CBC Stem
Implants

Standard CBC version

Item no.	Dimension
4.30.370sc	5.00 mm
4.30.371sc	6.00 mm
4.30.372sc	7.00 mm
4.30.373sc	8.00 mm
4.30.374sc	9.00 mm
4.30.375sc	10.00 mm
4.30.376sc	11.25 mm
4.30.377sc	12.50 mm
4.30.378sc	13.75 mm
4.30.379sc	15.00 mm
4.30.380sc	16.25 mm
4.30.381sc	17.50 mm
4.30.382sc	20.00 mm

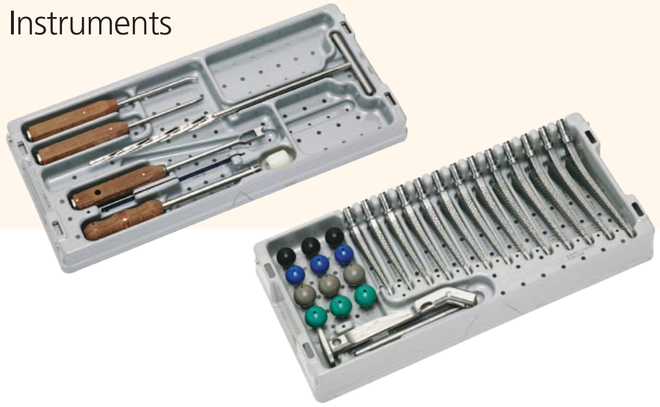
Material: Ti6Al7Nb (ISO 5832-11)

Lateral CBC version

Item no.	Dimension
4.30.390sc	5.00 mm
4.30.391sc	6.00 mm
4.30.392sc	7.00 mm
4.30.393sc	8.00 mm
4.30.394sc	9.00 mm
4.30.395sc	10.00 mm
4.30.396sc	11.25 mm
4.30.397sc	12.50 mm
4.30.398sc	13.75 mm
4.30.399sc	15.00 mm
4.30.400sc	16.25 mm
4.30.401sc	17.50 mm
4.30.402sc	20.00 mm

Material: Ti6Al7Nb (ISO 5832-11)

CBC Stem
Instruments



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MATHYS
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CBC Stem
Product information

...together with passion!

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European Orthopaedics

CBC Stem
Clinical case

Sixty-nine-year-old male
Osteoarthritis on the right side
Preoperative Harris hip score: 57

▼

A 11.25 mm size CBC stem was used with a 50 mm diameter expanSys cup. A metal-metal combination was selected as glide pairing.

▼

Postoperative situation 24 months later:
Harris Hip Score: 100
Good asymptomatic range of motion with a flexion of over 110°.
The anchoring in cancellous bone is clearly visible.

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CBC Stem
Idea and concept

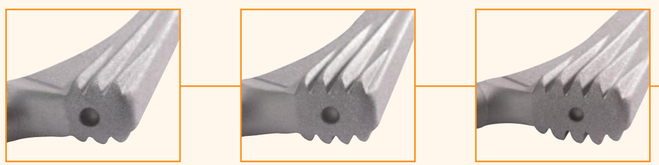
The specific proximal introduction of force into uncemented implants anchored in the femur proved to be a clinical success in the past. This fact was allowed for in the concept of the CBC stem and particularly in its optimized rib geometry.

Principles of the biomechanical concept
As the biconical design converts the acting shearing forces into compression forces, it obtains a reliable primary stability. The corundum-blasted surface and the prism-shaped rib geometry promote the osteointegration of the implant.

The stem is forged of a titanium-aluminium-niobium alloy in accordance with the ISO 5832-11 standard.

The rib geometry and its benefits
The anatomy of the proximal femur was the main focus of the development of the stem. The aim was to achieve an optimal rib geometry and rib disposition, which ensured the proximal introduction of force and minimised the risk of intraoperative fractures.

The disposition and height of the individual ribs adapt to the expansion of the cancellous bone volume in the proximal femur, especially in the area of the trochanter.
An additional consequence consisted in optimizing and adapting the number of ribs to the stem size and therefore to the respective medullary space.



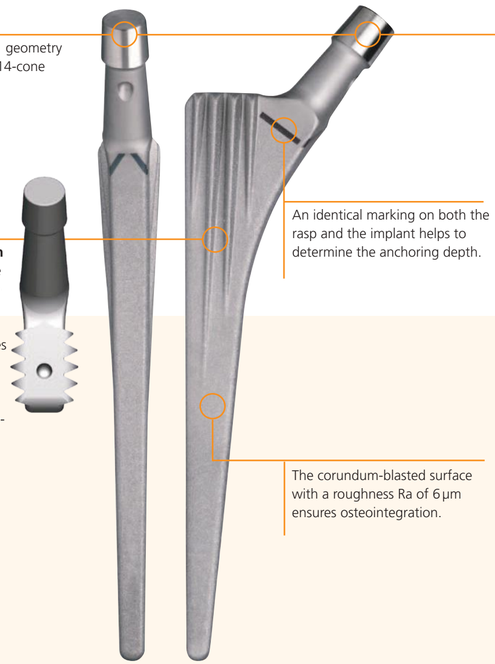
3-rib design | 4-rib design | 5-rib design

Since the launching of the CBC stem, the daily clinical routine throughout the world has confirmed the results of these considerations and tests.

The stem versions
Available are a standard version of the CBC stem with a CCD angle of 145° and a lateral version with a CCD angle of 135°. Each version comes in thirteen sizes. The smaller sizes are available in increments of 1 mm and the larger sizes in increments of 1.25 mm or 2.5 mm.

The modern instrumentation permits precise and safe surgical procedures.

CBC Stem
The facts



The benefits of the rib design
- The elliptical disposition of the ribs reduces the intraoperative risk of fracture.
- The extended central rib makes centring of the stem easier.
- The prism-shaped geometry of the ribs promotes osteointegration.

The benefits of the optimised geometry of the 12/14-cone

- **Increased range of motion**
- **Reduced risk of impingement between the stem and the cup or bone**
- **Reduced probability of postoperative dislocation**

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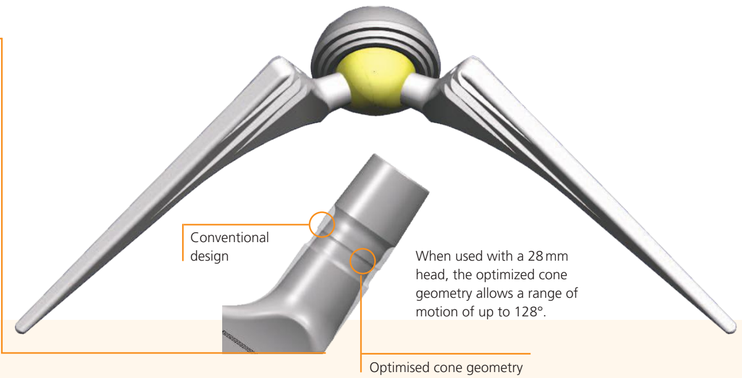
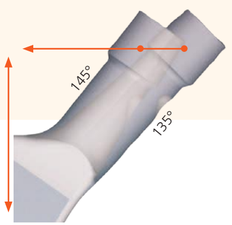
CBC Stem
Range of motion and lateralisation



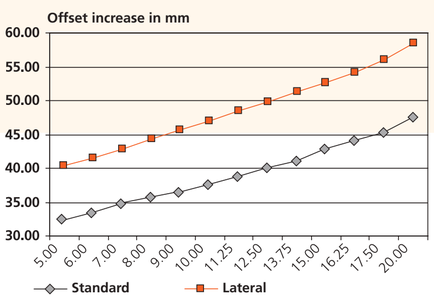
Standard or lateral version?
Different anatomical shapes of the femur also require different possibilities of restoring the centre of rotation.

The offset of the standard version goes from 32 to 48 mm, depending on the size of the implant. The offset of the lateralised stem goes from 40 to 58 mm, and is about 8 to 10 mm superior to that of the standard version. This ensures a more physiological adaptation to the anatomy of the patient.

Published studies on the anatomy of the human femur revealed mean offset values going from 45 to 50 mm, with extreme values going from 25 to 70 mm and more.



The selection of a lateralised stem prevents leg elongation.



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