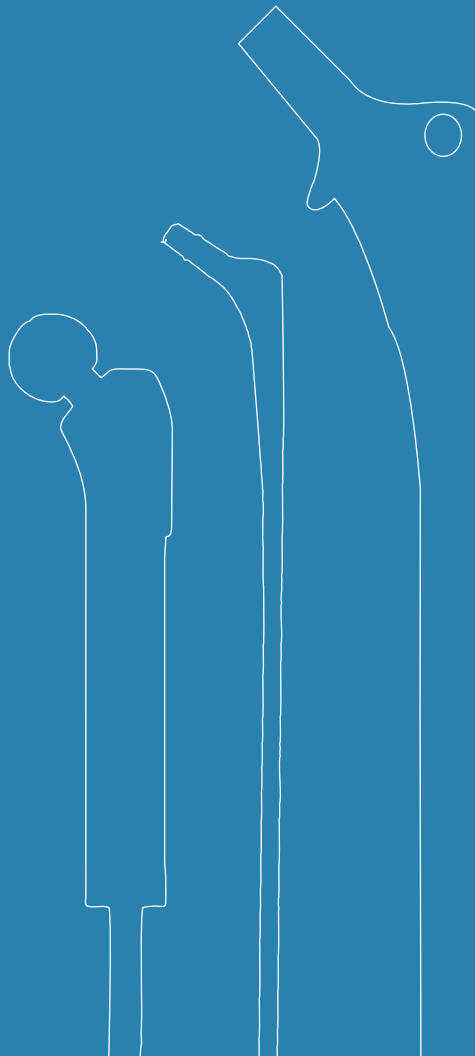




*Implants & Instrument*

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[www.spcpl.com](http://www.spcpl.com)

# Introduction

**SHARMA MEDICAL** (SHARMA PHARMACEUTICAL PVT. LTD.) is globally renowned and a foremost manufacturer and exporter in orthopaedic implants and instruments. We continuously explore our products globally with well expertise, specialized and well renowned orthopedic surgeons. We are Serving the orthopedics globally with the best quality of implants and instruments since 1992 i.e. more than 25 years.

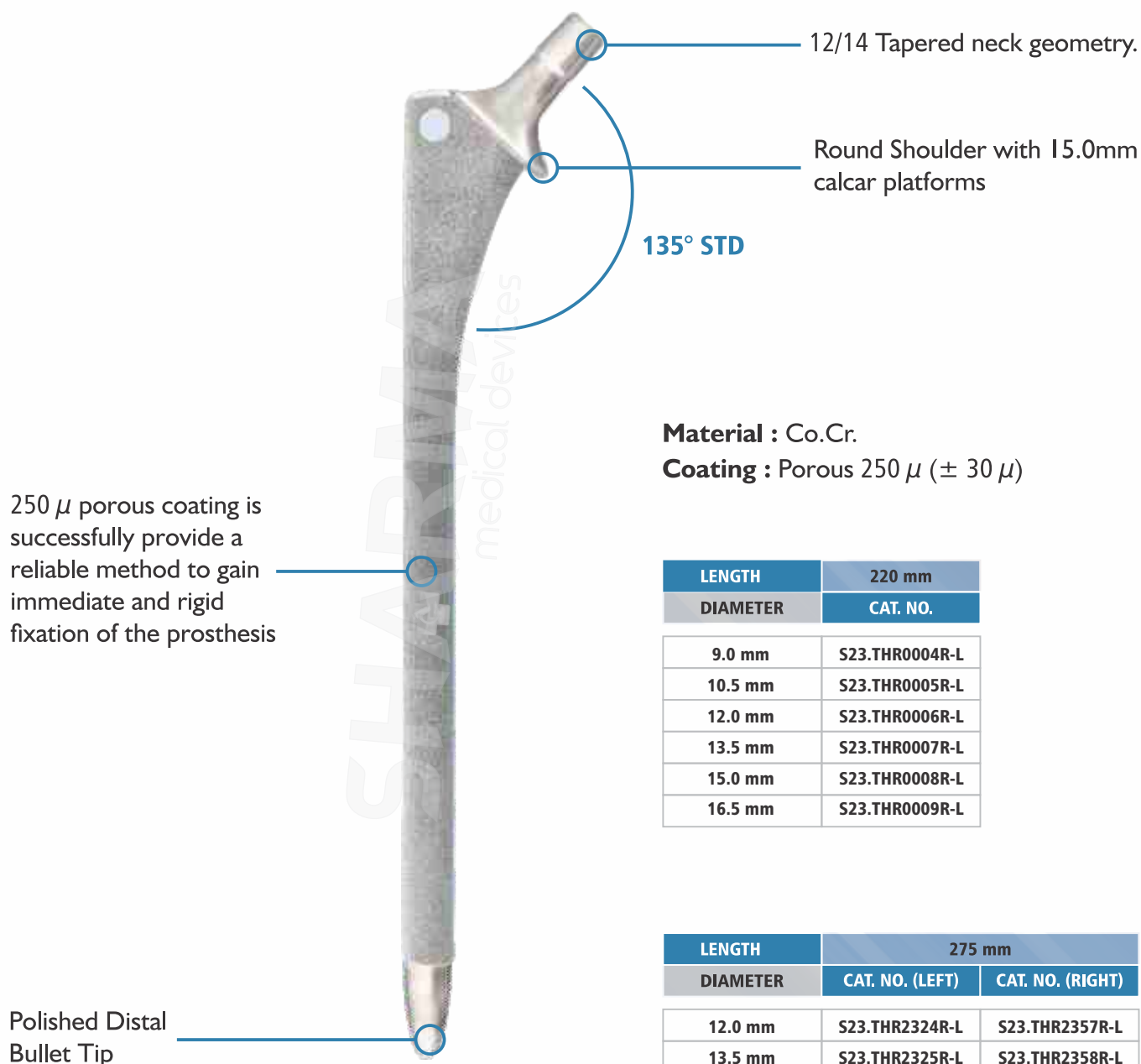
## PRODUCT LINES :

1. **ARTHROPLASTY** (TOTAL KNEE REPLACEMENT, TOTAL HIP REPLACEMENT, SHOULDER REPLACEMENT ETC. IN CEMENTED & UNCEMENTED)
2. **HEMI-ARTHROPLASTY** (MODULAR BI-POLAR HIP, BI- POLAR HIP, AMP, THOMPSON PROSTHESIS ETC. IN CEMENTED & UNCEMENTED)
3. **ARTHROSCOPY IMPLANTS**
4. **SPINAL IMPLANTS** (CERVICAL, THORACOLUMBER & LUMBOSACRAL) & CAGES (TITANIUM AND PEEK)
5. **CANNULATED CANCELLOUS SCREWS**
6. **EXTERNAL FIXATOR**
7. **PINS AND WIRES**
8. **ORAL & MAXILLOFACIAL IMPLANTS**
9. **BONE PLATES AND BONE SCREWS** (LOCKED SYSTEMS AND NON LOCKED SYSTEMS)
10. **INTERLOCKING NAILS, LOCKING BOLTS AND ACCESSORIES**
11. **GENERAL INSTRUMENTS**

**SHARMA MEDICAL** (SHARMA PHARMACEUTICAL PVT. LTD.) is well certified & accredited by Indian and European Union legal regulations [CE, FDA(Indian), GMP, ISO 9001:2015, ISO 13485:2016 ]. This credential gives us an edge to supply our products all over the world. Also we do maintain the international standards in the terms of Quality and services. We provide flexible supports that assist companies and individuals to meet their objectives by giving the best possible service at an affordable price.

**SHARMA MEDICAL** (SHARMA PHARMACEUTICAL PVT. LTD.) is professionally managed company that believes in building long-term business relationship with their clients. Further more information to strengthen our commitment is contained in the company's website i.e. [www.spcpl.com](http://www.spcpl.com)





**Material :** Co.Cr.

**Coating :** Porous 250  $\mu$  ( $\pm$  30  $\mu$ )

| LENGTH   | 220 mm         |
|----------|----------------|
| DIAMETER | CAT. NO.       |
| 9.0 mm   | S23.THR0004R-L |
| 10.5 mm  | S23.THR0005R-L |
| 12.0 mm  | S23.THR0006R-L |
| 13.5 mm  | S23.THR0007R-L |
| 15.0 mm  | S23.THR0008R-L |
| 16.5 mm  | S23.THR0009R-L |

| LENGTH   | 275 mm          |                  |
|----------|-----------------|------------------|
| DIAMETER | CAT. NO. (LEFT) | CAT. NO. (RIGHT) |
| 12.0 mm  | S23.THR2324R-L  | S23.THR2357R-L   |
| 13.5 mm  | S23.THR2325R-L  | S23.THR2358R-L   |
| 15.0 mm  | S23.THR2326R-L  | S23.THR2359R-L   |
| 16.5 mm  | S23.THR2327R-L  | S23.THR2360R-L   |

## PRODUCT INFORMATION

The Revision Hip System Stem is part of a family of femoral stems that address both Primary and Revision indications. Tissue ingrowth is achieved through intimate contact between the implant's porous surface and the available well-vascularized and structurally sound host bone.

Predictable osteointegration has been associated with long-term stability and pain-free function. The Revision Hip System Stem is designed with the goal of providing long term, pain free restoration of joint function and normal hip biomechanics.

## DESIGN AND TECHNOLOGY

### FIXATION ONLY POROUS COATING

The Revision Hip System Stem prosthesis is a fully porous coated stem. Subsequently, a  $250\mu (\pm 30\mu)$  the porous surface.

### RANGE OF MOTION

Circulotrapezoidal Neck Provides maximum range of motion with minimal impingement, there by reducing the risk of dislocation and wear. Neck length is increased for restoration of offset.

### OPTIMUM TAPER DESIGN

The 12/14 taper is optimized to avoid impingement on the cup and maximize range of motion.

### VERSATILITY

Addressing Proximal Defects. Stems are available with standard collar and 15.0mm calcar platforms.

### FEATURE & BENEFIT

Rough Coat Coating sintered bead porous coating allows for scratch fit.  $250\mu (\pm 30\mu)$  layer fully porous coated stem.

Revision Hip System Stem has a rounded shoulder, which eases insertion or extraction and reduces the risk of fracture of the greater trochanter Coronal Slot. The slot reduces overall stem stiffness, which can mean less stress shielding, less thigh pain and less chance of fracturing the femur upon insertion Distal Bullet Tip.

The polished distal bullet tip is a smooth transition from the cylindrical portion of the stem which reduces the possibility of impingement or bone on growth. Both impingement and bone on growth are associated with thigh pain.

### Indication

Hip components are indicated for individuals undergoing primary and revision surgery.

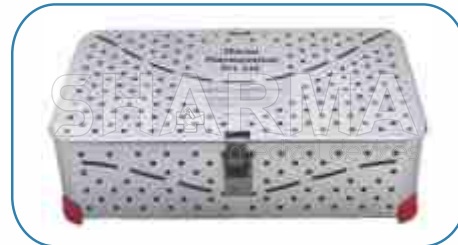
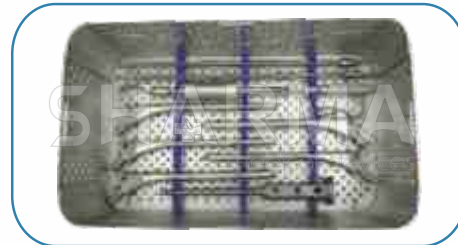
- Osteoarthritis
- Avascular necrosis
- Traumatic arthritis
- Intraoperative Fracture
- Soft tissues necrosis
- Dislocation of previous implants
- Loosening of femoral components
- Weakening of bone around Hip joint - Osteolysis
- Massive Bone loss and challenge especially in presence of infection

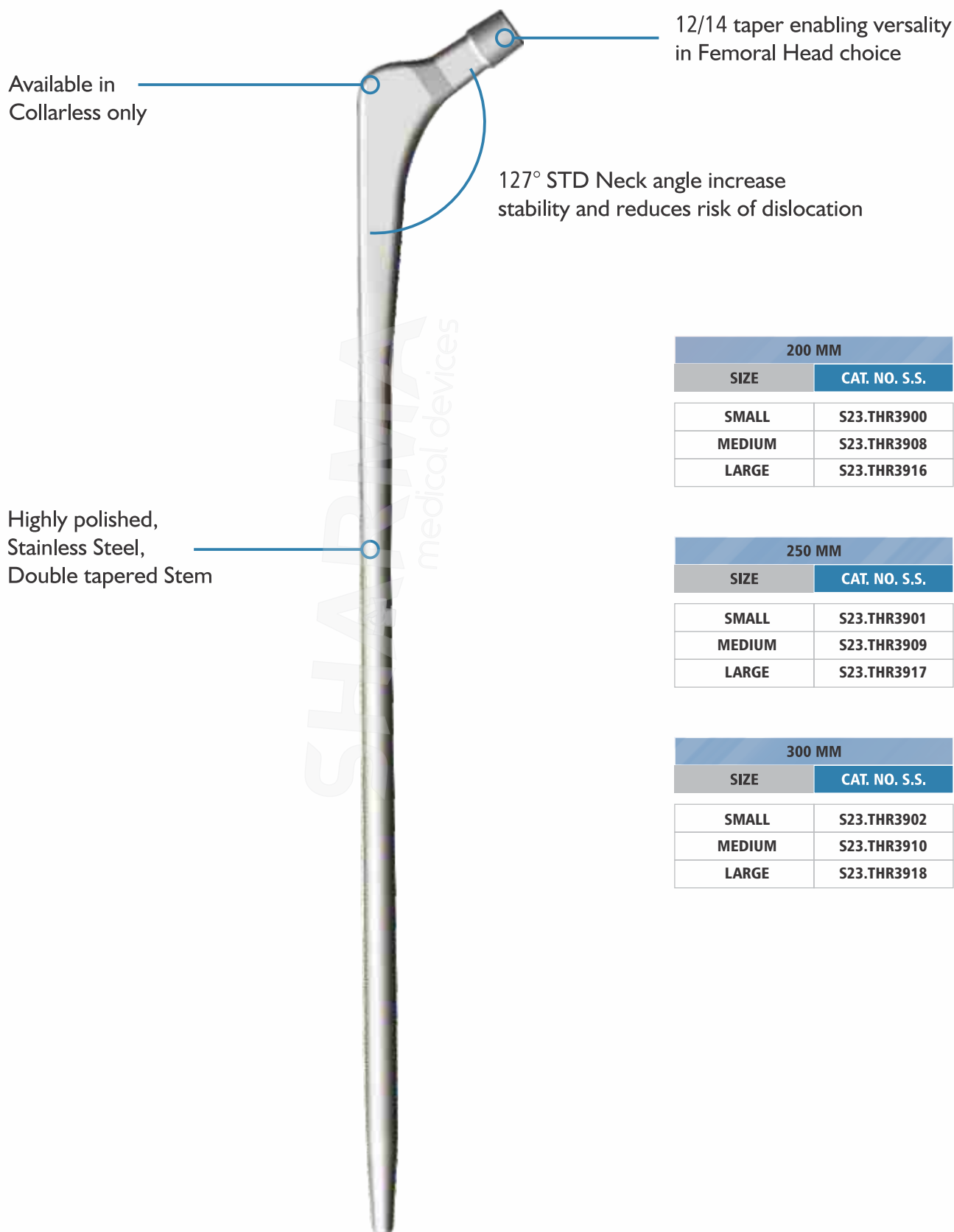
### Clinical Goals

- Fixation
- Range of Motion
- Versatility
- Simplicity

### INSTRUMENTS SET

| ITEM | DESCRIPTION                                              | REFERENCE CODE | QUANTITY |
|------|----------------------------------------------------------|----------------|----------|
| 1    | DRILL BIT 6.0 MM                                         | S23.INS.1301   | 1        |
| 2    | DRILL BIT 8.0 MM                                         | S23.INS.1302   | 1        |
| 3    | REAMER 8.0 MM                                            | S23.INS.1303   | 1        |
| 4    | REAMER 8.5 MM                                            | S23.INS.1304   | 1        |
| 5    | REAMER 9.0 MM                                            | S23.INS.1305   | 1        |
| 6    | REAMER 9.5 MM                                            | S23.INS.1306   | 1        |
| 7    | REAMER 10.0 MM                                           | S23.INS.1307   | 1        |
| 8    | REAMER 10.5 MM                                           | S23.INS.1308   | 1        |
| 9    | REAMER 11.0 MM                                           | S23.INS.1309   | 1        |
| 10   | REAMER 11.5 MM                                           | S23.INS.1310   | 1        |
| 11   | REAMER 12.0 MM                                           | S23.INS.1311   | 1        |
| 12   | REAMER 12.5 MM                                           | S23.INS.1312   | 1        |
| 13   | REAMER 13.0 MM                                           | S23.INS.1313   | 1        |
| 14   | REAMER 13.5 MM                                           | S23.INS.1314   | 1        |
| 15   | REAMER 14.0 MM                                           | S23.INS.1315   | 1        |
| 16   | REAMER 14.5 MM                                           | S23.INS.1316   | 1        |
| 17   | REAMER 15.0 MM                                           | S23.INS.1317   | 1        |
| 18   | REAMER 15.5 MM                                           | S23.INS.1318   | 1        |
| 19   | REAMER 16.0 MM                                           | S23.INS.1319   | 1        |
| 20   | REAMER 16.5 MM                                           | S23.INS.1320   | 1        |
| 21   | REAMER 17.0 MM                                           | S23.INS.1321   | 1        |
| 22   | REAMER 17.5 MM                                           | S23.INS.1322   | 1        |
| 23   | REAMER 18.0 MM                                           | S23.INS.1323   | 1        |
| 24   | REAMER 18.5 MM                                           | S23.INS.1324   | 1        |
| 25   | REAMER 19.0 MM                                           | S23.INS.1325   | 1        |
| 26   | REAMER 19.5 MM                                           | S23.INS.1326   | 1        |
| 27   | REAMER 20.0 MM                                           | S23.INS.1327   | 1        |
| 28   | SHAFT REAMER 6.0 MM                                      | S23.INS.1328   | 1        |
| 29   | SHAFT REAMER 6.5 MM                                      | S23.INS.1329   | 1        |
| 30   | SHAFT REAMER 7.0 MM                                      | S23.INS.1330   | 1        |
| 31   | SHAFT REAMER 7.5 MM                                      | S23.INS.1331   | 1        |
| 32   | SHAFT REAMER 8.0 MM                                      | S23.INS.1332   | 1        |
| 33   | SHAFT REAMER 8.5 MM                                      | S23.INS.1333   | 1        |
| 34   | SHAFT REAMER 9.0 MM                                      | S23.INS.1334   | 1        |
| 35   | SHAFT REAMER 9.5 MM                                      | S23.INS.1335   | 1        |
| 36   | SHAFT REAMER 10.0 MM                                     | S23.INS.1336   | 1        |
| 37   | SHAFT REAMER 10.5 MM                                     | S23.INS.1337   | 1        |
| 38   | SHAFT REAMER 11.0 MM                                     | S23.INS.1338   | 1        |
| 39   | SHAFT REAMER 11.5 MM                                     | S23.INS.1339   | 1        |
| 40   | SHAFT REAMER 12.0 MM                                     | S23.INS.1340   | 1        |
| 41   | SHAFT REAMER 12.5 MM                                     | S23.INS.1341   | 1        |
| 42   | SHAFT REAMER 13.0 MM                                     | S23.INS.1342   | 1        |
| 43   | SHAFT REAMER 13.5 MM                                     | S23.INS.1343   | 1        |
| 44   | SHAFT REAMER 14.0 MM                                     | S23.INS.1344   | 1        |
| 45   | SHAFT REAMER 14.5 MM                                     | S23.INS.1345   | 1        |
| 46   | SHAFT REAMER 15.0 MM                                     | S23.INS.1346   | 1        |
| 47   | SHAFT REAMER 15.5 MM                                     | S23.INS.1347   | 1        |
| 48   | SHAFT REAMER 16.0 MM                                     | S23.INS.1348   | 1        |
| 49   | STEM IMPECTOR                                            | S23.INS.1349   | 1        |
| 50   | FEMORAL REVISION STEM 220-9.0 MM                         | S23.INS.1350   | 1        |
| 51   | FEMORAL REVISION STEM 220-10.5 MM                        | S23.INS.1351   | 1        |
| 52   | FEMORAL REVISION STEM 220-12.0 MM                        | S23.INS.1352   | 1        |
| 53   | FEMORAL REVISION STEM 220-13.5 MM                        | S23.INS.1353   | 1        |
| 54   | FEMORAL REVISION STEM 220-15.0 MM                        | S23.INS.1354   | 1        |
| 55   | FEMORAL REVISION STEM 220-16.5 MM                        | S23.INS.1355   | 1        |
| 56   | FEMORAL REVISION STEM 275-12.0 MM (LEFT)                 | S23.INS.1356   | 1        |
| 57   | FEMORAL REVISION STEM 275-12.0 MM (RIGHT)                | S23.INS.1357   | 1        |
| 58   | FEMORAL REVISION STEM 275-13.5 MM (LEFT)                 | S23.INS.1358   | 1        |
| 59   | FEMORAL REVISION STEM 275-13.5 MM (RIGHT)                | S23.INS.1359   | 1        |
| 60   | FEMORAL REVISION STEM 275-15.0 MM (LEFT)                 | S23.INS.1360   | 1        |
| 61   | FEMORAL REVISION STEM 275-15.0 MM (RIGHT)                | S23.INS.1361   | 1        |
| 62   | FEMORAL REVISION STEM 275-16.5 MM (LEFT)                 | S23.INS.1362   | 1        |
| 63   | FEMORAL REVISION STEM 275-16.5 MM (RIGHT)                | S23.INS.1363   | 1        |
| 64   | QUICK COUPLING HANDLE                                    | S23.INS.9583   | 2        |
| 65   | EXACTOR HOOK                                             | S23.INS.9584   | 3        |
| 66   | EXACTOR ROD WITH HAMMER                                  | S23.INS.9585   | 2        |
| 67   | CONTAINER FOR REVISION HIP SYSTEM- UNCEMENTED INSTRUMENT | S23.INS.RHS-U  | 1        |





| 200 MM |               |
|--------|---------------|
| SIZE   | CAT. NO. S.S. |
| SMALL  | S23.THR3900   |
| MEDIUM | S23.THR3908   |
| LARGE  | S23.THR3916   |

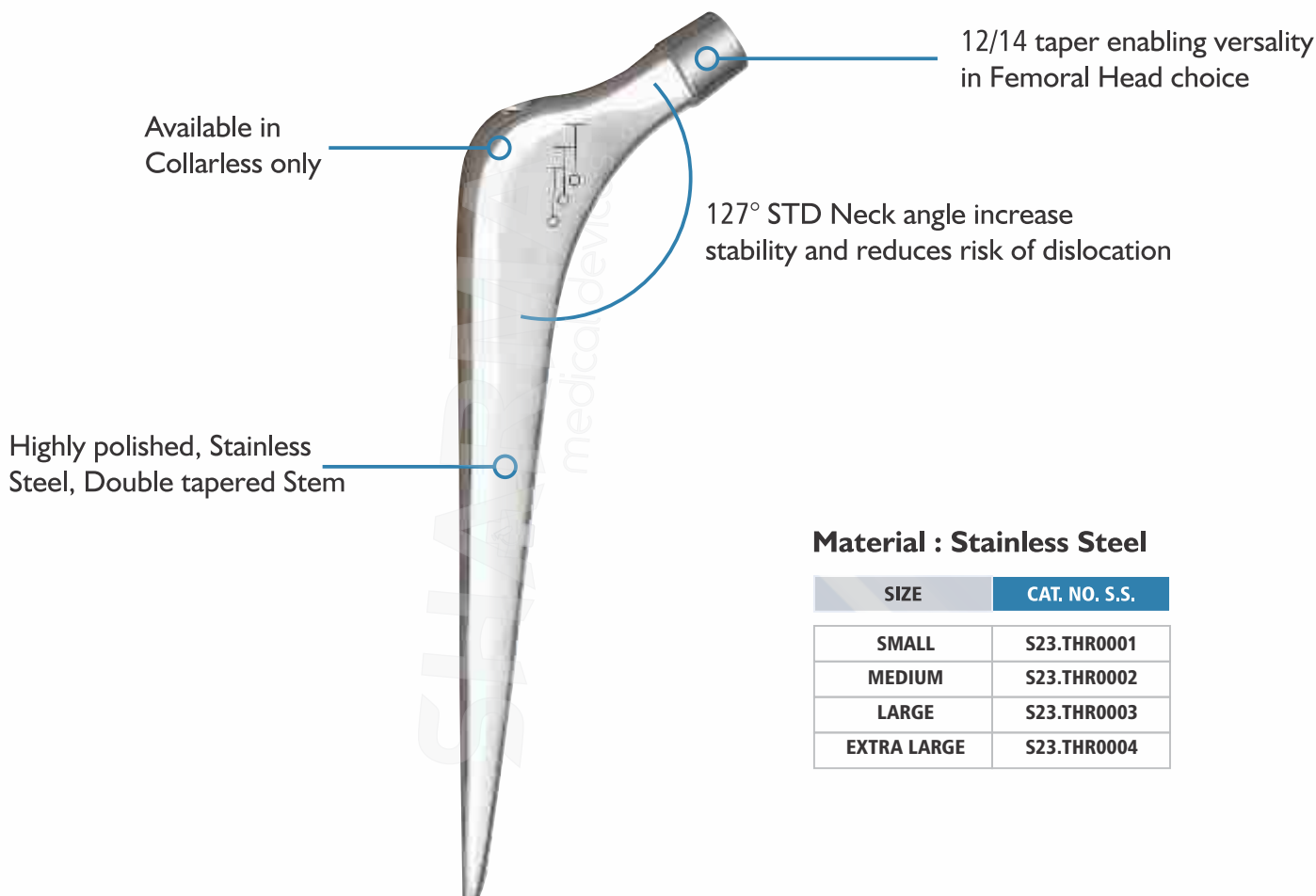
| 250 MM |               |
|--------|---------------|
| SIZE   | CAT. NO. S.S. |
| SMALL  | S23.THR3901   |
| MEDIUM | S23.THR3909   |
| LARGE  | S23.THR3917   |

| 300 MM |               |
|--------|---------------|
| SIZE   | CAT. NO. S.S. |
| SMALL  | S23.THR3902   |
| MEDIUM | S23.THR3910   |
| LARGE  | S23.THR3918   |



## FEMORAL STEM

(Cemented) Standard Offset



## ESSENTIAL PRODUCT INFORMATION

HIP SYSTEM (Cemented)

### IMPORTANT

This Essential Product Information sheet does not include all of the information necessary for selection and use of a device. Please see full labeling for all necessary information.

### INDICATIONS

Total hip arthroplasty is intended to provide increased patient mobility and reduce pain by replacing the damaged hip joint articulation in patients where there is evidence of sufficient sound bone to seat and support the components. Total hip replacement is indicated in the following conditions :

- A. Avascular necrosis
- B. Rheumatoid arthritis

- C. Primary arthritis
- D. Secondary (Traumatic) arthritis
- E. Femoral neck fracture
- F. Trochanteric fractures of the proximal femur with head involvement
- G. Correction of deformities like coxa vara and coxa valga.
- H. Congenital hip dysplasia.

## SURGICAL TECHNIQUE STEM PREPARATION



**STEP 1**  
Neck  
Osteotomy



**STEP 2**  
Femoral Canal  
Preparation



**STEP 3**  
Offset Selection &  
Head Trialling



## ACETABULAR PREPARATION



## FEMORAL CEMENTING

Bone cement and with a theater temperature of 21°C, the cement should be inserted into the cavity at 2.5-3 minutes after commencement of mixing, the stem is typically inserted approximately 6 minutes after the start of mixing.



**Trial Acetabular Cup Impaction**

## Acetabular Reaming

During Pre-operative templating, normally 45° of lateral opening (Abduction) & 15-30° of Anteversion



## Acetabular Cementing

Typically using bone cement with a theater temperature of 21°C, cement injection and pressuration should take place 6-8 minutes after commencement of mixing.



**Acetabular Cup Insertion**

## INTERNAL HEAD IMPACTION



## CONTRAINDICATIONS OF THR.

- Any concomitant conditions that can interfere with the function of the implant.
- Patient's body allergic to the Implant materials.
- Hip Joint Ligament Instability & muscles paralysis condition. Joints like Knee Joint severe genu varus or genu valgus mis alignment.
- In Knee It Retropatellar Degenerative arthritis.

## ADVERSE EVENTS OF HIP REPLACEMENT

The following are the most fragment adverse events after Hip Arthroplasty / Replacements.

- Swelling & Noise from Hip It.
- Prosthesis Working Loose.
- Vascular Thrombosis.
- Cardiovascular Disturbances
- Soft Tissue Necrosis.
- Nerve Injuries.
- Limb Length Discrepancy.

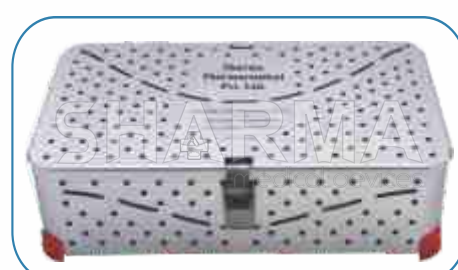
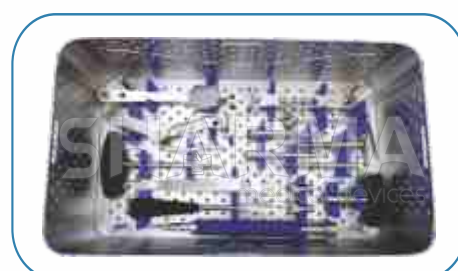
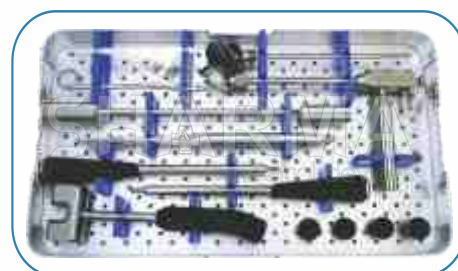
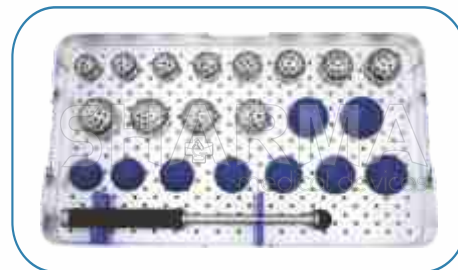
## CONSIDERATIONS

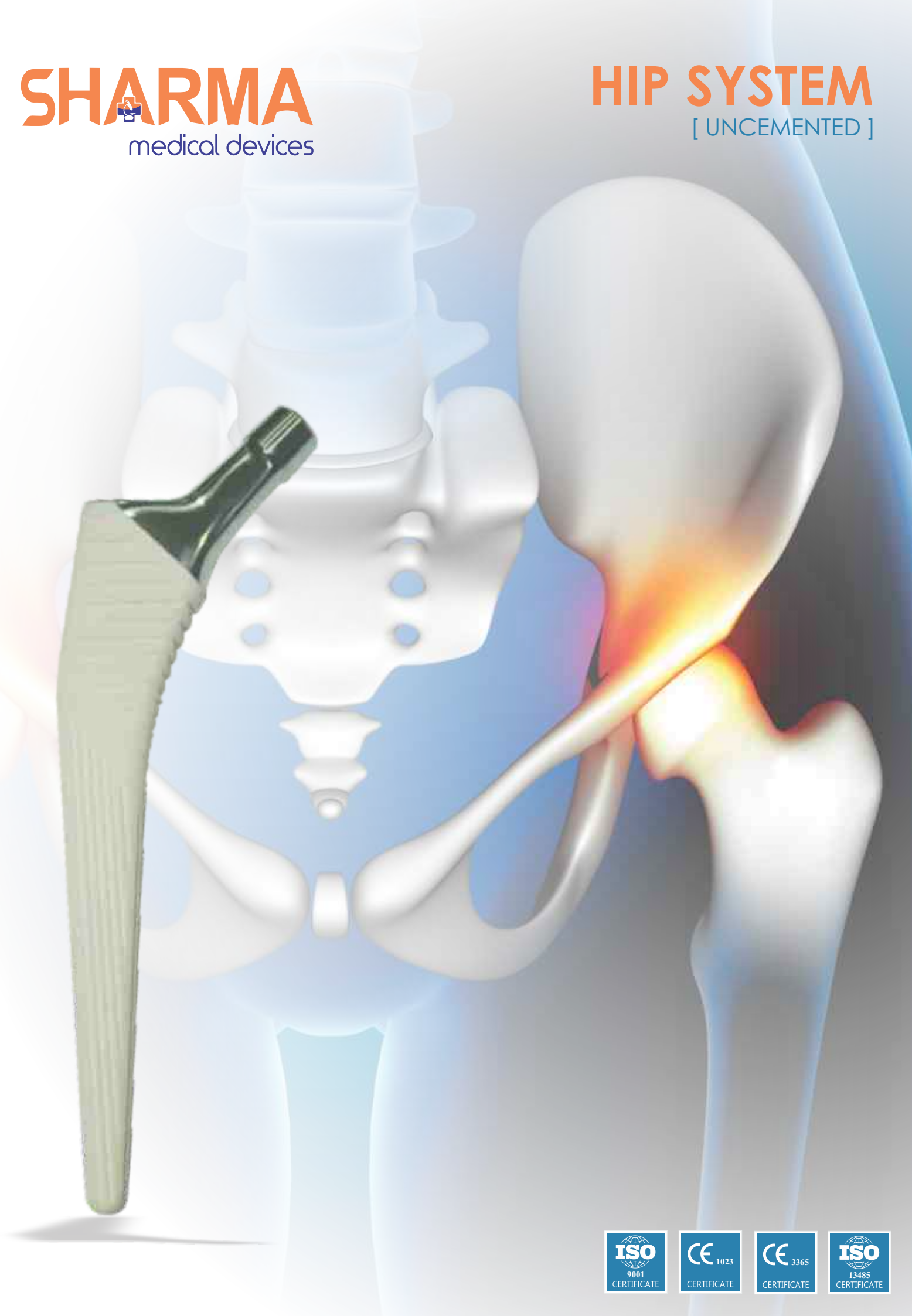
Internal Head provides an extensive range motion & reduce risk of impingement or limb length discrepancy.

Restoration of Joint kinematics is important in restoring function & stability.

## INSTRUMENTS SET

| ITEM | DESCRIPTION                              | REFERENCE CODE | QUANTITY |
|------|------------------------------------------|----------------|----------|
| 1    | ACETABULAR REAMER 38.0MM                 | S23.INS.0891   | 1        |
| 2    | ACETABULAR REAMER 40.0MM                 | S23.INS.0892   | 1        |
| 3    | ACETABULAR REAMER 42.0MM                 | S23.INS.0893   | 1        |
| 4    | ACETABULAR REAMER 44.0MM                 | S23.INS.0894   | 1        |
| 5    | ACETABULAR REAMER 46.0MM                 | S23.INS.0895   | 1        |
| 6    | ACETABULAR REAMER 48.0MM                 | S23.INS.0896   | 1        |
| 7    | ACETABULAR REAMER 50.0MM                 | S23.INS.0897   | 1        |
| 8    | ACETABULAR REAMER 52.0MM                 | S23.INS.0898   | 1        |
| 9    | ACETABULAR REAMER 54.0MM                 | S23.INS.0899   | 1        |
| 10   | ACETABULAR REAMER 56.0MM                 | S23.INS.0900   | 1        |
| 11   | ACETABULAR REAMER 58.0MM                 | S23.INS.0901   | 1        |
| 12   | ACETABULAR REAMER 60.0MM                 | S23.INS.0902   | 1        |
| 13   | HANDLE FOR REAMER                        | S23.INS.0903   | 1        |
| 14   | ACETABULAR TRIAL CUP 40.0MM/28.0MM       | S23.INS.8763   | 1        |
| 15   | ACETABULAR TRIAL CUP 42.0MM/28.0MM       | S23.INS.8764   | 1        |
| 16   | ACETABULAR TRIAL CUP 44.0MM/28.0MM       | S23.INS.0904   | 1        |
| 17   | ACETABULAR TRIAL CUP 46.0MM/28.0MM       | S23.INS.0905   | 1        |
| 18   | ACETABULAR TRIAL CUP 48.0MM/28.0MM       | S23.INS.0906   | 1        |
| 19   | ACETABULAR TRIAL CUP 50.0MM/28.0MM       | S23.INS.0907   | 1        |
| 20   | ACETABULAR TRIAL CUP 52.0MM/28.0MM       | S23.INS.0908   | 1        |
| 21   | ACETABULAR TRIAL CUP 54.0MM/28.0MM       | S23.INS.0909   | 1        |
| 22   | ACETABULAR TRIAL CUP 56.0MM/28.0MM       | S23.INS.0910   | 1        |
| 23   | ACETABULAR TRIAL CUP 58.0MM/28.0MM       | S23.INS.0911   | 1        |
| 24   | ACETABULAR TRIAL CUP 60.0MM/28.0MM       | S23.INS.0912   | 1        |
| 25   | BONE LEAVER 95°                          | S23.INS.0913   | 1        |
| 26   | ACETABULAR IMPACTOR 28.0MM               | S23.INS.0914   | 1        |
| 27   | ACETABULAR TRIAL CUP HOLDER (LEFT/RIGHT) | S23.INS.0915   | 1        |
| 28   | OSTEOTOMY RULER                          | S23.INS.0917   | 1        |
| 29   | DISTRATOR BROAD (44)                     | S23.INS.0918   | 1        |
| 30   | DISTRATOR (Y SHAPE)                      | S23.INS.0919   | 1        |
| 31   | DISTRATOR SMALL (16)                     | S23.INS.0920   | 1        |
| 32   | LINER EXTRACTOR                          | S23.INS.0921   | 1        |
| 33   | FEMORAL HEAD EXTRACTOR WITH FIBER HANDLE | S23.INS.0922   | 1        |
| 34   | BOX SHAPE OSTEOTOME STRAIGHT             | S23.INS.0923   | 1        |
| 35   | CANAL REAMER WITH T HANDLE (LARGE)       | S23.INS.0924   | 1        |
| 36   | CANAL REAMER WITH T HANDLE (SMALL)       | S23.INS.0925   | 1        |
| 37   | T HANDLE WITH QUICK COUPLING             | S23.INS.0926   | 1        |
| 38   | EXTRACTOR HOOK                           | S23.INS.0927   | 2        |
| 39   | OFFSET TRIAL                             | S23.INS.0928   | 2        |
| 40   | TRIAL HEAD 28+1.5 WITH RTI               | S23.INS.0929   | 2        |
| 41   | TRIAL HEAD 28+5 WITH RTI                 | S23.INS.0930   | 2        |
| 42   | TRIAL HEAD 28+8.5 WITH RTI               | S23.INS.0931   | 2        |
| 43   | TRIAL HEAD 28+12 WITH RTI                | S23.INS.0932   | 2        |
| 44   | TRIAL (SMALL)                            | S23.INS.0933   | 1        |
| 45   | TRIAL (MEDIUM)                           | S23.INS.0934   | 1        |
| 46   | TRIAL (LARGE)                            | S23.INS.0935   | 1        |
| 47   | TRIAL (X LARGE)                          | S23.INS.0936   | 1        |
| 48   | TRIAL STEM HANDLE (BROACH HANDLE)        | S23.INS.0937   | 1        |
| 49   | SLOTTED HAMMER                           | S23.INS.0938   | 1        |
| 50   | STEM HOLDER (CEMENTED)                   | S23.INS.0939   | 1        |
| 51   | QUICK COUPLING ADAPTOR                   | S23.INS.0940   | 1        |

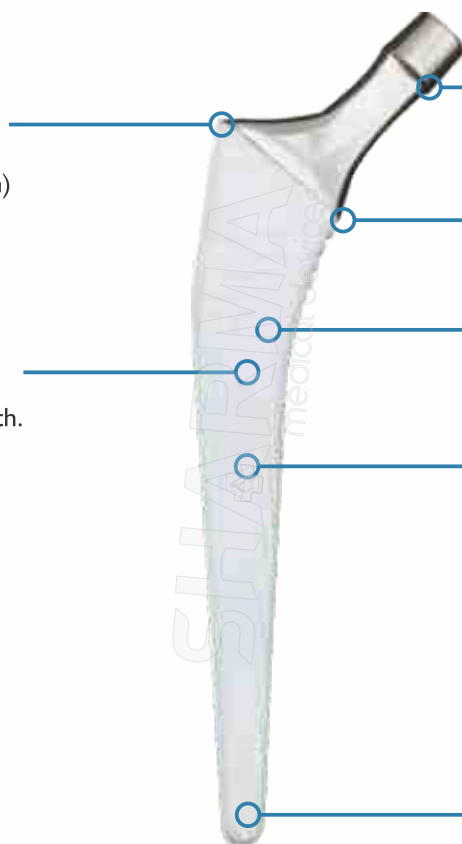




## FEMORAL STEM

Low-profile lateral shoulder design enables easy insertion in reduced incision techniques (Including the anterior approach)

The HA coating with plasma spraying, thickness of  $150\ \mu$  is successful in achieving initial stability & extensive bone growth.



One neck offset & Tapered (12/14) options to restore hip biomechanics.

Available in collarless only

Vertical grooves Increase the contact surface avoiding component subsidence & provide axial stability.

Longitudinal grooves use the bone Implant contact surface, avoiding rotation & reducing distal rigidity.

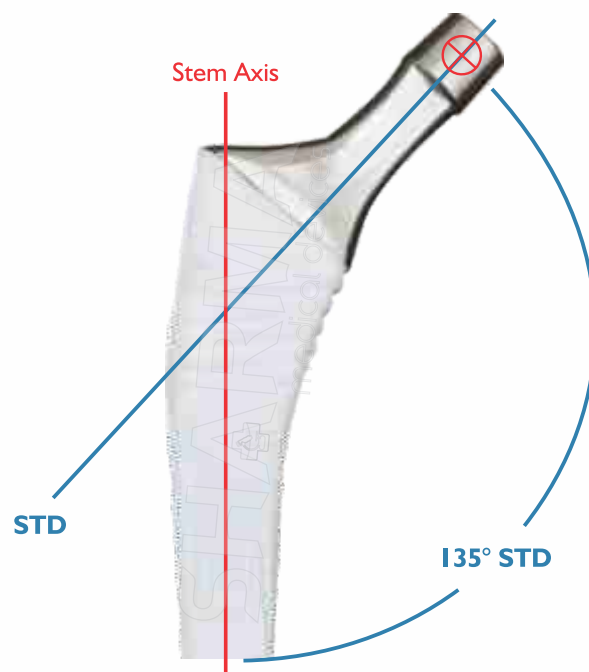
Distal end provides effective platform for long term biological fixation

## ENHANCED MOTION

**Material :** S.S. / TIT.

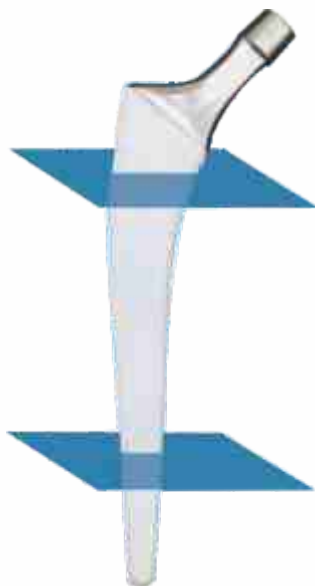
**Coating :** HA  $150\ \mu$  ( $\pm 30\ \mu$ )

| SIZE   | LENGTH   | CAT. NO. S.S. | CAT. NO. TIT. |
|--------|----------|---------------|---------------|
| 8.0mm  | 136.3 mm | S23.THR0354   | S23.THR0354-T |
| 9.0mm  | 151.7 mm | S23.THR0355   | S23.THR0355-T |
| 10.0mm | 161.5 mm | S23.THR0356   | S23.THR0356-T |
| 11.0mm | 165.9 mm | S23.THR0357   | S23.THR0357-T |
| 12.0mm | 171.7 mm | S23.THR0358   | S23.THR0358-T |
| 13.0mm | 176.9 mm | S23.THR0359   | S23.THR0359-T |
| 14.0mm | 181.5 mm | S23.THR0360   | S23.THR0360-T |
| 15.0mm | 186.7 mm | S23.THR0361   | S23.THR0361-T |
| 16.0mm | 191.1 mm | S23.THR0362   | S23.THR0362-T |



## WELL ESTABLISHED FIXATION

stepped geometry is designed to minimize shear forces and maximize compression loading in mass cancellous bone.



Proximal trapezoid cross section resists axial stress and prompt initial stability.



Distal quadrangular cross section provides rotational stability without cortical contact

## BONE PRESERVING TECHNIQUE

### Compaction Broaching

A philosophy of respecting and preserving patient anatomy, biology and physiology are key to the success.

Compressing and compacting the cancellous bone during the broaching process maintains the medullary canal endosteum, preserving blood supply to the bone and the bone / implant interface.



Compaction broaching creates an excellent bone / implant contact ratio and high pullout strength, and it increases prosthetic torsional stability.



Compaction broaching preserves the blood supply to promote healing and growth of bone around the implant, and this technique has shown excellent long-term survivorship.



## ENHANCED ANGULAR MOTION

Narrowed anterior-posterior neck dimensions and optimized Articulate by - Internal Head taper increase range of motion and reduce risk of mechanical impingement.

Articulate by - Internal Head. 12/14 taper is fully captured by all Non skirted heads, reduce the creation of a artificial mini skirt due to trunnion protrusion.

Polished neck is designed to generate less wear debris secondary to prosthetic impingement.

## SURGICAL TECHNIQUE



**STEP 1**  
Neck Osteotomy



**STEP 2**  
Femoral Canal  
Preparation



**STEP 3**  
Offset Selection &  
Head Trialling



**STEP 4**  
Femoral Component  
Insertion

## CONTRAINDICATIONS OF THR.

- A. Any concomitant conditions that can interfere with the function of the implant.
- B. Patient's body allergic to the Implant materials.
- C. Hip Joint Ligament Instability and muscles paralysis condition.
- D. Knee Joint severe genu varus or genu valgus mis alignment and Retropatellar Degenerative arthritis.

## WARNINGS AND PRECAUTIONS

- HA coated implants must not be implanted with cement
- When changing the head on a femoral stem which is still in place, it is essential to use a metal head.

## IMPORTANT

This Essential Product Information sheet does not include all of the information necessary for selection and use of a device. Please see full labeling for all necessary information.

## INDICATIONS

Total hip arthroplasty is intended to provide increased patient mobility and reduce pain by replacing the damaged hip joint articulation in patients where there is evidence of sufficient sound bone to seat and support the components. Total hip replacement is indicated in the following conditions :

- A. Avascular necrosis
- B. Rheumatoid arthritis
- C. Primary arthritis
- D. Secondary (Traumatic) arthritis
- E. Femoral neck fracture
- F. Trochanteric fractures of the proximal femur with head involvement
- G. Correction of deformities like coxa vara and coxa valga.
- H. Congenital hip dysplasia.

## ADVERSE EVENTS OF HIP REPLACEMENT

The following are the most frequent adverse events after Hip Arthroplasty / Replacements.

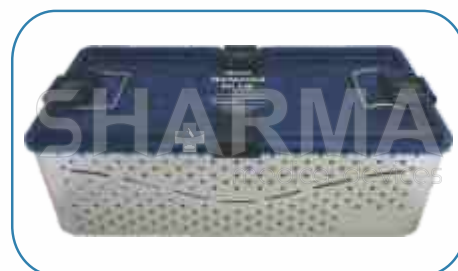
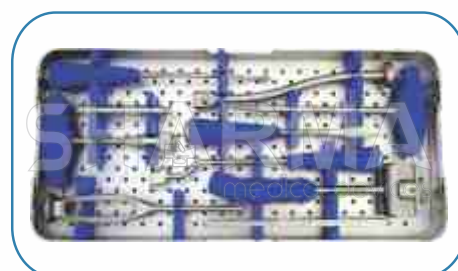
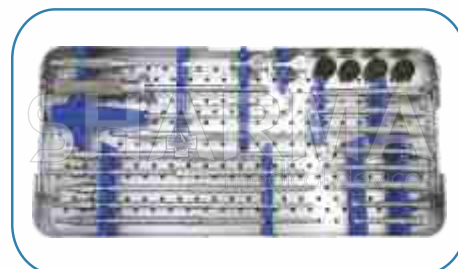
- A. Swelling & Noise from Hip It.
- B. Prosthesis Working Loose.
- C. Vascular Thrombosis.
- D. Cardiovascular Disturbances
- E. Soft Tissue Necrosis.
- F. Nerve Injuries.
- G. Limb Length Discrepancy.

HIP SYSTEM

**(Uncemented)** is indicated for cementless use only.

## INSTRUMENTS SET

| ITEM | DESCRIPTION                                       | REFERENCE CODE | QUANTITY |
|------|---------------------------------------------------|----------------|----------|
| 1    | OSTEOTOMY RULER                                   | S23.INS.0831   | 1        |
| 2    | OSTEOTOMY RULER SMALL                             | S23.INS.0832   | 1        |
| 3    | DISTRACTOR BROAD                                  | S23.INS.0833   | 3        |
| 4    | DISTRACTOR NARROW                                 | S23.INS.0834   | 1        |
| 5    | DISTRACTOR SMALL                                  | S23.INS.0835   | 2        |
| 6    | FEMORAL HEAD EXTRACTOR WITH FIBER HANDLE          | S23.INS.0836   | 1        |
| 7    | LINER EXTRACTOR                                   | S23.INS.0837   | 1        |
| 8    | HANDLE WITH QUICK COUPLING                        | S23.INS.0838   | 1        |
| 9    | AWL                                               | S23.INS.0839   | 1        |
| 10   | BOX SHAPE OSTEOTOME STRAIGHT                      | S23.INS.0840   | 1        |
| 11   | BOX SHAPE OSTEOTOME CURVE                         | S23.INS.0841   | 1        |
| 12   | ROUND TYPE OSTEOTOME                              | S23.INS.0842   | 1        |
| 13   | REAMER WITH QUICK COUPLING                        | S23.INS.0843   | 1        |
| 14   | PROXIMAL CANAL DRILL WITH QUICK COUPLING STANDARD | S23.INS.0844   | 1        |
| 15   | DISTAL CANAL DRILL WITH QUICK COUPLING 8/9        | S23.INS.0845   | 1        |
| 16   | DISTAL CANAL DRILL WITH QUICK COUPLING 10/11      | S23.INS.0846   | 1        |
| 17   | DISTAL CANAL DRILL WITH QUICK COUPLING 12/13      | S23.INS.0847   | 1        |
| 18   | DISTAL CANAL DRILL WITH QUICK COUPLING 14         | S23.INS.0848   | 1        |
| 19   | TRIAL STEM HANDLE                                 | S23.INS.0849   | 1        |
| 20   | ASSIST HANDLE                                     | S23.INS.0850   | 1        |
| 21   | SLOTTED HAMMER                                    | S23.INS.0851   | 1        |
| 22   | TRIAL STEM EXTRACTOR WITH S.S. HANDLE             | S23.INS.0852   | 1        |
| 23   | EXTRACTOR ROD WITH HAMMER                         | S23.INS.0853   | 1        |
| 24   | HAMMER                                            | S23.INS.0854   | 1        |
| 25   | TRIAL STEM 7                                      | S23.INS.0855   | 1        |
| 26   | TRIAL STEM 8                                      | S23.INS.0856   | 1        |
| 27   | TRIAL STEM 9                                      | S23.INS.0857   | 1        |
| 28   | TRIAL STEM 10                                     | S23.INS.0858   | 1        |
| 29   | TRIAL STEM 11                                     | S23.INS.0859   | 1        |
| 30   | TRIAL STEM 12                                     | S23.INS.0860   | 1        |
| 31   | TRIAL STEM 13                                     | S23.INS.0861   | 1        |
| 32   | TRIAL STEM 14                                     | S23.INS.0862   | 1        |
| 33   | CANAL FINDER                                      | S23.INS.0863   | 1        |
| 34   | SERRATED CUP CURETTER                             | S23.INS.0864   | 1        |
| 35   | CALCAR REAMER SMALL                               | S23.INS.0865   | 1        |
| 36   | CALCAR REAMER LARGE                               | S23.INS.0866   | 1        |
| 37   | OFFSET TRIAL                                      | S23.INS.0867   | 2        |
| 38   | TRIAL HEAD 28 & 26 +1.5                           | S23.INS.0868   | 2        |
| 39   | TRIAL HEAD 28 & 26 +5                             | S23.INS.0869   | 2        |
| 40   | TRIAL HEAD 28 & 26 +8.5                           | S23.INS.0870   | 2        |
| 41   | TRIAL HEAD 28 & 26 +12                            | S23.INS.0871   | 2        |
| 42   | BONE HOOK                                         | S23.INS.0872   | 1        |
| 43   | STRAIGHT PRESS WITH S.S. HANDLE                   | S23.INS.0873   | 1        |
| 44   | CURVE PRESS WITH FIBER HANDLE                     | S23.INS.0874   | 1        |
| 45   | STEM HOLDER                                       | S23.INS.0875   | 1        |
| 46   | STEM INSERTER                                     | S23.INS.0876   | 1        |
| 47   | HEAD IMPACTOR WITH S.S. HANDLE                    | S23.INS.0877   | 1        |
| 48   | HIP SYSTEM UNCEMENTED INSTRUMENT BOX FOR STEM     | S23.INS.UNHS   | 1        |
| 49   | RESTRICTOR HANDLE                                 | S23.INS.2753   | 1        |





**Material :** TIT

**Head Coverage :** 180°

**Coating :** Porous

## ACETABULAR CUP

| DIAMETER | CAT. NO.      |
|----------|---------------|
| 44 mm    | S23.THR2138-T |
| 46 mm    | S23.THR2139-T |
| 48 mm    | S23.THR2140-T |
| 50 mm    | S23.THR2141-T |
| 52 mm    | S23.THR2142-T |
| 54 mm    | S23.THR2143-T |
| 56 mm    | S23.THR2144-T |
| 58 mm    | S23.THR2145-T |
| 60 mm    | S23.THR2146-T |
| 62 mm    | S23.THR2147-T |
| 64 mm    | S23.THR2148-T |
| 66 mm    | S23.THR2149-T |



## LINER

**Material :** XLPE / UHMWPE

**Posterior Lift :** 10° Lift / + 4 Neutral

| INNER HEAD DIA. | 28.0 MM       |                 | 32.0 MM       |                 | 36.0 MM       |                 |
|-----------------|---------------|-----------------|---------------|-----------------|---------------|-----------------|
| LINER DIA.      | CAT. NO. XLPE | CAT. NO. UHMWPE | CAT. NO. XLPE | CAT. NO. UHMWPE | CAT. NO. XLPE | CAT. NO. UHMWPE |
|                 | S23.THR4492-H | S23.THR2179-U   | X             | X               | X             | X               |
|                 | S23.THR4493-H | S23.THR2180-U   | X             | X               | X             | X               |
|                 | X             | X               | S23.THR4503-U | S23.THR2210-U   | X             | X               |
|                 | X             | X               | S23.THR4504-U | S23.THR2211-U   | X             | X               |
|                 | X             | X               | X             | X               | S23.THR4512-H | S23.THR2248-U   |
|                 | X             | X               | X             | X               | S23.THR4513-H | S23.THR2249-U   |
|                 | X             | X               | X             | X               | S23.THR4514-H | S23.THR2250-U   |
|                 | X             | X               | X             | X               | S23.THR4515-H | S23.THR2251-U   |
|                 | X             | X               | X             | X               | S23.THR4516-H | S23.THR2252-U   |
|                 | X             | X               | X             | X               | S23.THR4517-H | S23.THR2253-U   |
|                 | X             | X               | X             | X               | S23.THR4518-H | S23.THR2254-U   |

## SCREW



**Material : S.S. / TIT.**

**Head Diameter : 6.5 mm**

| SIZE  | CAT. NO. S.S. | CAT. NO. TIT. |
|-------|---------------|---------------|
| 16 mm | S23.THR0448   | S23.THR0448-T |
| 18 mm | S23.THR0449   | S23.THR0449-T |
| 20 mm | S23.THR0450   | S23.THR0450-T |
| 22 mm | S23.THR0451   | S23.THR0451-T |
| 24 mm | S23.THR0452   | S23.THR0452-T |
| 26 mm | S23.THR0453   | S23.THR0453-T |
| 28 mm | S23.THR0454   | S23.THR0454-T |
| 30 mm | S23.THR0455   | S23.THR0455-T |
| 32 mm | S23.THR0456   | S23.THR0456-T |
| 34 mm | S23.THR0457   | S23.THR0457-T |
| 36 mm | S23.THR0458   | S23.THR0458-T |



## INTERNAL HEAD

**Material : S.S. / Co. Cr.**

| DIAMETER | 22.0 MM       |                 | 26.0 MM       |                 | 28.0 MM       |                 |
|----------|---------------|-----------------|---------------|-----------------|---------------|-----------------|
| LENGTH   | CAT. NO. S.S. | CAT. NO. Co.Cr. | CAT. NO. S.S. | CAT. NO. Co.Cr. | CAT. NO. S.S. | CAT. NO. Co.Cr. |
| +1.0MM   | X             | X               | X             | X               | X             | X               |
| +1.5MM   | S23.THR0031   | S23.THR0031-L   | S23.THR0061   | S23.THR0061-L   | S23.THR0076   | S23.THR0076-L   |
| +5.0MM   | S23.THR0032   | S23.THR0032-L   | S23.THR0062   | S23.THR0062-L   | S23.THR0077   | S23.THR0077-L   |
| +8.5MM   | S23.THR0033   | S23.THR0033-L   | S23.THR0063   | S23.THR0063-L   | S23.THR0078   | S23.THR0078-L   |
| +9.0MM   | X             | X               | X             | X               | X             | X               |
| +12.0MM  | S23.THR0034   | S23.THR0034-L   | S23.THR0064   | S23.THR0064-L   | S23.THR0079   | S23.THR0079-L   |

| DIAMETER | 32.0 MM       |                 | 36.0 MM       |                 |
|----------|---------------|-----------------|---------------|-----------------|
| LENGTH   | CAT. NO. S.S. | CAT. NO. Co.Cr. | CAT. NO. S.S. | CAT. NO. Co.Cr. |
| +1.0 mm  | S23.THR0091   | S23.THR0091-L   | X             | x               |
| +1.5 mm  | X             | X               | S23.THR0106   | S23.THR0106-L   |
| +5.0 mm  | S23.THR0092   | S23.THR0092-L   | S23.THR0107   | S23.THR0107-L   |
| +8.5 mm  | X             | X               | S23.THR0108   | S23.THR0108-L   |
| +9.0 mm  | S23.THR0093   | S23.THR0093-L   | X             | X               |
| +12.0 mm | X             | X               | S23.THR0109   | S23.THR0109-L   |

## INTERNAL HEAD

### FEMORAL HEAD : ISO 6474

The femoral head is made of ultrapure aluminium oxide ceramic in accordance with ISO 6474. This bioinert material has very high biocompatibility and 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. Femoral heads are tested with our cone materials in accordance with ISO 7206-10 and are compatible with our PE components.



**Material :** Ceramic (ISO 6474)

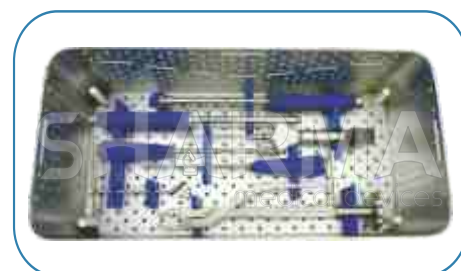
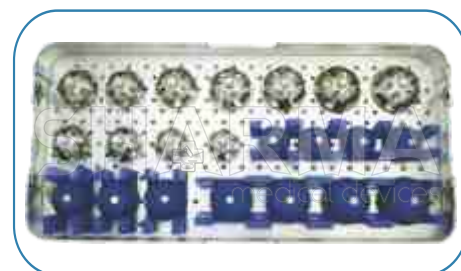
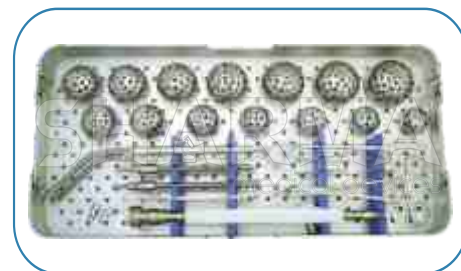
**Cone :** 12/14

| LENGTH | SIZE   | CAT NO        |
|--------|--------|---------------|
| 28.0mm | SMALL  | S23.THR0076-C |
| 28.0mm | MEDIUM | S23.THR0077-C |
| 28.0mm | LARGE  | S23.THR0078-C |
| 32.0mm | SMALL  | S23.THR0091-C |
| 32.0mm | MEDIUM | S23.THR0092-C |
| 32.0mm | LARGE  | S23.THR0093-C |
| 36.0mm | SMALL  | S23.THR0106-C |
| 36.0mm | MEDIUM | S23.THR0107-C |
| 36.0mm | LARGE  | S23.THR0108-C |

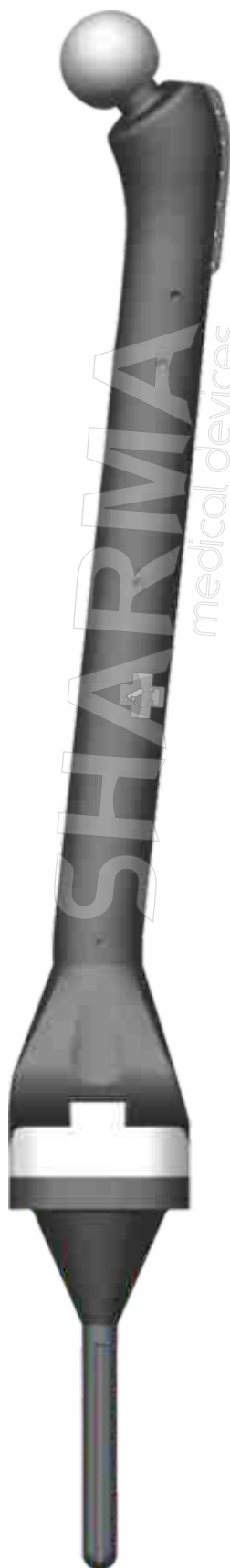
**Note :** Cat No. Made in Germany

### INSTRUMENTS SET

| ITEM | DESCRIPTION                                  | REFERENCE CODE | QUANTITY |
|------|----------------------------------------------|----------------|----------|
| 1    | SCALE                                        | S23.INS.0771   | 1        |
| 2    | ACETABULAR REAMER 36.0MM                     | S23.INS.7880   | 1        |
| 3    | ACETABULAR REAMER 38.0MM                     | S23.INS.0772   | 1        |
| 4    | ACETABULAR REAMER 40.0MM                     | S23.INS.0773   | 1        |
| 5    | ACETABULAR REAMER 42.0MM                     | S23.INS.0774   | 1        |
| 6    | ACETABULAR REAMER 44.0MM                     | S23.INS.0775   | 1        |
| 7    | ACETABULAR REAMER 46.0MM                     | S23.INS.0776   | 1        |
| 8    | ACETABULAR REAMER 48.0MM                     | S23.INS.0777   | 1        |
| 9    | ACETABULAR REAMER 50.0MM                     | S23.INS.0778   | 1        |
| 10   | ACETABULAR REAMER 52.0MM                     | S23.INS.0779   | 1        |
| 11   | ACETABULAR REAMER 54.0MM                     | S23.INS.0780   | 1        |
| 12   | ACETABULAR REAMER 56.0MM                     | S23.INS.0781   | 1        |
| 13   | ACETABULAR REAMER 58.0MM                     | S23.INS.0782   | 1        |
| 14   | ACETABULAR REAMER 60.0MM                     | S23.INS.0783   | 1        |
| 15   | ACETABULAR REAMER 62.0MM                     | S23.INS.0784   | 1        |
| 16   | ACETABULAR REAMER 64.0MM                     | S23.INS.0785   | 1        |
| 17   | ACETABULAR REAMER 66.0MM                     | S23.INS.7885   | -        |
| 18   | ACETABULAR REAMER 68.0MM                     | S23.INS.7890   | -        |
| 19   | ACETABULAR REAMER 70.0MM                     | S23.INS.7895   | -        |
| 20   | ACETABULAR REAMER 72.0MM                     | S23.INS.7900   | -        |
| 21   | ACETABULAR REAMER 74.0MM                     | S23.INS.7905   | -        |
| 22   | ACETABULAR REAMER 76.0MM                     | S23.INS.7910   | -        |
| 23   | METAL TRIAL CUP 40.0MM                       | S23.INS.7915   | 1        |
| 24   | METAL TRIAL CUP 42.0MM                       | S23.INS.7920   | 1        |
| 25   | METAL TRIAL CUP 44.0MM                       | S23.INS.0786   | 1        |
| 26   | METAL TRIAL CUP 46.0MM                       | S23.INS.0787   | 1        |
| 27   | METAL TRIAL CUP 48.0MM                       | S23.INS.0788   | 1        |
| 28   | METAL TRIAL CUP 50.0MM                       | S23.INS.0789   | 1        |
| 29   | METAL TRIAL CUP 52.0MM                       | S23.INS.0790   | 1        |
| 30   | METAL TRIAL CUP 54.0MM                       | S23.INS.0791   | 1        |
| 31   | METAL TRIAL CUP 56.0MM                       | S23.INS.0792   | 1        |
| 32   | METAL TRIAL CUP 58.0MM                       | S23.INS.0793   | 1        |
| 33   | METAL TRIAL CUP 60.0MM                       | S23.INS.0794   | 1        |
| 34   | METAL TRIAL CUP 62.0MM                       | S23.INS.0795   | 1        |
| 35   | METAL TRIAL CUP 64.0MM                       | S23.INS.0796   | 1        |
| 36   | METAL TRIAL CUP 66.0MM                       | S23.INS.7925   | -        |
| 37   | METAL TRIAL CUP 68.0MM                       | S23.INS.7930   | -        |
| 38   | METAL TRIAL CUP 70.0MM                       | S23.INS.7935   | -        |
| 39   | METAL TRIAL CUP 72.0MM                       | S23.INS.7940   | -        |
| 40   | METAL TRIAL CUP 74.0MM                       | S23.INS.7945   | -        |
| 41   | METAL TRIAL CUP 76.0MM                       | S23.INS.7950   | -        |
| 42   | LINER TRIAL CUP 40.0MM/28.0MM                | S23.INS.7955   | 1        |
| 43   | LINER TRIAL CUP 42.0MM/28.0MM                | S23.INS.7960   | 1        |
| 44   | LINER TRIAL CUP 44.0MM/28.0MM                | S23.INS.0797   | 1        |
| 45   | LINER TRIAL CUP 46.0MM/28.0MM                | S23.INS.0798   | 1        |
| 46   | LINER TRIAL CUP 48.0MM/28.0MM                | S23.INS.0799   | 1        |
| 47   | LINER TRIAL CUP 50.0MM/28.0MM                | S23.INS.0800   | 1        |
| 48   | LINER TRIAL CUP 52.0MM/28.0MM                | S23.INS.0801   | 1        |
| 49   | LINER TRIAL CUP 54.0MM/28.0MM                | S23.INS.0802   | 1        |
| 50   | LINER TRIAL CUP 56.0MM/28.0MM                | S23.INS.0803   | 1        |
| 51   | LINER TRIAL CUP 58.0MM/28.0MM                | S23.INS.0804   | 1        |
| 52   | LINER TRIAL CUP 60.0MM/28.0MM                | S23.INS.0805   | 1        |
| 53   | LINER TRIAL CUP 62.0MM/28.0MM                | S23.INS.0806   | 1        |
| 54   | LINER TRIAL CUP 64.0MM/28.0MM                | S23.INS.0807   | 1        |
| 55   | LINER TRIAL CUP 66.0MM/28.0MM                | S23.INS.7965   | 1        |
| 56   | LINER TRIAL CUP 68.0MM/28.0MM                | S23.INS.7970   | 1        |
| 57   | LINER TRIAL CUP 70.0MM/28.0MM                | S23.INS.7975   | 1        |
| 58   | LINER TRIAL CUP 72.0MM/28.0MM                | S23.INS.7980   | 1        |
| 59   | LINER TRIAL CUP 74.0MM/28.0MM                | S23.INS.7985   | 1        |
| 60   | LINER TRIAL CUP 76.0MM/28.0MM                | S23.INS.7990   | 1        |
| 61   | LINER TRIAL CUP 52.0MM/32.0MM                | S23.INS.8834   | 1        |
| 62   | LINER TRIAL CUP 54.0MM/32.0MM                | S23.INS.8835   | 1        |
| 63   | LINER TRIAL CUP 56.0MM/32.0MM                | S23.INS.8836   | 1        |
| 64   | LINER TRIAL CUP 58.0MM/32.0MM                | S23.INS.8837   | 1        |
| 65   | LINER TRIAL CUP 60.0MM/32.0MM                | S23.INS.8838   | 1        |
| 66   | HANDLE FOR REAMER                            | S23.INS.0808   | 1        |
| 67   | BONE LEAVER 95°                              | S23.INS.0809   | 1        |
| 68   | ANGLE MEASURE                                | S23.INS.0810   | 1        |
| 69   | FIXED ANGLE MEASURE                          | S23.INS.0811   | 1        |
| 70   | HANDLE FOR METAL TRIAL CUP / LINER TRIAL CUP | S23.INS.0812   | 1        |
| 71   | DRILL SLEEVE WITH HANDLE                     | S23.INS.0813   | 2        |
| 72   | FLEXIBLE DRILL SHAFT                         | S23.INS.0814   | 2        |
| 73   | DRILL BIT HEAD 15.0CM                        | S23.INS.0815   | 1        |
| 74   | DRILL BIT HEAD 40.0CM                        | S23.INS.0816   | 1        |
| 75   | FLEXIBLE DEPTH GAUGE                         | S23.INS.0817   | 1        |
| 76   | SCREW HOLDER FORCEP                          | S23.INS.0818   | 1        |
| 77   | SCREW DRIVER SW3.5 (FIBER HANDLE)            | S23.INS.0819   | 1        |
| 78   | FLEXIBLE SCREW DRIVER SW3.5 (FIBER HANDLE)   | S23.INS.0820   | 1        |
| 79   | LINER IMPACTOR 28.0MM                        | S23.INS.0822   | -        |
| 80   | LINER IMPACTOR 32.0MM                        | S23.INS.8839   | 1        |
| 81   | LINER IMPACTOR 36.0MM                        | S23.INS.8840   | -        |
| 82   | LINER CUP INSTERT AND EXTRACTOR              | S23.INS.0823   | 1        |
| 84   | HANDLE FOR LINER IMPACTOR                    | S23.INS.0824   | -        |
| 85   | HIP SYSTEM UNCEMENTED INSTRUMENT BOX FOR CUP | S23.INS.UNHC   |          |







Internal Head 28.0 mm



Femoral Proximal Body Replacement



Segmental Component 25.0 mm



Segmental Component 50.0 mm



Total Femoral Segmental Component 100.0 mm



Distal Femoral Component



Hinge Bush



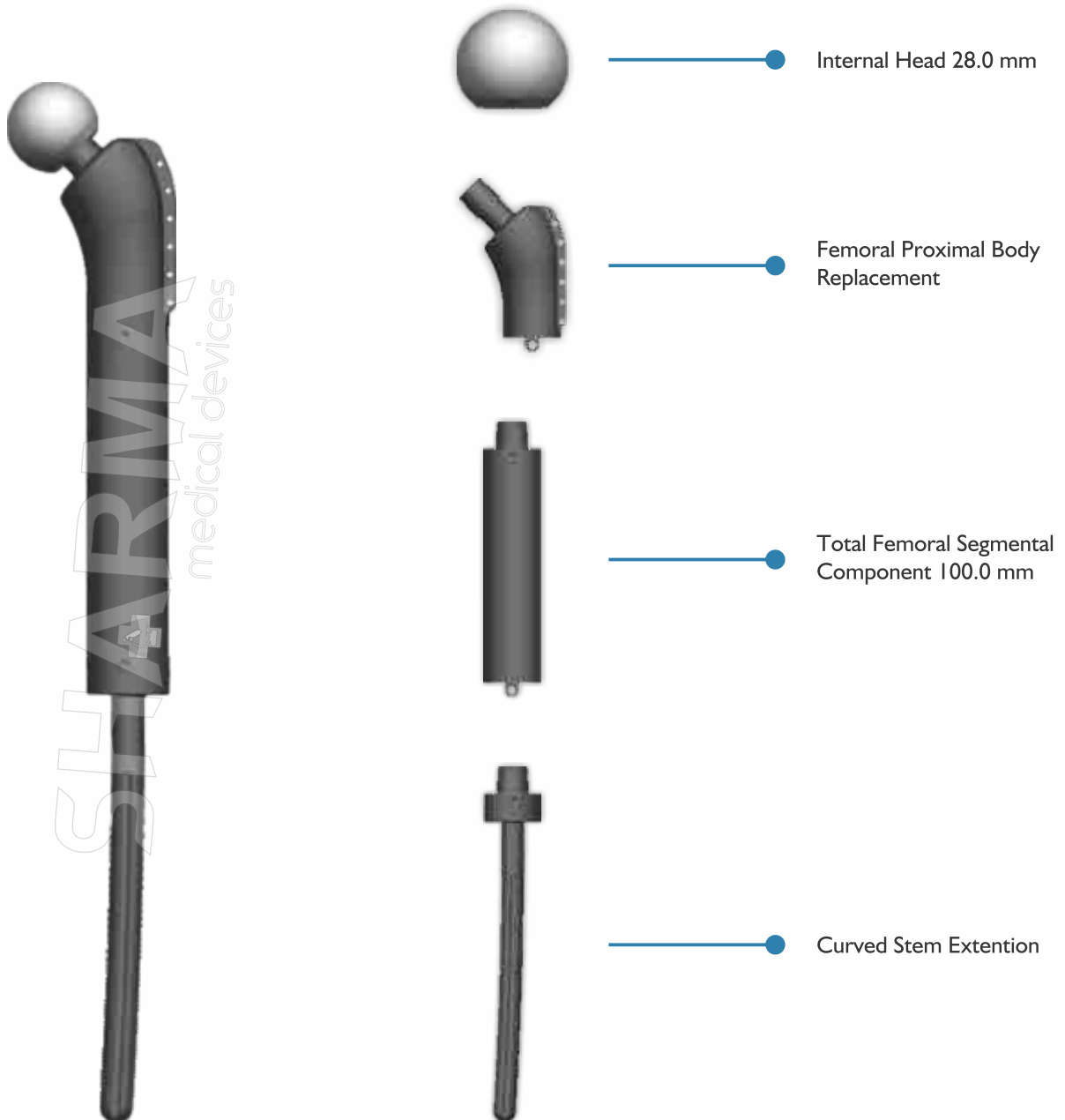
Hinged Tibia Insert



Hinge Pin & Bolt



Hinged Tibia Tray





**METICULOUS<sup>TM</sup> without CLIFF**



| STD. |               |               |
|------|---------------|---------------|
| SIZE | CAT. NO. S.S. | CAT. NO. TIT. |
| 48mm | S23.THR0613   | S23.THR0613-T |
| 54mm | S23.THR0619   | S23.THR0619-T |

**METICULOUS<sup>TM</sup> with CLIFF**



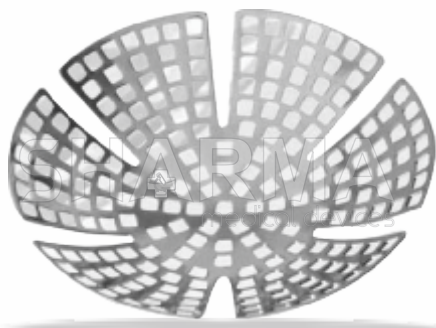
| STD. |               |               |
|------|---------------|---------------|
| SIZE | CAT. NO. S.S. | CAT. NO. TIT. |
| 48mm | S23.THR2435   | S23.THR2435-T |
| 54mm | S23.THR2441   | S23.THR2441-T |

**METICULOUS<sup>TM</sup> CUPS for ACETABULAR PROTRUSION**



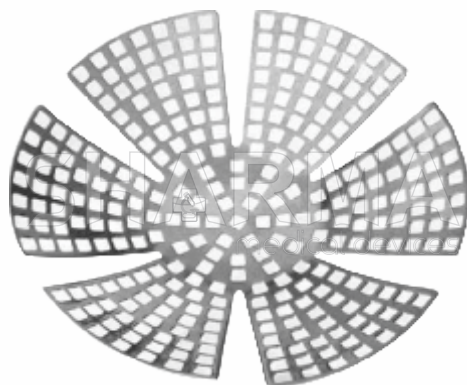
| STD.   |               |               |
|--------|---------------|---------------|
| SIZE   | CAT. NO. S.S. | CAT. NO. TIT. |
| 65.0mm | S23.THR3974   | S23.THR3974-T |
| 70.0mm | S23.THR3975   | S23.THR3975-T |
| 75.0mm | S23.THR3976   | S23.THR3976-T |

**METICULOUS<sup>TM</sup> MESH SMALL**



| SMALL |               |               |
|-------|---------------|---------------|
| SIZE  | CAT. NO. S.S. | CAT. NO. TIT. |
| 70mm  | S23.THR2532   | S23.THR2532-T |

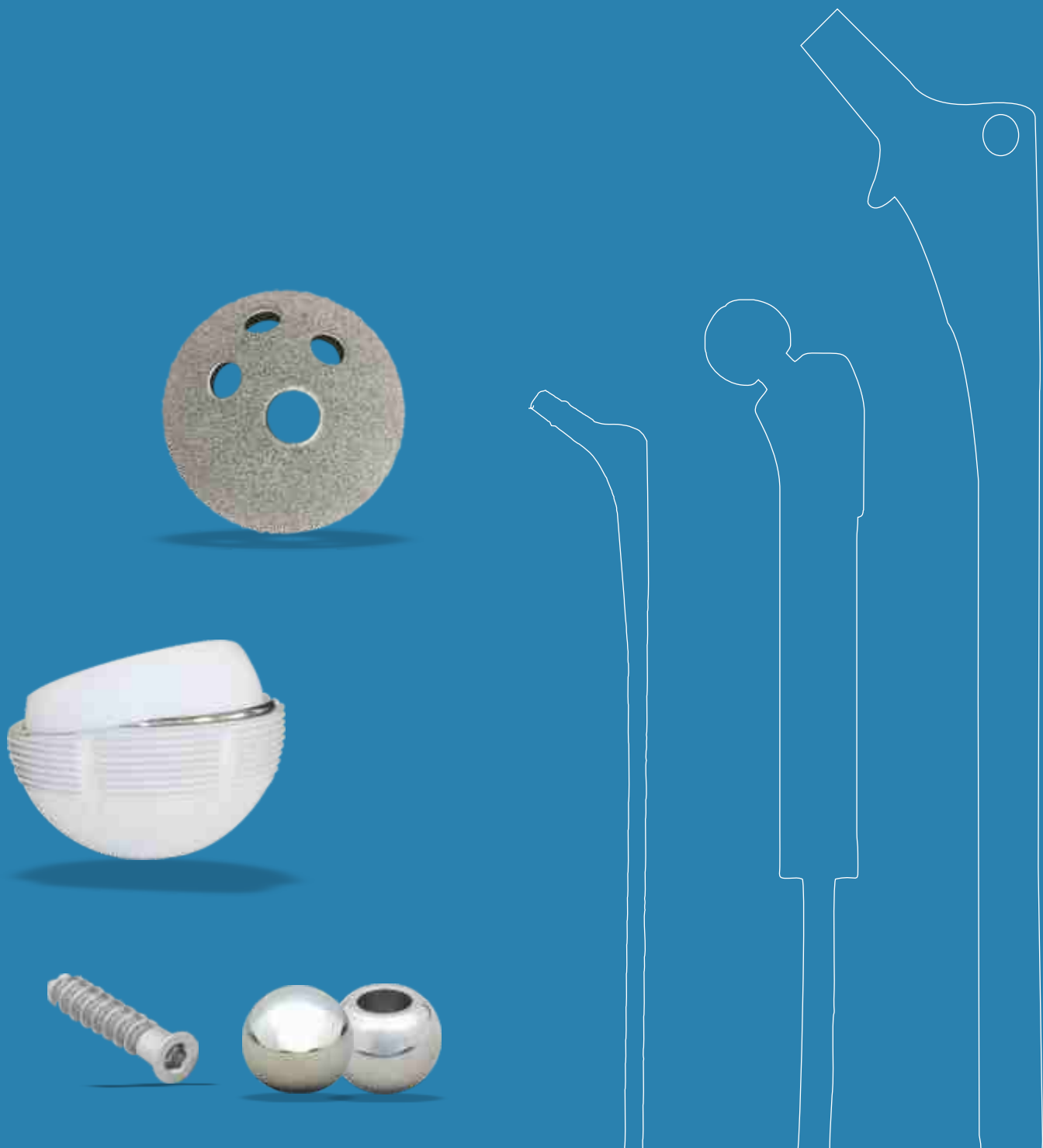
**METICULOUS<sup>TM</sup> MESH LARGE**



| LARGE |               |               |
|-------|---------------|---------------|
| SIZE  | CAT. NO. S.S. | CAT. NO. TIT. |
| 87mm  | S23.THR2533   | S23.THR2533-T |

# Certificates





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