



GRUPPO  
BIOIMPIANTI

*Enjoy Mobility*



**K-MOD™**

KNEE-MODULAR SOLUTION

INFO PRODUCT



The K-MOD system is a synthesis of innovations in total knee replacement: it's a complete modular system thanks to a suite of possibilities designed to satisfy the surgeon's approach to each patient.

All the femoral and tibial designs are available in cemented, uncemented and anallergic versions; all the articular surfaces, femoral and tibial, are mirror polished.

The system comes complete with patellar components and additional stems for the tibial component.

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K-MOD system is completely compatible and modular with K-MOD REV BOXLESS and K-MOD REV CCK revision systems.

The three systems share:

- The same femoral profile
- The same tibial and femoral dimensions in ML and AP



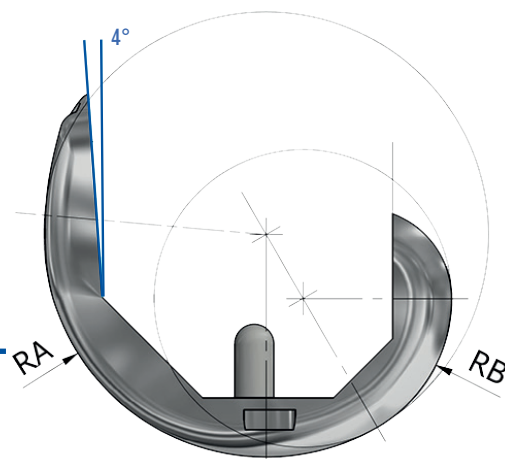
### Modularity and assortment:

- Cemented, Uncemented and allergy implants
  - Fixed inserts (CR, UC FXD, DC, PS FXD) and mobile inserts (UC MOB, PS MOB, APS MOB)
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# K-MOD™

KNEE-MODULAR SOLUTION



## FEMUR

### Features:

- 6 anatomical sizes and 3 Skinny sizes - Reduced ML dimension
- Thickness: 9mm

### Materials:

- Femoral and tibial component: CoCrMo alloy
- Tibial stems: Ti6Al4V alloy

### REDUCTION OF NOTCHING

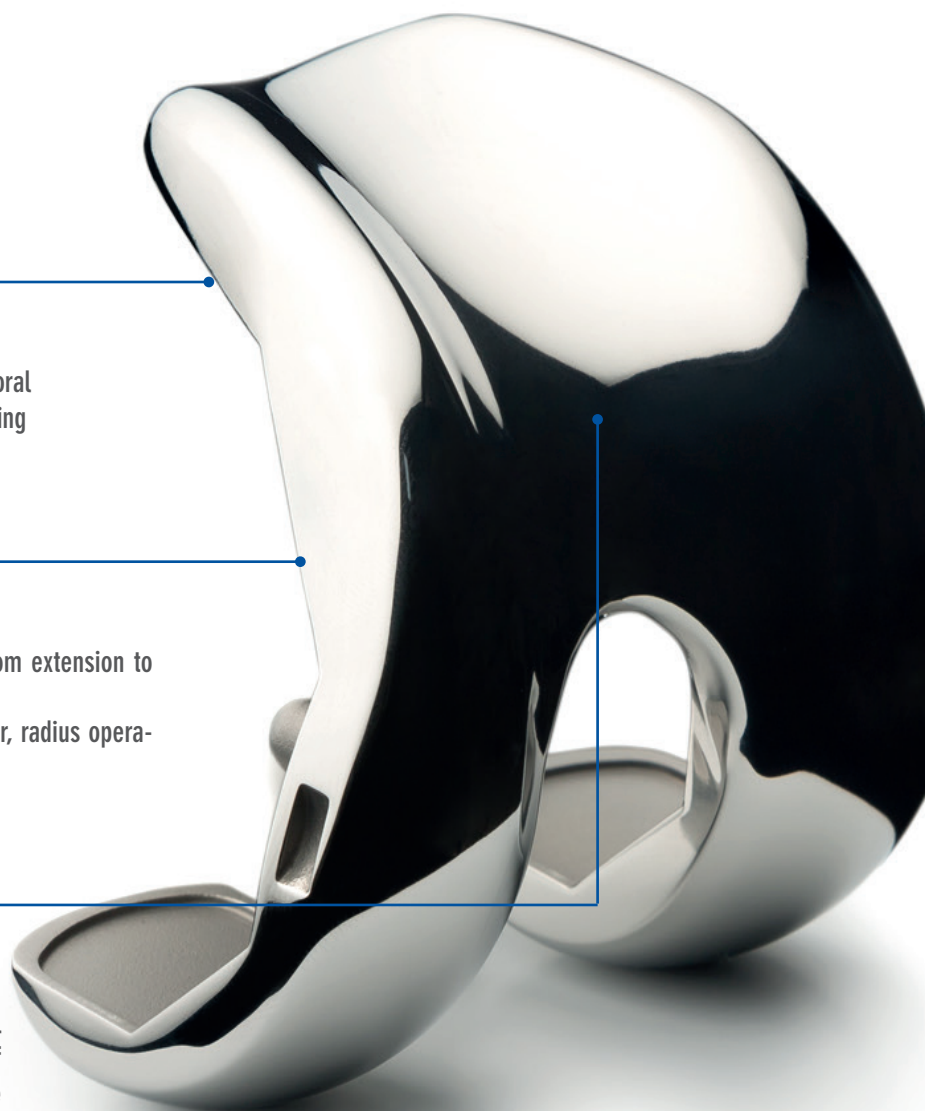
The anterior inclination (4°) of the femoral component facilitates the reducing notching

### MULTI RADIUS

- The first radius acts from extension to 30° of flexion
- The second, and smaller, radius operates to 90° of flexion

### TROCHLEAR GROOVE

- Deep and anatomical
- Enables optimum patellofemoral kinematics to reduce the risk of patellar dislocation and improve long-term outcomes





## PS FEMUR

Features:

- 6 anatomical sizes and 3 Skinny sizes - Reduced ML dimension
- Open and cylindrical femoral Box to ensure reduced invasiveness, minimal bone sacrifice and no risk of femoral condylar fractures
- Thickness: 9mm
- Jump Height over 15mm



**HYPEREXTENSION**  
Safe hyperextension over 10°



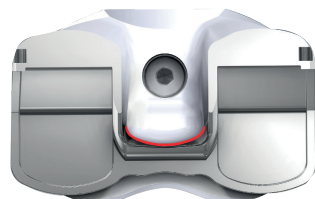
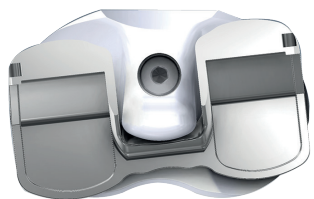
**POST/CAM ENGAGEMENT**  
Engagement at 80° in safe position



**FLEXION**  
Deep flexion

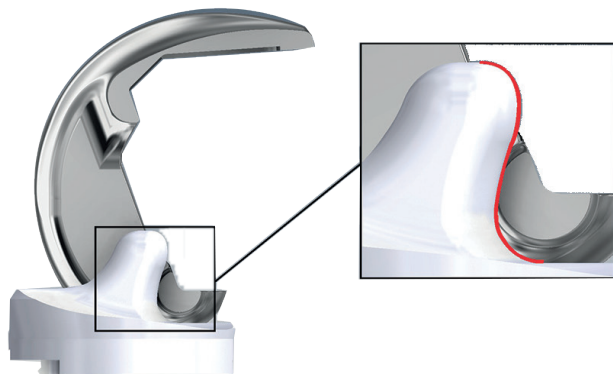
## ROUNDED CAM

It facilitates the natural kinematics of the knee without stress and wear the post



## POST PS

The rounded design of the cam keeps the post at the base of the insert during flexion, reducing the stress and avoiding the anterior dislocation.



See the operating technique for available sizes

[bioimpianti.it](http://bioimpianti.it)

# K-MOD™

KNEE-MODULAR SOLUTION

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## TIBIA

Features:

- 6 simmetrical sizes
- Fixed and Mobile versions
- Cemented, uncemented and allergy

### DEBRIS REDUCTION

The interface between the polyethylene insert and the tibial component is mirror-polished to reduce insert wear

### TIBIAL STEMS

The tibial component is designed to accommodate tibial stems when further stabilization is needed, offered in 28 sizes

### KEEL

Central position of the keel, allowing the use of the most appropriate tibial slope angle without risking contact with the anterior cortical bone.



## FEMORAL AND TIBIAL COATING UNCEMENTED K-MOD

Ti-Growth-C® titanium plasma spray coating and HA.  
The bi-metal design makes it possible to maintain the cobalt-chrome mechanical guarantees and, at the same time, it makes it possible to use of the properties of titanium, which stimulates osseointegration thanks to its high porosity



### K-MOD ALLERGY

Titanium-Niobium Nitride (TiNbN) coating

- Excellent biocompatibility
- Reduced wear on the insert
- Extremely fine, approximately 3-6 µm
- Rugosity <0.05 µm

## PATELLA

Three diameters: 28, 32, 36mm and three Thicknesses: 8, 9, 10mm

Symmetrical

Linear UHMWPE (ISO 5834/2)

Full compatibility with every size of femoral components

Three pegs for rotational stability

Fixation with cement



## PATELLA OUTLAY

Three diameters: 20, 23, 26mm

Thickness: 8mm (4mm in the patellar bone + 4mm in the joints)

Symmetrical

Full compatibility with every size of femoral components

One central peg

Fixation with cement

# K-MOD™

## KNEE-MODULAR SOLUTION

### FIXED INSERTS

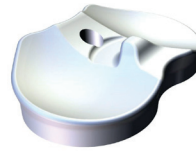
The fixed insert models, made in UHMWPE (ISO 5834/2), come in versions for Conservation of the Posterior Cruciate ligament (CR); Ultra Congruent (UC); Posterior Stabilized (PS FXD); the development of the medial pivot concept: Dynamic Congruence (DC)



DYNAMIC CONGRUENCE



CRUCIATE RETAINING



ULTRA CONGRUENT FIXED



POSTERIOR STABILIZED FIXED

### MOBILE INSERTS

In the mobile insert version, made in UHMWPE (ISO 5834/2), the implant is an Ultra Congruent rotating platform (UC MOB), with Posterior Stability (PS MOB) and with Anterior-Posterior Stability (APS MOB)



ULTRA CONGRUENT MOBILE

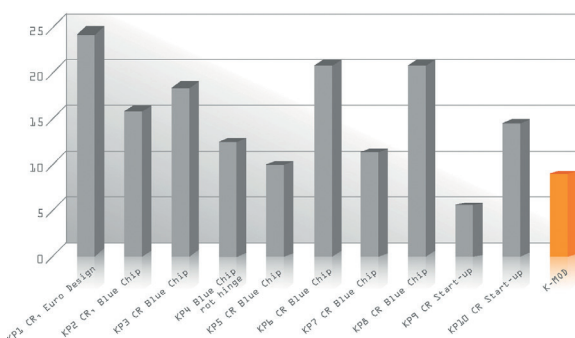


POSTERIOR STABILIZED MOBILE



ANTERIOR- POSTERIOR STABILIZED MOBILE

### OPTIMUM WEAR RATE



Comparison between the most popular fixed bearing knee system wear rates. Data obtained from wear tests performed in laboratories at the University of Nebraska from 2000 to 2011, published in the Journal of ASTM International<sup>1</sup>

<sup>1</sup> H. Haider and J. Weisenburger. An in-vitro wear durability study of the Gruppo Bioimpianti K-MOD Ultra Congruent total knee replacement system. University of Nebraska Medical Center. June 2012  
H. Haider and C. Kaddick. Wear of mobile bearing knees: is it necessarily less? Journal of ASTM International 2012, Vol.9 No. 2.

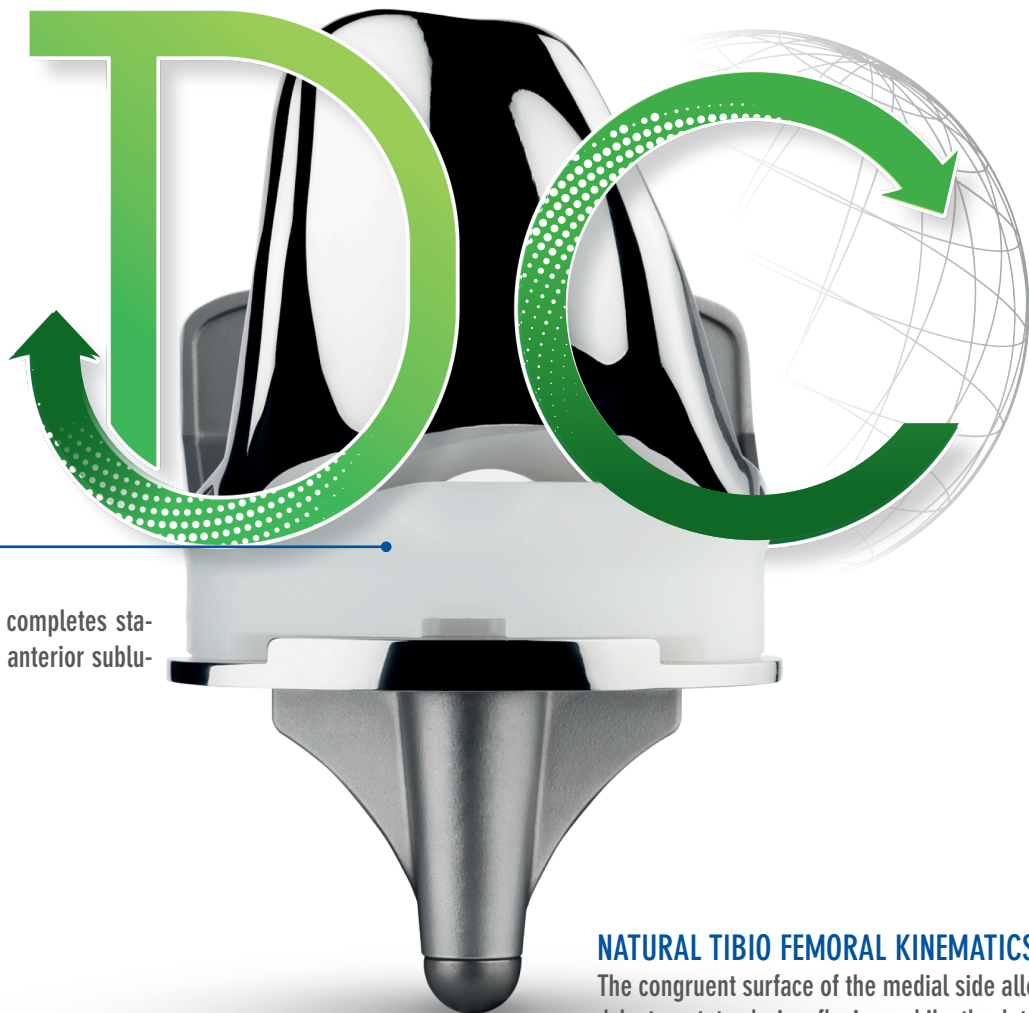


## DYNAMIC CONGRUENCE INSERT

Dynamic Congruence Insert, with a MEDIAL PIVOT design, is the fixed bearing solution allowing restoration of natural knee kinematics, thereby improving ROM.

Dynamic Congruence insert features a spherical medial condyle, which allows the medial part only to rotate around its own axis, perpendicular to the insert itself, while it is allowed to the lateral condyle to roll and slide, thanks to a wider and more elongated lateral part of the insert.

- Asymmetric insert, right and left
- Ultra-Congruent medial compartment and anatomical footprint of the lateral compartment
- 15° of internal and external rotation



### ANTERIOR LIP

The raised anterior lip completes stability by preventing the anterior subluxation

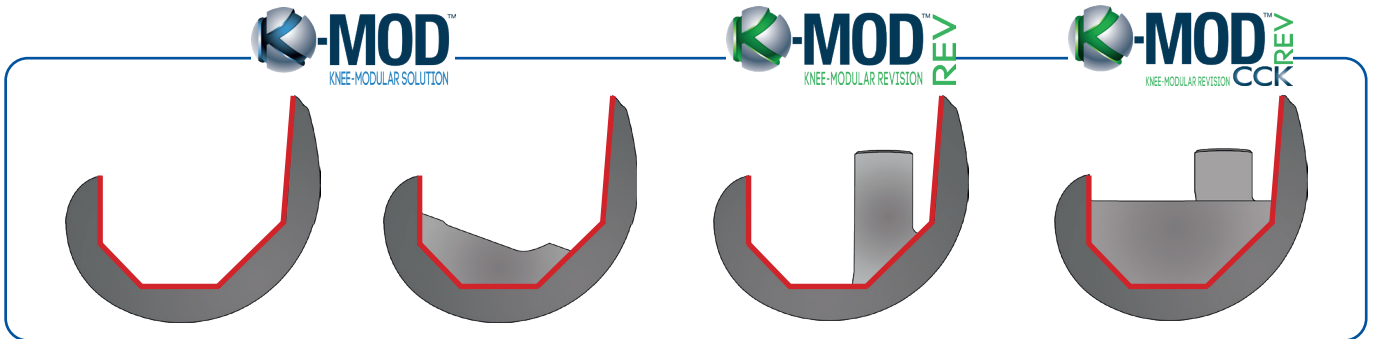
### NATURAL TIBIO FEMORAL KINEMATICS

The congruent surface of the medial side allows the condyle to rotate during flexion, while the lateral condyle can move posteriorly thanks to the anatomic path



**COMPLETE MODULARITY**

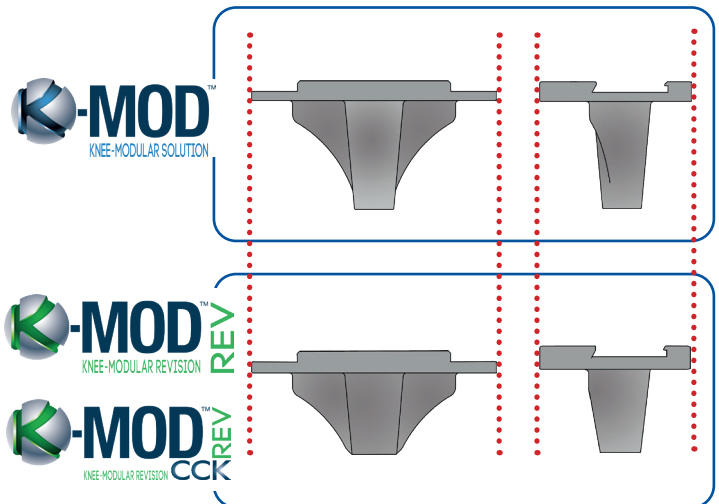
K-MOD System primary prosthesis system is completely modular with the K-MOD REV BOXLESS and K-MOD REV CCK systems



The primary prosthesis system K-MOD and the revision prosthesis systems K-MOD REV CCK and K-MOD REV BOXLESS share:

- same femoral profile
- same tibial and femoral dimensions in ML and AP

to guarantee maximum MODULARITY.





## Web site

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Use the QR-Code to visit Gruppo Bioimpianti website



## IFU

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Use the QR-Code to view complete product informations, including instructions for use, indications and contraindications, precautions and warnings



## Operating Technique 3REF

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Use the QR-Code to view the video of operating technique



## Operating Technique KA

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Use the QR-Code to view the video of operating technique



This document is exclusively intended for medical professionals, especially physicians and surgeons.

This document does not constitute medical advice, it does not dispense medical recommendations and it does not convey any diagnostic or therapeutic information. Informations and techniques presented in this document were compiled by a team of medical experts and Gruppo Bioimpianti's specialists; however Gruppo Bioimpianti excludes any liability for improper use of informations.

For any information or enquires about this publication or anything else, contact GRUPPO BIOIMPIANTI.

The information contained in this document refers to the basic configuration and sizes of the system.

To check the complete range, refer to the technical data sheet.

Some on request codes/products, developed for specific markets, may not be immediately available.

Check availability with your local GB distributor.



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