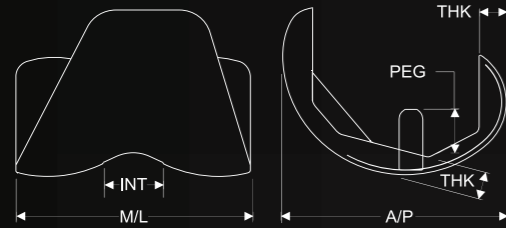


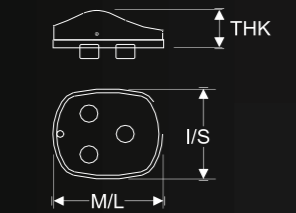
SYSTEM DESCRIPTION - IMPLANT AVAILABILITY AND SIZING

FEMORAL COMPONENT



Size	A/P(mm)	M/L(mm)	INT(mm)	PEG(mm)	THK(mm)
1	53.0	56.8	15.2	9.5	6.5
2	57.0	60.0	16.4	10.2	7.0
3	61.4	64.6	17.6	11.0	7.5
4	66.1	69.6	19.0	11.8	8.1
5	71.2	74.9	20.4	12.7	8.7

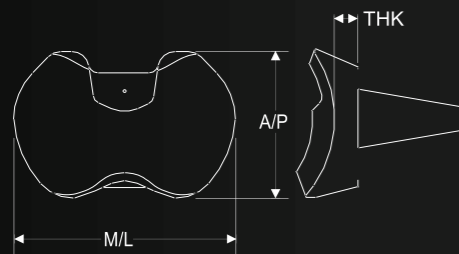
PATELLAR COMPONENT



All polyethylene cemented version

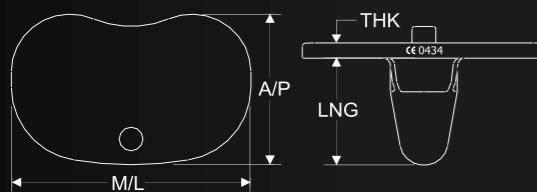
Size	I/S(mm)	M/L(mm)	THK(mm)
1	24.0	28.6	10.1
2	25.9	30.8	10.8
3	27.8	33.2	11.6
4	30.0	35.7	12.4
5	32.3	38.4	13.3

TIBIAL BEARING



Size	A/P(mm)	M/L(mm)	THK(mm)*
1	33.9	55.1	6.0
2	36.5	59.3	6.3
3	39.3	63.9	6.9
4	42.4	68.7	7.4
5	45.6	74.0	8.1

TIBIAL COMPONENT



Size	A/P(mm)	M/L(mm)	THK(mm)	LNG(mm)
1	38.1	59.2	3.7	29.7
2	41.0	63.7	4.0	29.7
3	44.2	68.6	4.2	32.0
4	47.6	73.8	4.4	34.5
5	51.2	79.5	4.7	37.1



BUECHEL-PAPPAS™ TitaNium knee
with
Ultracoat®

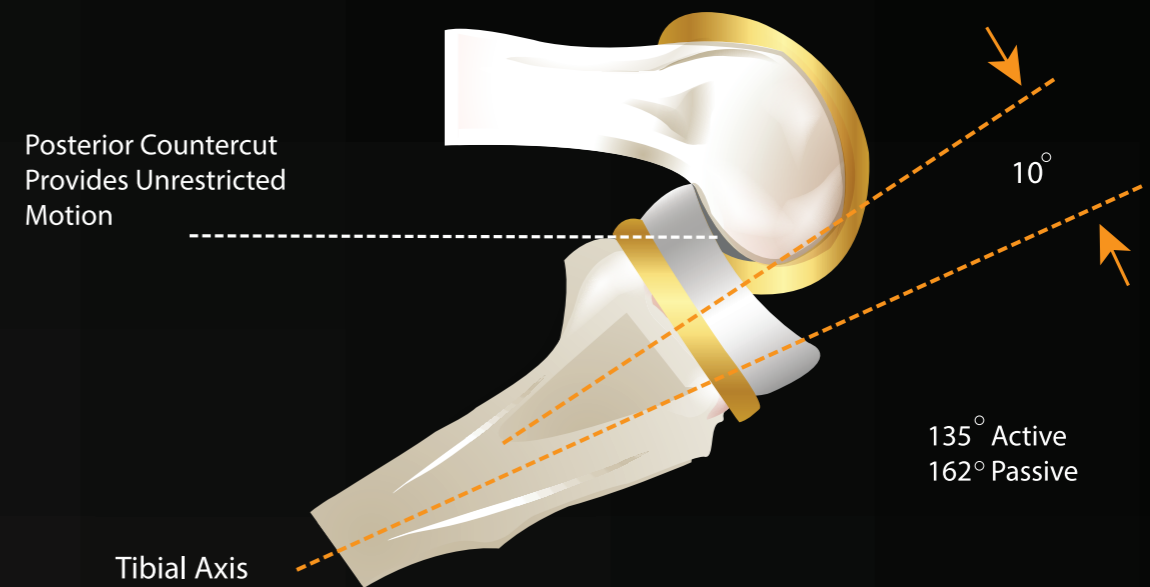
For additional information kindly contact
TTK Healthcare., 6, Cathedral Road, Chennai - 600 086.
Email : info@ttkhealthcare.com
www.ttkhealthcare.com

Ultracoat® is a result of 15 years of research, development and clinical evaluation.

Distinctive Attributes

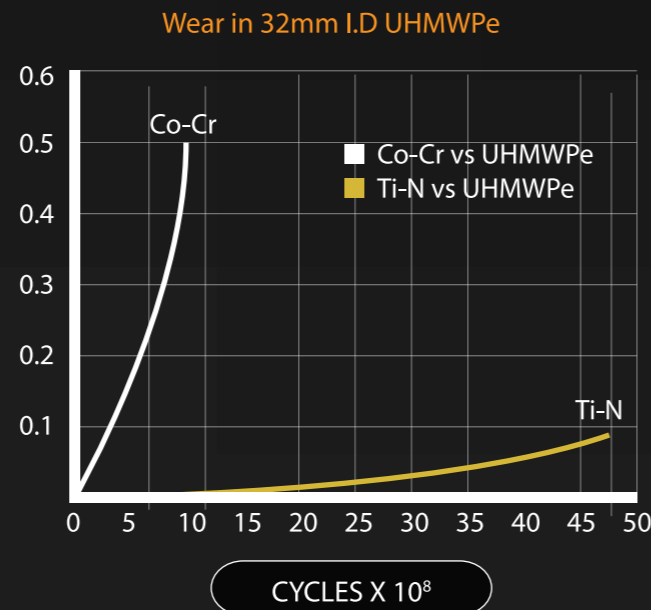
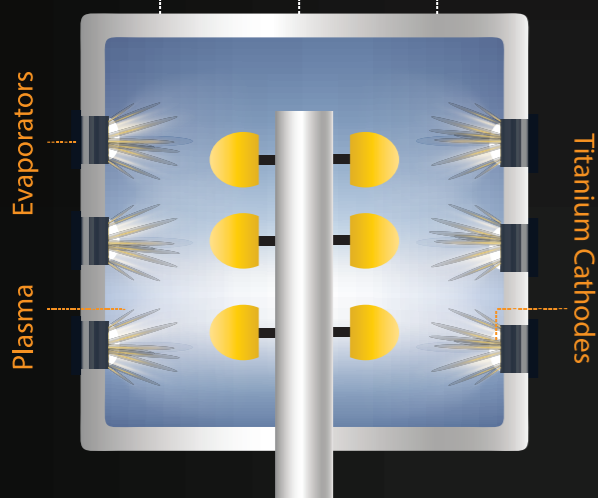
- Ultracoat® the TiN coat that has been thoroughly tested
- Ultracoat® on the articulating surfaces reduces the wear and tear
- The PVD TiN ceramic coating has an average thickness of 4 microns and it is harder and smoother than Co-Cr
- It is extremely hard (3000 Vickers); biologically inert with low friction properties¹⁻⁷
- Ceramic coating provides a significantly better environment for biological fixation than uncoated metal surfaces⁷
- The durability of the TiN coating has been demonstrated by a 48 million cycle test of femoral resurfacing components⁸

Maximum Flexion (162°) - Natural Movement



Ultracoat® - the TiN ceramic coating with long term history

Neutral Gas Vacuum Nitrogen Gas



TiN Ceramic Coating Physical Vapor Deposition (PVD) Process

Comparative wear of CO-Cr-Mo vs TiN



Clinical Affirmation (1991-2004 follow up)

Comparison of TiN ceramic coated knees with Co-Cr implants.

KNEE TYPE	Co-Cr ^[9]	B-P TiN COATED ^[10]
Number in study	120	76
Time in situ	5-17.3 years	3 – 14.4 years
Knee score (NJOH)	87.3%	92%
ROM	0-107 deg	0-116 deg
Patient satisfaction	94%	97%
Polyethylene wear	3 (1.8%)	0
Osteolysis	3 (1.8%)	0
Recurrent synovitis	1 (0.6%)	0
Dislocation/ subluxation	2 (1.2%)	0

The ceramic coated B-P knee is superior to Co-Cr across parameters especially with respect to wear related complications ^[10]

References: 1. Bolster, RN et al; Tribological behaviour of TiN Films deposited by high energy ion-beam-assisted deposition; Surface and Coatings Technology Volume 36, Issues 3-4, 15 December 1988, Pages 781-790. 2. McKellop, H et al, "Friction and wear properties of Polymer, metal and ceramic prosthetic joint materials evaluated on a multichannel screening device"; Journal of biomedical materials research, Vol.15, 1981. 3. Johansen OA et al; Reactive arc vapor ion deposition of TiN, ZrN and HfN; Thin Solid Films Volume 153, Issues 1-3, 26 October 1987, Pages 75-82. 4. Holleck H; Material selection for hard coatings; Journal of Vacuum Science & Technology A 4, 2661 (1986). 5. Coll BF et al; Surface modification of medical implants and surgical devices using TiN layers; Surface and Coatings Technology Volume 36, Issues 3-4, 15 December 1988, Pages 867-878. 6. Black J; Biological Performance of Materials, Fundamentals of Biocompatibility, Fourth Edition; <https://oi.org/10.1201/9781420057843>. 7. Hayashi K et al; Evaluation of metal implants coated with several types of ceramics as biomaterials; Journal of Biomedical Materials Research banner; Volume 23, issue 11. 8. Pappas MJ, Makris G, Buechel FF; Titanium nitride ceramic film against polyethylene- A 48 million cycle wear test; Clinical Orthopaedics and Related Research [01 Aug 1995(317):64-70]. 9. Buechel FF et al; CORR 2002. 10. Buechel FF et al; "The Buechel-Pappas total knee: design improvement from the LCS" presented at the 32nd OST meeting, Heron Island, Australia, July 3-9 2006.