DOOSTANENIK
MEDICAL SERVICES CO.

OPTA

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Medical Service Company
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OPTA


شرکت خدمات پزشکی دوستان نیک

ABOUT US

Doostan-e-Nik Medical Services Company was founded in 2001 by a group of pioneers of orthopedic surgery in Iran with the aim of developing the knowledge of the manufacturing of orthopedic implants. Creating a positive attitude among Iranian orthopedic specialists who are at the highest academic levels in the world and earning their trust to use locally manufactured products was one of the main concerns of the founders of the company. Today it's more than a decade that the company's products are being used in various medical centers in Iran, and fortunately the desired results have been achieved. Also the company is proud that by using highly qualified personnel in R&D department and the utilization of years of experience and capabilities, have developed its new products are introduced them into the consumer market.

Main objectives of company :

- manufacture with the best quality and based on today's global knowledge
- Provide patients with all equipmen, and instruments of orthopedic surgery at the lowest cost
- Contribute to the promotion of scientific and technical level of service providers in the field of orthopedics
- Transfer of knowledge and technology of orthopedic implants and the development of related industries

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E V O L I S

The Evolis concept is based on 3 main features:

1. A compact, easy and well-designed ancillary which allows an accurate and fast surgical act, offering at the same time several operative choices as well as checks during surgery.

2. Both implant design and product range are the result of a morphometric study aimed at the optimization of bone-implant surfaces.

3. The choice of common profiles allows interchangeability of the sizes without compromising on maximal metal - polyethylene contact surfaces.

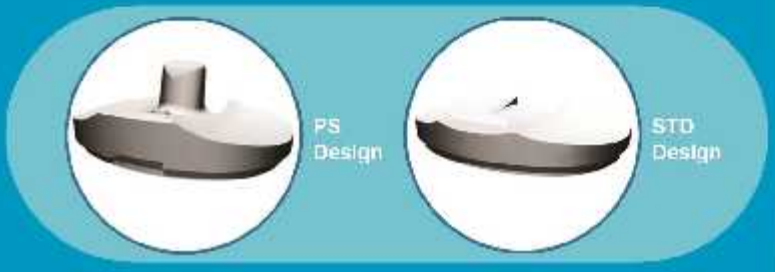
E V O L I S

Evolis total knee replacement prosthesis is available in two designs:
- Posterior-Stabilized (PS) Design.
- Standard (STD) Design.
This prosthesis is made up of the following components:

1. Femoral component : Cobalt-Chrome Alloy (Co-Cr-Mo) femoral component with ISO 5832-4.
Range : 6 left sizes, 6 right sizes. This component is available in two different PS and STD designs.

2. Tibial component : Titanium Alloy (Ti6Al4V) tibial component with ISO 5832-3, Range: 6 sizes.

3. Insert : UHMWPE GUR 1020 tibial insert with ISO 5834-2, Range: 6 sizes, thickness: 9, 11, 13,16, 19 mm. This component is available in two different PS and STD designs.



4. Patella : UHMWPE GUR 1020 resurfacing patella with ISO 5834-2, Range: (4 sizes, Ø 30, 33, 36, 39 mm).

5. Extension stem : Titanium Alloy (Ti6Al4V) tibial extension stem with ISO 5832-3, (Ø 12.5 mm, 3 Lengths: 30, 60, 90 mm).

6. Screw component for tibial base : Titanium Alloy (Ti6Al4V) screw component for tibial base with ISO 5832-3 (Ø 6.5 mm, 6 lengths: 20, 25, 30, 35, 40, and 45).

7. Screw component for PS insert : Titanium Alloy (Ti6Al4V) screw component for PS insert with ISO 5832-3, (Ø 5 mm, length: 15 mm).

CEMENTED TOTAL KNEE REPLACEMENT PROSTHESIS

FEATURES

- **Anatomical design of the trochlea optimizes the patellar tracking, reducing stress on patellar tendon and the risk of patella dislocation.**
- **Bone preserving design: minimum condylar resections and posterior-stabilised version without need for a box.**
- **Different cemented tibial extension stem options are available when further stabilization is needed.**
- **J-curved sagittal allows more nature knee kinematic improves knee flexion and promotes rollback of the femoral component.**

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Standard Test

ASTM F 2083 : 2006
Standard Specification for Total Knee Prosthesis.
ISO 14243-1 : 2009
Implants for surgery - Wear of total knee joint prostheses - Part 1:
Loading and displacement parameters for wear-testing machines with load
control and corresponding environmental conditions for test.
ISO 14879-1 : 2000
Implants for surgery - Total knee-joint prostheses - Part 1: Determination
of endurance properties of knee tibial trays.
ASTM F 1800
Standard Test Method for Cyclic Fatigue Testing of Metal Tibial Tray
Components of Total Knee Joint Replacements Constraint.
ASTM F 897
Standard Test Method for Measuring Fretting Corrosion of Osteosynthesis
Plates and Screws Components of Total Knee Joint Replacements Constraint.
ASTM F 1672 : 1995
Standard Specification for Resurfacing Patellar Prosthesis.
ASTM F 1223 : 2005
Standard Test Method for Determination of Total Knee Replacement
Constraint.

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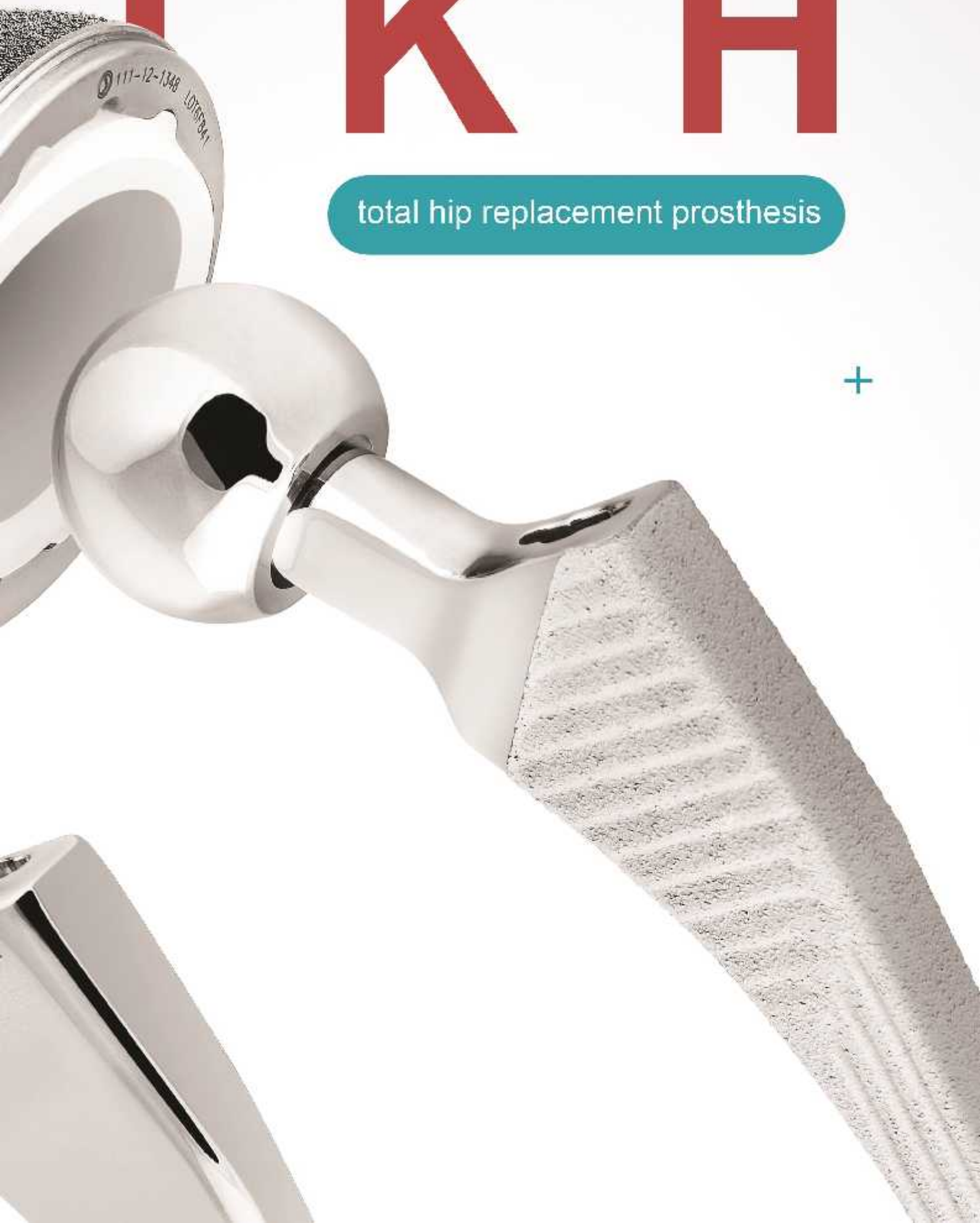
HEIKH

Bipolar cup

S H F

I K H

total hip replacement prosthesis



S H E I K H Bipolar cup

SHEIKH bipolar cup is designed to prevent serious bone destruction consequent and used as a treatment for femoral neck fractures. UHMWPE cup has a beveled margin to avoid neck cup impingement in internal and external rotation in gait cycle and physiological cyclic loading. Sheikh bipolar prosthesis in sitting and squatting movement provides patient with normal range of motion at hip.

Bipolar Cup is made up of 4 components:

1 - **Stainless Steel Bipolar shell (LVM 316 alloy-ISO 5832-1)**
2 - **Cross-linked UHMWPE Bipolar cup**
3 - **Cross-linked UHMWPE Ring (ISO 5834-2)**
4 - **Stainless Steel Wire (LVM 316 alloy - ISO 5832-1).**

Bipolar Cup is available in 10 sizes (Ø 40 to 58 mm) with the ability to use with cementless and cemented stem.
This cup can be used with femoral head only in Ø 28 diameter with 5 neck sizes (S, M, L, XL, XXL).

Indications

- Femoral neck and trochanteric fractures of the proximal femur.
- Osteonecrosis of the femoral head.
- Revision procedures where other devices or treatments for these indications have failed.

Standard Test

ASTM F 1820 Standard Test Method for Determining the Forces for Disassembly of Modular
Acetabular Devices.

S H E

The CCD angle for the stem is common at 135° for standard offset. Sheikh total hip replacement prosthesis has trapezoidal cross-sectional proximal stem design. Trapezoidal cross-section shape of stem causes to better torsional stability in femoral bone and has major effect on the stress distribution in physiological load in gait cycle and sit to stand task than other various proximal femoral stem shapes.
Titanium alloy cementless stem is fully HA coated. The HA coating has an average thickness of 100 µm and is applied by a plasma spraying process.
Cementless acetabular cup has a central hole in the base of the shell that is used for shell insertion. This base hole has a slot to enhance torsional manipulation of the shell during insertion.

Components And Materials Standard

Cementless stem

- Titanium alloy cementless femoral stem in accordance with ISO 5832-3 and 12/14 taper, available in 8 sizes (9 to 16) and fully HA coated.
- Screw (Ti6Al4V) in accordance with ISO 5832-3.
- Stainless steel femoral head with 12/14 taper, available in external diameters of 32 and 36 mm in 4 neck sizes (S,M, L, XL) (ISO 5832-1).
- Titanium alloy cementless acetabular cup available in 9 sizes (48 to 64). The shell is HA coated (thickness: 155 µm) and available in 3-hole configuration (ISO 5832-3).
- The logic liner in UHMWPE GUR 1020 grade available in 4 sizes (48 to 64) (ISO 5834-2).

Cemented stem

- Stainless steel cemented femoral stem in accordance with ISO 5832-1 and 12/14 taper, available in 9 sizes (8 to 16).
- Stainless steel femoral head with 12/14 taper, available in external diameters of 32 and 36 mm in 4 neck sizes (S, M, L, XL) (ISO 5832-1).
- Cemented acetabular cup in UHMWPEGUR 1020 grade available in 9 sizes (44 to 60) (ISO 5834-2).

I K H

total hip replacement prosthesis

Standard Test

ASTM F 2009 Standard Test Method for Determining the Axial Disassembly Force of Taper Connections of Modular Prostheses.

ASTM F 1820 Standard Test Method for Determining the Forces for Disassembly of Modular Acetabular Devices.

ISO 7206-4 Implants for surgery – Partial and total hip joint prostheses - Part 4: Determination of endurance properties and performance of stemmed femoral components.

ISO 7206-6 Implants for surgery – Partial and total hip joint prostheses - Part 6: Endurance properties testing and performance requirements of neck region of stemmed femoral components.

TRAUMA IMPLANTS
PLATES

DCP (Dynamic Compression Plate): DCP plate is a metallic plate used in orthopedics for internal fixation of bone, typically after fractures. As the name implies, it is designed to exert dynamic pressure between the bone fragments to be transfixed. Dynamic compression is achieved either by attaching a tension device to a plate or by using a special dynamic compression plate.

- Placement of screw in neutral position without danger of distraction.
- All holes permit compression.
- Usage of two load screws in main fragment
- Compression of several fragments individually in comminuted fractures.

DCP 3.5 Narrow

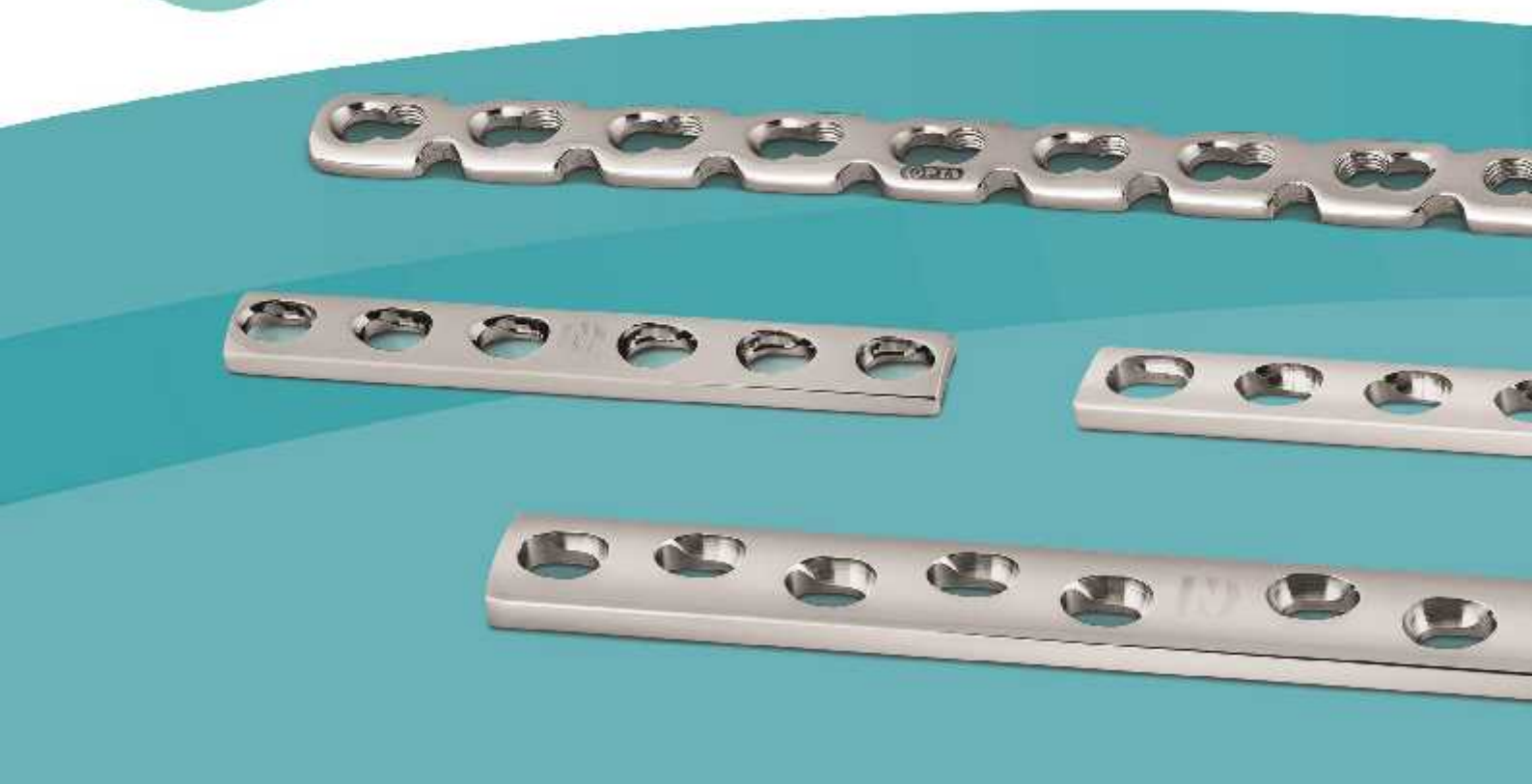
HOLES	2	3	4	5	6	7	8	9	10	12	14
LENGTH (mm)	25	37	49	61	73	85	97	109	121	145	169

DCP 4.5 Narrow

HOLES	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LENGTH (mm)	39	55	71	87	103	119	135	151	167	183	199	215	231	247	263

DCP 4.5 Broad

HOLES	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
LENGTH (mm)	71	87	103	119	135	151	167	183	199	215	231	247	263	279	295



LCP (Locking Compression Plate): LCP plate is a new development of the screw-plate system that allows the combination of standard plate technology and locking screws with angular stability. The special characteristics of the LCP are .

- Angular stability in combination with interfragmentary compression.
- In addition to conventional indications, the LCP is particularly well suited for the treatment of juxta-articular fractures and for osteoporotic bone, as well as for the use of percutaneous techniques.
- Incorporating features of LC-DCP (Limited Contact DCP).
- Uses non-locking and/or locking head screws (LHS).

LCP Plate is available in 2 narrow sizes and 1 broad size.

LCP 3.5 Narrow

HOLES	2	3	4	5	6	7	8	9	10	11	12
LENGTH (mm)	33	46	59	72	98	85	111	124	137	150	163

LCP 4.5 Narrow

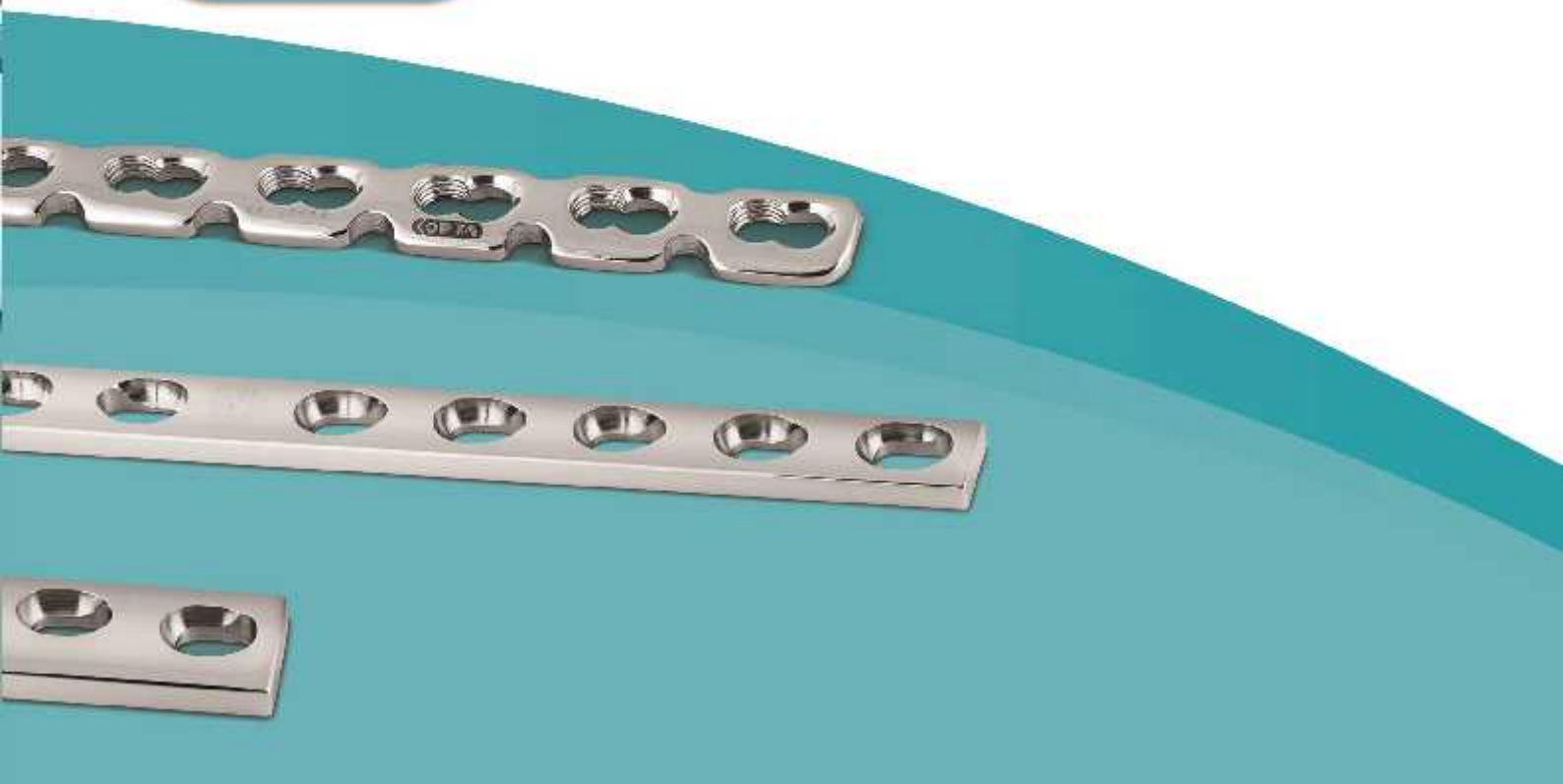
HOLES	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LENGTH (mm)	34	52	70	88	106	124	142	160	178	196	214	232	250	268	286

LCP 4.5 Broad

HOLES	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LENGTH (mm)	34	52	70	88	106	124	142	160	178	196	214	232	250	268	286

Standard Test

ASTM F 382
Standard Specification and Test Method for Metallic Bone Plates.



HTO

Plate for opening wedge osteotomies

High tibial osteotomy (HTO) is an effective and established method in treating osteoarthritis of the medial compartment of the knee. The HTO system consists of plates, screws and spacer blocks. A typical construct is made up of a plate, 4 screws and a spacer block and locking screw. The plate has an anatomical bend in the proximal portion of 10°. The plate has two screw holes distally and two adjacent screw holes proximally. The plate holes for the screws have a locking thread in them to ensure locking of the bone screws after insertion. The locking threads are angled to better place bone screws in bone stock. The proximal holes angle the screws divergently in the medial-lateral direction. The distal screw holes taper the screws distally. The plate features a central elongated channel that accepts a locking screw that connects the spacer block to the plate. The elongated slot allows for better positioning of the spacer block.

Titanium alloy HTO plate (Ti6Al4V) with ISO 5832-3, is available in one size (25×50 mm). It is used with:

1 - HTO cage: Ti6Al4V HTO cage (ISO5832-3) with various sizes (10, 12, 14, 16 mm).
2 - Block screw: Ti6Al4V Block screw with ISO 5832-3.
3 - Cancellous locking screw: Ti6Al4V Cancellous locking screw with ISO 5832-3 with range length from 34 to 78 mm.
4 - Cortical locking screw: Ti6Al4V Cortical locking screw with ISO 5832-3 with ranges length from 22 to 55 mm.

Indications

Young, active patient (<60 years) in whom an arthroplasty would fail due to excessive wear.
• Uni-compartmental arthritis with varus deformity of the leg axis.
• Varus deformity < 10° with stable ligaments.
• Up to 65 years of age, depending on activity level.
• Minimum ROM 0-120°.
• Preferably not significantly overweight.
• Extension deficits must be taken into account and compensated for in the osteotomy planning.
• Correction up to 10°.

Standard Test

ASTM F 382 Standard Specification and Test Method for Metallic Bone Plates.

DHS

Dynamic Hip Screw+

Dynamic hip screw (DHS) or Sliding Screw Fixation is a type of orthopedic implant designed for fixation of certain types of hip fractures which allows controlled dynamic sliding of the femoral head component along the construct. The idea behind the dynamic compression is that the femoral head component is allowed to move along one plane; since bone responds to dynamic stresses, the native femur may undergo primary healing: cells join along boundaries, results a robust joint which requires no remodelling. Plate is attached to bone (distal fragment) by screws, Screw threads designed to allow optimum fracture compression and hold.

Stainless steel Dynamic Hip Screw is in accordance with ISO 5832-1 with angle 135° (For anatomic reduction, Less force working across sliding axis than higher angle plates and Prevents impaction) and available in 4- Hole configuration. DHS Nail is available in 13 lengths with DHS Lag and Compression Screw.

DHS Plate

HOLES	4	5	6	8
Length [mm]	90	106	122	154

DHS Nail

Length (mm)	60	65	70	75	80	85	90	95	100	105	110	115	120

DHS Screw

Ø (mm)	4
Length [mm]	36

Indications

The DHS is indicated for the following fractures of the proximal femur:

- Intertrochanteric fractures.
- Subtrochanteric fractures.
- Fractures of the femoral neck.

Standard Test

ASTM F 382 Standard Specification and Test Method for Metallic Bone Plates.

Stainless steel (316 LVM alloy) Trauma Screws consist of the following self-tapping screws:

1 - Cortical screws.
2 - Cancellous screws.
3 - Locking screws.
4 - Cannulated screws.

TRAUMA IMPLANTS

S c r e w s

Cortical screws

Stainless steel cortical screws are in accordance with ISO 5832-1. These screws are full thread and available in 2 sizes:
- Ø 3.5 mm, available in 16 lengths (10-40 mm).
- Ø 4.5 mm, available in 26 lengths (14-70 mm).

Cancellous screws

Cancellous screws are available in full thread and partial thread versions:
- Ø 6.5 mm, 16 mm thread, available in 14 lengths (length 25-90 mm).
- Ø 6.5 mm, 32 mm thread, available in 14 lengths (length 45-110 mm).
- Ø 6.5 mm, full threads, available in 19 lengths (20-110 mm).

Locking screws

Stainless steel Locking screws are in accordance with ISO 5832 1. These screws are available in 2 diameters:
- Ø 3.5 mm, available in 16 lengths (16-70 mm).
- Ø 5 mm, available in 18 lengths (20-54 mm).

Cannulated screws

Stainless steel Cannulated screws are in accordance with ISO 5832-1. These screws are available in
16 mm and 32 mm thread.
- Ø 7 mm, 16 mm thread, available in 4 lengths (length 50-65 mm).
- Ø 7 mm, 32 mm thread, available in 4 lengths (length 50-65 mm).

Standard Test

ASTM F 543
Standard Specification and Test Methods for Metallic Medical Bone Screws.

TELESCOPIC INTRAMEDULLARY SYSTEM

Telescopic IM Nail is a new system designed for patients suffering from Osteogenesis Imperfecta (OI), skeletal dysplasia and other bone deformities. This product is proposed for growing skeleton that has some congenital or acquired anomalies who needs fixation in a long period of time with no necessity to change the device and can also be used concomitantly with external fixators in older children or short statured adults with limb length discrepancy. This rod has been designed for the femur, tibia and humerus. Telescopic nail consists of 2 parts: One profile bar (male nail), one profile tube (female nail); both made of stainless steel 316 LVM alloy (ISO 5832-1).

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Indications

- Indicated for the situation that the bone is fragile and this fragility may elongates for a long period of time that requires long life support .
- Used for children who need multiple osteotomies.
- Fracture stabilization.
- Prevention of fracture during lengthening associated with external fixators.
- Different situation that require osteoporotic bone.
- Active infection.
- Irregular bone diameter or deformity that would prevent insertion of an IM device.

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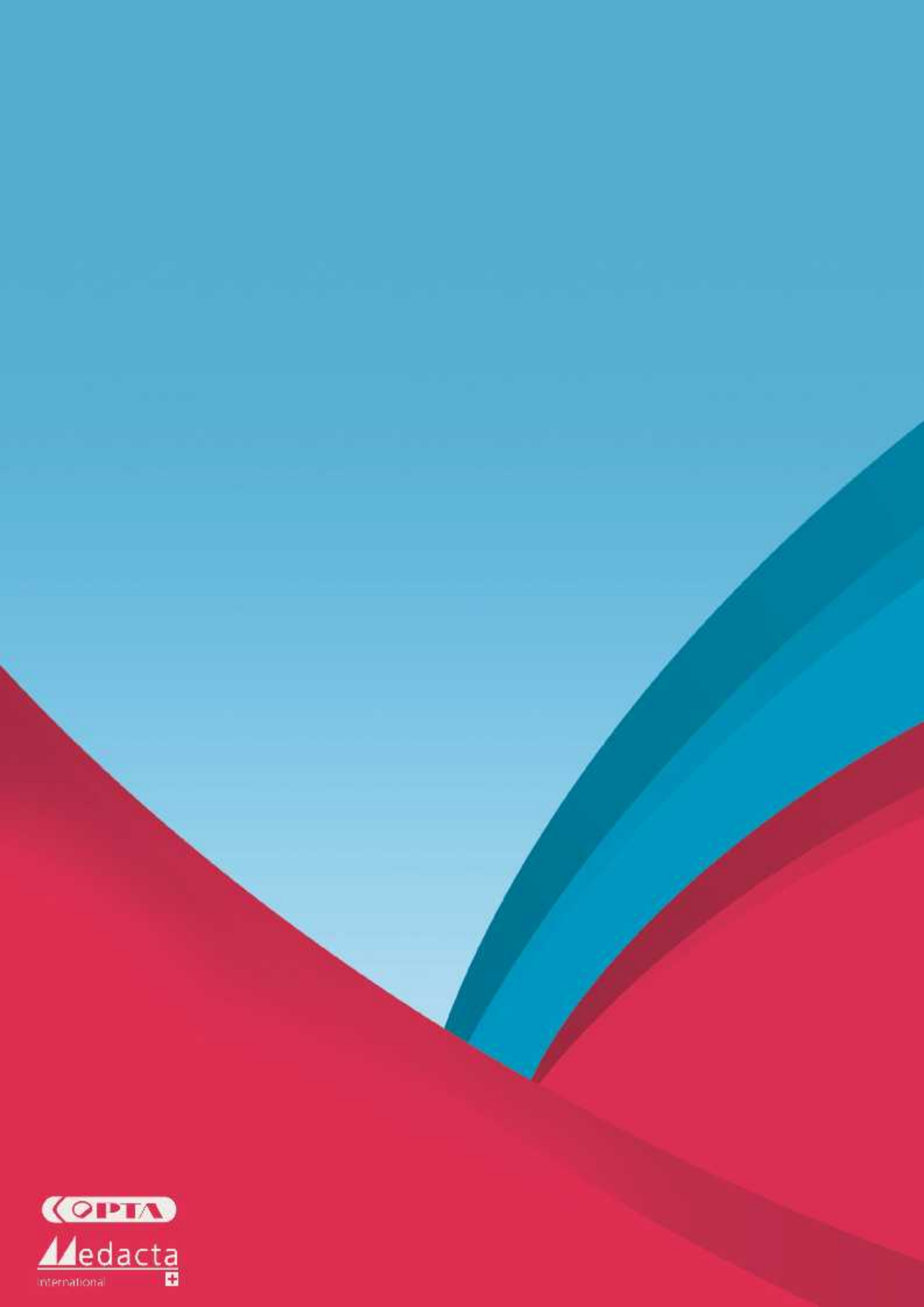
Standard Test

ASTM E 290
Standard Test Methods for Bend Testing of Material for Ductility.

OTHER PRODUCTS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