intrauma®

EN

Intramedullary Nail.

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Intramedullary Nail.

Indications

Elos 180, 240:

intended for stabilizing various types of intertrochanteric fractures of the femur

Elos 300, 340, 360, 380, 400, 420, 440, 460:

intended for fixation of femoral fractures occurring from the base of the femoral neck extending distally to a point approximately 10 cm proximal to the intercondylar notch. Fracture types include basilar neck, intertrochanteric, subtrochanteric fractures and femoral shaft fractures. These femoral fractures may occur as a result of trauma, non-union, malunion, pathological fractures, and impending pathological fractures.

Controindications

Elos 180, 240:

low subtrochanteric, diaphyseal femur, isolated or combined femoral neck fractures.

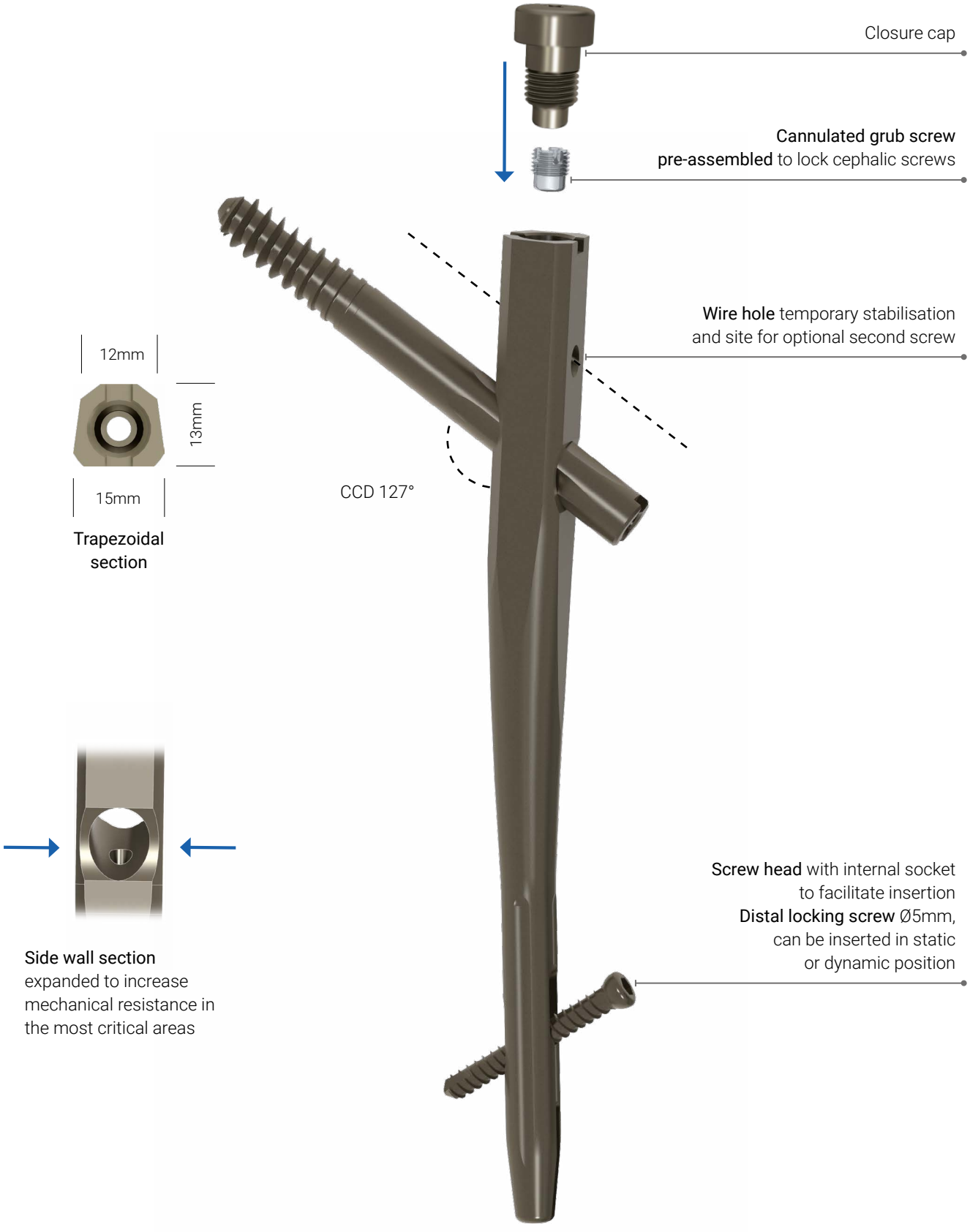
Elos 300, 340, 360, 380, 400, 420, 440, 460:

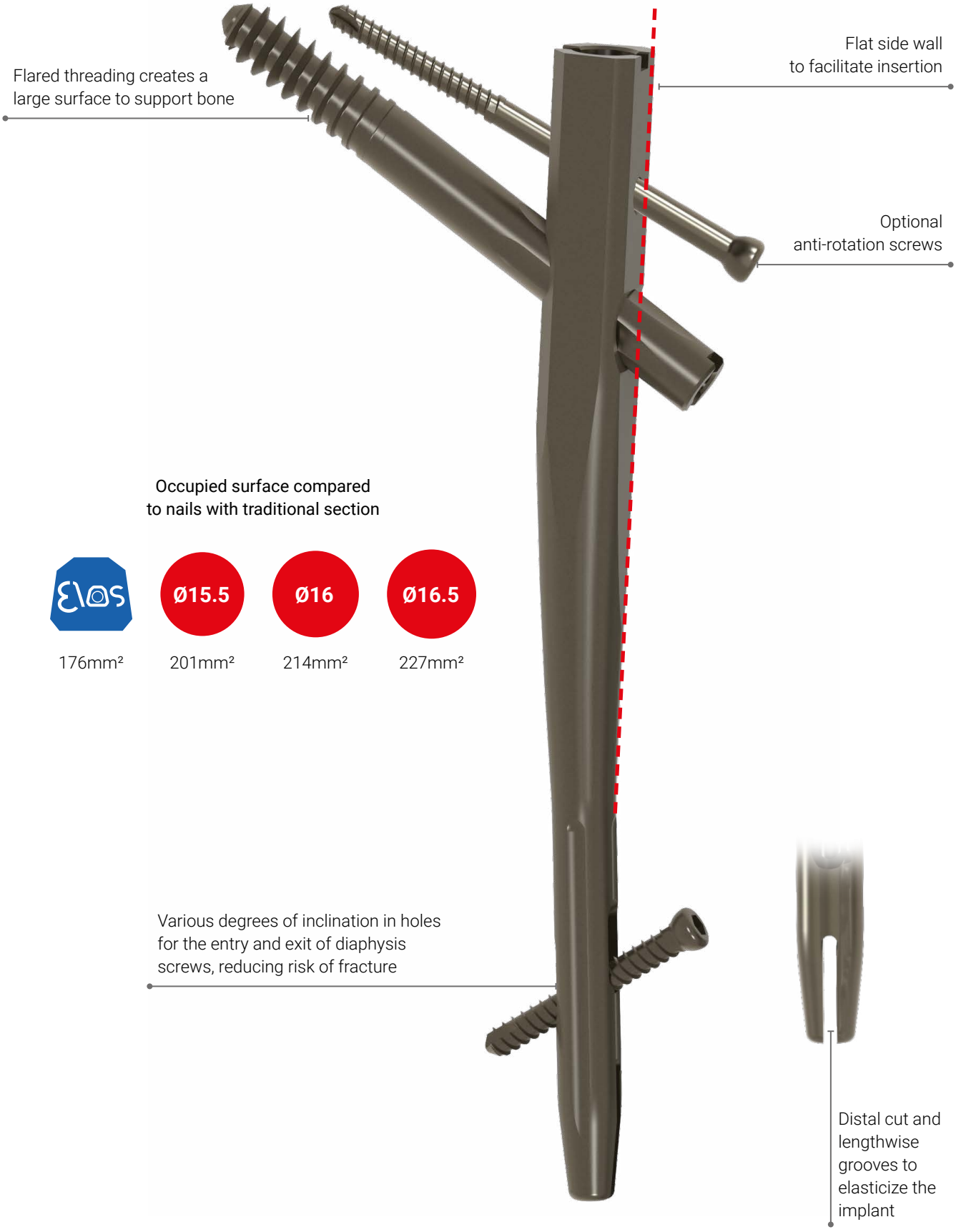
isolated femoral neck fracture or combined with middle third and distal diaphyseal femur fracture.

Elos 180, 240

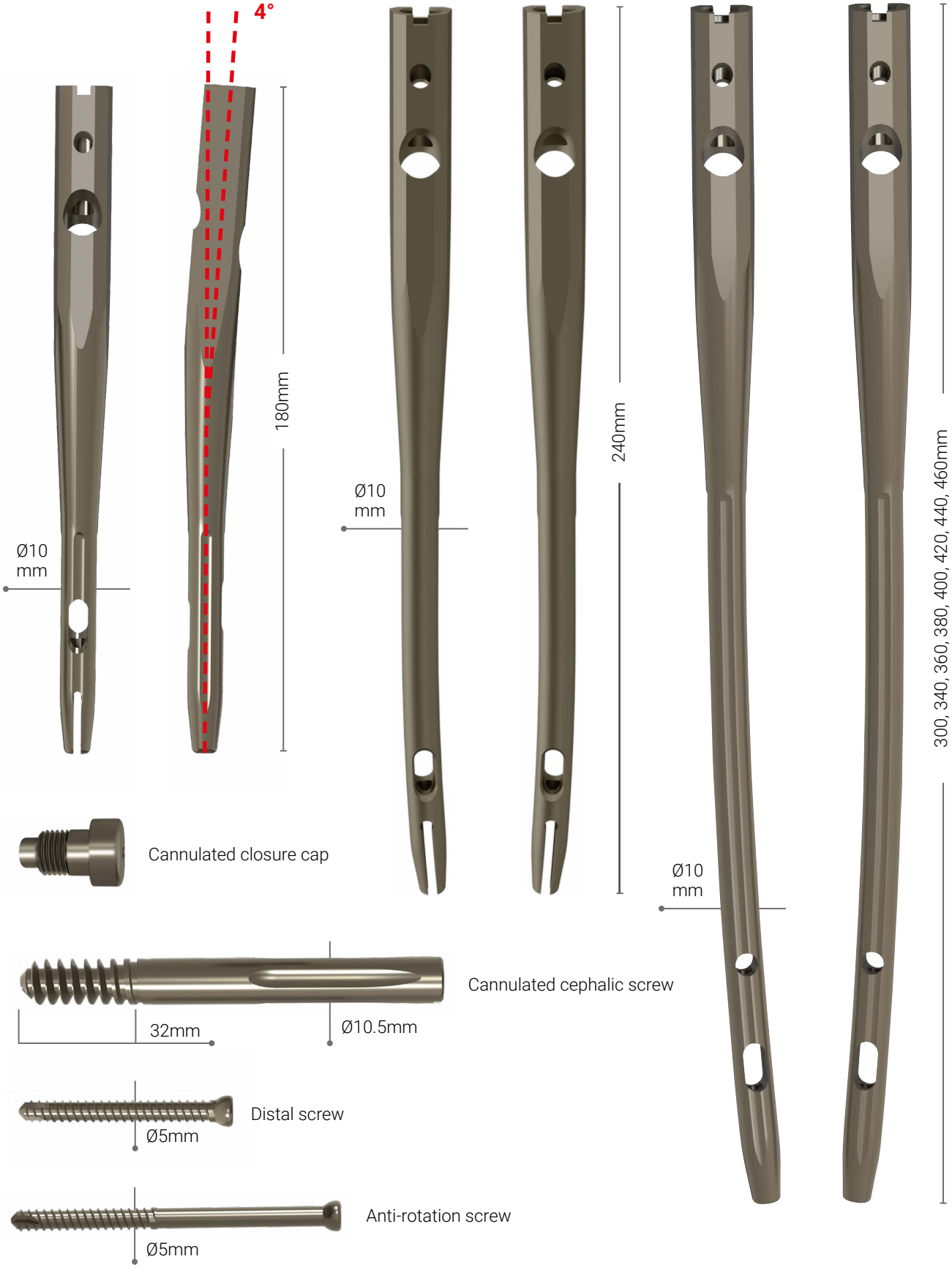
Elos 300, 340, 360, 380, 400, 420, 440, 460

/ Characteristics




Flared threading creates a large surface to support bone
Flat side wall to facilitate insertion
Optional anti-rotation screws
Occupied surface compared to nails with traditional section
Ø15.5
Ø16
Ø16.5
176mm²
201mm²
214mm²
227mm²
Various degrees of inclination in holes for the entry and exit of diaphysis screws, reducing risk of fracture
Distal cut and lengthwise grooves to elasticize the implant

/ Specific implants



Surgical technique.

Please note:

This surgical technique is made available to healthcare professionals to illustrate the recommended procedures for using the Elos System.

It offers general guide lines that should be followed with the awareness that the surgeon must consider the specific needs of each patient.

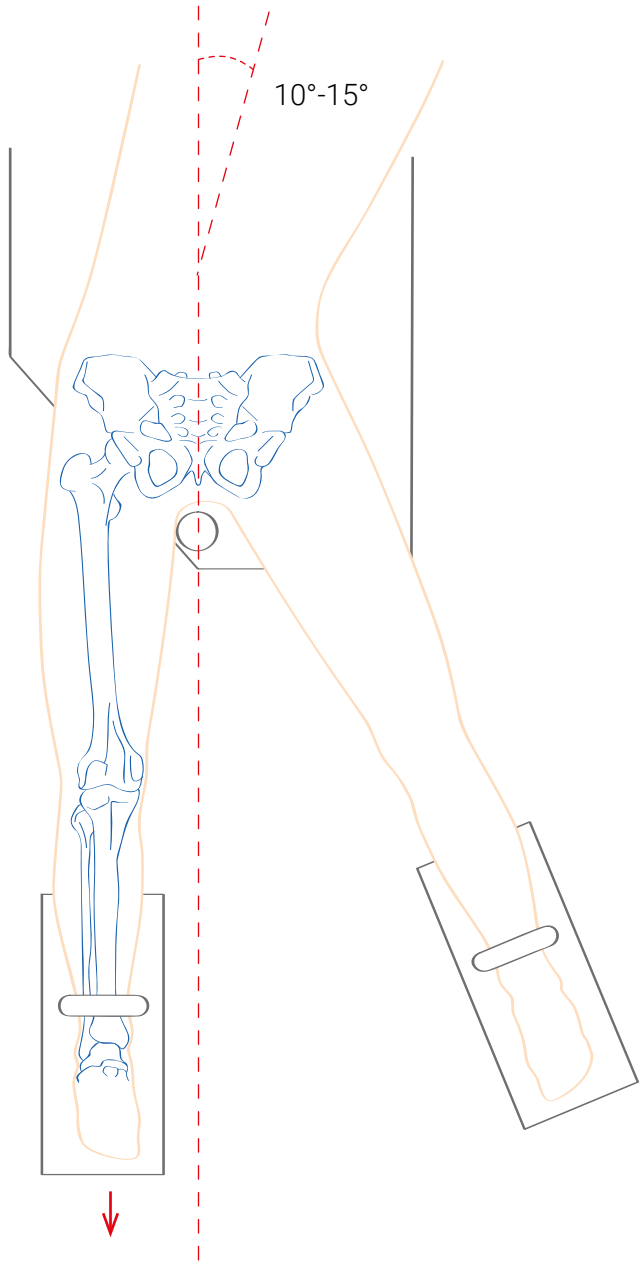
The supervision of an experienced surgeon in the use of the Elos System is recommended.

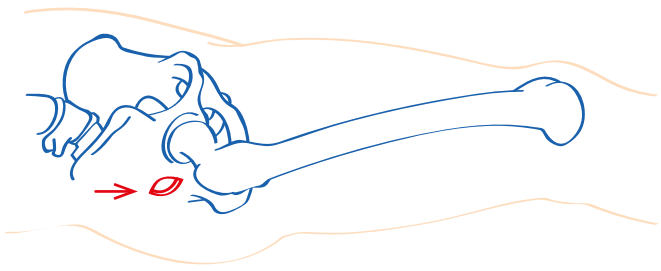
Patient positioning:

The patient is placed on the fracture table, in a supine or lateral decubitus position according to surgeon preference and/or fracture pattern.

Reduction of the fracture is required, as anatomically as possible; the torso may be abducted 10°-15° to allow clear access to the intramedullary canal. It is preferred a closed reduction; if this is not possibile, open reduction may be necessary.

WARNING: the correct patient positioning and fracture reduction are essential to achieve a successful outcome.





Entry point:

The tip of the greater trochanter is located by palpation.

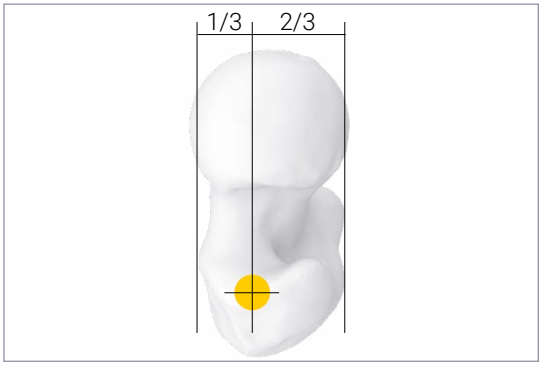
A longitudinal incision is made proximal to the greater trochanter.

Surgical technique.

/ Elos 180-240-300-340-360-380-400-420-440-460

· 1

Identify entrance point on the anterior third and posterior two-thirds of the greater trochanter. Position on the apex of the trochanter.



· 2

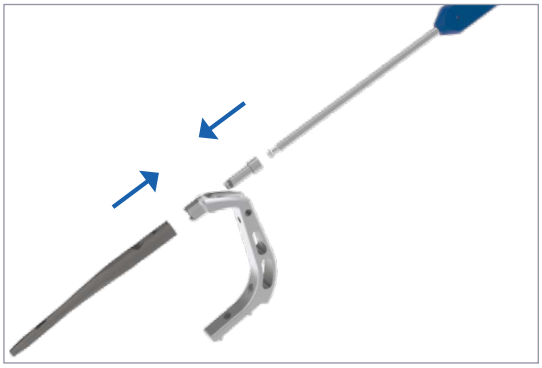
Open the medullary canal using the curved cannulated trocar (SE202). Use the mandrel (SE201) to insert the Ø2.8mm guide wire.

· 3

Use the paratissue cannula (SE203) to prepare the nail site with the trochanteric cutter (SE204). Insert up to the line.

• **4**

Assemble the nail on the introducer (SE206A) using the nail introducer rod (SE206B) and tighten using the assembler screwdriver (SE205).



• **5**

Insert the nail on the guide wire and continue until the correct position is reached.

• **6**

Assemble the guide (SE208A) on the nail introducer (SE206A).

Surgical technique.

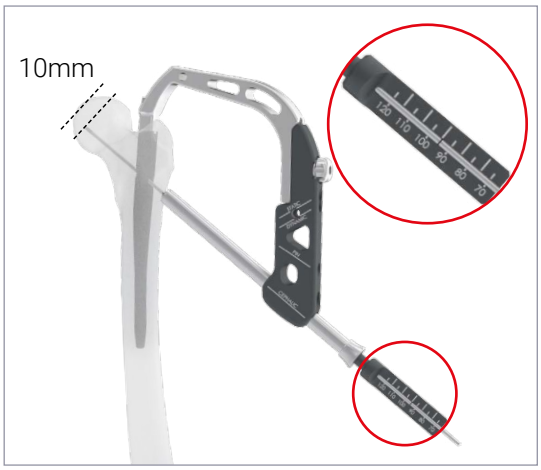
/ Elos 180-240-300-340-360-380-400-420-440-460

· 7

Assemble the cannulated trocar (SE211) and cutter cannula (SE210) and insert into the hole at 127° on the guide until the lateral cortex is contacted. Insert the Ø3mm threaded guide wire.

· 8

Use the measure (SE212) to measure the length of the cephalic screw on the wire. If the guide wire is inserted up to the subchondral tissue, subtract 10mm from the measured length.



· 9

If necessary, insert Ø3mm L. 350mm anti-rotation wire using the cannula (SE214).

· 10

Adjust the graduated cutter (SE213) using the measurement taken.

· 11

Insert the cutter on the wire and drill up to the line.

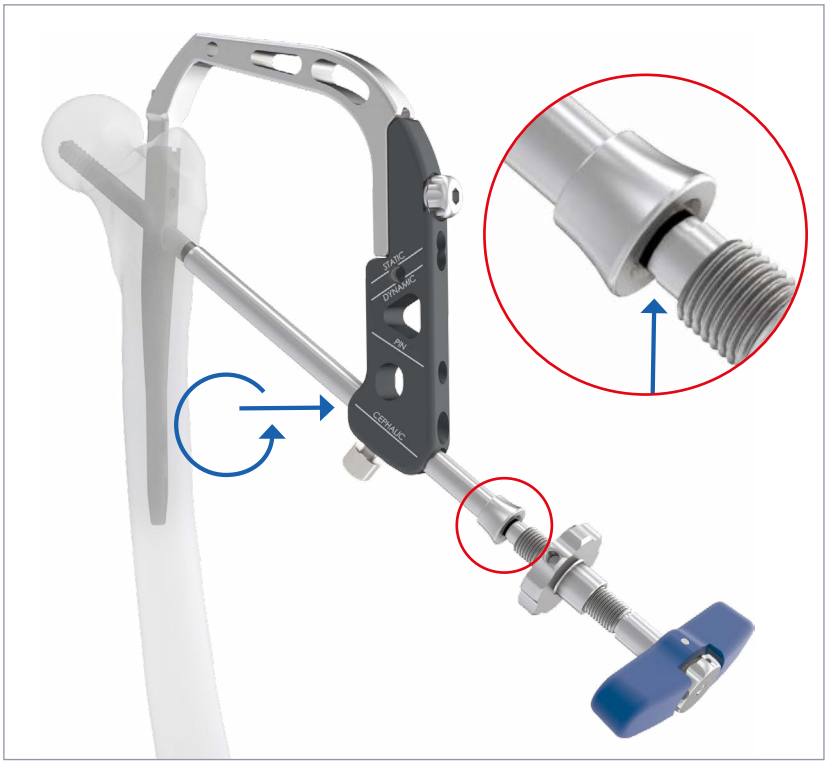
· 12

Couple the cephalic screw with the introducer (SE215) by means of the internal tie rod of the instrument: manually screw up to the stop and then unscrew by about half a turn.

Surgical technique.
/ Elos 180-240-300-340-360-380-400-420-440-460

· 13

Loosen the nut. Insert the cephalic screw on the wire until the correct position is reached.



· 14

To retrieve the fragment, insert the compression pin (SE216) into the guide hole. Rotate the nut until the necessary compression is achieved.
If necessary use the compression rod (SE235) into the holes of nut.

15

To stop rotation and slippage of the cephalic screw, screw the preassembled locking grub into the nail until it comes into contact with the cephalic screw, using the Flexible Screwdriver (SE217M). To allow slippage of the cephalic screw, unscrew one-quarter turn the locking grub screw pre-assembled, keeping the introduction sleeve in the horizontal or vertical position in relation to the operating table.

Surgical technique.

/ Elos 180-240-300-340-360-380-400-420-440-460

Anti-rotation screw option

· 16

Use the measure (SE225) to measure the length of the screw on the wire. Alternatively, select a screw 15mm shorter than the cephalic screw used. Remove the wire.

· 17

Insert the protection cannula (SE218) and the trocar (SE219) and make a hole of 3 - 4 cm with the drill bit (SE220).

· 18

Insert the screw using the introducer (SE221) after assembling it as in point 21.

Surgical technique.
/ Elos 180

· 19

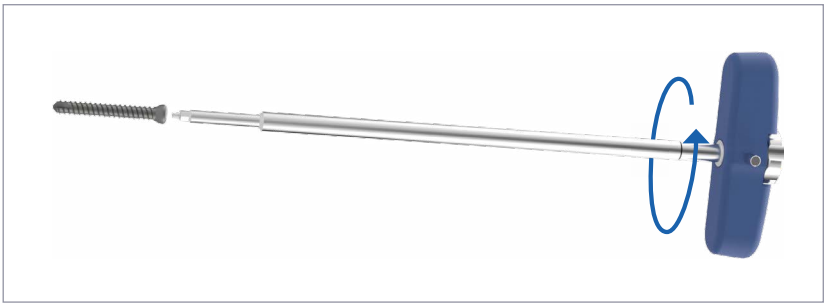
Insert the cannula (SE218) and the measuring trocar (SE219) into the desired guide position, static or dynamic. Insert until the diaphysis is contacted.
To achieve the correct position, the notch on the cannula must be visible as in the illustration.

· 20

Make a hole and measure using the notch on the helical drill bit (SE220).

· 21

Gently tighten the diaphyseal screws on the introducer (SE221).



Surgical technique.
/ Elos 180

· 22

Insert the diaphyseal screw with the introducer (SE221), until the reference mark (A).

· 23

Insert the cap, using a guide wire if necessary. Tighten with the Set Screw/End Cap Flexible Screwdriver (SE217M).

Surgical technique.

/ Elos 240-300

Technique for insertion of distal screws with guide

· **1**

Assemble the introducer (SE206A) and the distal guide (SE229A).

· **2**

Insert the cannula (SE218) and the measuring trocar (SE219) into the desired hole of the guide.

Surgical technique.

/ Elos 240-300

Technique for insertion of distal screws with guide

· 3

Drill and measure the hole using the notch on the helical drill bit (SE220).

· 4

Insert the screw using the introducer (SE221) after assembling it as in point 21, and tighten until the reference mark (A).
Repeat the operation for the other hole as necessary.

· 5

Insert the closure cap, using a guide wire if necessary. Tighten with the with the Set Screw/End Cap Flexible Screwdriver (SE217M).
See point 23 page 16

Surgical technique.

/ Elos 300, 340, 360, 380, 400, 420, 440, 460

Freehand technique for distal screws

· 1

Identify the position of the hole to be made and make a hole with the helical drill bit (SE222). Measure the length of the screw using the graduated sleeve (SE223).

· 2

Insert the diaphyseal screw with the introducer (SE221) after assembling it as in point 21, and tighten.

· 3

Insert the closure cap, using a guide wire if necessary. Tighten with the with the Set Screw/End Cap Flexible Screwdriver (SE217M).

See point 23 page 16

Information for orders.

/ SHORT NAILS | Ø10MM - 127°

	Ref. L	Ref. R	L. mm
Elos 180	200.1800	200.1800	180
Elos 240	200.2401	200.2402	240

/ LONG NAILS | Ø10MM - 127°

	Ref. L	Ref. R	L. mm
Elos 300	200.3201	200.3202	300
Elos 340	200.3401	200.3402	340
Elos 360	200.3601	200.3602	360
Elos 380	200.3801	200.3802	380
Elos 400	200.4001	200.4002	400
Elos 420*	200.4201	200.4202	420
Elos 440*	200.4401	200.4402	440
Elos 460*	200.4601	200.4602	460

* available upon request

Material:
Titanium Ti6Al4V - ISO 5832-3

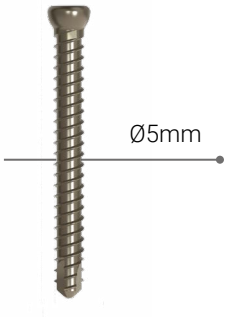
/ CANNULATED CEPHALIC SCREW | Ø10.5mm

Ref.	L. mm
200.1070	70
200.1075	75
200.1080	80
200.1085	85
200.1090	90
200.1095	95
200.1100	100
200.1105	105
200.1110	110
200.1115	115
200.1120	120
200.1125	125

Material:
Titanium Ti6Al4V - ISO 5832-3

/ DIAPHYSEAL SCREW | Ø5mm

Ref.	L. mm
200.4030	30
200.4035	35
200.4040	40
200.4045	45
200.4050	50
200.4055	55
200.4060	60

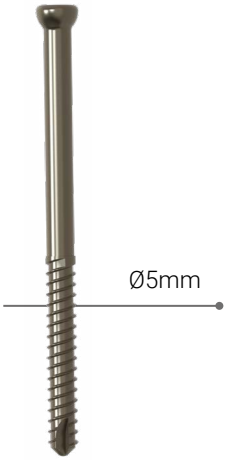


Material:
Titanium Ti6Al4V - ISO 5832-3

/ ANTI-ROTATION SCREW | Ø5mm

Ref.	L. mm
200.4065	65
200.4070	70
200.4075	75
200.4080	80
200.4085	85
200.4090	90
200.4095	95
200.4100	100

Material:
Titanium Ti6Al4V - ISO 5832-3



/ CANNULATED CLOSURE CAP

Ref.
200.0001

Material:
Titanium Ti6Al4V - ISO 5832-3

/ STERILE GUIDE WIRES SET

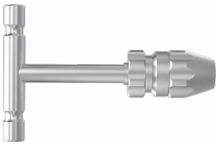
Ref.	L. mm
SE2.S001	350 / 400 / 700 (3 pcs)

Material:
Stainless steel

Elos

Instruments set

REF. SE200 - Elos Instrument Case - 1 pc



REF. SE201
T-Handle Chuck - 1 pc

REF. SE202 - Cannulated Curved Awl - 1 pc

REF. SE203
Reamer Sleeve - 1 pc

REF. SE204
Conical Reamer - 1 pc

REF. SE205 - 7,0mm Assembly Hex Screwdriver - 1 pc

REF. SE206A - Nail Introducer - 1 pc

REF. SE206B - Nail Holding Screw - 2 pcs

REF. SE207 - Strike Rod - 1 pc

REF. SE208A - Targeting Arm Body - 1 pc
REF. SE208B - Targeting Arm/Introducer Connecting Screw - 2 pcs
REF. SE208C - Cannula Locking Screw - 1 pc
REF. SE208E - Targeting Arm Washer - 2 pcs

REF. SE210 - Cephalic Screw/Drill Guide - 1 pc

REF. SE211 - Ø3,0mm Cephalic Wire Sleeve - 1 pc

REF. SE212 - Cephalic Screw Ruler - 1 pc

REF. SE213 - Adjustable Step Drill - 1 pc

REF. SE214 - Ø3,0mm Anti-Rotation Wire Guide - 1 pc

REF. SE215 - Cephalic Screw Wrench/Compressor - 1 pc

REF. SE216 - Cephalic Screw Compression Pin - 1 pc

REF. SE217M - Set Screw/End Cap Flexible Screwdriver - 1 pc

REF. SE218 - Diaphyseal Screw Guide - 2 pcs

REF. SE219 - Ø4,2mm Diaphyseal Graduated Drill Guide - 2 pcs

REF. SE220 - Ø4,2mm Drill Bit, 320mm - 2 pcs

REF. SE221 - Diaphyseal Screwdriver - 1 pc

REF. SE222 - Ø4,2mm Drill Bit, 220mm - 1 pc

REF. SE223
Freehand Screw Gauge - 1 pc

REF. SE225 - Anti-Rotation Screw Ruler - 1 pc

REF. SE229A - 240 & 300mm Nail Targeting Arm - 1 pc

REF. SE235 - Compression Rod - 1 pc

REF. -SE20 - Elos Instruments set

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