Surgical Technique

Genutech® CCK

Genutech® CCK total knee revision system

surgival
GRUPO COSÍAS

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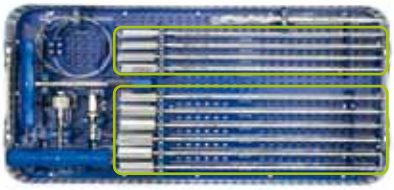


Set 0. Upper tray

1. TIBIAL TIME (I)

1.1 Intramedullary fixation

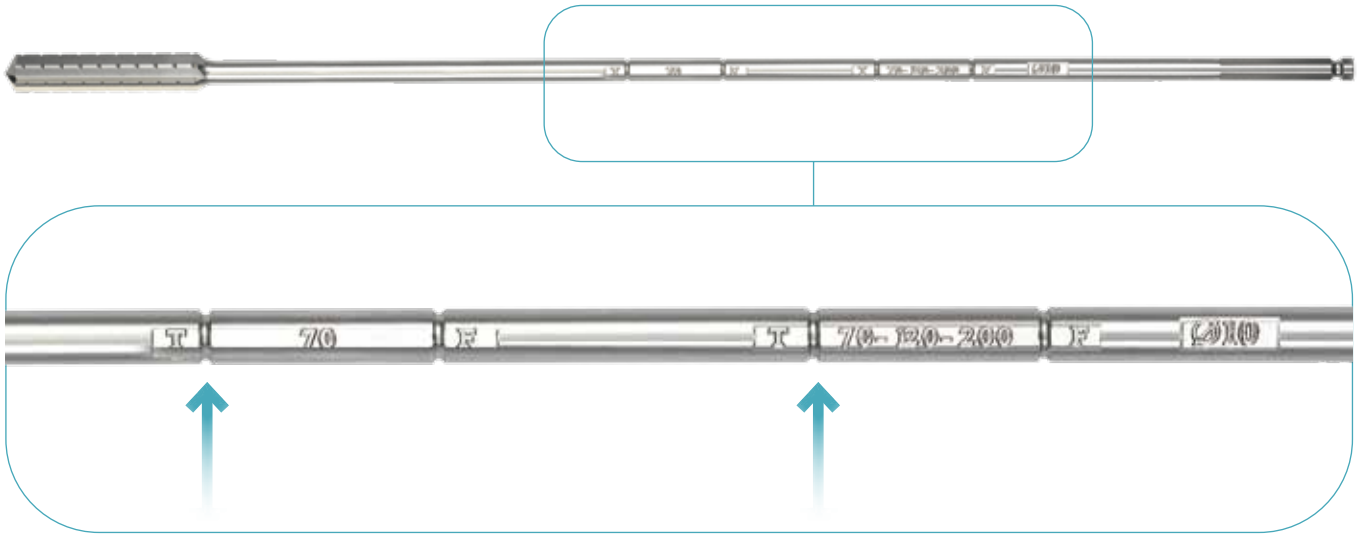
Diaphyseal intramedullary reaming

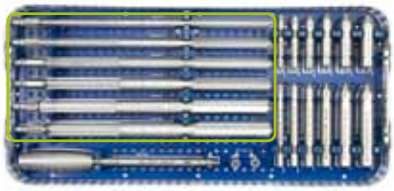
To ensure good stability on the diaphyseal axis of the reamer, which serves as a guide and support during surgery, intramedullary reaming is performed, with a depth according to the length of the stem which is going to be used.

Diameter of the reaming: The recommended diameters for this reaming are normally around Ø9-10 or 11mm, although the suitability of the final diameter for the tibial diaphysis to be used is always at the discretion of the surgeon and, through gradual reaming, it may even be close to that of the inner cortex diameter fitting. This is the case when a 200 mm stem must be inserted.

Depth: Generally, the diaphyseal reamer is inserted up to the second 70-120-200 mark, because at this depth greater stability, accuracy, tightening and safety are achieved for the installation of the tibial cutting guide. If it is not possible to penetrate this deeply (short tibia, fracture callus which closes the medullary cavity…), at a minimum it must penetrate as far as the 70 mark in order to house a stem which is 70 mm long.

The diameter and depth are marked on the axis of the diaphyseal reamer, and as the tibial time is being performed, depths must be adjusted according to the marks close to the initial T, depending on the length of the tibial stem (70, 120 or 200 mm) which you intend to implant.





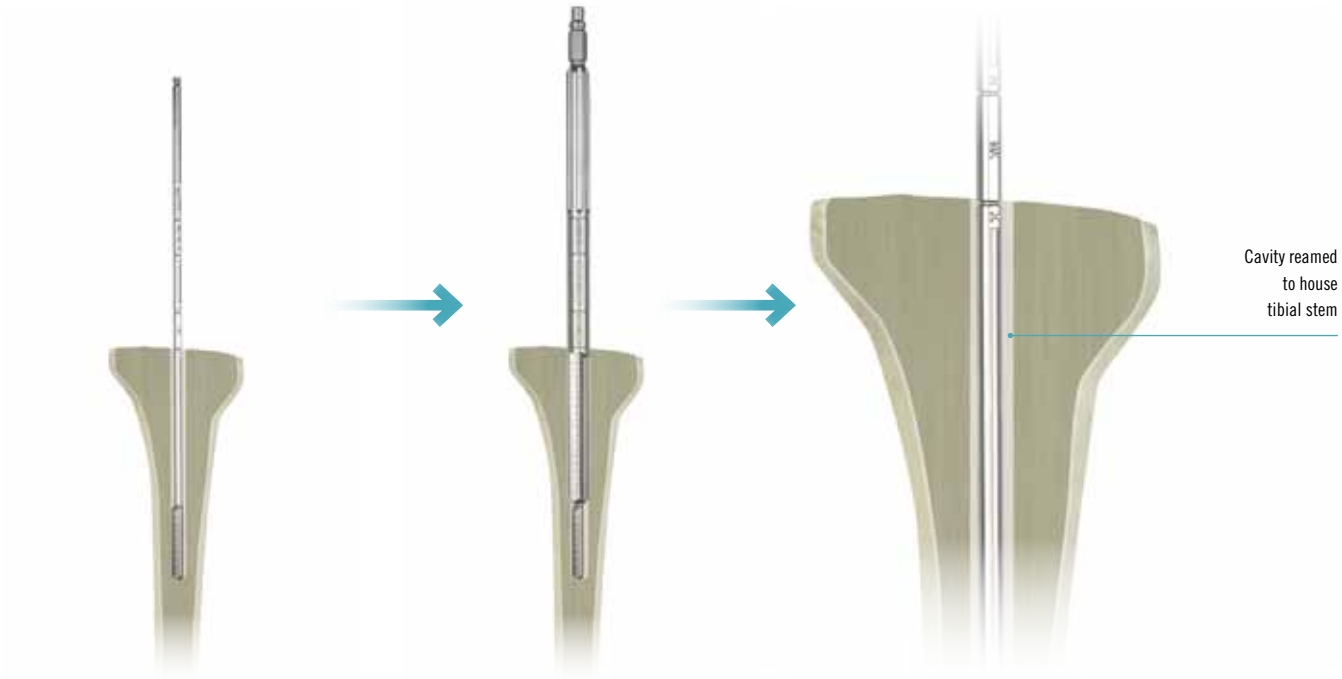
Set 0. Lower tray

Intramedullary reaming guided by cannulated reamers

During this step use the stem of the diaphyseal reamer as a guide.

Depth: In order to install the 70 mm stem, ream until the first 70 mark is level with the tibia surface and if, on the other hand, the stem must be 102 or 200 mm, ream until the second 120-200 mark.

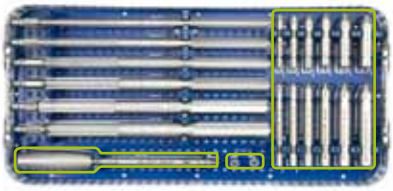
Diameter: Carry out gradual reaming in order to carve the cavity which will house the tibial stem.



Note:

When using a 200 m stem, the diameters of the reamers (diaphyseal and cannulated) will be the same, because in order to reach a reaming depth of 200 mm, you use part of the length of the reaming which has already been completed to secure the diaphyseal reamer.

(See other examples of intramedullary reaming according to the length of the stem being implanted in Annex I)



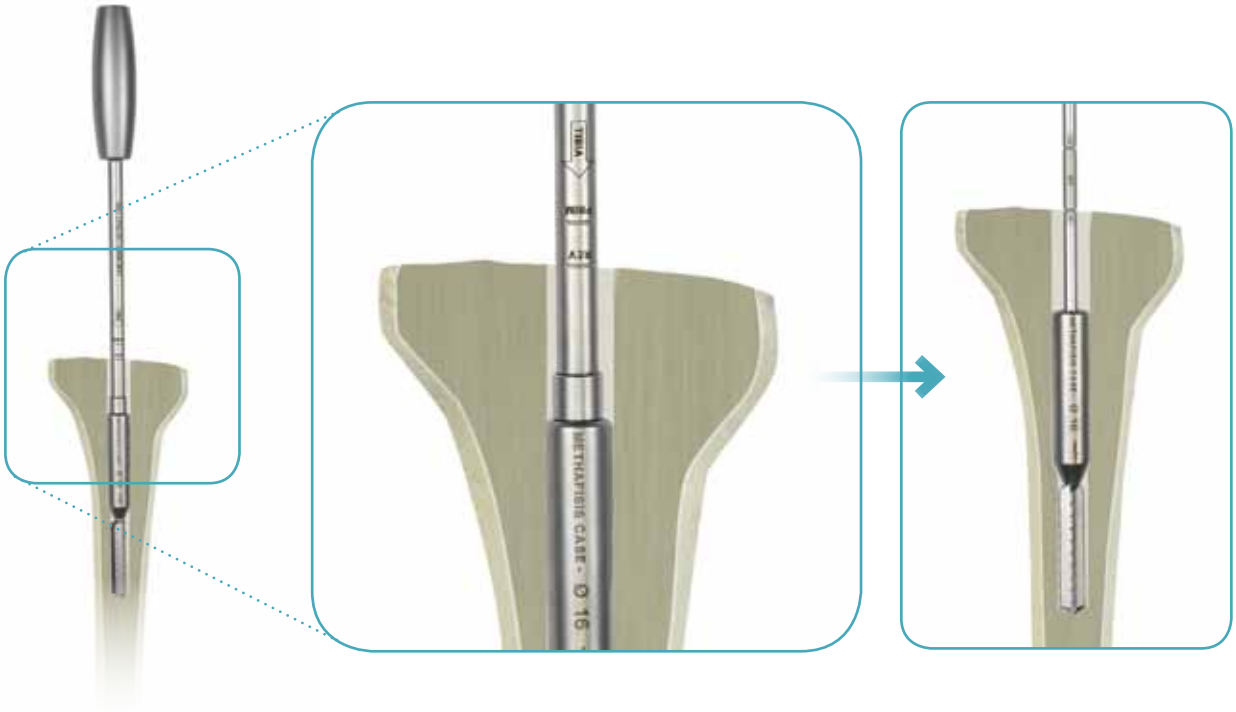
Set 0. Lower tray

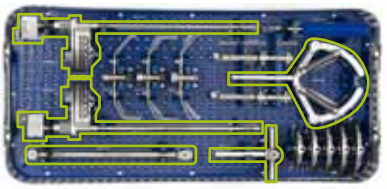
Insertion of the metaphyseal sleeve

Once the guided cannulated reaming has been completed at the chosen depth, insert a metaphyseal sleeve to ensure that there is the necessary stability to secure the cutting guides, thus ensuring optimal cutting accuracy and congruency in how the tibial tray is positioned in relation to the stem.

The diameter of the sleeve being used is the same as the diameter of the last cannulated reamer which was used, installing a short metaphyseal sleeve if the reaming was performed in order to insert a 70 mm stem, or a long one if reaming has reached the second mark (120-200) to insert a 120 or 200 mm stem.

The sleeves must be inserted with the revision sleeve inserter/extractor at a minimum depth, as indicated on the axis of the inserter, according to the readings which correspond to the surgical time we are performing (tibia or femur) and the type of surgery being carried out (Semi-Constrained Revision "REV" or Primary Semi-Constrained "PRIM").



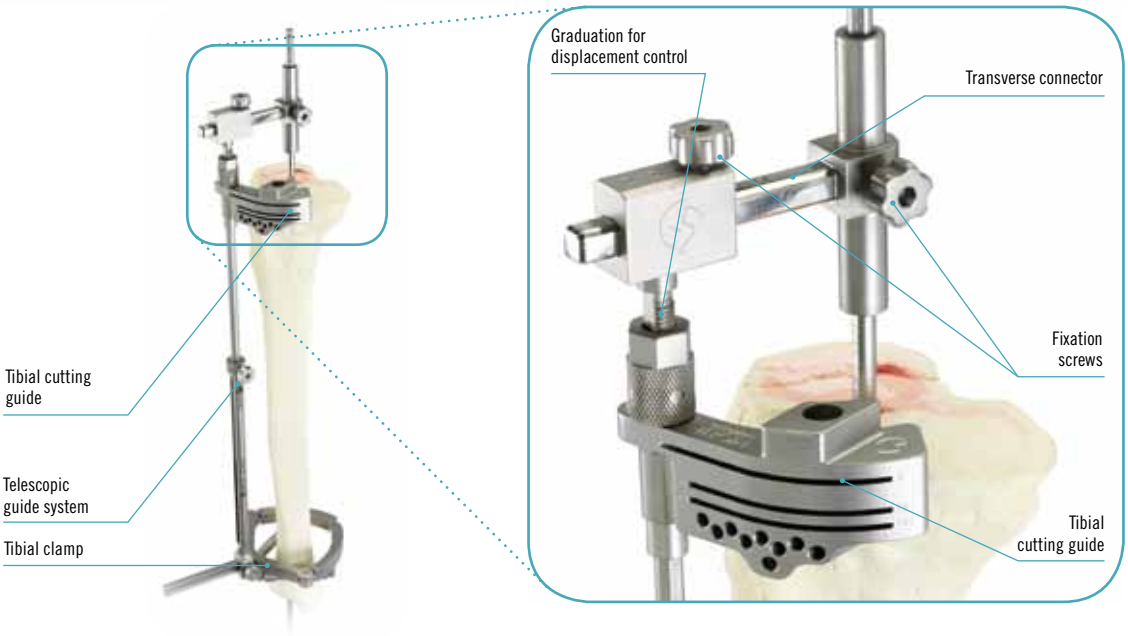


Set 0. Upper tray

1.2 Assembly and fitting of the tibial cutting guide

Assembly of the tibial cutting guide

After performing intramedullary fixation of the reamer with the help of the metaphyseal sleeve, on the protruding stem assemble the telescopic guide system with the corresponding tibial cutting guide (right or left), distally clamping it to the patient's ankle with the help of the distal clamp for the tibial guide.

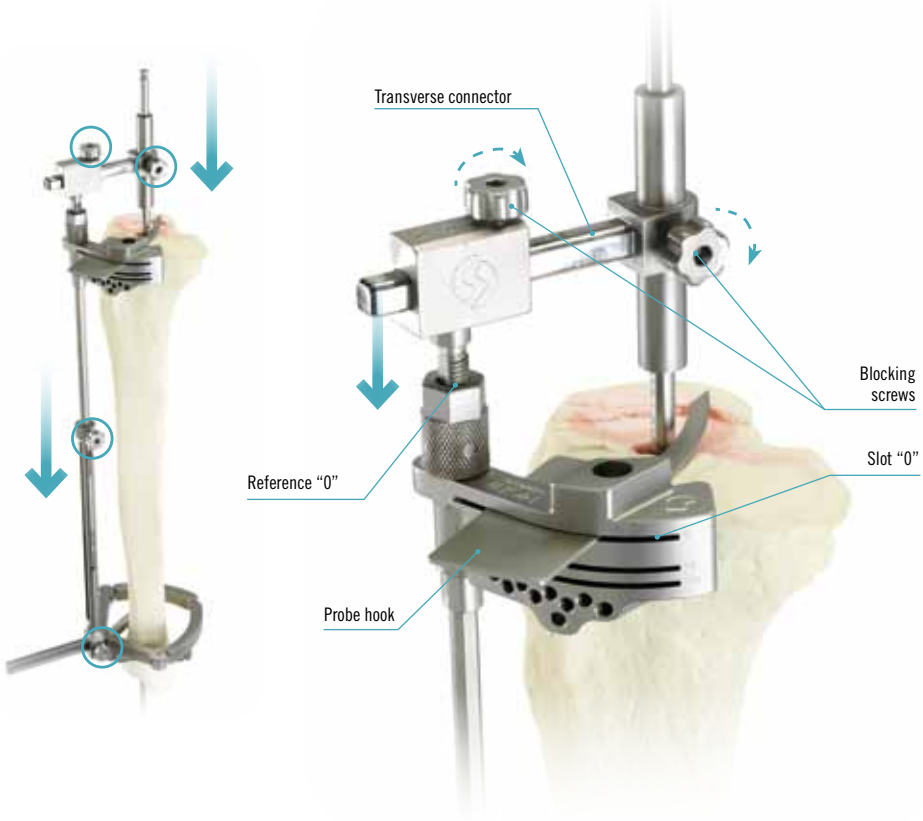


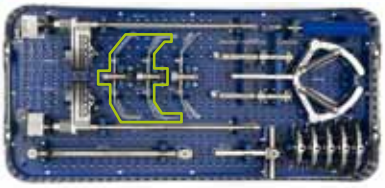
Fitting of the tibial cutting guide

On the tibial cutting guide there is a threaded displacement measuring system, which allows you to have strict control over the steps we take. This system must be adjusted into position 0 before it is used.

In order to find reference “0”, insert the probe hook into the standard cutting slot (slot “0”) and the whole system travels on the axis of the reamer, until the tip of it rests on the most prominent area of the tibia.

In this position tighten the blocking screws or fixation screws of the transverse connector and of the telescopic guide, and then install the revision probe.





Set 1. Upper tray

Installation of the revision probe of 0-8 or 0-12 mm

In the most favourable cases, where you only need to make a thin cut to sanitise the tibial surface, with the "0" end (short arm) of the probe, look for the most depressed area of the tibial plateau to ensure that the cut being made is always below said point. To do this you must use the threaded displacement measuring system to move it down until it rests on said area. Once the most depressed area has been reached, fix the tibial cutting guide and then make the cut.

In extreme cases, in which the tibia is extremely damaged, a prosthesis has been replaced with supplements or it is necessary to sanitise a bone which is significantly (8 mm, 12 mm, etc.). Using supplements, in the medial, lateral or even the bilateral area, proceed as follows: The "0" end (short arm of the tibial probe) must be directed towards the most depressed area of the most prominent tibial plateau. To do this you must use the threaded displacement measuring system to move it down until it is rests on said area.

Then note down the amount of millimetres which the system has gone down (see measurement on the graduated marks on the telescopic guide).

With the arm of the rod in position "8" or "12" probe the most depressed area of the plateau with the most wear, and the following situations may arise:

a) The 8 mm arm of the "0-8" probe does not fit

In this case cut to +8 and install an 8 mm tibial supplement below the tibial tray on that side.

b) The 8 mm arm is not in contact

In this situation, assemble the "0-12" probe, trying to ensure contact with its 12 mm arm, and the following situations may arise:

b1) The 12 mm arm does not fit, leaving two options:

· Move it down with the sheave of the tibial cutting guide until the 8 mm arm touches the area with the most wear, making a +8 mm recut in that area. In this situation there will be additional displacement with the sheave to transfer it to the thickness of the tibial insert (to maintain the interline), and an 8 mm tibial supplement will be used in the aforementioned most depressed area.

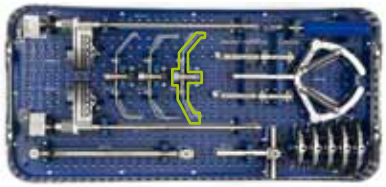
· Keep the cutting guide in its initial position and recut +12 on the plateau with most wear, using a 12 mm tibial supplement.

b2) The 12 mm arm is not in contact

Move down the threaded displacement measuring system to the 12 mm arm, making a +12 recut in the most depressed area to use a 12 mm tibial supplement. You must also take into account the amount of millimetres which the cutting guide has moved downwards with the threaded displacement system and add them to the thickness of the tibial insert and ensure that the interline is maintained.

Note:

Move the system down until the probe touches the tibial plateau.



Set 1. Upper tray

PRIMARY TIBIAL SURGERY

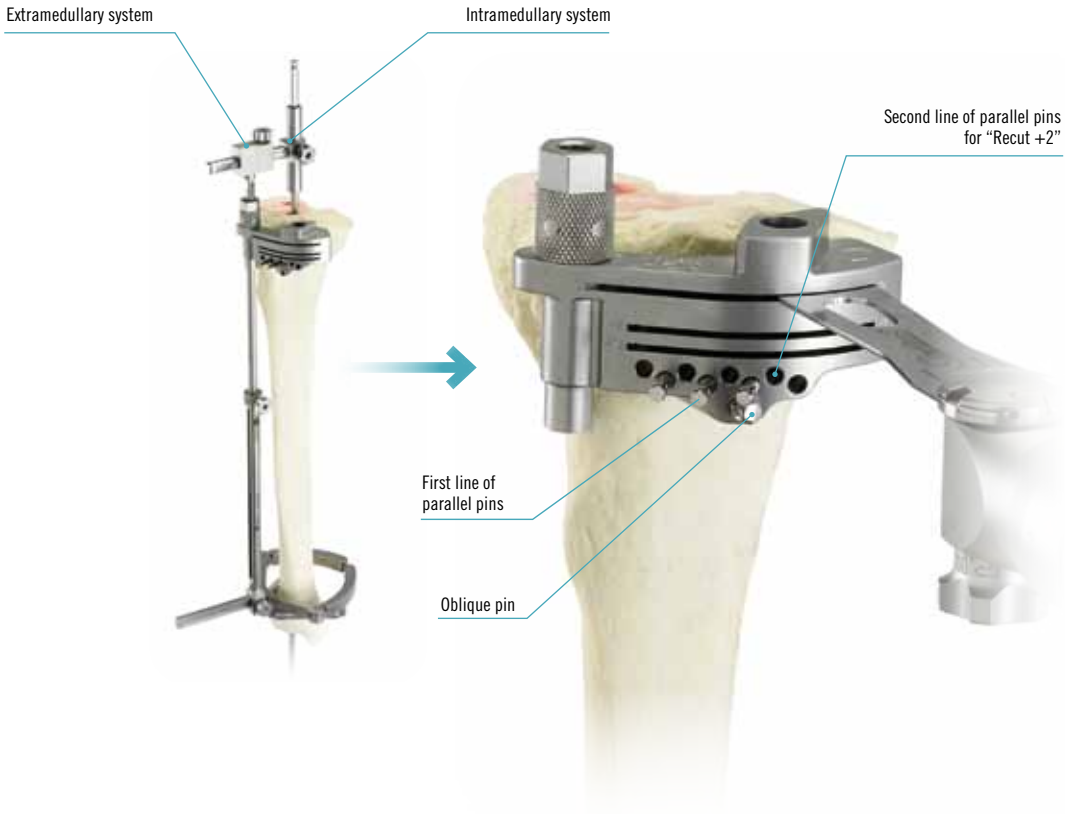
When performing primary tibial surgery by implanting a semi-constrained prosthesis tibial component, install the “0-10” rod on the tibial cutting guide.

Firstly, the “10” end of the probe must be directed towards the most depressed area of the most prominent plateau and then, with the arm of the rod in position “0”, probe the most depressed area of the plateau with the most wear. If in order to probe on the most depressed plateau it is necessary to move the system down, this measurement must be noted down.

Note:
For the “0-10” rod, which is only used for primary semi-constrained surgery, the “0” probe coincides with the deepest point of the rod, unlike the “0-8” and “0-12” rods used for revision surgery.

1.3 Tibial resection

Once the tibial cutting guide is in the correct position, it is fixed to the tibia using pins. Then the telescopic intramedullary system is removed (loosening all of the fixation screws, moving to the end of the stroke of the thread of the tibial cutting guide and pulling up the telescopic system), and the intramedullary system is removed.
This is when the tibial cut is made.



Note:

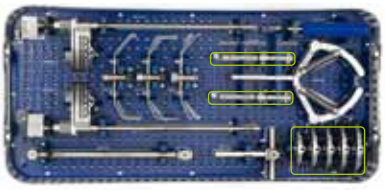
· Should there be any difficulties when removing the intramedullary system because of an obstructing metaphyseal sleeve, this can be reamed with the tip of the sleeve inserter/extractor and it can be released by tapping it outwards.

· It is recommended to insert the parallel pins on the first line of pins, using at least three pins and one oblique pin to ensure effective fixation.

· It is recommended that you first put in place the pins at both ends, so that the central pins do not impede the removal of the intramedullary components and then, once the intramedullary system components have been removed (diaphyseal reamer and metaphyseal sleeve), install the central pins.

· The parallel pins can be kept, by way of a reference point, to make it possible to make the 2 mm recut.

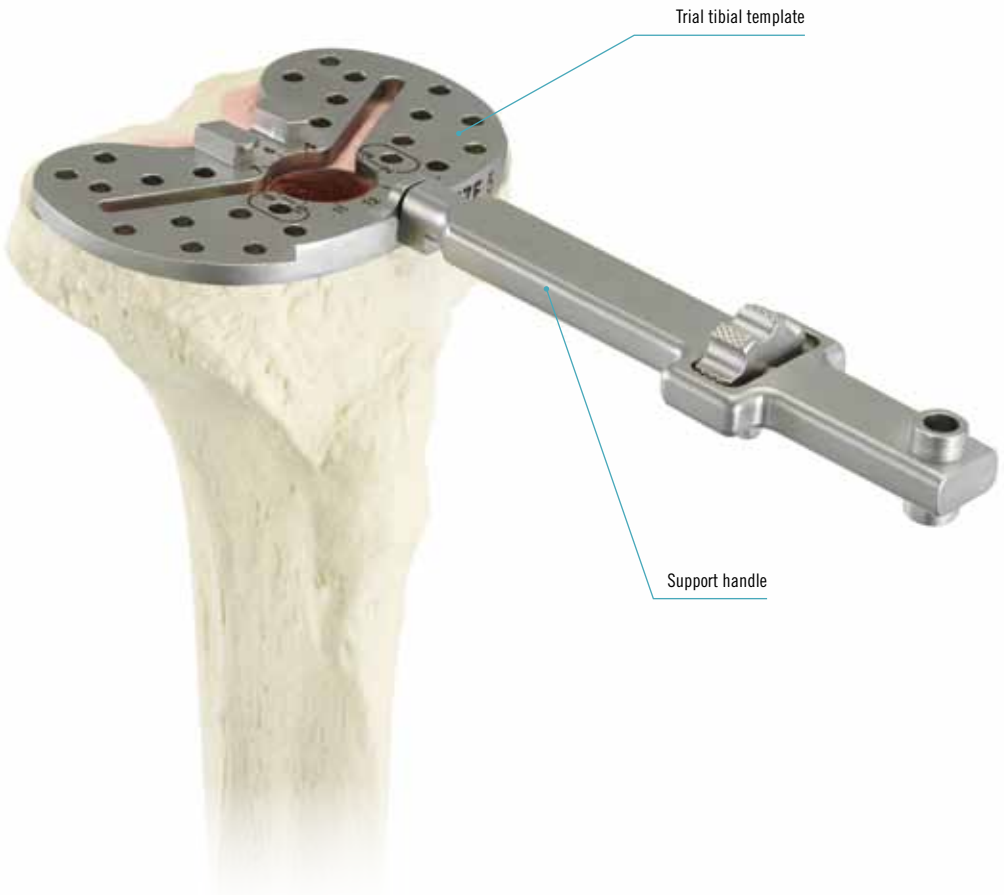
· If after removing the pins we want to recover this reference point, it is recommended to put back the cutting guide by inserting the probe hook through the corresponding cutting slot, supporting it on the resected surface and making use of the drill holes which have already been made in order to reinsert the pins and thus fix the cutting guide in the right position. For greater accuracy when putting back the cutting guide it is recommended to perform the above action by reassembling the extramedullary telescopic system on the intramedullary system.

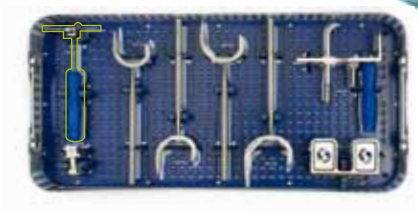


Set 1. Upper tray

1.4 Measuring of the tibial tray

After making the cut, when placing the trial templates on the tibial cut, select the size which best suits the bone morphometry of the tibial cut which has been made.





Set 2. Upper tray

1.5 Measuring of the interline

In order to measure the interline, fit the lower edge of the interline sizing guide's flange onto the ATT. As the average interline ranges approximately from 25 mm (Size 1: 23 mm, Size 2: 24 mm… Size 5: 28 mm) it is possible to determine the thickness of the tibial insert to be used in advance in order to maintain the articular interline.

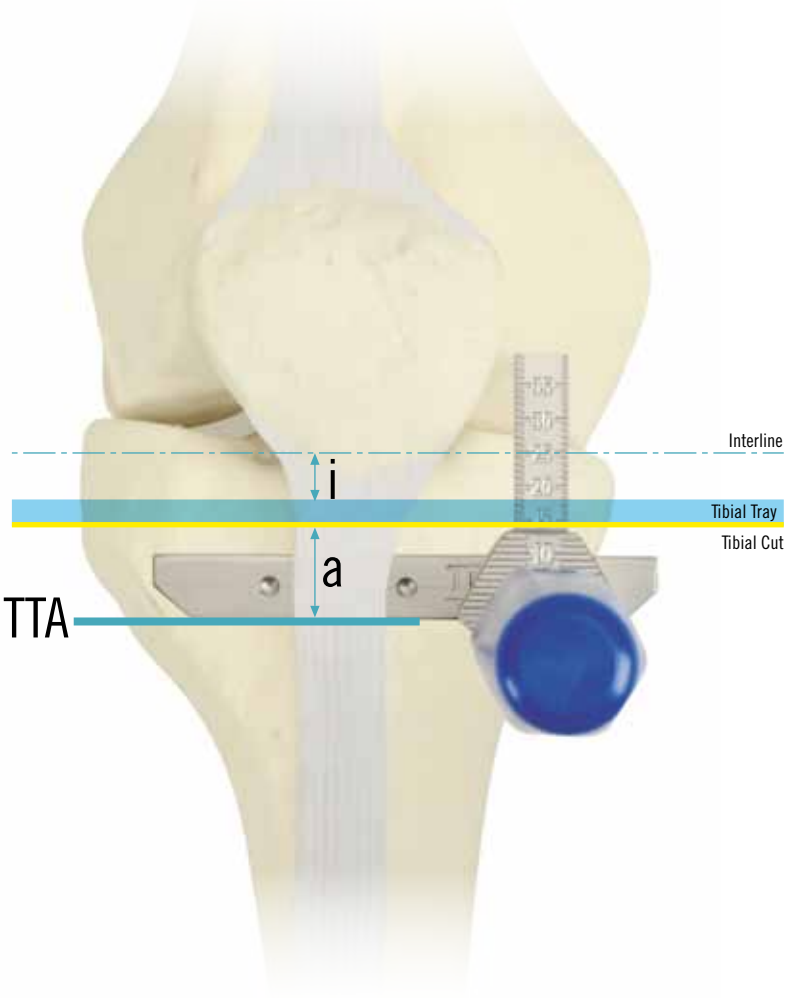
Example:

If "a" is the height from the insertion of the patellar tendon with the ATT to the tibial osteotomy, and knowing that the thickness of the tibial tray is approximately 4 mm and the interline is approximately 25 mm from the insertion of the patellar tendon with the ATT, we can conclude that the thickness of tibial insert "I" to be used must be as follows in order to maintain the interline:

Thickness of Insert: ➔ I = 25 - 4 - a ➔ I=21-a

Si a = 10 (see image) ➔ I = 11

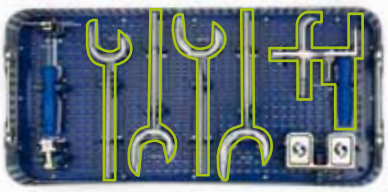
Therefore, a 10 or 12 mm tibial insert would be used to maintain the interline in its position.



Note:

When it is necessary to perform an osteotomy of the TTA to make it possible to dislocate the patella, the height of this insertion will be marked on the front side of the metaphysis so that measurements can be taken from this mark.

It is essential that the interline is located in the right place in order to ensure proper knee function.



Set 2. Upper tray

2. FEMORAL TIME

Let us consider two situations:

a) Implantation of a semi-constrained TKR on a knee with no previous surgery (primary surgery).

b) Implantation of a semi-constrained replacement in a prosthetic replacement (revision surgery).

2.1 Measuring of the femoral component

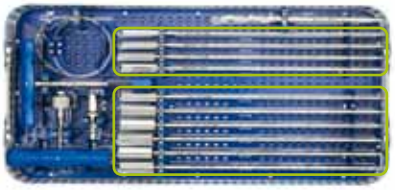
Revision surgeries: using revision femoral sizing guides.

Primary surgeries: using the primary femoral sizing guide which will indicate the correct size, supporting the posterior condyles and tapping with the rod on the anterior cortex. In this case the sizing guide is inserted with the diaphyseal reamer through the centring sleeve. So for primary surgeries, ream with the diaphyseal reamer and then measure the size of the femoral component.

Note:

· At this moment, check and assess the size which was previously selected for the tibia (see 1.4.)

· When the sizing gauge is positioned between two sizes, the smaller size must be selected.



Set 0. Upper tray

2.2 Intramedullary fixation

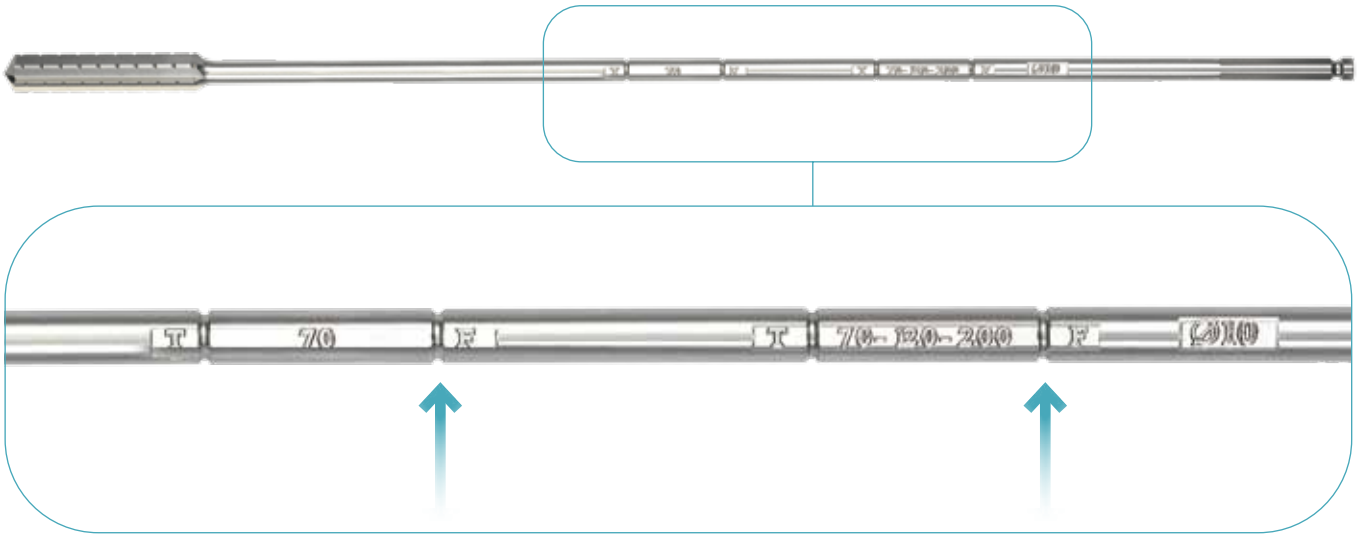
Diaphyseal intramedullary reaming

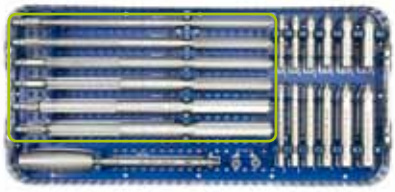
In order to ensure good stability for the axis of the diaphyseal reamer, which serves as a guide and support during surgery, gradual intramedullary reaming is performed with a depth according to the length of the stem which is going to be used.

Diameter of the reaming: The recommended diameters for this reaming are normally around Ø9-10 or 11 mm, although the suitability of the final diameter for the femoral diaphysis to be used is always at the discretion of the surgeon and, through gradual reaming, it may even be close to that of the inner cortex diameter fitting. This is the case when a 200 mm stem must be inserted.

Depth: Generally, the diaphyseal reamer is inserted up to the second 70-120-200 mark, because at this depth greater stability, accuracy, tightening and safety are achieved for the installation of the femoral cutting guide. If it is not possible to penetrate this deeply (short femur, fracture callus which closes the medullary cavity…), at a minimum it must penetrate as far as the 70 mark in order to house a stem which is 70 mm long.

As the femoral time is being performed, the depths must be adjusted to the marks close to the initial F, as indicated in the image below.



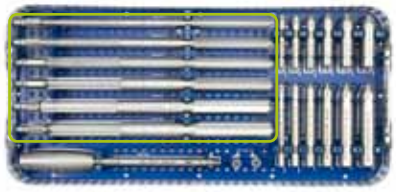


Set 0. Lower tray

Reaming guides with cannulated reamers

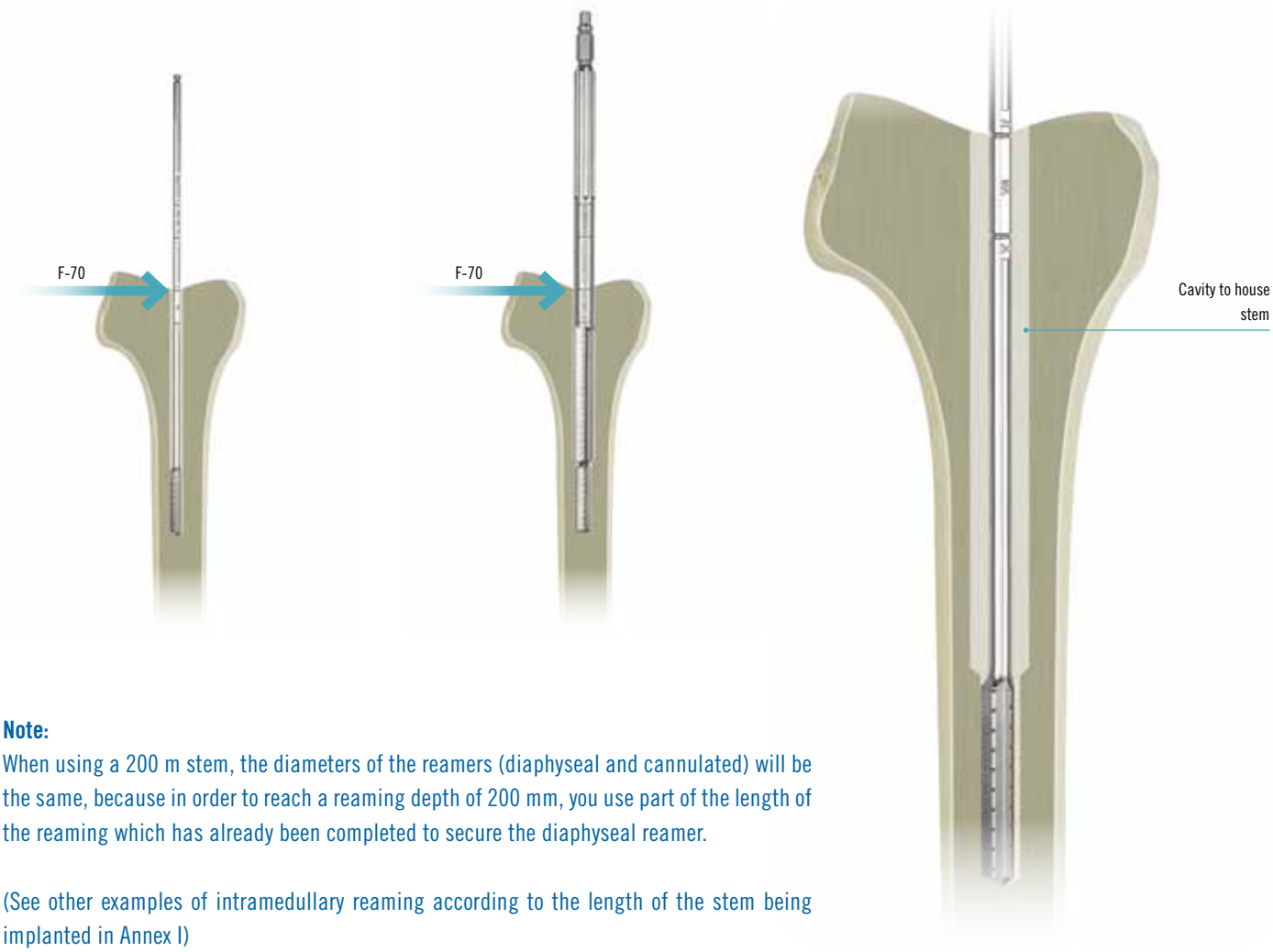
Deciding the length of the stem which is going to be used prior to the operation, ream with a cannulated reamer to the depth which was chosen, reaming with an incremental diameter.

Depth: To install a 70 mm stem, penetrate as far as the first 70 mark. If, on the other hand, the stem must be 102 or 200 mm, ream until the second 120-200 mark. As this is the femoral time, pay attention to the depth marks closest to the initial F.



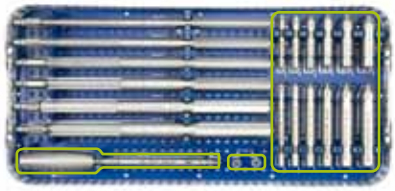
Set 0. Lower tray

Diameter: Carry out gradual reaming in order to carve the cavity which will house the femoral stem.



Note:
When using a 200 m stem, the diameters of the reamers (diaphyseal and cannulated) will be the same, because in order to reach a reaming depth of 200 mm, you use part of the length of the reaming which has already been completed to secure the diaphyseal reamer.

(See other examples of intramedullary reaming according to the length of the stem being implanted in Annex I)



Set 0. Lower tray

Insertion of the metaphyseal sleeve

Much like for the tibial time, in order to give the system greater possible stability for subsequent assemblies and surgeries, a metaphyseal sleeve is installed, occupying the position which has been machined with the cannulated reamer and which is subsequently occupied by the femoral stem.

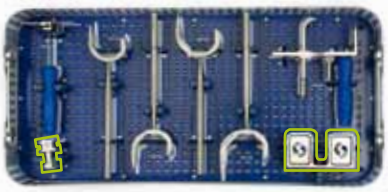
The diameter of the sleeve being used is the same as the diameter of the last cannulated reamer which was used, inserting a short metaphyseal sleeve if the reaming was performed up to the 70 mark, or a long one if reaming has reached the 120-200 mark.

The sleeves must be inserted with the revision sleeve inserter/extractor, with its threaded cap which protects the extracting thread, at a minimum depth, as indicated on the axis of the inserter, according to the readings which correspond to the surgical time we are performing (femur) and the type of surgery being carried out: Semi-Constrained Revision or Primary Semi-Constrained.

Note:

It is recommended to insert the sleeve with its threaded cap (to protect the extracting thread).

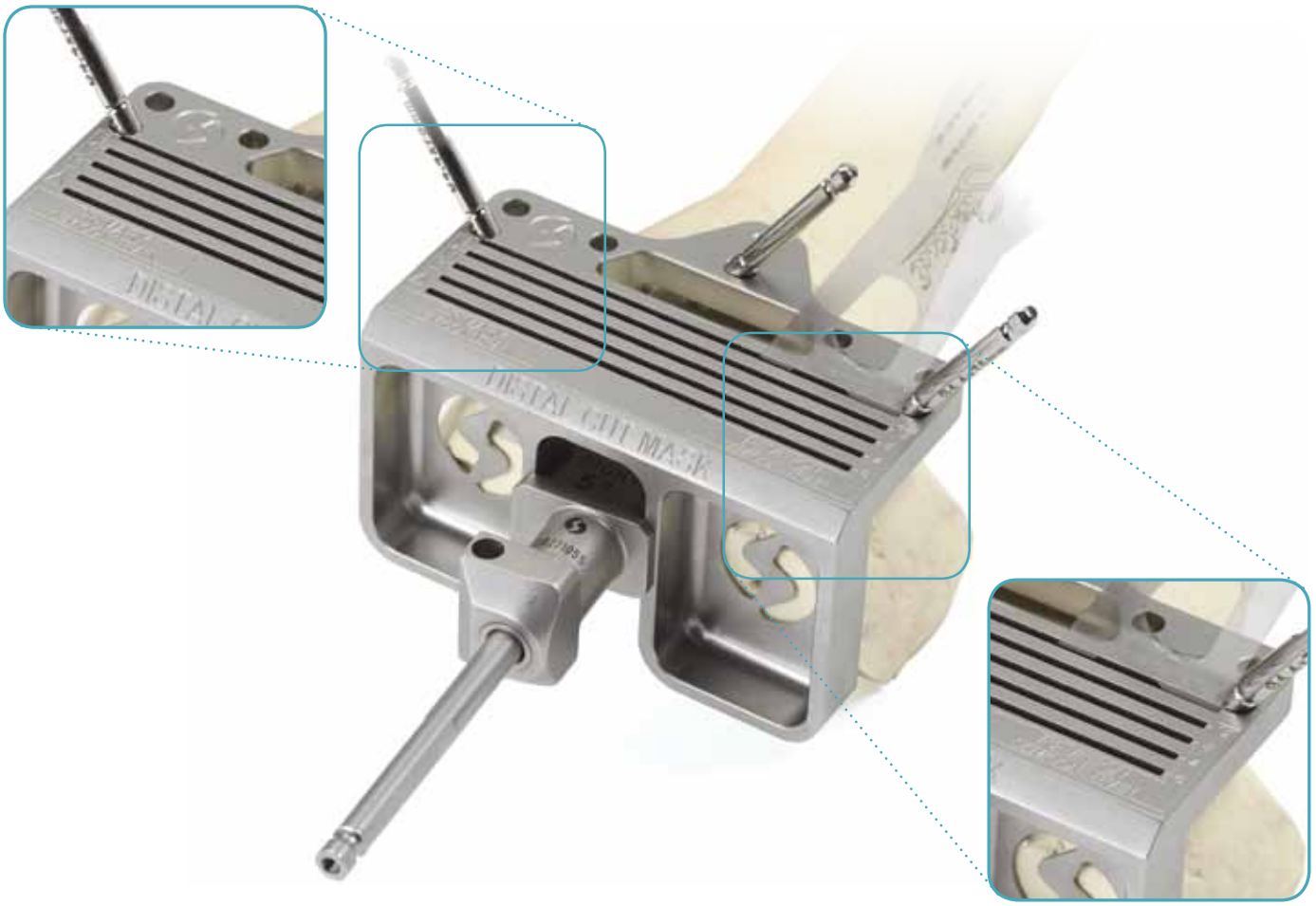
When inserting a sleeve of Ø10 mm the inserter must be used without the cap because if this protective cap is used it will exceed the 10 mm diameter of the sleeve.



Set 2. Upper tray

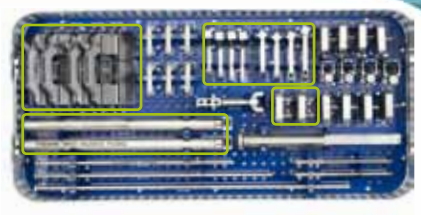
2.3 Distal cut

On the axis of the diaphyseal reamer insert the distal cutting mask, which has been installed on the 5° angular guide which crosses the axis.
Then insert the mask until it comes into contact with the distal part of the femur, supporting the mask's upper visor on its front and secure with threaded pins of Ø 4.4 mm.
Two options can be seen on the cutting mask, which are marked on the cutting slots. Through these you will take into account the readings on the left to perform "Primary Semi-Constrained" surgery and those on the right for "Semi-Constrained Revision" surgery.



In the case of "Primary" surgery, cut the support area to 8 mm, and for "Revision" surgery cut to 1 mm. We will also find slots marked for additional recuts of 4, 8 and 12 mm, to enable sanitising or on condylar cuts. In these cases we will use distal supplements with the same thickness as the distal cut which has been made.

Note:
Before fitting the mask and making the cuts it is advisable to take into account its degree of rotation, perpendicularly aligning the mask with the tibial axis. This is performed by inserting the "Alignment Bar" through the hole of the "5° Angular Guide", aligning it with the "tibial crest". Alternatively, the mask can also be guided using the femoral epicondyles.



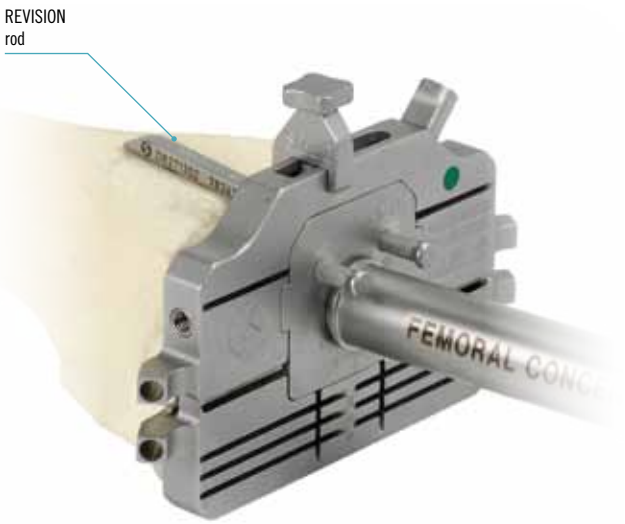
Set 3

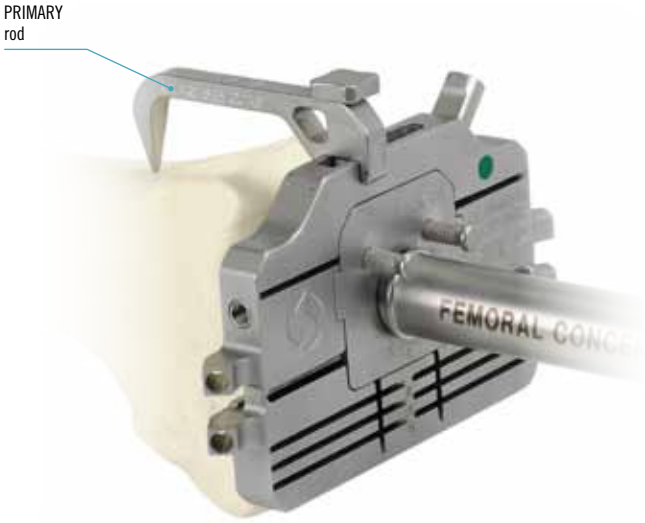
2.4 Femoral cuts

Positional adjustment of femoral cutting mask

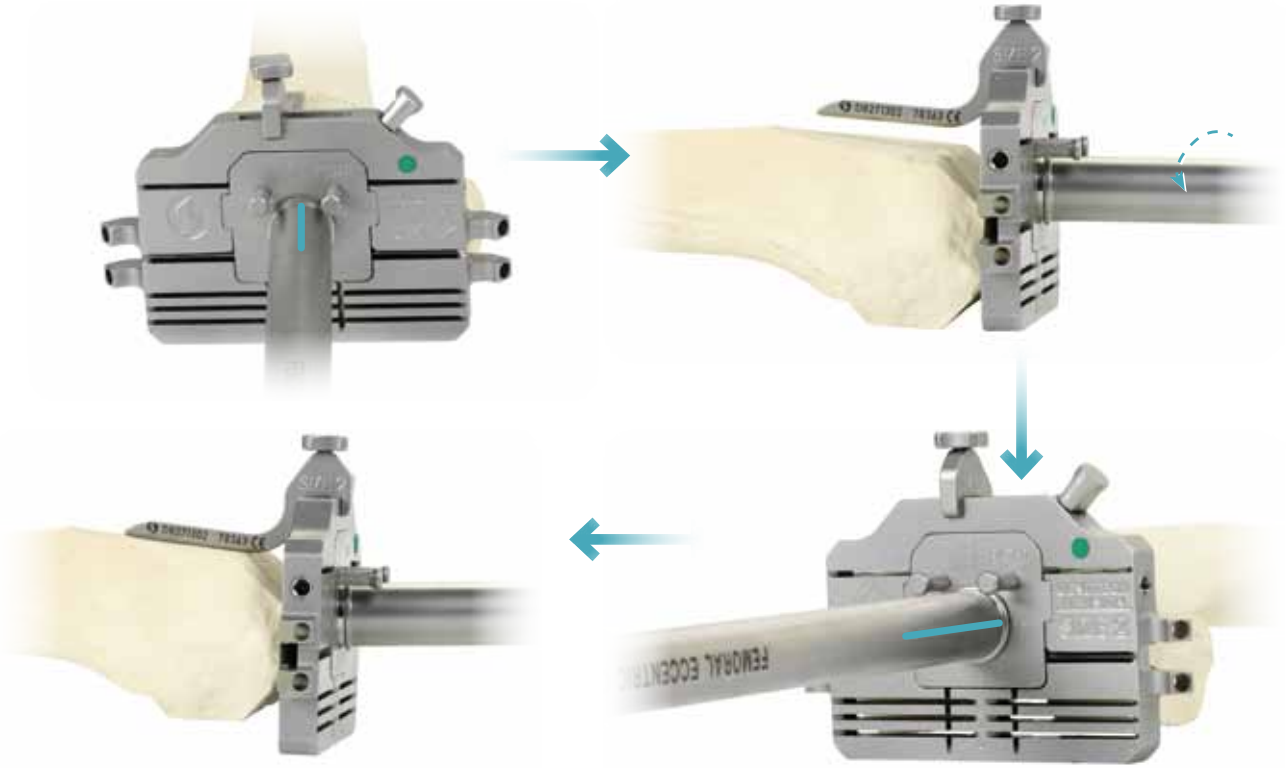
Remove the distal cutting mask and the angular guide and set up the reamer with its sleeve. Place the cutting guide of the previously selected size on the handle of the reamer (see 2.1) with the insert positioner and the concentric positioner.

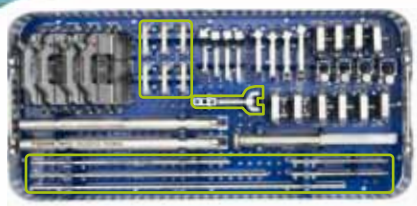
A “Revision” or “Primary” rod has been fitted onto the cutting guide, depending on the type of surgery. Then check whether or not the rod is resting on the anterior cortex.





If it is being supported offsetting is not necessary. If it is not being supported remove the concentric positioner and put the eccentric positioner in its place, rotating it to the left or right until the rod is resting on the frontal area of the femur.





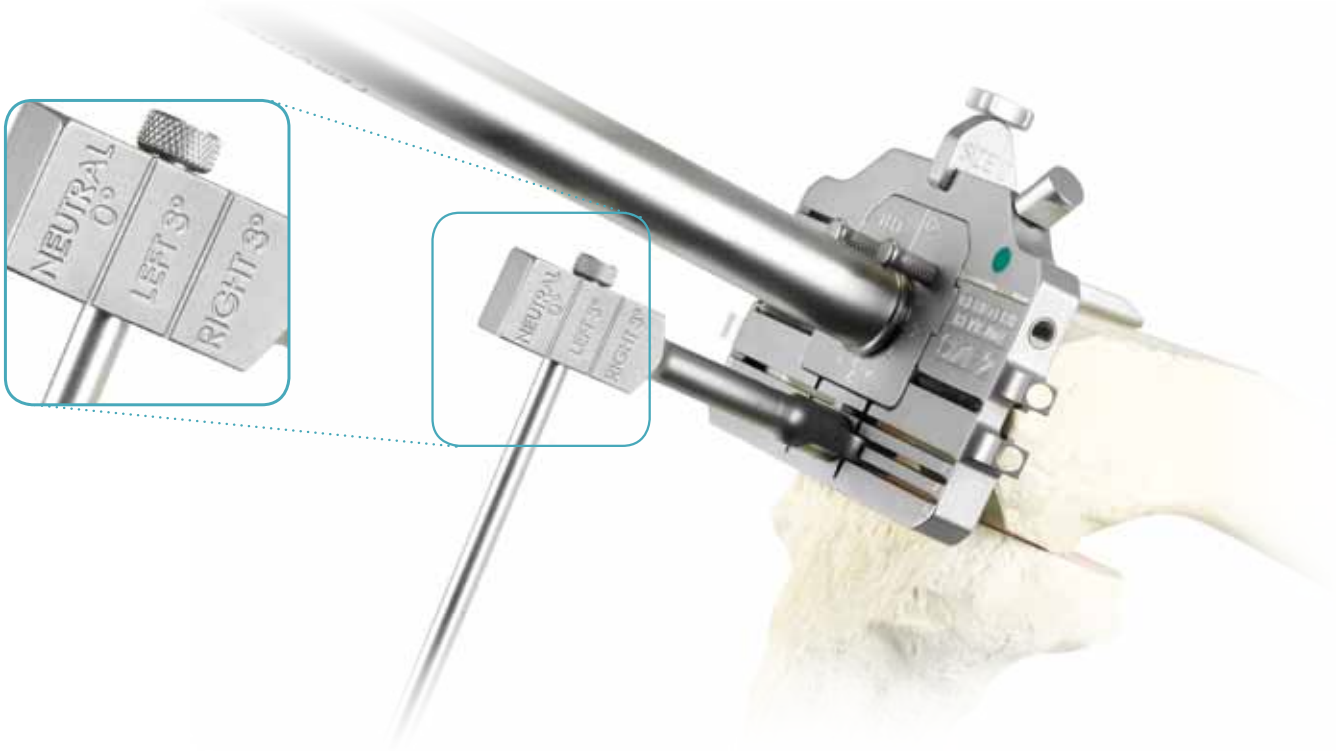
Set 3.

Once the rod is touching it, externally rotate the cutting mask by 3°.

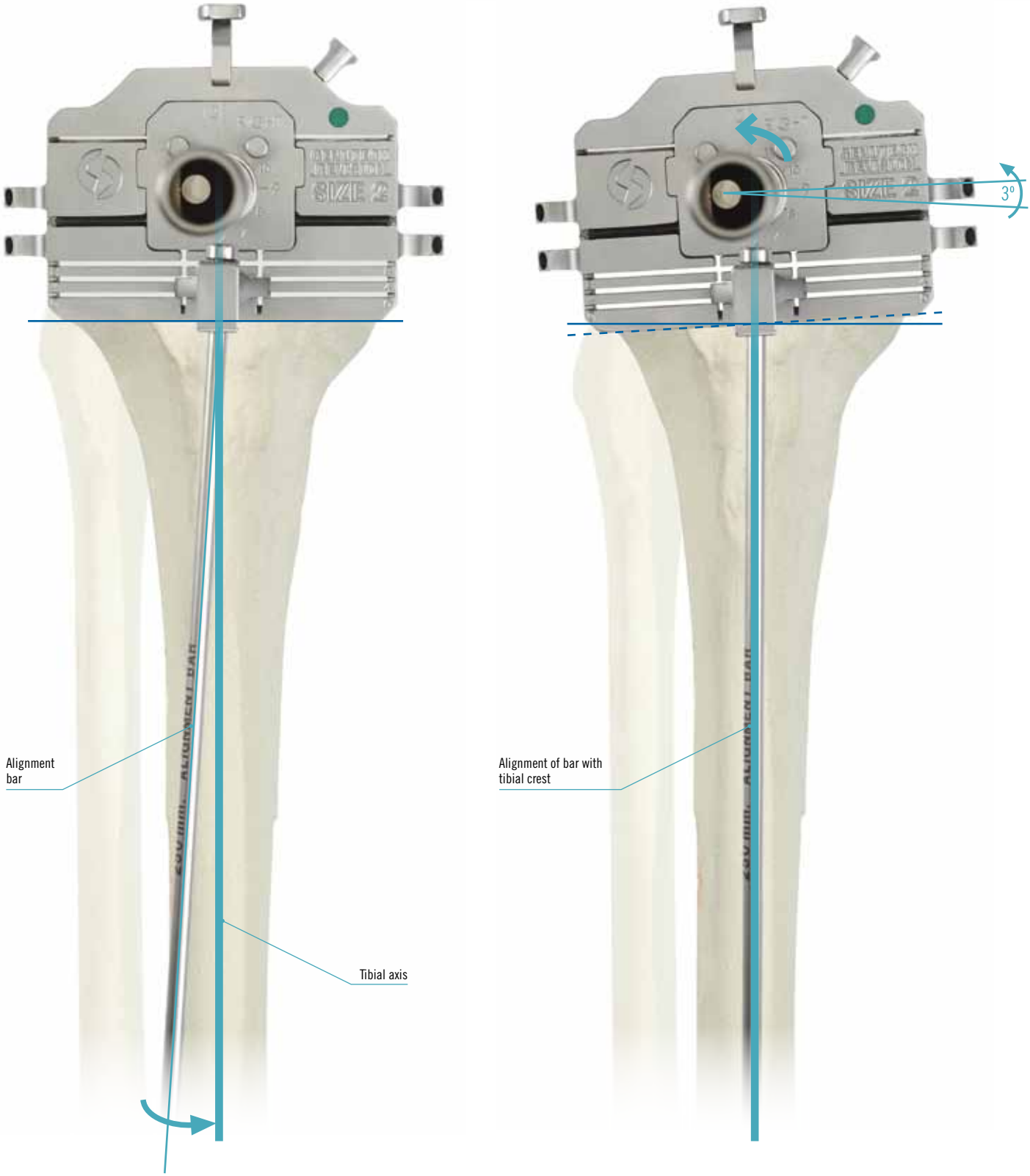
Note I:
The medial-lateral displacement resulting from this off-setting must be carried out as deemed appropriate by the physician, seeking to centre the femoral component, although it must be noted that rotating towards the external part has the advantage of reducing the tension on the patella and is conducive to it being centred on the femoral component.

Note II:
The cutting mask has housings for 4, 8 and 12 mm distal supplements, which must be installed to provide proper distal support to the cutting mask, mainly in those cases where recuts have been necessary on the distal condyles.

3° of external rotation
With the knee at 90° flexion, and the posterior condyles resting on the surface of the tibia which has previously been cut, insert the 3° external rotation system into the posterior cutting slots of the cutting guide.



Fit the alignment bar into the hole 3° to the left or right. When this bar is aligned with the axis of the tibia, externally rotate the cutting guide by 3°. This support also has a hole at 0° which may be used at the discretion of the surgeon.



Reading of the offset

In this position the offset reading is taken, if an offset has been necessary, because the stem must be fixed to both the trial and final femoral components.

To take this reading it is important to pay attention to the number of the insert positioner which coincides with the mark of the eccentric positioner.

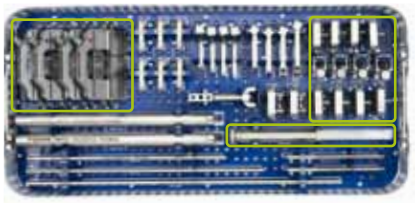
Fixation of the cutting mask with threaded pins

Subsequently, secure the cutting mask to the femur with threaded pins of Ø 4.4 mm and then remove the rod, the concentric or eccentric positioner, the insert positioner, the metaphyseal sleeve and the diaphyseal reamer.

Note:

It is recommended to insert the thread as far as possible, only leaving one or two threads outside the cortex to ensure that the system has optimal fixation and stability. The pins have a reference slot which indicates the maximum depth to which the pins should be inserted to avoid problems when extracting the diaphyseal reamer and the sleeve from inside the intramedullary axis.

If we are making a 12 mm distal recut, the fixation of this condyle will be unstable if we only insert the pin as far as the slot, because only the tip of the pin will reach the bone. If it is inserted deeper, this will present an obstacle when removing the diaphyseal reamer and sleeve. Therefore, it is recommended to initially insert the pin as far as the slot and, once the intramedullary components have been removed, finish inserting the pin until it penetrates the threaded area of the bone.



Set 3.

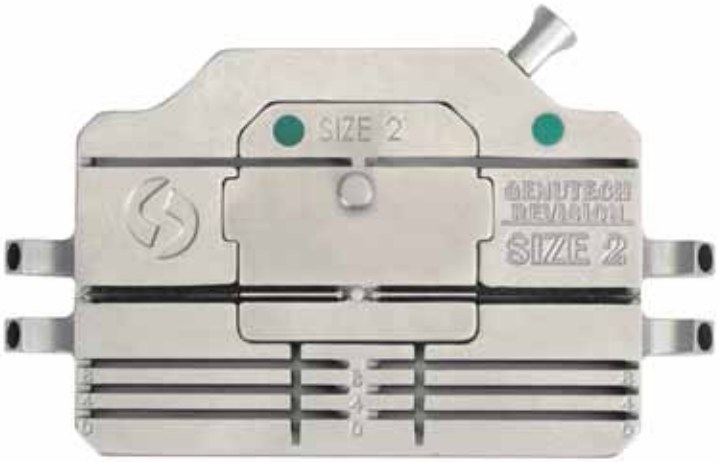
Making femoral cuts

Fit the appropriate cutting insert for the size of the femur and use it to make frontal, rear and bevel cuts.

Note:

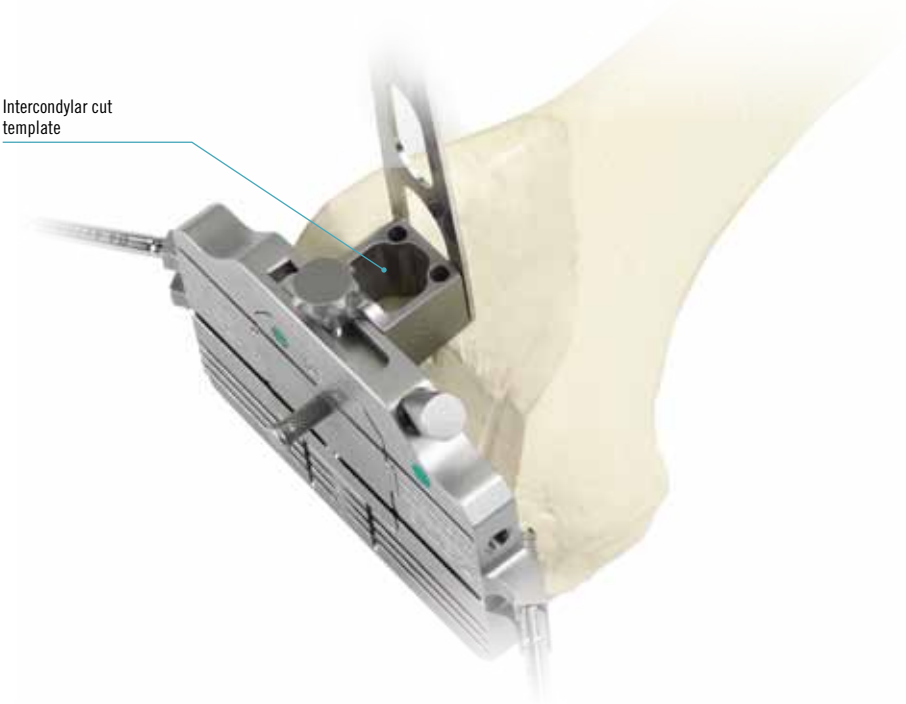
The cutting mask makes it possible to make subsequent additional cuts at 4 and 8 mm.

To facilitate the identification and correspondence between sizes of masks and their corresponding cutting inserts, there are colour markers which also coincide with the colour which will subsequently be used for the trial tibial insert for the flexo-extension test.

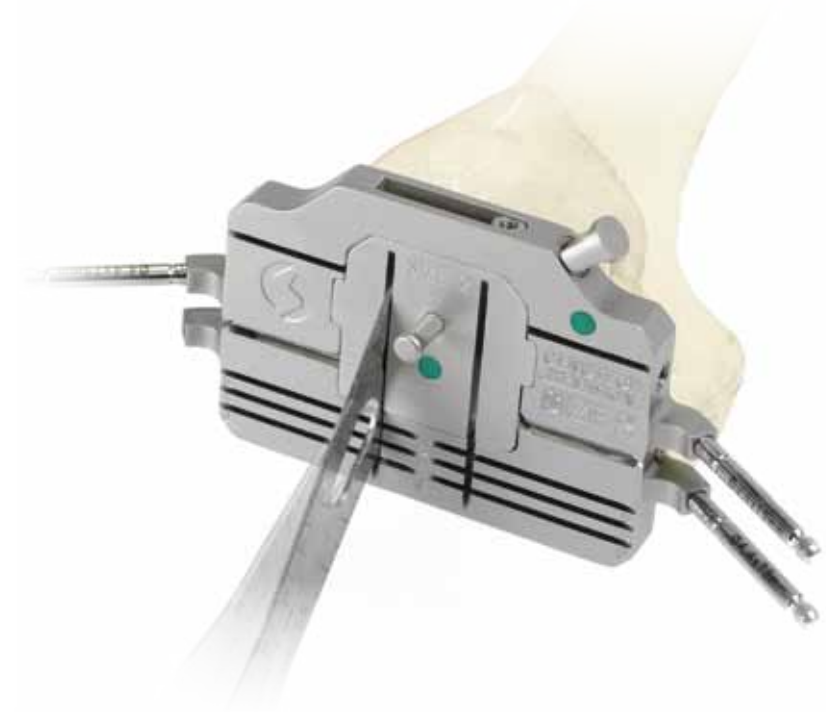


Intercondylar cut

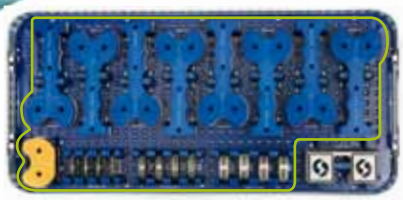
When the intercondylar cut template has been fitted on the slots of the appropriate cutting insert for to the size of the femur, the cuts are made from the front of the femur.



In order to guide the saws better there is the option of installing the intercondylar insert of the appropriate size and frontally finishing the sides of the intercondylar box.



With all of the femoral cuts made, remove the cutting mask.



Set 2. Lower tray

2.5 Verification of flexo-extension stability

Once the cuts have been made, spacers are used to check the looseness of the system and the alignment of the limb using the corresponding supplements in extension and flexion.

To achieve stability, bilateral supplements are placed on the distal femur at 4, 8 or 12 mm on the femoral spacer (yellow piece) until it stabilises in extension, or by increasing the thickness of the tibial spacer (blue piece) 2 by 2 mm, bearing in mind that, in both situations, whenever possible you must compensate the increased thickness with the supplements on the femur to avoid increasing the thickness of the tibial polyethylene inserts, as this thickness will have been established in order to maintain the position of the interline.

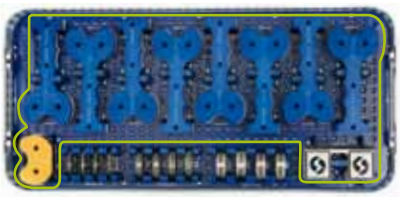
For example:

· If the necessary increase is 2 mm, the thickness of the tibial insert must be increased by 2 mm, because the Genutech CCK system does not have 2 mm femoral supplements.

· If the increase is 4 mm, 4 mm bilateral distal supplements are placed on the femur.

· If the increase is 6 mm, a tibial insert which is 2 mm bigger and 4 mm bilateral distal supplements are placed on the femur.

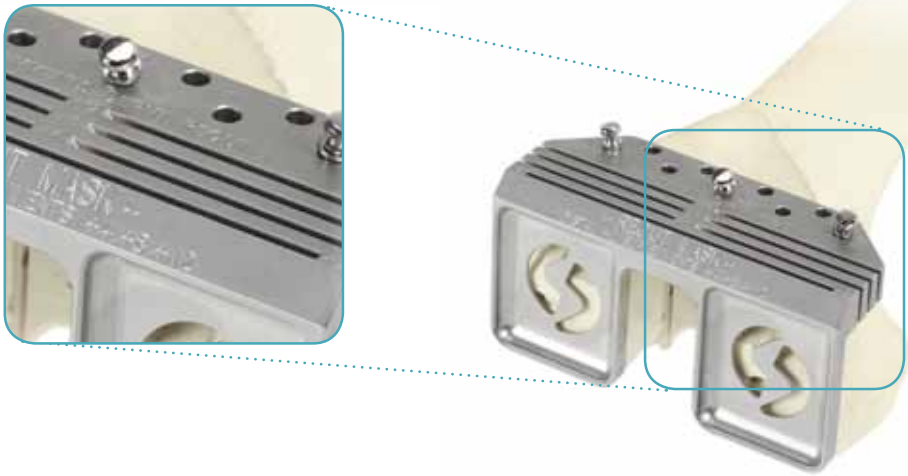
· Etc…



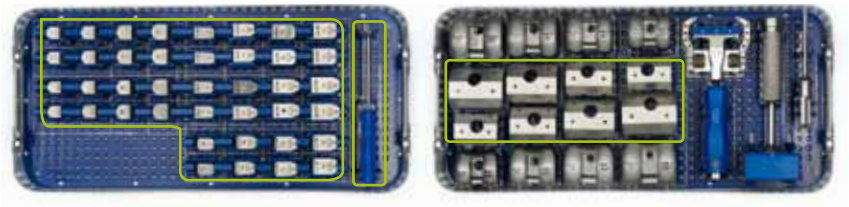
Set 2: Lower tray

Femoral recutting mask

If, after checking the stability of the joint at flexion and extension it is necessary to make an additional distal femoral recut to release ligamentous tension, there is a femoral recutting mask which makes it possible to make cuts at a depth of +2 mm, in addition to providing a set of slots at +4, +8 and +12 mm which are designed to delay the cuts to house future supplements from the distal cutting of the femur.



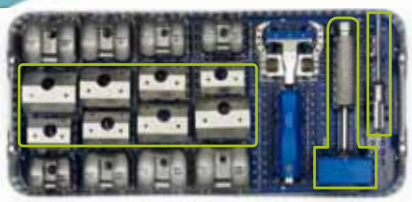
This femoral recutting mask is secured using pins of Ø 3.4 mm (the holes marked with arrows indicate the entry position for the inclined pins, which are necessary to ensure the mask is properly secured).



Set 4. Upper and lower tray

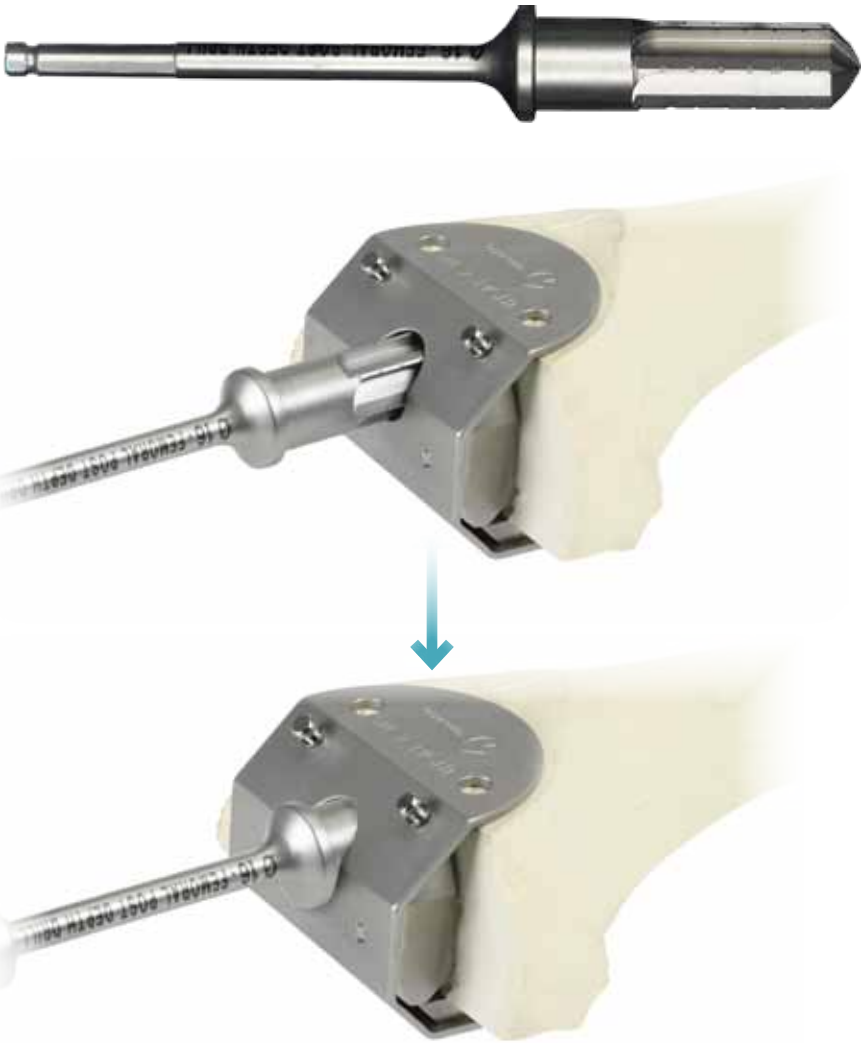
2.6 Reaming to house the femoral post

The necessary distal and posterior supplements are fitted onto the intercondylar mask in order to impact it onto the femoral cuts which have been made, securing it with 2 pins located on the front edge.



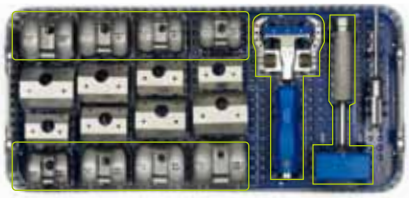
Set 4. Upper and lower trays

With the intercondylar mask fitted, create the housing for the femoral post by reaming up to the maximum depth possible with the Ø 16 mm reamer designed for that purpose.



Note:

During this step you must be careful with the potential obstacles for the posterior cortex, above all at small sizes when the offset has been performed close to the lower polar positions.



Set 4. Lower tray

Set 5

2.7 Assembly of the trial femoral component

Stem: it is recommended to go a size smaller than the reaming diameter, but this will be at the sole discretion of the surgeon. For 70 mm stems it is recommended to use the same diameter, and for 120 and 200 mm stems, to use a size which is smaller than the reaming diameter to avoid the "tip effect". It is assembled by screwing the stem into the distal part of the femoral component, using the screws provided in Box 7 for that purpose.

Supplements: its pre-mounted screw is screwed into the threaded holes of the femoral component (see Annex VI).

Position between the stem and the femoral component: if it has been necessary to perform an offset, fit the stem while ensuring that the mark of the stem coincides with the number displayed on the femoral component which originates from the reading which was last taken with the eccentric positioner on the insert positioner (see 2.4 Reading of the Offset).

Using the femoral component inserter/extractor, insert the femoral component into the femur, making the final adjustments to adapt it to the femoral cuts. Once inserted, check that it has been adjusted correctly.
Then remove the femoral component, ensuring that the marked number has not changed position, and said offset position will be transferred to the final prosthesis.

3. TIBIAL TIME (II)

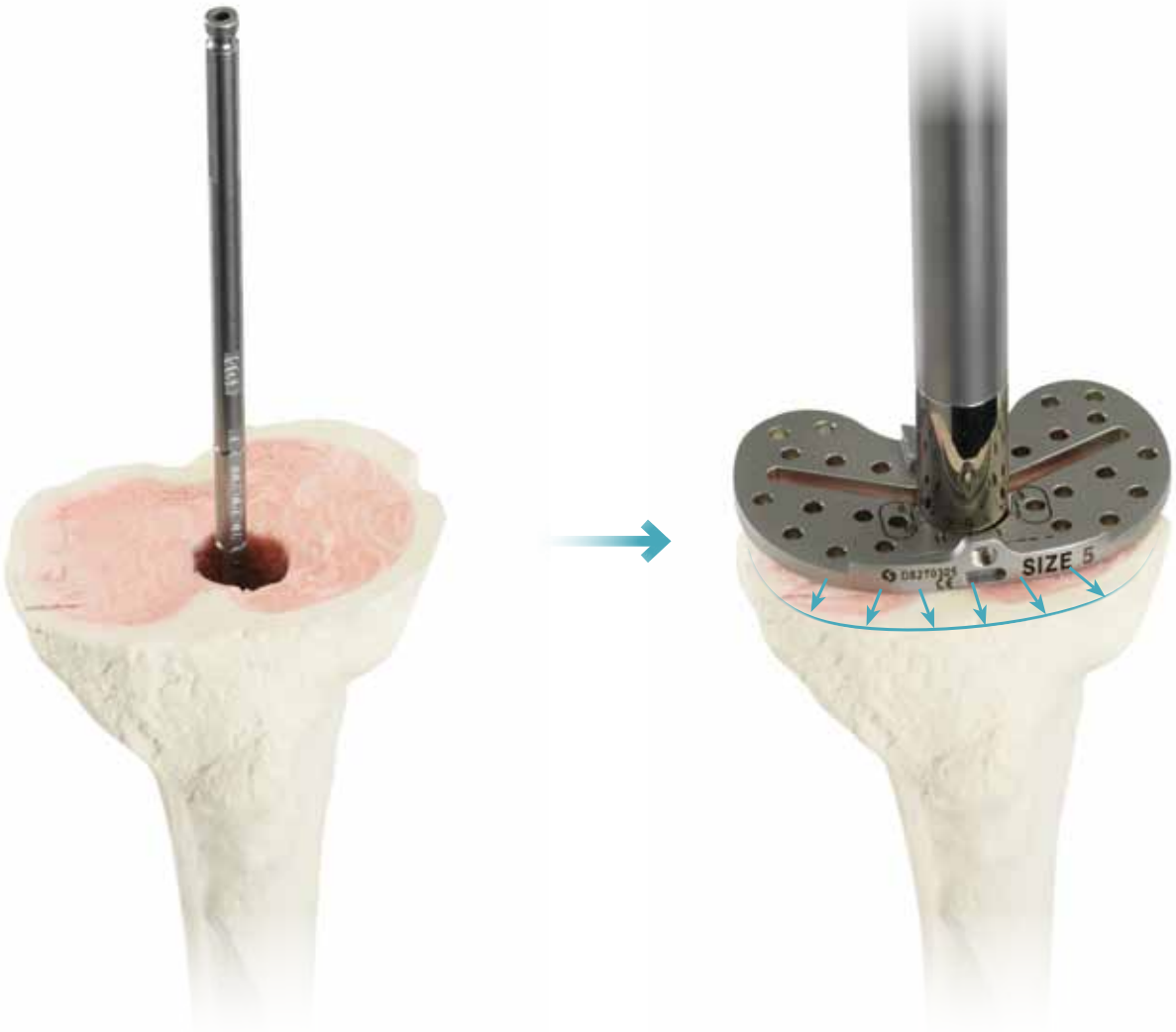
Set 4. Lower tray

Set 5

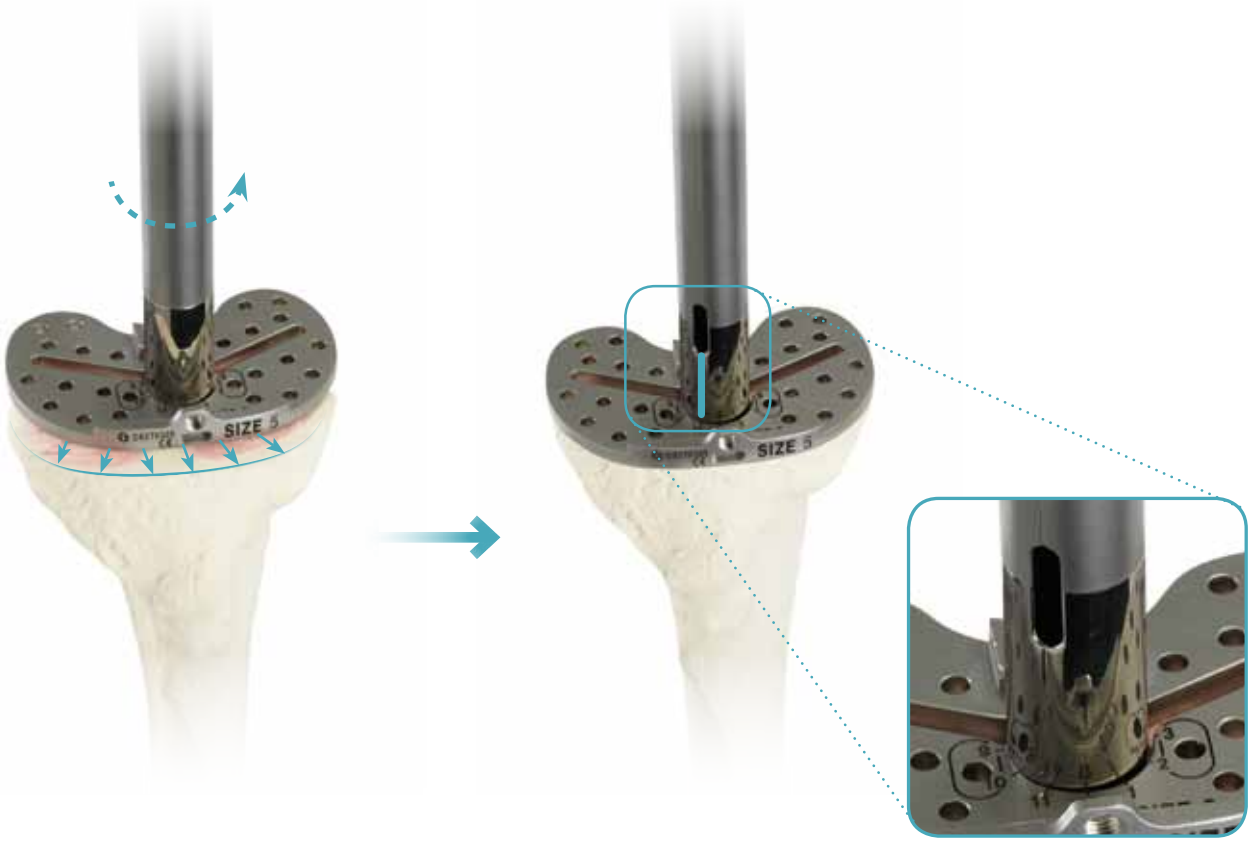
Optionally, at the discretion of the surgeon, before removing the femoral component, the trial insert of a suitable size is fitted on the tibial tray and flexion and extension movements are performed to adapt the rotation of the tibial component to the femoral component.
In a suitable place, mark the tibia with an electric scalpel, a mark in the centre of the tibial tray which will help to select the rotational positioning of the tibial component.

Orientation and fitting of the tibial tray
Having removed the central pins (which had been installed beforehand to enable subsequent tibial recuts), reinsert the diaphyseal intramedullary reamer and the sleeve which were last inserted into the tibial time (see 1.1).

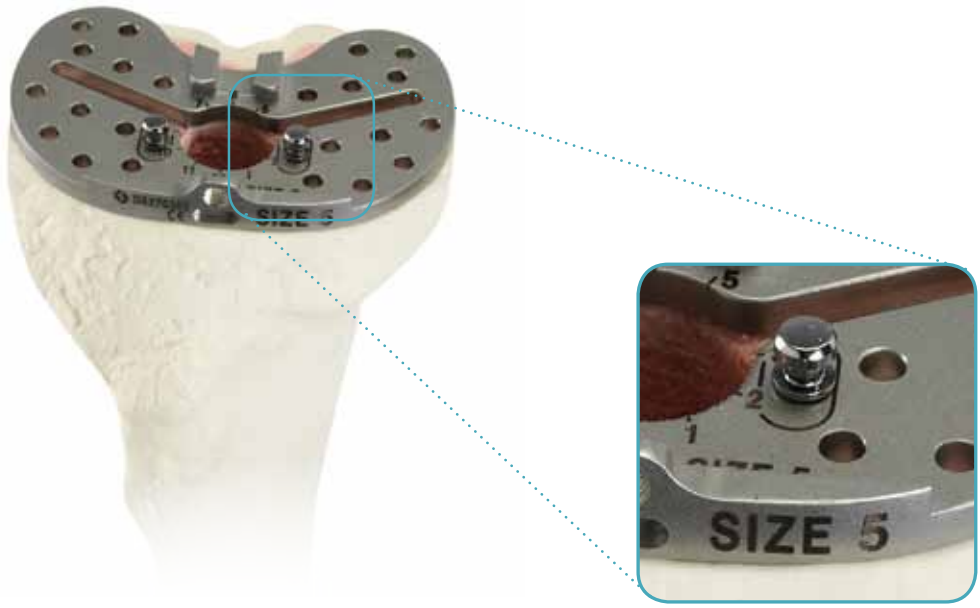
On its axis install the concentric chisel, and on this place the tibial template of the established size (see 1.4). Furthermore, it must be ascertained whether the template's support on the surface of the tibial cut is well contained and centred or, on the contrary, it is off-centre.
In the first case a stem with an offset is not necessary. In the second case it is, as can be seen in the image, the tray is of a suitable size but it is jutting out, so it would be advisable to move it forwards.

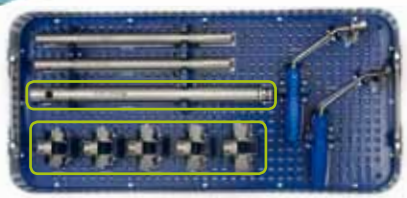


In this situation observe which number is showing on the measuring system opposite the longitudinal mark on the chisel. This is the position in which the stem must be fixed to the tibial tray.



In this position the tibial template is fixed to the tibia with pins. At this moment you can optionally perform a flexo-extension check, by fitting the trial insert onto the tray, taking care to use the housings marked on the template for pins.



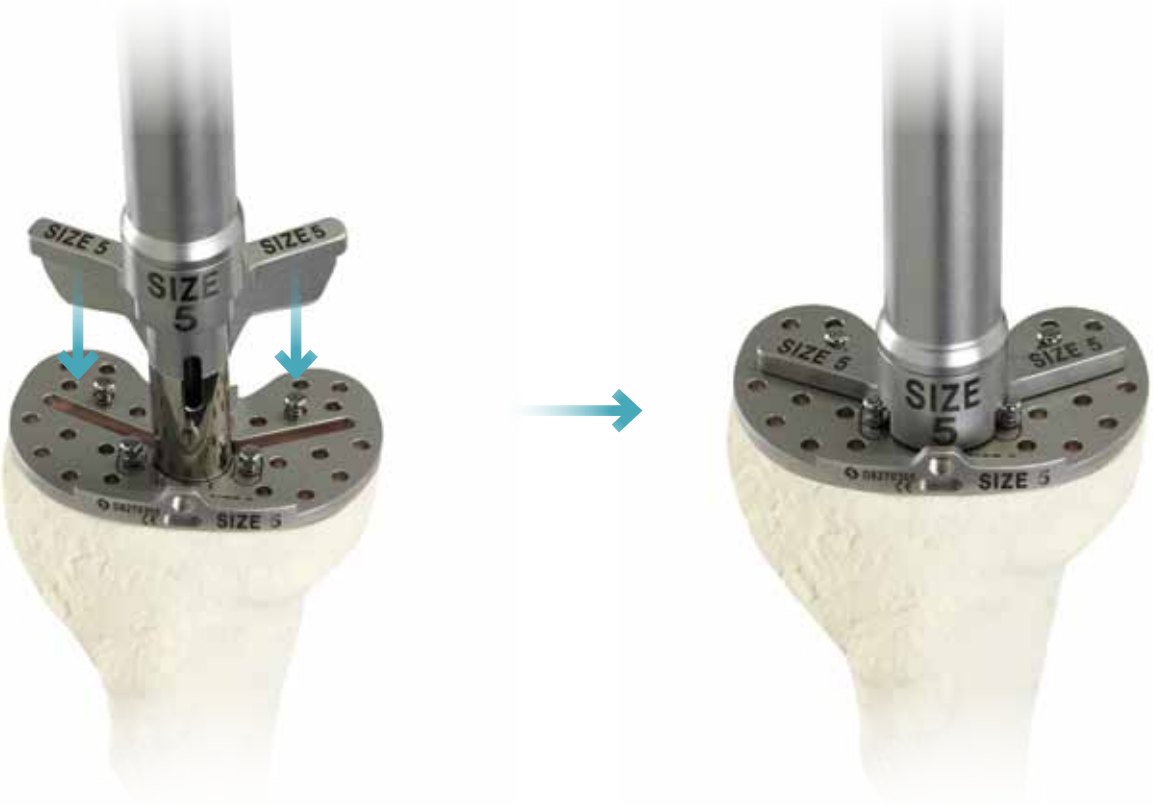


Box 1. Lower tray

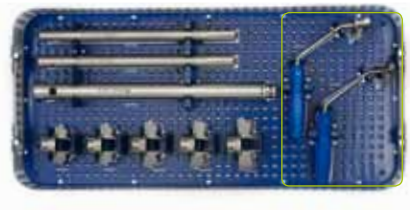
Preparation of the housing for the tibial tray

Once the trial tibial insert has been removed (if this final adjustment of the rotation of the tibial component has been made during flexo-extension), it is possible to reinforce the tibial template with more pins and then impact the chisel, to the depth which has been marked on it.

Then create the housings for the fins of the keel through a keel impactor which will be placed on the eccentric or concentric keel.

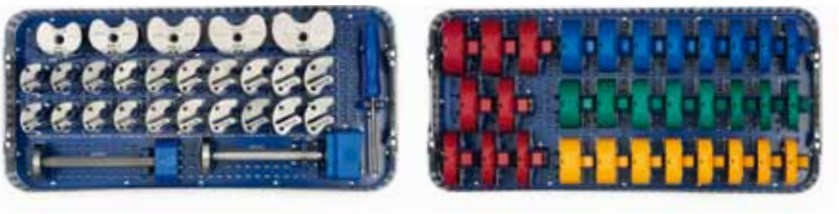


Then, remove the entire system.
In the figure below it is possible to see that the intramedullary axis and the housing for the post of the tibial tray are not properly centred, due to the offset.



Set 1. Lower tray

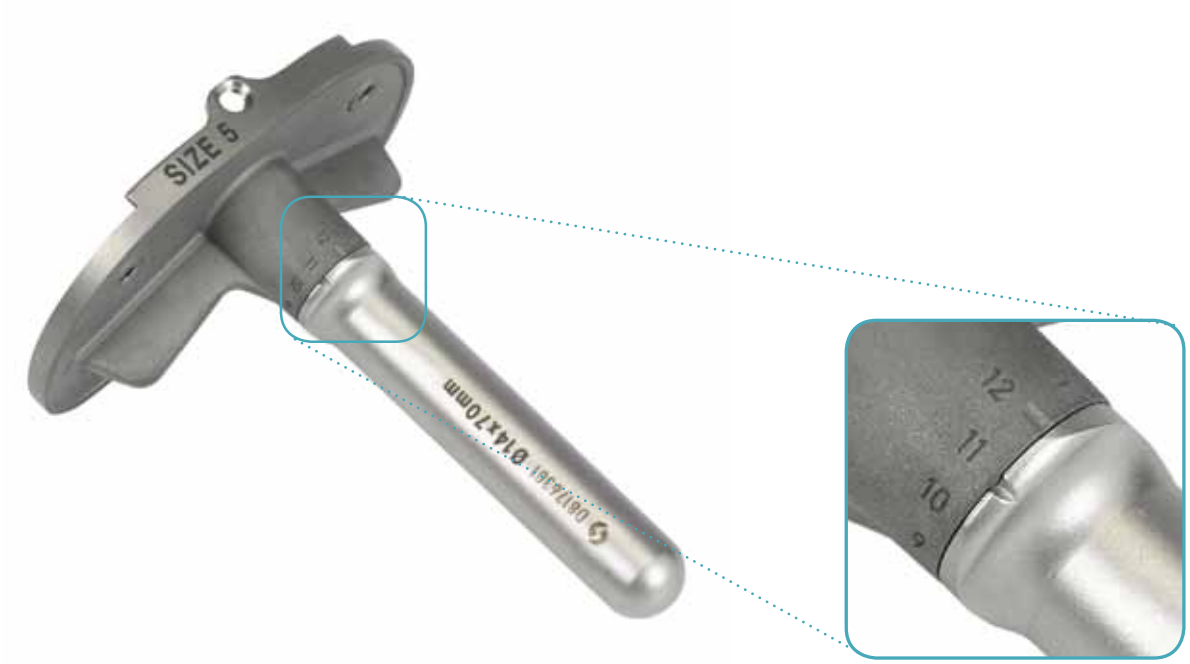
If tibial supplements have been used, use the hemi-keel (right or left) to assist with the anterior-posterior cut which is made around the two plateaus so that there is no obstruction for the tibial supplements.



Set 6. Upper and lower trays

Fitting of the Tibial Component

The trial tibial tray and the stem are fitted in the predetermined position.

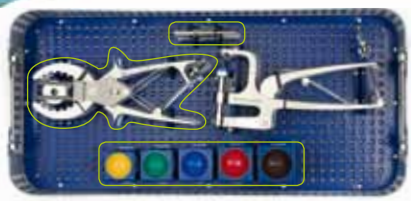


It is then impacted and the corresponding tibial insert is fitted (see annexes VII and VIII).

4. MOBILITY / STABILITY CHECK

Trial components

The check is carried out with the trial femoral and tibial components fitted to assess the mobility, stability and alignment of the limb.



Box 7. Lower tray

5. PATELLA TIME

Measuring of the thickness

For the prosthetic replacement of the patella there are two factors to consider:

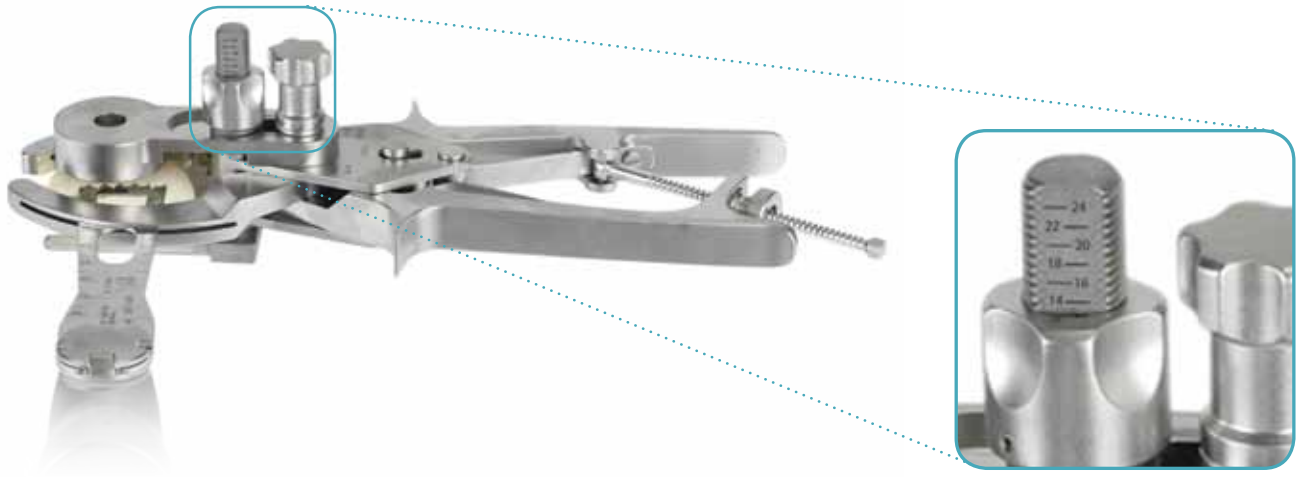
Leave a minimum bone thickness to avoid the risk of a fracture (12-14 mm).

Avoid the hyper pressure which would be caused by a prosthetic knee which is thicker than the original. Therefore, when choosing the size of the prosthetic patella, you do not only have to consider the diameter which is best suited to the resected bone surface, but also the height of each patella component measurement:

Diameter	32 mm	34 mm	36 mm	38 mm	40 mm
Height	7 mm	8 mm	9 mm	10 mm	11 mm

Cutting and perforation of patella

Then the osteophytes and synovial tissue around the patella border are removed until the quadriceps and tendon and patella are visible.
With the patella resection clamps closed over the patella so that its anterior cortex rests on the bolts and the turret is set to 12-14 mm, the patella cut is made.



The mobile arm of the clamp is positioned so that the perforation of the prosthetic pivot is slightly medialised in relation to the centre of the patella. The perforation is performed with the specific drill bit.

When the trial prosthesis is in place, its travel along the femoral intercondylar channel is assessed with flexo-extension movements.

Note:

If the trial (or prosthetic) patella increases the tension of the extensor apparatus, and therefore the chances of dislocation and wear, a smaller patella component will be selected to reduce its height.

6. FINAL IMPLANT

Final check

Fit the final prosthesis (tibial, femoral and patella component) but, prior to fixing the polyethylene insert to the tibial tray with bolts, perform the mobility and stability test again.

After performing the check and ensuring that it is to be used as the final insert, it is finally fixed to the tibial tray, inserting the metal-reinforced post of the tibial insert and anterior safety bolt.

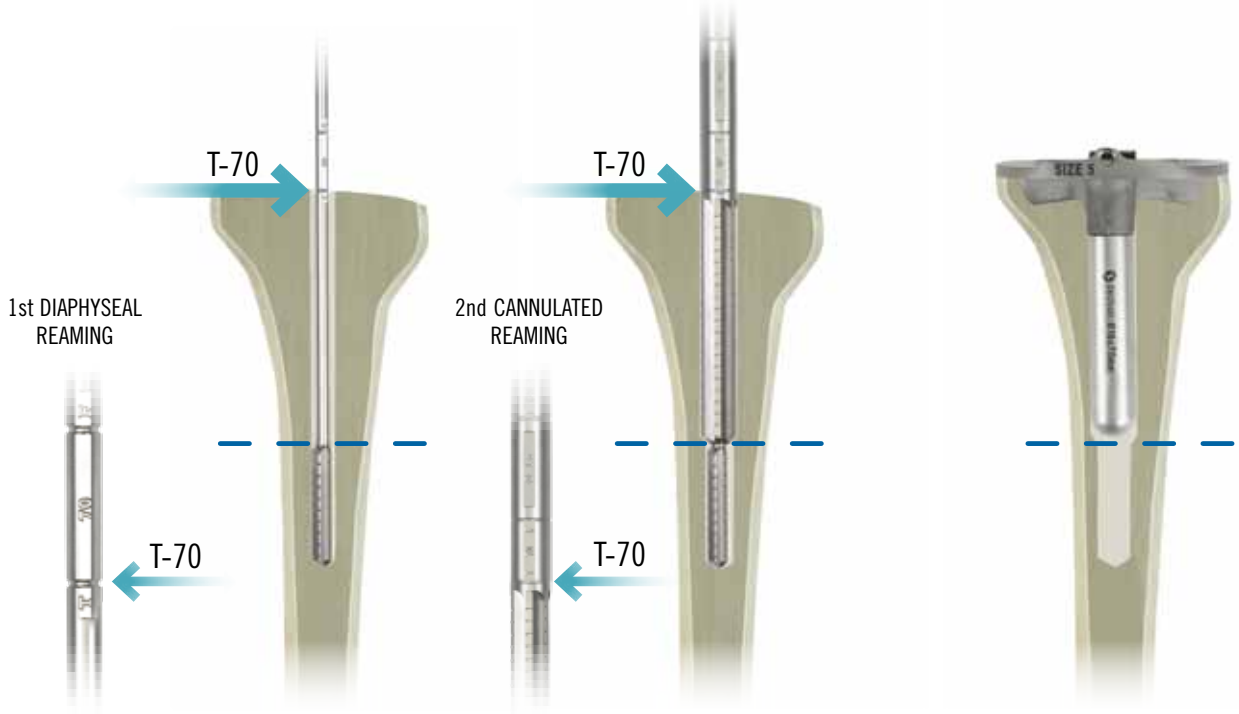
Example:

ANNEX I

EXAMPLES OF DIAPHYSEAL AND CANNULATED REAMING ACCORDING TO THE STEM TO BE IMPLANTED

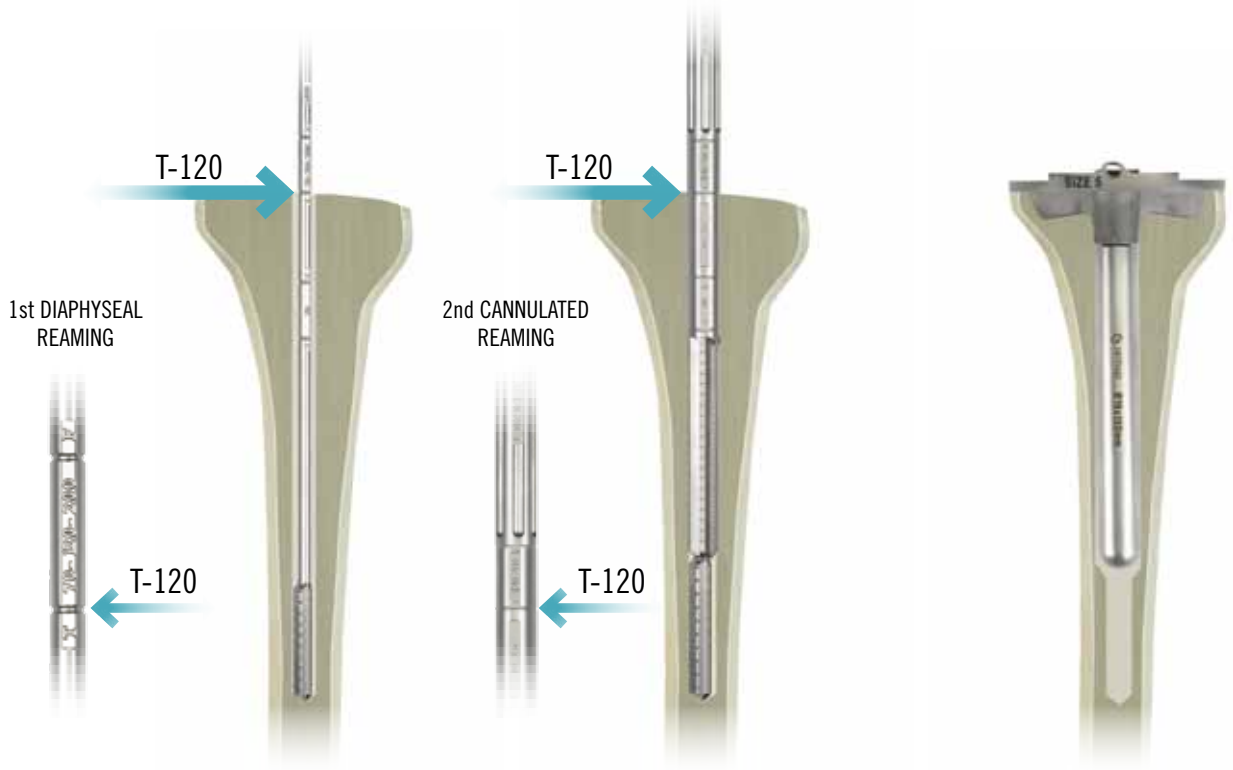
TIBIA

Insertion of 70 mm stems in tibia.

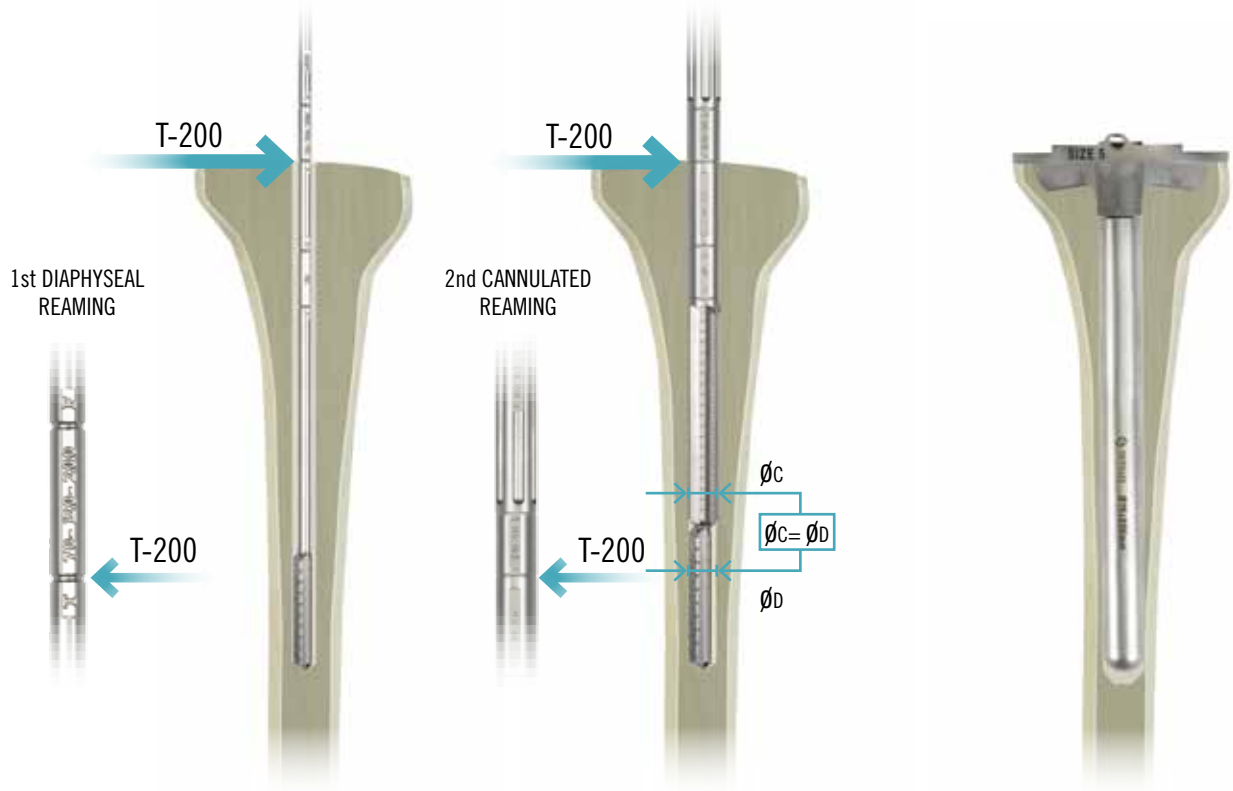


Insertion of 70 mm stems in the tibia (greater intramedullary stability).

Insertion of 120 mm stems in tibia.



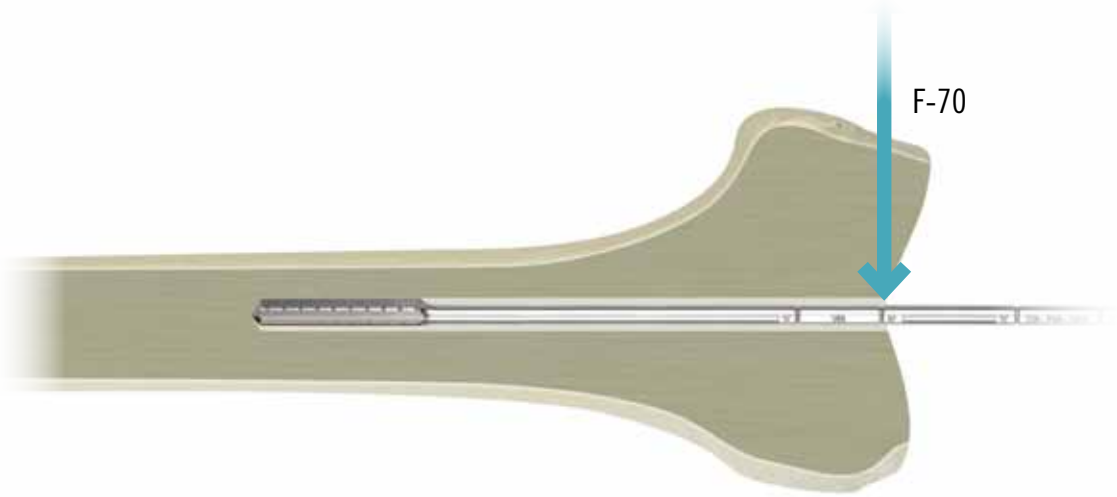
Insertion of 120 mm stems in tibia.

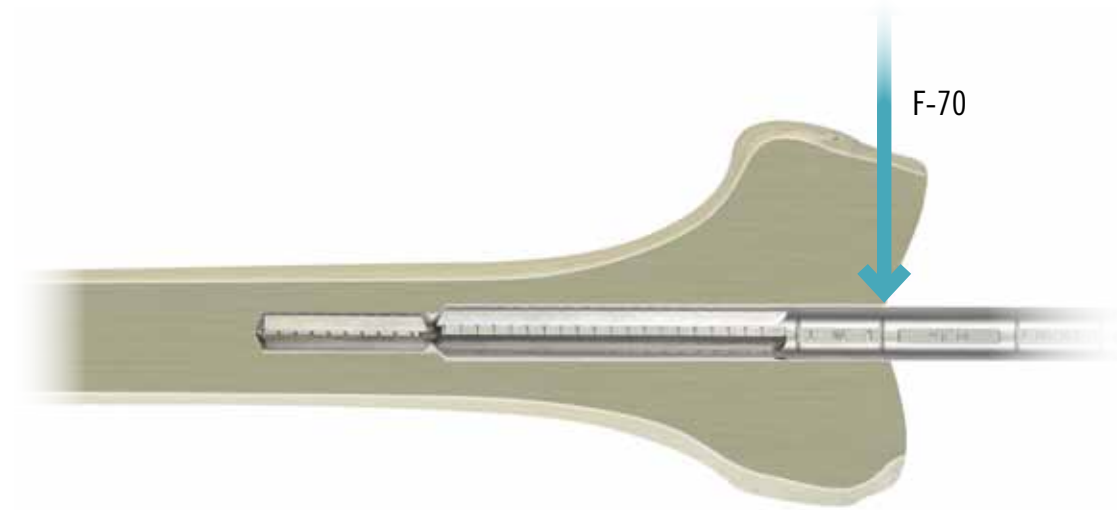


The diameters of the diaphyseal reamer and cannulated reamer must be the same, because the 200 mm stem uses part of the depth created by the diaphyseal reamer.

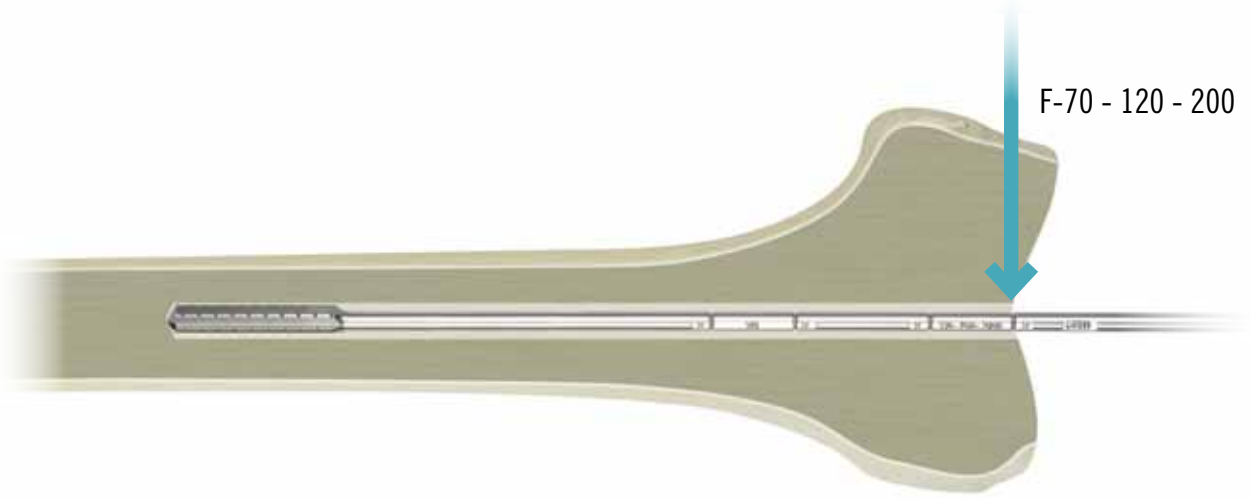
FEMUR

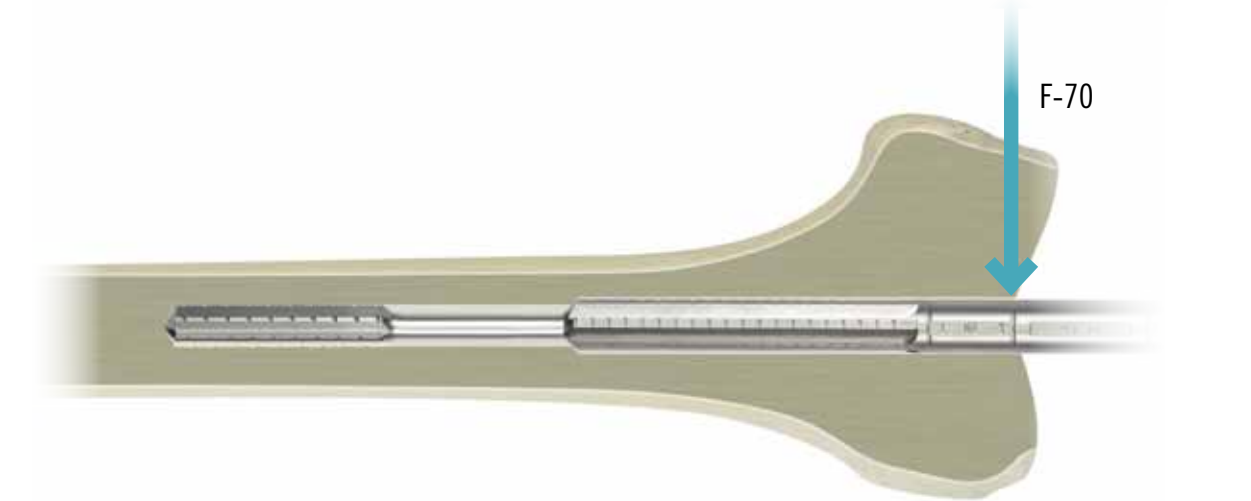
Insertion of 70 mm stems in femur.



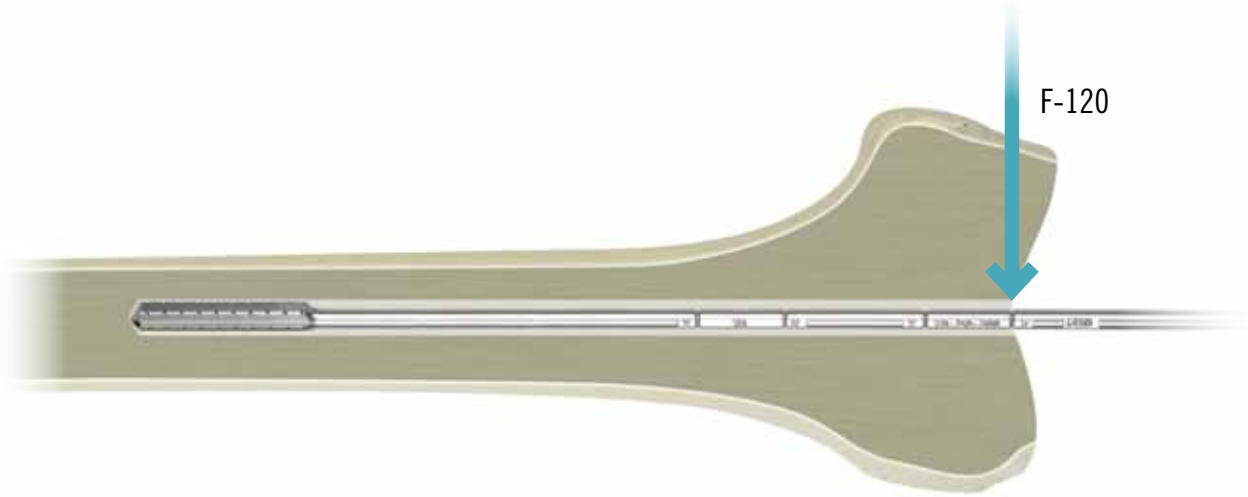


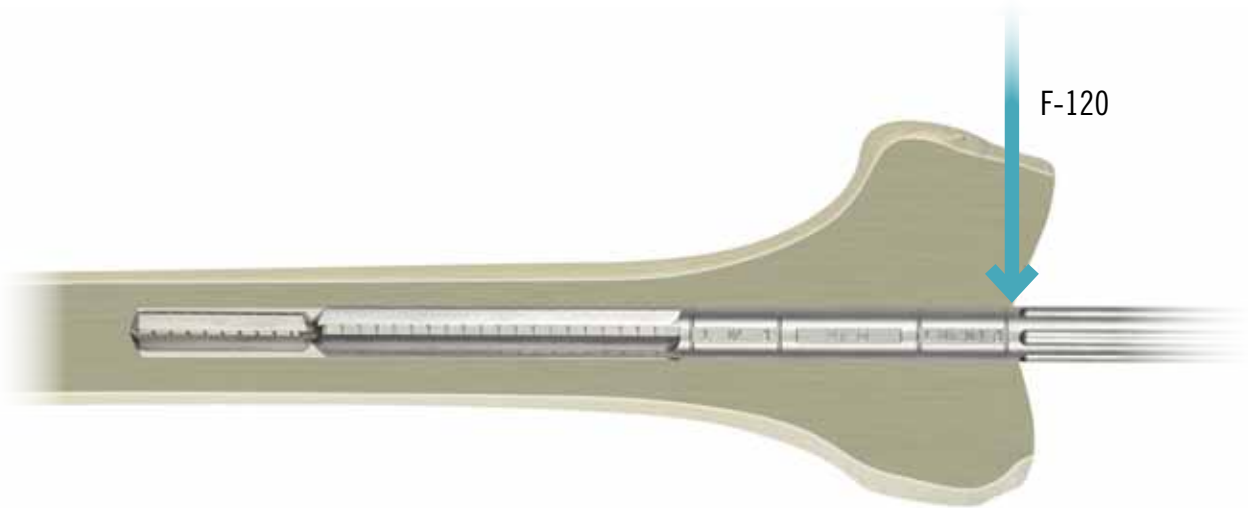
Insertion of 70 mm stems in the femur (greater intramedullary stability).



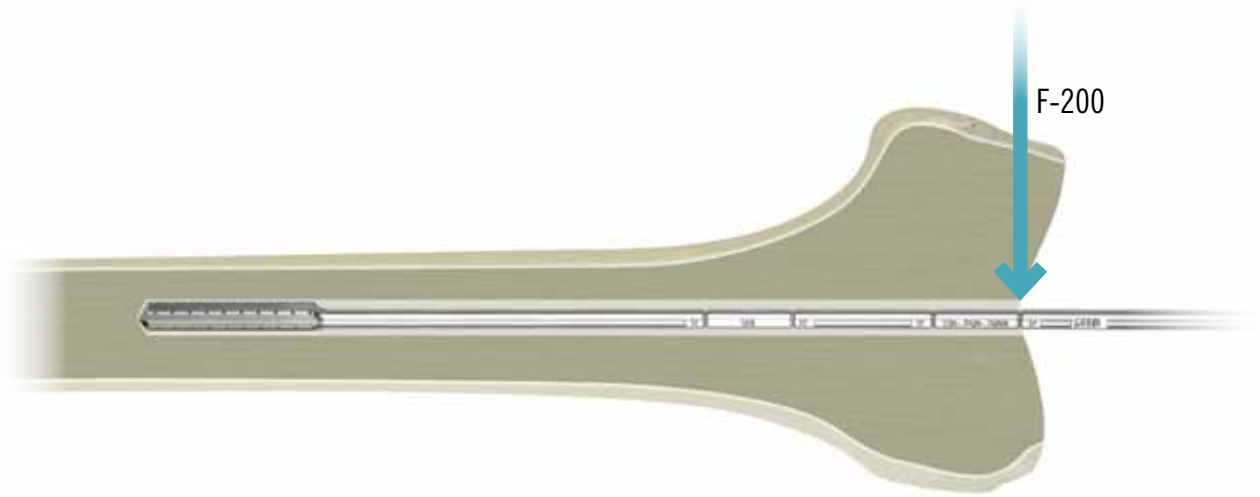


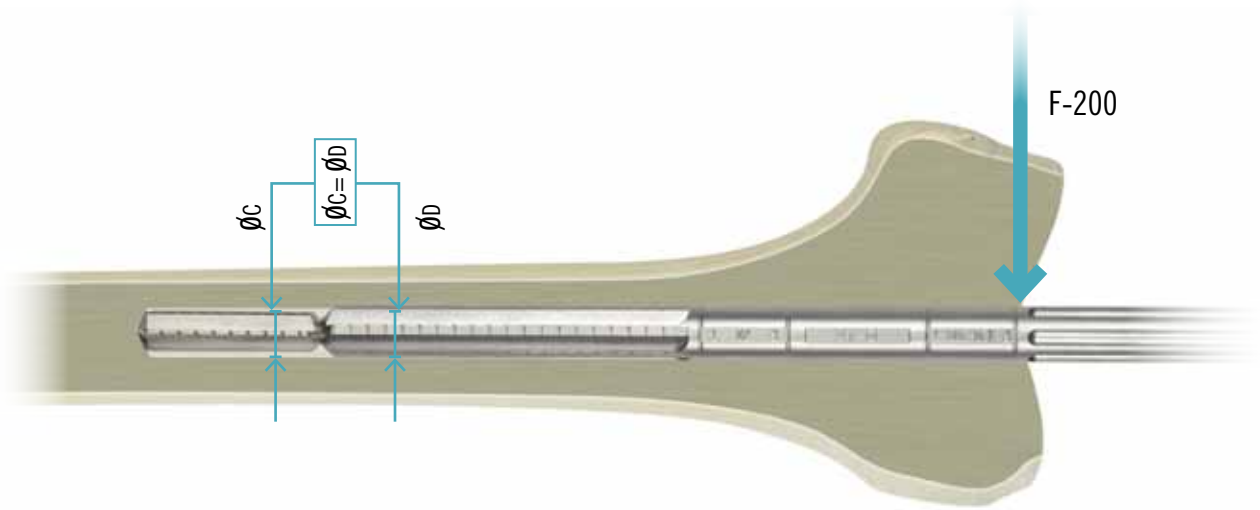
Insertion of 120 mm stems in femur.



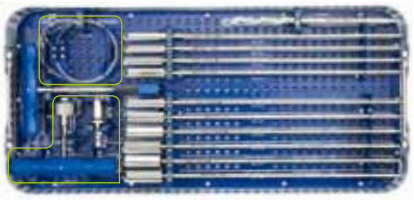


Insertion of 200 mm stems in femur.





The diameters of the diaphyseal reamer and cannulated reamer must be the same, because the 200 mm stem uses part of the depth created by the diaphyseal reamer.



Box 0. Upper tray

ANNEX II

RETAINER CABLE OF DIAPHYSEAL REAMERS

If the surgeon believes that there is a possible risk of the diaphyseal reamer being fully inserted into the intramedullary cavity of the bone when cannulated reaming is performed, he or she has a retainer cable for these diaphyseal reamers.

Given that the instruments used for the following steps are cannulated, using it will not alter the surgical steps described in these instructions.

ANNEX III

T-HANDLE FOR MANUAL REAMING

The surgeon has a T-handle with quick coupling for “AO hexagonal” connectors to enable manual diaphyseal and cannulated reaming.

Note:
Diaphyseal reamers require the “Tri-lobular > AO-HEX” Adaptor

ANNEX IV

WRENCH (14 mm wide)

If vertical movement of the tibial cutting guide is harder than usual, there is a wrench which enables you to easily rotate the sheave of the tibial cutting guide.

ANNEX V

PIN IMPACTOR

The pin impactor can also be used as an extractor rod, passing it through holes made for that purpose for instruments which, because of the way in which they are operated, can become stuck or difficult to extract (keel impactors, femoral component inserter/extractor, etc.).

ANNEX VI

BALL-HEAD SCREWDRIVER OF Ø 2.5 mm

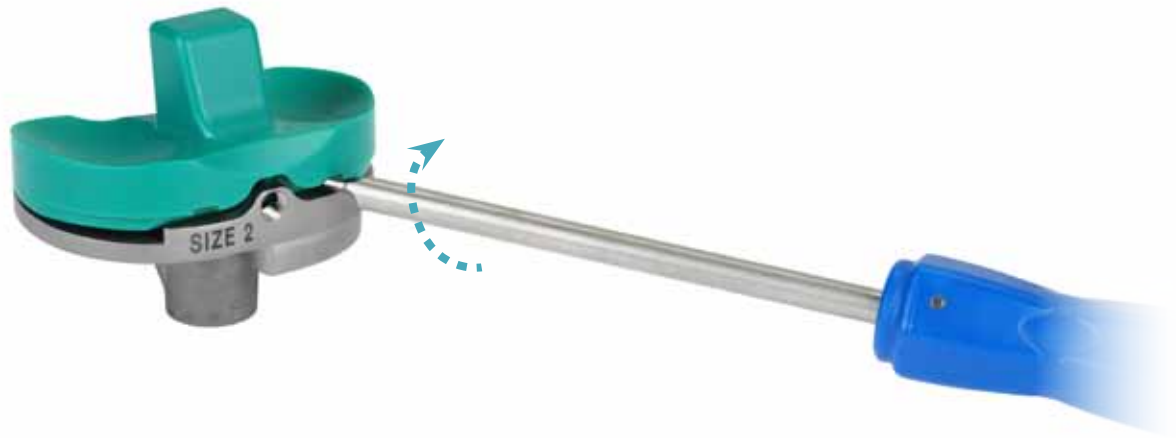
To facilitate the screwing of the posterior supplements into the femoral components, the Genutech CCK set of instruments has a ball-head screwdriver (Box 6 – Upper tray) to enable oblique screwing/unscrewing.

ANNEX VII

CLIPPING AND EXTRACTION OF TIBIAL INSERTS

Clipping is performed manually, by first resting the back of the insert on the tibial tray and then pressing both pieces until they clip together.

To extract the tibial insert, insert the flat tip of the extractor in one of the slots which is left in the tibial insert when it has been clipped into the tibial tray, turning it slightly (do not pry open).



ANNEX VIII

TIBIAL IMPACTORS

The Genutech CCK set of instruments (Box 6 Upper tray) contains a tibial tray impactor and a second impactor which is designed to enable the fully assembled tibial component to be impacted, protecting both the tibial post and the surface of the joint. This impactor of the tibial component can also help to clip the tibial insert into its tray in the (unlikely) event of it being impossible to do so manually.

Tibial Tray Impactor

Tibial Insert Impactor

ANNEX IX

PATELLAR COMPRESSION CLAMPS

The Genutech CCK set of instruments (Box 7 Lower tray) contains a patellar compression clamp to cause bone cement overflow and maintain pressure during the necessary setting time so that the patella is properly fitted.

Cemented femoral revision component

Left	Size	Right
Ref. D8023120E	1	Ref. D8023110E
Ref. D8023220E	2	Ref. D8023210E
Ref. D8023320E	3	Ref. D8023310E
Ref. D8023420E	4	Ref. D8023410E

4,5 mm offset revision stem

	Diameter	Length		Diameter	Length
Ref. D8024101E	ø 10 mm	70 mm	Ref. D8024401E	ø 16 mm	70 mm
Ref. D8024102E	ø 10 mm	120 mm	Ref. D8024402E	ø 16 mm	120 mm
Ref. D8024103E	ø 10 mm	200 mm	Ref. D8024403E	ø 16 mm	200 mm
Ref. D8024201E	ø 12 mm	70 mm	Ref. D8024501E	ø 18 mm	70 mm
Ref. D8024202E	ø 12 mm	120 mm	Ref. D8024502E	ø 18 mm	120 mm
Ref. D8024203E	ø 12 mm	200 mm	Ref. D8024503E	ø 18 mm	200 mm
Ref. D8024301E	ø 14 mm	70 mm	Ref. D8024601E	ø 20 mm	70 mm
Ref. D8024302E	ø 14 mm	120 mm	Ref. D8024602E	ø 20 mm	120 mm
Ref. D8024303E	ø 14 mm	200 mm			

Straight revision stem

	Diameter	Length		Diameter	Length
Ref. D8025101E	ø 10 mm	70 mm	Ref. D8025401E	ø 16 mm	70 mm
Ref. D8025102E	ø 10 mm	120 mm	Ref. D8025402E	ø 16 mm	120 mm
Ref. D8025103E	ø 10 mm	200 mm	Ref. D8025403E	ø 16 mm	200 mm
Ref. D8025201E	ø 12 mm	70 mm	Ref. D8025501E	ø 18 mm	70 mm
Ref. D8025202E	ø 12 mm	120 mm	Ref. D8025502E	ø 18 mm	120 mm
Ref. D8025203E	ø 12 mm	200 mm	Ref. D8025503E	ø 18 mm	200 mm
Ref. D8025301E	ø 14 mm	70 mm	Ref. D8025601E	ø 20 mm	70 mm
Ref. D8025302E	ø 14 mm	120 mm	Ref. D8025602E	ø 20 mm	120 mm
Ref. D8025303E	ø 14 mm	200 mm			

Revision tibial tray

	Size
Ref. D8033100E	1
Ref. D8033200E	2
Ref. D8033300E	3
Ref. D8033400E	4
Ref. D8033500E	5

Revision tibial insert	Size	Length
Ref. D8061100E	1	10 mm
Ref. D8061120E	1	12 mm
Ref. D8061140E	1	14 mm
Ref. D8061160E	1	16 mm
Ref. D8061180E	1	18 mm
Ref. D8061200E	1	20 mm
Ref. D8061220E	1	22 mm
Ref. D8061240E	1	24 mm
Ref. D8062100E	2	10 mm
Ref. D8062120E	2	12 mm
Ref. D8062140E	2	14 mm
Ref. D8062160E	2	16 mm
Ref. D8062180E	2	18 mm
Ref. D8062200E	2	20 mm
Ref. D8062220E	2	22 mm
Ref. D8062240E	2	24 mm
Ref. D8063100E	3	10 mm
Ref. D8063120E	3	12 mm
Ref. D8063140E	3	14 mm
Ref. D8063160E	3	16 mm

	Size	Length
Ref. D8063180E	3	18 mm
Ref. D8063200E	3	20 mm
Ref. D8063220E	3	22 mm
Ref. D8063240E	3	24 mm
Ref. D8064100E	4	10 mm
Ref. D8064120E	4	12 mm
Ref. D8064140E	4	14 mm
Ref. D8064160E	4	16 mm
Ref. D8064180E	4	18 mm
Ref. D8064200E	4	20 mm
Ref. D8064220E	4	22 mm
Ref. D8064240E	4	24 mm

Posterior femoral supplement	Size	Thickness
Ref. D8026010E	1	4 mm
Ref. D8026015E	1	8 mm
Ref. D8026020E	2	4 mm
Ref. D8026025E	2	8 mm
Ref. D8026030E	3	4 mm
Ref. D8026035E	3	8 mm
Ref. D8026040E	4	4 mm
Ref. D8026045E	4	8 mm

Distal femoral supplement	Size	Thickness
Ref. D8026150E	1	4 mm
Ref. D8026190E	1	8 mm
Ref. D8026195E	1	12 mm
Ref. D8026250E	2	4 mm
Ref. D8026290E	2	8 mm
Ref. D8026295E	2	12 mm
Ref. D8026350E	3	4 mm
Ref. D8026390E	3	8 mm
Ref. D8026395E	3	12 mm
Ref. D8026450E	4	4 mm
Ref. D8026490E	4	8 mm
Ref. D8026495E	4	12 mm

Tibial supplement	Size	Thickness
Ref. D8032710E	1	8 mm
Ref. D8032715E	1	12 mm
Ref. D8032720E	2	8 mm
Ref. D8032725E	2	12 mm
Ref. D8032730E	3	8 mm
Ref. D8032735E	3	12 mm
Ref. D8032740E	4	8 mm
Ref. D8032745E	4	12 mm
Ref. D8032750E	5	8 mm
Ref. D8032755E	5	12 mm

Patellar component	Diameter
Ref. D8030140E	ø 32 mm
Ref. D8030150E	ø 34 mm
Ref. D8030160E	ø 36 mm
Ref. D8030170E	ø 38 mm
Ref. D8030180E	ø 40 mm

Set of Instruments

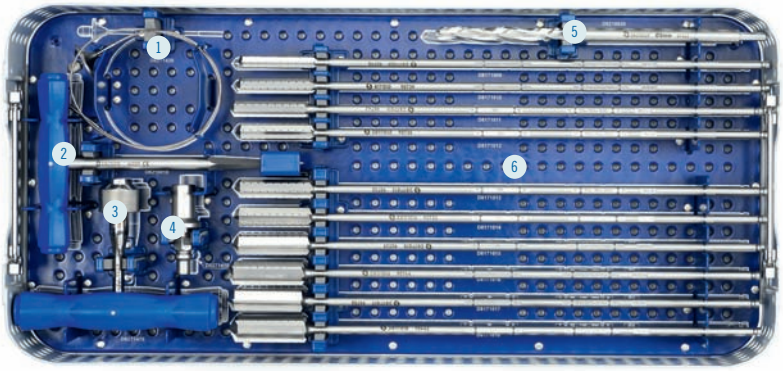
Complete Set of Genutech ® CCK Revision Instruments *
Ref. D8501000

Case 0: Ref. D8307100

Genutech ® CCK Set 0. of intramedullary drilling instruments

1	Revision diaphyseal reamer protection
	Ref. D8271420
2	IM awl
	Ref. D8210010S
3	Quick coupling T-handle key AO-HEXAGONAL
	Ref. D8271475
4	Tri-lobular adaptor
	Ref. D8271410
5	9 mm drill bit
	Ref. D8210020

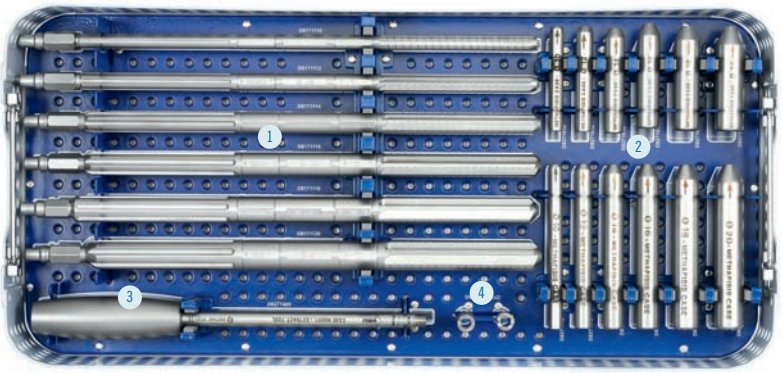
Upper tray



6	Revision diaphyseal reamer	Diameter
	Ref. D8171009	ø 9 mm
	Ref. D8171010	ø 10 mm
	Ref. D8171011	ø 11 mm
	Ref. D8171012	ø 12 mm
	Ref. D8171013	ø 13 mm
	Ref. D8171014	ø 14 mm
	Ref. D8171015	ø 15 mm
	Ref. D8171016	ø 16 mm
	Ref. D8171017	ø 17 mm
	Ref. D8171018	ø 18 mm

Lower tray

1	Revision cannulated reamer	Diameter
	Ref. D8171110	ø 10 mm
	Ref. D8171112	ø 12 mm
	Ref. D8171114	ø 14 mm
	Ref. D8171116	ø 16 mm
	Ref. D8171118	ø 18 mm
	Ref. D8171120	ø 20 mm



3	Inserter/extractor of revision sleeves
	Ref. D8271405
4	Plug of inserter/extractor of revision sleeves
	Ref. D8271406

2	Revision metaphyseal sleeves	Diameter	Length		Diameter	Length
	Ref. D8271010	ø 10 mm	70 mm	Ref. D8271110	ø 10 mm	110 mm
	Ref. D8271012	ø 12 mm	70 mm	Ref. D8271112	ø 12 mm	110 mm
	Ref. D8271014	ø 14 mm	70 mm	Ref. D8271114	ø 14 mm	110 mm
	Ref. D8271016	ø 16 mm	70 mm	Ref. D8271116	ø 16 mm	110 mm
	Ref. D8271018	ø 18 mm	70 mm	Ref. D8271118	ø 18 mm	110 mm
	Ref. D8271020	ø 20 mm	70 mm	Ref. D8271120	ø 20 mm	110 mm

* This complete set can be supplied in water and airtight containers to maintain their sterility, at the customer's request. Contact your distributor or manufacturer.

Case 1: Ref. D8307200

Genutech ® CCK Set 1. of tibial instruments

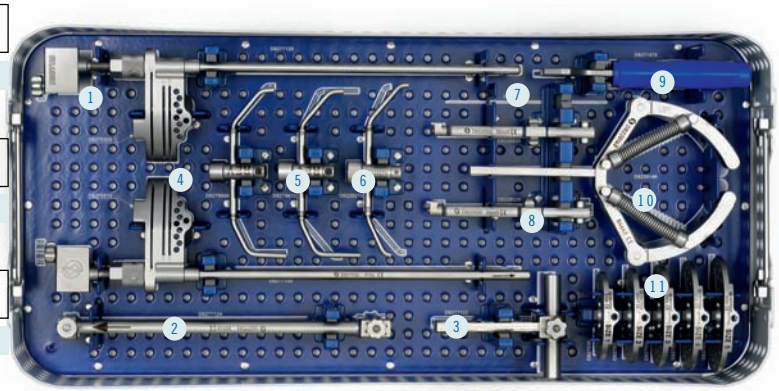
Upper tray

1 Revision telescopic guide system
Ref. D8277120

2 Support base for revision telescopic guide
Ref. D8277122

3 Revision telescopic guide carriers
Ref. D8277124

4 Revision tibial cutting guide
Ref. D8270510 Derecho
Ref. D8270520 Izquierdo



5 Revision probe axle

Ref. D8270608	0-8 mm
Ref. D8270612	0-12 mm

6 Primary semi-constrained tibial probe
Ref. D8220270

7 Probe hook
Ref. D8220290

8 Support handle for tibial template
Ref. D8220520

9 14 mm open-end wrench
Ref. D8271470

10 Distal clamp for tibial guide
Ref. D8220140

11 Revision tibial template

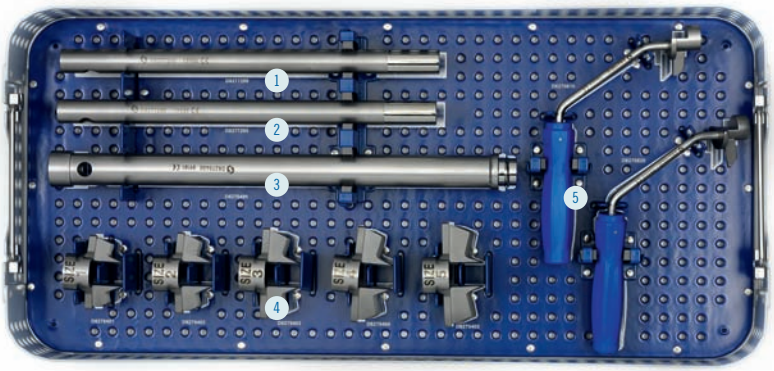
	Size
Ref. D8270301	1
Ref. D8270302	2
Ref. D8270303	3
Ref. D8270304	4
Ref. D8270305	5

Lower tray

1 Revision straight chisel
Ref. D8277200

2 Revision eccentric chisel
Ref. D8277205

3 Threaded rod for revision keel template
Ref. D8270400



4 Revision keel template

	Size
Ref. D8270401	1
Ref. D8270402	2
Ref. D8270403	3
Ref. D8270404	4
Ref. D8270405	5

5 Hemi-keel for revision tibial cut

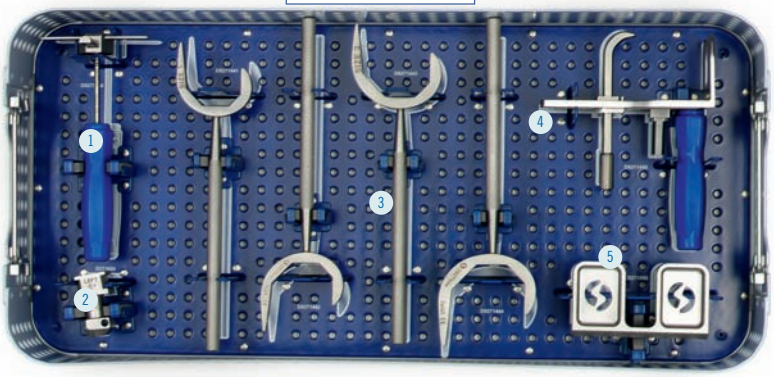
Ref. D8270810	Right
Ref. D8270820	Left

Set of Instruments

Case 2: Ref. D8307300

Genutech ® CCK Set 2. of tibial/femoral instruments

Upper tray



1 Revision interline sizing guide
Ref. D8277140

2 Revision 5° angular guide
Ref. D8271055

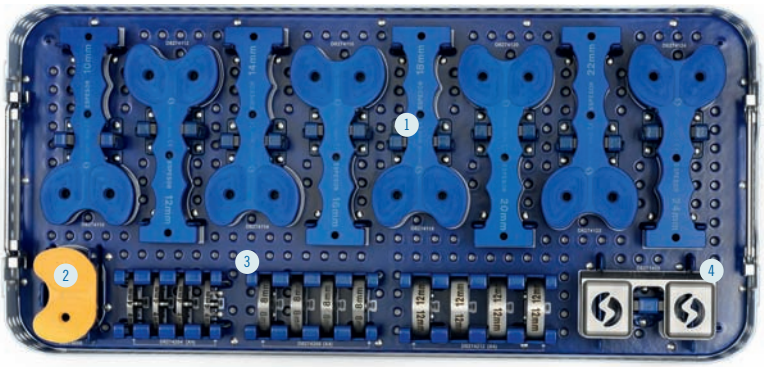
3 Revision femoral sizing guide

	Size
Ref. D8271441	1
Ref. D8271442	2
Ref. D8271443	3
Ref. D8271444	4

4 Primary femoral sizing guide
Ref. D8271450

5 Distal cutting mask
Ref. D8271050

Lower tray



1 Revision tibial spacer

	Length
Ref. D8274110	10 mm
Ref. D8274112	12 mm
Ref. D8274114	14 mm
Ref. D8274116	16 mm
Ref. D8274118	18 mm
Ref. D8274120	20 mm
Ref. D8274122	22 mm
Ref. D8274124	24 mm

2 Revision femoral spacer
Ref. D8274008

3 Supplement for spacer

	Length
Ref. D8274204	4 mm
Ref. D8274208	8 mm
Ref. D8274212	12 mm

4 Revision distal recut mask
Ref. D8271455

Case 3: Ref. D8307400

Genutech ® CCK Set 3. of femoral cutting instruments

1 Revision femoral cutting mask

	Size
Ref. D8270110	1
Ref. D8270120	2
Ref. D8270130	3
Ref. D8270140	4

2 Revision distal mask shim

	Length
Ref. D8271204	4 mm
Ref. D8271208	8 mm
Ref. D8271212	12 mm

3 Revision semi-constrained rod

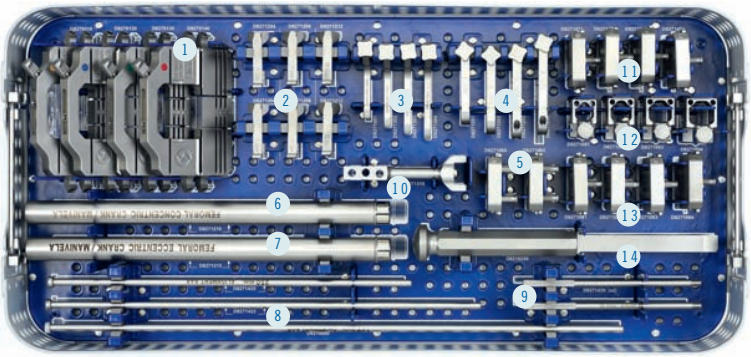
	Size
Ref. D8271301	1
Ref. D8271302	2
Ref. D8271303	3
Ref. D8271304	4

4 Primary semi-constrained rod

	Size
Ref. D8271251	1
Ref. D8271252	2
Ref. D8271253	3
Ref. D8271254	4

5 Revision insert positioner

Ref. D8271060	Rigth
Ref. D8271065	Left



6 Revision concentric chisel
Ref. D8271210

7 Revision eccentric chisel
Ref. D8271215

8 Axle alignment

	Length
Ref. D8271425	250 mm
Ref. D8271422	300 mm
Ref. D8210080	400 mm

9 Revision horizontal reference rod mask
Ref. D8271435

10 3° rotation system
Ref. D8271310

11 Revision cutting insert

	Size
Ref. D8271071	1
Ref. D8271072	2
Ref. D8271073	3
Ref. D8271074	4

12 Revision intercondylar cutting template

	Size
Ref. D8271091	1
Ref. D8271092	2
Ref. D8271093	3
Ref. D8271094	4

13 Revision Intercondylar cutting insert

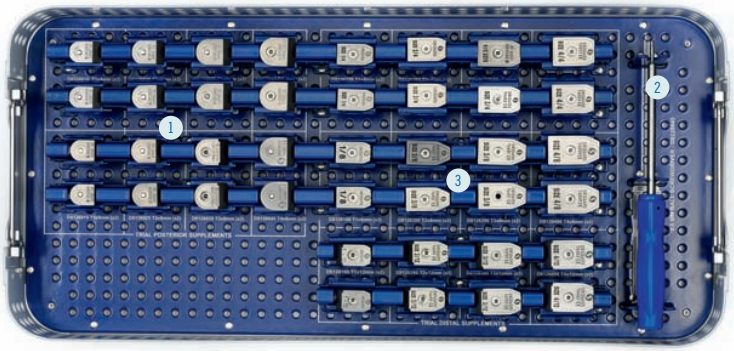
	Size
Ref. D8271081	1
Ref. D8271082	2
Ref. D8271083	3
Ref. D8271084	4

14 Chisel
Ref. D8210220

Case 4: Ref. D8307500

Genutech ® CCK Set 4. of femoral trial instruments

Upper tray



1 Posterior trial supplement

	Size	Thickness
Ref. D8126010	1	4 mm
Ref. D8126015	1	8 mm
Ref. D8126020	2	4 mm
Ref. D8126025	2	8 mm
Ref. D8126030	3	4 mm
Ref. D8126035	3	8 mm
Ref. D8126040	4	4 mm
Ref. D8126045	4	8 mm

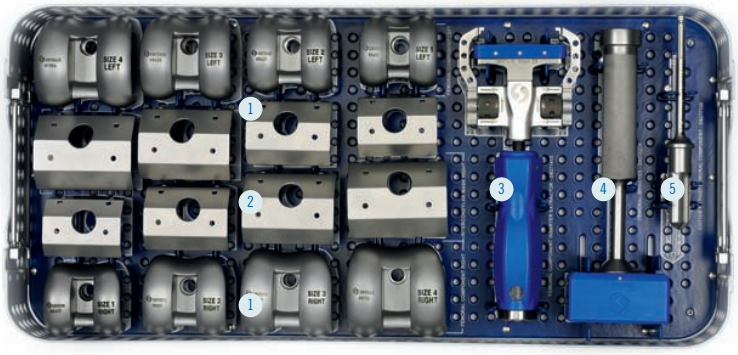
2 2.5 mm hexagonal ball-head screwdriver

Ref. D8220645

3 Distal trial supplement

	Size	Thickness
Ref. D8126150	1	4 mm
Ref. D8126190	1	8 mm
Ref. D8126195	1	12 mm
Ref. D8126250	2	4 mm
Ref. D8126290	2	8 mm
Ref. D8126295	2	12 mm
Ref. D8126350	3	4 mm
Ref. D8126390	3	8 mm
Ref. D8126395	3	12 mm
Ref. D8126450	4	4 mm
Ref. D8126490	4	8 mm
Ref. D8126495	4	12 mm

Lower tray



1 Revision femoral trial components

		Size
Ref. D8113110	Right	1
Ref. D8113210	Right	2
Ref. D8113310	Right	3
Ref. D8113410	Right	4
Ref. D8113120	Left	1
Ref. D8113220	Left	2
Ref. D8113320	Left	3
Ref. D8113420	Left	4

2 Intercondylar mask

		Size
Ref. D8273110	Right	1
Ref. D8273210	Right	2
Ref. D8273310	Right	3
Ref. D8273410	Right	4
Ref. D8273120	Left	1
Ref. D8273220	Left	2
Ref. D8273320	Left	3
Ref. D8273420	Left	4

3 Inserter/extractor of femoral components

Ref. D8271415S

4 Femoral impactor

Ref. D8210210

5 Reamer for femoral component post

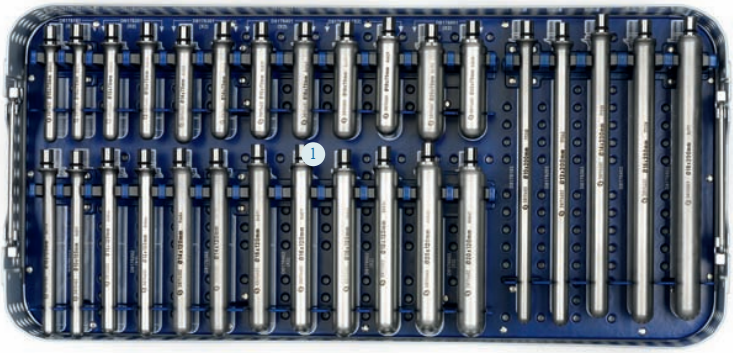
	Diameter
Ref. D8277130	ø 16 mm

Set of Instruments

Case 5: Ref. D8307600

Genutech ® CCK Set 5. of stem trial instruments

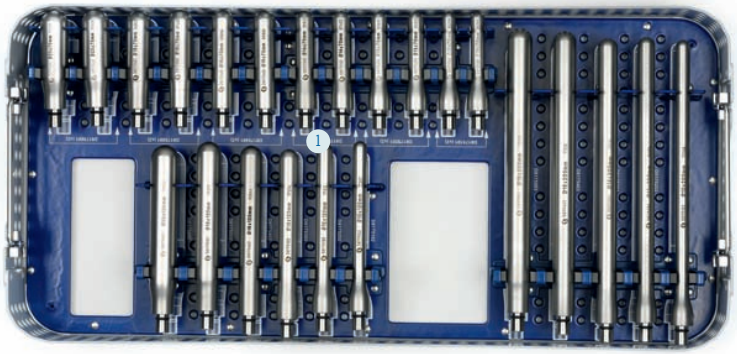
Upper tray



1 Revision trial offset stem

	Diameter	Length		Diameter	Length		Diameter	Length
Ref. D8176101	ø 10 mm	70 mm	Ref. D8176102	ø 10 mm	120 mm	Ref. D8176103	ø 10 mm	200 mm
Ref. D8176201	ø 12 mm	70 mm	Ref. D8176202	ø 12 mm	120 mm	Ref. D8176203	ø 12 mm	200 mm
Ref. D8176301	ø 14 mm	70 mm	Ref. D8176302	ø 14 mm	120 mm	Ref. D8176303	ø 14 mm	200 mm
Ref. D8176401	ø 16 mm	70 mm	Ref. D8176402	ø 16 mm	120 mm	Ref. D8176403	ø 16 mm	200 mm
Ref. D8176501	ø 18 mm	70 mm	Ref. D8176502	ø 18 mm	120 mm	Ref. D8176503	ø 18 mm	200 mm
Ref. D8176601	ø 20 mm	70 mm	Ref. D8176602	ø 20 mm	120 mm			

Lower tray



1 Revision trial straight stem

	Diameter	Length		Diameter	Length		Diameter	Length
Ref. D8175101	ø 10 mm	70 mm	Ref. D8175102	ø 10 mm	120 mm	Ref. D8175103	ø 10 mm	200 mm
Ref. D8175201	ø 12 mm	70 mm	Ref. D8175202	ø 12 mm	120 mm	Ref. D8175203	ø 12 mm	200 mm
Ref. D8175301	ø 14 mm	70 mm	Ref. D8175302	ø 14 mm	120 mm	Ref. D8175303	ø 14 mm	200 mm
Ref. D8175401	ø 16 mm	70 mm	Ref. D8175402	ø 16 mm	120 mm	Ref. D8175403	ø 16 mm	200 mm
Ref. D8175501	ø 18 mm	70 mm	Ref. D8175502	ø 18 mm	120 mm	Ref. D8175503	ø 18 mm	200 mm
Ref. D8175601	ø 20 mm	70 mm	Ref. D8175602	ø 20 mm	120 mm			

Case 6: Ref. D8307700

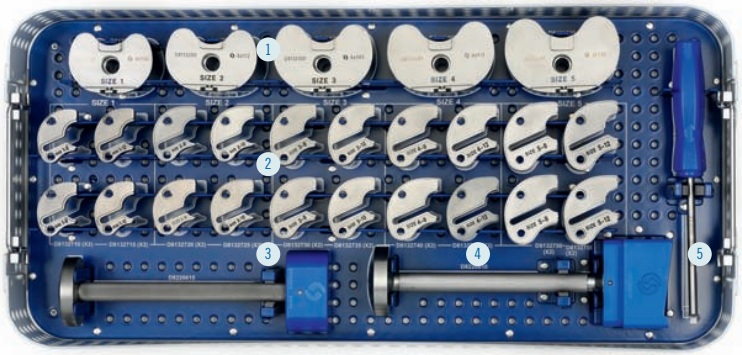
1 Revision trial tibial tray

	Size
Ref. D8133100	1
Ref. D8133200	2
Ref. D8133300	3
Ref. D8133400	4
Ref. D8133500	5

2 Trial tibial supplement

	Size	Thickness
Ref. D8132710	1	8 mm
Ref. D8132715	1	12 mm
Ref. D8132720	2	8 mm
Ref. D8132725	2	12 mm
Ref. D8132730	3	8 mm
Ref. D8132735	3	12 mm
Ref. D8132740	4	8 mm
Ref. D8132745	4	12 mm
Ref. D8132750	5	8 mm
Ref. D8132755	5	12 mm

Upper tray

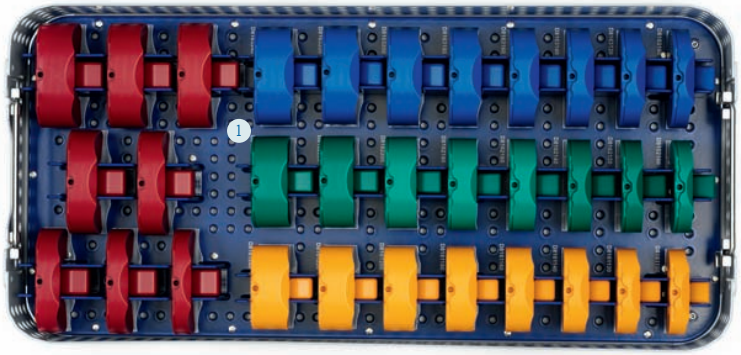


3 Tibial tray impactor
Ref. D8220615

4 Tibial component impactor
Ref. D8220610

5 Tibial insert extractor
Ref. D8220620S

Lower tray



1 Revision trial tibial insert

	Size	Length		Size	Length		Size	Length		Size	Length
Ref. D8161100	1	10 mm	Ref. D8162100	2	10 mm	Ref. D8163100	3	10 mm	Ref. D8164100	4	10 mm
Ref. D8161120	1	12 mm	Ref. D8162120	2	12 mm	Ref. D8163120	3	12 mm	Ref. D8164120	4	12 mm
Ref. D8161140	1	14 mm	Ref. D8162140	2	14 mm	Ref. D8163140	3	14 mm	Ref. D8164140	4	14 mm
Ref. D8161160	1	16 mm	Ref. D8162160	2	16 mm	Ref. D8163160	3	16 mm	Ref. D8164160	4	16 mm
Ref. D8161180	1	18 mm	Ref. D8162180	2	18 mm	Ref. D8163180	3	18 mm	Ref. D8164180	4	18 mm
Ref. D8161200	1	20 mm	Ref. D8162200	2	20 mm	Ref. D8163200	3	20 mm	Ref. D8164200	4	20 mm
Ref. D8161220	1	22 mm	Ref. D8162220	2	22 mm	Ref. D8163220	3	22 mm	Ref. D8164220	4	22 mm
Ref. D8161240	1	24 mm	Ref. D8162240	2	24 mm	Ref. D8163240	3	24 mm	Ref. D8164240	4	24 mm

Set of Instruments

Case 7: Ref. D8307800

Genutech ® CCK Set 7. of patella tools/instruments

Upper tray

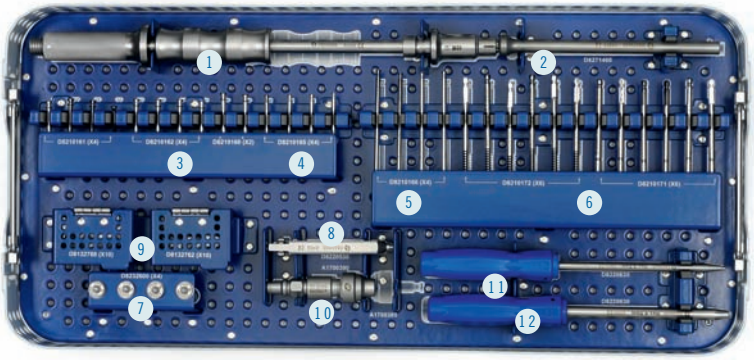
Pin extractor			
Ref. D8220280			

5 Headless pin	Diameter	Length	
Ref. D8210166	ø 3,4 mm	80 mm	

7 Fixation screw for trial tibial tray			
Ref. D8232600			

9 Tornillo suplemento tibial de prueba			
Ref. D8132760	8 mm		
Ref. D8132762	12 mm		

Pin extracting/impacting auxiliary rod			
Ref. D8271460			



3 Pin with head	Diameter	Length	
Ref. D8210161	ø 3,4 mm	30 mm	
Ref. D8210162	ø 3,4 mm	40 mm	
Ref. D8210160	ø 3,4 mm	55 mm	

10 AO drill adaptor			
Ref. A1700390 AOHEX			

11 Screwdriver			
Ref. D8220635S	2,5 mm		

4 Headless support pin	Diameter	Length	
Ref. D8210165	ø 3,4 mm	55 mm	

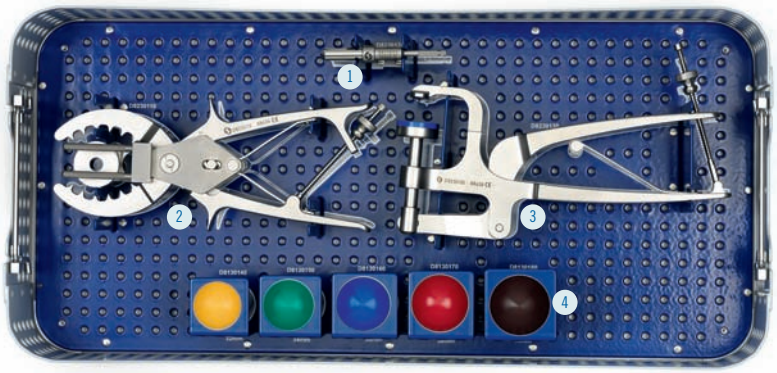
6 Revision threaded pin	Diameter	Length	
Ref. D8210172	ø 4,4 mm	75 mm	
Ref. D8210171	ø 4,4 mm	100 mm	

8 Support handle for fixing bolt			
Ref. D8220530			

12 Torque wrench 9N *			
Ref. D8277250	4,5 mm		

*The reference doesn´t correspond to the image.

Lower tray



1 Drill bit for patella			
Ref. D8230120			

2 Clamp for patellar resection			
Ref. D8230110			

3 Clamp for patella			
Ref. D8230130			

4 Trial patella	Diameter		
Ref. D8130140	ø 32 mm		
Ref. D8130150	ø 34 mm		
Ref. D8130160	ø 36 mm		
Ref. D8130170	ø 38 mm		
Ref. D8130180	ø 40 mm		

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