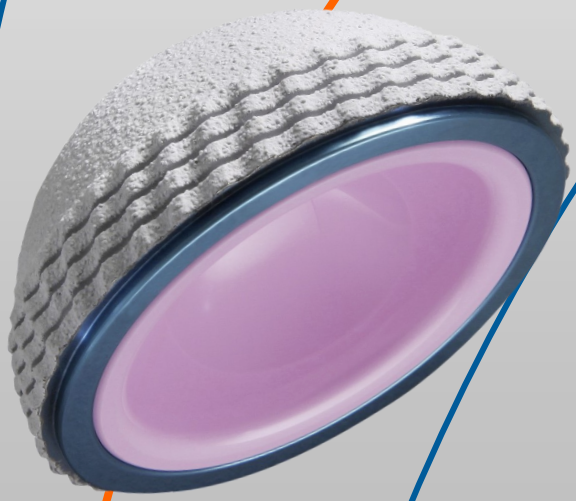
HORIZON® II

With and without holes
BIOLOX® Delta liner



Surgical technique
Conventional instrumentation

AMPLITUDE

HORIZON® II CUP: RANGE

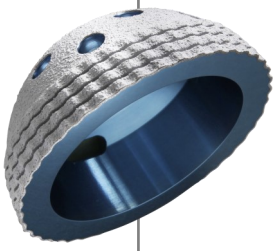
HORIZON® II

CEMENTLESS

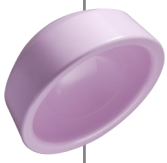
HORIZON® II WITHOUT HOLES

PREASSEMBLED BIOLOX® *Delta* LINER

HORIZON® II WITH HOLES



BIOLOX® *Delta* LINER



FIXATION SCREWS

HORIZON® II WITHOUT HOLES

	Ø46mm	Ø48mm	Ø50mm	Ø52mm	Ø54mm	Ø56mm	Ø58mm	Ø60mm	Ø62mm
Liner Ø28mm									
Liner Ø32mm									
Liner Ø36mm									

HORIZON® II AVEC TROUS

	Ø46mm	Ø48mm	Ø50mm	Ø52mm	Ø54mm	Ø56mm	Ø58mm	Ø60mm	Ø62mm	Ø64mm (option)
Metal cup										
Liner Ø28mm										
Liner Ø32mm										
Liner Ø36mm										

Ø6.5mm screws
Length 16, 20, to 45mm
In 5mm increments

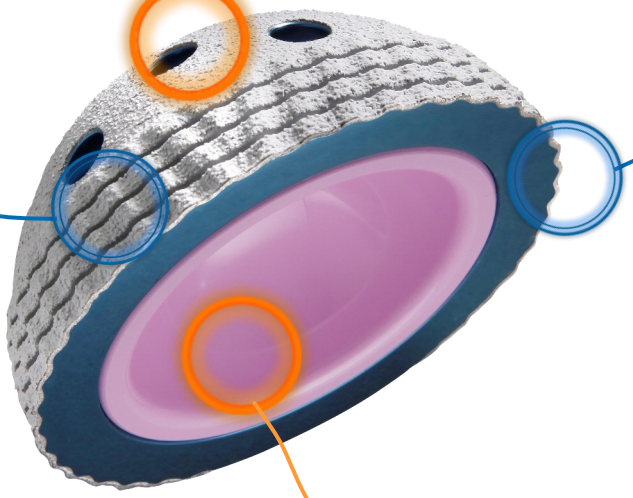
HORIZON® II CUP

HORIZON® II WITH HOLES CUP

Dual coating of plasma-sprayed titanium (80 µm) and HA (80 µm) ensures secondary fixation through bone ongrowth

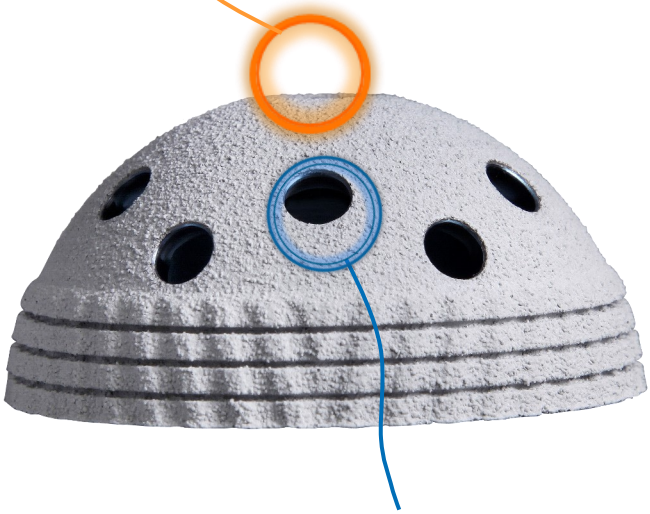
Material (cup): Anodized Titanium Alloy (Ti6Al4V)

Inverted chevron-shaped notches provide equatorial press-fit, evolves with cup size



BIOLOX® *delta* ceramic liner

Hemispherical cup with flat superior end



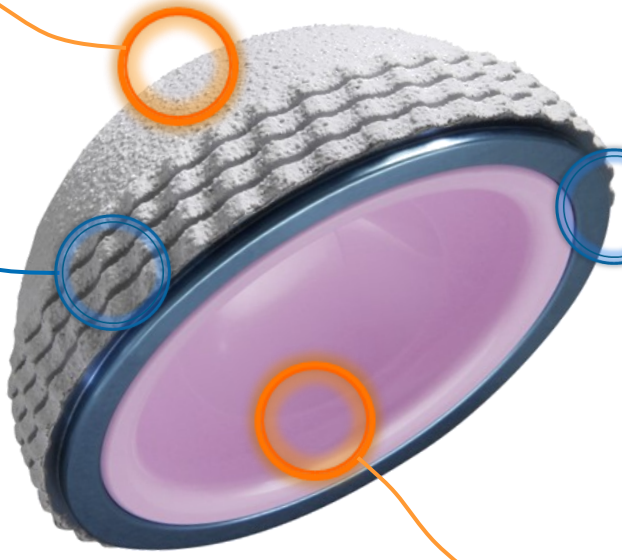
Upper quadrant of cup has 3 to 5 holes (depending on cup size) for Ø6.5 mm screws (available in lengths of 16 mm, 20 mm and then in 5 mm increments up to 45 mm)

HORIZON® II CUP

HORIZON® II WITHOUT HOLES CUP

Dual coating of plasma-sprayed titanium (80 µm) and HA (80 µm) ensures secondary fixation through bone ongrowth

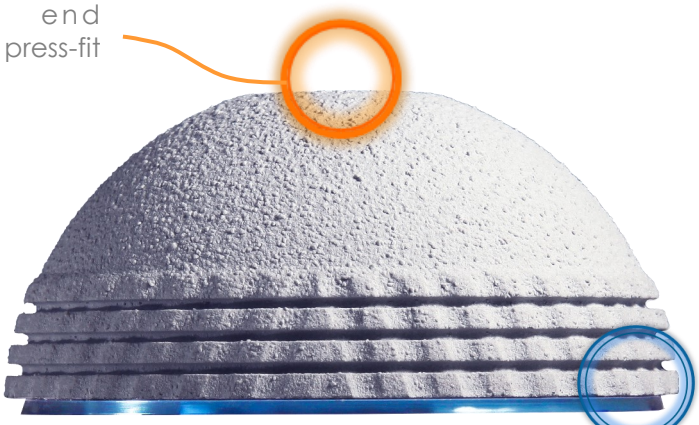
Inverted chevron-shaped notches provide equatorial press-fit, evolves with cup size



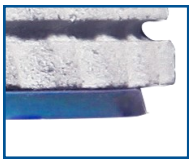
Material (cup): Anodized Titanium Alloy(Ti6Al4V)

Pre-assembled BIOLOX® *delta* liner reduces the risk of liner being incorrectly positioned in the cup

Hemispherical cup with flat superior end maximizes the press-fit effect



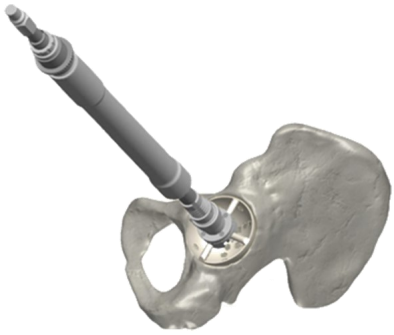
Fixation lip of the impaction plate



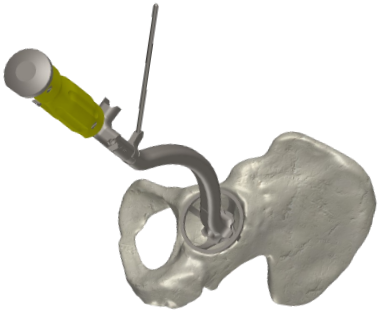
SURGICAL TECHNIQUE SUMMARY

Common Steps

1 Acetabulum Reaming

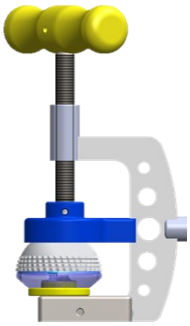


2 Reaming control



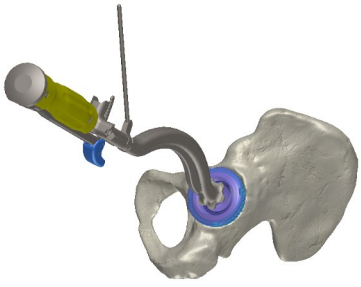
HORIZON® II without hole

3 Cup and Impaction Plate Assembly



4 Holding the Cup

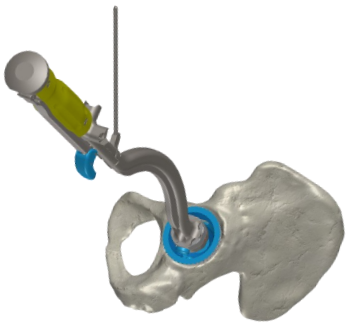
5 Final Cup Impaction



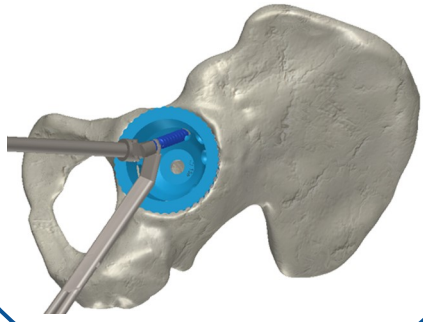
HORIZON® II
with holes

3 Holding the Cup

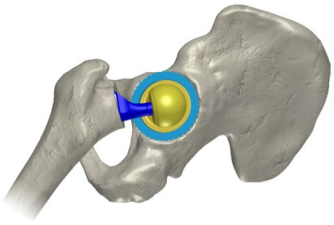
4 Final Cup Impaction



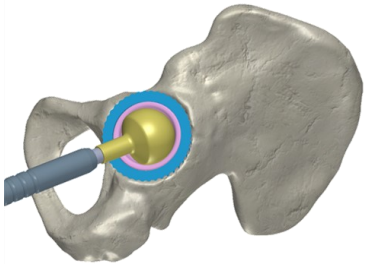
5 Fixation Screws Insertion (optional)



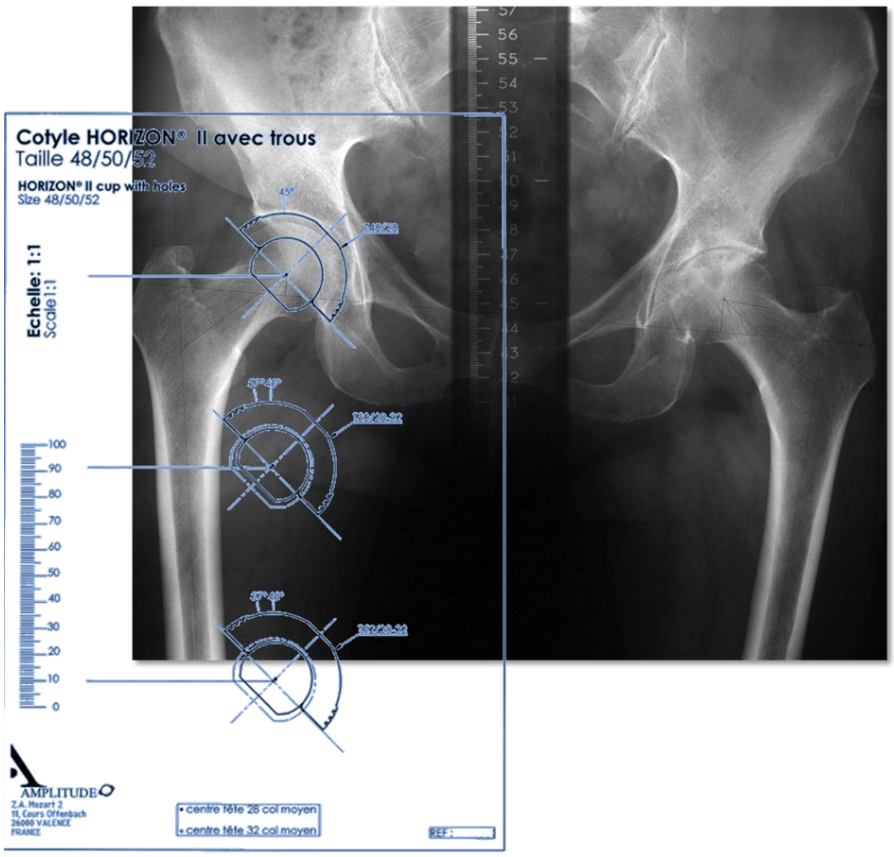
6 Trials with trial liner (optional)



7 Final Liner Impaction



PREOPERATIVE PLANNING



Using the radiographs and templates:

- Determine the joint centre
- Identify the depth of the acetabulum
- Assess the position of the cup
- Determine the cup size

NOTE

The provided templates have a 1:15 scale, but are also available with other scaling upon request.

REMINDER

The purpose of this surgical technique description is to provide instructions on how to use the instrumentation properly. The surgeon is fully responsible for choosing and performing the approach and surgical technique. This technique describes the use of curved impactors essentially. A straight impactor can also be used

ACETABULUM REAMING

Remove any peripheral osteophytes and resect the labrum. Make sure to remove any posterior and inferior osteophytes that could hinder cup placement.

Prepare the acetabulum using the reamers starting with the smallest acetabular reamer available. The reamers can be used with either a straight or offset reamer handle.

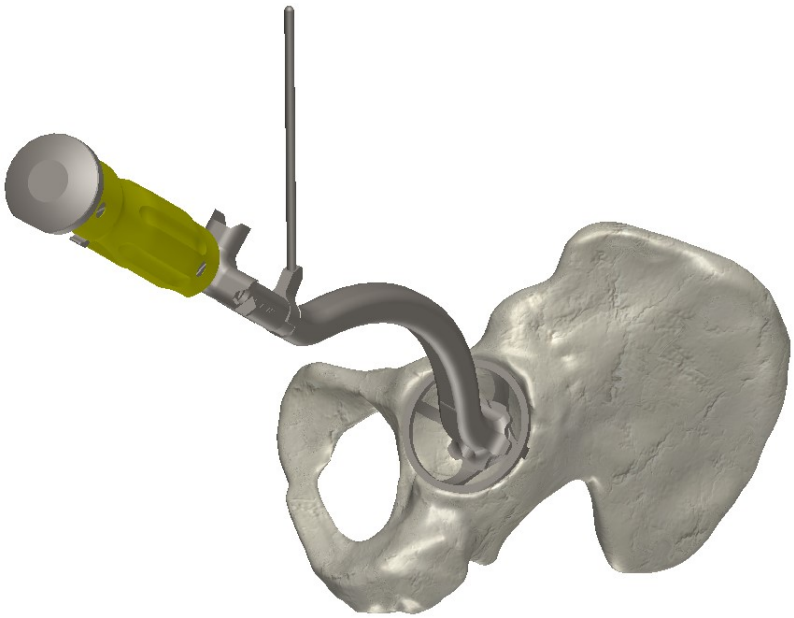
Gradually increase the reamer diameter until good peripheral support is achieved and bleeding subchondral bone has been exposed. Make sure not to go past the acetabular fossa (external lamina). The reamed cavity must be completely circular.

Clean out the bottom of the acetabulum, making sure to remove any bone fragments that could interfere with placement of the trial cup.

NOTE

The acetabular reamers size range covers all trial cups and implants. Depending on the adequation between the trial cup and reamed cavity, the reaming step might need to be performed again (see next page).

REAMING CONTROL



Assemble a trial cup on the cup impactor (straight or curved). The chosen size must be based on the last reamer used (see next page). The trial has the same dimensions as the implant, **without press-fit**. The cup orientor can be placed on the cup impactor handle to set a 45° angle relative to the vertical plane.

Clean out the bottom and rim of the acetabulum to prevent small bone or tissue fragments from interfering with cup impaction.

Introduce the trial cup while maintaining the inclination and anteversion providing the best bone coverage. The cup is typically placed at 45° inclination and 10° to 15° anteversion, depending on the patient. It must make contact with the entire perimeter of the acetabulum and be **stable** without protruding.

When the cup diameter and position are validated, make a bony landmark on the acetabulum (with the electric scalpel) that will allow reproduction of the impaction level with the final implant.

Remove the trial cup when reaming is validated.

NOTE

If the trial cup must be impacted (due to sclerotic or hard bone), it is recommended to **adjust acetabular cavity reaming**, following instructions available next page. In every case, reaming is validated based on the trial cup stability.

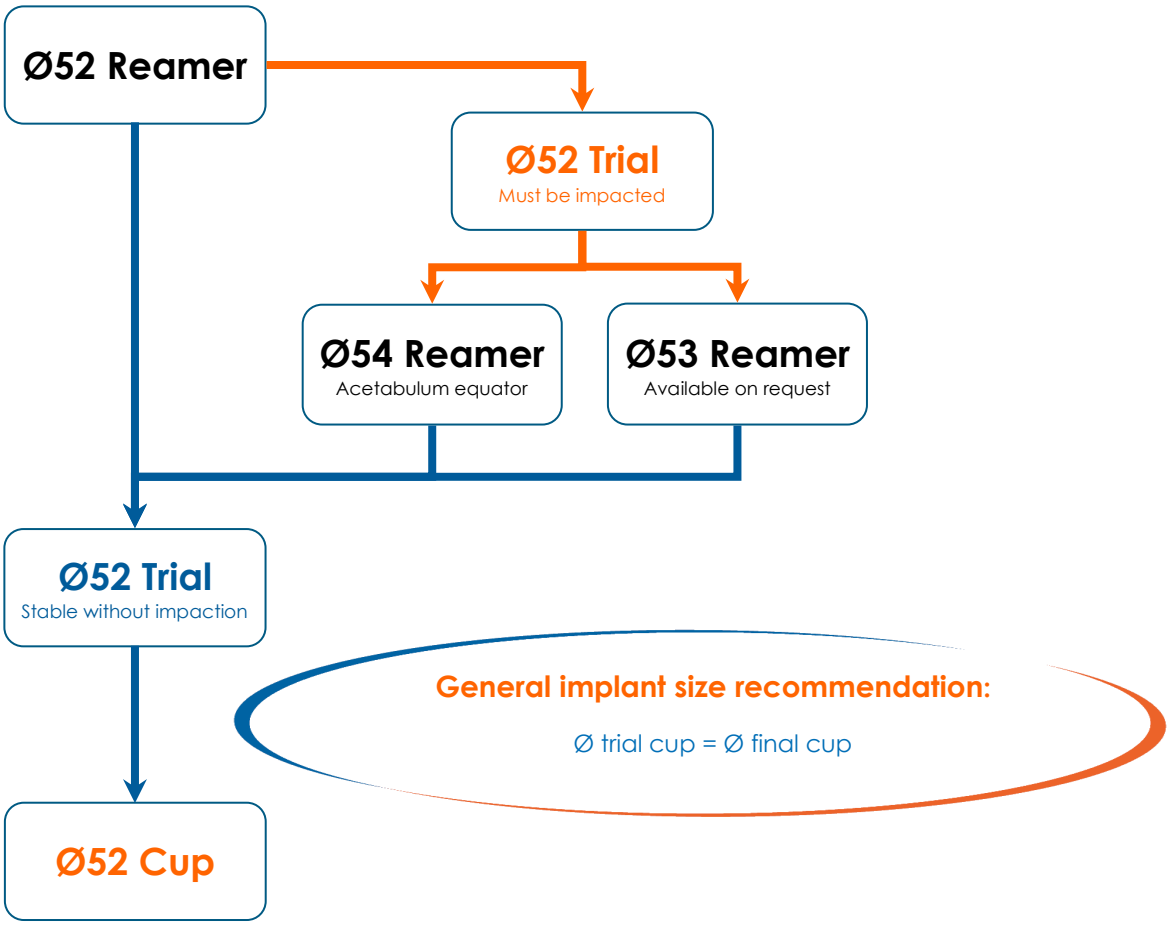
NOTE

When performing trials, the straight handle can be unscrewed to leave only the trial cup in the acetabulum.

DECISION TREE FOR REAMING TECHNIQUE

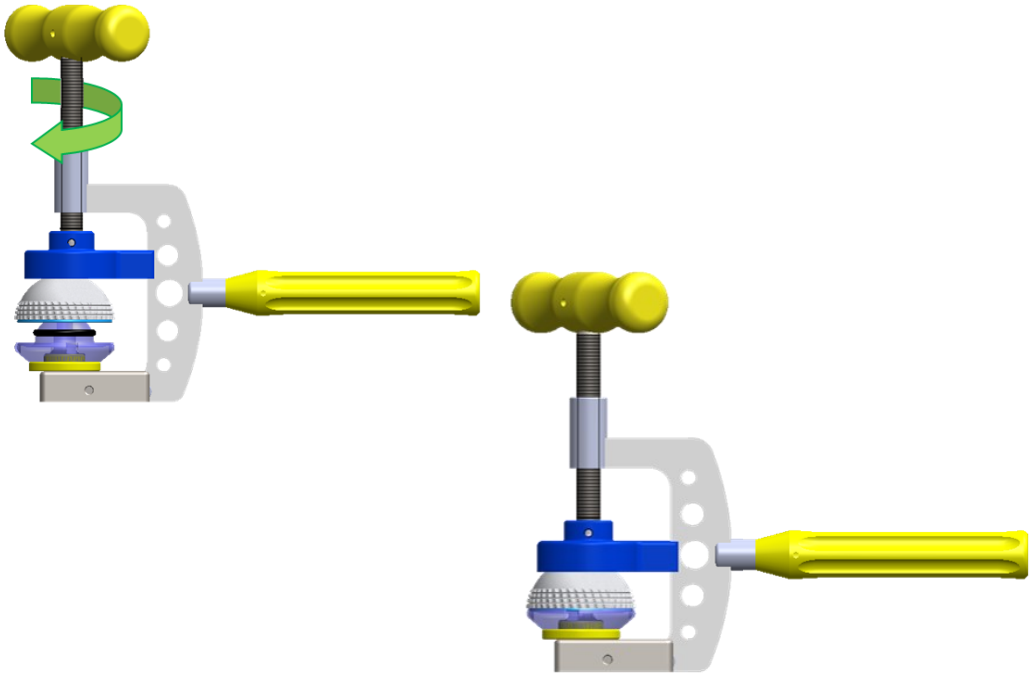
Reaming must be performed using even reamers, by size increment (2 mm). The size of the last validated reamer (see p.9) determines the size of the trial cup. The size is validated if the trial is stable in the acetabulum, and introduced without need of impaction. If the trial must be impacted, the following techniques can be followed:

- Ream the equator of the acetabulum one size over (2 mm).
- Ream the whole acetabulum half a size over (1 mm): those reamers are available on request only.



HORIZON® II WITHOUT HOLES

IMPACTION PLATE ASSEMBLY



Take out the **HORIZON® II cup without hole** of the size validated by the trial cup. Remove the protective foam between the cup and its impaction plate.

Example: *Ø52 trial = Ø52 implanted cup*

Secure the handle and the baseplate in the press.

Place the impaction plate on the yellow centring tip on the press, with the round portion facing up.

Place the **HORIZON® II cup without hole** over the plate and turn the handle on the press until the cup is fully seated on the plate.

Visually check whether the plate is attached correctly: the four fixation tabs on the plate must be fully clipped around the cup's periphery.

If this is not the case, return the cup and plate to the press and finish impacting the plate.

HOLDING THE CUP

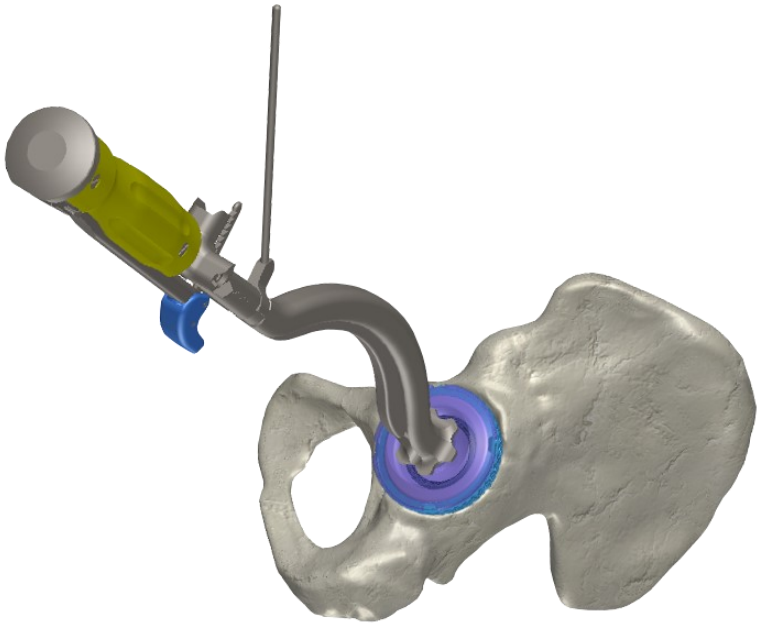
Assemble the impactor handle **that corresponds with the cup being used** according to the instructions available in Appendix A.

With the ratchet handle closed, screw the impaction plate and cup on the impactor.

IMPORTANT

The impactor lever must remain closed from assembly with the cup until the impaction is complete. Make sure the plate is completely screwed (until it stops) on the impactor.

FINAL CUP IMPACTION



Perform femoral preparation following the implants dedicated surgical technique.

Assemble the cup alignment guide to the impactor handle. Position the cup in the acetabulum in the desired inclination and orientation, remove the alignment guide and then impact the cup. Avoid lever movements with the impaction handle during impaction to avoid unclipping the impaction plate.

Once the cup has been fully impacted, lift the blue impactor button and open the lever to release the impaction plate from the **HORIZON® II cup without hole**.

Remove the impactor.

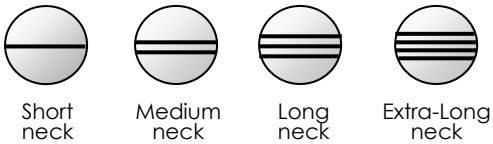
IMPORTANT

Reorientation of the cup (if necessary) must be performed using the impaction plate in-situ, before removing it. Striking directly on the metallic part of the cup could cause disassembly of the liner. Avoid clipping the impaction plate back on the cup, as this could damage the assembly tabs

Perform mobility and stability trials with the femoral stem in place.

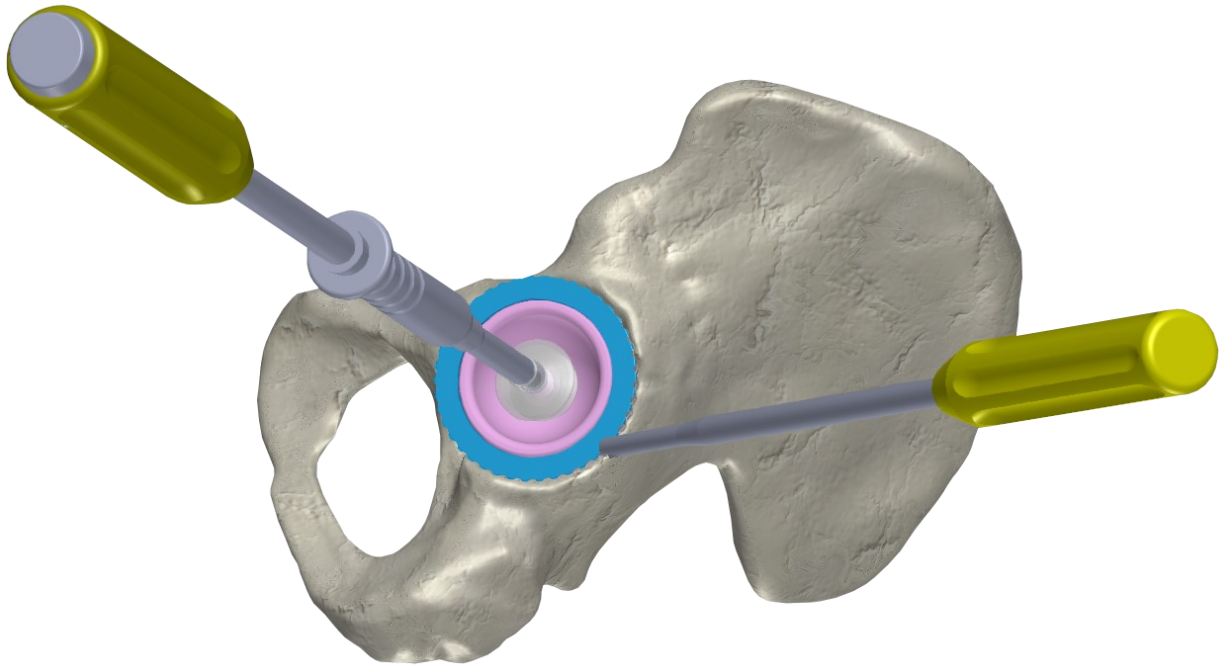
Trial heads color code

Trial heads neck length code*



*Indications, contraindications and pairing restrictions are described in the IFU available with the femoral heads. Please read carefully.

IMPLANTS EXTRACTION



Assemble the liner extraction tip on the universal handle and attach the plunger end to the bottom of the ceramic liner.

While pulling on the liner extractor, use a metal instrument to tap on the periphery of the cup until the liner releases itself from the cup by resonance.

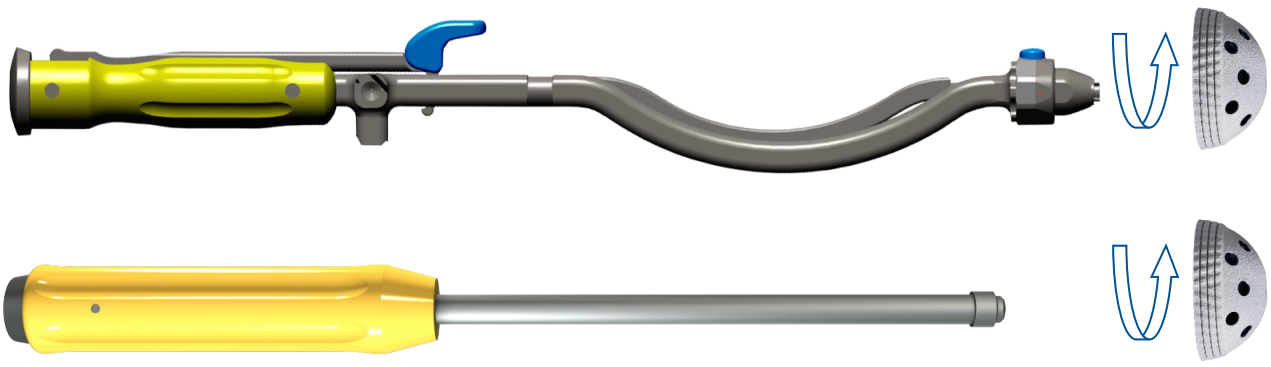
Using K-wires and flexible chisels, scrape the space between the bone and the outer part of the cup to release it. Then tilt it by impacting the metallic edge until extraction is possible.

NOTE

Extraction instrumentation specific to the HORIZON® II cup with holes is available on request.

HORIZON® II WITH HOLES

HOLDING THE CUP



Take out the **HORIZON® II cup with holes** of the same size as the trial cup.

USING THE RATCHET IMPACTOR:

Assemble the impactor handle **that corresponds with the cup being used** according to the instructions available in Appendix A.

With the ratchet handle closed, screw the expandable connector onto the handle, and then the cup of the same size as the trial cup.

IMPORTANT

The impactor lever must remain closed from assembly with the cup until the impaction is complete. Make sure the cup is completely screwed (until it stops) on the connector.

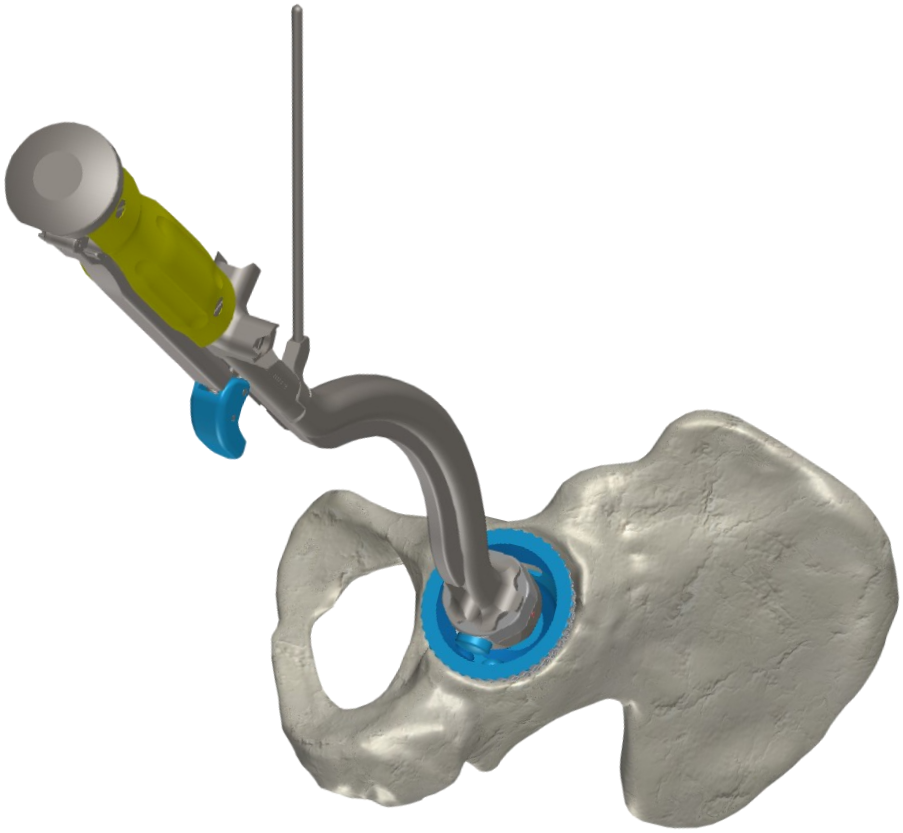
The expandable connector must be handled with care.

The screw holes can be aligned in the desired orientation by pressing the blue button on the expandable connector.

USING THE MONOBLOCK IMPACTOR:

Screw the final cup until it stops onto the impactor.

FINAL CUP IMPACTION



Assemble the cup orientor to the impactor handle.

Position the cup in the acetabulum in the desired inclination and orientation, remove the cup orientor and impact the cup.

NOTE

Holes should be oriented toward the roof of acetabulum

USING THE RATCHET IMPACTOR:

Once the cup has been fully impacted, lift the blue impactor button and open the lever to release the **HORIZON® II cup with holes.**

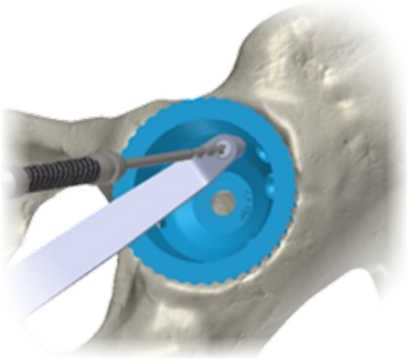
Remove the impactor.

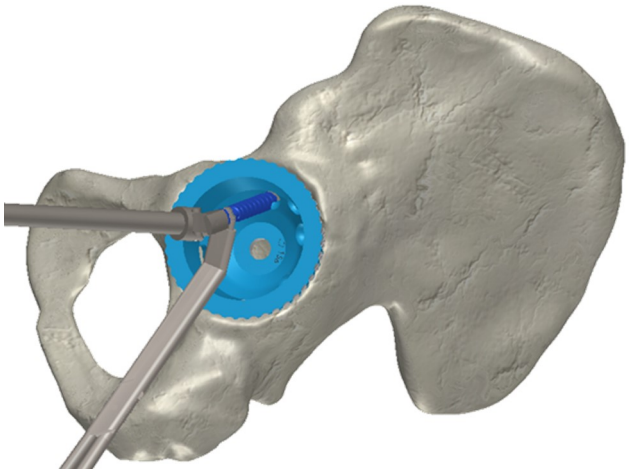
USING THE MONOBLOCK IMPACTOR:

Unscrew the impactor from the final cup.

Remove the impactor.

FIXATION SCREW INSERTION (OPTIONAL)





The cup's fixation can be reinforced with screws if needed.

Assemble the Ø3.2 mm drill bit (length 35, 50 or 70 mm) on the flexible drive shaft, and the assembly on the power tool.

Use the drill guide to drill into one of the cup holes (two different angles are possible).

Determine the required screw length using the screw measurer.

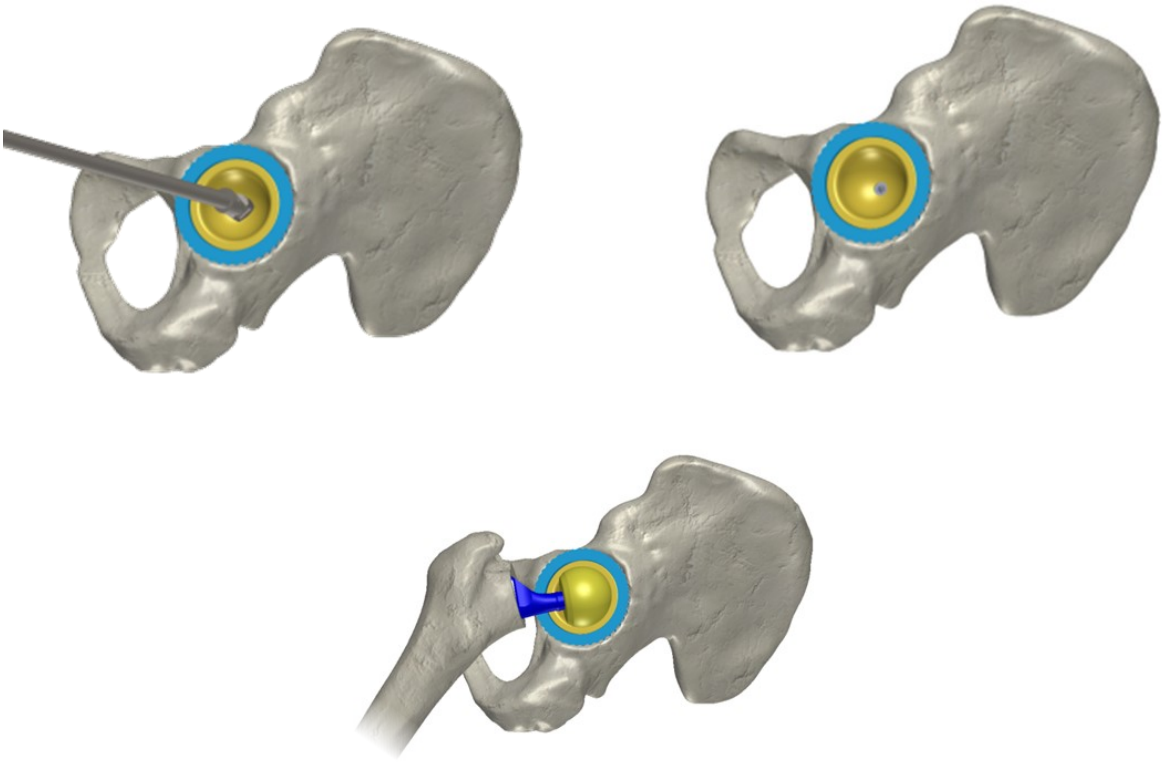
Choose the appropriate screw and place it into the screw holding clamp; position the screw in the implanted cup.

Fully insert the screw using the 3.5 mm Hex driver.

IMPORTANT

Make sure the screw heads are completely embedded inside the cup so they do not interfere with liner placement.

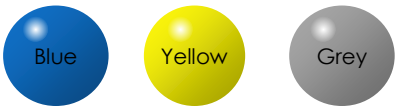
TRIALS WITH TRIAL LINER (OPTIONAL)



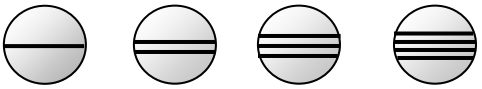
Perform femoral preparation following the implants dedicated surgical technique.

Screw the trial liner into the cup using the H3.5 screwdriver to carry out reduction trials.

Trial heads and liners color code



Trial heads neck length code*



Perform mobility and stability trials with the femoral stem in place.

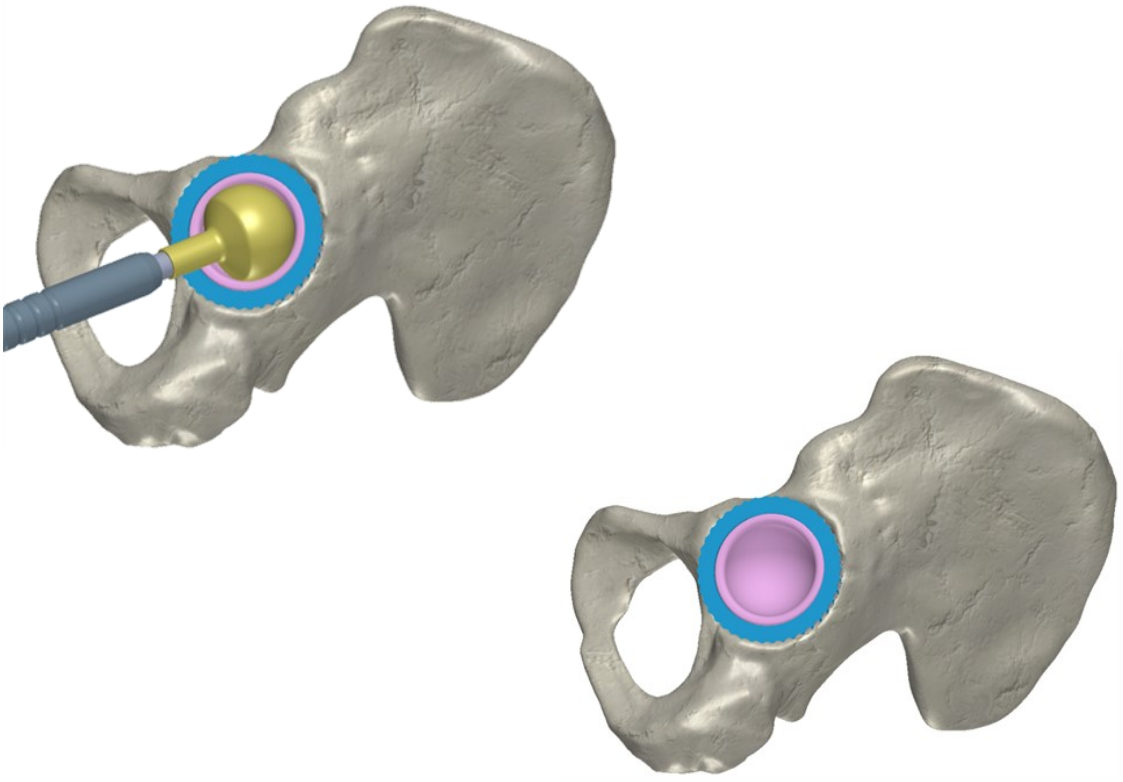
Remove trial components when stability is validated.

NOTE

Make sure the trial liner is compatible with the final cup (check engraving on the trial liner)

*Indications, contraindications and pairing restrictions are described in the IFU available with the femoral heads. Please read carefully.

FINAL LINER IMPACTION



After cleaning and drying out the implanted cup, slide the chosen BIOLOX® *delta* ceramic liner along the cup's Morse taper and in the same axis.

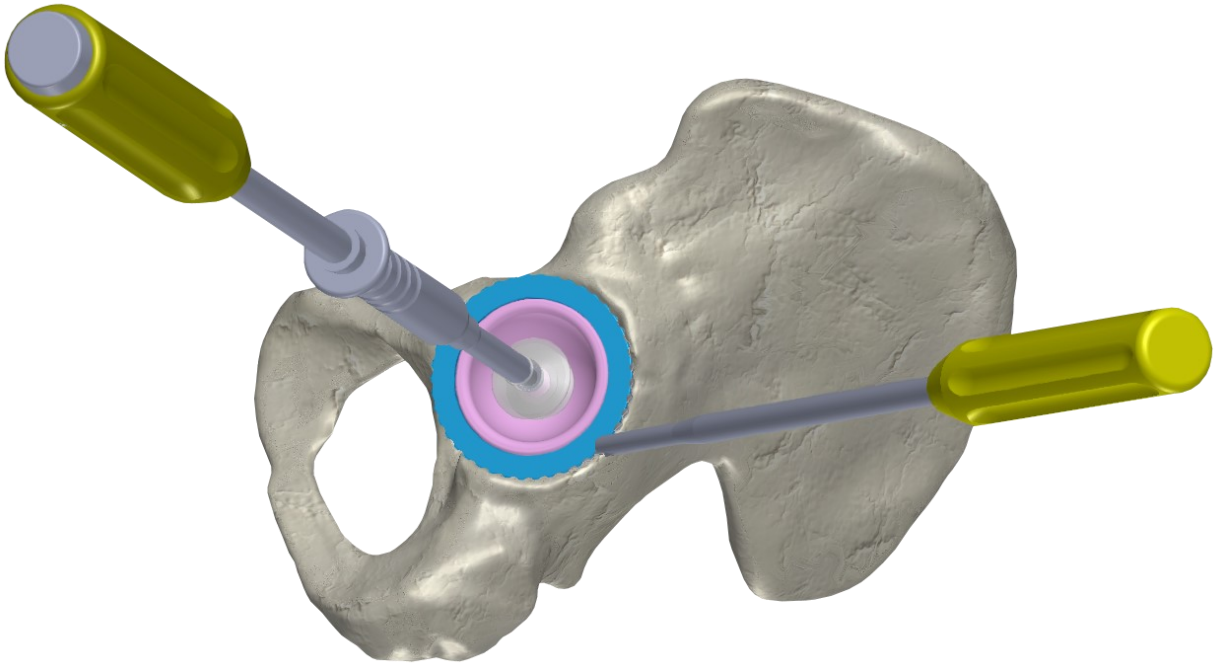
Check the liner positioning by running your finger along the cup's edge; the combined edges of the metal cup and ceramic liner must be completely flat.

Assemble the cup impactor tip (following the same color coding as the trials heads, described previously) with the universal handle and impact the liner.

IMPORTANT

Make sure the chosen **liner** is compatible with the **implanted cup** (same size as the trial liner that was used, refer to page 3 for the sizes available for **HORIZON® II with holes**).

IMPLANTS EXTRACTION



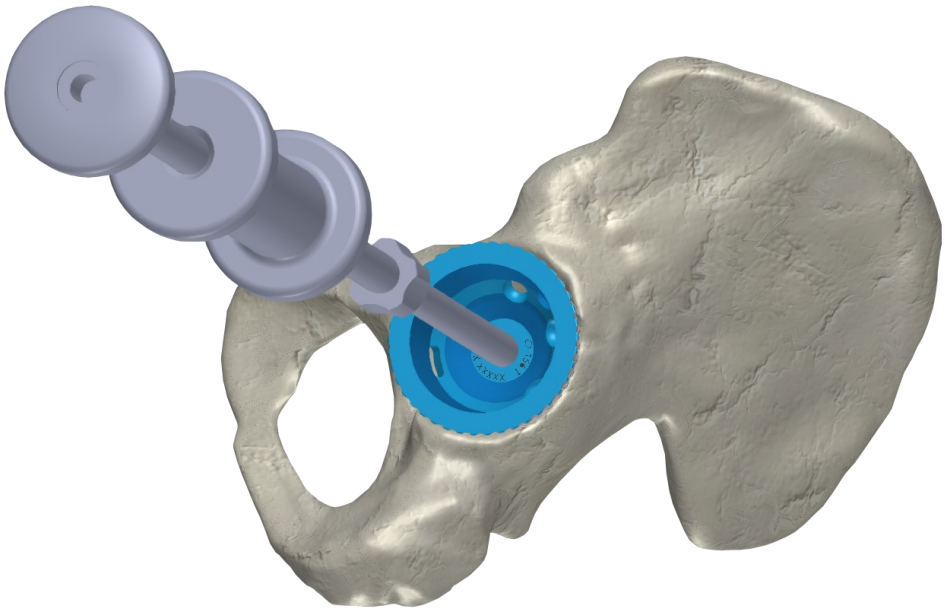
Assemble the liner extraction tip with the universal handle and attach the plunger end to the bottom of the ceramic liner.

While pulling on the liner extractor, use a metal instrument to tap on the periphery of the cup until the liner releases itself from the cup by resonance.

NOTE

Extraction instrumentation specific to HORIZON® II cup with holes is available on request.

IMPLANTS EXTRACTION



Remove any fixation screws present using the 3.5 mm Hex driver.

Using K-wires and flexible chisels, scrape the space between the bone and the outer part of the cup to release it.

Assemble the slap hammer weight onto the slap hammer shaft and screw both components with the cup extractor.

Screw and **firmly tighten** the assembly to the apical hole and proceed to extraction. The slap hammer movement must be in the cup axis.

NOTE

The holding hanlde can be assembled to the slap hammer shaft.

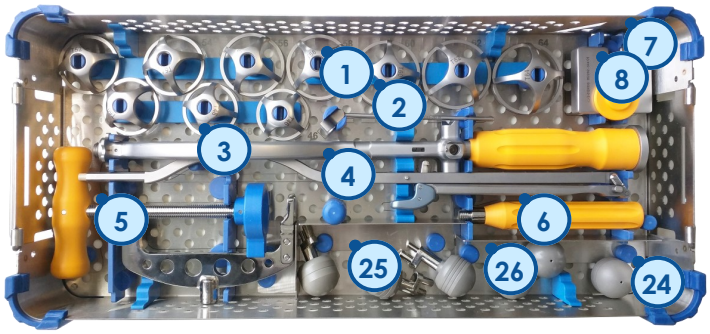
INSTRUMENTATION

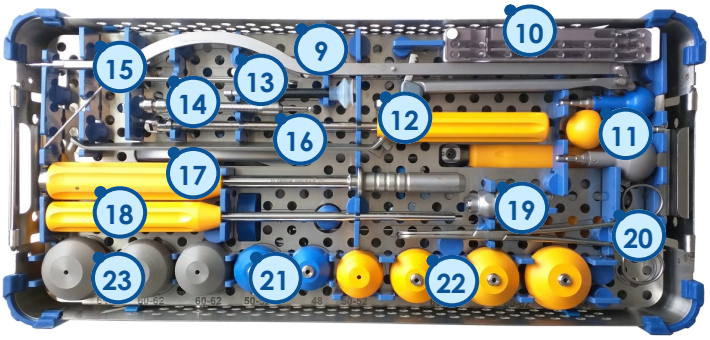
HORIZON® II WITH HOLES : STRAIGHT IMPACTOR

Item	Description	Reference	Qty
1	Trial Cup Size **48** to **64**	2-0100**48** to 2-0100**64**	1
2	Universal Handle	2-0101000	1
3	Cup Impactor	2-0100800	1
4	Cup Alignment Guide	2-0102000	1
5	Screwdriver shaft drive H3.5	2-0102100	1
6	Drill guide for Ø3.2 drill bit	2-0102200	1
7	Flexible Shaft	44000	1
8	Short drill bit Ø3.2 length 35 mm Short drill bit Ø3.2 length 50 mm Long drill bit Ø3.2 length 70 mm Drill bit Ø3.2 length 145 mm	2-0103800 2-0102500 2-0102600 2-0102400	1
9	Screw measurer	2-0102700	1
10	Screw Holder Clamp	2-0102800	1
11	H3.5 Retentive Straight Screwdriver	2-0101500	1
12	Trial ceramic liner Size 48/28 Trial ceramic liner Size 50/28 & 52/28	2-0104401 2-0104402	1
13	Trial ceramic liner Size 50/32 & 52/32 Trial ceramic liner Size 54/32 & 56/32 & 58/32 Trial ceramic liner Size 60/32 & 62/32 Trial ceramic liner Size 64/32	2-0118100 2-0124300 2-0104503 2-0104504	1
14	Trial ceramic liner Size 54/36 & 56/36 & 58/36 Trial ceramic liner Size 60/36 & 62/36 Trial ceramic liner Size 64/36	2-0124400 2-0116502 2-0116503	1
15	Cup impaction tip Ø**28** to Ø**36**	2-0104**28** to 2-0104**36**	1
16	Liner impactor/extractor	2-0107600	1
17	Trial neck Ø36 Short neck, Medium Neck and Long Neck Trial revision neck Ø36 Short neck, Medium Neck and Long Neck	2-0100512 to 2-0100514 2-0100612 to 2-0100614	1 of each
18	Trial head on stem Ø36 Short neck Trial head on stem Ø36 Medium neck Trial head on stem Ø36 Long neck	2-0100415 2-0100416 2-0100417	1

INSTRUMENTATION

HORIZON® II SHARED: CURVED IMPACTOR

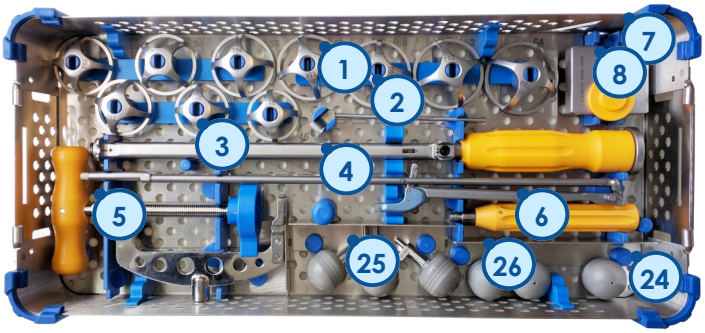


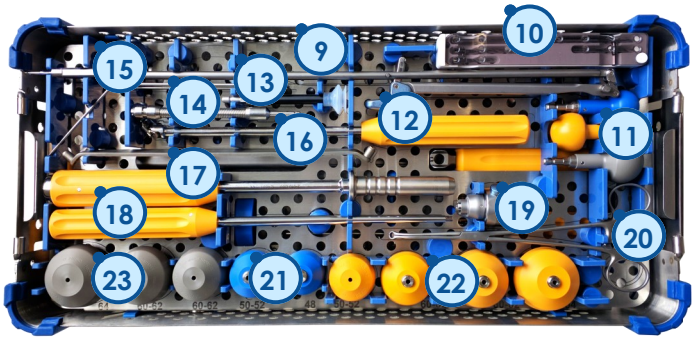


Item	Description	Reference	Qty
1	Trial cup HORIZON II - Size **48 to 64**	2-0121**48** to 2-0121**64**	1
2	Cup alignment guide for impactor handle Ø15	2-0126000	1
3	Curved cup impactor - Conventional / Navigated	2-0199600	1
4	Rod for preassembled cup curved impactor	2-0125400	1
5	Press for dual mobility cup AMPLITUDE tip for dual mobility press	2-0105900 2-0106000	1 1
6	Holding handle	2-0104200	1
7	Table base for press	2-0124100	1
8	Press teat for cap impaction	2-0124200	1
9	Rod for Curved Cup impactor - M9 screwing	2-0126200	1
10	Short drill bit Ø3.2 length 35 mm Short drill bit Ø3.2 length 50 mm Long drill bit Ø3.2 length 70 mm Long drill bit Ø3.2 length 145 mm	2-0103800 2-0102500 2-0102600 2-0102400	1
11	Cup impaction tip Ø**28** to Ø**36**	2-0104**28** to 2-0104**36**	1
12	Screwdriver shaft drive H3.5	2-0102100	1
13	Liner impactor/extractor	2-0107600	1
14	Flexible Shaft	44000	1
15	Screw gauge	2-0102700	1
16	Drill guide for Ø3.2 drill bit	2-0102200	1
17	Universal handle	2-0101000	1
18	H3.5 Retentive Straight Screwdriver	2-0101500	1
19	Expandable connector M9-M14	2-0122700	1
20	Screw Holder Clamp	2-0102800	1
21	Trial ceramic liner Size 48/28 Trial ceramic liner Size 50/28 & 52/28	2-0104401 2-0104402	1
22	Trial ceramic liner Size 50/32 & 52/32 Trial ceramic liner Size 54/32 & 56/32 & 58/32 Trial ceramic liner Size 60/32 & 62/32	2-0118100 2-0124300 2-0104503	1
23	Trial ceramic liner Size 54/36 & 56/36 & 58/36 Trial ceramic liner Size 60/36 & 62/36 Trial ceramic liner Size 64/36	2-0124400 2-0116502 2-0116503	1
24	H3 Wrench	2-0199400	1
25	Trial neck Ø36 Short neck, Medium Neck and Long Neck Trial revision neck Ø36 Short neck, Medium Neck and Long Neck	2-0100512 to 2-0100514 2-0100612 to 2-0100614	1 of each
26	Trial head on stem Ø36 Short neck Trial head on stem Ø36 Medium neck	2-0100415 2-0100416	1

INSTRUMENTATION

HORIZON® II SHARED: STRAIGHT IMPACTOR

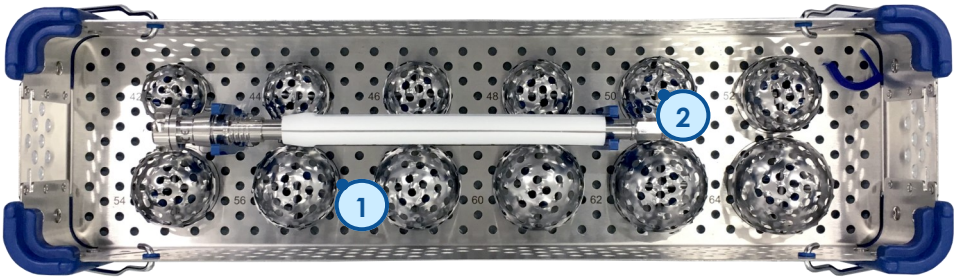




Item	Description	Reference	Qty
1	Trial cup HORIZON II - Size **48 to 64**	2-0121**48** to 2-0121**64**	1
2	Cup alignment guide for impactor handle Ø15	2-0126000	1
3	Straight cup impactor - Conventional / Navigated	2-0199700	1
4	Rod for preassembled cup straight impactor	2-0199800	1
5	Press for dual mobility cup AMPLITUDE tip for dual mobility press	2-0105900 2-0106000	1 1
6	Holding handle	2-0104200	1
7	Table base for press	2-0124100	1
8	Press teat for cap impaction	2-0124200	1
9	Rod for Straight Cup impactor - M9 screwing	2-0126300	1
10	Short drill bit Ø3.2 length 35 mm Short drill bit Ø3.2 length 50 mm Long drill bit Ø3.2 length 70 mm Long drill bit Ø3.2 length 145 mm	2-0103800 2-0102500 2-0102600 2-0102400	1
11	Cup impaction tip Ø**28** to Ø**36**	2-0104**28** to 2-0104**36**	1
12	Screwdriver shaft drive H3.5	2-0102100	1
13	Liner impactor/extractor	2-0107600	1
14	Flexible Shaft	44000	1
15	Screw gauge	2-0102700	1
16	Drill guide for Ø3.2 drill bit	2-0102200	1
17	Universal handle	2-0101000	1
18	H3.5 Retentive Straight Screwdriver	2-0101500	1
19	Expandable connector M9-M14	2-0122700	1
20	Screw Holder Clamp	2-0102800	1
21	Trial ceramic liner Size 48/28 Trial ceramic liner Size 50/28 & 52/28	2-0104401 2-0104402	1
22	Trial ceramic liner Size 50/32 & 52/32 Trial ceramic liner Size 54/32 & 56/32 & 58/32 Trial ceramic liner Size 60/32 & 62/32	2-0118100 2-0124300 2-0104503	1
23	Trial ceramic liner Size 54/36 & 56/36 & 58/36 Trial ceramic liner Size 60/36 & 62/36 Trial ceramic liner Size 64/36	2-0124400 2-0116502 2-0116503	1
24	H3 Wrench	2-0199400	1
25	Trial neck Ø36 Short neck, Medium Neck and Long Neck Trial revision neck Ø36 Short neck, Medium Neck and Long Neck	2-0100512 to 2-0100514 2-0100612 to 2-0100614	1 of each
26	Trial head on stem Ø36 Short neck Trial head on stem Ø36 Medium neck	2-0100415 2-0100416	1

INSTRUMENTATION

ACETABULAR REAMERS SET



Item	Description	Reference	Qty
1	Acetabular reamer Ø42 to Ø64	2-0192**42** to 2-0192**64**	1 each
2	Complete monobloc reamer holder with AO connection	MPF310030	1

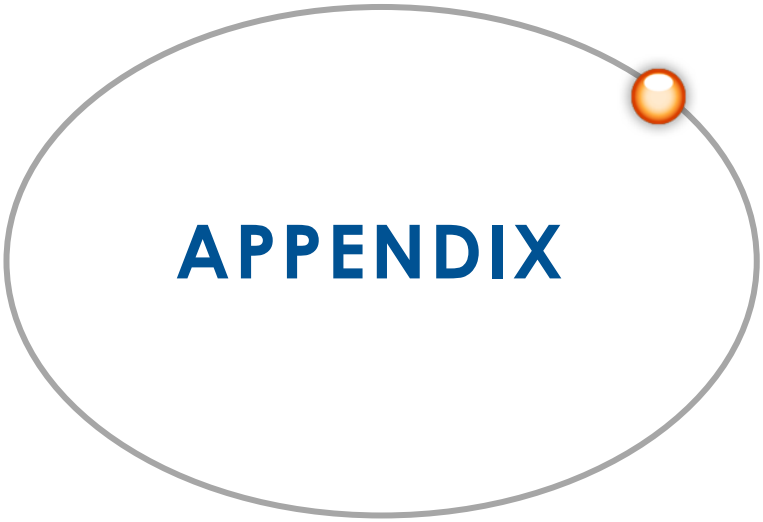
ACETABULAR REAMERS SET - ODD SIZES

Item	Description	Reference	Qty
1	Acetabular reamer Ø41 to Ø65	2-0192**41** to 2-0192**65**	1 each
2	Straight Reamer Handle - AO coupling	T17780*	1

*optional if the tray of even sizes reamers has already been provided.

Description	Reference
IMA reamer handle - Conventional	MPF3100CHA01

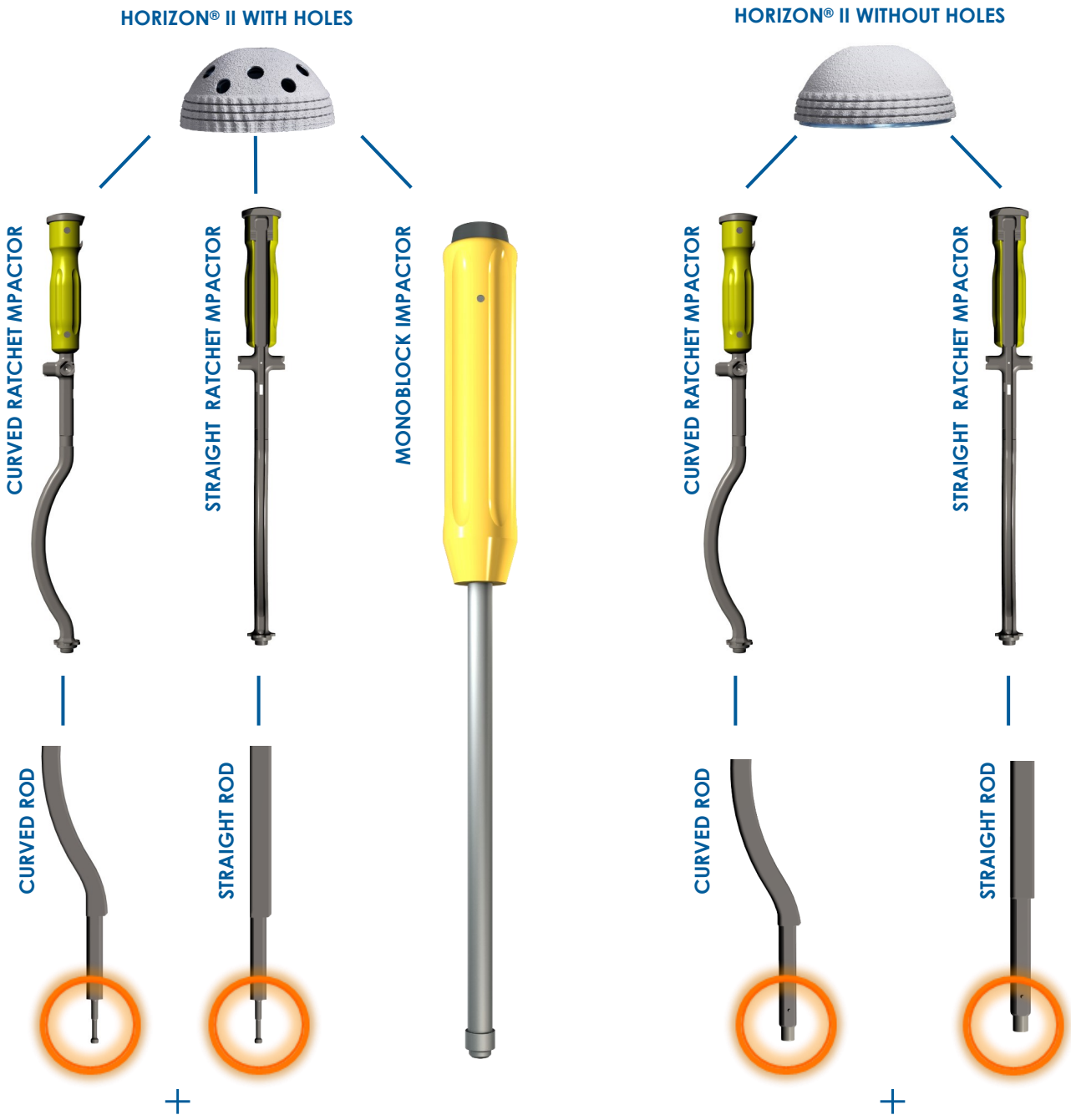
Description	Reference
Offset Reamer Handle - Carbon - AO connection	T17875


APPENDIX

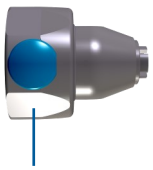
APPENDIX A

HORIZON® II IMPACTORS RANGE

Before assembly, make sure the cup/rod/impactor are compatible (see below).



Expandable connector for cup

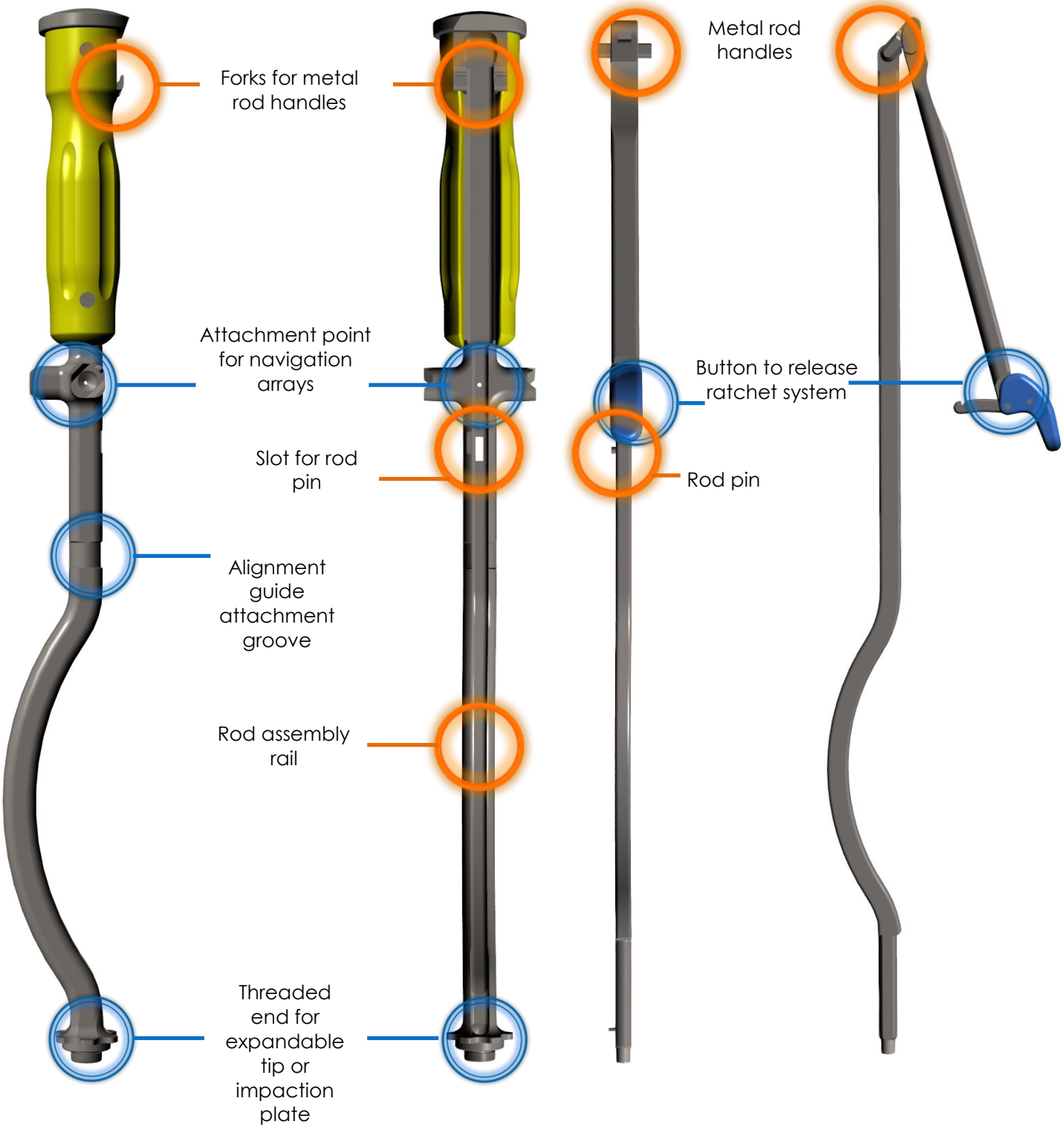


Button used to adjust orientation of the screw holes

Single-use impaction plate

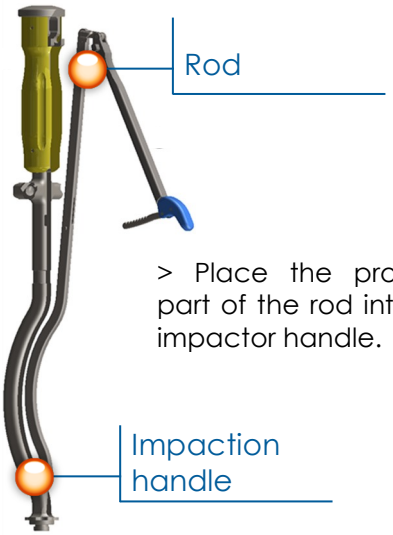
APPENDIX A

DESCRIPTION OF THE « RATCHET » IMPACTOR



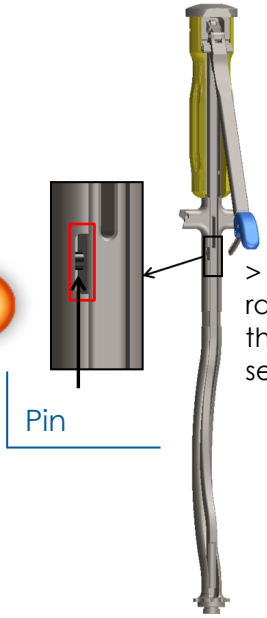
APPENDIX A

ASSEMBLY OF THE « RATCHET » IMPACTOR



1

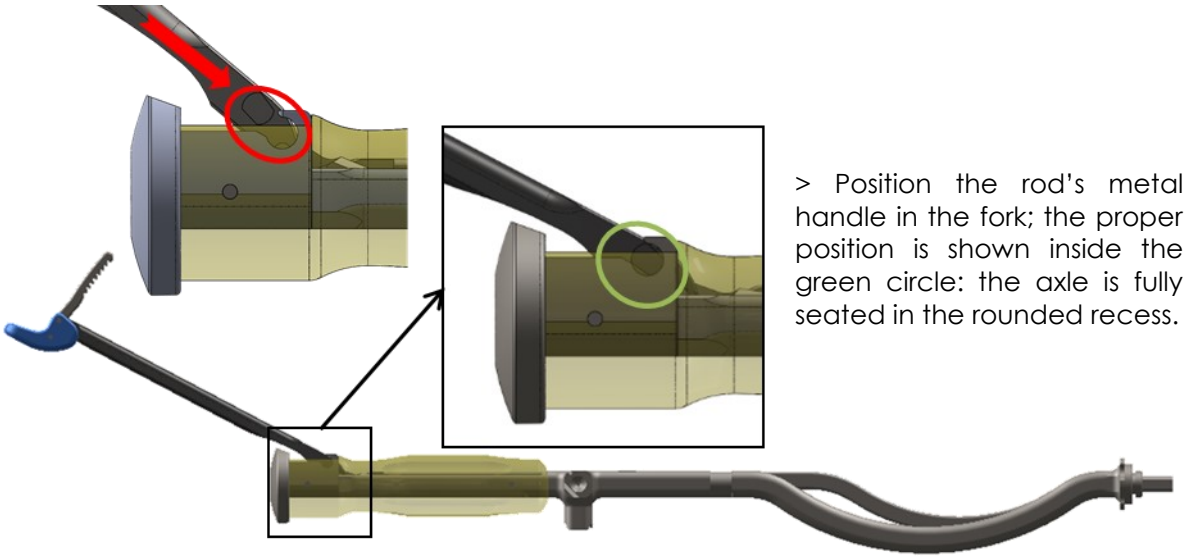
> Place the proximal part of the rod into the impactor handle.



2

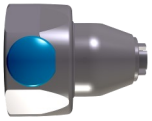
> Position the rod in the rail while making sure the guide pin is correctly seated in the rod.

3



> Position the rod's metal handle in the fork; the proper position is shown inside the green circle: the axle is fully seated in the rounded recess.

For **HORIZON® II with holes**: screw the expandable connector to the end of the impactor shaft.



Référence : TO.H.GB.014/2.2

Products availability may vary depending on countries. Please check availability with your local representative.

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