

Biotech Acetabular Cup System

Product Catalog



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“Movement is Life”

CIF Uncemented Acetabular System

Long term survival of acetabular components is depending on established design considerations such as: initial stability, ingrowth surface, insert fixation and insert/shell congruency. The CIFacetabular components meet those criteria, thereby offering a solution to stable acetabular component fixation.

The titanium hemispherical shell is available in 5-holed and solid (1 hole) version. Both are provided with a 15° rim flare, oblique peripheral fins and tabs on the rim for rotational stability and additional fixation, and coated in Biotan plasma-sprayed porous titanium coating, or optionally Hydroxyapatite coating. Option: subhemispherical outer shape of press-fit.

Size range from 38-90 mm Ø with 2 mm increment. Small sizes are intended for dysplasia cases (Ø 38-44 mm) with inserts with 22 mm inner diameter.

The threaded apical hole allows the surgeon to check the apposition of the cup to the acetabular bone, either visual or by means of a probe.

Insert congruency minimizes „cold flow“ and potential back side wear because of relative motion.

Uniform polyethylene better distributes stresses over the cup inner surface.

The Rim flare at outer geometry of the (sub)hemispherical shell, contributes significantly to the primary stability, yet allowing size-for-size reaming. The „Cliplock“ fixation mechanism securely locks the inserts and provides a maximum resistance to lever-out and push-out forces.

Rim tabs increase rotational stability, thereby contributing to poly wear reduction as a result of micro motion. Oblique Rim fins will further secure the cup against the rotation, providing a firm hold in the anterior and posterior column of the superior acetabular rim, the os pubis and os ischium.

Plasma-sprayed porous titanium coating provides a „scratch fit“ stability and a seal at the implant/bone interface, reducing polyethylene debris and fluids to migrate causing possible osteolysis. Coating specifications: porosity approximately 30%, pore size ranges from 75 to 350 micron, thickness of 500 micron. The superior biocompatibility of the coating material and specifications is known by its well-documented bone response. Option: hydroxyapatite coating.

The holed cup is designed for additional screw fixation by means of 6.5 mm Ø cancellous bone screws, available in lengths 10-65 mm / 5 mm increments.

Polyethylene inserts are manufactured from UHMWPE, packed and gamma irradiated in oxygen

free environment to strongly improve wear resistance. Inserts are available in 22 mm, 28 mm, 32mm, 36 mm and optional 26 mm inner diameter.

Option: polyethylene inserts with possibility of slope, „cross-linked“ inserts and „High Wall“ inserts for extended joint surface, which increase acetabular stability and can be inserted at any position. Ceramical inserts are also available in 28 mm, 32 mm and 36 mm diameter, and metal inserts in 28 mm, 32 mm and 36 mm diameter.

Possibility of intraoperative combining of inserts (ceramical/metal/polyethylene) into the same metal acetabulum. Possibility of combining the ceramical insert with a the metal head.

In Biotech hip system, revision acetabular components are available, with three-pointed fixation using the cancellous bone screws (Ø 6.5 mm, length 10-65 mm), holes for fixating to the acetabular rim and holes for fixation of bone substitute; and revision hip inserts.

Modular revision acetabular press-fit is available in cemented and uncemented version with hydroxyapatite coating, in 44-60 mm diameter. Revision polyethylene inserts are available in two version: standard and with 15° elevation which allows the lateralisation of the head, in 44-60 mm diameter.

Biotech hip system can be implanted using the minimal invasive surgical technique



Cliploc Insert
Fixation
mechanism

BioTan™ Plasma
Sprayed Coating



Rim Tab

Rim Fin

15° Rim Flare

Cliploc Insert
Fixation
mechanism

Insert
Congruency

Dome hole



Acetabular component Type "Müller" – Cemented All Poly

Cemented all poly acetabular components type „Müller“ have proven over the years to provide lasting services. This hemispherical design is available in sizes ranging from 38 to 70 mm diameter, with 2 mm increments.

Wear characteristics are improved by manufacturing the acetabular components from UHMWPE according to ISO 5834-2.

To further improve wear resistance, all components are gamma irradiated in an oxygen free environment.

Grooves are circumferentially applied for enhanced cement/ cup fixation, without compromising the minimally required polyethylene thickness.

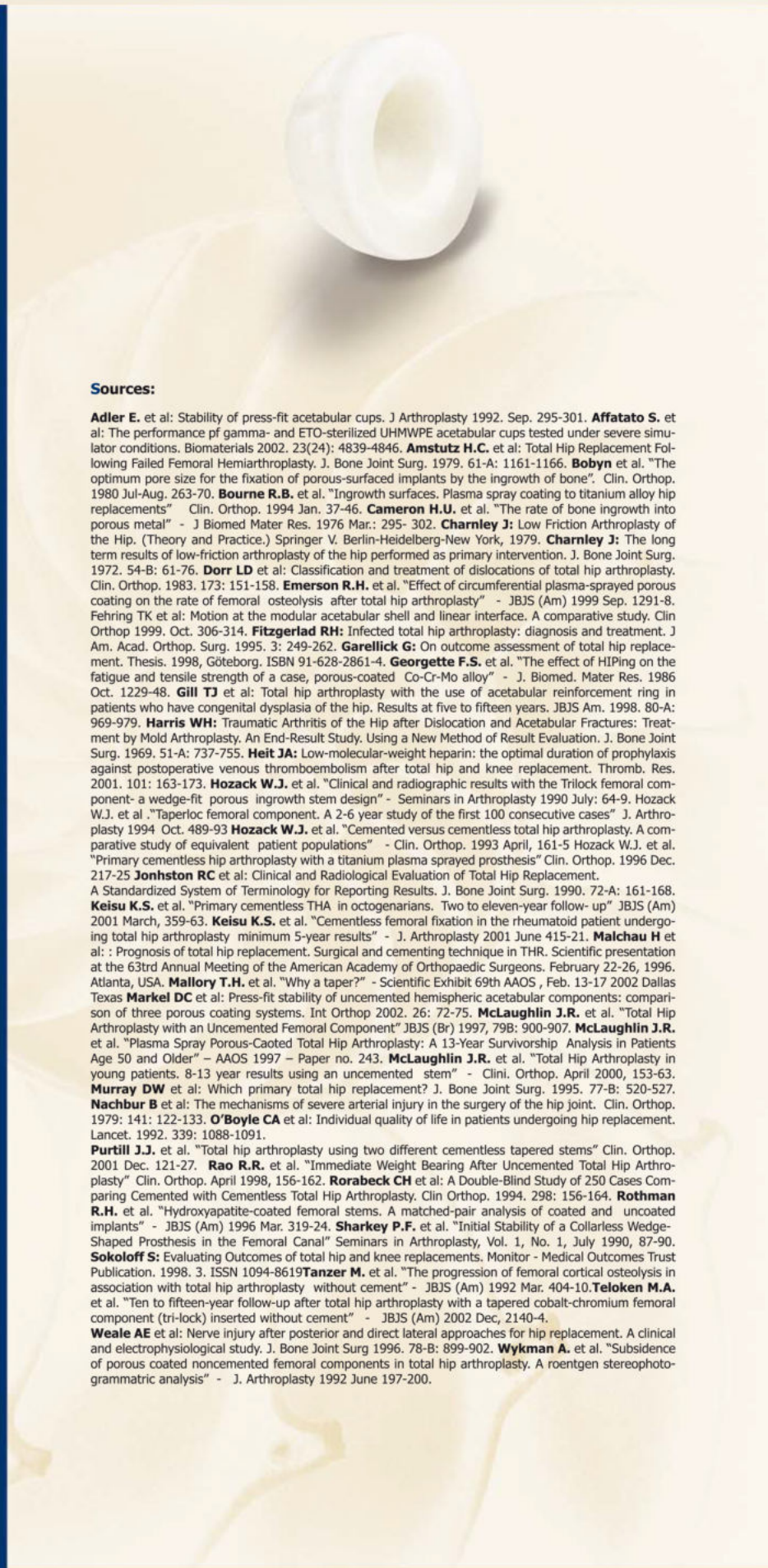
Angle and Version of the acetabular component can be calculated from AP X-ray through a metal wire applied parallel to the equator of the acetabular component.

Range of Motion is maximised through a 30° chamfer around the bore of the cup. This chamfer allows for an increase in RoM, thereby strongly reducing the possibility of neck / cup impingement, which might result in:

- Sub-luxation
- Luxation
- Early loosening
- Accelerated Polyethylene wear

Simple & Functional

- The cemented acetabular component type „Müller“ is manufactured from UHMWPE and gamma irradiated under oxygen free conditions.
- Components are available from 38-70 mm outer Ø, in 2 mm increments
- Circumferentially applied grooves strongly enhance cup / cement fixation
- Head inner Ø 22mm, 26mm, 28mm and 32mm



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