

FEMORAL HEADS

Biodynamics medical technology is the centre of excellence in the area of endoprosthetics and is specialised in

joint implants and instruments.



CUSTOMER ORIENTATION AS A MATTER OF PRINCIPLE

We stand for medical devices based on the latest medical and technical developments. Extensive investments in high-tech facilities in the past years have enabled us to work with innovative procedures today. High-quality materials guarantee the quality our customers expect from us.

We have also applied our comprehensive knowledge in the field of endoprosthetics to develop our own OEM product range: Customer-oriented implant systems and instruments for a dependable supply of standard products.

Many of our customers complement their range of products with these systems. They rely on market-ready products which an optimal ensure combination state-of-the-art o medical standards with costeffectiveness and flexibility. Over many decades of use, the implants have been shown to be safe.

All components are supplied in sterile packaging and labelled - in your individual packaging design, if desired. Combined with the surgical instruments, which are synchronised exactly with the implants, we provide a complete package.

For more than 75 years, quality, costeffectiveness and reliability have formed the cornerstone of our continued success.





PRODUCT DESCRIPTION

When used with modular endoprosthetic hip systems, femoral heads act as the articulation partner between the hip stem and the cup component.

Polyethylene components are used as a gliding partner for metal femoral heads. They can also be used with PE inlays for cementless outer cups or with cemented polyethylene cups.



Furthermore, they can be used for bipolar heads with polyethylene inserts. Ceramic femoral heads can, in addition, articulate with ceramic inserts. All femoral heads are detachable and can be connected with the stem by means of a friction-lock system using a 12/14 cone.

Several sizes with varying diameters and neck lengths are available; the femoral head made of CoCrMo is also available in a 10°-variant. This enables individual adjustments of the implant system to the patient's anatomical conditions.



METAL FEMORAL HEADS

Implant steel, ISO 5832-9 CoCrMo, ISO 5832-12





IMPLANT STEEL: ISO 5832-9

This femoral head is made of the steel alloy in accordance with ISO 5832-9 that has been proven to be successful over many decades in everyday clinical use. With a proportion of only 10 %, the stainless implant steel has a significantly lower quantity of nickel as the wrought alloy in accordance with ISO 5832-1. Its nitrogen proportion of 0.5 % considerably increases the strength of this material. The material is made of highly corrosion-resistant, stainless austenitic steel with a very high resistance to intercrystalline corrosion. This femoral head made of implant steel is frequently used as a sliding partner for polyethylene.

Co Cr Mo: ISO 5832-12

The cobalt-chrome-molybdenum alloy belongs to the group of cobaltchrome alloys and has been used in hip replacement surgeries since the 1950s. It is based on the provisions on the international ISO norm 5832-12 for implant materials and therefore fully meets the strict requirements that are permanently placed on artificial hip joints. The fe wroug grain a hardne use as compo Cobalt charac proper additic cobaltresista of cor fluids. The ve materii tissue. The m wroug transm



The femoral head is made of a CoCrMo wrought alloy. This is made of very fine grain and has a particularly high degree of hardness. This alloy is thus ideal both for use as a supporting and also tribological component, i. e. as a sliding partner.

Cobalt-chrome-molybdenum alloys are characterised by their excellent wear properties and high robustness. In addition, femoral heads made of a cobalt-chrome-molybdenum alloy are resistant to corrosion and leaching in case of contact with blood or other bodily

The very high biocompatibility of the material prevents damage of the recipient

The mechanical strength of the CoCrMo wrought alloy ensures a permanent transmission of force between the implant and bodily tissues.





ELEC [®] femoral head: ISO 6474 BIOLOX [®] delta: A|2O3 ISO 6474 BIOLOX [®] forte: A|2O3 ISO 6474

ELEC[®] FEMORAL HEAD: ISO 6474 The ELEC [®] femoral head is made of

ultrapure aluminium oxide ceramic in accordance with ISO 6474. This bioinert material has very high biocompatibility and is biostable. This means that the material and its friction products do not react in any way with the body; there is also no release of ions into the body. The advantages of aluminium oxide ceramic are further complemented by its excellent resistance to fatigue, excellent fracture toughness and extreme hardness. The very high durability of this material and the marked smoothness of the surface guarantee only minimal wear. ELEC ® femoral heads are tested with our cone materials in accordance with ISO 7206-10 and are compatible with our PE components.

BIOLOX ° FORTE : AI2O3 ISO 6474

The main difference between the BIOLOX * forte and the BIOLOX * delta femoral head lies in the increased strength of BIOLOX ® delta. The actual pressures, which depend strongly on the geometry, the overall implant design, the type of the implant and patient's behaviour, are decisive for the reliability of the ceramic implant. The BIOLOX [®] delta femoral head was developed for a broader range of applications and can therefore be used for applications for which the BIOLOX ® forte femoral heads are unsuitable.



The mechanical properties of BIOLOX * forte surpass the requirements of ISO norm 6474. The BIOLOX [®] forte femoral head is made of ultrapure aluminium oxide which contains a small proportion of magnesium oxide to control grain growth and achieve the highest possible density.

BIOLOX ° DELTA : AI2O3 ISO 6474

The BIOLOX ° delta ceramic femoral head is made of mixed oxide ceramic with increased breaking resistance, excellent abrasion properties and unlimited biocompatibility. It is a matrix composite compound in which partly stabilised zirconium oxide particles are homogeneously dispersed in the aluminium oxide matrix. The spatially separated dispersion

of the zirconium oxide nanoparticles prevents the formation and spreading of tears and also improves breaking resistance. Ultrapure raw materials and a manufacturing process which has been perfected over decades guarantee highest levels of uniformity and hardness of the material.

This results in maximal resistance to wear. The purity and strong chemical bond of the components guarantee tolerability and resistance to corrosion in the body. No adverse reactions of the body to ceramic particles are known from long-term clinical use. Ceramic is completely bioinert and has unlimited biocompatibility.



Femoral Heads

Femoral head CoCrMo, cone 12/14 ISO 5832-12

Cizo		Articlana
5128		Afficie no.
	<i>c</i>	
ø 22 mm	2	030-2200
ø 22 mm	Μ	030-2201
ø 22 mm	L	030-2202
ø 28 mm	S	030-2800
ø 28 mm	М	030-2801
ø 28 mm	L	030-2802
ø 28 mm	XL	030-2803
ø 28 mm	XXL	030-2804
ø 32 mm	S	030-3200
ø 32 mm	М	030-3201
ø 32 mm	L	030-3202
ø 32 mm	XL	030-3203
ø 32 mm	XXL	030-3204



Femoral head CoCrMo 10°, cone 12/14 ISO 5832-12

Article no.	Size		Article no.
030-2200	ø 28 mm	S	030-2800-10 °
030-2201	ø 28 mm	М	030-2801-10 °
030-2202	ø 28 mm	L	030-2802-10 °
030-2800	ø 28 mm	XL	030-2803-10 °
030-2801	ø 32 mm	S	030-3200-10 °
030-2802	ø 32 mm	М	030-3201-10 °
030-2803	ø 32 mm	L	030-3202-10 °
030-2804	ø 32 mm	XL	030-3203-10 °
030-3200			
030-3201			
030-3202			
030-3203			



Femoral head implant steel, cone 12/14 ISO 5832-9

Size		Article no.
	_	
ø 28 mm	S	020-2800
ø 28 mm	M	020-2801
ø 28 mm	L	020-2802
ø 28 mm	XL	020-2803
ø 28 mm	XXL	020-2804
ø 32 mm	S	020-3200
ø 32 mm	Μ	020-3201
ø 32 mm	L	020-3202
ø 32 mm	XL	020-3203
ø 32 mm	XXL	020-3204



ELEC * ceramic femoral head, cone 12/14 ISO 6474-1 Al203

BIOLOX	forte femoral
ISO 6474	-1 Al203

Size		Article no.	Size	
ø 28 mm	S	384-001	ø 28 mm	S
ø 28 mm	Μ	384-002	ø 28 mm	М
ø 28 mm	L	384-003	ø 28 mm	L
ø 32 mm	S	384-004	ø 32 mm	S
ø 32 mm	Μ	384-005	ø 32 mm	М
ø 32 mm	L	384-006	ø 32 mm	L
ø 36 mm	S	384-007	ø 36 mm	S
ø 36 mm	Μ	384-008	ø 36 mm	Μ
ø 36 mm	L	384-009	ø 36 mm	L







BIOLOX	° delta femoral head, cone 12/1	4
ISO 6474	-2 Al203/ZrO2	

Article no.	Size		Article no.
367-907	ø 28 mm	S	367-1140
367-908	ø 28 mm	Μ	367-1141
367-909	ø 28 mm	L	367-1142
367-910	ø 32 mm	S	367-1143
367-911	ø 32 mm	Μ	367-1144
367-912	ø 32 mm	L	367-1145
367-930	ø 32 mm	XL	367-1149
367-931	ø 36 mm	S	367-1146
367-932	ø 36 mm	Μ	367-1147
	ø 36 mm	L	367-1148
	ø 36 mm	XL	367-1150



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Disclaimer

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500003670005, Rev. 2013-10