Surgical Technique

Optifit Cementless Cup

Your partner for implants and trauma products

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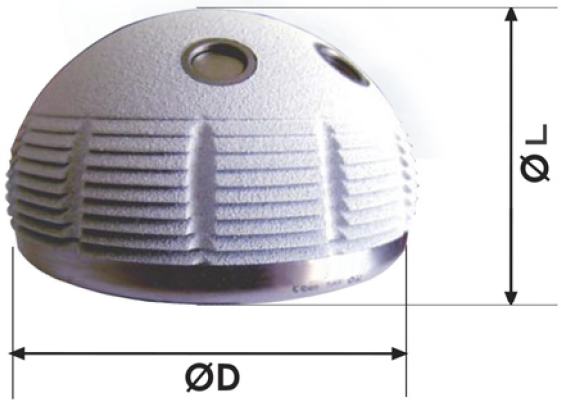
Please note:
This document is intended as a guide for the surgeon only. There are multiple techniques for the insertion of Optifit Cementless Cup, with any surgical procedure, a surgeon should be thoroughly trained and be aware that this procedure is appropriate for the patient before proceeding.

Introduction



Optifit Cementless Cup is used for all forms of arthrosis including: advance wear and tear of the hip joint due to degenerative, posttraumatic or rheumatoid arthritis; fracture resulting from avascular necrosis of the femoral head; sequalae of earlier operations, such as osteosynthesis; joint reconstruction; arthrodesis; hemiarthroplasty or total hip replacement.

Optifit cementless cup is an acetabular implant for uncemented fixation. The titanium cup has three holes on the superolateral side. The screws have a spherical head and are always in excellent contact with their seatings, even when the introduction angle may be different. This helps prevent the fretting corrosion and assures the screw stability in spite of the different possible introduction angles of the screw.

Material

Certified Titanium alloy according to ASTM F 136- ISO 5832-3.
This material is selected for its modulus of elasticity, closest to that of living bone; high fatigue strength and perfect biocompatibility.

Optifit Cementless Cup(Sterile)

Ref. Number Ti+Ha Coated	Size D(mm)	Length L(mm)
EB3201N042S	42	25
EB3201N044S	44	25
EB3201N046S	46	26
EB3201N048S	48	27
EB3201N050S	50	28
EB3201N052S	52	29
EB3201N054S	54	30
EB3201N056S	56	31
EB3201N058S	58	32
EB3201N060S	60	33
EB3201N062S	62	34
EB3201N064S	64	35
EB3201N066S	66	36
EB3201N068S	68	37
EB3201N070S	70	38
EB3201N072S	72	39

Optifit Cementless Cup Insert

The Optifit Cementless cup reduces the possibility of wear debris from the inner surface of the UHMWPE cup. This is achieved by machining and polishing the inner surface. The exceptional manufacturing precision, provides a better assurance over the direct contact between the UHMWPE insert and inner surface of the metal cup reducing micromotions and fretting.

Material

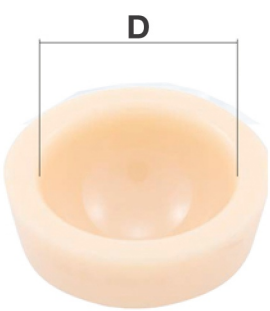
PE-UHMW crosslinked material meets ASTM F 648 and ISO 5834-1/2 standards.
This material is selected for their high degree of purity, high bio tolerance, extraordinary mechanical performance and friction properties.

Optifit PE Crosslinked Liner(Sterile)

PE-UHMW-0°	PE-UHMW-10°	PE-UHMW-15°	PE-UHMW-20°	In. Diam	Comp. Diam
EB3221U040S	EB3223U040S	EB3225U040S	EB3227U040S	22	36-40
EB3211U048S	EB3213U048S	EB3215U048S	EB3217U048S	28	42-48
EB3211U052S	EB3213U052S	EB3215U052S	EB3217U052S	28	50-52
EB3211U056S	EB3213U056S	EB3215U056S	EB3217U056S	28	54-56
EB3211U060S	EB3213U060S	EB3215U060S	EB3217U060S	28	58-60
EB3211U064S	EB3213U064S	EB3215U064S	EB3217U064S	28	62-64
EB3211U068S	EB3213U068S	EB3215U068S	EB3217U068S	28	66-68
EB3211U072S	EB3213U072S	EB3215U072S	EB3217U072S	28	70-72
EB3220U052S	EB3212U052S	EB3235U052S	EB3237U052S	32	50-52
EB3220U056S	EB3212U056S	EB3235U056S	EB3237U056S	32	54-56
EB3220U060S	EB3212U060S	EB3235U060S	EB3237U060S	32	58-60
EB3220U064S	EB3212U064S	EB3235U064S	EB3237U064S	32	62-64
EB3220U068S	EB3212U068S	EB3235U068S	EB3237U068S	32	66-68
EB3220U072S	EB3212U072S	EB3235U072S	EB3237U072S	32	70-72
EB3241U056S	EB3210U056S	EB3245U056S	EB3247U056S	36	54-56
EB3241U060S	EB3210U060S	EB3245U060S	EB3247U060S	36	58-60
EB3241U064S	EB3210U064S	EB3245U064S	EB3247U064S	36	62-64
EB3241U068S	EB3210U068S	EB3245U068S	EB3247U068S	36	66-68
EB3241U072S	EB3210U072S	EB3245U072S	EB3247U072S	36	70-72

Optifit Ceramic Liner(Sterile)

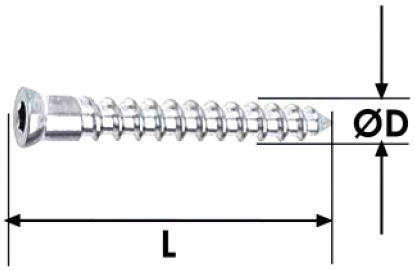
Ref. Number Ceramic-0°	In. Diam	Comp. Diam
EB3211F048S	28	42-48
EB3211F052S	28	50-52
EB3211F056S	28	54-56
EB3211F060S	28	58-60
EB3211F064S	28	62-64
EB3211F068S	28	66-68
EB3211F072S	28	70-72



Cancellous Bone Screw

If bone quality requires that the cementless cup has to be secured with screws, then the special bone screws with a spherical head and cancellous thread (Ø6.5 mm) are used for fixation.

The screws have a spherical head and are always in excellent contact with their seatings, even when the introduction angle may be different. This helps prevent the fretting corrosion and assures the screw stability in spite of the different possible introduction angles of the screw. For fixation of the screws, a flexible drill and a universal joint screw driver are available.



Material

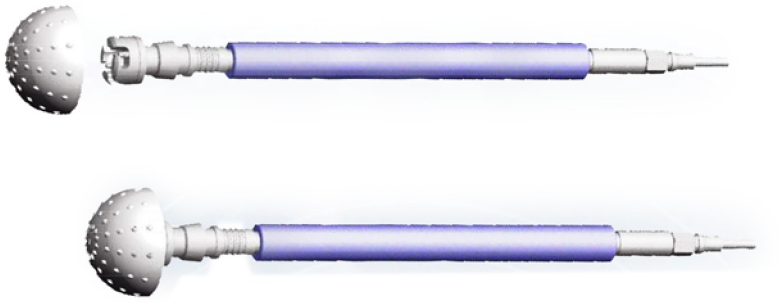
Certified Titanium alloy according to ASTM F 136 - ISO 5832/3

Cancellous Bone Screw

Ref. Number Titanium	Size D(mm)	Length L(mm)
EG0238T001S	6,5	15
EG0238T002S	6,5	25
EG0238T003S	6,5	30
EG0238T004S	6,5	35
EG0238T005S	6,5	40
EG0238T006S	6,5	45
EG0238T007S	6,5	50
EG0238T008S	6,5	55
EG0238T009S	6,5	60
EG0238T010S	6,5	65

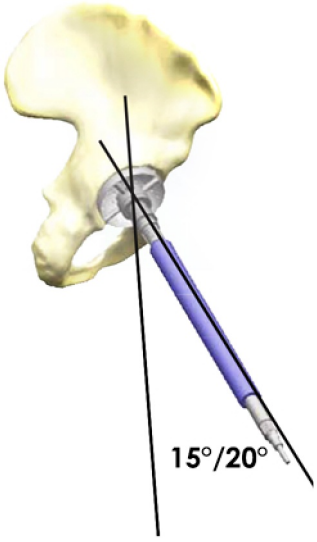
Reaming

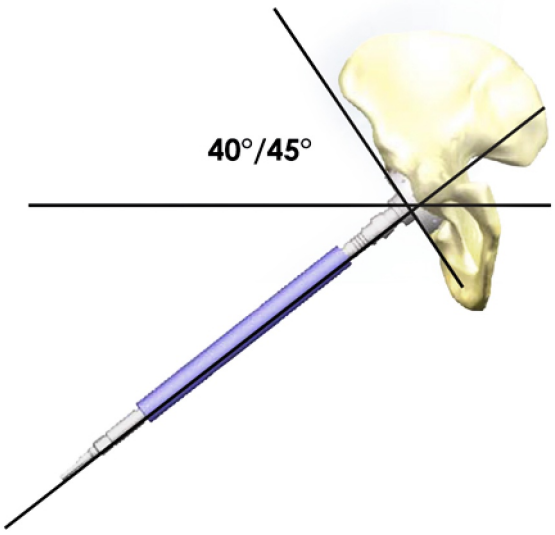
After arthrotomy and osteotomy of the femoral neck, expose and prepare the acetabular cavity, remove osteophytes.



Start reaming with acetabular reamers. The ideal reaming axis has an inclination of 40°/45° and an anteversion of 15°/20°. (Anteversion recommended for posterior approaches.

Reaming of the acetabulum starts with the smallest reamer and increases, in increments of 2mm, until a perfectly regular hemispherical cavity has been obtained.





Attention!
During final reaming, avoid the reamer axis in order to avoid making the reaming oval, which may affect or prevent primary seating.

Cup Trialing

As a general rule the right diameter corresponds to a 4 to 6 mm greater than the femoral head diameter size. Take care to retain, as far as possible, the bone stock up to the level of anterior and posterior columns. Reaming may be saved for void filling between implant and acetabulum.

Assemble the trial cup, with the same diameter of the last reamer, with the handle. Insert the trial cup into the reamed cavity in order to estimate the depth and the orientation of the acetabular component.

Trial cups:
- Are smooth and have the same dimensions as the reamers to avoid damaging the socket.
- Are slightly undersized compared to the allow maximum press-fit effect with the definitive implant.
- Have several openings to permit the direct view of the underlying acetabular surface.

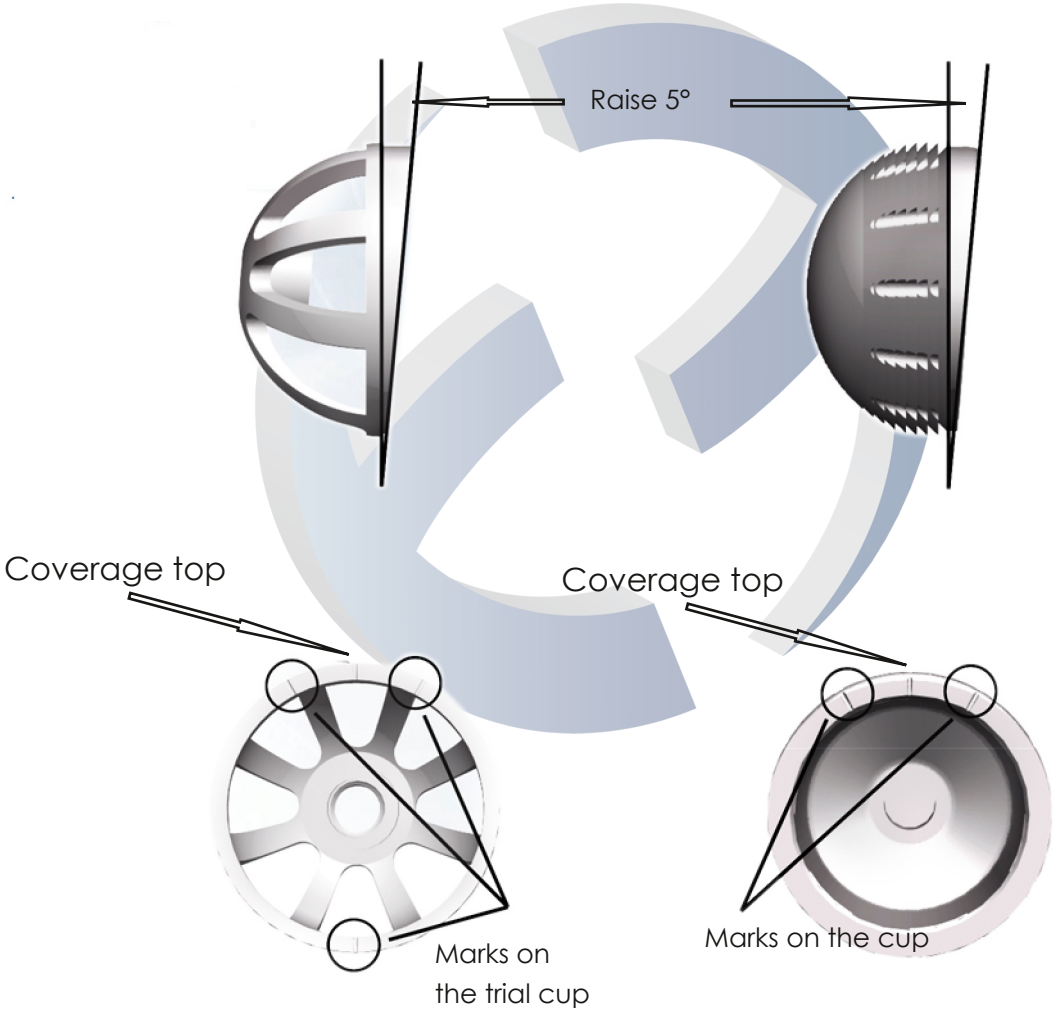
Both the implant and the trial cup have a 5° raise. Marks on the trial cup or acetabular shell help to identify coverage top.
(see image)

Additional Info

In order to ensure the definitive shell correct positioning in depth, mark the coverage top. A positioning guide is available to aid the positioning.

Attention!

If the trial cup is not stable or primary stability is doubtful, especially in the presence of poor bone quality, it is possible to choose a larger cup size. Either with or without additional acetabular reaming.



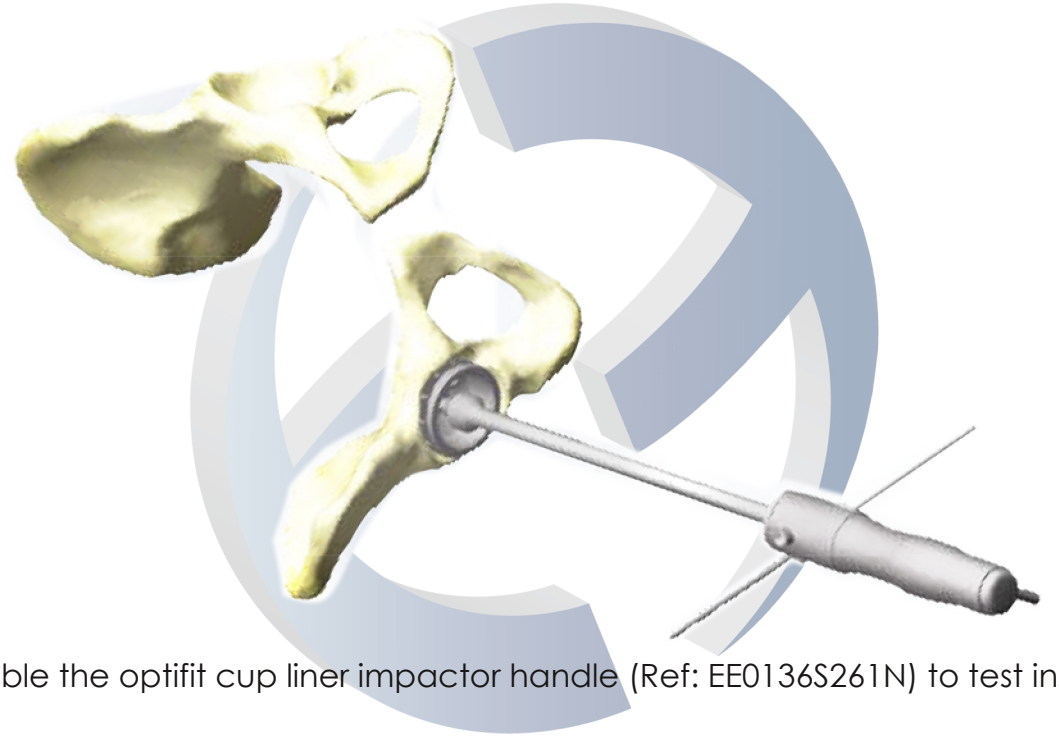
Impacting of the Acetabular Shell

After a satisfactory trial, the acetabular shell can be positioned. The definitive acetabular shell size will be the same as the final reamer size.

Additional Info

A positioning guide is available to aid the acetabular shell positioning: the positioning guide will be positioned on the top of the optifit cup handle. The two rods of positioning guide are inclined at 4° and 20° to the optifit cup handle.

Remove the optifit cup handle.

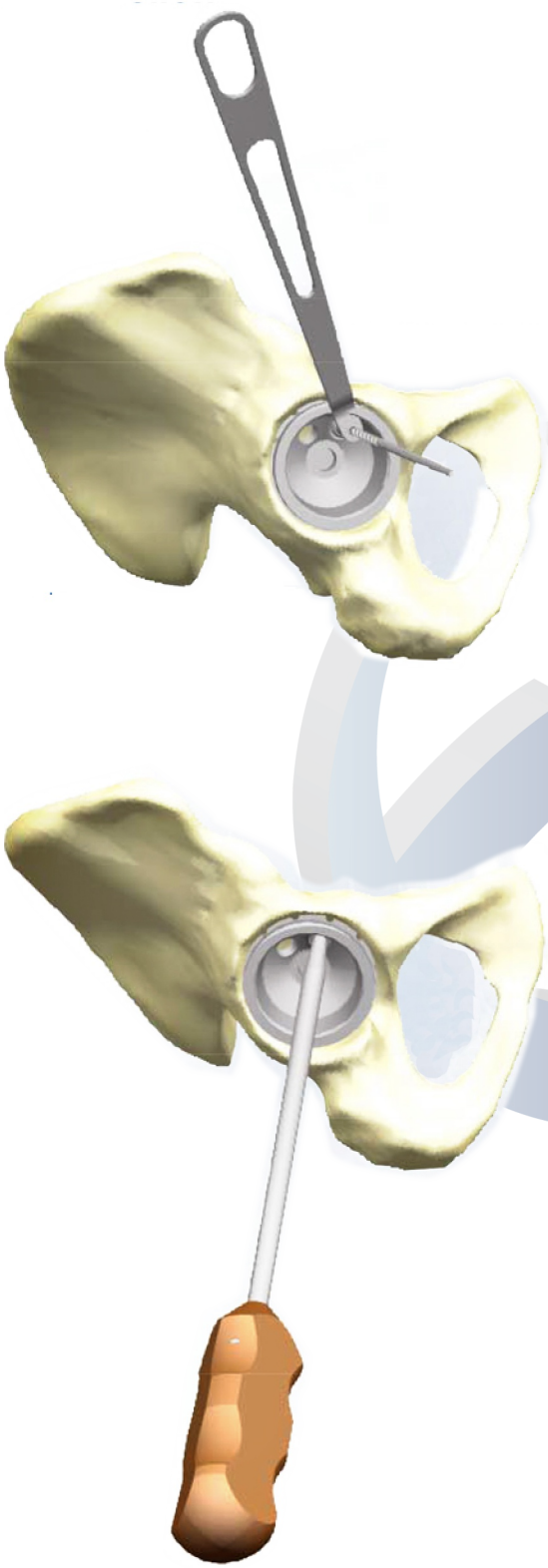


Assemble the optifit cup liner impactor handle (Ref: EE0136S261N) to test insert.

The assembly is positioned in the acetabular shell.

Impact the acetabular shell with the aid of a hammer, until fully seated and stabilized. Note that the final acetabular shell press fit, not threaded into the acetabulum.

Screw Fixation

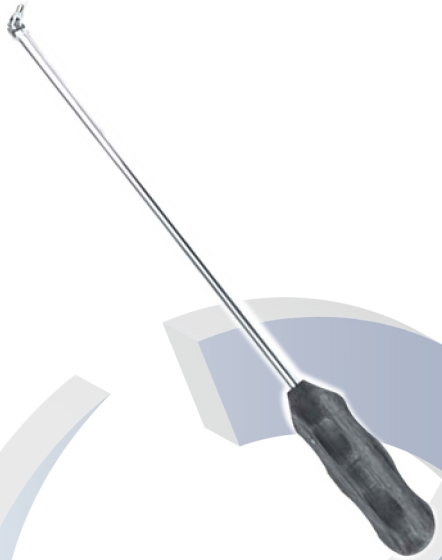


Should additional screw fixation be necessary, holes are drilled (Ref: EE5607S145N) in the direction of the Sacro-iliac joint using the drill guide (EE0802S021N) and a drill with flexible shaft (EE0136S101N).

The depth of the drilled hole in the bone is measured, using the screw depth gauge (Ref: EE0803S021N), in order to determine the correct screw length. Following this, the first thread pitches (about 10mm deep) for the spongiosa screw are pre-cut using the screw tap on a Universal Joint Tap Handle. The screw is then easily inserted into the deeper soft spongiosa layers.

Where a high torque is necessary for insertion, it is recommended to either revert to a shorter screw or to pre-cut the thread into the bone to the measured length using a steel screw. Following this, the steel screw is removed and replaced with a titanium screw.

When the screw holes are adequately prepared, the screws are inserted in the direction of the Sacro-iliac joint and tightened using the Universal Joint Screw Driver (Ref: EE0401N012N).

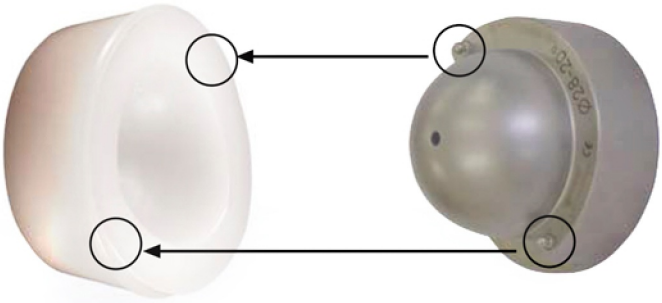


Clean the interior surface of the acetabular shell. Position the trial liner corresponding to the diameter foreseen. If a PE Insert will be used, stability tests are performed after having positioned the trial or final stem and the trial head. Reduce the hip in order to test the joint stability and limb length.

Attention!

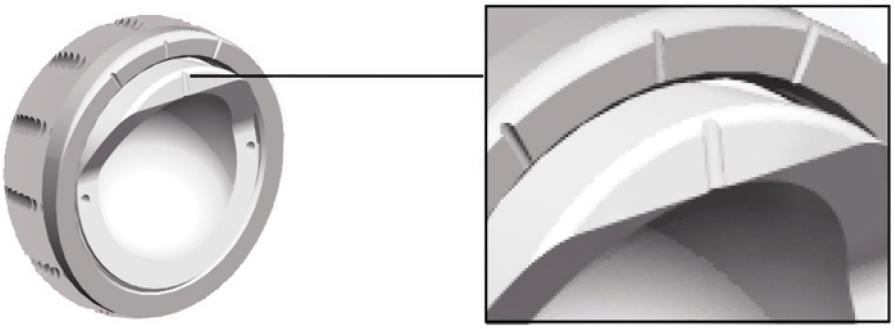
Tests of stability must be performed with the trial heads and not with the final heads. The heads, sizes XL and XXL (for Ø28 mm), have a skirt. This may decrease the Range of Motion and may cause an impingement risk to the liner.

Insert Impaction

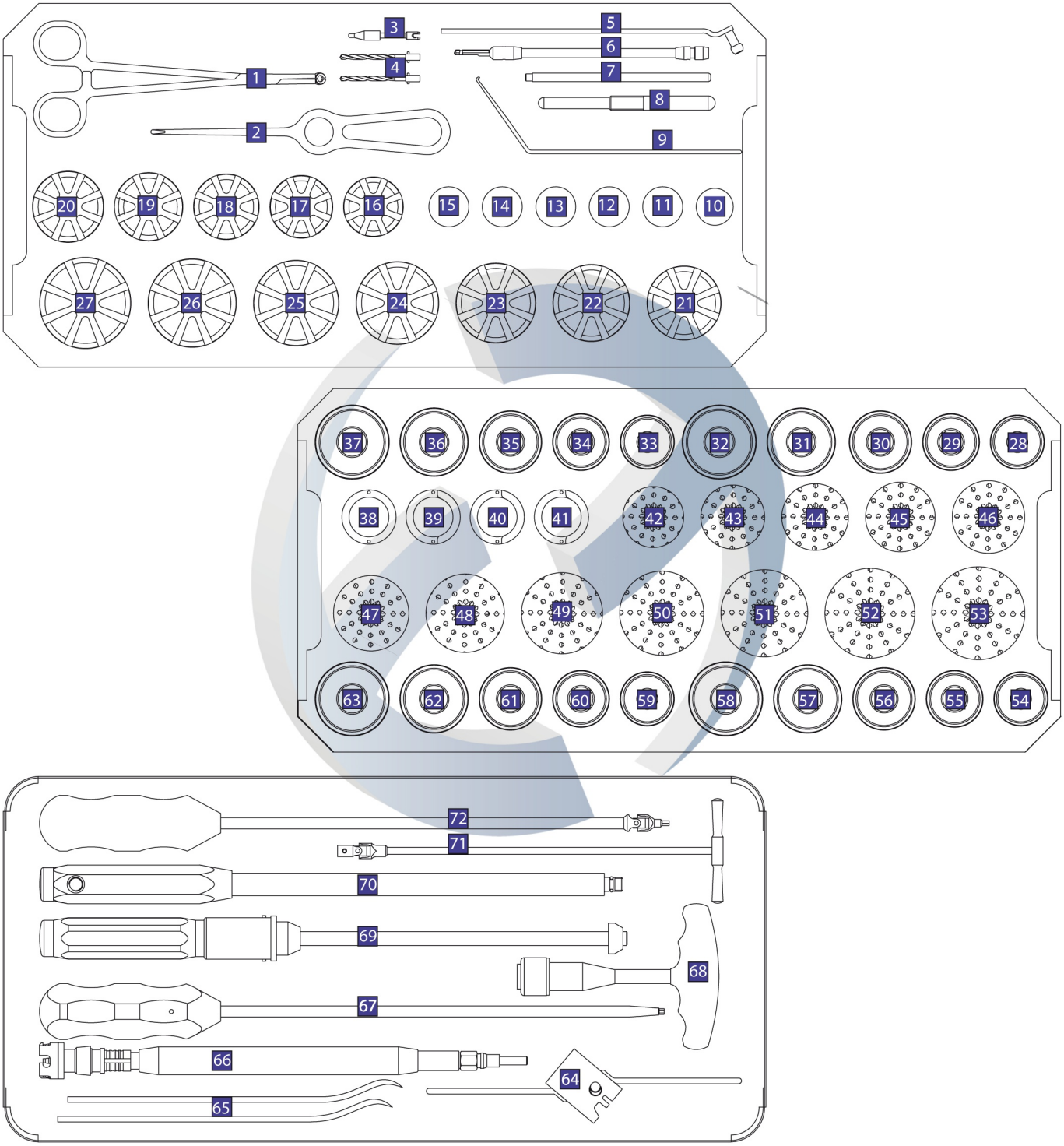


When the screw position is correct, the flat screw heads are fully recessed into the screw sockets, avoiding contact with the polyethylene insert.The polyethylene insert has two small holes on its front face, which grip the pins of the Screw-in Attachment (EE0136S200N).

First, the polyethylene insert is attached to the impactor for PE liner (Ref: EE0136S200N-210N-215N-220N) then assembled to impactor handle. Insert, placed into titanium shell aligning with the lines and fixed with pressure. The raised rim of the insert, which serves as protection against dislocation in extreme positions without load especially in low sitting positions with adducted thigh, is normally inserted in a cranio-dorsal position, i.e. at an approximately "10 o'clock" position for the right hip, and a "2 o'clock" for the left hip. When the desired position is achieved, the polyethylene insert is impacted into the titanium shell using the hammer.



Optifit Cementless Cup Trays & Instruments Set
(EK0603N022N)



This Instrumentation Set is used for D28 Insert and bBall Head

Optifit Cementless Cup Trays & Instruments Set (EK0306N022N)

No	Ref. Number	Description
1	EE0109S011N	Starex Screw Holding Clamp
2	EE0204S002N	Bone Hook Blunt
3	EE0600S101N	Tap For Cementless Standard Cup/6,5
4	EE5607S145N	Drill For Cementless Standard Cup/CrNi-D3,2 x45
5	EE0802S021N	Gyroscopic Drill Guide
6	EE0136S101N	Flexible shaft
7	EE0218N008N	Postioning Guide Bar
8	EE0136S262N	Optifit Cup Impactor Handle Pin
9	EE0803S021N	Depth Gauge
10	EE0136S250N	Optifit Cup Ceramic Liner Impactor / D 28 - 0°
11	EE0828N014N	Test Head Thr/ D28 - X Large
12	EE0828N015N	Test Head Thr/ D28 - XX Large
13	EE0828N011N	Test Head Thr/ D28 - Small
14	EE0828N012N	Test Head Thr/ D28 - Medium
15	EE0828N013N	Test Head Thr/ D28 - Large
16	EE0823N042N	Test Cup For Optifit Cup / D42
17	EE0823N044N	Test Cup For Optifit Cup / D44
18	EE0823N046N	Test Cup For Optifit Cup / D46
19	EE0823N048N	Test Cup For Optifit Cup / D48
20	EE0823N050N	Test Cup For Optifit Cup / D50
21	EE0823N052N	Test Cup For Optifit Cup / D52
22	EE0823N054N	Test Cup For Optifit Cup / D54
23	EE0823N056N	Test Cup For Optifit Cup / D56
24	EE0823N058N	Test Cup For Optifit Cup / D58
25	EE0823N060N	Test Cup For Optifit Cup / D60
26	EE0823N062N	Test Cup For Optifit Cup / D62
27	EE0823N064N	Test Cup For Optifit Cup / D64
28	EE0824T048N	Test Liner For Optifit Cup / D28-20° - D 42-48
29	EE0824T052N	Test Liner For Optifit Cup / D28-20° - D 50-52
30	EE0824T056N	Test Liner For Optifit Cup / D28-20° - D 54-56
31	EE0824T060N	Test Liner For Optifit Cup / D28-20° - D 58-60
32	EE0824T064N	Test Liner For Optifit Cup / D28-20° - D 62-64
33	EE0824T548N	Test Liner For Optifit Cup / D28-15° - D 42-48
34	EE0824T552N	Test Liner For Optifit Cup / D28-15° - D 50-52
35	EE0824T556N	Test Liner For Optifit Cup / D28-15° - D 54-56
36	EE0824T560N	Test Liner For Optifit Cup / D28-15° - D 58-60
37	EE0824T564N	Test Liner For Optifit Cup / D28-15° - D 62-64
38	EE0136S200N	Optifit Cup Pe Liner Impactor / D 28-0°
39	EE0136S210N	Optifit Cup Pe Liner Impactor / D 28-10°
40	EE0136S215N	Optifit Cup Pe Liner Impactor / D 28-15°

Optifit Cementless Cup Trays & Instruments Set (EK0306N022N)

No	Ref. Number	Description
41	EE0136S220N	Optifit Cup Pe Liner Impactor / D 28-20°
42	EE1002S003N	Acetabular Reamer / D 42
43	EE1002S004N	Acetabular Reamer / D 44
44	EE1002S005N	Acetabular Reamer / D 46
45	EE1002S006N	Acetabular Reamer / D 48
46	EE1002S007N	Acetabular Reamer / D 50
47	EE1002S008N	Acetabular Reamer / D 52
48	EE1002S009N	Acetabular Reamer / D 54
49	EE1002S010N	Acetabular Reamer / D 56
50	EE1002S011N	Acetabular Reamer / D 58
51	EE1002S012N	Acetabular Reamer / D 60
52	EE1002S013N	Acetabular Reamer / D 62
53	EE1002S014N	Acetabular Reamer / D 64
54	EE0824N048N	Test Liner For Optifit Cup/ D28-0°- D42-48
55	EE0824N052N	Test Liner For Optifit Cup/ D28-0°- D50-52
56	EE0824N056N	Test Liner For Optifit Cup/ D28-0°- D54-56
57	EE0824N060N	Test Liner For Optifit Cup/ D28-0°- D58-60
58	EE0824N064N	Test Liner For Optifit Cup/ D28-0°- D62-64
59	EE0824S048N	Test Liner For Optifit Cup/ D28-10°- D42-48
60	EE0824S052N	Test Liner For Optifit Cup/ D28-10°- D50-52
61	EE0824S056N	Test Liner For Optifit Cup/ D28-10°- D54-56
62	EE0824S060N	Test Liner For Optifit Cup/ D28-10°- D58-60
63	EE0824S064N	Test Liner For Optifit Cup/ D28-10°- D62-64
64	EE0218N009N	Positioning Guide
65	EE0210S005N	Hohman Retractor Type 5/17
66	EE1002S101N	Acetabular Reamer Shaft
67	EE0401N010N	Hexagonal Long Screw Driver For Cementless Standard Cup
68	EE1004N001N	T Handle For Acetabulat Reamer
69	EE0135N020N	Optifit Cup Holder
70	EE0136S261N	Optifit Cup Liner Impactor Handle
71	EE0136S110N	Universal Joint Tap Handle
72	EE0401N012N	Universal Joint Screw Driver For Cementless Stand Cup

This Instrumentation Set is used for D28 Insert and Ball Head

HOW TO CONTACT US

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