



# *SAYAN ORTHOPAEDICS*

*Designer & Manufacturer of Orthopaedic and  
Spinal Instruments & OEM Implants*



# Content

- ☞ *Resources founded in 2006*
- ☞ *Manufacturing Plant*
- ☞ *Quality System Certificates*
- ☞ *Human Resources*
- ☞ *CNC Machines*
- ☞ *Quality Equipments*
- ☞ *Patents*
- ☞ *Product Range*





# Resources in 2006

- ☞ Average 8.5 year / worker experience in design and manufacturing of orthopaedic instruments and implants when founded in 2006
- ☞ 10 skilled personnel : 1 in R&D, 6 in Production and 1 in Quality
- ☞ Work discipline as if what we manufacture will be used in the operation of *OUR BEST LOVED*
- ☞ Excellent command of machinery and handcraft
- ☞ *IN LOVE* with what we do





*Manufacturing Plant*



*Meeting Room*



All semi-finished materials  
supplied either from Europe or USA

Stainless steel and titanium  
bars and sheets either  
European or USA originated

Radel & propylux bars in various colors  
and propylux sheets in black and white  
supplied from Westlake Plastics, USA



*Raw Material Warehouse*



4 Axis VMC

4 Axis VMC

3 Axis VMC

Deep Hole  
Drilling Machine

4 Axis EDM

5 Axis VMC

ERP Data  
Entry Kiosk

C Axis Lathe

CNC Machines





12+1 Axis  
Swiss Turn

Process Quality  
Control Station

*CNC Machines*







*Conventional Machines*

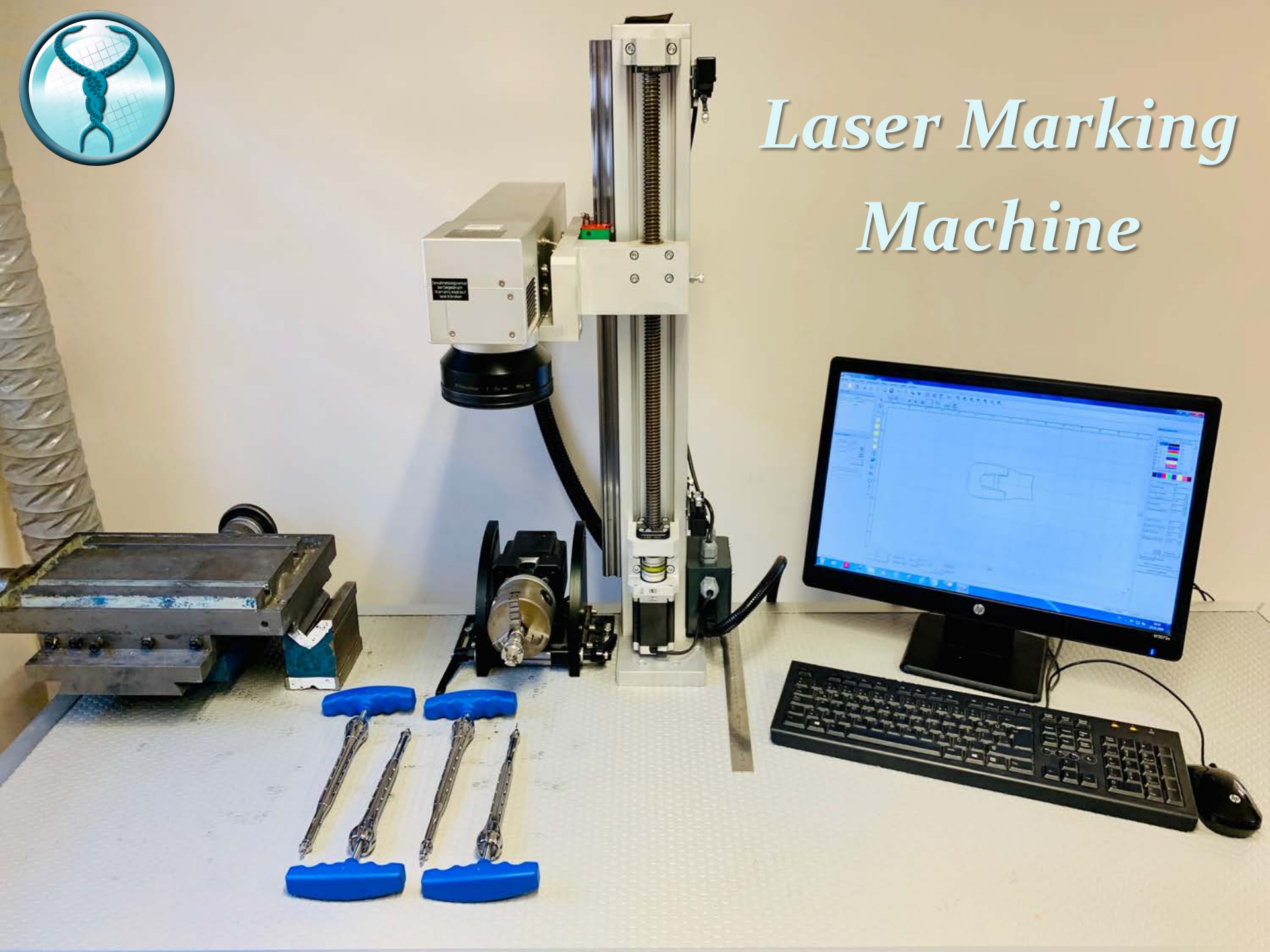


# Laser Welding Machine





# *Laser Marking Machine*





*Final Quality Control*



*Final Quality Control*



*Final Cleaning + Packaging*



*Refractory  
quality life .. quality environment*



# *Quality Control Devices*

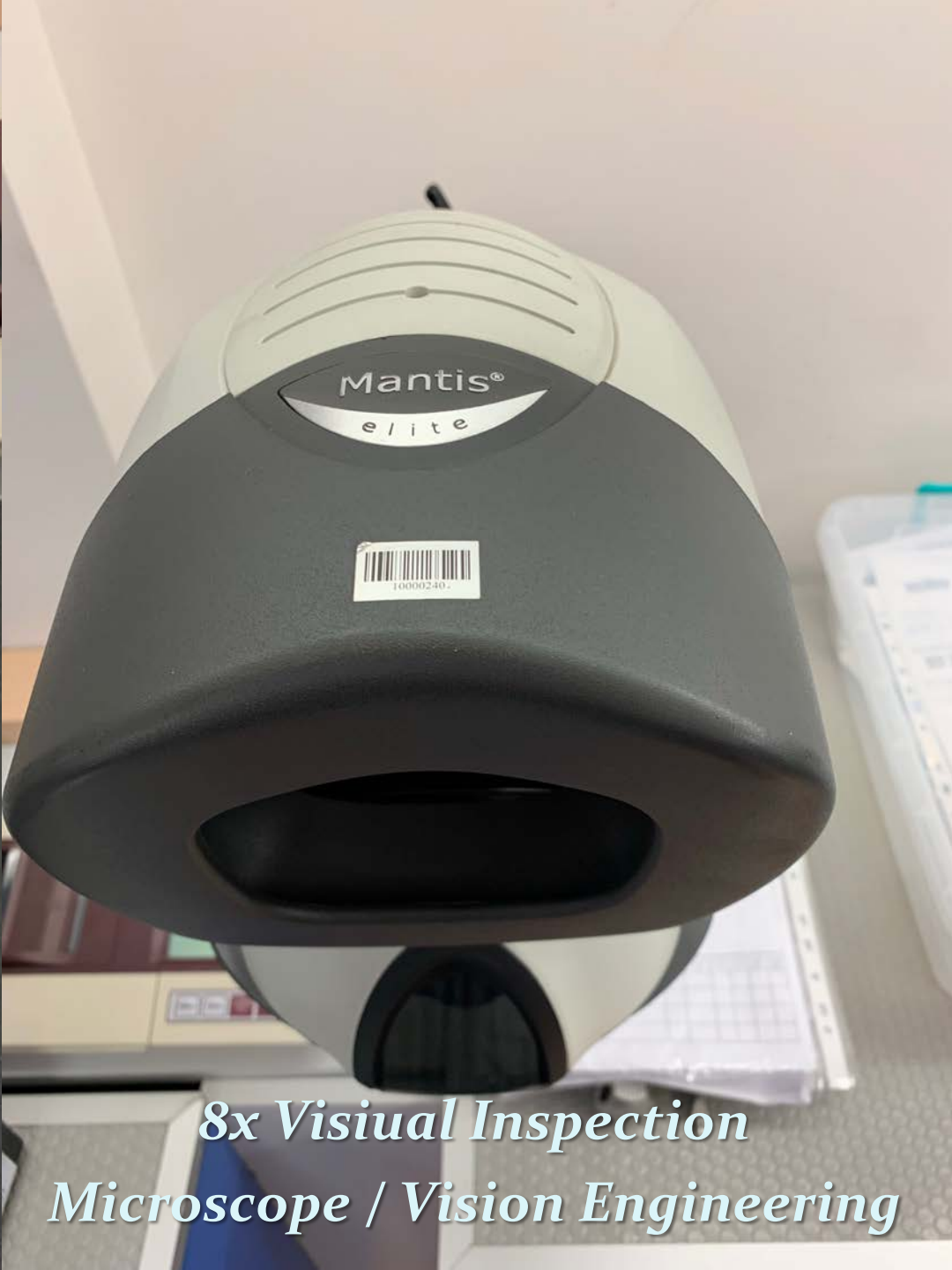




*120x CNC Video Measuring Machine /  
Nikon*



*Surface Roughness  
Tester / Mitutoyo*



*8x Visual Inspection  
Microscope / Vision Engineering*



*Coordinate Measuring Machine / Mitutoyo*



*Hardness Tester / Affri*

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# *Quality Management System*

Running a quality management system according to requirements of ISO 13485 and MDD 93/42 EEC, Sayan is serving world spread 48 Customers in 33 different countries with below certifications / registrations.

Sayan is currently in the transition period of complying with all necessities of (EU) 2017/745 MDR.



# *Quality Management System*

## *Quality Certificates*

- ☞ ISO 13485 Quality Management System*
- ☞ Class I CE Surgical Instruments*
- ☞ Class IIA CE Motor Driven Bone Cutting Surgical Instruments*
- ☞ Class IIB CE Trauma Implants*

## *Country Registrations*

- ☞ FDA USA Surgical Instruments*
- ☞ PMDA Japan Surgical Instruments*
- ☞ ARTG Australia Motor Driven Bone Cutting Surgical Instruments*



# *ERP System / Mental Prism*



*Self-Learning ERP System to Record and Track Back All  
Production Records Online*

*300,000 € of Investment*



*... In Service of the World*



# *Countries Served*

## *☞ Americas*

*Argentina / Brasil / Colombia / Panama / USA*

## *☞ Europe*

*Belgium / Croatia / Czech / France / Germany / Greece / Italy / Lithuania / Norway / Poland / Portugal / Romania / Spain / Switzerland / UK*

## *☞ Africa*

*Egypt / South Africa*

## *☞ Asia*

*Georgia / India / Indonesia / Israel / Japan / Philippines / South Korea / Syria / Taiwan / UAE*

## *☞ Australia*





# *Human Resources*

- ☞ Enhanced 9.5 year/worker experience in average
- ☞ 1 with MBA degree
- ☞ 11 with bachelor degree (6 engineers, 1 biologist)
- ☞ 3 with college degree
- ☞ 11 with technical high school degree
- ☞ Total of 56 personel as 17 white-collar employees and 39 blue-collar employees



# *Production Equipments*

- ☞ 5-Axis Vertical Machining Center
- ☞ 2 x 4-Axis Vertical Machining Centers
- ☞ 3-Axis Vertical Machining Center
- ☞ 2 x CNC Lathes with C-Axis
- ☞ Swiss Turn with B-Axis and Bar Feeder
- ☞ 4-Axis EDM Wire
- ☞ Deep Hole Drilling Machine



# *Production Equipments*

- ☞ Laser Welding Machine
- ☞ TIG Welding Machine
- ☞ 2 x Vibratory Surface Finishing Machines
- ☞ 3 x Belt Grinding Machines
- ☞ 5 x Conventional Machines
- ☞ 2 x Plastering and Pressing Machines
- ☞ 2 x Grid Blasting Machines



# *Production Equipments*

- ☞ Laser Marking Machine
- ☞ Laser Engraving Machine
- ☞ 2 x Ultrasonic Cleaning Machines
- ☞ Electropolishing Device
- ☞ Anodization Device
- ☞ Non-Sterile Packaging Machine



# *Quality Equipments*

- ☞ *120x – CNC Video Measuring Machine / Nikon – Japan*
- ☞ *Coordinate Measuring Machine / Mitutoyo – Japan*
- ☞ *Surface Roughness Tester / Mitutoyo – Japan*
- ☞ *Hardness Tester / Affri – Italy*
- ☞ *Super Rockwell Hardness Tester / Affri – Italy*
- ☞ *8x – Visual Inspection Microscope / Vision Engineering – UK*



# *Main Processes*

✎ Machining

✎ Welding

✎ Surface Treatment

✎ Quality Control

✎ Ultrasonic Cleaning

✎ Electropolishing

✎ Passivation

✎ Assembly

✎ Anodization of Titanium

✎ Laser Marking

✎ Labelling

✎ Packaging



# Patents

☞ *HA Coating Over Ti6Al4V in Lactic Acid Enriched Body Fluid*

*European Patent # : EP2296718*

☞ *MIS – Flex Acetabular Reamer Handle*

*European Patent # : EP2626017*

☞ *Bone Reamer Prong Shaft with Additional Cutting Feature*

*TPO Patent # : 2015 / 04604*

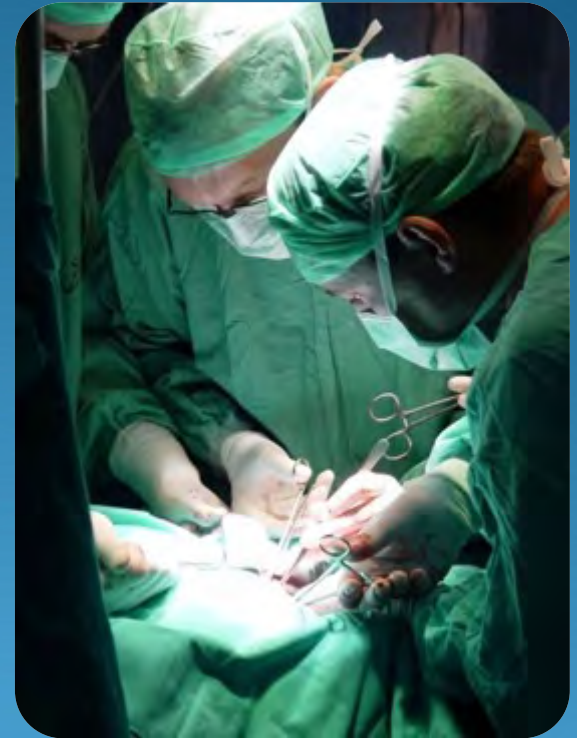
☞ *Axial Persuader for Polyaxial Screw*

*TPO Patent # : 2015 / 00454 B*



# Product Range

- ✧ *Trauma Instruments and Sets*
- ✧ *Cable Instruments and Sets*
- ✧ *Total Hip Instruments and Sets*
- ✧ *Total Knee Instruments and Sets*
- ✧ *Spinal Instruments and Sets*
- ✧ *MIS Instruments and Sets*
- ✧ *Retractor Instruments and Sets*
- ✧ *Revision Instruments and Sets*
- ✧ *Cement Removal Instruments and Sets*
- ✧ *Revision of Instrument Sets in Service*
- ✧ *OEM Implant Design and Manufacturing*
- ✧ *Custom-made Implant Design & Manufacturing*
- ✧ *Tooth Implant Design & Manufacturing*







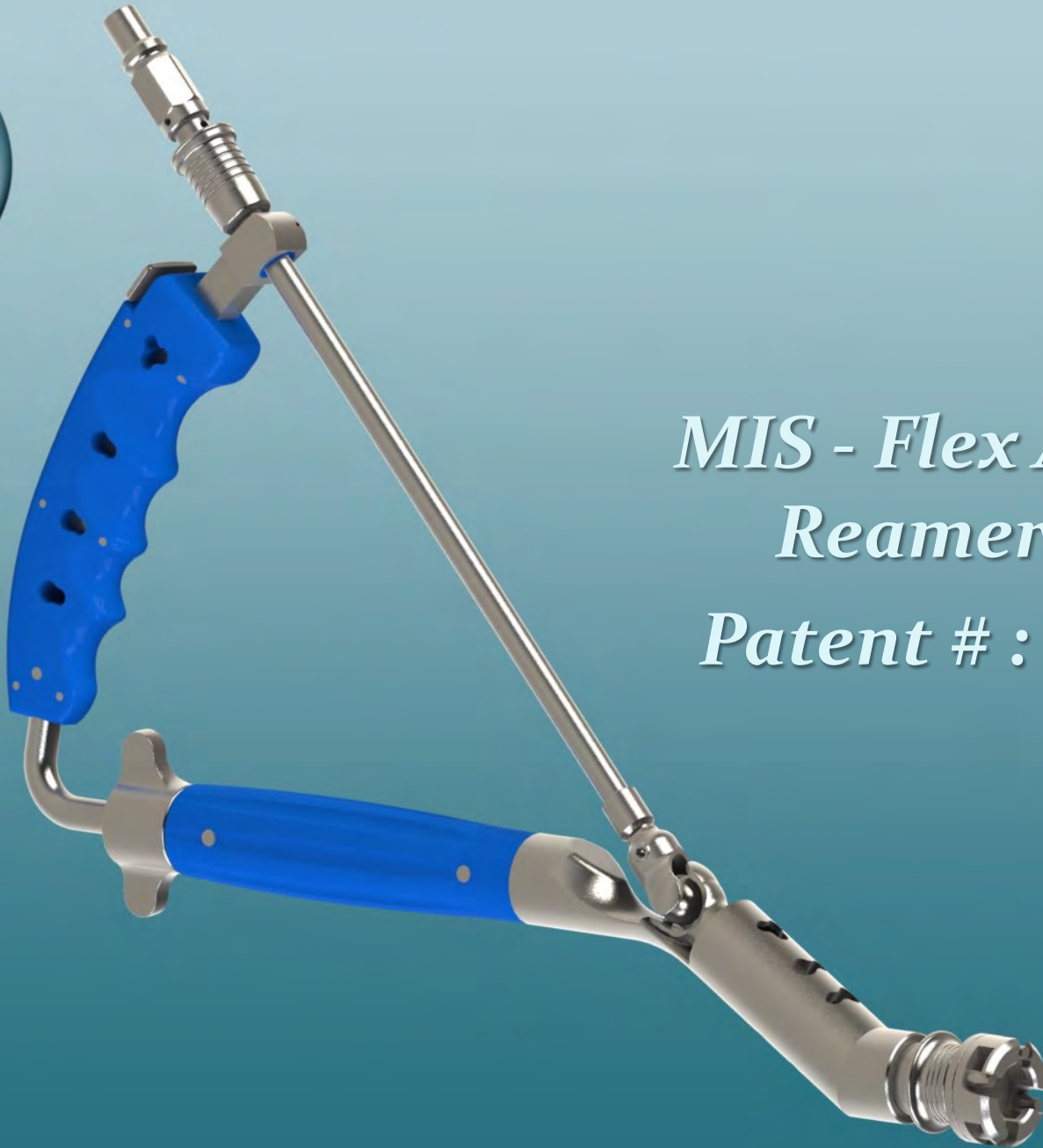
*Sample Products*



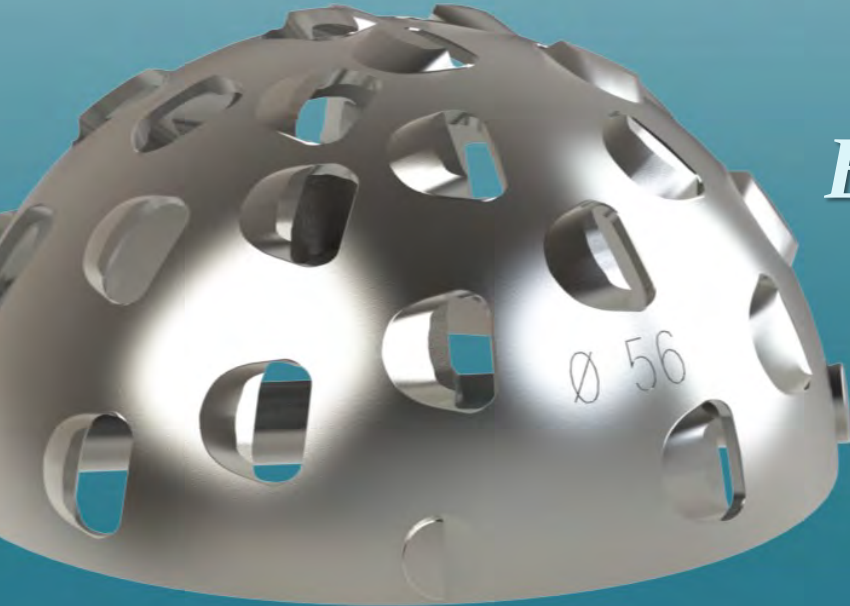
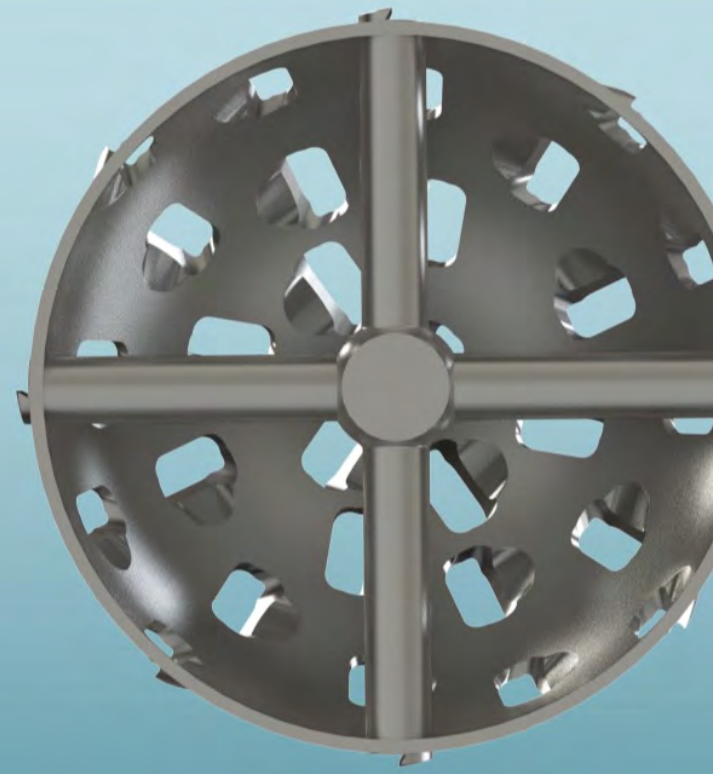
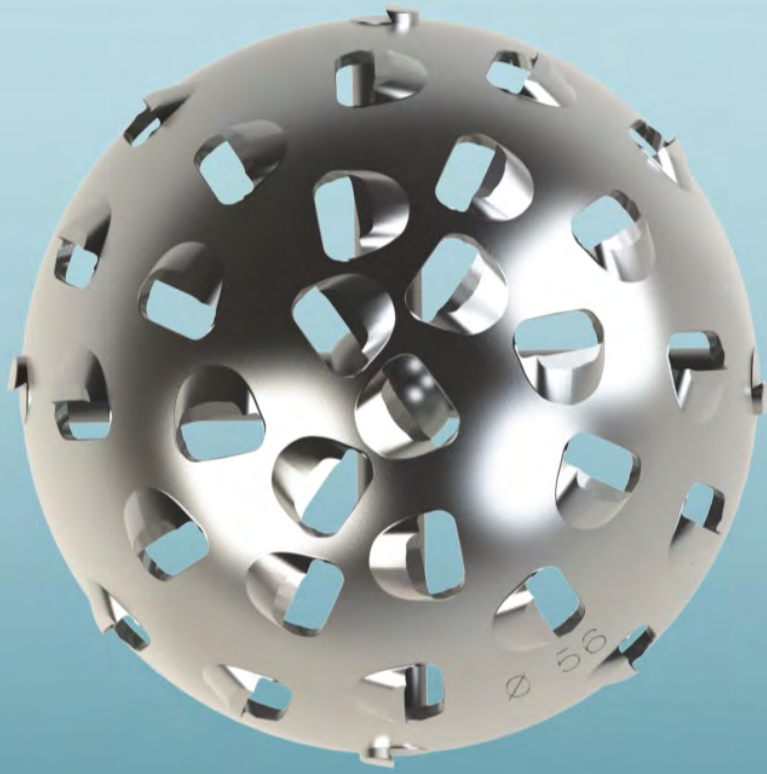
# *Hand-on Hand-off Axial Persuader*

*Patent # : 2015 / 00454 B*





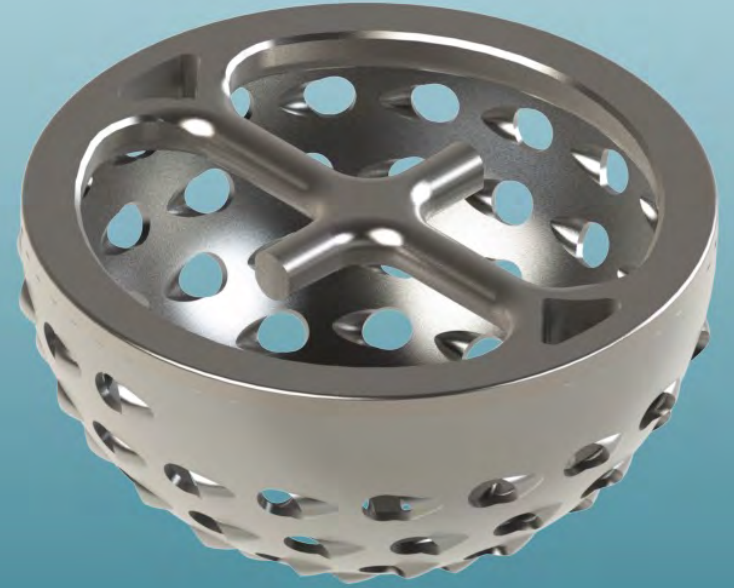
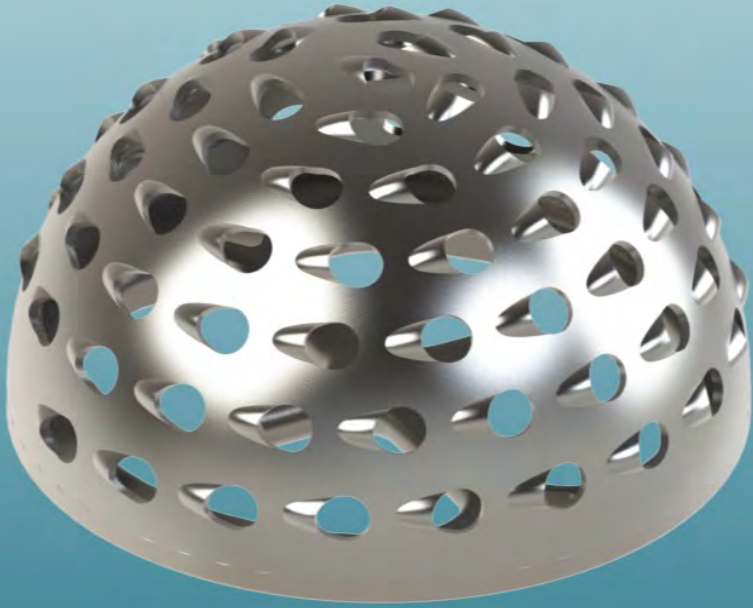
*MIS - Flex Acetabular  
Reamer Handle  
Patent # : EP2626017*



## *Acetabular Reamer with Equatorial Cutting Feature*

*Patent # : 2015 / 04604*

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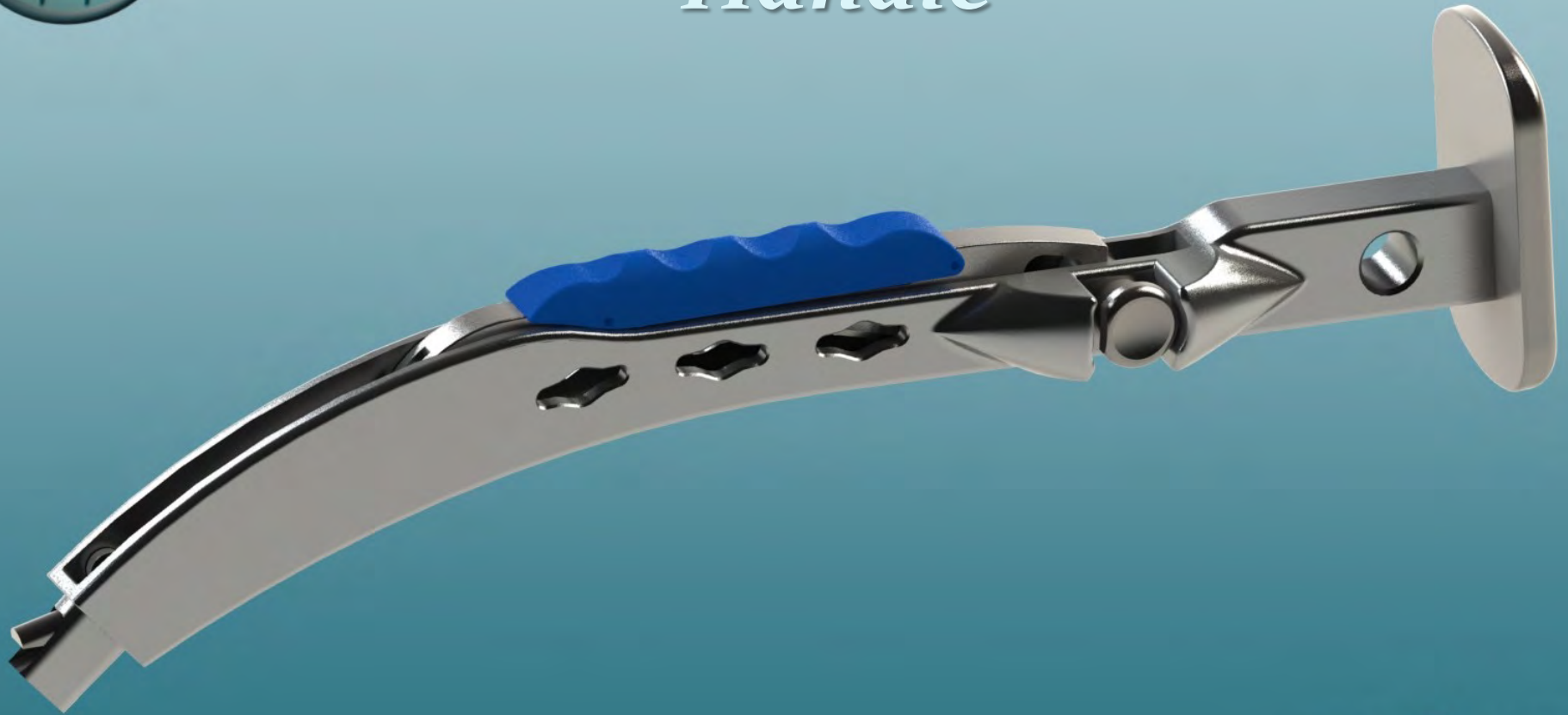
## *Acetabular Reamer with Carnet Plate*



*Broach*

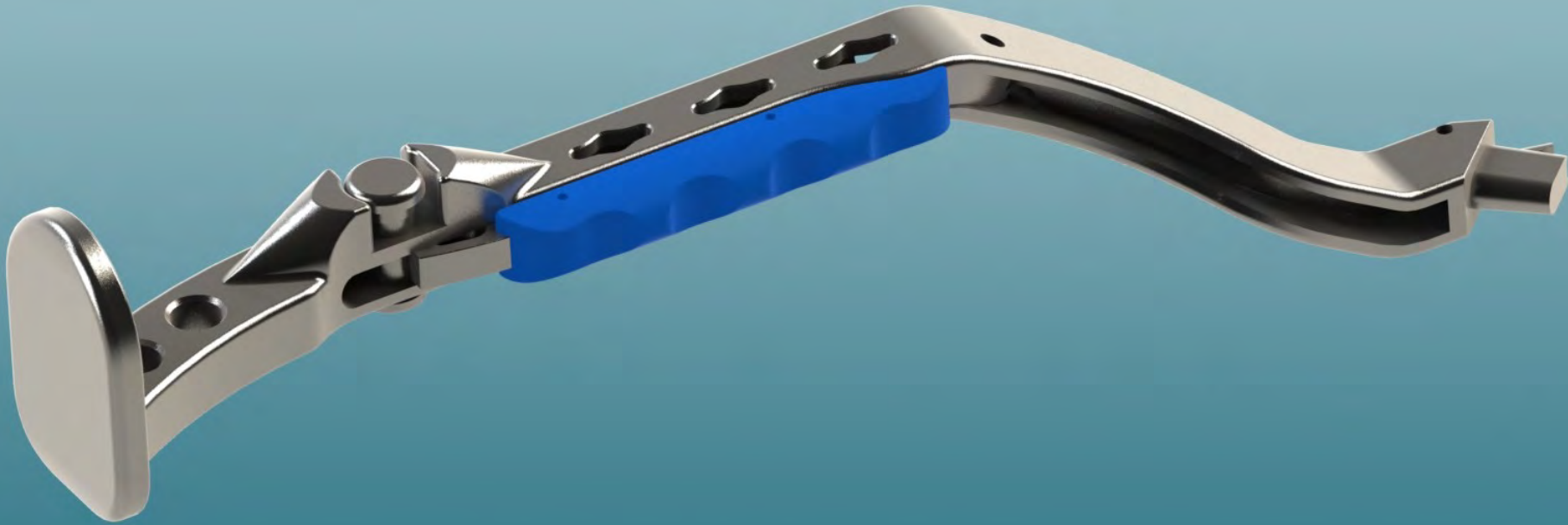


# *Posterior Broach Handle*





# *Anterior Broach Handle*







*Thanks For  
Your Precious Time*