



BEZNOSKA

We bring back joy to movement



Individual oncological implants



■ List of materials

MATERIAL	ISO	ČSN	DIN	ASTM
Stainless steel	5832-1	17350 výběr	17 443 W.Nr. 1.4441	F 138 Grade 2
Wrought high nitrogen stainless steel	5832-9			
Co-Cr-Mo casting alloy	5832-4			ASTM F75
Wrought titanium Ti6Al4V alloy	5832-3		17 851 W.Nr. 3.7165	F 136 Ti-6Al-4V E.L-I.
UHMWPE	5834-2			F 648

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- Knee type CMS, cemented with partial replacement of femur

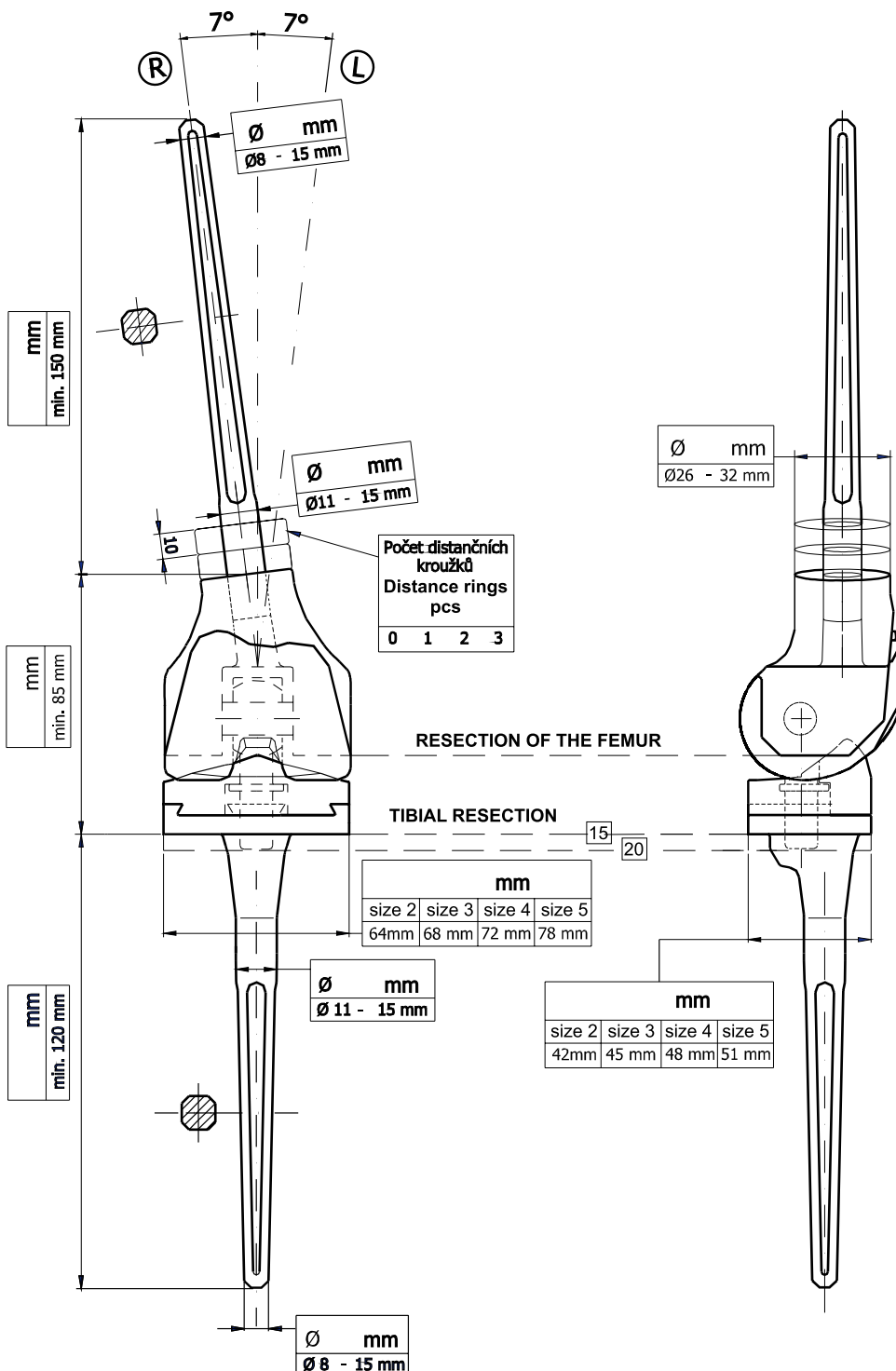


■ Knee type CMS, cemented with partial replacement of femur

Material: Stainless steel - stem (ISO 5832-1), UHMWPE - partial replacement (ISO 5834-2) and distance ring (ISO 5834-2), Wrought high nitrogen stainless steel (ISO 5832-9), Co-Cr-Mo casting alloy (ISO 5832-4)

Hinged with rotation

Femoral and tibial part of CMS knee must have same size. It is not possible to combine different sizes of CMS.



Order number
341530

Patient information:
 Name:
 Date of birth:
 Place of living:
 Weight:kg
 Term of delivery:

- Knee type CMS, cemented with partial replacement of femur and tibia

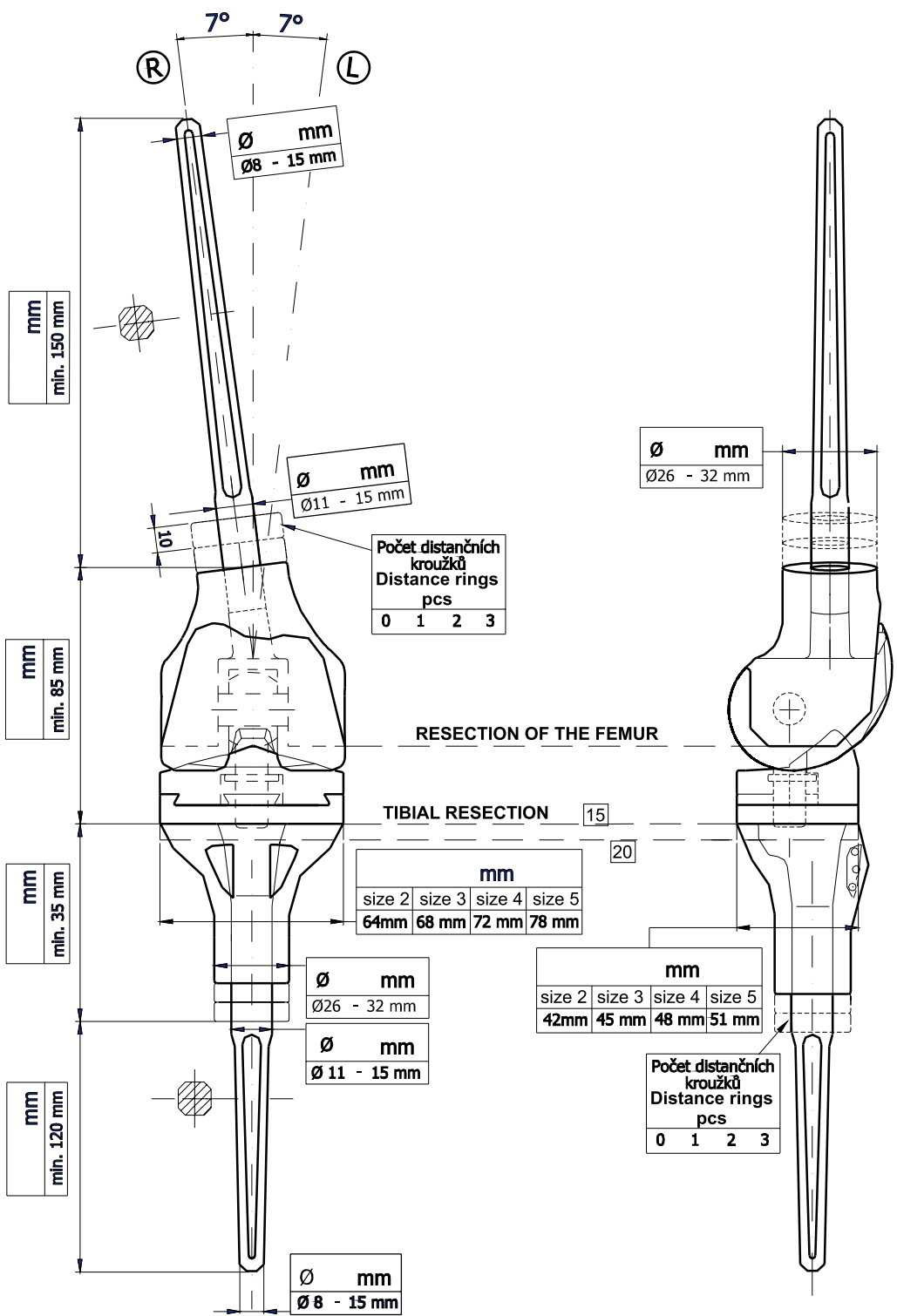


■ Knee type CMS, cemented with partial replacement of femur and tibia

Material: Stainless steel - stem (ISO 5832-1), UHMWPE - partial replacement (ISO 5834-2) and distance ring (ISO 5834-2), Wrought high nitrogen stainless steel (ISO 5832-9), Co-Cr-Mo casting alloy (ISO 5832-4)

Hinged with rotation

Femoral and tibial part of CMS knee must have same size. It is not possible to combine different sizes of CMS.



Order number
341536

Patient information:
 Name:
 Date of birth:
 Place of living:
 Weight:kg
 Term of delivery:

- Knee type CMS, cemented with partial replacement of tibia



- Knee type CMS, cemented with partial replacement of tibia

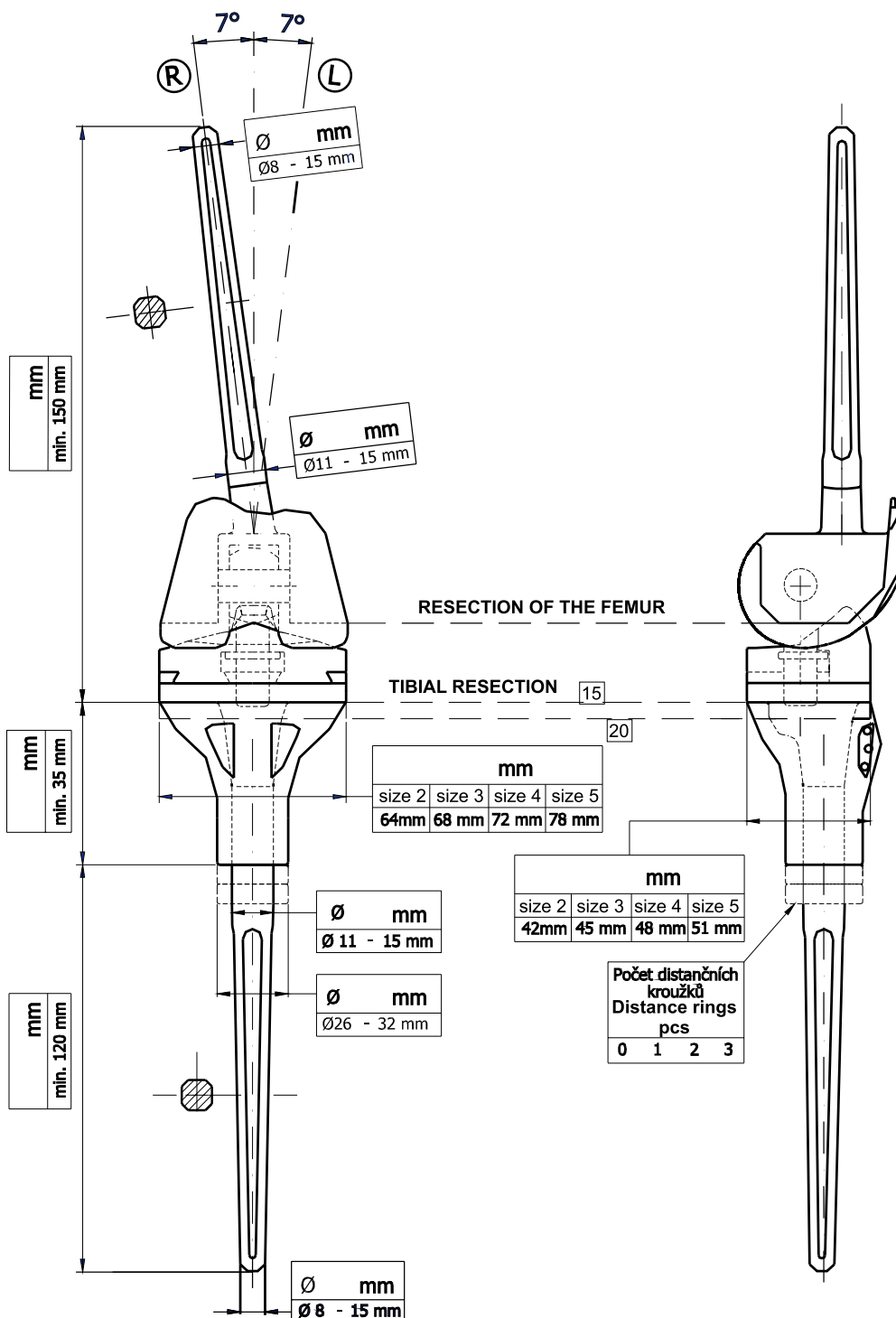


■ Knee type CMS, cemented with partial replacement of tibia

Material: Stainless steel - stem (ISO 5832-1), UHMWPE - partial replacement (ISO 5834-2) and distance ring (ISO 5834-2), Wrought high nitrogen stainless steel (ISO 5832-9), Co-Cr-Mo casting alloy (ISO 5832-4)

Hinged with rotation

Femoral and tibial part of CMS knee must have same size. It is not possible to combine different sizes of CMS.



Order number
341532

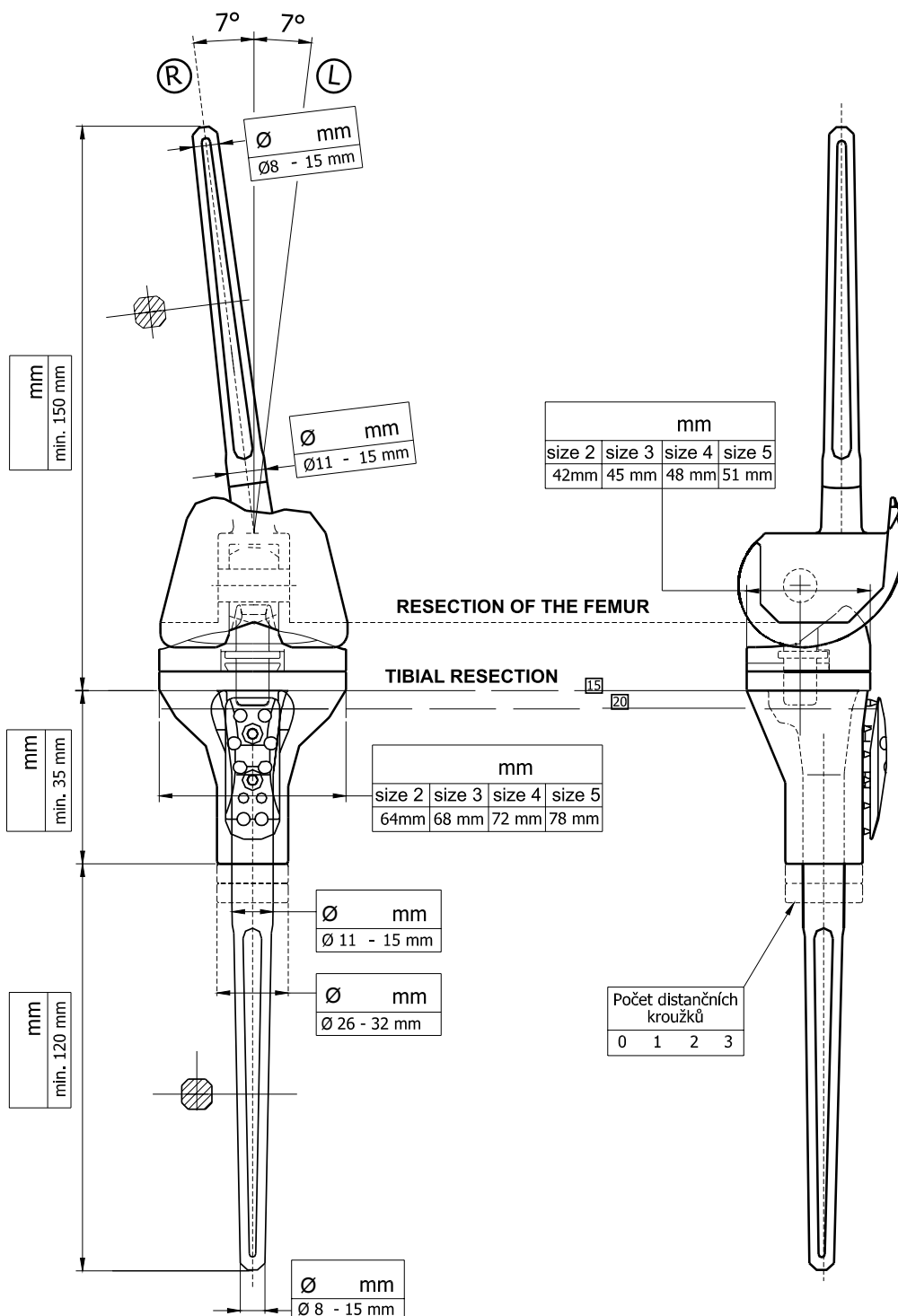
Patient information:
Name:
Date of birth:
Place of living:
Weight:kg
Term of delivery:

■ Knee type CMS, cemented with partial replacement of tibia

Material: Stainless steel - stem (ISO 5832-1), UHMWPE - partial replacement (ISO 5834-2) and distance ring (ISO 5834-2), Wrought high nitrogen stainless steel (ISO 5832-9), Co-Cr-Mo casting alloy (ISO 5832-4)

Hinged with rotation

Femoral and tibial part of CMS knee must have same size. It is not possible to combine different sizes of CMS.



Order number
341534

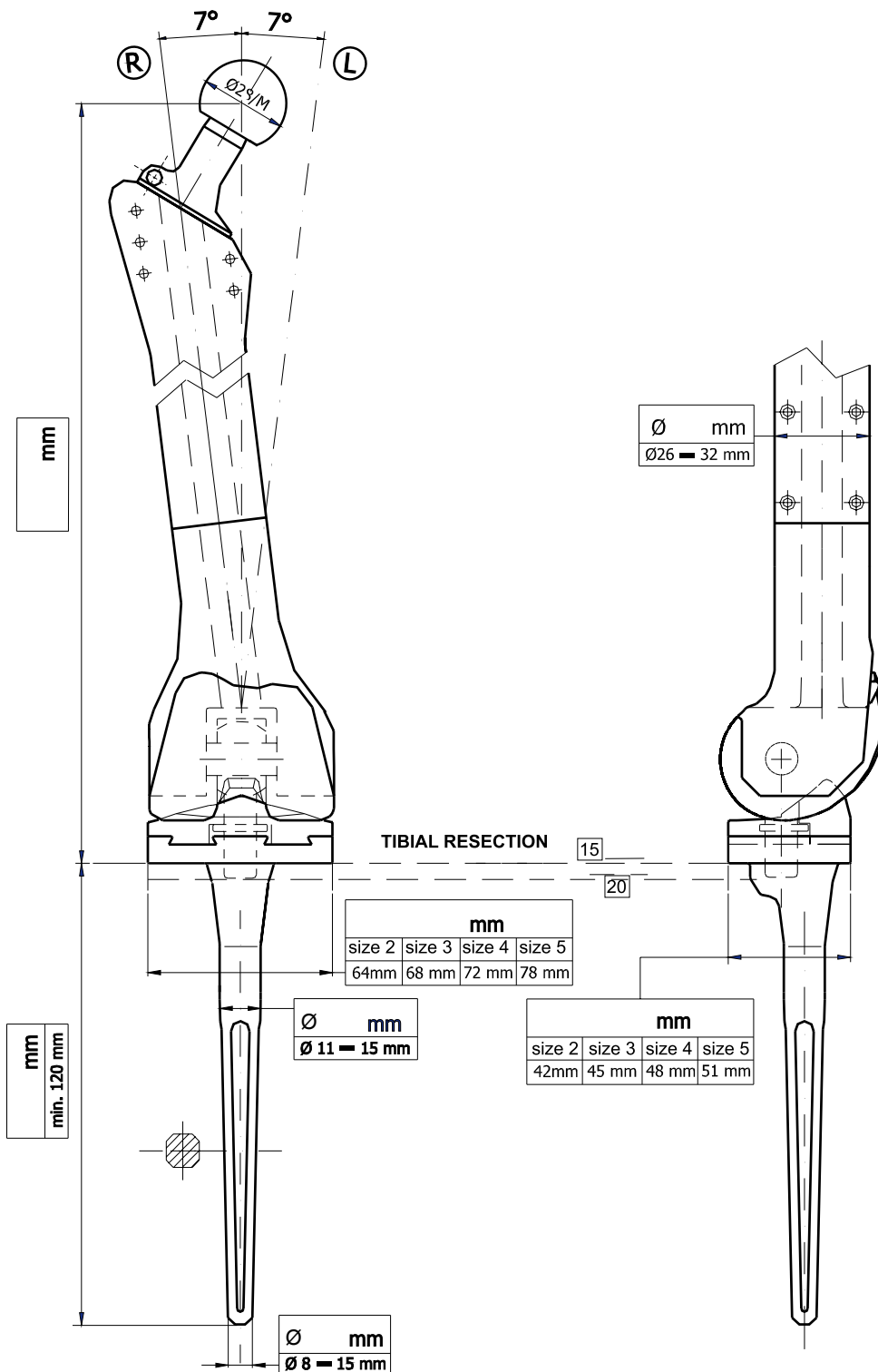
Patient information:
 Name:
 Date of birth:
 Place of living:
 Weight:kg
 Term of delivery:

- Knee type CMS, with total replacement of femur



■ Knee type CMS, with total replacement of femur

Material: Stainless steel - stem (ISO 5832-1), UHMWPE - partial replacement (ISO 5834-2), Wrought high nitrogen stainless steel (ISO 5832-9), Co-Cr-Mo casting alloy (ISO 5832-4)



Patient information:

Name:

Date of birth:

Place of living:

Weight:kg

Term of delivery:

- Cemented femoral stem with partial replacement of proximal femur, taper neck

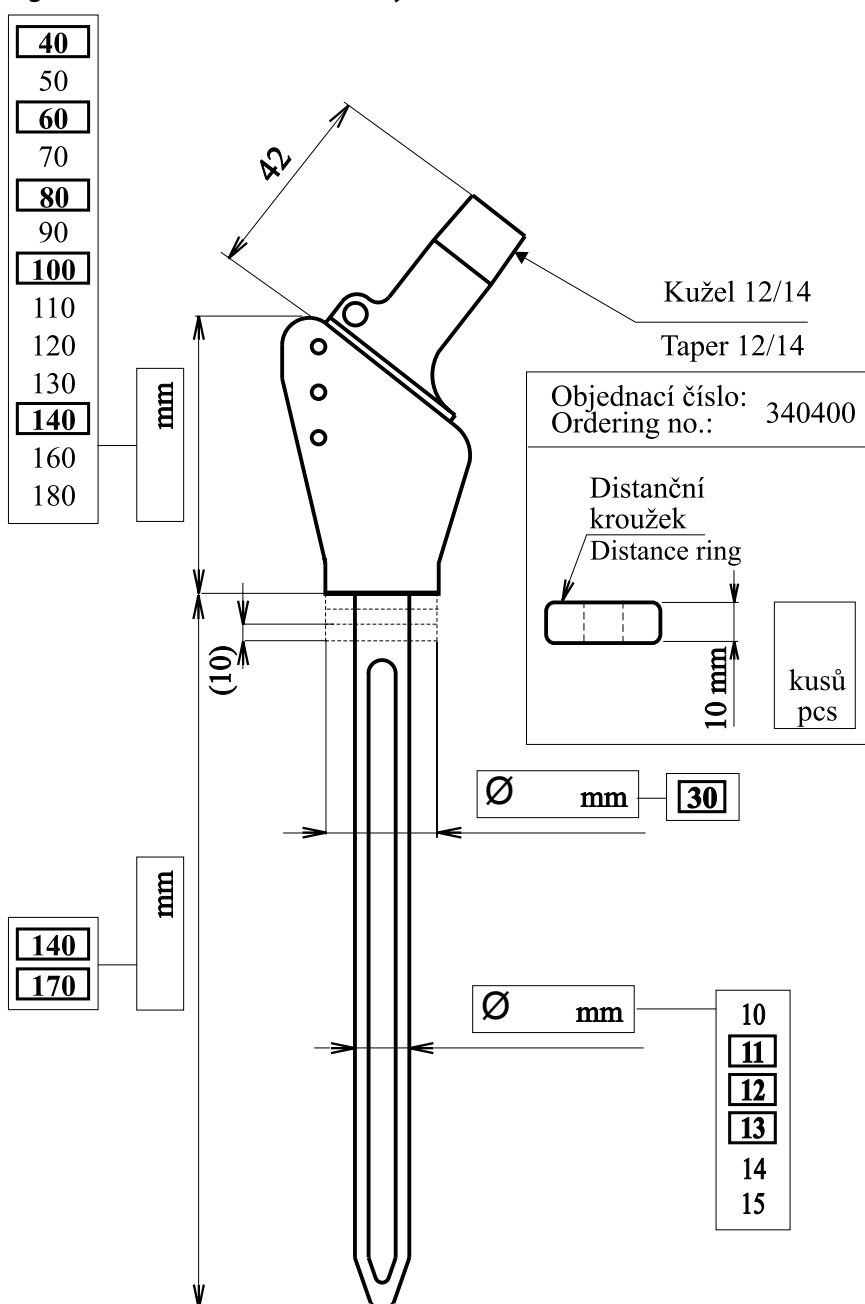


■ Cemented femoral stem with partial replacement of proximal femur, taper neck

Material: Stainless steel - stem (ISO 5832-1), UHMWPE - partial replacement and distance ring (ISO 5834-2)

It is possible to deliver the replacement with 1 - 3 distance rings (thickness of each - 10 mm) in cylindrical part in order to widen the variability of resection.

Highlighted sizes are recommended by manufacturer.



Order number
340050

Patient information:
 Name:
 Date of birth:
 Place of living:
 Weight:kg
 Term of delivery:

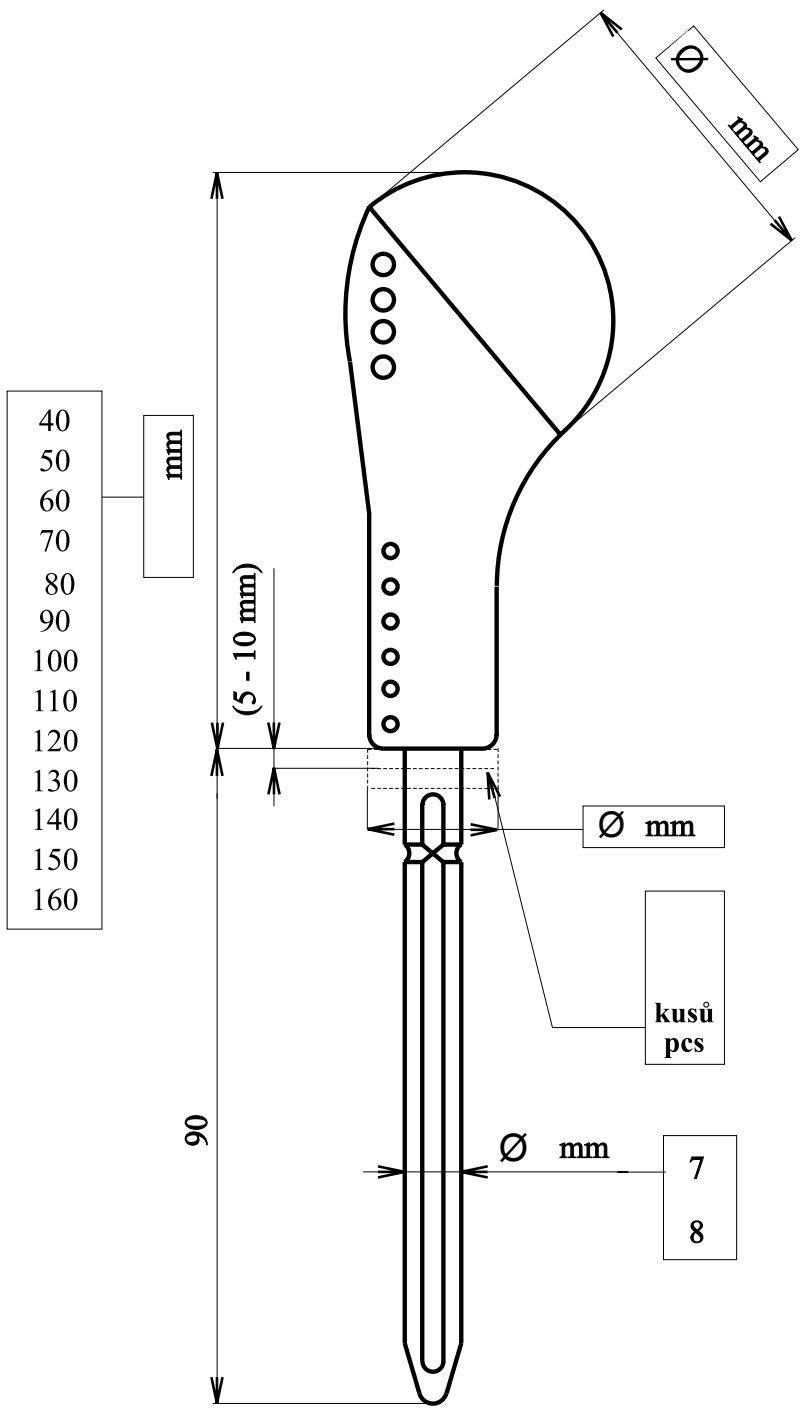
- Cemented shoulder hemiarthroplasty with partial replacement of proximal humerus



■ Cemented shoulder hemiarthroplasty with partial replacement of proximal humerus

Material: Stainless steel - stem (ISO 5832-1), UHMWPE - partial replacement (ISO 5834-2) and distance ring (ISO 5834-2)

It is possible to deliver the replacement with 1 - 2 distance rings (thickness of each 5 - 10 mm) in cylindrical part in order to widen the variability of resection.



Ø	Order number
38	342000
42	342100

Patient information:
 Name:
 Date of birth:
 Place of living:
 Weight:kg
 Term of delivery:

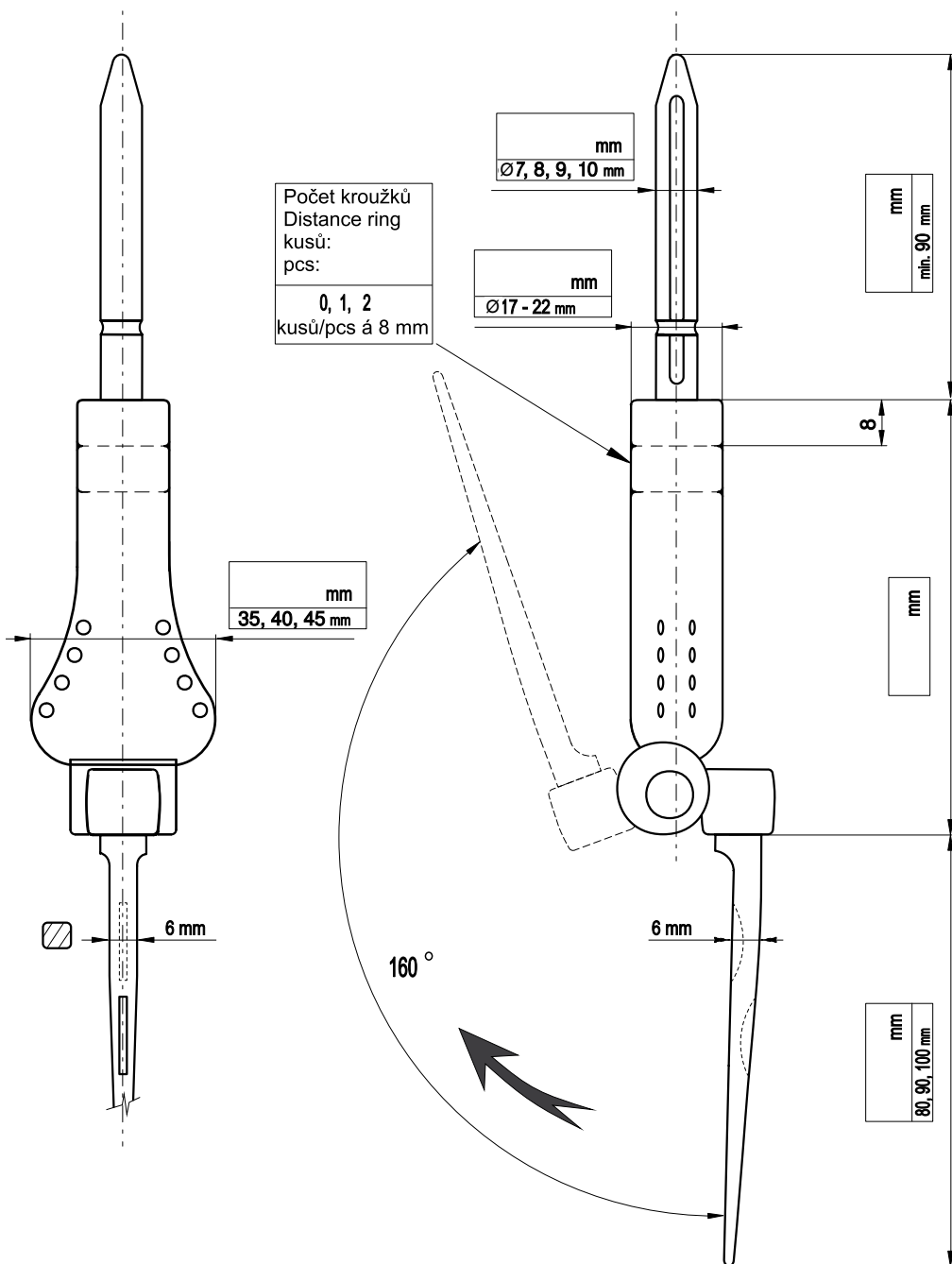
- Elbow arthroplasty with partial replacement of humerus



■ Elbow arthroplasty with partial replacement of humerus

Material: Stainless steel - stem (ISO 5832-1), UHMWPE - partial replacement (ISO 5834-2)

It is possible to deliver the replacement with 1 - 2 distance rings (thickness of each is 8 mm) in cylindrical part in order to widen the variability of resection.



Patient information:
 Name:
 Date of birth:
 Place of living:
 Weight:kg

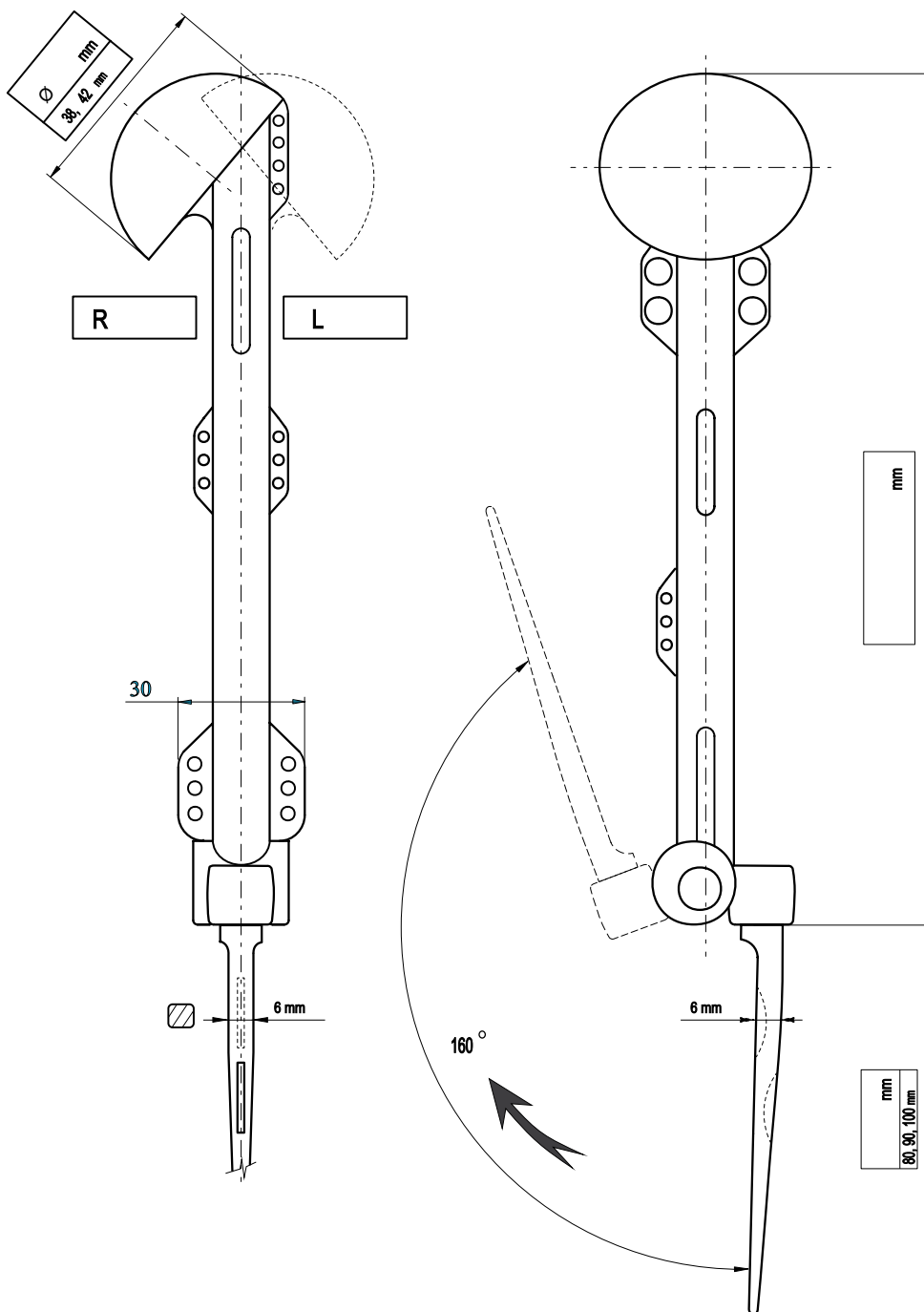
Term of delivery:

- Elbow arthroplasty with total replacement of humerus



■ Elbow arthroplasty with total replacement of humerus

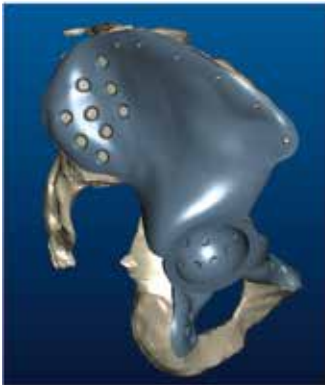
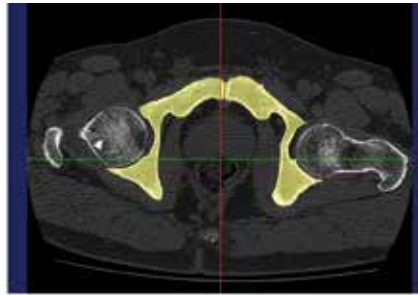
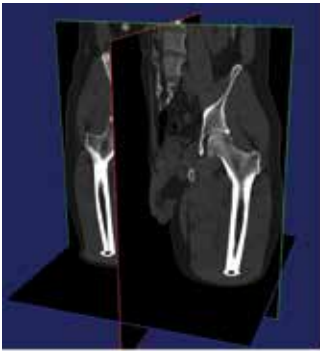
Material: Stainless steel - stem (ISO 5832-1), UHMWPE - partial replacement (ISO 5834-2)



Patient information:
 Name:
 Date of birth:
 Place of living:
 Weight:kg
 Term of delivery:

■ Partial replacement of pelvis based on patient's CT data

Material: Wrought titanium Ti6Al4V alloy (ISO 5832-3)



■ Partial replacement of pelvis based on patient's CT data

One of the important services that our company provides to customers is delivery of individual customized implants designated for use by concrete patients. The advantage of these products is their adjustment to the concrete patient's anatomical and biomechanical setup, as well as indications, including any allergic predispositions. Of course, specific solution requirements call for a specific approach to the input data. Particularly important are the dimensions that the given joint replacement is designed for.

The necessary information is taken directly from CT data. The benefit of this approach is that we are able to get an undistorted and comprehensive view of the area under evaluation, as well as accurate information on its geometry and structure.

Data from CT must be generated in cross-sectional slices, distanced 1 - 2 mm apart. The density of the cross-sections is important.

The data must be taken so that the bone structure is clearly visible.

The implant's characteristics:

- The implant is designed according to patient's data obtained by means of computer-aided tomography.
- The process is a classic example of close cooperation of the implant's designer and the attending specialized physician.
- The process generates a 3-D print, using the DMLS method (Direct Metal Laser Sintering)
- The material used is titanium alloy in powder consistency TiAl6V4 ELI (ISO 5832-3).
- Fixation to bone tissue is ensured by means of cortical or cancellous screws (Ti).
- The finish of the facet of the implant's surface that comes into contact with the bone tissue ensures optimal osteo-integration.
- The PE cup is fastened to the implant with the aid of bone cement.

- Made-to-measure implants facilitate high-precision surgical performance.

Input data requirements for customized hip-joint implants:

1. Imaging source of CT data.
2. Designer's task: creation of a model of the pelvis using plastic as material.
3. Sending the plastic model to the attending physician.
4. Physician's task: drawing resections and the implant's position directly on the model, with the number of anchoring points for the screws marked.
5. The designer's task: creation of the first implant model.
6. Consultation with the attending physician.
7. Approval of the implant by the attending physician.
8. Making of the implant.
9. Sending the implant, including the necessary quantity of anchoring screws, along with the model of the pelvis and the implant's plastic model for pre-surgery preparation.

The pelvic implant is prepared for implantation of cemented hip-joint cup.




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