

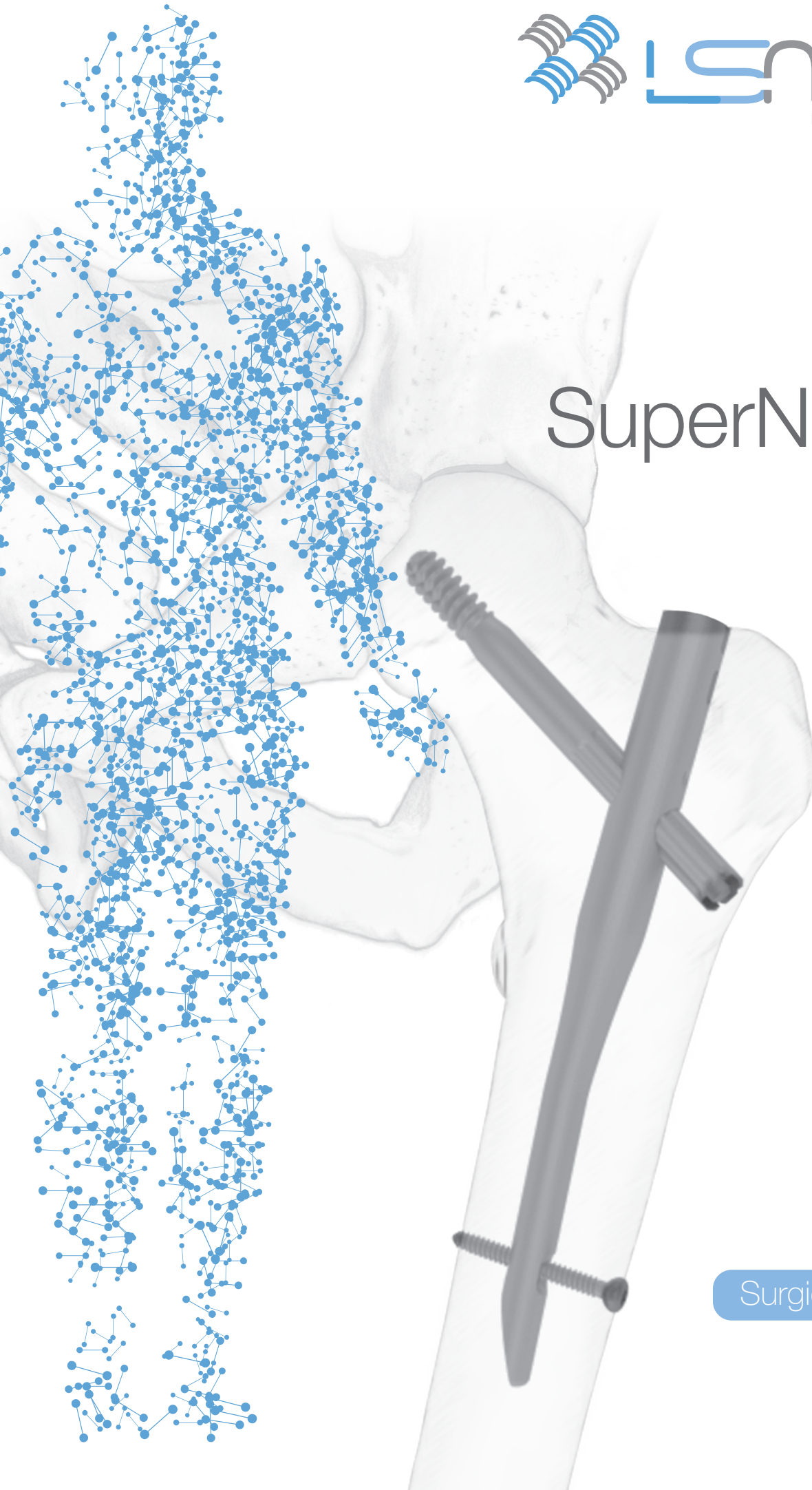


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keep together

# SuperNail **GT**

femoral nail



Surgical technique





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*LSM-MED, is a manufacturer of implants and as such does not perform medical procedures.*

*This documentation concerning surgical techniques, which provides surgeons with general guidelines for implanting the SuperNail GT, was developed with the advice of a team of surgical experts. All decisions as to the type of surgery and most suitable technique are obviously the responsibility of the health care professional. Surgeons must make their own decisions as to the adequacy of each planned implant technique based on their training, experience and the clinical condition of the patient.*

## Indications and Contraindications

### ▼ INDICATIONS

Pertrochanteric, intertrochanteric, subtrochanteric fractures even associated with diaphyseal femoral fractures, revision procedures.

**NOTE.** See page 5 for specific indications of use (Tab.1)



Please follow the instructions for use enclosed in the product packaging.

### ▼ CONTRAINDICATIONS

These devices must not be used in case of:

1. insufficient quantity or quality of bone;
2. acute or chronic, local and/or systemic infections;
3. serious muscular, neurological or vascular diseases involving the limb in question;
4. advanced osteoporosis;
5. bone malformations;
6. manifest allergy to the device material;
7. physiologically or psychologically impaired patients;
8. skeletally immature patients.

### ▼ ALLOWED/PROHIBITED COMBINATIONS

**For the implant of the femoral nail SuperNail GT Standard and SuperNail GT Long, only the combination of the components belonging to the system and the use shown in the present document are allowed.**

**All other configuration and assembly of the components not shown in the present document must be considered improper.**

### ▼ RISK FACTORS

The following risk factors may result in poor results with SuperNail GT:

9. overweight;
10. strenuous physical activities (active sports, heavy physical work) in the early post-operative time;
11. incorrect implant positioning
12. medical disabilities which can lead to an unnatural loading of the joint;
13. muscle deficiencies;
14. multiple joint disabilities;
15. refusal to modify postoperative physical activities,
16. patient's history or infections or falls;
17. systemic diseases and metabolic disorders;
18. local or disseminated neoplastic disease;
19. drug therapies that adversely affect bone quality, healing, or resistance to infection;
20. drug use or alcoholism;
21. marked osteoporosis or osteomalacia;
22. patient's resistance generally weakened (HIV, tumor, infections);
23. severe deformity leading to impaired anchorage or improper positioning of implants.

### ▼ MATERIALS

Nails, cephalic screws, blocking screws, distal screws and plugs are manufactured in Titanium alloy Ti6Al4V (in accordance with ISO 5832-3).

### ▼ TECHNICAL FEATURES:

- The use of Titanium alloy makes the nail very elastic and allows MRI control;
- The fluted end distal extremity makes easy the insertion into the medullary canal and allows a progressive reduction of mechanical strength at diaphyseal level;
- With the axial load, the nail allows a dynamic compression of the fracture by the lateral sliding of the cephalic screw and makes the healing easier;
- The nail holder is manufactured in radiolucent material to allow an excellent radiographic vision;
- In proximity of the cephalic screw, the nail is provided with an hole dedicated to an anti-rotation wire to be applied in case of basicervical fractures and that avoid any rotation of the femoral head;
- Range of sizes:

| SuperNail <b>GT</b> |                     |   |
|---------------------|---------------------|---|
| <b>Standard</b>     | 180mm               | for pertrochanteric, intertrochanteric and subtrochanteric fractures  |
|                     | 205mm               |   |
| <b>Long</b>         | from 280mm to 440mm | for pertrochanteric fractures associated with diaphyseal fractures, subtrochanteric long fractures, revision procedures |

Table 1

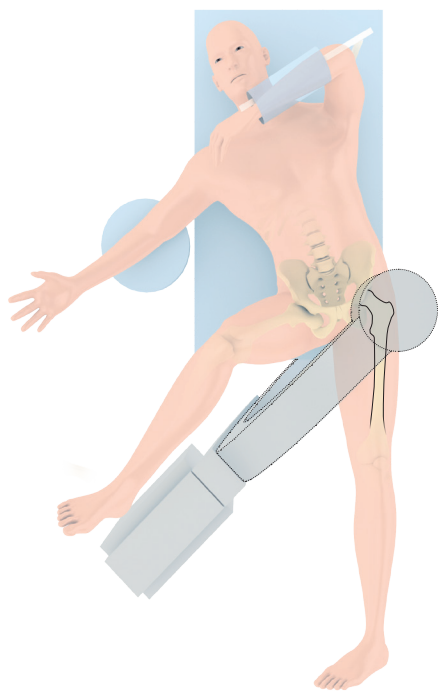
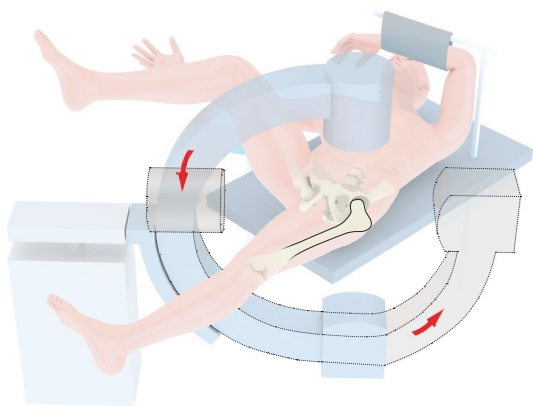
## SURGICAL TECHNIQUE

### Patient positioning

#### ▼ PATIENT POSITIONING

The patient is positioned supine or in lateral decubitus, on the fracture table. Abduct the unaffected limb and place it on a leg holder. The Image Intensifier must be positioned in order to guarantee an optimal A/P and M/L view of the proximal and distal femur.

Patient's upper body must be flexed 10°-15° to the opposite site of the affected limb to facilitate the access to the medullary canal through the great trochanter. The reduction of the fracture is made with a close technique and maintaining the limb straight and in traction.



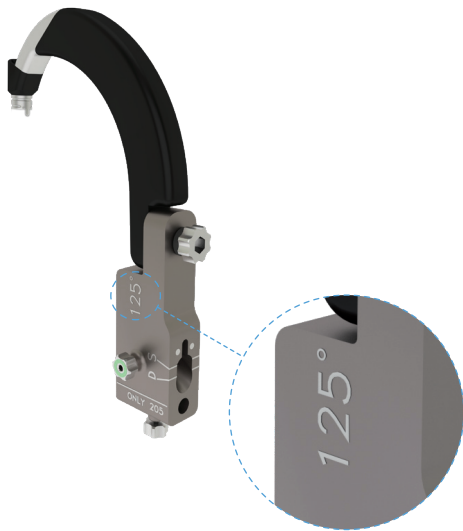


Figure 1

### ▼ ASSEMBLY

Choose the appropriate centering device B02 or C02 according to the Cervical Diaphyseal Angle of the Cephalic Screw (125° or 130°) previously determined (Fig. 1).

Assemble the centering device B02 or C02 with the nail holder A02 by tightening the appropriate knob, and then assemble the SuperNail GT Standard to the nail holder A02 using the serrating bolt D02 (Fig. 2).

Use the assembly screwdriver E02 (Fig. 2 and Fig. 3) to lock the connections of the nails and the centering device to the nail holder.



### WARNING

Centering devices B02 and C02 are suitable only with the SuperNail GT Standard with lengths 180mm and 205mm



Figure 2

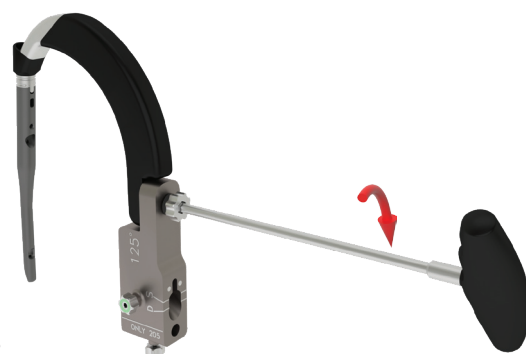


Figure 3

# SURGICAL TECHNIQUE

## SuperNail **GT** Standard Nail

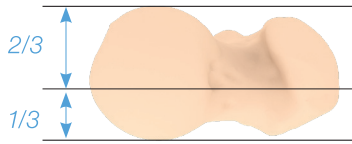


Figure 4



Figure 5



Figure 6

### ▼ ACCESS

Identify the upper extremity of the great trochanter through a longitudinal access. The ideal access to the medullary canal is located approximately at 1/3 frontally and 2/3 from the posterior (*Fig. 4*).

Perforate the cortical bone in correspondence to the entry point using the cannulated awl G02 previously assembled with the plugging device H02 (*Fig. 5*). Sink till the medullary canal is open.

Extract the plugging device H02 (*Fig. 6*) and introduce the guide wire dia.3mm x L.800mm with smooth tip A04 or guide wire dia.3mm x L.1000mm with smooth tip C04 into the cannulated awl G02 by using the self-locking chuck F02 (*Fig. 7*).

It is recommended to carry out a radiographic inspection in the A/P and M/L views.



Figure 7



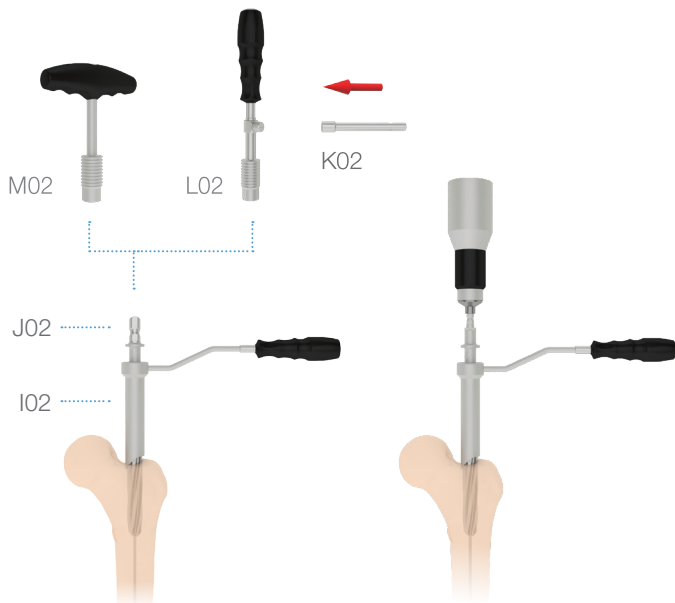


Figure 8

Figure 9

The cannulated reamer is provided with a stopper that permits the sinking till the correct depth.

### ▼ PROXIMAL CANAL PREPARATION

Remove the self-locking chuck F02 and the cannulated awl G02. Position the protector for soft tissues I02 sliding it over the guide wire A04 or C04 till the contact with the bone cortex.

To prepare the canal for the proximal slot of the SuperNail GT Standard it is possible to proceed manually or by powertool.

- **Manual reaming:** assemble the initial reamer J02 with the quick connection straight handle L02 and the lever K02 or, as an alternative, with the quick connection T handle M02. Insert the reamer along the guide wire and proceed with the manual reaming (Fig. 8).
- **Reaming with powertool:** assemble the initial reamer J02 with the powertool. Insert the reamer along the guide wire and proceed with reaming (Fig. 9).



### WARNING

In case of low quality of the bone, the use of powertool is not recommended.

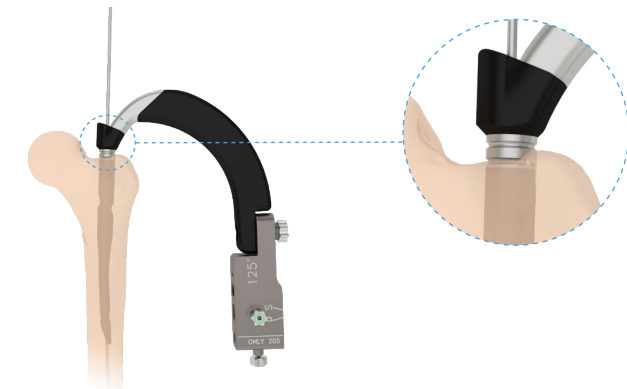


Figure 10

### ▼ NAIL INSERTION

Slide the SuperNail GT Standard over the guide wire A04 or C04, at least up to the first circumferential groove on the nail holder but not deeper than the second groove (Fig. 10). In case of difficulties, the sinking can be made easier by screwing the connection device N02 into the nail holder and gently tapping it with the hammer (Fig. 11). Remove the guide wire A04 or C04.



### WARNING

Do not hammer on the nail holder.

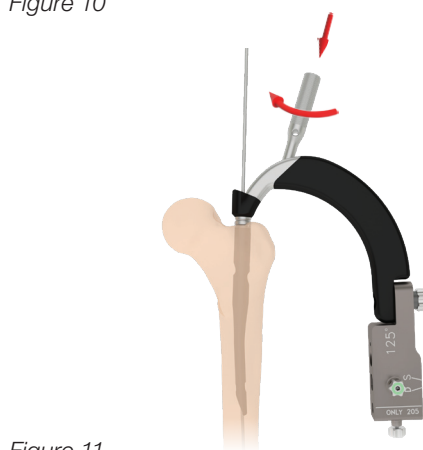


Figure 11

**NOTE.** In case of persistent difficulties, even if using the connection device N02, it is advisable to remove the implant and prepare carefully the seat by a further reaming

## SURGICAL TECHNIQUE

### SuperNail **GT** Standard Nail

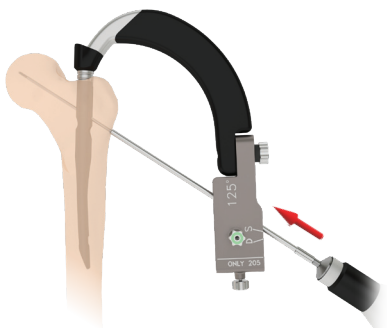


Figure 12

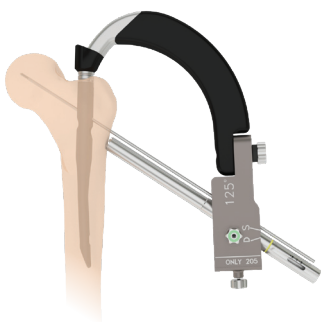


Figure 13

 The external sleeve for cephalic screw is marked with a yellow ring

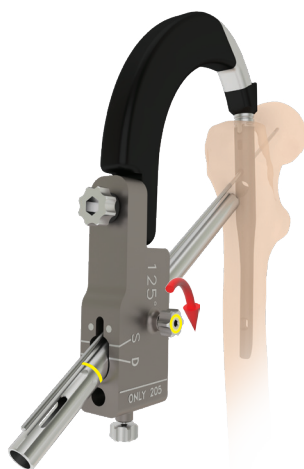


Figure 14

 The knob of the centering device is marked with a yellow ring

#### ▼ OPTIONAL ANTI-ROTATION WIRE APPLICATION

If necessary, in order to avoid neck and head femoral rotation during the phase of reaming and insertion of the cephalic screws, insert the **anti-rotation wire O02** through the **sleeve P02** and completely sink it up to the subchondral bone (Fig. 12).

It is advisable to carry out a radiographic inspection in the 2 views A/P and M/L.

#### WARNING



Do not use the **anti-rotation wire O02** as lever for fracture reduction. Do not bend or modify the anti-rotation wire, it must be maintained straight.

Remove the **sleeve P02** leaving the anti-rotation wire into the obtained position.

#### ▼ CEPHALIC ENTRY POINT PREPARATION

Insert the external sleeve for cephalic screw **S02** through the centering device and sink it up to the cortical contact (Fig. 13).

Lock the sleeve by tightening the dedicated knob (Fig. 14).

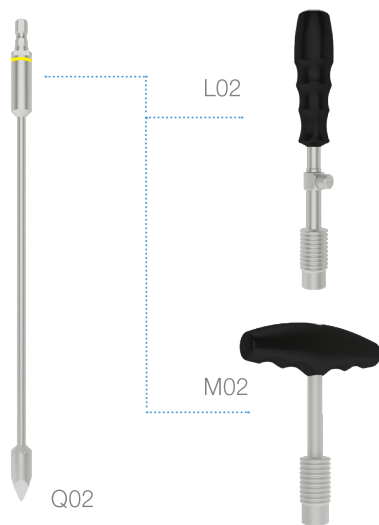



Figure 15

 The cephalic trocar is marked with a yellow ring

Assemble the cephalic trocar Q02 with the quick connection straight handle L02 or as an alternative with the quick connection T handle M02 (Fig. 15).

Introduce the cephalic trocar Q02 through the external sleeve for cephalic screw S02 and proceed preparing the entry point for the cephalic guide wire U02. Remove the cephalic trocar.

### ▼ CEPHALIC SCREW INSERTION

Insert the internal sleeve for cephalic guide wire T02 through the external sleeve for cephalic screw S02 till it is automatically locked (Fig. 16).

Insert the cephalic guide wire U02 up to the subchondral bone (Fig. 17). Check with X-rays the positioning of the guide wire: in A/P view it must be central or positioned in the inferior quadrant (recommended), in M/L view in the center of the neck.

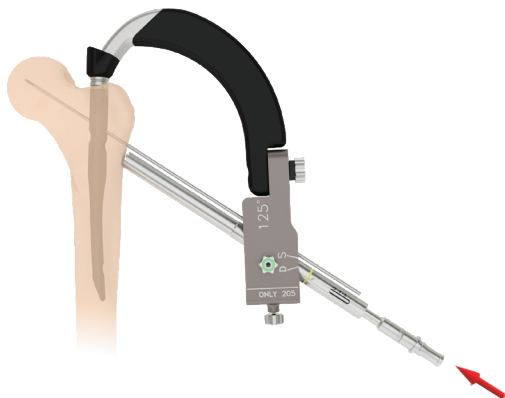


Figure 16

 The internal sleeve for cephalic guide wire is marked with a yellow ring

### WARNING



Do not use the cephalic guide wire U02 as lever for fracture reduction. Do not bend or modify the cephalic guide wire, it must be maintained straight.

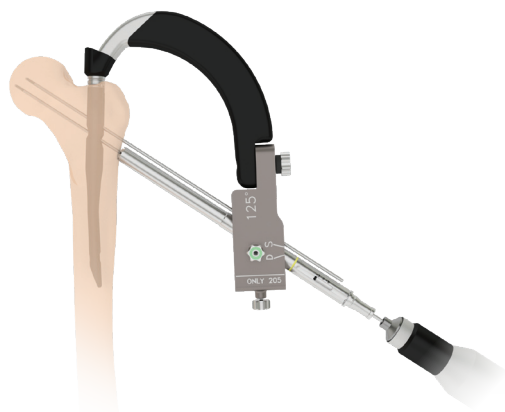


Figure 17

 The internal sleeve for cephalic guide wire is marked with a yellow ring

## SURGICAL TECHNIQUE

### SuperNail **GT** Standard Nail

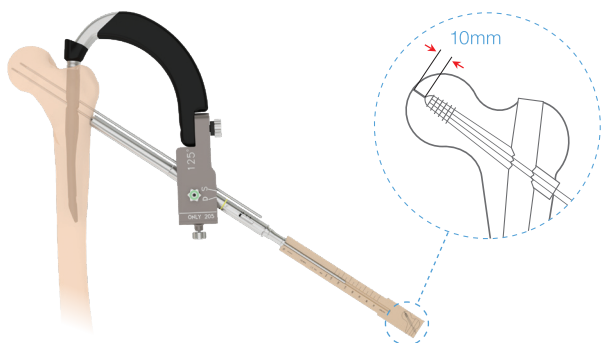


Figure 18

#### ▼ CEPHALIC SCREW LENGTH MEASUREMENT

Check the contact of the cephalic sleeves with the cortical bone for an exact measuring. Establish the cephalic screw length by using the measuring device V02 placing it under and in contact with the cephalic guide wire U02.

**NOTE.** The size marked on the gauge corresponds to the length of the guide wire from its apex to the lateral Cortex. If the cephalic guide wire U02 has been correctly inserted up to the subchondral bone, the length of the cephalic screw is obtained removing 10mm from the size measured on the graduated scale of the gauge (e.g. 110mm on the gauge corresponds to a cephalic screw with length 100mm) (Fig. 18).

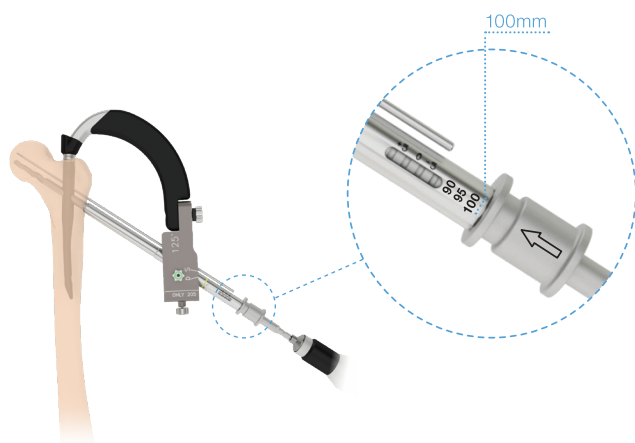


Figure 19

#### ▼ CEPHALIC SCREW INSERTION

Remove the internal sleeve for cephalic guide wire T02 and prepare the cephalic reamer W02 by setting the stopper on the basis of the length previously measured; it is recommended to orientate the arrow on the stopper to the patient's direction (Fig. 19).

Insert the cephalic reamer W02 into the external sleeve for cephalic screw S02.

Prepare the slot for the cephalic screw by reaming till the stopper of the cephalic reamer W02 is in contact with the outer edge of the external sleeve for cephalic screw S02.



#### **WARNING**

Do not use the cephalic reamer W02 as lever for fracture reduction.



Figure 20

Assemble the cephalic screw of the measured length on the cephalic screwdriver X02 by screwing the specific knob. Tighten with the assembly screwdriver E02 (Fig. 20).

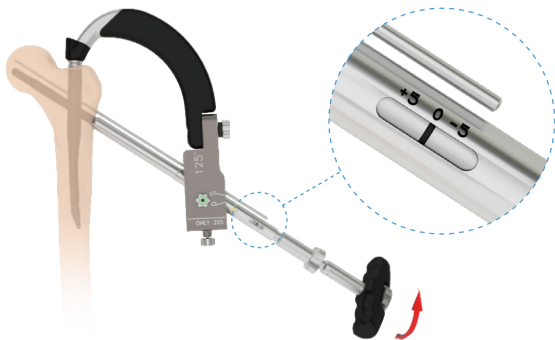


Figure 21

Insert the cephalic screw into the external sleeve for cephalic screw S02 by turning the cephalic screwdriver X02 till the laser marking, engraved on the screwdriver, is positioned on value 0 (Fig. 21).

### REMOVAL OF THE ANTI-ROTATION WIRE

If the anti-rotation wire O02 is used (see optional phase on page 10), remove it by using the self-locking chuck F02 (Fig. 22). Slide the self-locking chuck over the anti-rotation wire and lock it, thus remove the wire by gently bending it.



### WARNING

Do not excessive bend the anti-rotation wire O02. It must be maintained in straight condition.

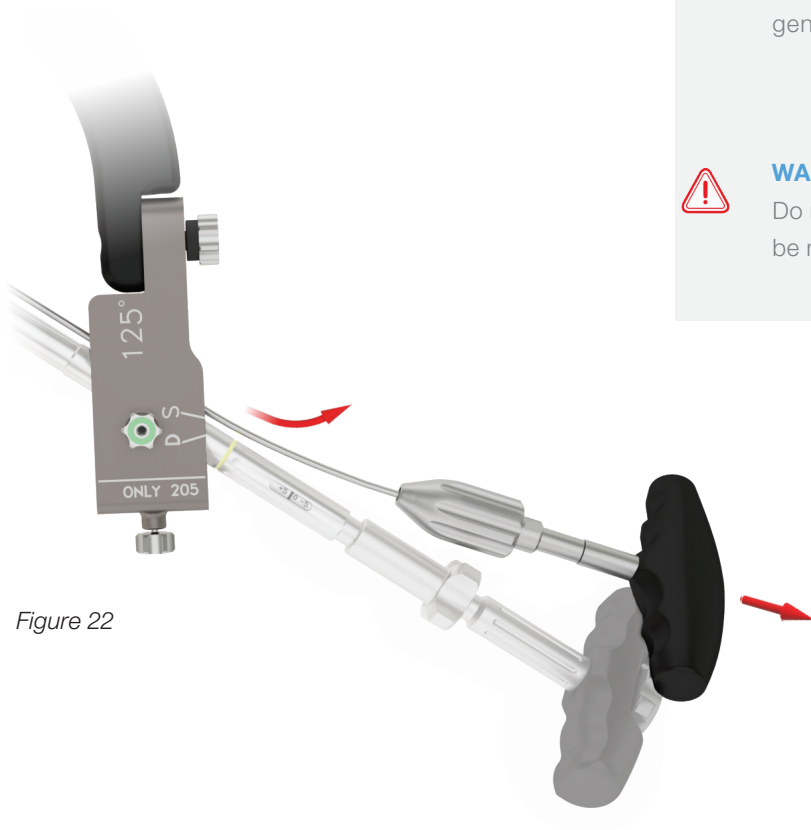


Figure 22

## SURGICAL TECHNIQUE

### SuperNail **GT** Standard Nail

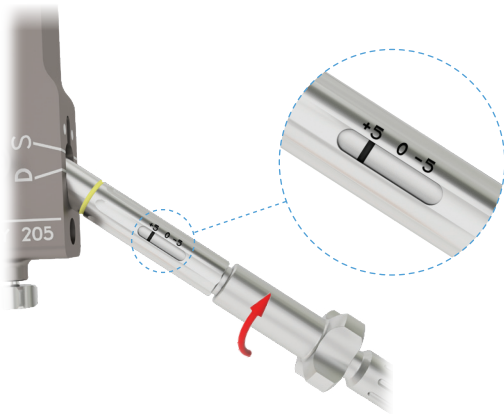


Figure 23

For diastase till 5mm it is possible to obtain a fracture compression by turning clockwise the rotating bush of the cephalic screwdriver X02 up to the maximum, till the laser mark is on +5 (Fig. 23). Perform the fracture compression by screwing clockwise the cross washer and bringing back the laser mark on 0 (Fig. 24). For diastase of more than 5mm, it is advisable to use the screw size lower than what revealed with the measuring device.

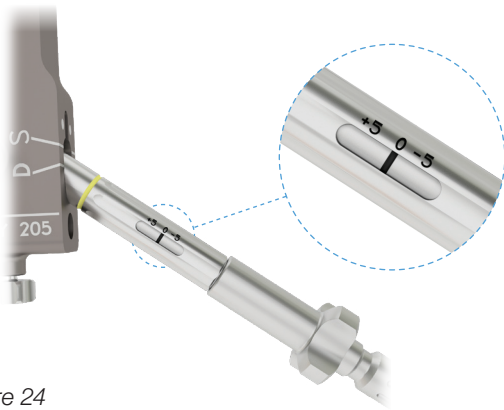


Figure 24

In order to guarantee a proper blocking screw positioning (see on page 15), rotate the handle of the cephalic screwdriver X02 till it is aligned in position **A** or **B** (Fig. 25).

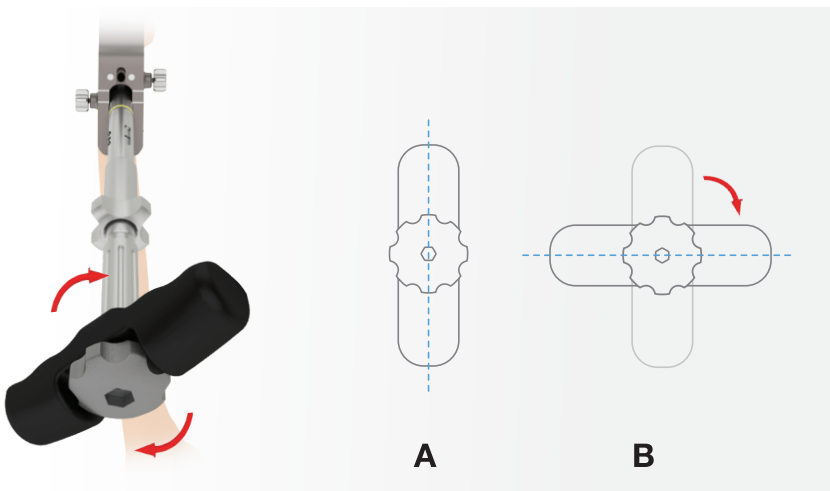


Figure 25

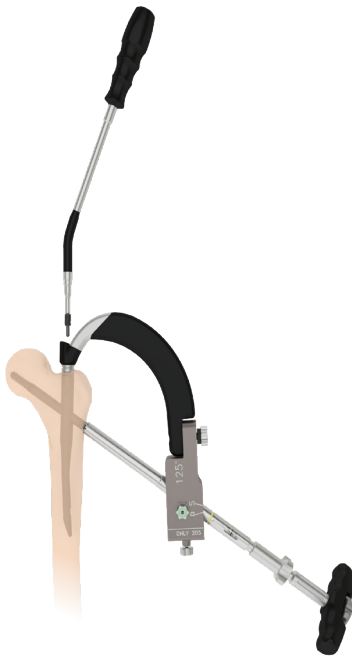


Figure 26

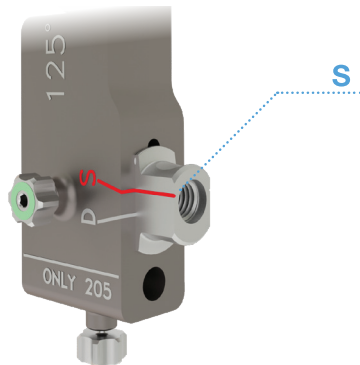


Figure 27

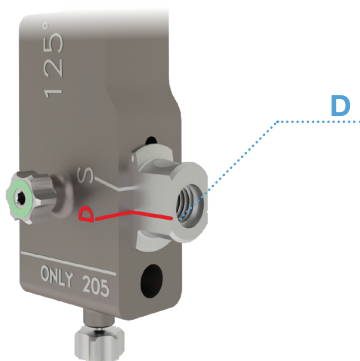


Figure 28

### ▼ BLOCKING SCREW INSERTION

Using the flexible screwdriver EE02 insert and lock the blocking screw HSN B830 (hex.4mm) till the screw is fully locked and no longer rotates (Fig. 26). In order to allow a controlled lateral sliding of the cephalic screw, it is recommended to unscrew the cephalic screwdriver X02 of a quarter of turn to ease fracture consolidation.

### ▼ DIAPHYSEAL LOCKING

Remove the cephalic screwdriver X02 and the external sleeve for cephalic screw S02, then insert the bush for distal fixation Y02 into the centering device B02 or C02. Thanks to the bush positioning it is possible to obtain a static or a dynamic stabilization. This can be obtained by positioning the laser mark on "S" for a static stabilization, (Fig. 27) or on "D" for a dynamic one (Fig. 28) and locking it tightening the dedicated knob (Fig. 29)

The dynamic selection allows an implant dinamization of 3mm.

Insert and screw the external sleeve for standard nail distal screw Z02 into the centering device through the bush.

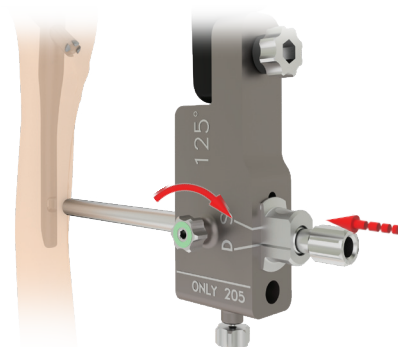


Figure 29

 The external sleeve for distal screw and the knob are marked with a green ring

# SURGICAL TECHNIQUE

## SuperNail **GT** Standard Nail

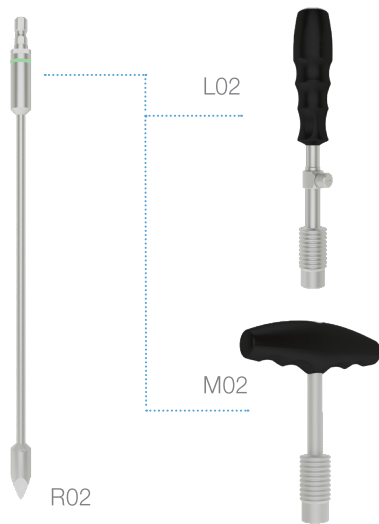



Figure 30

 The distal trocar is marked with a green ring

### ▼ DISTAL ENTRY POINT PREPARATION

Assemble the distal trocar R02 with the quick connection straight handle L02 or, as an alternative, with the quick connection T handle M02 (Fig. 30).

Proceed preparing the entry point for the drill bit dia .3.5mm BB02 on the cortical bone introducing the distal trocar R02 through the external sleeve for standard nail distal screw Z02.

Insert the internal sleeve for drill bit dia.3.5mm AA02 through the external sleeve for standard nail distal screw Z02 till the contact with the cortical bone (Fig.31).

Drill both cortices by using the drill bit dia.3.5mm BB02 (Fig. 32).

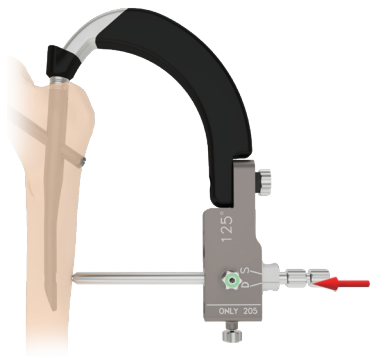


Figure 31

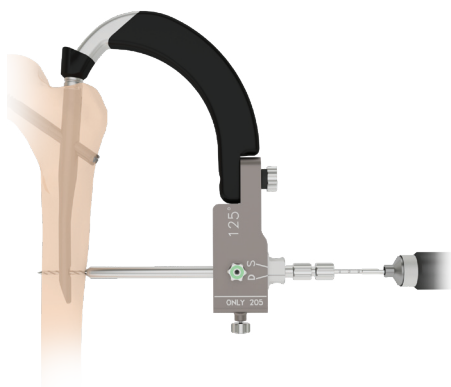


Figure 32



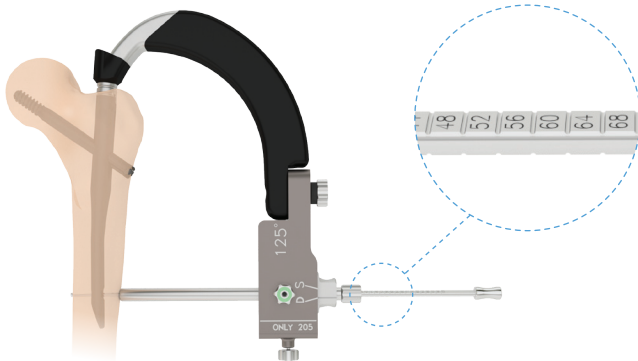


Figure 33

## ▼ DISTAL SCREW LENGTH MEASUREMENT

Remove the drill bit dia. 3.5mm BB02 and the internal sleeve for drill bit dia. 3.5mm AA02. Insert the measuring device for distal screws CC02 into the external sleeve for drill bit Z02, till the second cortex. Then lock the hooked tip of the measuring device on the external surface of the bone.

The length of the screw is visible on the graduated scale engraved on the measuring device (Fig. 33).

## ▼ DISTAL LOCKING

Insert the 4.5mm distal screw through the external sleeve for standard nail distal screw, by using the screwdriver 3.5mm for distal screws DD02 (Fig.34).

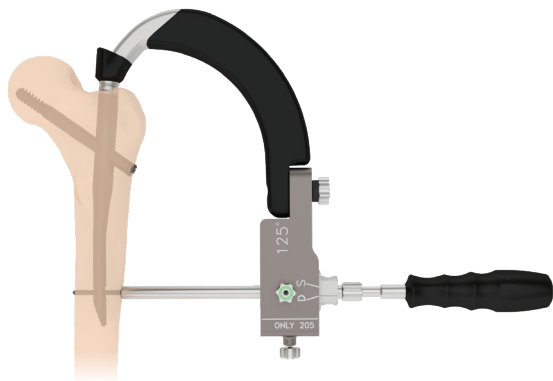


Figure 34

## SURGICAL TECHNIQUE

### SuperNail **GT** Standard Nail

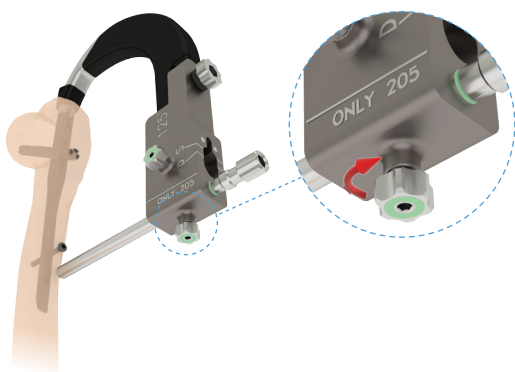



Figure 35

 The distal trocar is marked with a green ring

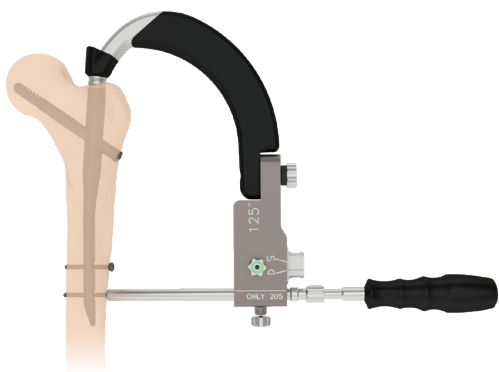


Figure 36



Figure 37

#### ▼ NAIL 205mm LENGTH INSERTION

In case of SuperNail GT Standard 205mm length is used, for assembly, insertion and proximal fixation, proceed exactly as shown for the Standard Nail L.180mm Surgical Technique from page 7 to page 17.

For the diaphyseal locking a second screw dia. 4.5mm is required. Proceed introducing the second screw by inserting the **external sleeve Z02** through the lowest distal hole on the centering device (*Fig.35*) and locking it with the appropriate knob.

To complete the distal locking with the second screw proceed as shown in the "Standard Nail Surgical Technique" on pages 16 and 17 (*Fig. 36*).

#### ▼ NAIL CLOSING WITH LOCKING PLUG

Disassemble the nail holder A02 using the assembly screwdriver E02. Introduce the locking plug for proximal protection, with the flexible screwdriver EE02 (*Fig. 37*).



Figure 38

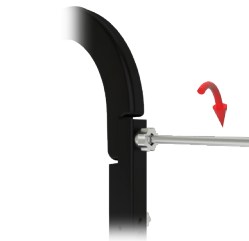


Figure 39



Figure 40

### ▼ ASSEMBLY

Choose the appropriate centering device for long nail A03 or B03 according to the Cervical Diaphyseal Angle of the Cephalic Screw (125° or 130°).

Assemble the centering device for long nail A03 or B03 with the nail holder A02 and then assemble the SuperNail GT Long to the nail holder using the serrating bolt D02 (Fig. 38).

To lock the connections of the nail and the centering devices to the nail holders, use the assembly screwdriver E02 (Fig. 39-40).

### ▼ ACCESS

To prepare the entry point, proceed as shown in the chapter "Access" in the "Standard Nail Surgical Technique" section on page 8.

### ▼ CANAL PREPARATION

To prepare the canal for the SuperNail GT Long proximal sitting slot, proceed as shown in the chapter "Proximal canal preparation" in the "Standard Nail Surgical Technique" section on page. 9.

**NOTE.** If needed, it's possible to prepare the diaphyseal canal using a flexible reamer (not included in the instrument sets) by sliding it till dia.11mm along all the length of the nail and till dia.16mm for the proximal part only.

### WARNING



If a flexible reamer is used, in order to preserve the sovracondylar area, it is recommended the use a guide wire dia.3mm x L800mm with olive tip B04 or L1000mm D04 (Fig. 41).

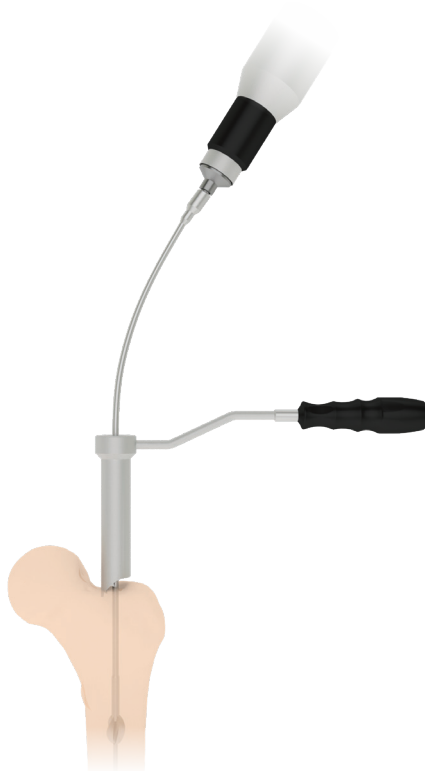


Figure 41

## SURGICAL TECHNIQUE

### SuperNail **GT** Long Nail

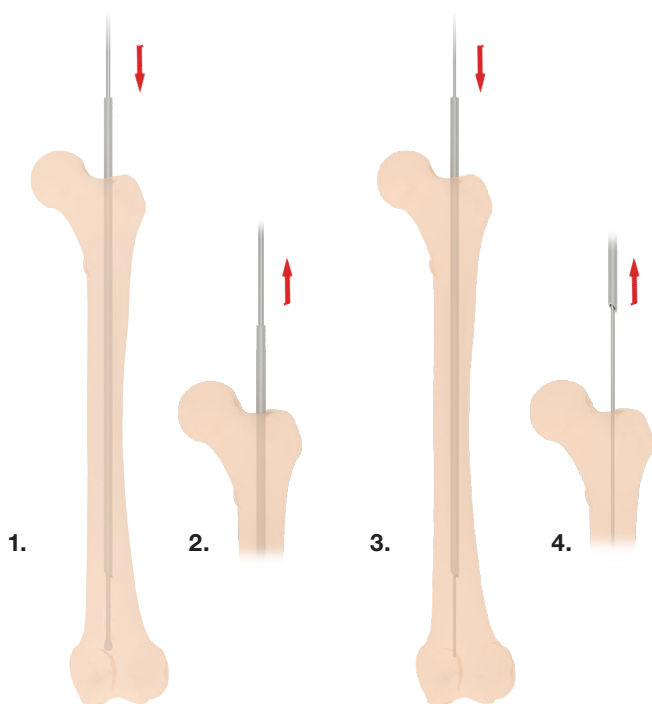


Figure 42

#### ▼ GUIDE WIRE EXCHANGE



##### WARNING

If a guide wire with olive tip has been used, it is necessary to replace it with a guide wire with smooth tip (Fig. 42) before proceeding with nail insertion. For the wire exchange proceed as it follows:

1. insert the guide wires exchange tube D03 along the guide wire with olive tip;
2. remove the guide wire with olive tip B04 or D04;
3. sink in the guide wire with smooth tip A04 or C04; through the guide wires exchange tube D03;
4. remove the guide wires exchange tube D03.

#### ▼ NAIL LENGTH DETERMINATION

Sink completely the measuring device for long nail C03 along the guide wire and through the protector for soft tissues I02.

A yellow ring, engraved on the guide wire, permits to determinate the SuperNail GT Long length on the measuring device (Fig. 43).

**NOTE.** This operation can be done before or after the guide wire exchange (see previous step).

##### WARNING

For length determination use only the guide wires provided by LSM-MED S.r.l. (listed in "Guide Wire" section on page 26).



Do not use the guide wires as lever for fracture reduction. Do not bend or modify the guide wires, they must be maintained in straight condition.

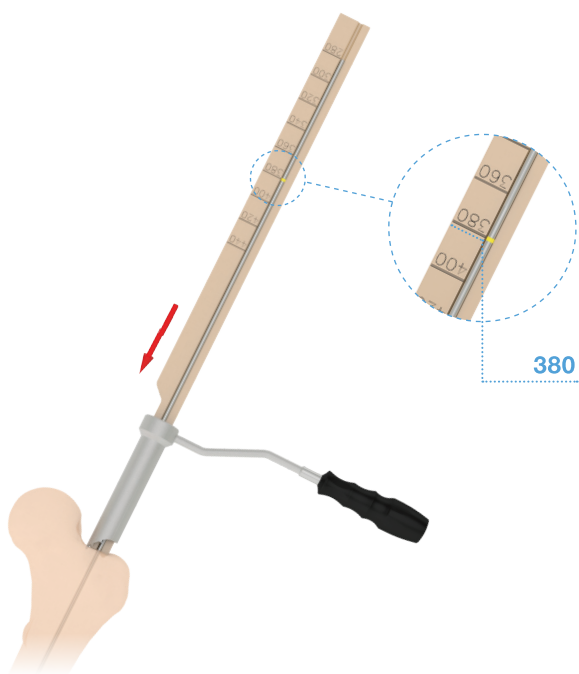


Figure 43

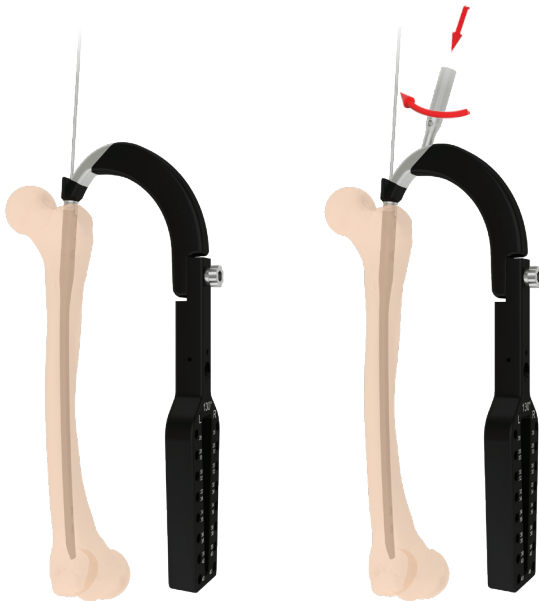


Figure 44

### ▼ NAIL INSERTION

For the Nail Insertion proceed as shown in the chapter “Nail Insertion” in the “Standard Nail Surgical Technique” section on page 9 (Fig. 44).

### OPTIONAL ANTI-ROTATION WIRE APPLICATION

If the anti-rotation wire O02 application is required, proceed as shown in the chapter “Standard Nail Optional Anti-rotation Wire Application” in the “Standard Nail Surgical Technique” section on page 10.

### ▼ CEPHALIC SCREW INSERTION

Insert the cephalic screw following the steps from page 10 to page 13 for the “Cephalic Screw Insertion” in the “Standard Nail Surgical Technique” section (Fig. 45).

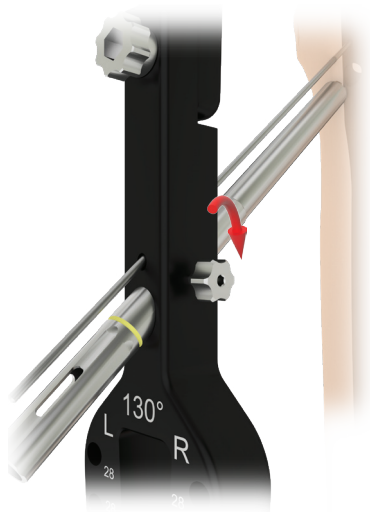


Figure 45

### REMOVAL OF THE ANTI-ROTATION WIRE

If the anti-rotation wire O02 has been inserted, remove it proceeding as shown in the chapter “Removal of the anti-rotation wire” in the “Standard Nail Surgical Technique” on page 13.

# SURGICAL TECHNIQUE

## SuperNail **GT** Long Nail

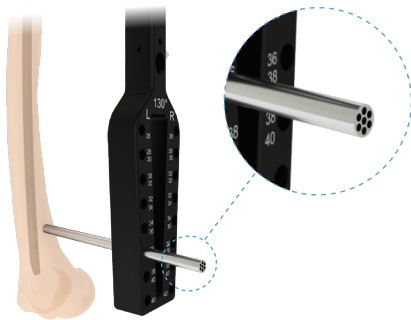
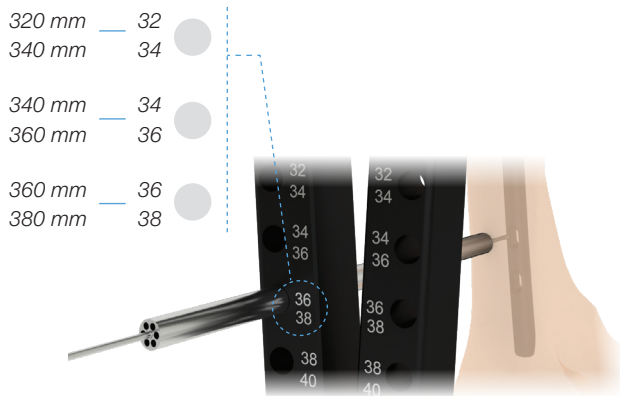
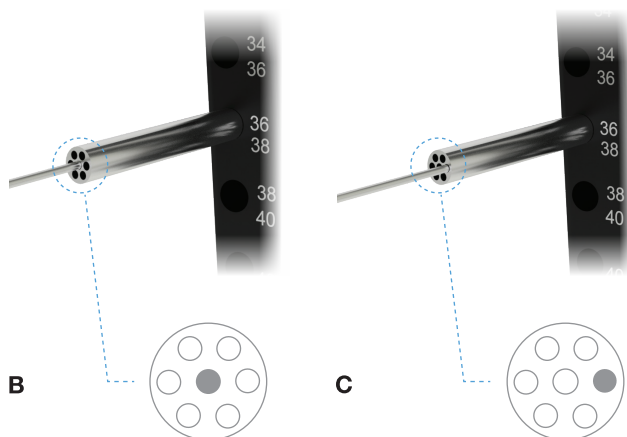


Figure 46

Holes suitable with nail lengths



A



B

C

Figure 47

### ▼ DISTAL LOCKING

Insert the multihole guide E03 into the centering device for long nail A03 or B03, starting from the proximal hole and referred to the size of the implanted nail (Fig. 46).

Introduce the positioning pin dia. 2 mm F03 into the multihole guide E03 starting from the central hole (Fig. 47-A and Fig. 47-B).

Using the image intensifier, check if the positioning pin passes through the distal hole of the nail.

In case of failed centering, switch the positioning pin F03 into one of the perimetric holes of the multihole guide (2mm by 2mm). Repeat this operation until the centering is obtained (Fig. 47-C).

Leaving the positioning pin F03 into the obtained position, remove the multihole guide E03 and introduce the external sleeve for long nail G03 (Fig. 48).

Introduce the cannulated tip dia. 3.5mm H03 on the positioning pin F03 and proceed by drilling both cortices (Fig. 49).



Figure 48

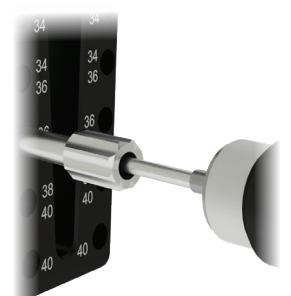


Figure 49

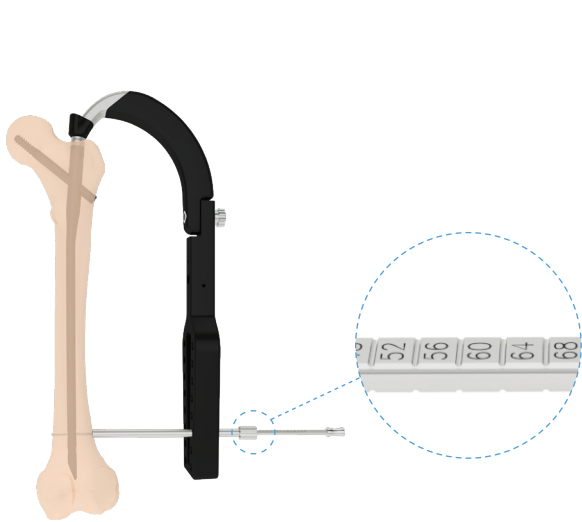


Figure 50

### ▼ DISTAL SCREW LENGTH MEASUREMENT

Remove the positioning pin dia. 2mm F03 and insert the measuring device for distal screws CC02 into the external sleeve for long nail G03, across the bone and through the second cortex. Then lock the hooked tip of the measuring device on the external surface of the bone.

The length of the screw is visible on the graduated scale engraved on the measuring device (*Fig. 50*).

### ▼ DISTAL LOCKING

Insert the 4.5mm distal screw by using the screw driver 3.5mm for distal screws DD02 (*Fig. 51*), passing through the external sleeve for long nail G03.

To lock the second distal screw repeat all the steps as shown for the first screw from page 22 to 23.

### ▼ CLOSING WITH PROTECTION PLUG

For the SuperNail GT Long closing, proceed as shown in the chapter “Nail Closing with the protection plug” in the “Standard Nail Surgical Technique” section on page 17..



Figure 51

## SURGICAL TECHNIQUE

### SuperNail **GT** Long Nail

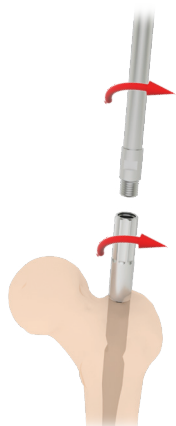


Figure 52



Figure 53

#### ▼ NAIL REMOVAL

If present, remove the plug and the blocking screw by using the flexible screwdriver EE02.

Remove the cephalic screw by using the cephalic screwdriver X02.

Position and thread the extraction connection FF02 into the nail proximal hole (Fig. 52).

Remove the distal screws by using the screwdriver 3.5mm for distal screw DD02.

Screw the extraction device GG02 on the extraction connection FF02 and proceed with removal of the nail (Fig. 53).

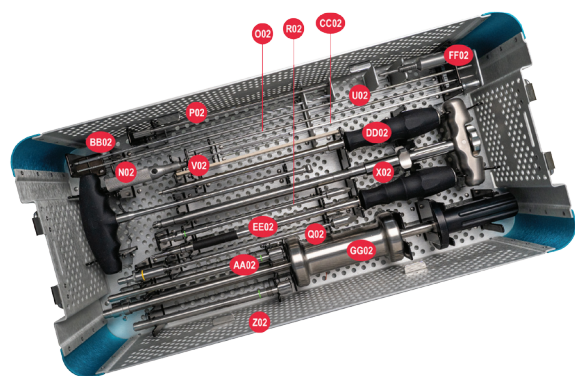
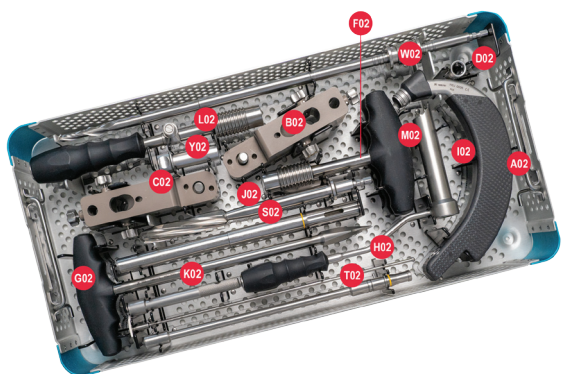


#### WARNING

Do not remove the distal locking screws before assembly the extraction device.



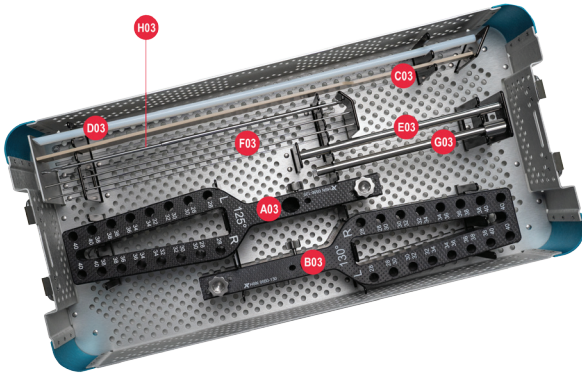
## ▼ HSJ 0200 SuperNail GT STANDARD INSTRUMENT SET



| Ref. | CODE       | DESCRIPTION                                    | Qty. |
|------|------------|--|------|
| A02  | HSJ 0006   | Nail Holder                                    | 1    |
| B02  | HSJ 0009   | Centering Device 125°                          | 1    |
| C02  | HSJ 0010   | Centering Device 130°                          | 1    |
| D02  | HSJ 0007   | Serrating Bolt                                 | 2    |
| E02  | HSN 0327   | Assembly Screwdriver                           | 1    |
| F02  | HSN 0256   | Self-locking Chuck                             | 1    |
| G02  | HSJ 0001   | Cannulated AWL                                 | 1    |
| H02  | HSJ 0001-1 | Plugging Device                                | 1    |
| I02  | HSJ 0003   | Protector for Soft Tissues                     | 1    |
| J02  | HSJ 0004   | Initial Reamer                                 | 1    |
| K02  | HSJ 0005-1 | Lever for Straight Handle                      | 1    |
| L02  | HSJ 0005   | Quick Connection Straight Handle               | 1    |
| M02  | HSJ 0040   | Quick Connection T Handle                      | 1    |
| N02  | HSN 0401   | Connection Device                              | 1    |
| O02  | HSJ 0012   | Anti-rotation Wire dia.3mm                     | 1    |
| P02  | HSJ 0011   | Sleeve for Anti-rotation Wire                  | 1    |
| Q02  | HSJ 0038   | Cephalic Trocar                                | 1    |
| R02  | HSJ 0039   | Distal Trocar                                  | 1    |
| S02  | HSJ 0013   | External Sleeve for Cephalic Screw             | 1    |
| T02  | HSJ 0014   | Internal Sleeve for Cephalic Guide Wire        | 1    |
| U02  | HSJ 0015   | Cephalic Guide Wire dia.3.2mm                  | 1    |
| V02  | HSJ 0016   | Measuring Device for Cephalic Screw            | 1    |
| W02  | HSJ 0017   | Cephalic Reamer                                | 1    |
| X02  | HSJ 0029   | Cephalic Screwdriver                           | 1    |
| Y02  | HSJ 0025   | Bush for Distal Fixation                       | 1    |
| Z02  | HSJ 0026   | External Sleeve for Standard Nail Distal Screw | 1    |
| AA02 | HSJ 0027   | Internal sleeve for Drill Bit dia.3.5mm        | 1    |
| BB02 | HSJ 0028   | Drill Bit dia.3.5mm                            | 1    |
| CC02 | HSJ 0037   | Measuring Device for Distal Screws             | 1    |
| DD02 | HSJ 0030   | Screwdriver 3.5mm for Distal Screws            | 1    |
| EE02 | HSJ 0033   | Flexible Screwdriver                           | 1    |
| FF02 | HSJ 0024   | Extraction Connection                          | 1    |
| GG02 | HSN 0400   | Extraction Device                              | 1    |
| HH02 | HSJ 0100   | Instrument Tray for SuperNail GT Standard      | 1    |

## Instrument Set

### ▼ HSJ 0300 SuperNail GT LONG INSTRUMENT SET



| Ref. | CODE         | DESCRIPTION                                 | Qty. |
|------|--------------|---|------|
| A03  | HSN 0550-125 | Centering Device for Long Nail 125°         | 1    |
| B03  | HSN 0550-130 | Centering Device for Long Nail 130°         | 1    |
| C03  | HSJ 0041     | Measuring Device for Long Nail              | 1    |
| D03  | HSJ 0034     | Guide Wires Exchange Tube                   | 1    |
| E03  | HSN 0232     | Multihole Guide                             | 1    |
| F03  | HSN 0420     | Positioning Pin dia.2mm for Multihole Guide | 2    |
| G03  | HSJ 0036     | External Sleeve for Long Nail               | 1    |
| H03  | HSJ 0032     | Cannulated Tip dia.3.5mm                    | 1    |
| I03  | HSN 1600     | Instrument Tray for SuperNail GT Long       | 1    |

### ▼ GUIDE WIRES



A04 - C04

*Smooth tip*



B04 - DC04

*Olive tip*

| Ref. | CODE         | DESCRIPTION                                 | Qty. |
|------|--------------|---|------|
| A04  | HSJ 0002     | Guide Wire dia.3mm x L.800mm<br>Smooth tip  | 1    |
| B04  | HSN 0235     | Guide Wire dia.3mm x L.800mm<br>Olive tip   | 1    |
| C04  | HSJ 0002-100 | Guide Wire dia.3mm x L.1000mm<br>Smooth tip | 1    |
| D04  | HSN 0236     | Guide Wire dia.3mm x L.1000mm<br>Olive tip  | 1    |



▼ SuperNail GT STANDARD

| Ti6Al4V | CODE       | Length (mm) | Cephalic Angle |
|---------|------------|-------------|----------------|
|         | HSJ 125-10 | 180         | 125°           |
|         | HSJ 125-20 | 205         | 125°           |
|         | HSJ 130-10 | 180         | 130°           |
|         | HSJ 130-20 | 205         | 130°           |

*Sterile single packaging*



▼ SuperNail GT LONG

| Ti6Al4V | Right       | Left        | Length (mm) | Cephalic Angle |
|---------|-------------|-------------|-------------|----------------|
|         | HSJ 125-28R | HSJ 125-28L | 280         | 125°           |
|         | HSJ 125-30R | HSJ 125-30L | 300         | 125°           |
|         | HSJ 125-32R | HSJ 125-32L | 320         | 125°           |
|         | HSJ 125-34R | HSJ 125-34L | 340         | 125°           |
|         | HSJ 125-36R | HSJ 125-36L | 360         | 125°           |
|         | HSJ 125-38R | HSJ 125-38L | 380         | 125°           |
|         | HSJ 125-40R | HSJ 125-40L | 400         | 125°           |
|         | HSJ 125-42R | HSJ 125-42L | 420         | 125° ■         |
|         | HSJ 125-44R | HSJ 125-44L | 440         | 125° ■         |
|         | HSJ 130-28R | HSJ 130-28L | 280         | 130°           |
|         | HSJ 130-30R | HSJ 130-30L | 300         | 130°           |
|         | HSJ 130-32R | HSJ 130-32L | 320         | 130°           |
|         | HSJ 130-34R | HSJ 130-34L | 340         | 130°           |
|         | HSJ 130-36R | HSJ 130-36L | 360         | 130°           |
|         | HSJ 130-38R | HSJ 130-38L | 380         | 130°           |
|         | HSJ 130-40R | HSJ 130-40L | 400         | 130°           |
|         | HSJ 130-42R | HSJ 130-42L | 420         | 130° ■         |
|         | HSJ 130-44R | HSJ 130-44L | 440         | 130° ■         |

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■ Upon Request

## Product Codes



### ▼ CEPHALIC SCREW

| Ti6Al4V | CODE     | Length (mm) | Diameter Ø (mm) |
|---------|----------|-------------|-----------------|
|         | HSJ C270 | 70          | 10.5            |
|         | HSJ C275 | 75          | 10.5            |
|         | HSJ C280 | 80          | 10.5            |
|         | HSJ C285 | 85          | 10.5            |
|         | HSJ C290 | 90          | 10.5            |
|         | HSJ C295 | 95          | 10.5            |
|         | HSJ C300 | 100         | 10.5            |
|         | HSJ C305 | 105         | 10.5            |
|         | HSJ C310 | 110         | 10.5            |
|         | HSJ C315 | 115         | 10.5            |
|         | HSJ C320 | 120         | 10.5            |

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### ▼ BLOCKING SCREW

| Ti6Al4V | CODE     | Length (mm) | Diameter Ø (mm) |
|---------|----------|-------------|-----------------|
|         | HSN B830 | 25          | 8               |

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▼ **DISTAL SCREW**

| Ti6Al4V | CODE          | Length (mm) | Diameter Ø (mm) |
|---------|---------------|-------------|-----------------|
|         | HMV 108-024ST | 24          | 4.5             |
|         | HMV 108-028ST | 28          | 4.5             |
|         | HMV 108-032ST | 32          | 4.5             |
|         | HMV 108-036ST | 36          | 4.5             |
|         | HMV 108-040ST | 40          | 4.5             |
|         | HMV 108-044ST | 44          | 4.5             |
|         | HMV 108-048ST | 48          | 4.5             |
|         | HMV 108-052ST | 52          | 4.5             |
|         | HMV 108-056ST | 56          | 4.5             |
|         | HMV 108-060ST | 60          | 4.5             |
|         | HMV 108-064ST | 64          | 4.5             |
|         | HMV 108-068ST | 68          | 4.5             |
|         | HMV 108-072ST | 72          | 4.5             |
|         | HMV 108-076ST | 76          | 4.5             |
|         | HMV 108-080ST | 80          | 4.5             |
|         | HMV 108-084ST | 84          | 4.5             |
|         | HMV 108-088ST | 88          | 4.5             |
|         | HMV 108-092ST | 92          | 4.5             |
|         | HMV 108-096ST | 96          | 4.5             |
|         | HMV 108-100ST | 100         | 4.5             |

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▼ **LOCKING PLUG**

| Ti6Al4V | CODE     | OFFSET (mm) |
|---------|----------|-------------|
|         | HSN T001 | + 0         |
|         | HSN T003 | + 5         |
|         | HSN T002 | + 15        |

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