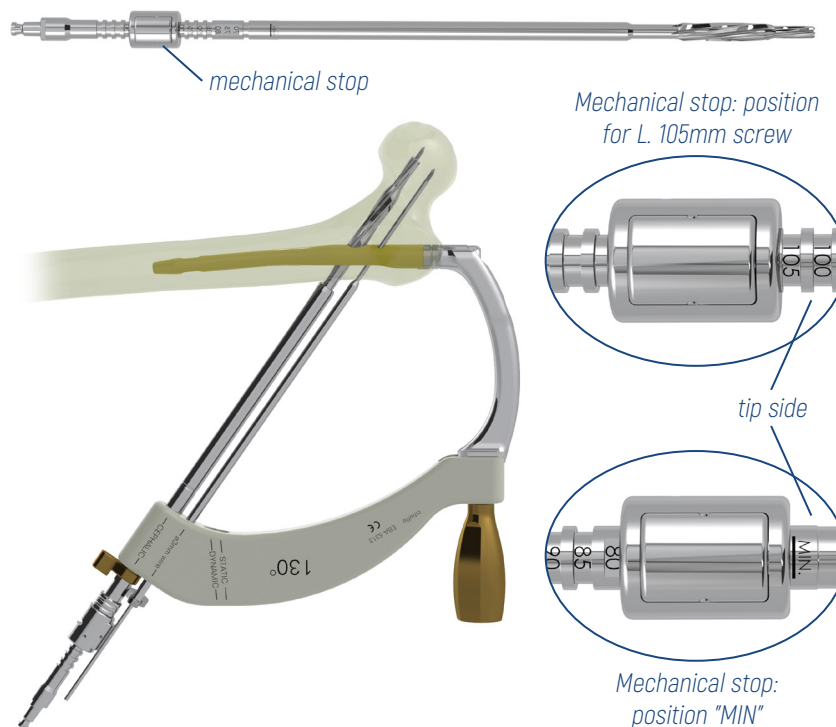
To guarantee the antirotational stability of the head of the femur, a stabilization guide wire $\varnothing 3 \times 410\text{mm}$ can be introduced into the appropriate hole on the nail.

Insert the Stabilization wire trocar through the hole in the Eba One targeting device, until it comes into contact with the skin.

Once the incision has been made, insert the trocar into the fascia lata until it has a contact to the lateral cortex and drill in the guide wire.

Unscrew and remove the cephalic trocar.

Preparation for cephalic screw insertion



Use the Cephalic drill to prepare the cephalic screw recess.

Ream until the mechanical stop on the drill reaches the cannula.

The mechanical stop can be positioned in two different ways:

- A) on the "MIN" marker, in the presence of frail bone structure; this makes it possible to prepare screw insertion by breaking the lateral cortex alone;
- B) on the marker for the length of the cephalic screw to be introduced, in the presence of solid bone structure.

Fit the cephalic drill onto the guide wire and use the image intensifier to make sure that the guide wire cannot, under any circumstances, advanced into the joint.

Remove the cephalic drill using the Obturator with handle to maintain the correct position of the guide wire.

INSTRUMENTS REQUIRED



EBA-5327
Stabilization wire trocar

66975N
Guide wire, threaded trocar tip
 $\varnothing 3 \times 410\text{mm}$ (STERILE)

EBA-5270
Cephalic drill

DT030090
Obturator with handle

Hole for cephalic screw tapping (OPTIONAL)



When the bone structure is solid it is advisable to tap the hole of the cephalic screw until it is 2cm from the tip of the guide wire, in order to facilitate the insertion of the cephalic screw.

Fit the tap to the Cephalic screwdriver and tighten by manually turning the golden knob clockwise.

Tap the hole of the cephalic screw using the image intensifier.

INSTRUMENTS REQUIRED

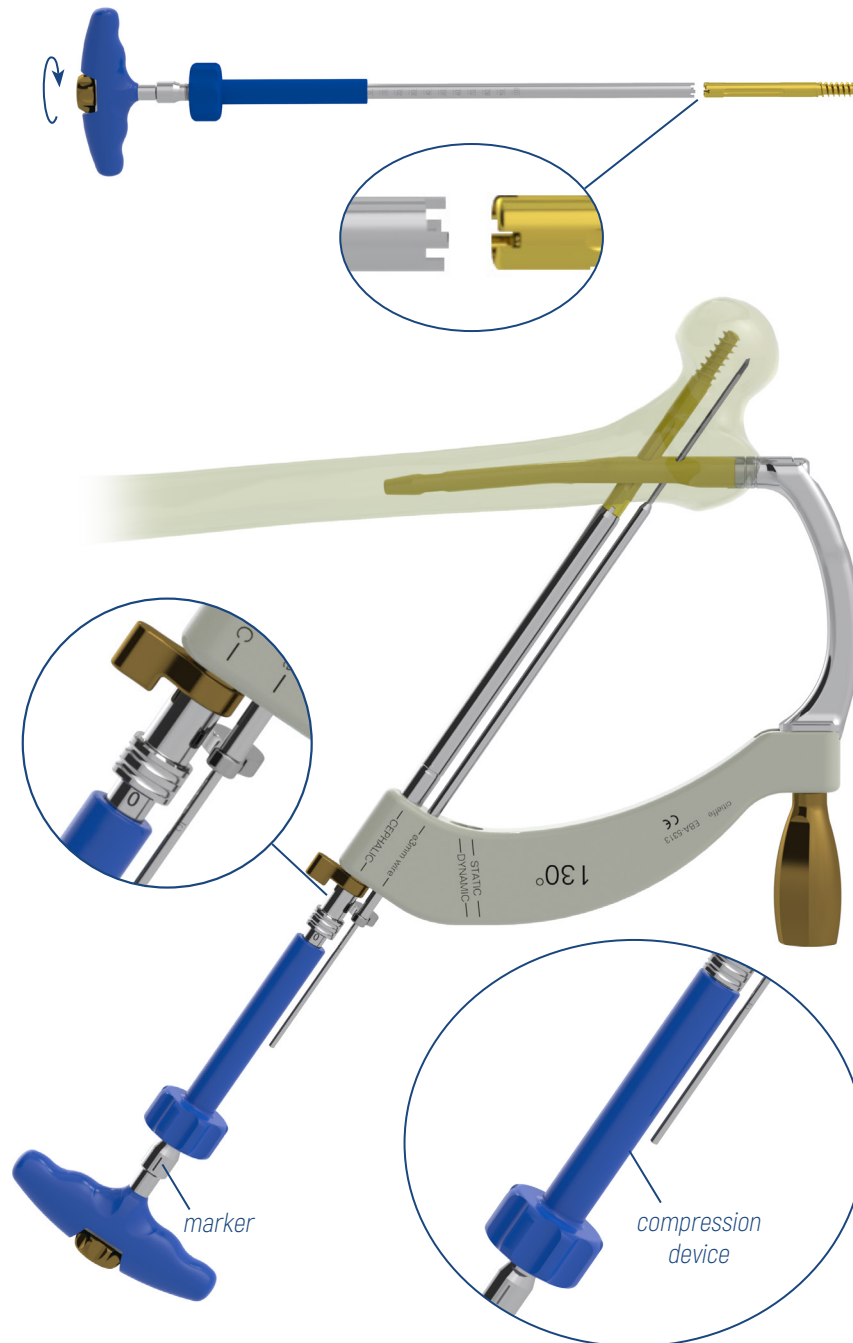


EBA-5341
Cephalic screwdriver



EBA-5360
Cephalic screw tap

Cephalic screw insertion



Fit the cephalic screw onto the Cephalic screwdriver and tighten. Make sure that the screwdriver tabs are positioned correctly in the slots on the screw and manually turn the golden knob clockwise.

Insert the cephalic screw on the guide wire and screw in until the "0" marker on the screwdriver reaches the edge of the cannula.

Use the image intensifier to check the final position of the cephalic screw.

Fracture compression/apposition

The cephalic screwdriver can be used to perform fracture compression or apposition:

- bring the compression device into contact with the cephalic cannula by turning it clockwise;
- using the image intensifier, proceed with compression by turning the device until the desired result is achieved.

NOTES

- The device permits a compression until 1 centimetre.
- Compression can also be performed after the locking screw has been closed (see next step).

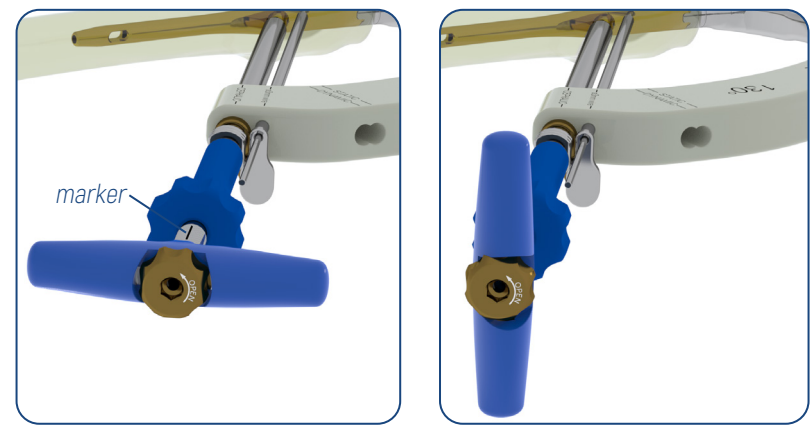
INSTRUMENTS REQUIRED



EBA-5341
Cephalic screwdriver

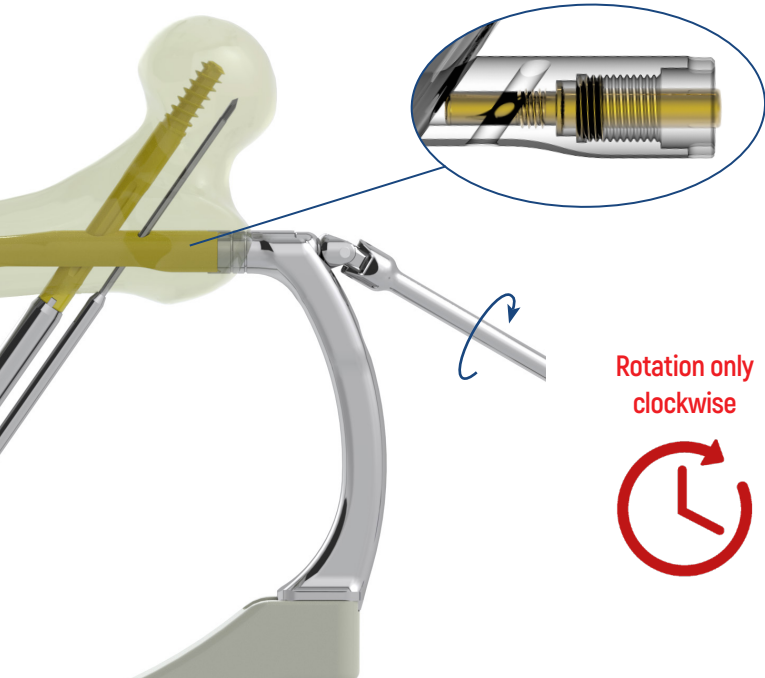
Rotation locking of the cephalic screw

Correct positions of the T-handle of the cephalic screw driver



Parallel to targeting device

Perpendicular to targeting device



The integrated locking screw in the Eba One nail has two pre-set positions: **OPEN** or **CLOSED**.

The handle of the cephalic screwdriver must be **parallel** or **perpendicular** to the Eba One targeting device in order to ensure that the integrated locking screw can be inserted into one of the 4 grooves on the cephalic screw. The 4 markers, present on the proximal part of the Cephalic screwdriver, will help to find a right position of the handle.

Insert the Cardanic screwdriver, 3.5mm into the hole on the Eba One targeting arm and turn clockwise **until fully tightened**.

Remove the cardanic screwdriver.

Make sure that the integrated locking screw is properly housed within one of the four grooves of the cephalic screw, checking with slight movements of the cephalic screwdriver that it is not possible to rotate the cephalic screw.

Remove the cephalic screwdriver by manually loosening (or using the 5mm hex wrench) the gold knob and remove the guide wire.

Remove the stabilization guide wire and the stabilization wire trocar.

Position the cephalic cannula lever parallel to the guide and remove the cannula.

INSTRUMENTS REQUIRED



EBA-5342
Cardanic screwdriver, 3.5mm



F4-0100
Hexagonal wrench 5mm

EBA ONE STANDARD (SHORT) DISTAL LOCKING

It is suggested to use distal locking in case of fractures not sufficiently stabilized by the cephalic screw (e.g. fractures 31.A2, 31.A3 with lesion of the lateral wall and subtrochanteric fractures 31.A3).

Distal locking options



The Eba One targeting device allows both dynamic and static distal locking.

Dynamic locking: insert the Diaphyseal cannula with the Diaphyseal trocar into the **"DYNAMIC"** hole on the Eba One targeting device until it reaches the skin.

Static locking: insert the diaphyseal cannula with the diaphyseal trocar into the **"STATIC"** hole on the Eba One targeting device, until it reaches the skin.

Perform a small incision at the tip of the diaphyseal trocar and turn the cannula with the trocar until it reaches the lateral cortex.



Dynamic locking



Static locking

INSTRUMENTS REQUIRED

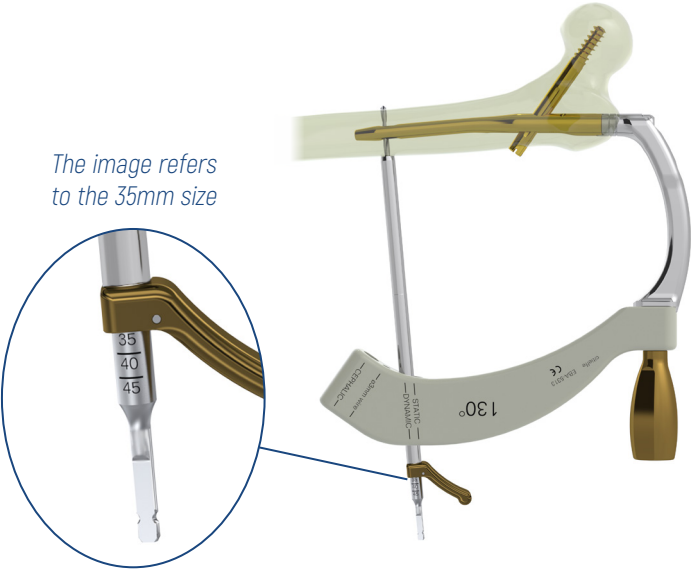


EBA-5321
Diaphyseal cannula



EBA-5326
Diaphyseal trocar

Distal screw preparation and measurement



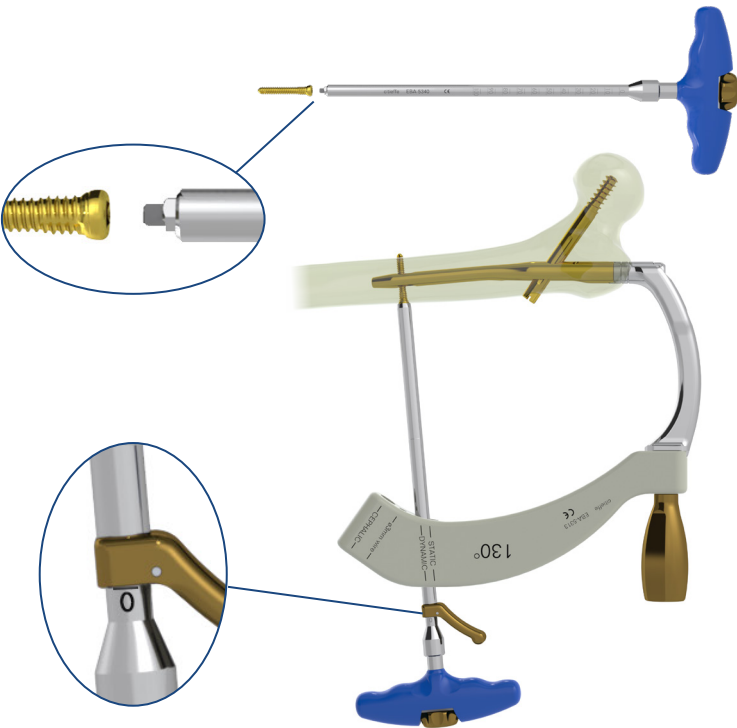
Remove the diaphyseal trocar.

Insert the Graduated drill bit $\varnothing 4\text{mm}$ into the diaphyseal cannula and drill both cortex.

Read the length of the distal locking screw directly on the shaft of the graduated drill bit at the edge of the cannula.

Remove the graduated drill bit.

Distal screw insertion



Fit the selected cortical screw onto the Allen T-screwdriver, 5mm and secure it by manually turning the knob clockwise.

Insert the cortical screw into the cannula and screw it until the "0" marker on the screwdriver reaches the edge of the cannula.

Use the image intensifier to check the final position of the cortical screw.

Unscrew the knob and remove the screwdriver.

Remove the diaphyseal cannula.

INSTRUMENTS REQUIRED



EBA-5285
Graduated drill bit $\varnothing 4\text{mm}$
or EBA-5295 (STERILE)



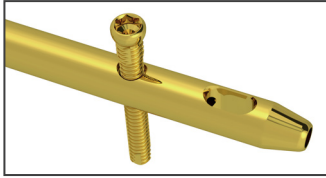
EBA-5340
Allen-T screwdriver 5mm



F4-0100
Hexagonal wrench 5mm

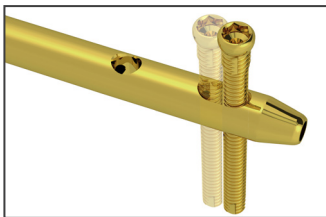
EBA ONE LONG DISTAL LOCKING WITH CENTERING GUIDE

Distal locking options



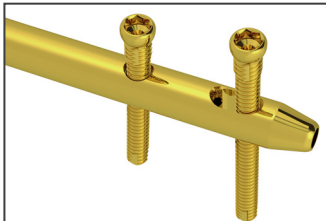
STATIC

Screw position:
proximal hole



DYNAMIC

Screw position:
distal slot



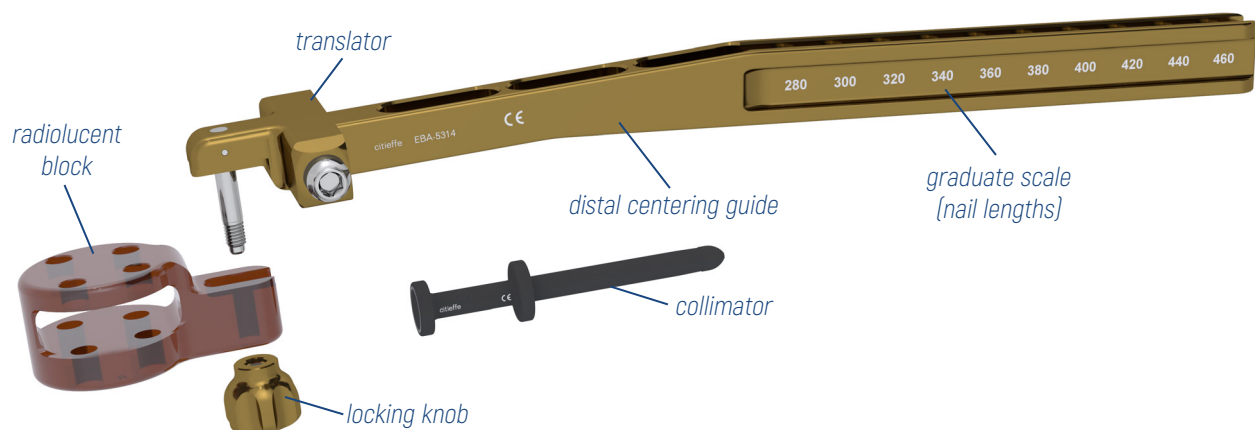
STATIC-DYNAMIC

Screws position:
proximal hole and distal slot

The Eba One long nails offers three different types of distal locking: static, dynamic or static-dynamic.

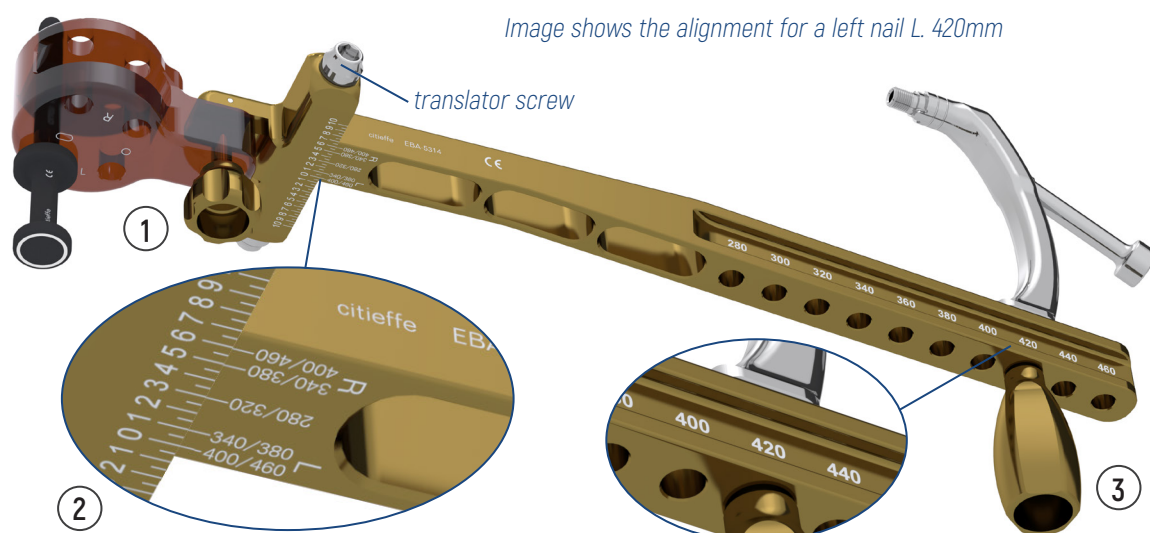
It is possible insert the distal screw with two different technique:

- using the Eba One long nail distal centering guide that allows the guided insertion of screws;
- with "free-hand" technique.



Eba One long nail distal centering guide components

- **Distal centering guide**
- **Radiolucent block** for a clear radiographic view of the screw insertion area
- **Collimator** for alignment of the hole in the guide with the hole in the nail
- **Translator** for adjustment of the position of the radiolucent block
- **Locking knob** to connect the radiolucent block with the translator



Assembly and adjustment Eba One long nail distal centering guide

For the correct assembly of the Eba One long nail distal centering guide, perform the following steps:

- 1) connect the radiolucent block to the translator present in the distal centering guide and tighten the locking knob;
- 2) turn the translator screw with Allen T-wrench 8mm to set the marker "0" on the graduated scale of the translator in line with related marker of the implanted nail, verify the nail length and type (R for right nail, L for left nail).
- 3) connect the distal centering guide at the Eba One targeting arm into the hole corresponding to the nail length. Tighten the locking knob.

Collimator

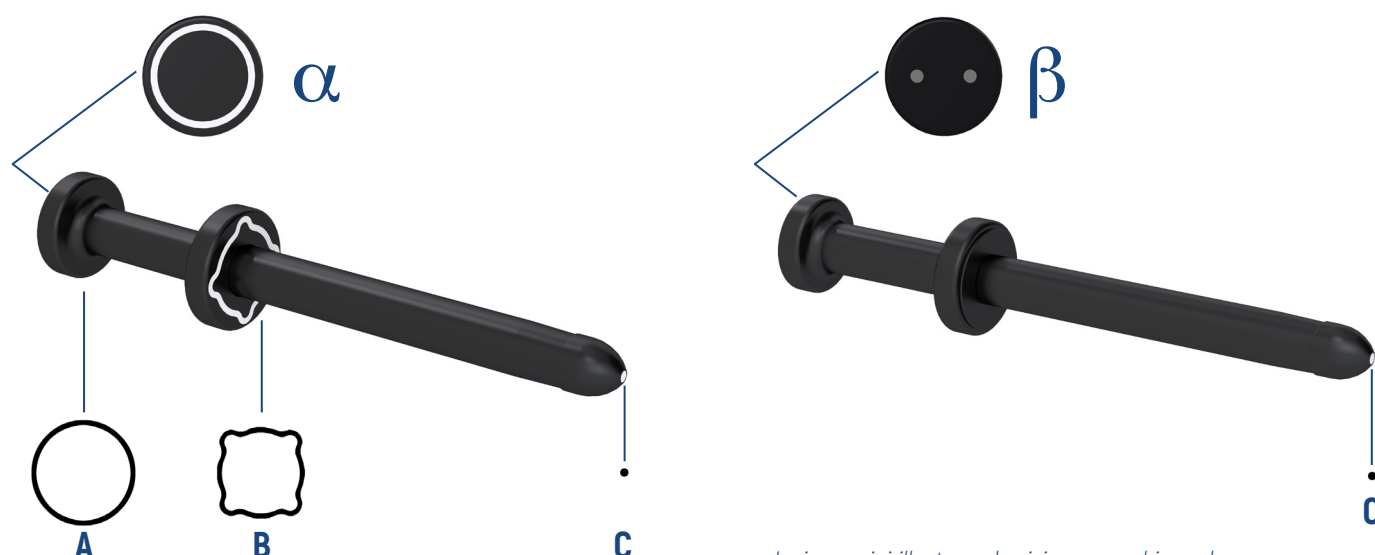
Sono disponibili due versioni differenti di collimatore radiotrasparente:

- **collimatore α** caratterizzato da riferimenti radiopachi (A, B e C) visibili sia ad occhio nudo sia sotto controllo ampliscopico;
- **collimatore β** caratterizzato da riferimenti radiopachi (A e B) visibili esclusivamente sotto controllo ampliscopico; riferimento C visibile sia a occhio nudo che sotto controllo ampliscopico.

Indipendentemente dal collimatore radiotrasparente in dotazione, l'allineamento dei riferimenti radiopachi consente un preciso centraggio della guida per l'inserimento delle viti di bloccaggio.

Posizionare il collimatore:

- in caso di bloccaggio **STATICO** nel **foro distale** del blocchetto radiotrasparente (□);
- in caso di bloccaggio **DINAMICO** nel **foro prossimale** del blocchetto radiotrasparente (○).

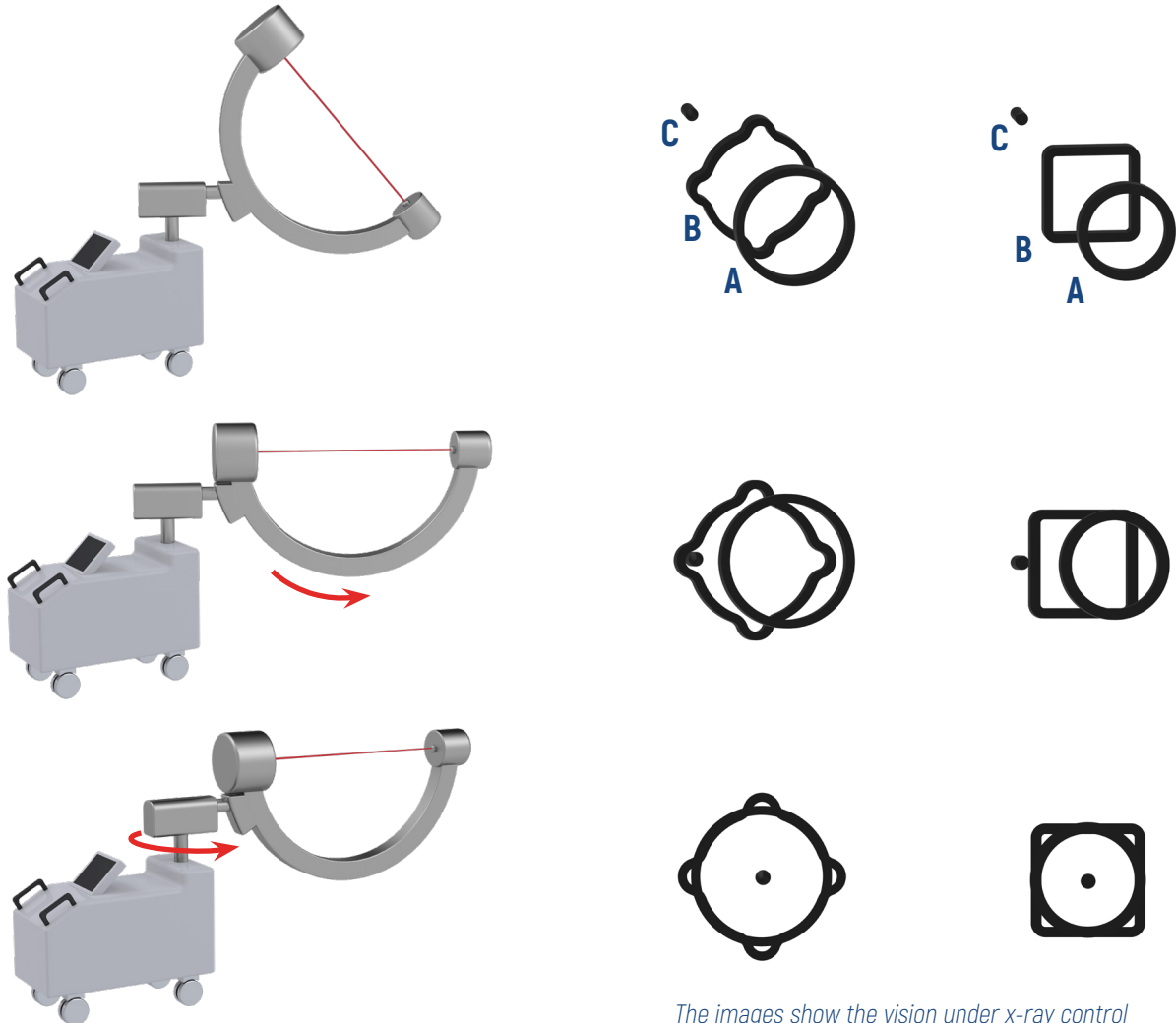


Le immagini illustrano la visione a occhio nudo

Positioning the image intensifier

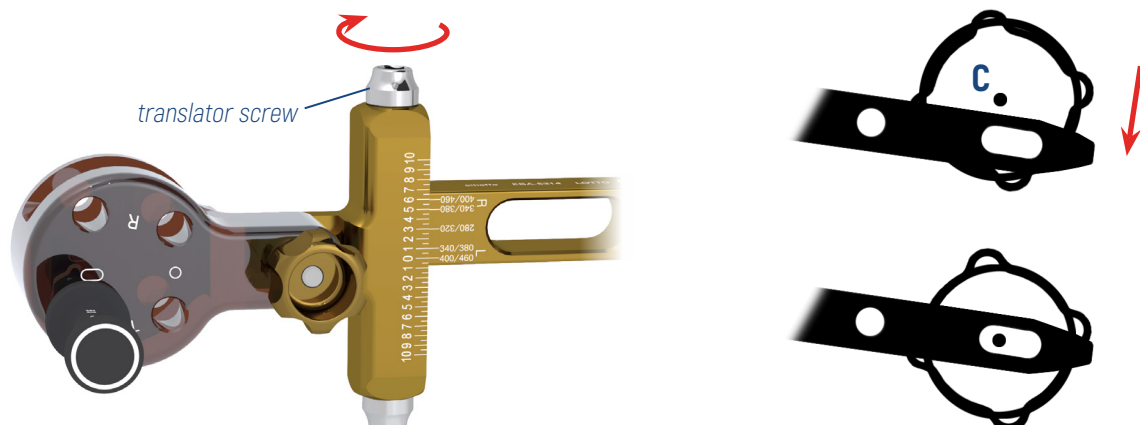
Under image intensifier control, view the radiopaque markers of the collimator.

Acting on one plane at a time, move the C-Arm until the **A** and **B** markers are completely overlapping and centered: in this position marker **C** it will be in the center of the other 2 markers.

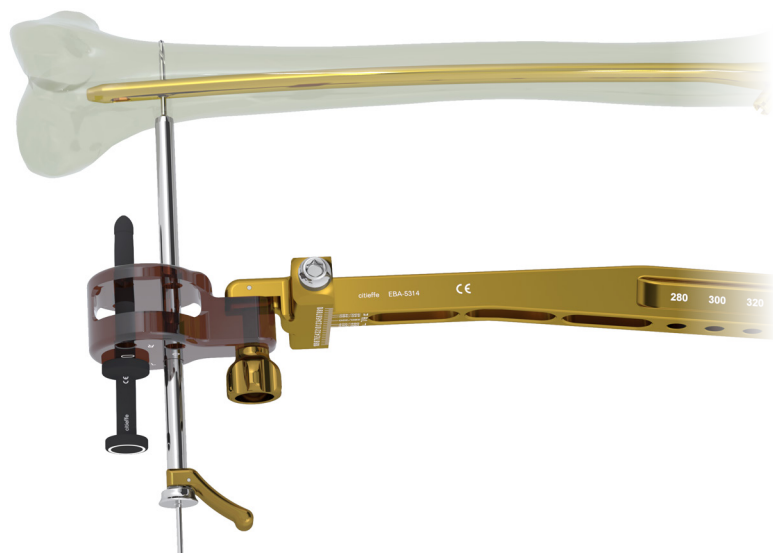


Translation of the distal centering guide

Once the radiopaque references are aligned, move the distal block of the guide by turning the translator screw with the T-wrench. Once the reference C is in the center of the nail slot (in case of static locking) or of the hole (in case of dynamic locking), you can proceed with the insertion of the screws.



Distal locking preparation



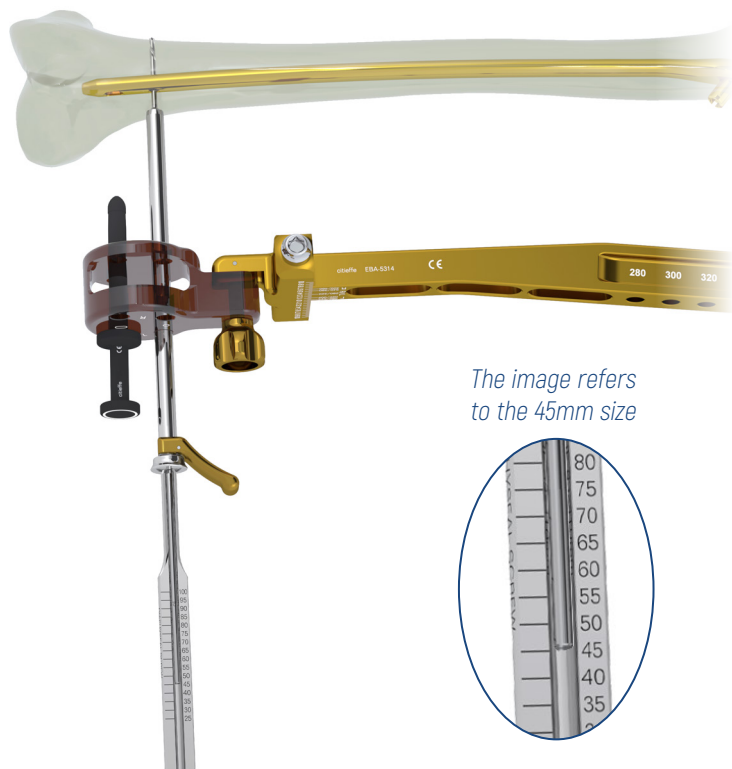
Insert the Diaphyseal cannula with Diaphyseal trocar cannulated into the free hole on the Eba One long distal centering guide.

Perform a small incision at the tip of the trocar and turn the cannula with the trocar until it reaches the lateral cortex.

Drill a Guide wire, helical tip $\varnothing 3 \times 410 \text{ mm}$ through the trocar so that extends beyond the second cortex by at least 2mm.

Check under image intensifier that the guide wire is positioned correctly.

Measurement of distal screw



Check that the Diaphyseal trocar is in contact to lateral cortex.

Fit the Cortical screw ruler (**TROCAR side**) onto the guide wire until it touches the trocar.

The end of the wire on the cephalic screw ruler, shows the length of the screw to be used.

INSTRUMENTS REQUIRED



EBA-5321
Diaphyseal cannula



EBA-5328
Diaphyseal trocar, cannulated

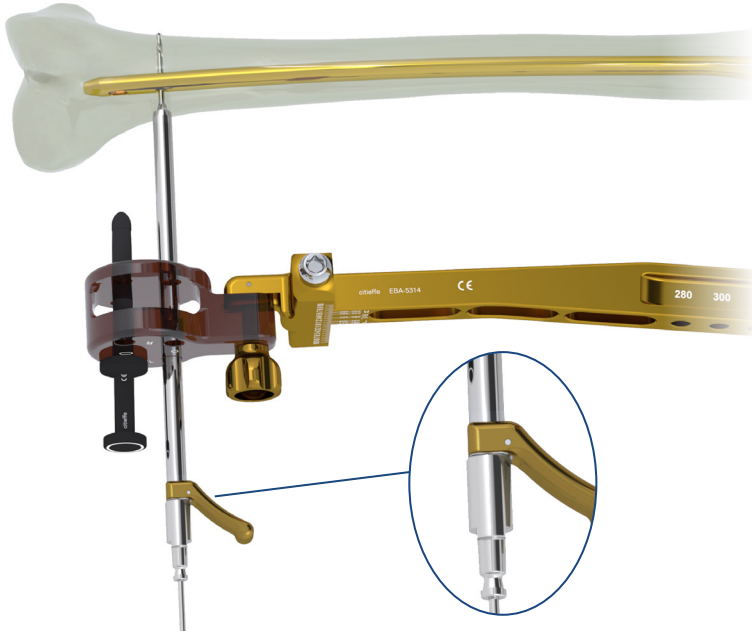


66995N
Guide wire, helical tip
 $\varnothing 3 \times 410 \text{ mm}$ (STERILE)



EBA-5331
Cortical screw ruler

First distal screw preparation

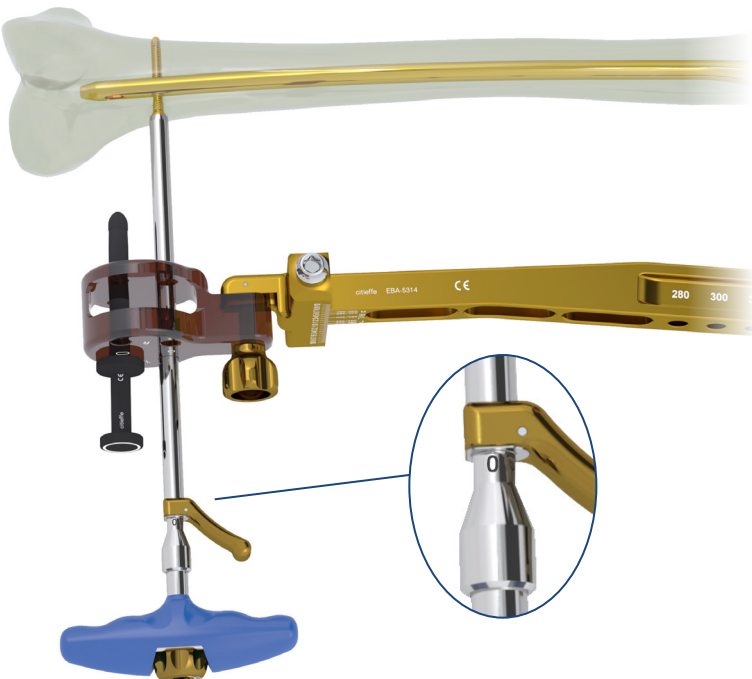


Remove the Diaphyseal trocar leaving inserted the guide wire.

Preparation the first cortex with Diaphyseal drill up to the mechanical stop.

Remove the diaphyseal drill and guide wire.

First distal screw insertion



Select the cortical screw $\varnothing 5.2\text{mm}$ of the select length.

Fit the screw to the Allen T-screwdriver, 5mm and tighten by manually turning the golden knob clockwise.

Insert the diaphyseal screw until the "0" marker on the screwdriver reaches the edge of the cannula.

Use the image intensifier to check the final position of diaphyseal screw.

Remove the Allen T-screwdriver, 5mm by loosening the golden knob, leave the cannula over the screw head to stabilise the centering guide.

INSTRUMENTS REQUIRED



EBA-5280
Diaphyseal drill



EBA-5340
Allen T-screwdriver, 5mm

Second distal screw preparation



- Remove the Collimate.
- Insert the Diaphyseal cannula with Diaphyseal trocar cannulated into the hole on the Eba One long distal centering guide.
- Perform a small incision at the tip of the trocar and turn the cannula with the trocar until it reaches the lateral cortex.
- Drill a Guide wire, helical tip $\varnothing 3 \times 410 \text{ mm}$ through the trocar so that extends beyond the second cortex by at least 2mm.
- Check under image intensifier that the guide wire is positioned correctly.

Second distal screw insertion



- Repeat the same steps as for the first screw to insert the second distal screw using the Allen T-screwdriver, 5mm.
- Remove all the instruments and the distal centering guide.

INSTRUMENTS REQUIRED



EBA-5321
Diaphyseal cannula



EBA-5328
Diaphyseal trocar, cannulated



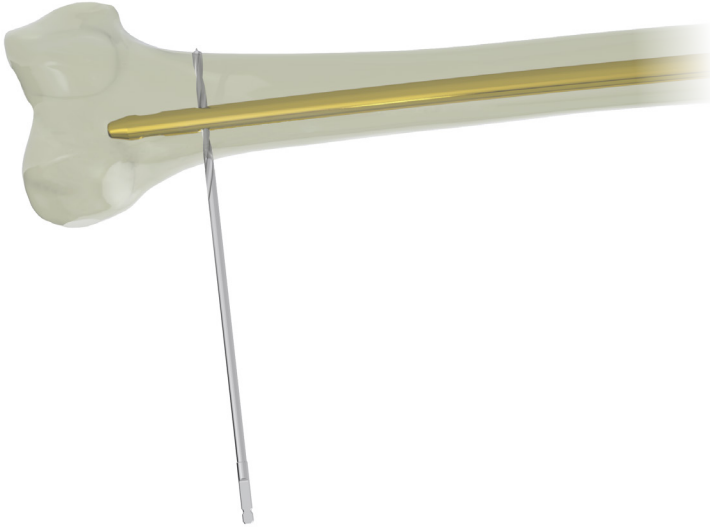
66995N
Guide wire, helical tip
 $\varnothing 3 \times 410 \text{ mm}$ (STERILE)



EBA-5340
Allen T-screwdriver, 5mm

EBA ONE LONG DISTAL LOCKING - FREE-HAND TECHNIQUE

Distal locking preparation



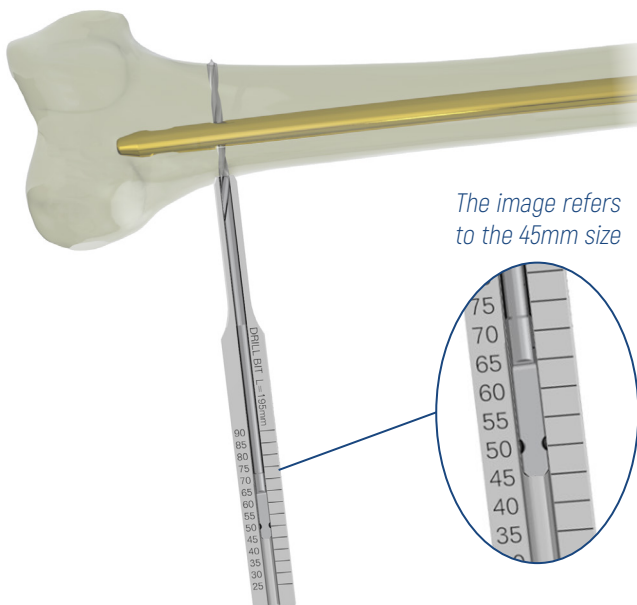
Using the image intensifier, check the reduction and correct fragment alignment and the length of the limb before distal locking, which is performed free-hand technique.

Drill both cortexes using the Drill bit, $\varnothing 4\text{mm}$.

NOTE: in case of solid nail $\varnothing 9\text{mm}$, using Guide wire helical tip $\varnothing 3 \times 410\text{mm}$ instead the drill bit $\varnothing 4\text{mm}$.

Using the image intensifier, make sure that the drill bit goes through the holes on the nail on both the anteroposterior and the mediolateral planes.

Measurement of distal screw length



Insert the Cortical screw ruler (BONE side) on the drill bit until touching cortex.

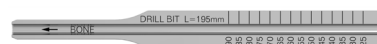
The end of the drill bit on the screw ruler, shows the length of the screw to be used.

NOTE: when in-between sizes, always select the longer size.

INSTRUMENTS REQUIRED

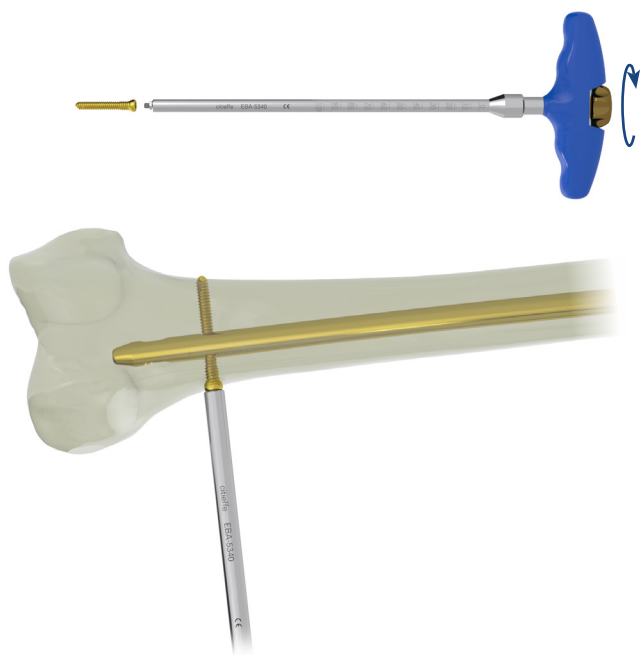


DT03011A
Drill bit $\varnothing 4 \times 195\text{mm}$
or DT03016A (STERILE)



EBA-5331
Cortical screw ruler

First distal screw insertion



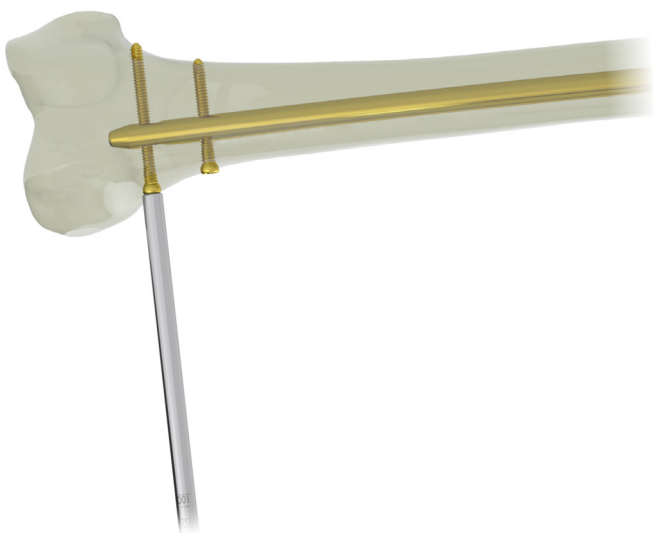
Select the cortical screw $\varnothing 5.2\text{mm}$ of the appropriate length.

Fit the screw to the Allen T-screwdriver, 5mm and tighten by manually turning the golden knob clockwise.

Turn the Allen T-screwdriver, 5mm clockwise until the complete insertion of the screw.

Remove the screwdriver by loosening the golden knob.

Second distal screw insertion



Repeat the same steps as for the first screw to insert the second distal screw.

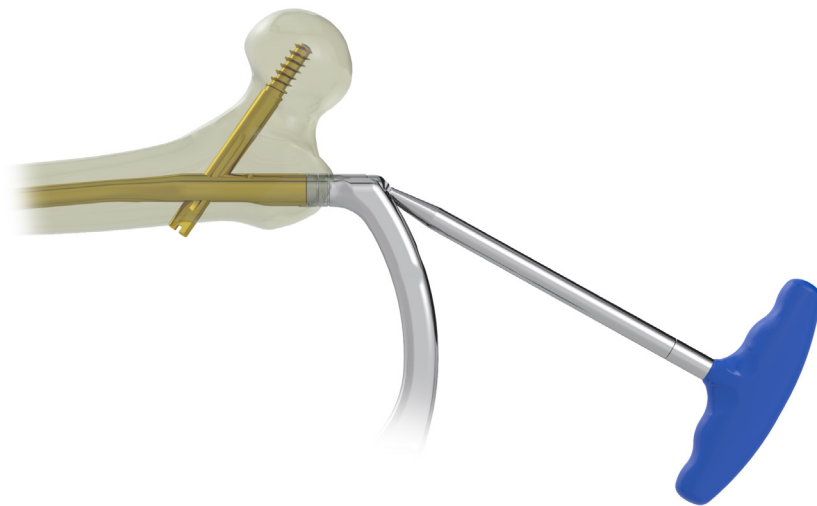
INSTRUMENTS REQUIRED



EBA-5340
Allen-T screwdriver, 5mm

TARGETING DEVICE REMOVAL

Eba One targeting device removal



Remove the Eba One targeting arm by loosening the connection screw using the Allen T-wrench, 8mm.

Check of the locking screw closing



*Locking screw:
OPEN position*



*Locking screw:
CLOSED position*

Use the image intensifier to check the correct position of the integrated locking screw: in the CLOSED position, the upper edge should be at the proximal tip of the nail.

This position enables the sliding of the cephalic screw alone, in order to allow fracture compaction.

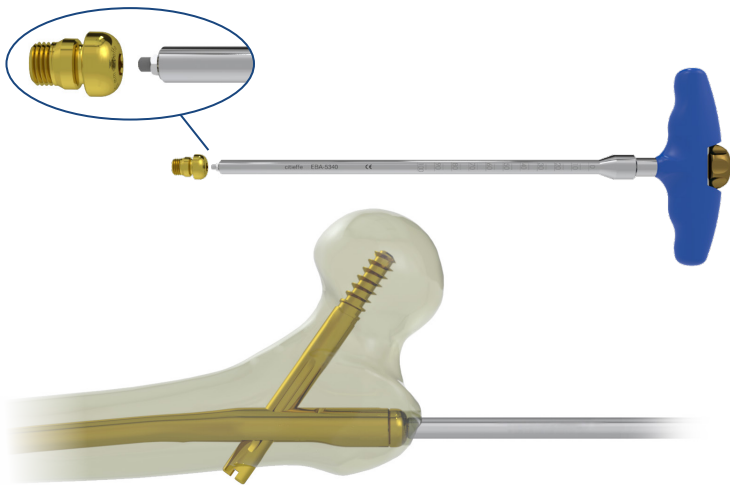
INSTRUMENTS REQUIRED



EBA-5350
Allen T-wrench, 8mm

IMPLANT COMPLETION

End cap insertion



Complete the implant by inserting the end cap on the tip of the nail.

Fit the chosen end cap to the Allen T-screwdriver, 5mm and tighten by manually turning the golden knob clockwise.

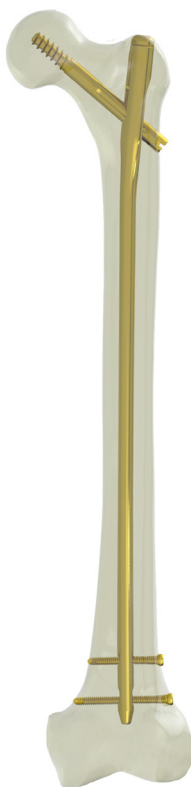
Insert the end cap into the nail by turning the screwdriver clockwise.

Remove the screwdriver by unscrewing the golden knob.

Eba One standard implant



Eba One long implant



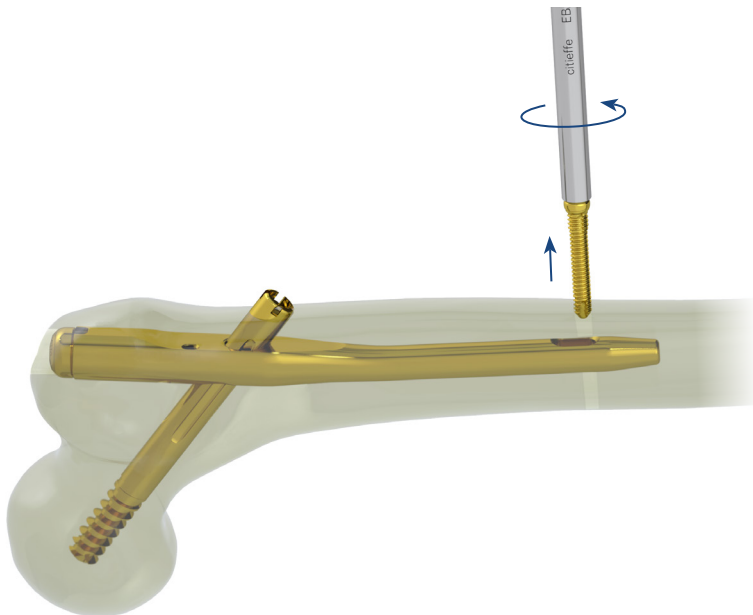
INSTRUMENTS REQUIRED



EBA-5340
Allen-T screwdriver, 5mm

IMPLANT REMOVAL

Distal screw removal



Make an incision through the old scar.

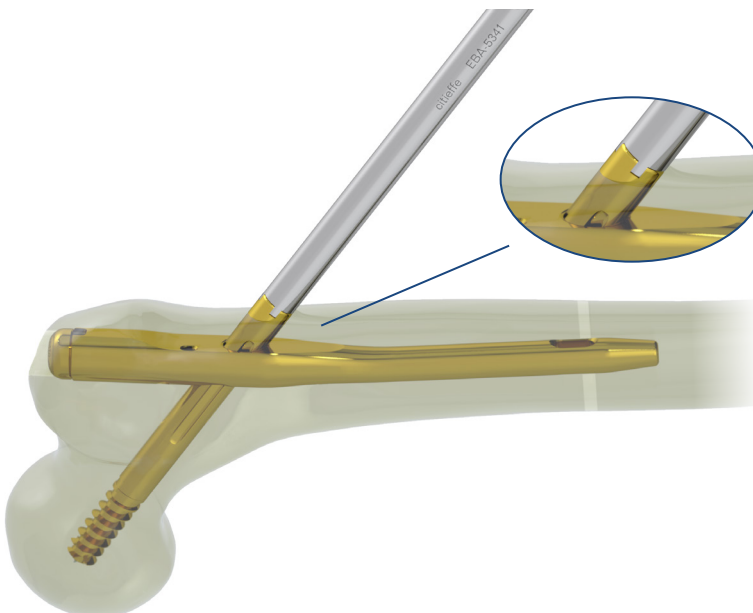
Remove any bony ingrowth which may be obstructing the outer of the screw.

Connect the Allen T-screwdriver, 5mm and turn the golden knob to obtain the correctly connection between screwdriver and screw.

The distal screw is extracted by anti-clockwise rotation.

NOTE: in Eba One long nails remove also the second distal screw.

Cephalic screwdriver insertion



Make an incision through the old scar below the greater trochanter to expose the outer end of the cephalic screw.

Remove any bony ingrowth and insert Guide wire, threaded trocar tip $\varnothing 3 \times 410$ mm into the cephalic screw. Make sure to not cross the tip of the cephalic screw.

Insert the Cephalic screwdriver on the guide wire. Fit the screwdriver to the screw and turn the golden knob to obtain the correctly connection between screwdriver and screw.

NOTE: under image intensifier verify the correct connection between screwdriver and screw.

INSTRUMENTS REQUIRED



EBA-5340
Allen-T screwdriver, 5mm

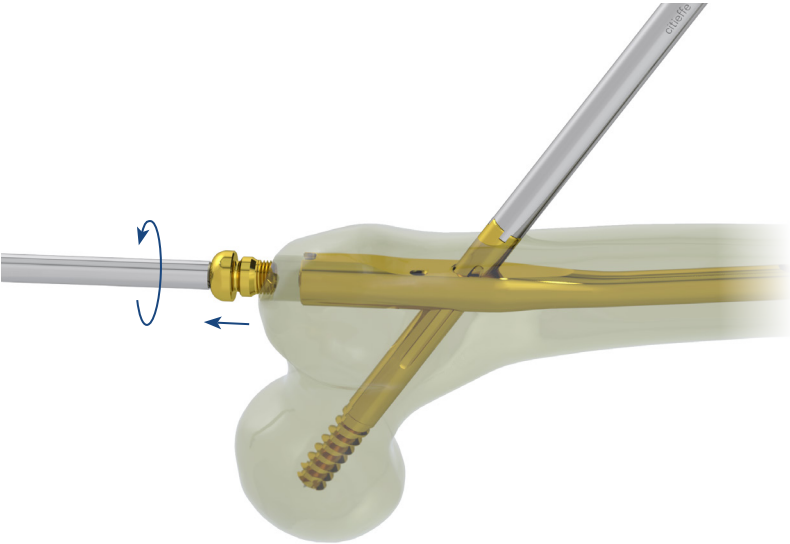


66975N
Guide wire, threaded trocar tip
 $\varnothing 3 \times 410$ mm (STERILE)



EBA-5341
Cephalic screwdriver

End cap removal



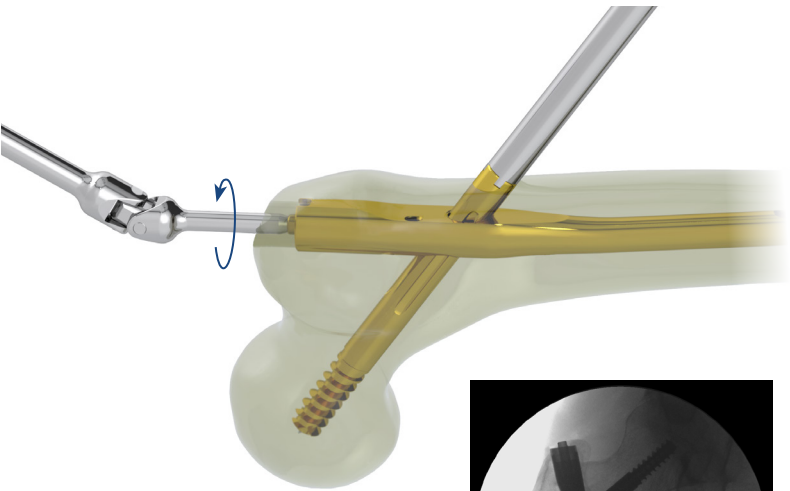
Perform an incision over the proximal end of the nail.

Remove any bony ingrowth on the end cap.

Insert the Allen T-screwdriver, 5mm inside the end cap and connect them by turning the golden knob clockwise.

Remove the end cap by turning the screwdriver anti-clockwise.

Locking screw opening



Using the Cardanic screwdriver, 3.5mm make anti-clockwise rotation to set the locking screw to **OPEN** position.

NOTE: check with image intensifier to make sure the integrated locking screw is positioned correctly in OPEN position.

INSTRUMENTS REQUIRED

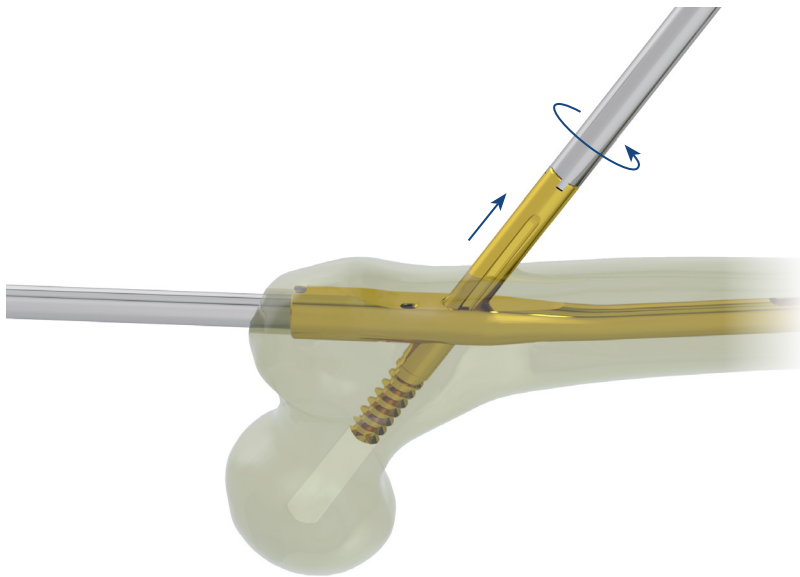


EBA-5340
Allen-T screwdriver, 5mm



EBA-5342
Cardanic screwdriver, 3.5mm

Cephalic screw removal



Tighten the Eba One nails extractor into the proximal end of the nail.

Using the Cephalic screwdriver unscrew by anti-clockwise rotation the cephalic screw.

Remove the guide wire $\varnothing 3 \times 410 \text{ mm}$.

Eba One nail removal



Remove the Eba One nail through the Eba One nails extractor.

If necessary, use a sliding hammer on the Eba One nails extractor to remove the nail.

INSTRUMENTS REQUIRED



EBA-5341
Cephalic screwdriver



EBA-5365
Eba One nails extractor

ORDERING INFORMATION

TITANIUM

STERILE



Eba One standard nail ø10mm

Code	Angle	L. (mm)
EBA-550017	120°	170
EBA-551017	125°	170
EBA-552017	130°	170

Eba One standard nail ø11mm

Code	Angle	L. (mm)
EBA-550117	120°	170
EBA-551117	125°	170
EBA-552117	130°	170

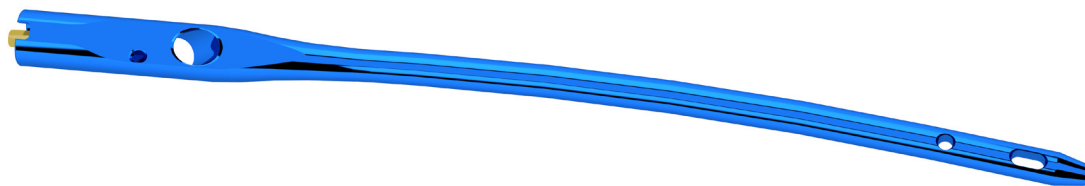


Eba One long nail ø10mm

Code	Angle	L. (mm)
EBA-562028	130°	280 RIGHT
EBA-562030	130°	300 RIGHT
EBA-562032	130°	320 RIGHT
EBA-562034	130°	340 RIGHT
EBA-562036	130°	360 RIGHT
EBA-562038	130°	380 RIGHT
EBA-562040	130°	400 RIGHT
EBA-562042	130°	420 RIGHT
EBA-562044	130°	440 RIGHT
EBA-562046	130°	460 RIGHT

Code	Angle	L. (mm)
EBA-572028	130°	280 LEFT
EBA-572030	130°	300 LEFT
EBA-572032	130°	320 LEFT
EBA-572034	130°	340 LEFT
EBA-572036	130°	360 LEFT
EBA-572038	130°	380 LEFT
EBA-572040	130°	400 LEFT
EBA-572042	130°	420 LEFT
EBA-572044	130°	440 LEFT
EBA-572046	130°	460 LEFT

on request

TITANIUM**STERILE**

Eba One long solid nail ø9mm

Code	Angle	L. (mm)
EBA-562928	130°	280 RIGHT
EBA-562930	130°	300 RIGHT
EBA-562932	130°	320 RIGHT
EBA-562934	130°	340 RIGHT
EBA-562936	130°	360 RIGHT
EBA-562938	130°	380 RIGHT

Code	Angle	L. (mm)
EBA-572928	130°	280 LEFT
EBA-572930	130°	300 LEFT
EBA-572932	130°	320 LEFT
EBA-572934	130°	340 LEFT
EBA-572936	130°	360 LEFT
EBA-572938	130°	380 LEFT



Eba One long nail ø11mm

Code	Angle	L. (mm)
EBA-562128	130°	280 RIGHT
EBA-562130	130°	300 RIGHT
EBA-562132	130°	320 RIGHT
EBA-562134	130°	340 RIGHT
EBA-562136	130°	360 RIGHT
EBA-562138	130°	380 RIGHT
EBA-562140	130°	400 RIGHT
EBA-562142	130°	420 RIGHT
EBA-562144	130°	440 RIGHT
EBA-562146	130°	460 RIGHT

Code	Angle	L. (mm)
EBA-572128	130°	280 LEFT
EBA-572130	130°	300 LEFT
EBA-572132	130°	320 LEFT
EBA-572134	130°	340 LEFT
EBA-572136	130°	360 LEFT
EBA-572138	130°	380 LEFT
EBA-572140	130°	400 LEFT
EBA-572142	130°	420 LEFT
EBA-572144	130°	440 LEFT
EBA-572146	130°	460 LEFT

on request

TITANIUM**STERILE**

Eba One long nail ø12mm

Code	Angle	L. (mm)
EBA-562228	130°	280 RIGHT
EBA-562230	130°	300 RIGHT
EBA-562232	130°	320 RIGHT
EBA-562234	130°	340 RIGHT
EBA-562236	130°	360 RIGHT
EBA-562238	130°	380 RIGHT
EBA-562240	130°	400 RIGHT
EBA-562242	130°	420 RIGHT
EBA-562244	130°	440 RIGHT
EBA-562246	130°	460 RIGHT

Code	Angle	L. (mm)
EBA-572228	130°	280 LEFT
EBA-572230	130°	300 LEFT
EBA-572232	130°	320 LEFT
EBA-572234	130°	340 LEFT
EBA-572236	130°	360 LEFT
EBA-572238	130°	380 LEFT
EBA-572240	130°	400 LEFT
EBA-572242	130°	420 LEFT
EBA-572244	130°	440 LEFT
EBA-572246	130°	460 LEFT

Eba One long nail ø13mm

Code	Angle	L. (mm)
EBA-562328	130°	280 RIGHT
EBA-562330	130°	300 RIGHT
EBA-562332	130°	320 RIGHT
EBA-562334	130°	340 RIGHT
EBA-562336	130°	360 RIGHT
EBA-562338	130°	380 RIGHT
EBA-562340	130°	400 RIGHT
EBA-562342	130°	420 RIGHT
EBA-562344	130°	440 RIGHT
EBA-562346	130°	460 RIGHT

Code	Angle	L. (mm)
EBA-572328	130°	280 LEFT
EBA-572330	130°	300 LEFT
EBA-572332	130°	320 LEFT
EBA-572334	130°	340 LEFT
EBA-572336	130°	360 LEFT
EBA-572338	130°	380 LEFT
EBA-572340	130°	400 LEFT
EBA-572342	130°	420 LEFT
EBA-572344	130°	440 LEFT
EBA-572346	130°	460 LEFT

on request

TITANIUM**STERILE**

Cephalic screw ø10.5mm



Code	L. (mm)
EBA-580070	70
EBA-580075	75
EBA-580080	80
EBA-580085	85
EBA-580090	90

Code	L. (mm)
EBA-580095	95
EBA-580100	100
EBA-580105	105
EBA-580110	110

Code	L. (mm)
EBA-580115	115
EBA-580120	120
EBA-580125	125
EBA-580130	130

Cephalic screw ø10.5mm with hydroxyapatite-coated thread



Code	L. (mm)
EBA-581070	70
EBA-581075	75
EBA-581080	80
EBA-581085	85
EBA-581090	90

Code	L. (mm)
EBA-581095	95
EBA-581100	100
EBA-581105	105
EBA-581110	110

Code	L. (mm)
EBA-581115	115
EBA-581120	120
EBA-581125	125
EBA-581130	130

Cortical screw ø5.2mm



Code	L. (mm)
EBA-582022	22.5
EBA-582025	25
EBA-582027	27.5
EBA-582030	30
EBA-582032	32.5
EBA-582035	35
EBA-582037	37.5
EBA-582040	40

Code	L. (mm)
EBA-582042	42.5
EBA-582045	45
EBA-582047	47.5
EBA-582050	50
EBA-582052	52.5
EBA-582055	55
EBA-582060	60
EBA-582065	65

Code	L. (mm)
EBA-582070	70
EBA-582075	75
EBA-582080	80
EBA-582085	85
EBA-582090	90
EBA-582095	95
EBA-582100	100
EBA-582105	105
EBA-582110	110

on request

TITANIUM

STERILE



Cortical screw $\varnothing$ 4mm*



Code	L. (mm)	Code	L. (mm)
EBA-583020	20	EBA-583035	35
EBA-583025	25	EBA-583040	40
EBA-583030	30		

* Only for distal holes Eba One long solid nail $\varnothing$ 9mm

Eba One end cap



Code	Size	nail length increment
EBA-589000	STD	7mm
EBA-589005	5	12mm
EBA-589010	10	17mm

on request

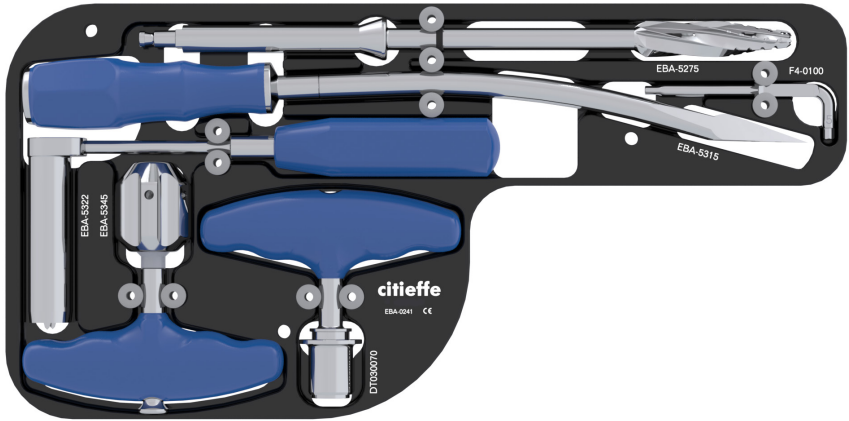
ORDERING INFORMATION - INSTRUMENT SET

TRAY 1



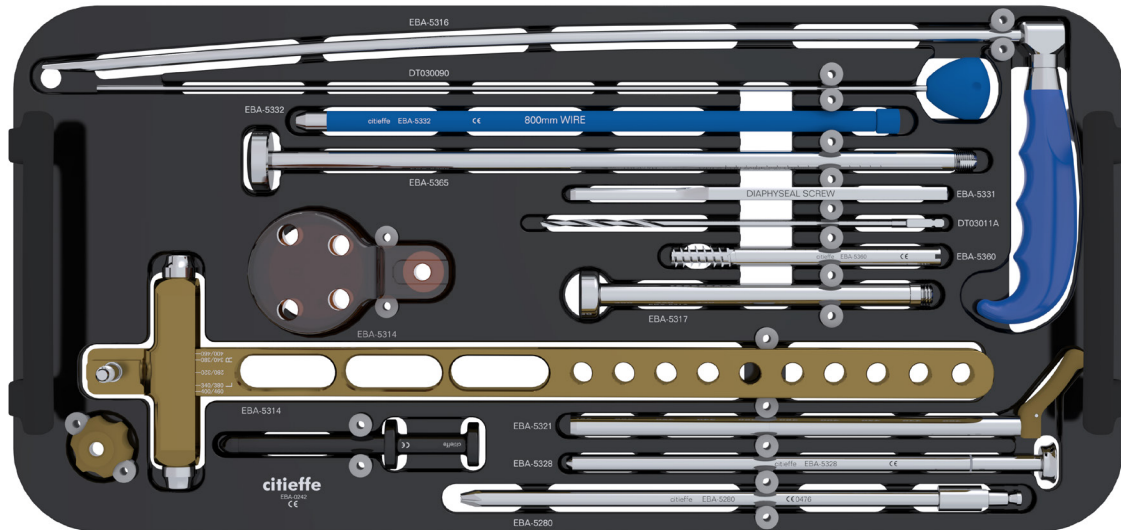
Code	Description	Q.ty
EBA-5270	Cephalic drill (Hudson coupling)	1
EBA-5285	Graduated drill bit, $\varnothing 4\text{mm}$ (AO coupling)	1
EBA-5310	Eba One targeting arm	1
EBA-5311	Eba One targeting device 120°	1
EBA-5312	Eba One targeting device 125°	1
EBA-5313	Eba One targeting device 130°	1
EBA-5320	Cephalic cannula	1
EBA-5321	Diaphyseal cannula	1
EBA-5325	Cephalic trocar	1
EBA-5326	Diaphyseal trocar	1
EBA-5327	Stabilization wire trocar	1
EBA-5330	Cephalic screw ruler	1
EBA-5340	Allen T-screwdriver, 5mm	1
EBA-5341	Cephalic screwdriver	1
EBA-5342	Cardanic screwdriver, 3.5mm	1
EBA-5350	Allen T-wrench, 8mm	1
EBA-0240	Eba One instrument tray 1, empty	1

TRAY 2



Code	Description	Q.ty
DT030070	Cannulated T-handle with Hudson coupling	1
EBA-5275	Cannulated reamer, ø16mm (Hudson coupling)	1
EBA-5315	Cannulated awl	1
EBA-5322	Tissue protection sleeve	1
EBA-5345	Chuck for ø3mm wire	1
F4-0100	Angled T-wrench, 5mm	1
EBA-0241	Eba One instrument tray 2, empty	1

TRAY 3 - Only for Eba One long nail



Code	Description	Q.ty
DT03011A	Drill $\varnothing 4 \times 195 \text{mm}$ (AO coupling)	1
DT030090	Obturator with handle	1
EBA-5280	Diaphyseal drill	1
EBA-5314	Eba One Long nail distal centering guide	1
EBA-5316	Fracture alignment guide wire exchange tool	1
EBA-5317	Impaction bolt, cannulated	optional
EBA-5321	Diaphyseal cannula	1
EBA-5328	Diaphyseal trocar, cannulated	1
EBA-5331	Cortical screw ruler	1
EBA-5332	Nails ruler, wire 800mm	1
EBA-5360	Tap for cephalic screw	1
EBA-5365	Eba One nails extractor	1
EBA-0242	Eba One instrument set tray, 3 empty	1

Guide wires

	Code	Description	Q.ty	
	66975N	Guide wire, threaded trocar tip ø3x410mm	2	STERILE
	66995N	Guide wire, helical tip ø3x410mm	2	STERILE
	DT030001	Guide wire with olive ø3x800mm	1	
	DT030002	Guide wire with olive ø3x800mm	1	STERILE
	EBA-5301	Guide wire ø3x800mm	1	
	EBA-5302	Guide wire ø3x800mm	1	STERILE
	EBA-5304	Guide wire with olive ø2.5x800mm	1	STERILE

Optional instruments

	Code	Description	Q.ty	
	EBA-5295	Graduated drill bit, ø4mm (AO coupling)	1	STERILE
	DT03016A	Drill bit ø4x195mm (AO coupling)	1	
	DT030060	Screws depth gauge	1	
	DT030061	Screws depth gauge	1	
	DT030031	Nail template	1	
	EBA-5232	Nails ruler kit with wire 800mm	1	STERILE
	EBA-5231	Nails ruler kit with wire 1000mm	1	STERILE
	EBA-5351	Allen T-wrench, 8mm long	1	
	DT030080	Slotted hammer	1	



Single lag screw nailing system



Citieffe s.r.l.

Via Armaroli, 21

40012 Calderara di Reno (BO) - Italy

Tel +39 051 721850 - Fax +39 051 721870

info@citieffe.com - www.citieffe.com

YOUR DISTRIBUTOR IS