

Logical™

SURGICAL TECHNIQUE



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Introduction

Indications

Signature Orthopaedics' hip replacement range are intended to replace a hip joint where bone stock is sufficient to support the implant. When a surgeon has selected prosthetic replacement as the preferred treatment, the devices are indicated for:

- Non-inflammatory degenerative joint disease including osteoarthritis or avascular necrosis
- Inflammatory joint disease including rheumatoid arthritis (excluding TSI stem)
- Correction of functional deformity including congenital hip dysplasia (Excluding TSI stem)
- Traumatic injury involving the hip joint including traumatic arthritis
- Traumatic injury involving femoral head or neck fracture (excluding TSI stem)

Signature Orthopaedics hip replacement components may be intended for cemented or cementless use. Please verify whether the particular component is intended for cemented or cementless use by checking the package label.

Signature Orthopaedic TSI stem is particularly indicated for individuals with demonstrably healthy bone stock, such as younger, more active individuals. It is an uncemented stem and thus must only be used when the treating physician is satisfied with the quality of the recipient's bone.

Signature Orthopaedics' constrained liner components are indicated particularly for patients at high risk of hip dislocation due to a history of prior dislocation, bone loss, joint or soft tissue laxity, neuromuscular disease or intraoperative instability.

Contraindications

In general, prosthetic components require adequate bone support for correct fit and function. The use of prosthetic components is therefore contraindicated where any pathological condition may reduce the quantity and or strength of the bone which is supporting the prosthesis. Some contraindications are relative to the extent and severity of conditions and the benefits of prosthetic arthroplasty should be considered based on the patient's overall evaluation and the possibility of alternative treatment.

Examples of such conditions include; osteoporosis, osteomalacia, osteogenesis imperfecta, or hypophosphatemia. Other contraindications include:

- Conditions limiting blood supply to the bone or joint.
- Systemic or local infection.
- Previous high dose radiotherapy.
- Psychological or neurological conditions which would restrict the patient's ability or compliance in restricting physical activity.
- Allergies to implanted materials, particularly metals (e.g. cobalt, chromium) as well as polyethylene and bone cement
- Skeletal immaturity
- Conditions or activity which may place excessive load on the components such as; obesity, muscle, tendon & ligament deficiencies, multiple joint disabilities, and Charcot joints.
- Signature Orthopaedics' constrained liners are contraindicated particularly for active patients.
- The use of Signature Orthopaedics' constrained liners are contraindicated with skirted femoral heads.
- Signature Orthopaedics' TSI stem is contraindicated for treatment of inflammatory joint disease including rheumatoid arthritis, where bone stock may not be sufficient to support the device.
- Signature Orthopaedics' TSI stem is contraindicated for use with the Logical constrained liner due to restricted range of motion.
- Signature Orthopaedics' TSI stem is contraindicated for treatment of femoral head or neck fracture.
- Signature Orthopaedics' TSI stem is contraindicated for treatment of functional deformity including congenital hip dysplasia.

Logical Acetabular Cup and Liner Features

Ceramic Liner (not available in the U.S.A)

- Geometry and material (BIOLOX[®] delta)

Polymer Liner

- Material (UHMWPE)
- Base resin: GUR1020
- Stock Forming: Compression molded
- Cross Linking: Gamma irradiation at 7.5 MRads
- Thermal Stabilisation: Remelting
- Sterilisation: ETO
- Available in neutral, 10° hooded, 20° Hooded (USA only) constrained and +4mm lateralised variations

Acetabular Cup

- Geometry, material (Ti6Al4V) and porous coating.
- Available in 3-Hole*, multi-hole and no hole options.

**Smaller sized shells may only include 2 holes. Refer to full implant list on pages 26-28 or product labeling for specification of the number of holes by part number.*

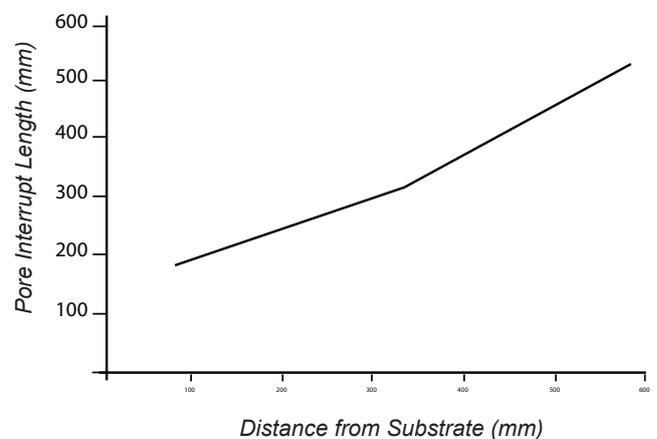
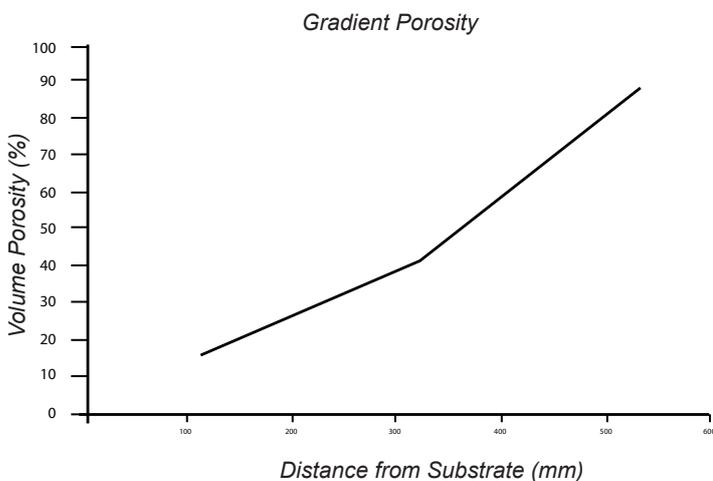
Sintered Titanium Coating (G-Series)

- Tensile Strength > 35MPa
- Shear Strength > 25MPa
- Porosity 45-65% and pore size 100-300 microns.



Logical G-Series Coating

The **LOGICAL™ G-Series** sintered Ti Coating has an average pore size of **100-300um**, which is considered in literature to be within the optimal pore range of **40 to 500um** to allow for tissue growth onto the implant.^{1,2}

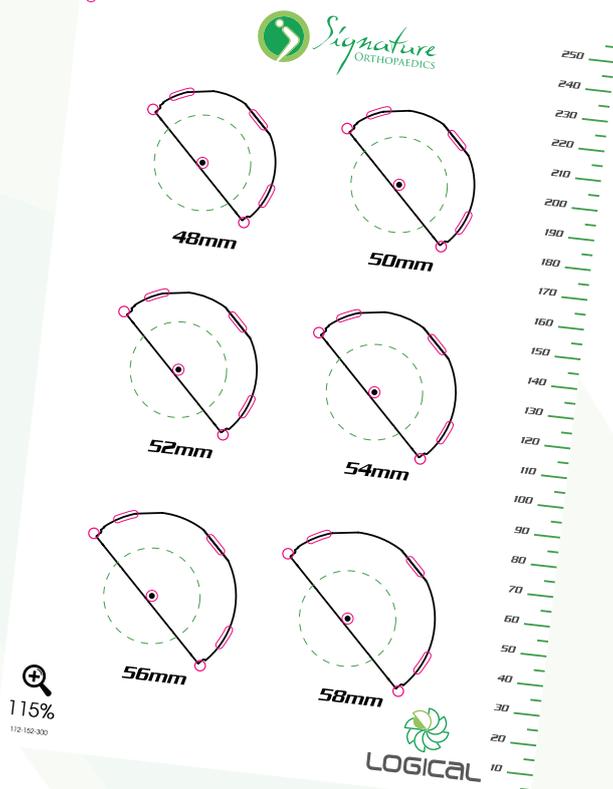


1 - S. C. P. Cachinho and R. N. Correia, "Titanium scaffolds for osteointegration: mechanical, in vitro and corrosion behaviour," *J. Mater. Sci. Mater. Med.*, vol. 19, no. 1, pp. 451–457, 2008
2 - J. D. Bobyn, R. M. Pilliar, H. U. Cameron, and G. C. Weatherly, "The optimum pore size for the fixation of porous-surfaced metal implants by the ingrowth of bone.," *Clin. Orthop. Relat. Res.*, no. 150, pp. 263–270, 1980.

1

Preoperative Planning

Preoperative assessment of the appropriate size and position of the acetabular component will provide intraoperative guidance for acetabular reaming. To determine the acetabular cup size and position, hold the template at approximately 45° of abduction and place the center of rotation over the anatomic center of the acetabular image. Final component size and position should be determined intraoperatively. Templates are 115% magnification.

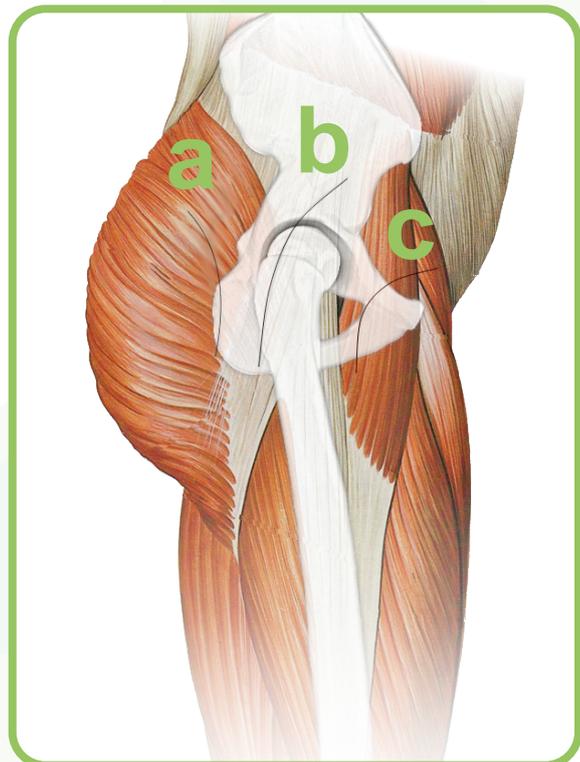


2

Preoperative Planning

The Logical cup can be used with any surgical approach that the surgeon selects.

- a. Posterior approach
- b. Posterolateral/anterolateral approach
- c. Anterior approach



3

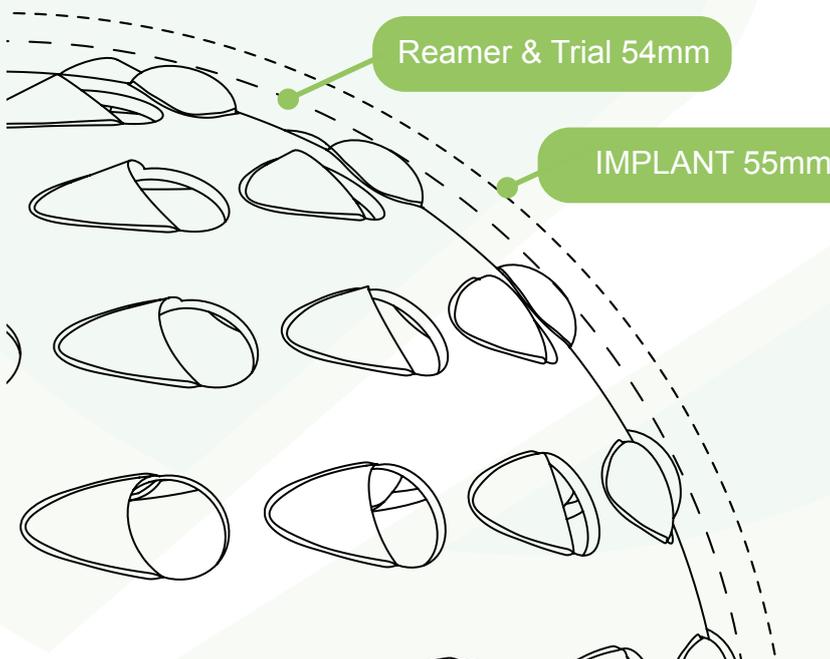
Acetabular Preparation

Osteophytes should be removed to gain assessment of the true acetabular rim. Reaming should be sequential and start with the smallest reamer that conforms to the acetabular cavity. Reaming to the circumferential line on the reamer will mimic a full hemisphere. Gradually enlarge the acetabulum by reaming articular cartilage until a continuous surface of cancellous bone is exposed.



Note:

A 54mm reamer will ream a hemispherical cavity 54mm in diameter, and a 54mm trial cup is Ø54mm.
A 54mm Logical cup is 54mm + 1mm of porous coating.
This coating thickness of 1mm will give a press fit.



Reamer Handles available in both large (112-152-018) and slim versions (112-152-342)



4

Acetabular Trialling and Positioning

Trial cups are available to evaluate the size and position of the final implant. Screw the trial cup onto the end of the cup inserter and position the trial cup in the desired orientation by manoeuvring the cup impactor.



Trial Acetabular Cups

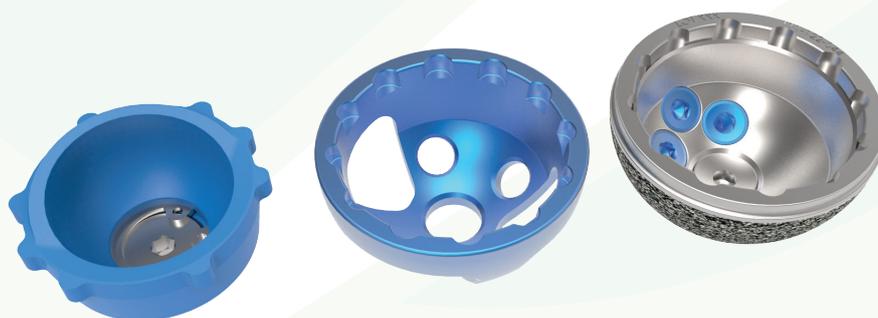
Part Number	Diameter
112-152-191	44mm
112-152-192	46mm
112-152-193	48mm
112-152-194	50mm
112-152-195	52mm
112-152-196	54mm
112-152-197	56mm
112-152-198	58mm
112-152-199	60mm
112-152-200	62mm
112-152-201	64mm
112-152-202	66mm
112-152-203	68mm
112-152-578	70mm

Instrument Identification:

Trial acetabular cups are identified by the size marked on the top rim. They are also colour-coded to match with compatible trial liners. Each trial cup size corresponds to a Logical cup implant size. Refer to the Logical Implants Sizing Chart in this technique for more details (pg13).

Example below:

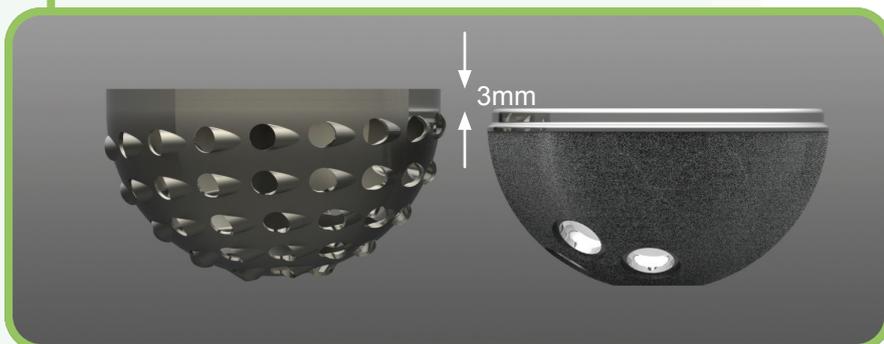
Connection type B shown, the blue trial liner matches the blue trial shell, which matches the blue colouring on the box label and the hole covers on the implant.



5

Implant Acetabular Cup Insertion

Thread the appropriate size prosthetic cup onto the impactor (same size as the final reamer). The cup rotation can be adjusted with regards to the impactor by pressing the button and rotating the strikeplate, in increments of 15°. The alignment guide can be attached to the impactor to help with anteversion and abduction angles. Seat the cup with a series of firm mallet blows to the end of the impactor. Screw placement can begin once the cup component is securely positioned and the impactor is removed.



Optional:

A curved cup inserter option is also available, please inquire for additional instructions for use.



Note:

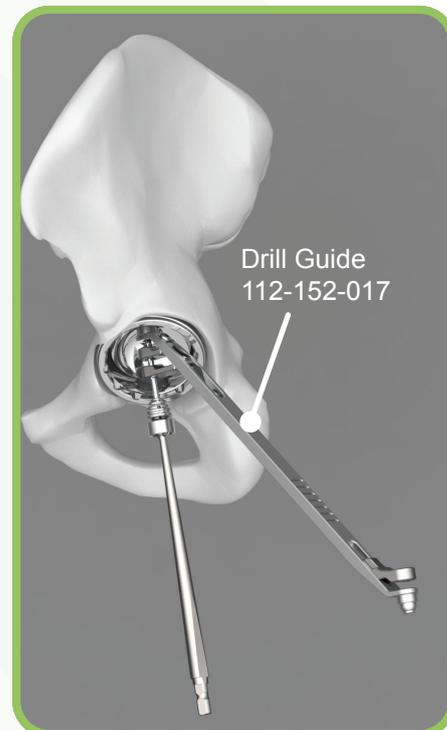
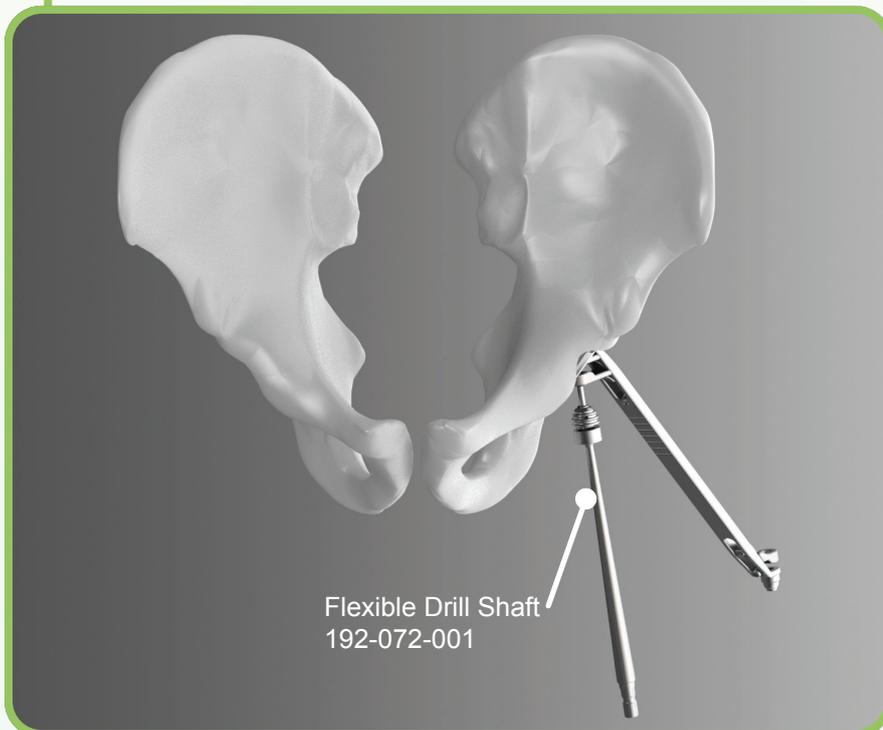
The alignment guide indicates 30° of operative anteversion, which equates to 20° of radiographic anteversion. Operative anteversion differs from radiographic anteversion due to the projection of angles on a radiograph.



6

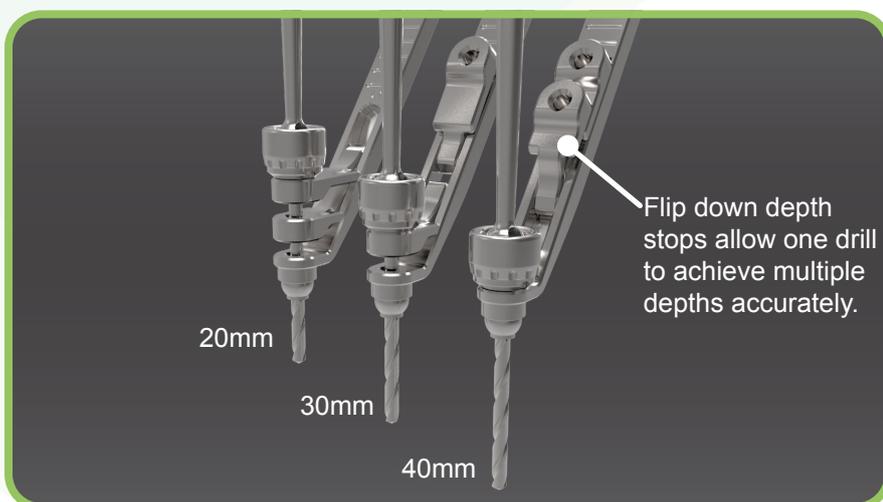
Determine Screw Location and Drill Depth

Determine screw location and select a suitable drill depth (see figure below). The flexible drill allows a wide range of drilling angles while still being able to apply pressure to the drill.



Instrument operation:

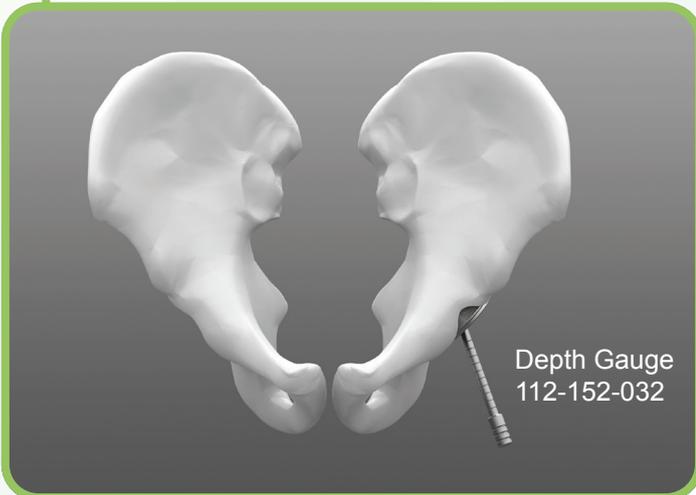
The drill guide has flip-down depth stops at each end. One end has 10mm steps, which allows a 50mm drill to drill a hole at 40, 30 and 20mm deep. While the other end has steps of 5mm, which allows holes to be drilled at 25 and 35mm.



7

Determine Screw Length

Use the screw depth gauge to determine the appropriate length screw. Due to intrapelvic vascularity, screw placement in the medial aspect of the acetabulum must be carefully considered.



8

Insert Screws

Screws snap into the screw inserter, allowing them to rotate freely without falling out at any angle. Pull inserter off screw to allow for countersinking of the screw head. Full seating can be confirmed with the use of a trial liner prior to impacting the prosthetic liner, or by manually examining the inner surface. To ensure proper prosthetic liner seating in the cup, screw heads must be seated below the inner surface of the cup. Hex driver available in both tapered and parallel versions.



Solid end provides stability to flexible driver.



9

Trial Liner Evaluation

Trial liners that match the prosthetic implant are available to evaluate the optimum position of the final implant. Position the trial liner in the desired orientation and secure it in place with the captured screw using one of the 3.5mm hex screwdriver shafts. Apical Screw insertion should not take place until a reduction with the trial liner is completed. Refer to "Logical Instruments" for information about sizes.



10

Liner Placement

Prior to inserting the prosthetic liner, thoroughly irrigate and clean the cup. Insert the prosthetic liner by hand (or using the ceramic liner inserter (112-152-230) if ceramic is chosen), making sure the face of the liner is parallel with the face of the acetabular cup. The anti-rotation tabs should be lined up with the slots in the cup. Use the liner impactor on the cup impactor to apply a series of firm mallet blows to fully seat the liner.

A final inspection of the liner should be done to ensure the liner is firmly locked in place. Neutral and ceramic liners should be flush with the cup face along the entire rim. Only the lower half of the rim of lipped liners should be flush with the cup face.



11

Ceramic Liner Placement (*Not available in USA)

The ceramic liner inserter (112-152-230), has a series of snap rings that are coloured per the connection type. The example below is yellow (C type connection). 4 different Impactor heads are available (28/32/36/40mm - 112-152-21X). The snap ring is loaded onto the inserter first, followed by the impactor head. This will grip the ceramic liner firmly, in any position desired. Once the ceramic liner is loaded into the shell, a firm tap on the end of the inserter will see the snap ring let go of the ceramic liner, and the ceramic liner seat into the shell. Further impaction may be done using the straight cup inserter coupled with the ceramic liner impact adapter, as shown below.



An alternative to the liner impactor for the ceramic liners, is to use the "Ceramic Liner Impact Adapter" (112-152-305) with an appropriate sized trial head. This combination can also be used on the polyethylene liners.



Straight Cup Inserter
112-152-085

Ceramic Liner Impact
Adapter 112-152-305



Regular Trial Head

12

Positioning

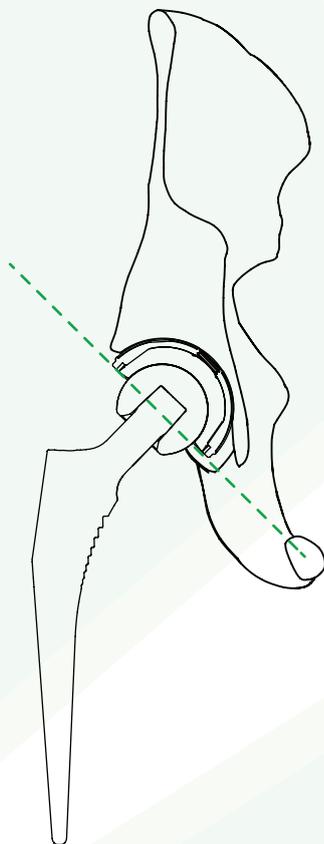
Current studies have highlighted that correct acetabular component positioning is a key element to success with all types of bearings used in hip replacement surgery. As well as subluxation, impingement, fixation and range of motion, optimum femoral head coverage and mechanical loading of the bearing must also be considered when positioning the acetabular component. Incorrect acetabular component positioning can lead to edge loading and undesirable effects across all bearings, such as dislocation, increased wear, and polyethylene fractures. If a hooded liner is to be inserted, the correct orientation will provide the most coverage of the femoral head component when the hip is fully internally rotated and adducted.

As a general rule, the hood is best positioned superior-posteriorly. However, the final orientation of the hooded liner will be the position that provides the best hip stability, based on surgeon's evaluation, during the trial reduction and ROM assessment of the trial liner.

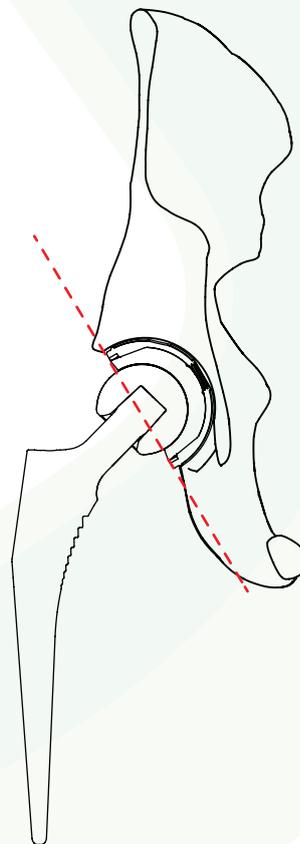
It must be noted that the orientation and placement of the implant may be adjusted on a case-by-case basis at the surgeon's discretion.

CORRECT

Inclination 40-45°
Anteversión 15-20°

**INCORRECT**

Inclination >45°
Anteversión >20°



*Data on file

13

Polyethylene Liner removal

Upon removal of any Liner, inspect the taper and polyethylene locking mechanisms for damage. Special care should be taken not to lever against the Shell during Liner removal.

- a. Locate a 3.5mm drill bit included in the Kit.
- b. Drill a pilot hole into the dome of the Liner between the pole and the taper region of the Shell.
- c. Drive the screw into the pilot hole by hand until the Liner is lifted out of the Shell.

*Special care should be taken not to damage the Shell taper or locking mechanism during removal of the Liner.



Logical Implant Sizing Guide

Acetabular Cups, ceramic and UHMWPE Liners
 *Ceramic liners not available in USA, 20 degree hooded liners available for USA only

	28	32	36	40
Size 44 46  A	Neutral-111-12-5844 Hooded- 111-12-6844 111-12-0844 Ceramic- 111-22-1002 Lateralised- 111-12-7844 111-12-8844 111-12-9844			
Size 48 50  B	Neutral- 111-12-5850 Hooded- 111-12-6850 111-12-0850 Ceramic- 111-22-1003 Constrained-111-12-9201 Lateralised- 111-12-7850 111-12-8850 111-12-9850	Neutral- 111-12-5250 Hooded- 111-12-6250 111-12-0250 Ceramic- 111-22-1005 Lateralised- 111-12-7250 111-12-8250 111-12-9250		
Size 50* 52 54  C	Neutral- 111-12-5852 Hooded- 111-12-6852 111-12-0852* Ceramic- 111-22-1004 Lateralised- 111-12-7852 111-12-8852 111-12-9852*	Neutral- 111-12-5252 Hooded-111-12-6252 111-12-0252* Ceramic- 111-22-1006 Constrained- 111-12-9202 Lateralised- 111-12-7252 111-12-8252 111-12-9252*	Neutral- 111-12-5652 Hooded- 111-12-6652 111-12-0652* Ceramic- 111-22-1009 Lateralised- 111-12-7652 111-12-8652 111-12-9652*	
Size 56 58  D	Neutral- 111-12-5856 Hooded- 111-12-6856 * 111-12-5856 111-12-6856 Not Available in USA	Neutral- 111-12-5256 Hooded- 111-12-6256 111-12-0256 Ceramic- 111-22-1007 Lateralised- 111-12-7256 111-12-8256 111-12-9256	Neutral- 111-12-5656 Hooded-111-12-6656 111-12-0656 Ceramic- 111-22-1010 Constrained- 111-12-9203 Lateralised- 111-12-7656 111-12-8656 111-12-9656	Neutral- 111-12-5456 Hooded- 111-12-6456 111-12-0456 Ceramic- 111-22-1012 Lateralised-111-12-7456 111-12-8456 111-12-9456
Size 60 62 64 66 68 70  E	Neutral- 111-12-5860 Hooded- 111-12-6860 * 111-12-5860 111-12-6860 Not Available in USA	Neutral- 111-12-5260 Hooded- 111-12-6260 111-12-0260 Ceramic- 111-22-1008 Lateralised- 111-12-7260 111-12-8260 111-12-9260	Neutral- 111-12-5660 Hooded- 111-12-6660 111-12-0660 Ceramic- 111-22-1011 Lateralised- 111-12-7660 111-12-8660 111-12-9660	Neutral- 111-12-5460 Hooded- 111-12-6460 111-12-0460 Ceramic- 111-22-1013 Constrained- 111-12-9204 Lateralised- 111-12-7460 111-12-8460 111-12-9460
Size 54*  S				Neutral- 111-12-5457

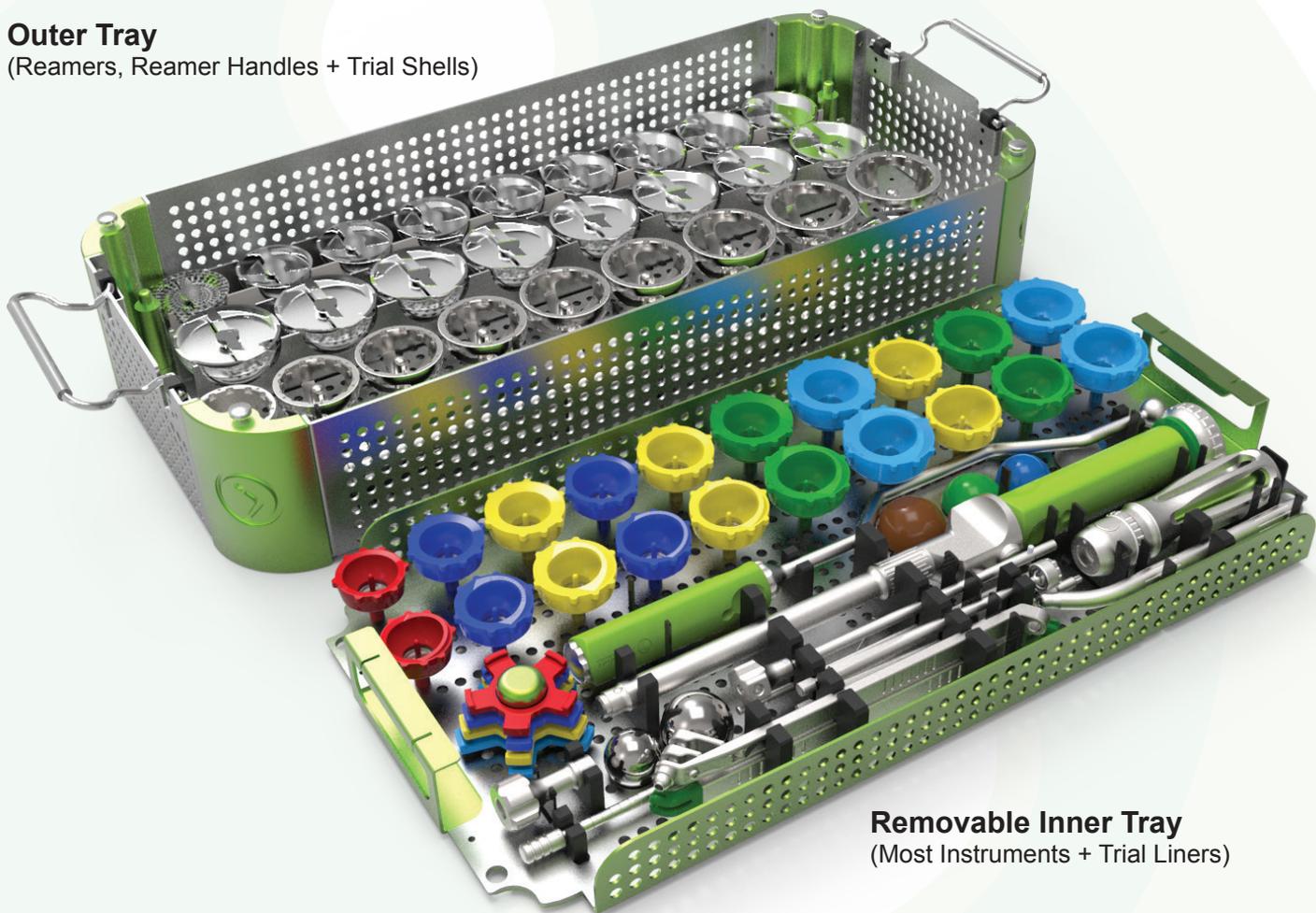
USA ONLY*

Logical Instrument Trays

Primary Logical Instrument Tray

Outer Tray

(Reamers, Reamer Handles + Trial Shells)



Removable Inner Tray

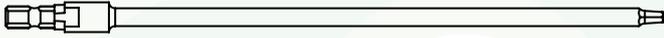
(Most Instruments + Trial Liners)

The secondary tray that is required only for very small and large statured patients not shown.

Logical Instruments

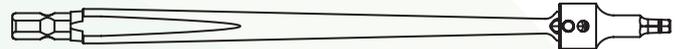
Hi Torque Screwdriver 3.5mm Hex

112-152-306



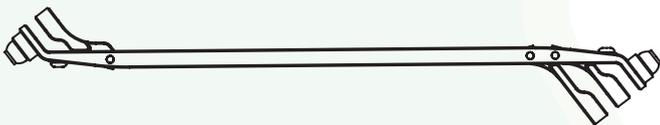
Flexible Screwdriver

112-152-026



Drill Guide

112-152-017



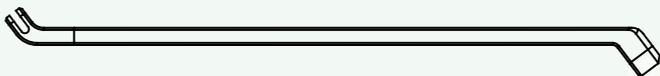
Depth Gauge

112-152-032



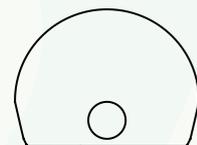
Screw Inserter

112-152-038



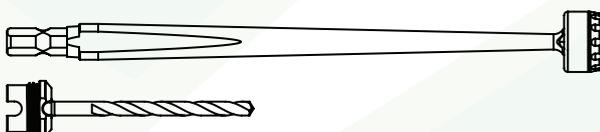
Liner Impactors

112-152-002 - 28mm
112-152-334 - 32mm
112-152-121 - 36mm
112-152-003 - 40mm



Optimus Drill (Flexible Drill)

192-072-001 (Drill bits 192-072-002)



Reamer Shaft Assembly

112-152-018 (Large Reamer Grip 112-152-316)



Logical Instruments

Straight Cup Inserter

112-152-085 (Cup alignment can be set in increments of 15°)



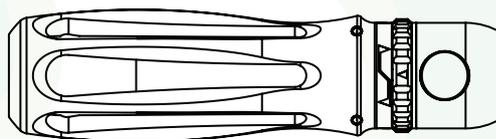
Alignment Guide (Two parts in tray)

112-152-322 (Button release)



Ratcheting Screwdriver

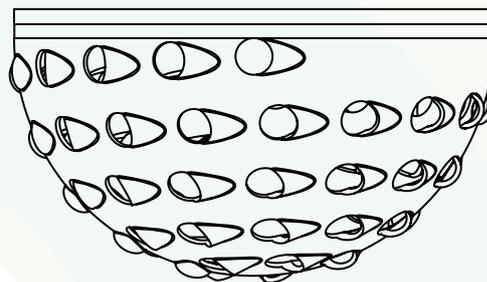
192-062-001



Logical Instruments

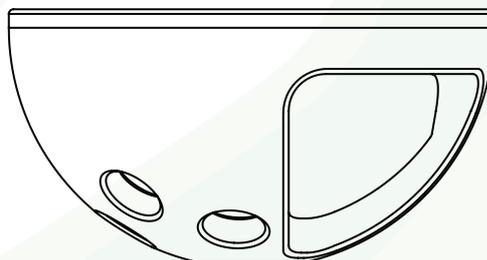
Acetabular Reamers

112-152-244	44mm
112-152-245	45mm
112-152-246	46mm
112-152-247	47mm
112-152-248	48mm
112-152-249	49mm
112-152-250	50mm
112-152-251	51mm
112-152-252	52mm
112-152-253	53mm
112-152-254	54mm
112-152-255	55mm
112-152-256	56mm
112-152-257	57mm
112-152-258	58mm
112-152-259	59mm
112-152-260	60mm
112-152-261	61mm
112-152-262	62mm
112-152-263	63mm
112-152-264	64mm
112-152-265	65mm
112-152-266	66mm
112-152-267	67mm
112-152-268	68mm
112-152-269	69mm
112-152-270	70mm



Trial Acetabular Cups

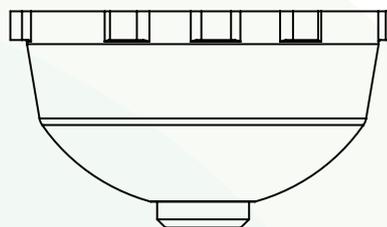
112-152-191	44mm
112-152-192	46mm
112-152-193	48mm
112-152-194	50mm
112-152-195	52mm
112-152-196	54mm
112-152-197	56mm
112-152-198	58mm
112-152-199	60mm
112-152-200	62mm
112-152-201	64mm
112-152-202	66mm
112-152-203	68mm
112-152-578	70mm



Logical Instruments

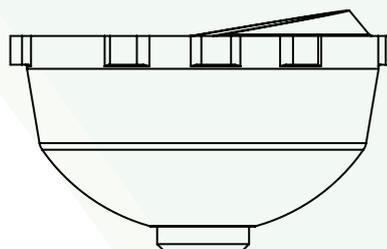
Logical Trial Liner Neutral

112-152-156	28/44-46mm	A
112-152-157	28/48-50mm	B
112-152-158	28/52-54mm	C
112-152-159	32/48-50mm	B
112-152-160	32/52-54mm	C
112-152-161	32/56-58mm	D
112-152-162	32/60-70mm	E
112-152-163	36/52-54mm	C
112-152-164	36/56-58mm	D
112-152-165	36/60-70mm	E
112-152-166	40/56-58mm	D
112-152-167	40/60-70mm	E



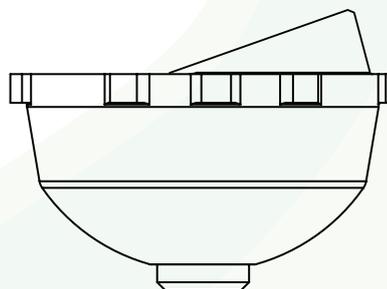
Logical Trial Liner 10° Hooded

112-152-061	28/44-46mm	A
112-152-062	28/48-50mm	B
112-152-063	28/52-54mm	C
112-152-064	32/48-50mm	B
112-152-065	32/52-54mm	C
112-152-066	32/56-58mm	D
112-152-067	32/60-70mm	E
112-152-068	36/52-54mm	C
112-152-069	36/56-58mm	D
112-152-070	36/60-70mm	E
112-152-142	40/56-58mm	D
112-152-143	40/60-70mm	E



Logical Trial Liner 20° Hooded

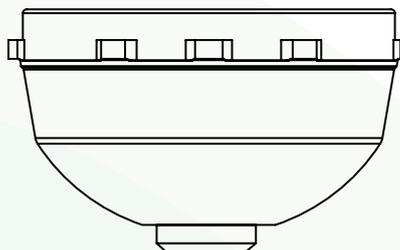
112-152-517	28/44-46mm	A
112-152-518	28/48-50mm	B
112-152-519	28/52-54mm	C
112-152-520	32/48-50mm	B
112-152-521	32/52-54mm	C
112-152-522	32/56-58mm	D
112-152-523	32/60-68mm	E
112-152-524	36/52-54mm	C
112-152-525	36/56-58mm	D
112-152-526	36/60-68mm	E
112-152-527	40/56-58mm	D
112-152-528	40/60-68mm	E



Logical Instruments

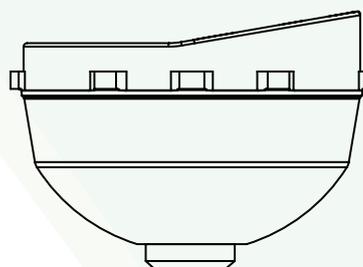
Logical Lateralised Trial Liner Neutral

112-15-7844	28/44-46mm	A
112-15-7850	28/48-50mm	B
112-15-7852	28/52-54mm	C
112-15-7250	32/48-50mm	B
112-15-7252	32/52-54mm	C
112-15-7256	32/56-58mm	D
112-15-7260	32/60-68mm	E
112-15-7652	36/52-54mm	C
112-15-7656	36/56-58mm	D
112-15-7660	36/60-68mm	E
112-15-7456	40/56-58mm	D
112-15-7460	40/60-68mm	E



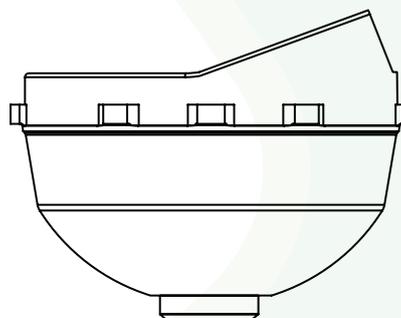
Logical Lateralised Trial Liner 10° Hooded

112-15-8844	28/44-46mm	A
112-15-8850	28/48-50mm	B
112-15-8852	28/52-54mm	C
112-15-8250	32/48-50mm	B
112-15-8252	32/52-54mm	C
112-15-8256	32/56-58mm	D
112-15-8260	32/60-68mm	E
112-15-8652	36/52-54mm	C
112-15-8656	36/56-58mm	D
112-15-8660	36/60-68mm	E
112-15-8456	40/56-58mm	D
112-15-8460	40/60-68mm	E



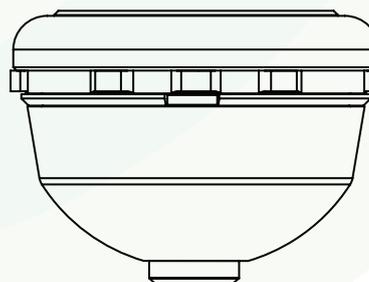
Logical Lateralised Trial Liner 20° Hooded

112-15-9844	28/44-46mm	A
112-15-9850	28/48-50mm	B
112-15-9852	28/52-54mm	C
112-15-9250	32/48-50mm	B
112-15-9252	32/52-54mm	C
112-15-9256	32/56-58mm	D
112-15-9260	32/60-68mm	E
112-15-9652	36/52-54mm	C
112-15-9656	36/56-58mm	D
112-15-9660	36/60-68mm	E
112-15-9456	40/56-58mm	D
112-15-9460	40/60-68mm	E



Logical Constrained Trial Liner

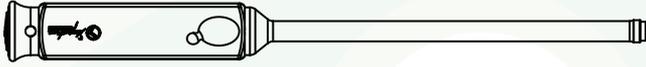
112-152-537	22/44-46mm	A
112-152-538	28/48-50mm	B
112-152-539	32/52-54mm	C
112-152-540	36/56-58mm	D
112-152-541	40/60-68mm	E



Logical Optional Instruments

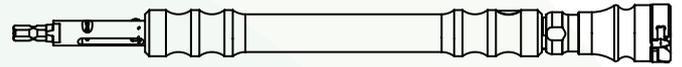
Simple Cup Inserter

112-152-310 (No moving parts)



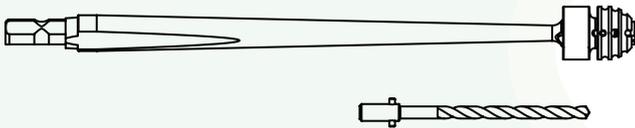
Slim Reamer Shaft Assembly

112-152-342 (Slim grip 112-152-022)



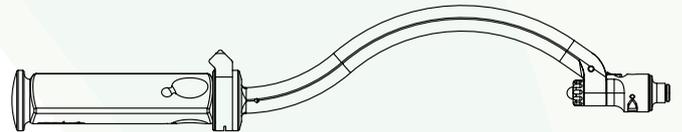
Optimus Q Drill (Flexible Drill)

192-072-020 (Drill bits 192-072-013)



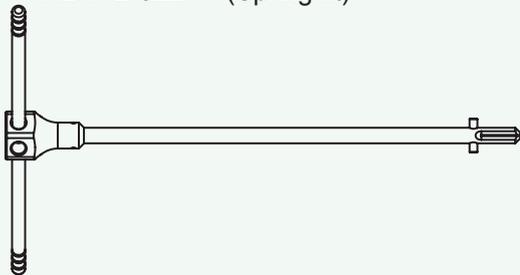
Curved Cup Inserter

112-172-001



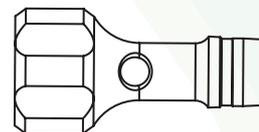
Alignment Guide (Two parts in tray)

112-172-022 (Spring fit)



Ceramic Liner Inserter

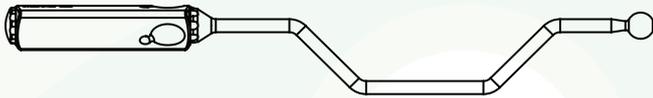
112-152-305



Logical Optional Instruments

Ceramic Liner Inserter

112-152-230



Ceramic Liner Snap Rings

Part Number

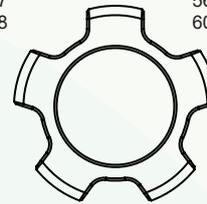
112-152-214
112-152-215
112-152-216
112-152-217
112-152-218

Shell Size

44-46mm
48-50mm
52-54mm
56-58mm
60-70mm

Connection Type

A
B
C
D
E



Ceramic Liner Snap Rings

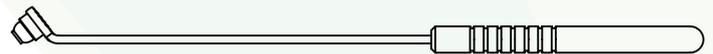
112-152-210
112-152-211
112-152-212
112-152-213

Ø28mm
Ø32mm
Ø36mm
Ø40mm



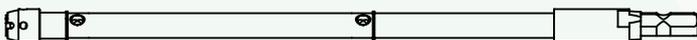
Lightweight Drill Guide

112-152-419



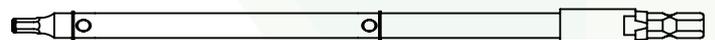
Floxtimus Q

192-072-050



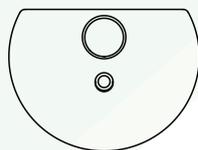
3.5MM Flhexible Driver

112-152-424 3.5MM Flhexible Driver
112-152-425 3.5MM Flhexible Driver - Self Retaining



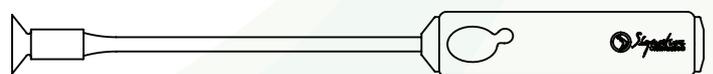
Acetal Liner Impactor

112-152-399_Acetal Liner Impactor - 28MM
112-152-400_Acetal Liner Impactor - 32MM
112-152-401_Acetal Liner Impactor - 36MM
112-152-402_Acetal Liner Impactor - 40MM



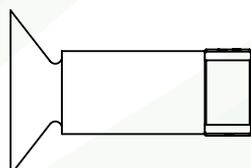
Liner Inserter

112-152-379



Modular Liner Inserter

112-152-373

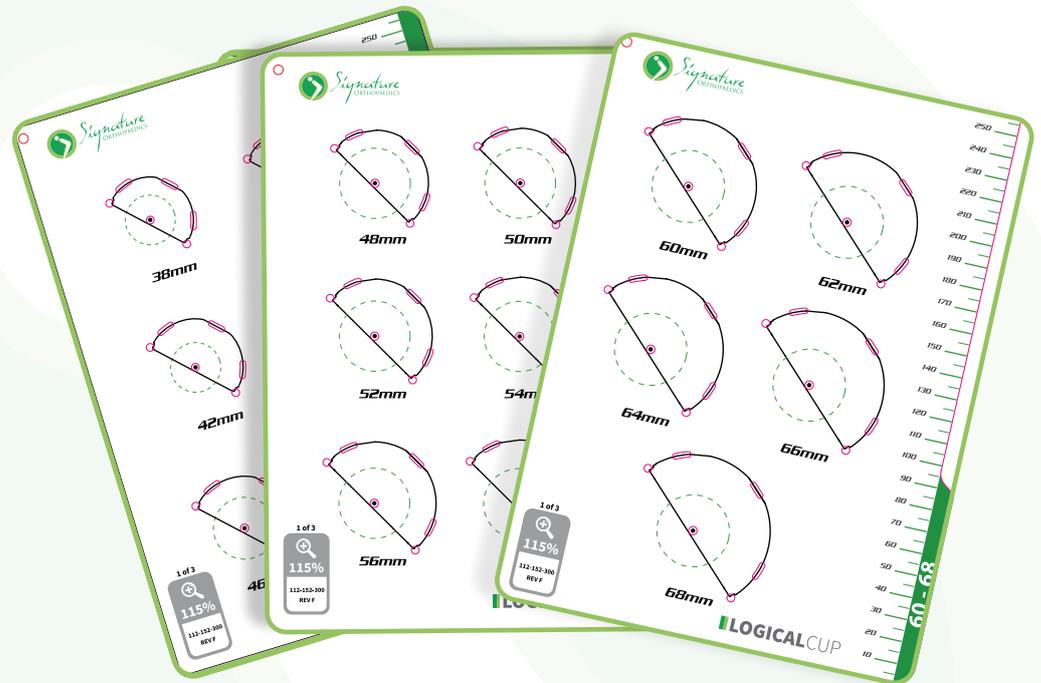


Logical Preoperative Templates

Logical Templates

112-152-300

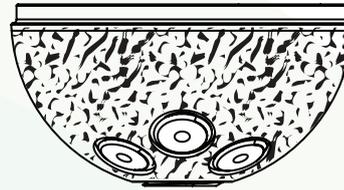
38-68mm



Logical Implants

Logical G Series Acetabular Cups, No Hole

111-12-3044	44mm
111-12-3046	46mm
111-12-3048	48mm
111-12-3050	50mm
111-12-3052	52mm
111-12-3054	54mm
111-12-3056	56mm
111-12-3058	58mm
111-12-3060	60mm
111-12-3062	62mm
111-12-3064	64mm
111-12-3066	66mm
111-12-3068	68mm
111-12-3070	70mm



Logical G Series Acetabular Cups, 2 Holes

111-12-3344	44mm
111-12-3346	46mm

Logical G Series Acetabular Cups, 3 Holes

111-12-3348	48mm
111-12-3350	50mm
111-12-3351 (USA only)	50mm
111-12-3352	52mm
111-12-3354	54mm
111-12-3355 (USA only)	54mm
111-12-3356	56mm
111-12-3358	58mm
111-12-3360	60mm
111-12-3362	62mm
111-12-3364	64mm
111-12-3366	66mm
111-12-3368	68mm
111-12-3370	70mm

Logical G Series Acetabular Cups, Multi Holes

111-12-3944	44mm
111-12-3946	46mm
111-12-3948	48mm
111-12-3950	50mm
111-12-3952	52mm
111-12-3954	54mm
111-12-3955	54mm
111-12-3956	56mm
111-12-3958	58mm
111-12-3960	60mm
111-12-3962	62mm
111-12-3964	64mm
111-12-3966	66mm
111-12-3968	68mm
111-12-3970	70mm

Logical Implants

Logical C Series Acetabular Cups, No Hole

111-12-4044	44mm
111-12-4046	46mm
111-12-4048	48mm
111-12-4050	50mm
111-12-4052	52mm
111-12-4054	54mm
111-12-4056	56mm
111-12-4058	58mm
111-12-4060	60mm
111-12-4062	62mm
111-12-4064	64mm
111-12-4066	66mm
111-12-4068	68mm
111-12-4070	70mm

Logical C Series Acetabular Cups, 2 Holes

111-12-4344	44mm
111-12-4346	46mm

Logical C Series Acetabular Cups, 3 Holes

111-12-4348	48mm
111-12-4350	50mm
111-12-4352	52mm
111-12-4354	54mm
111-12-4356	56mm
111-12-4358	58mm
111-12-4360	60mm
111-12-4362	62mm
111-12-4364	64mm
111-12-4366	66mm
111-12-4368	68mm
111-12-4370	70mm

Logical C Series Acetabular Cups, Multi Holes

111-12-4944	44mm
111-12-4946	46mm
111-12-4948	48mm
111-12-4950	50mm
111-12-4952	52mm
111-12-4954	54mm
111-12-4955	54mm
111-12-4956	56mm
111-12-4958	58mm
111-12-4960	60mm
111-12-4962	62mm
111-12-4964	64mm
111-12-4966	66mm
111-12-4968	68mm
111-12-4970	70mm

Logical Implants

Logical G+HA Series Acetabular Cups, No Hole

111-12-3144	44mm
111-12-3146	46mm
111-12-3148	48mm
111-12-3150	50mm
111-12-3152	52mm
111-12-3154	54mm
111-12-3156	56mm
111-12-3158	58mm
111-12-3160	60mm
111-12-3162	62mm
111-12-3164	64mm
111-12-3166	66mm
111-12-3168	68mm
111-12-3170	70mm

Logical G+HA Series Acetabular Cups, 2 Holes

111-12-3544	44mm
111-12-3546	46mm

Logical G+HA Series Acetabular Cups, 3 Holes

111-12-3548	48mm
111-12-3550	50mm
111-12-3552	52mm
111-12-3554	54mm
111-12-3556	56mm
111-12-3558	58mm
111-12-3560	60mm
111-12-3562	62mm
111-12-3564	64mm
111-12-3566	66mm
111-12-3568	68mm
111-12-3570	70mm

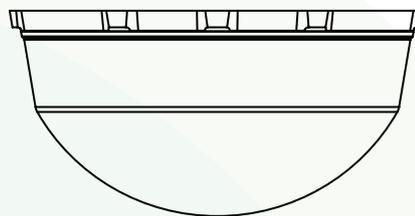
Logical G+HA Series Acetabular Cups, Multi Holes

111-12-3844	44mm
111-12-3846	46mm
111-12-3848	48mm
111-12-3850	50mm
111-12-3852	52mm
111-12-3854	54mm
111-12-3855	54mm
111-12-3856	56mm
111-12-3858	58mm
111-12-3860	60mm
111-12-3862	62mm
111-12-3864	64mm
111-12-3866	66mm
111-12-3868	68mm
111-12-3870	70mm

Logical Implants

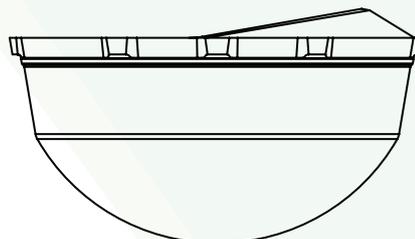
Logical XLPE Liner Neutral

111-12-5844	28/44-46mm	A
111-12-5850	28/48-50mm	B
111-12-5852	28/52-54mm	C
111-12-5856 (NA-USA)	28/56-58mm	D
111-12-5860 (NA-USA)	28/60-68mm	E
111-12-5250	32/48-50mm	B
111-12-5252	32/52-54mm	C
111-12-5256	32/56-58mm	D
111-12-5260	32/60-70mm	E
111-12-5652	36/52-54mm	C
111-12-5656	36/56-58mm	D
111-12-5660	36/60-70mm	E
111-12-5457 (USA only)	40/54mm	S
111-12-5456	40/56-58mm	D
111-12-5460	40/60-68mm	E



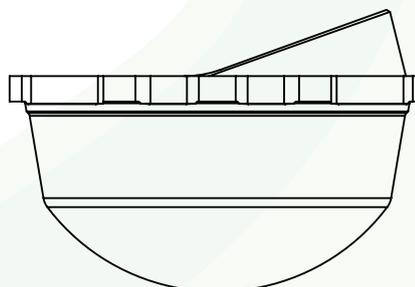
Logical XLPE Liner 10° Hooded

111-12-6844	28/44-46mm	A
111-12-6850	28/48-50mm	B
111-12-6852	28/52-54mm	C
111-12-6856 (NA-USA)	28/56-58mm	D
111-12-6860 (NA-USA)	28/60-68mm	E
111-12-6250	32/48-50mm	B
111-12-6252	32/52-54mm	C
111-12-6256	32/56-58mm	D
111-12-6260	32/60-70mm	E
111-12-6652	36/52-54mm	C
111-12-6656	36/56-58mm	D
111-12-6660	36/60-70mm	E
111-12-6457 (USA only)	40/45mm	S
111-12-6456	40/56-58mm	D
111-12-6460	40/60-68mm	E



Logical XLPE Liner 20° Hooded (USA only)

111-12-0844	28/44-46mm	A
111-12-0850	28/48-50mm	B
111-12-0852	28/52-54mm	C
111-12-0250	32/48-50mm	B
111-12-0252	32/52-54mm	C
111-12-0256	32/56-58mm	D
111-12-0260	32/60-70mm	E
111-12-0652	36/52-54mm	C
111-12-0656	36/56-58mm	D
111-12-0660	36/60-70mm	E
111-12-0457	40/54mm	S
111-12-0456	40/56-58mm	D
111-12-0460	40/60-68mm	E

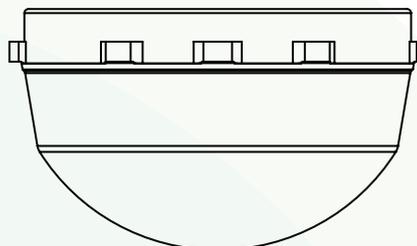


(NA-USA) Not Available in USA

Logical Implants

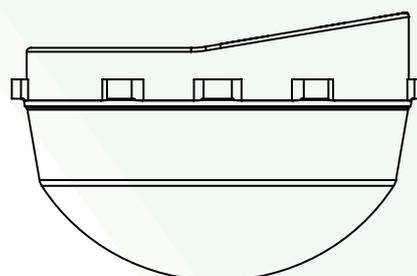
Logical XLPE Liner Neutral Lateralised (+4mm)

111-12-7844	28/44-46mm	A
111-12-7850	28/48-50mm	B
111-12-7852	28/52-54mm	C
111-12-7250	32/48-50mm	B
111-12-7252	32/52-54mm	C
111-12-7256	32/56-58mm	D
111-12-7260	32/60-70mm	E
111-12-7652	36/52-54mm	C
111-12-7656	36/56-58mm	D
111-12-7660	36/60-70mm	E
111-12-7457 (USA only)	40/54mm	S
111-12-7456	40/56-58mm	D
111-12-7460	40/60-68mm	E



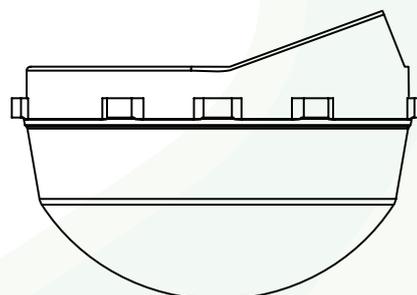
Logical XLPE Liner 10° Hooded Lateralised (+4mm)

111-12-8844	28/44-46mm	A
111-12-8850	28/48-50mm	B
111-12-8852	28/52-54mm	C
111-12-8250	32/48-50mm	B
111-12-8252	32/52-54mm	C
111-12-8256	32/56-58mm	D
111-12-8260	32/60-70mm	E
111-12-8652	36/52-54mm	C
111-12-8656	36/56-58mm	D
111-12-8660	36/60-70mm	E
111-12-7457 (USA only)	40/54mm	S
111-12-8456	40/56-58mm	D
111-12-8460	40/60-68mm	E



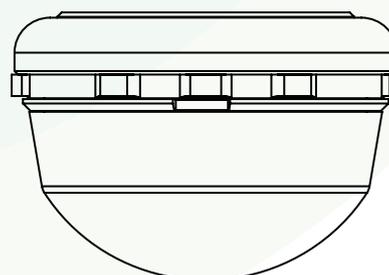
Logical XLPE Liner 20° Hooded Lateralised (USA only) (+4mm)

111-12-9844	28/44-46mm	A
111-12-9850	28/48-50mm	B
111-12-9852	28/52-54mm	C
111-12-9250	32/48-50mm	B
111-12-9252	32/52-54mm	C
111-12-9256	32/56-58mm	D
111-12-9260	32/60-70mm	E
111-12-9652	36/52-54mm	C
111-12-9656	36/56-58mm	D
111-12-9660	36/60-70mm	E
111-12-7457	40/54mm	S
111-12-9456	40/56-58mm	D
111-12-9460	40/60-68mm	E



Logical XLPE Liner Constrained

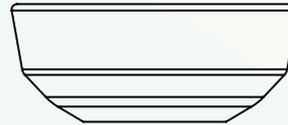
111-12-9201	28/48-50mm	B
111-12-9202	32/52-54mm	C
111-12-9203	36/56-58mm	D
111-12-9204	40/60-68mm	E



Logical Implants

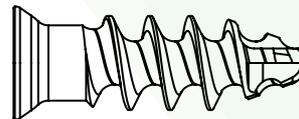
Logical Ceramic Liner *Not available in USA

111-22-1002	28/44-46mm	A
111-22-1003	28/48-50mm	B
111-22-1004	28/52-54mm	C
111-22-1005	32/48-50mm	B
111-22-1006	32/52-54mm	C
111-22-1007	32/56-58mm	D
111-22-1008	32/60-70mm	E
111-22-1009	36/52-54mm	C
111-22-1010	36/56-58mm	D
111-22-1011	36/60-70mm	E
111-22-1012	40/56-58mm	D
111-22-1013	40/60-68mm	E



Acetabular Fixation Screws, Ø6.5mm

111-12-9115	15mm
111-12-9120	20mm
111-12-9125	25mm
111-12-9130	30mm
111-12-9135	35mm
111-12-9140	40mm
111-12-9145	45mm
111-12-9150	50mm
111-12-9155	55mm
111-12-9160	60mm
111-12-9165	65mm
111-12-9170	70mm



Apical Screw

111-12-9001



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