LINK®

MEGASYSTEM-C®

Tumor and Revision Surgery

LINK®

Presented by:

CE 0123

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The **LINK® MEGASYSTEM-C®** is intended to be used with the components of the Endo-Model® SL® Rotating and Non-Rotating Hinge Knee or Endo-Model® Knee System (#K143179) which can be integrated for knee joint replacement and with the MP® Reconstruction Prosthesis (#K142187) for hip replacement.

The **LINK® MEGASYSTEM-C®** is indicated for treatment of any of the following Limb salvage/Oncology procedures:

1) Revision for loosened femoral prosthesis components involving extensive bone loss;
2) Surgical intervention for severe trauma;
3) Oncology cases where extensive resection and replacement of bone is required from tibia to hip area; The device is to be used with bone cement unless a proximal femur or a modular stem is indicated for use.

For the use of the LINK® Endo-Model® SL® Rotating and Non-Rotating Hinge Knee System additional indications should be noted:

1) Bone necroses.
2) Bicondylar arthrosis by partly damaged collateral ligaments.
3) Revision after primary total knee replacement.
4) Revision surgery after hinge knee or rotational knee joint.
5) Revision surgery by insufficient / inadequate bone mass.
6) Arthrosis of patella flange.
7) Valgus/Varus deformities <10°.
8) Valgus/Varus deformities 10-15°.
9) Valgus/Varus deformities 15-20°.

For the use of the LINK® Endo-Model® SL® Non-Rotating Hinge Knee System additional indications should be noted:

10) Bicondylar arthrosis by completely damaged collateral ligaments and muscular instability.
11) Valgus/Varus deformities 20-30°.

Contraindications:

A. As related to Bone tumors

Not all bone tumors may be treated successfully by segmental resection. Any condition that may have already resulted in local of distant spread of the tumor may be a contraindication. Some examples of such conditions include:

1) Pathological fracture;
2) Overt infection;
3) Inopportune placement of biopsy incision; and,
4) Rapid disease progression beyond a respectable margin.

B. As related to failed previous prosthesis and trauma:

1) Acute or chronic infections, local and systemic
2) Allergies to (implant) materials
3) Revision in septic environment
4) For preparation of the prosthesis bearing insufficient length of intact diaphysis (less than 80 mm)
5) Distinctive muscular, nerve, vascular or other diseases which put the affected limb at risk
6) Insufficient bone integrity which prevents a stable anchorage of the prosthesis
7) Adiposity
8) Lacking or foreseeable not assured compliance
9) Foreseeable overload/overstressing of joint prosthesis

For the use of the LINK® Endo-Model® SL® Rotating Hinge Knee System additional contraindications should be noted:

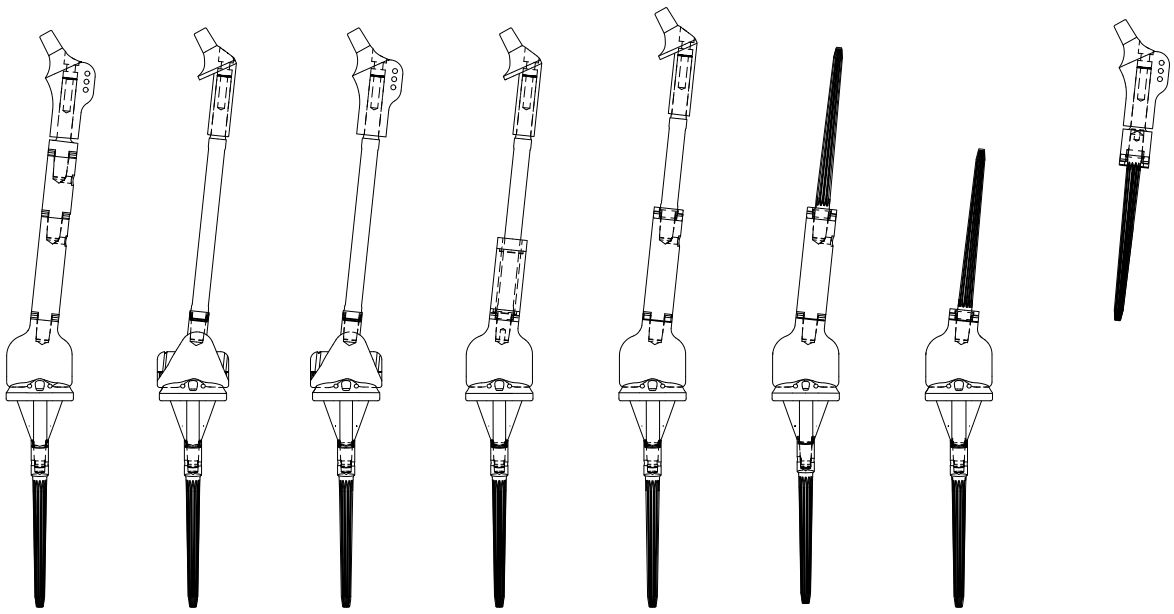
1) Insufficient musculature

The design of the modular Bone and Joint Revision System **MEGASYSTEM-C®** for tumor and revision surgery has been developed in collaboration with Prof. Dr. Capanna of the Centro Traumatologico Ortopedico in Florence.

Due to its high modularity, the system allows partial bone replacements both in the proximal and distal femur in small increments as well as a total replacement of the femur. For the knee joint components, the **Endo-Model® SL®** Rotating and Non-Rotationg Hinge Knee is used in the **MEGASYSTEM-C®**.

The modularity of the system helps to successfully address intraoperative problems. Observation of biomechanical load and anchoring principles and the application of clinically proven implant components successfully implanted over a long period allow utmost safety of the system and thus good prospects for the surgical outcome.

- Maximum intraoperative flexibility using highly modular implant components, thus reducing costs for true custom-made implants
- System-integrated components compatible with standard implant systems such as the MP® Reconstruction Hip System and Endo-Model® Total Knee Joint Prosthesis System
- Knee joint components based on long-term clinical experience with the Endo-Model® Rotating Hinge Knee
- Coupling mechanics clinically used over a long period
- Cemented and cementless stem components
- Length adjustment in 10 mm increments intraoperatively
- Microporous implant surfaces support bone ongrowth
- Easy to handle system-integrated instrumentation



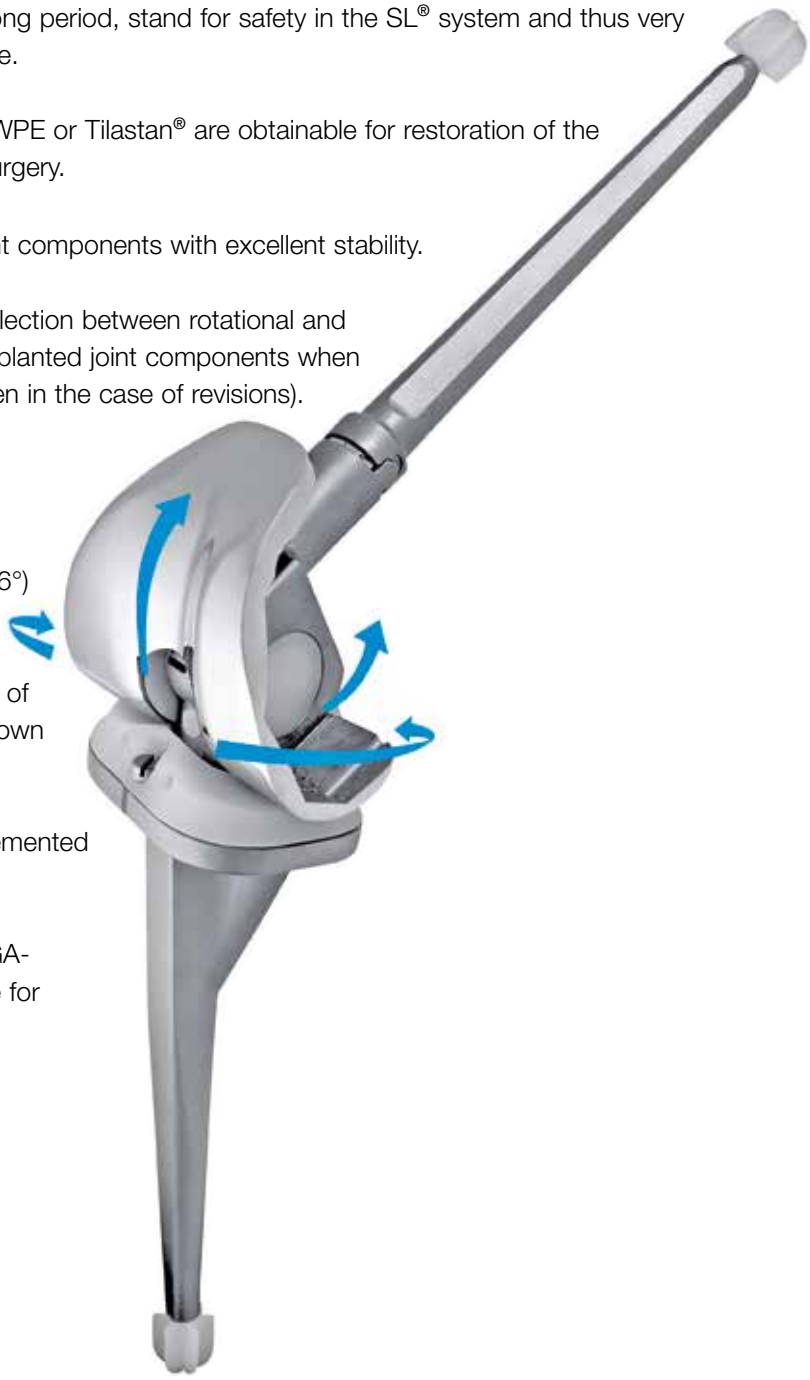
Development of the intracondylar **Endo-Model® SL®** Rotating and pure Hinge Knee System dates back to the decades of experience with the Endo-Model® Rotating Hinge Knee* and Endo-Model® Non-Rotating Hinge Knee** and the corresponding modular implant version Endo-Model® – M.

A high modularity of the system allows the knee joint system to be used in difficult primary and revision indications (see indications). Incorporation with the implants of the MEGASYSTEM-C® extends the range of indications to the treatment of revisions with large bone defects and oncological bone replacement.

Strict observation of biomechanical load and anchoring principles, the simple and well reproducible surgical technique, as well as the already mentioned experience from the application of proven implant components successfully used over a long period, stand for safety in the SL® system and thus very good prospects for the surgical outcome.

Special tibial washers made from UHMWPE or Tilastan® are obtainable for restoration of the joint line in cases of tumor or revision surgery.

- Flexibility using highly modular implant components with excellent stability.
- Adaptability through intraoperative selection between rotational and hinge version (no exchange of the implanted joint components when adjusting the coupling mechanics even in the case of revisions).
- Bone-sparing through minimal intra-medullary unit dimensions.
- Anatomical due to valgus alignment (6°) of the intramedullary box.
- Anti-luxation effect through extension of the rotational pivot and use of the known antiluxation mechanism.
- Modularity through optional use of cemented and cementless extension stems.
- Compatible with implants of the MEGA-SYSTEM-C® and therefore applicable for severe bone defects.



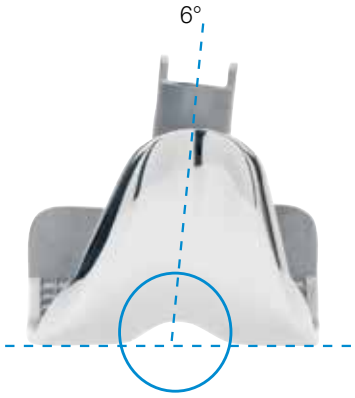
* E. Engelbrecht, E. Nieder, A. Keller (1979)
** E. Engelbrecht, H. W. Buchholz (1970)

Sparing to Bone and Soft Tissue

- Coupling of femoral with tibial components without distraction or additional release
- Preserving of substance through reduced box dimensions

Anatomically Adapted

- 6° valgus from the joint line
- 8° dorsal inclination of tibial plateau
- Anatomical patellar tracking
- 5 mm more bone preservation



Comprehensive Range of Stems

- Modular stems cemented and cementless for femur and tibia
- Additional monoblock stem cemented for tibia

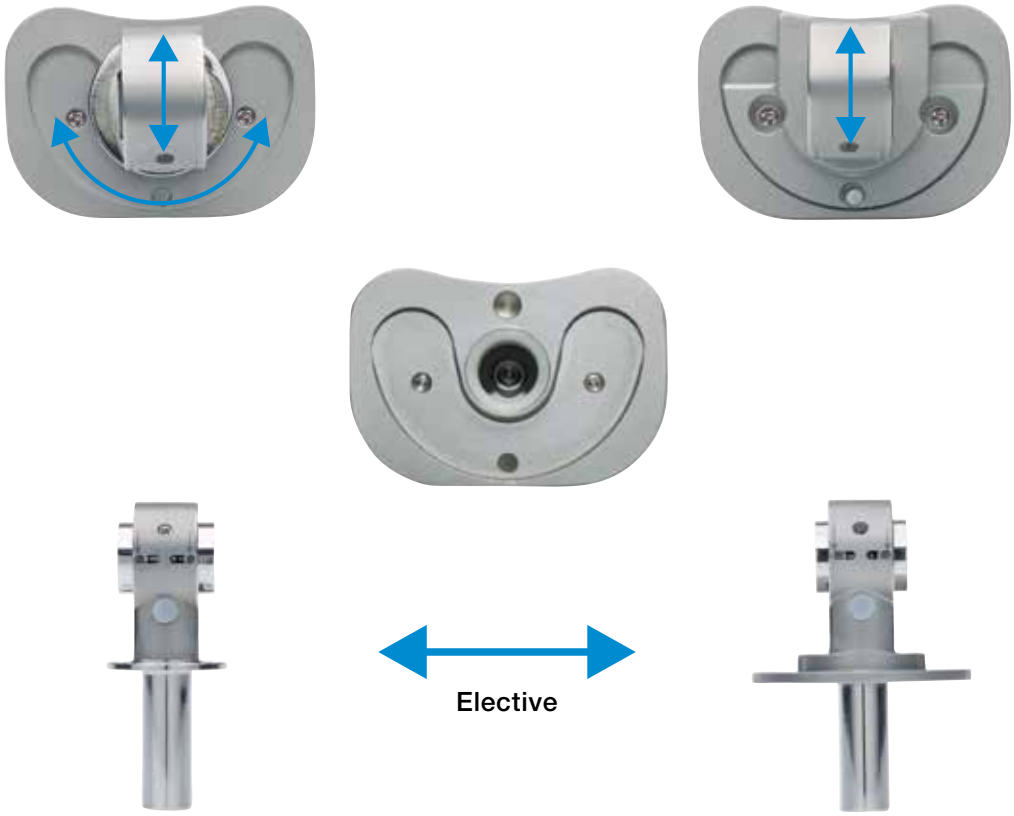
Reproducible Surgical Technique

- Chamfer cuts
- Modern, modular instrumentation

Endo-Model® SL®

Flexible

- Intraoperative change from rotating to non-rotating hinge knee with implant components in place
- Intraoperative flexibility through complete compatibility with the MEGASYSTEM-C® Tumor and Revision System



Rotating Hinge Knee

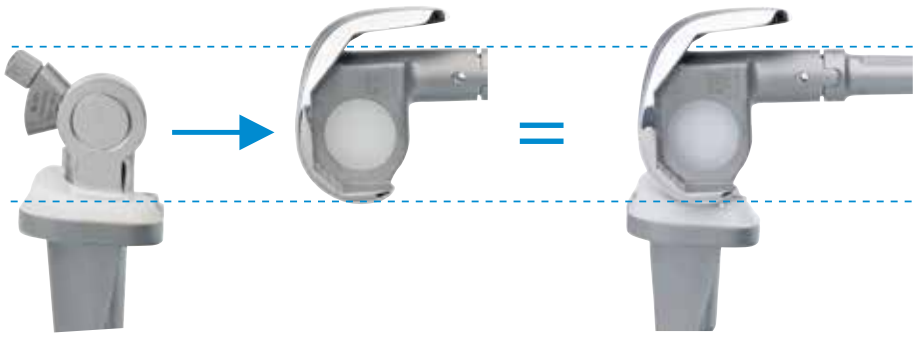
Non-Rotating Hinge Knee

Safe and Stable

- Based on the LINK® Endo-Model® Rotating Hinge Knee System (since 1979)
- 67% enlarged contact surface in the rotational bearing
- Higher security against luxation
- Reduced wear due to uniform load distribution

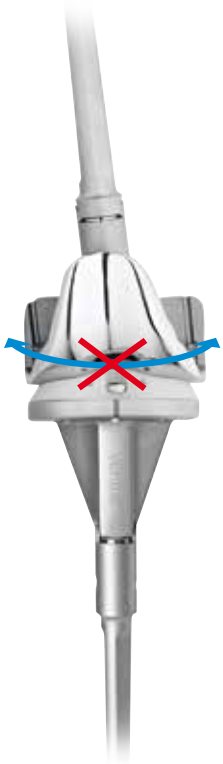
Simple Coupling or Decoupling

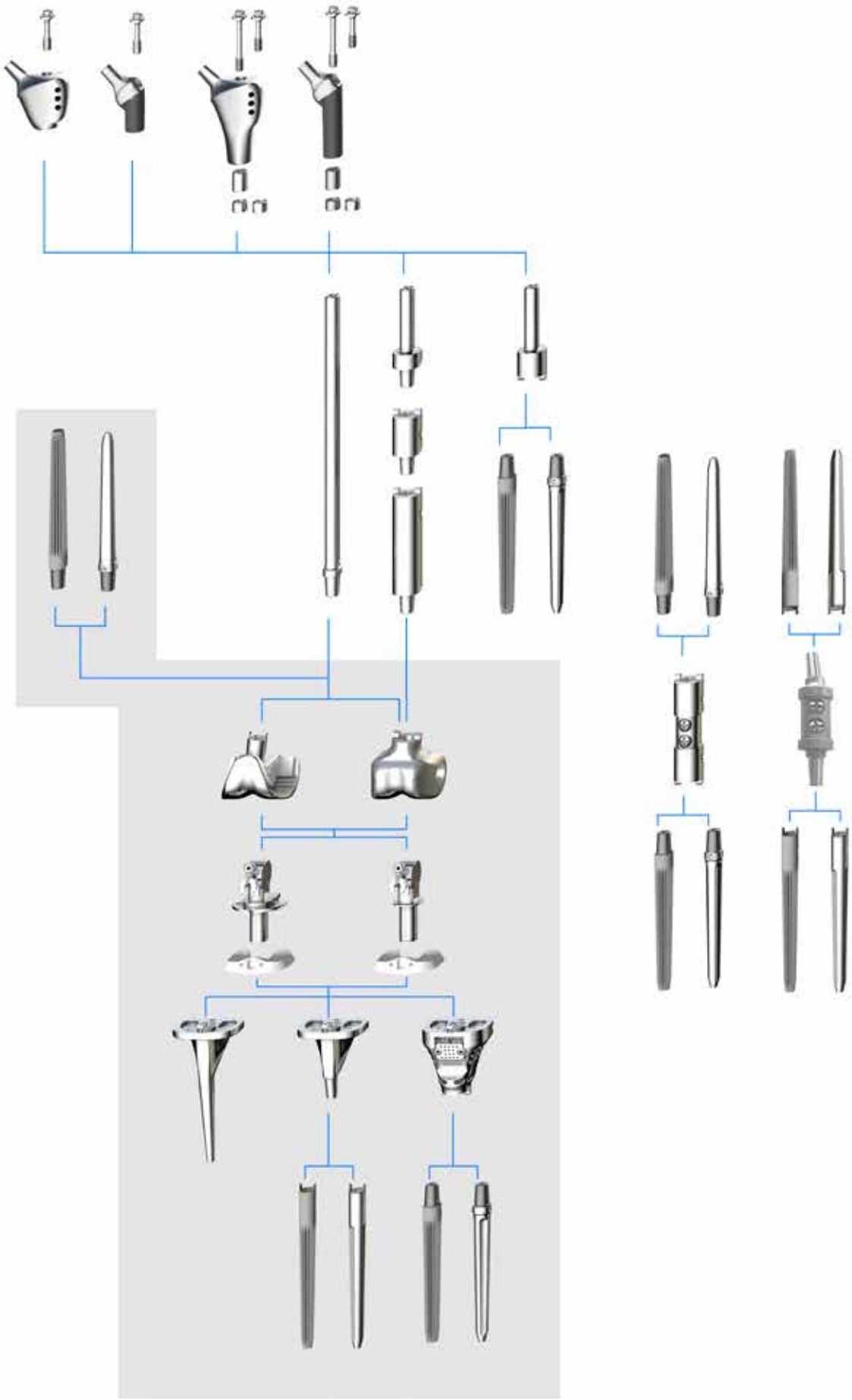
- Coupling of the joint components in the joint plane
- No soft tissue distraction



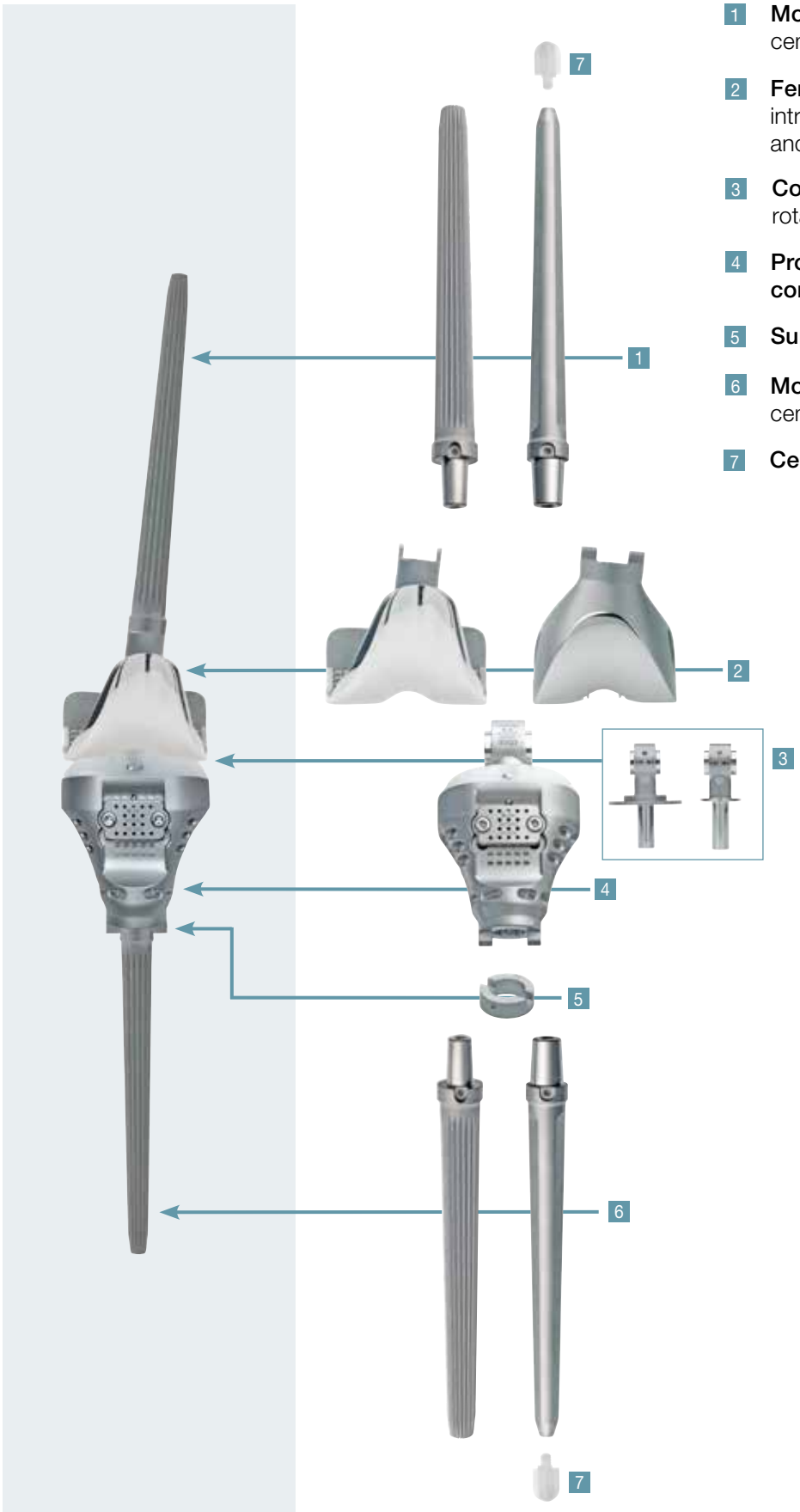
Rotational Stability in Extension

- Stable stance even with damaged soft tissue
- Physiological kinematic
- Good proprioception due to guided flexion and extension mechanism





Varity of Assembly 1



1 **Modular Stems**
cementless + cemented

2 **Femoral Components:**
intracondylar with patella flange and distal femoral replacement

3 **Connection Components:**
rotating and non-rotating version

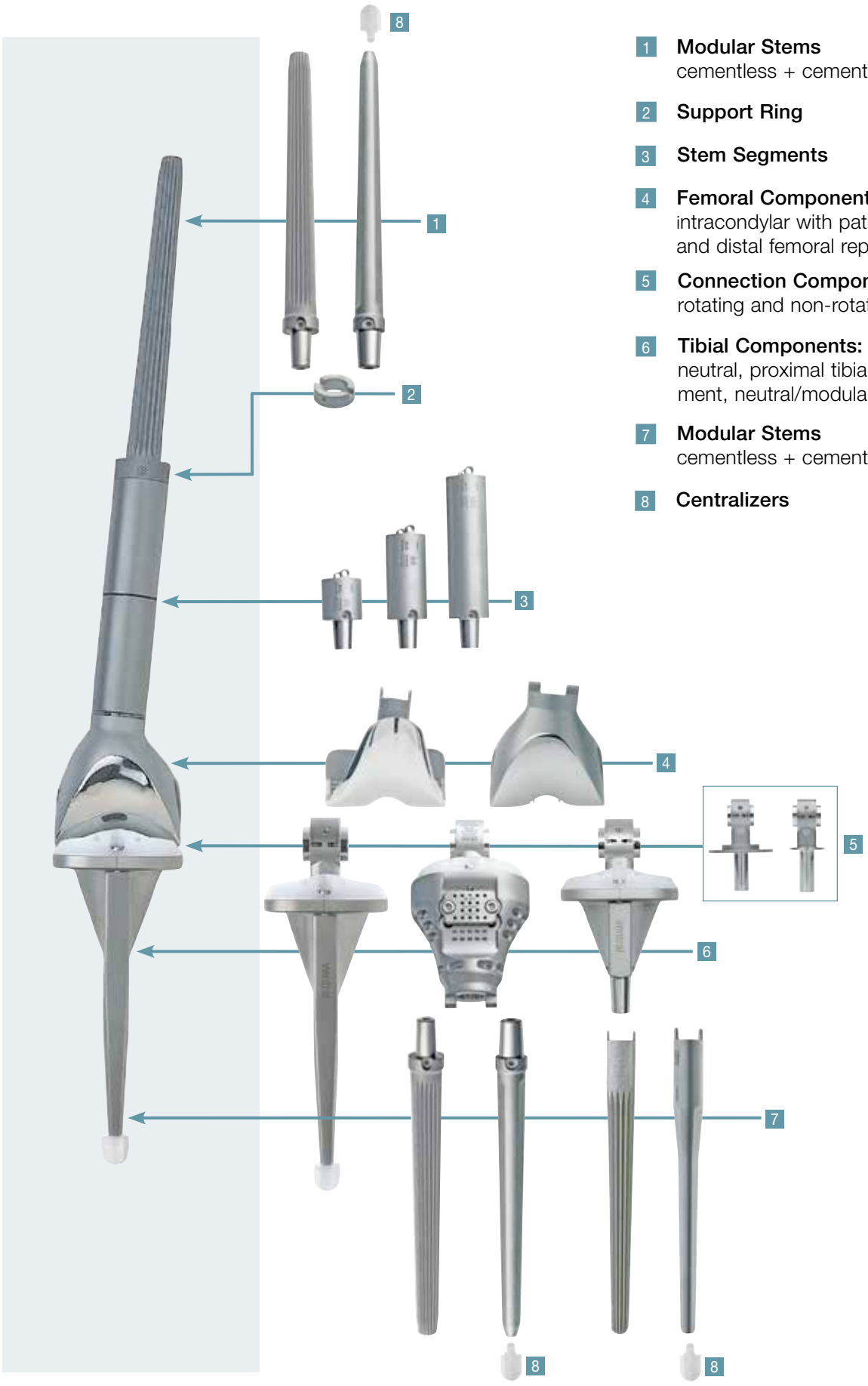
4 **Proximal Tibia Replacement component,** modular

5 **Support Ring**

6 **Modular Stems**
cementless + cemented

7 **Centralizers**

Varity of Assembly 2



1 **Modular Stems**
cementless + cemented

2 **Support Ring**

3 **Stem Segments**

4 **Femoral Components:**
intracondylar with patella flange and distal femoral replacement

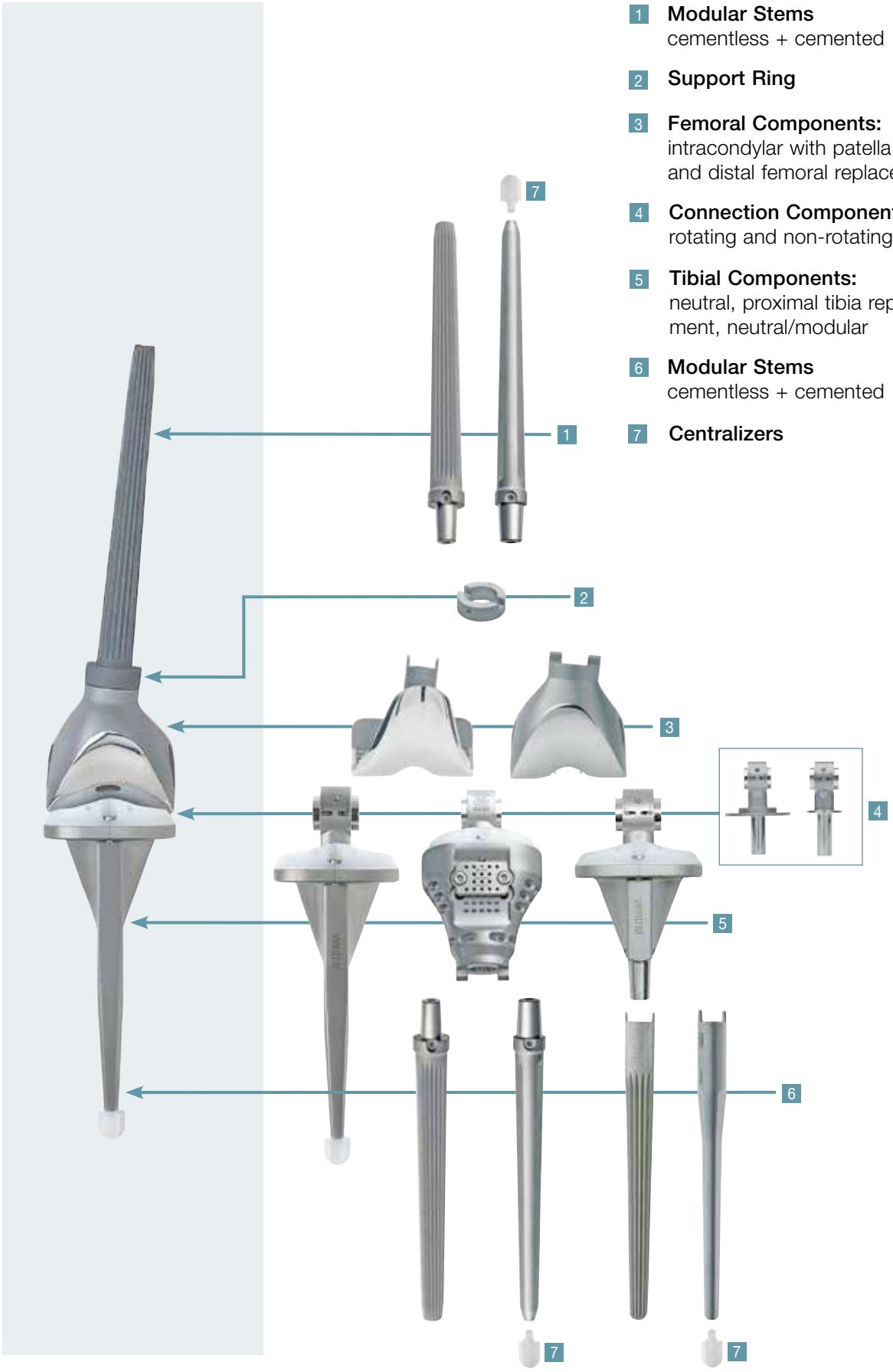
5 **Connection Components:**
rotating and non-rotating version

6 **Tibial Components:**
neutral, proximal tibia replacement, neutral/modular

7 **Modular Stems**
cementless + cemented

8 **Centralizers**

Varity of Assembly 3



1 **Modular Stems**
cementless + cemented

2 **Support Ring**

3 **Femoral Components:**
intracondylar with patella flange and distal femoral replacement

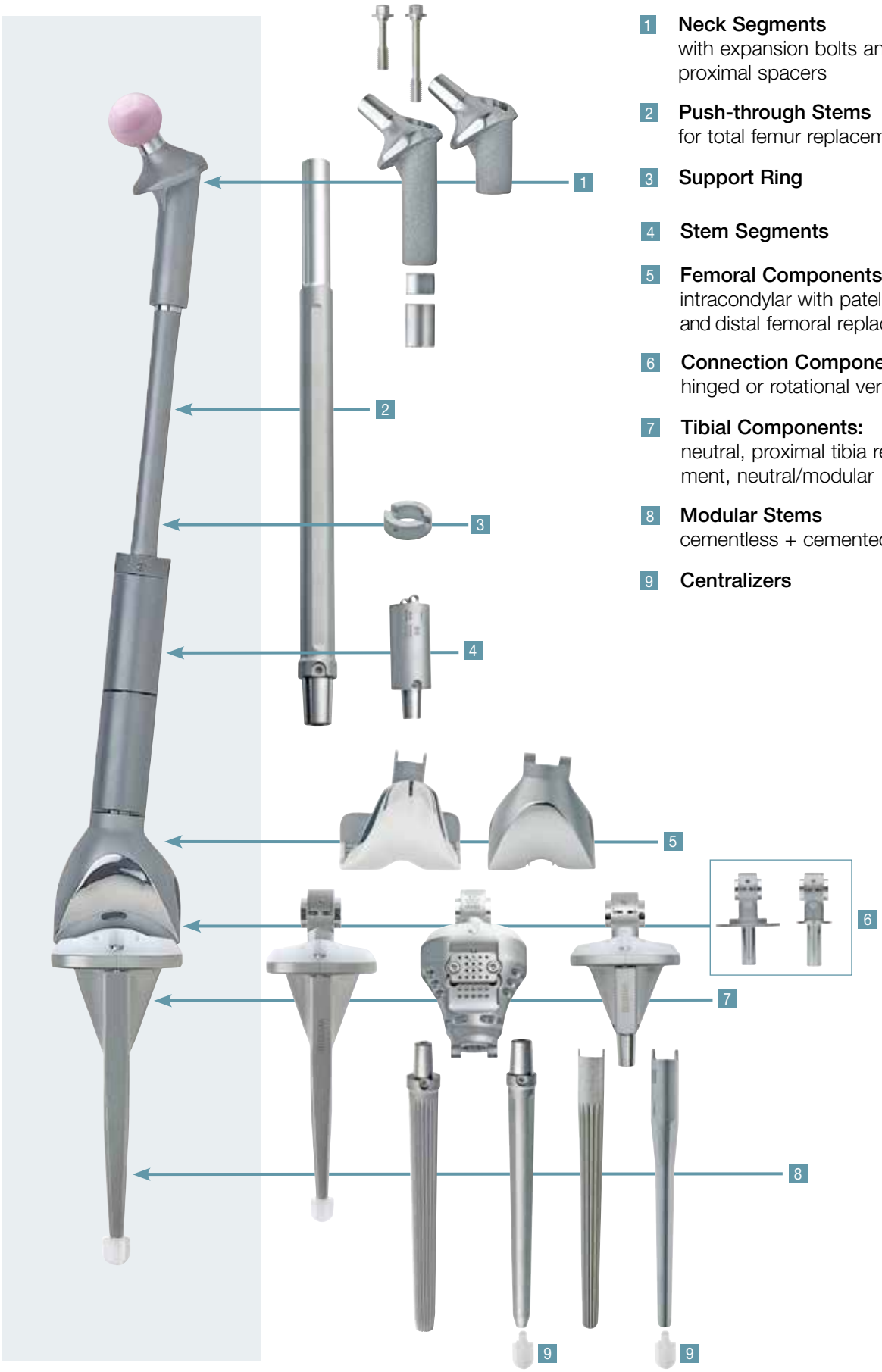
4 **Connection Components:**
rotating and non-rotating version

5 **Tibial Components:**
neutral, proximal tibia replacement, neutral/modular

6 **Modular Stems**
cementless + cemented

7 **Centralizers**

Varity of Assembly 4



1 **Neck Segments**
with expansion bolts and proximal spacers

2 **Push-through Stems**
for total femur replacement

3 **Support Ring**

4 **Stem Segments**

5 **Femoral Components:**
intracondylar with patella flange and distal femoral replacement

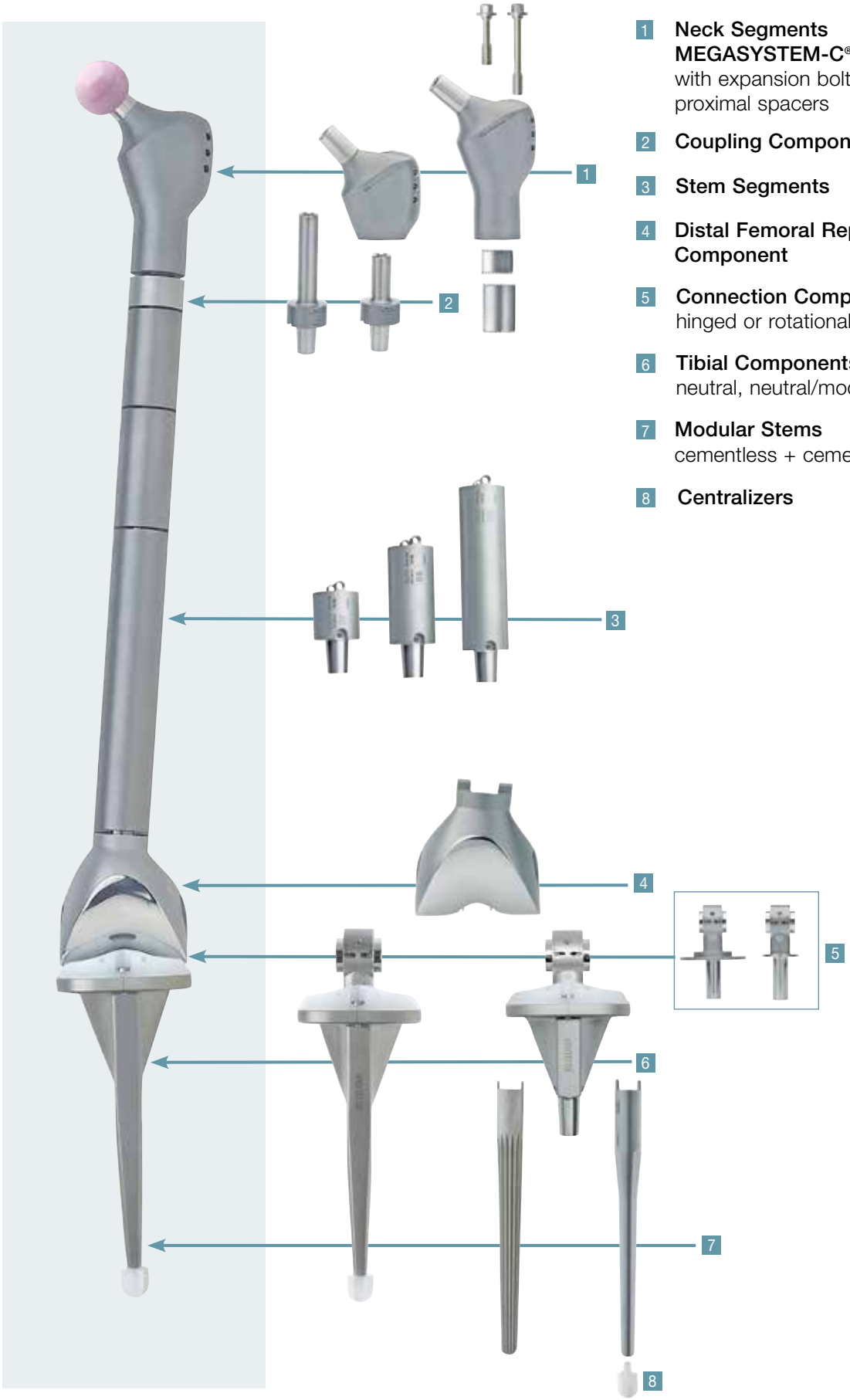
6 **Connection Components:**
hinged or rotational version

7 **Tibial Components:**
neutral, proximal tibia replacement, neutral/modular

8 **Modular Stems**
cementless + cemented

9 **Centralizers**

Varity of Assembly 5



1 **Neck Segments MEGASYSTEM-C®** with expansion bolts and proximal spacers

2 **Coupling Components**

3 **Stem Segments**

4 **Distal Femoral Replacement Component**

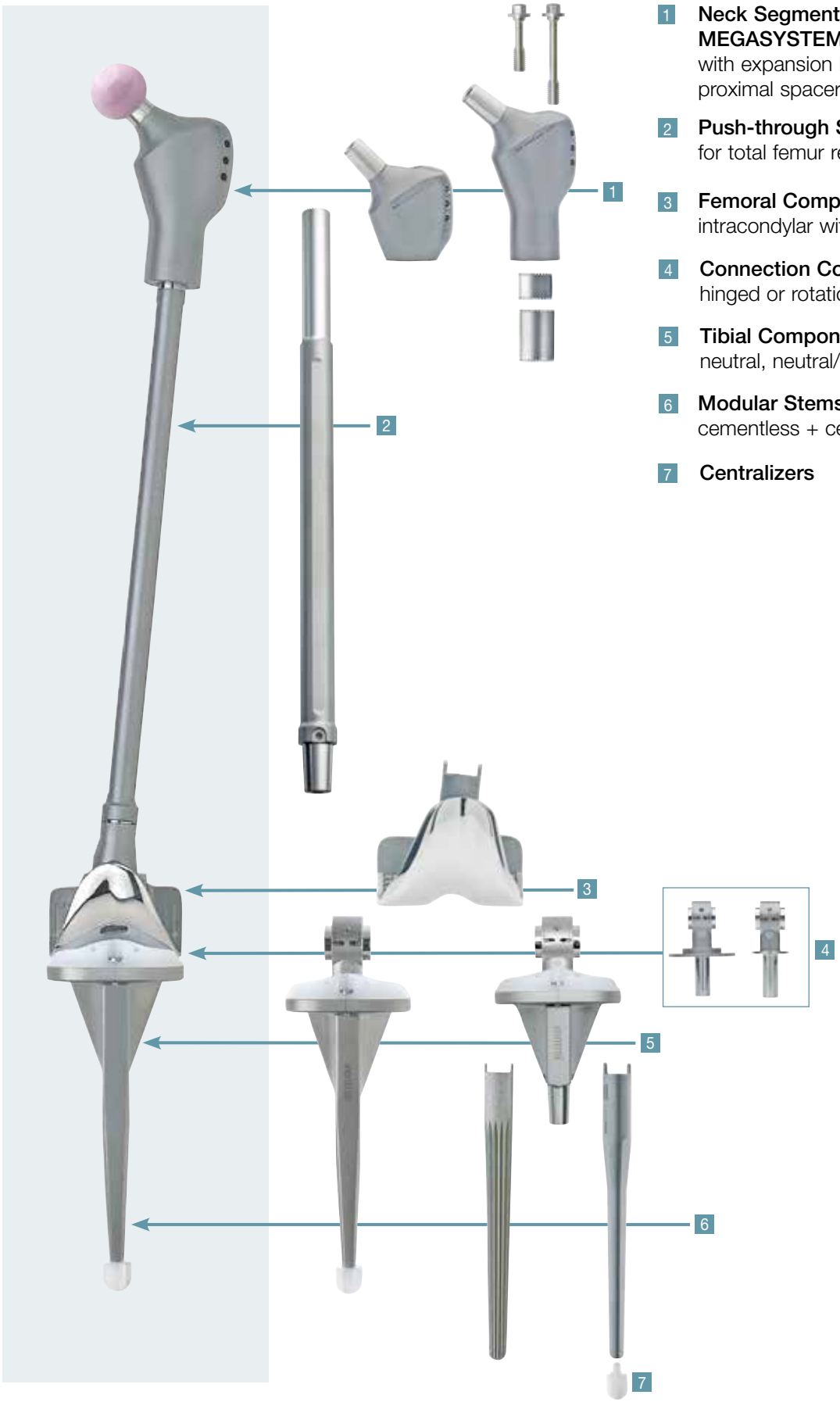
5 **Connection Components:** hinged or rotational version

6 **Tibial Components:** neutral, neutral/modular

7 **Modular Stems** cementless + cemented

8 **Centralizers**

Varity of Assembly 6



1 **Neck Segments MEGASYSTEM-C®**
with expansion bolts and proximal spacers

2 **Push-through Stems**
for total femur replacement

3 **Femoral Components:**
intracondylar with patella flange

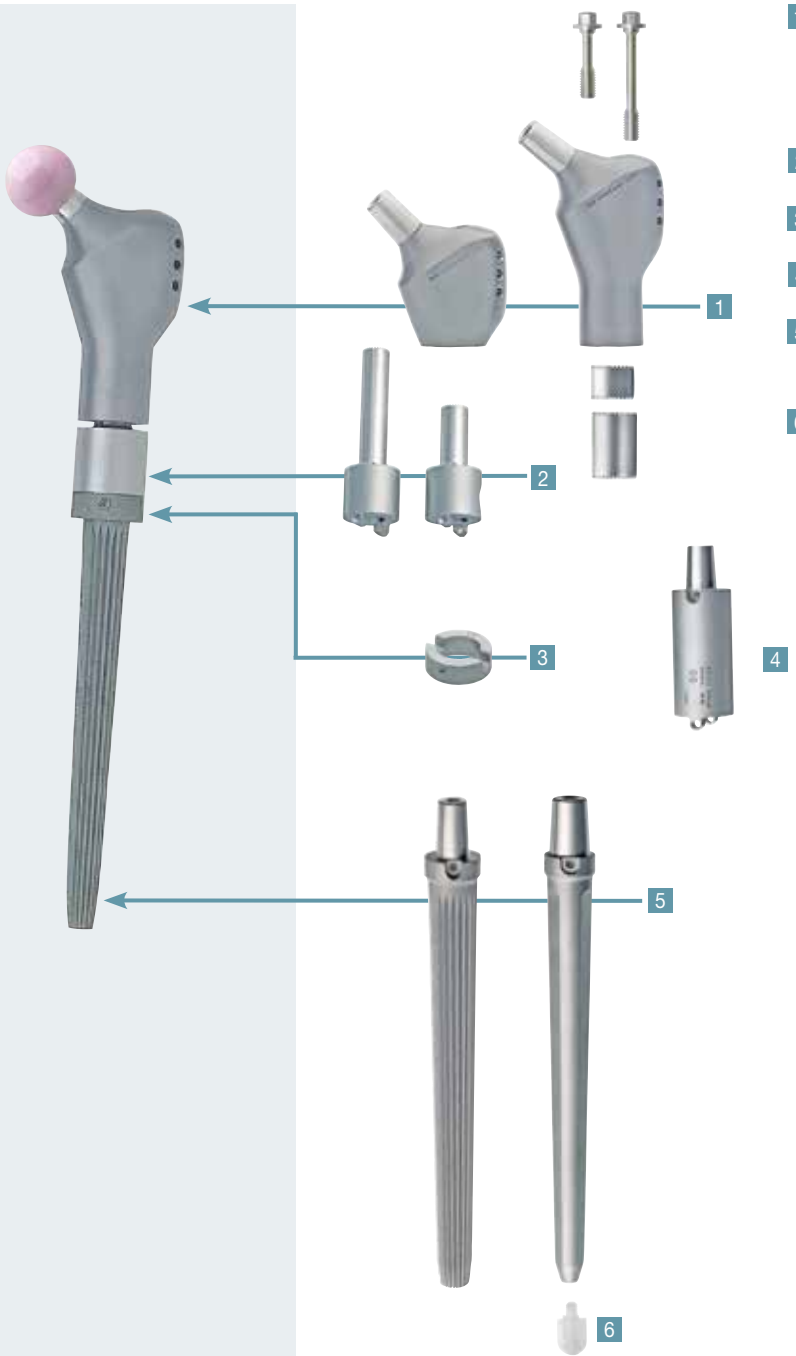
4 **Connection Components:**
hinged or rotational version

5 **Tibial Components:**
neutral, neutral/modular

6 **Modular Stems**
cementless + cemented

7 **Centralizers**

Varity of Assembly 7



1 **Neck Segments MEGASYSTEM-C®** with expansion bolts and proximal spacers

2 **Coupling Components**

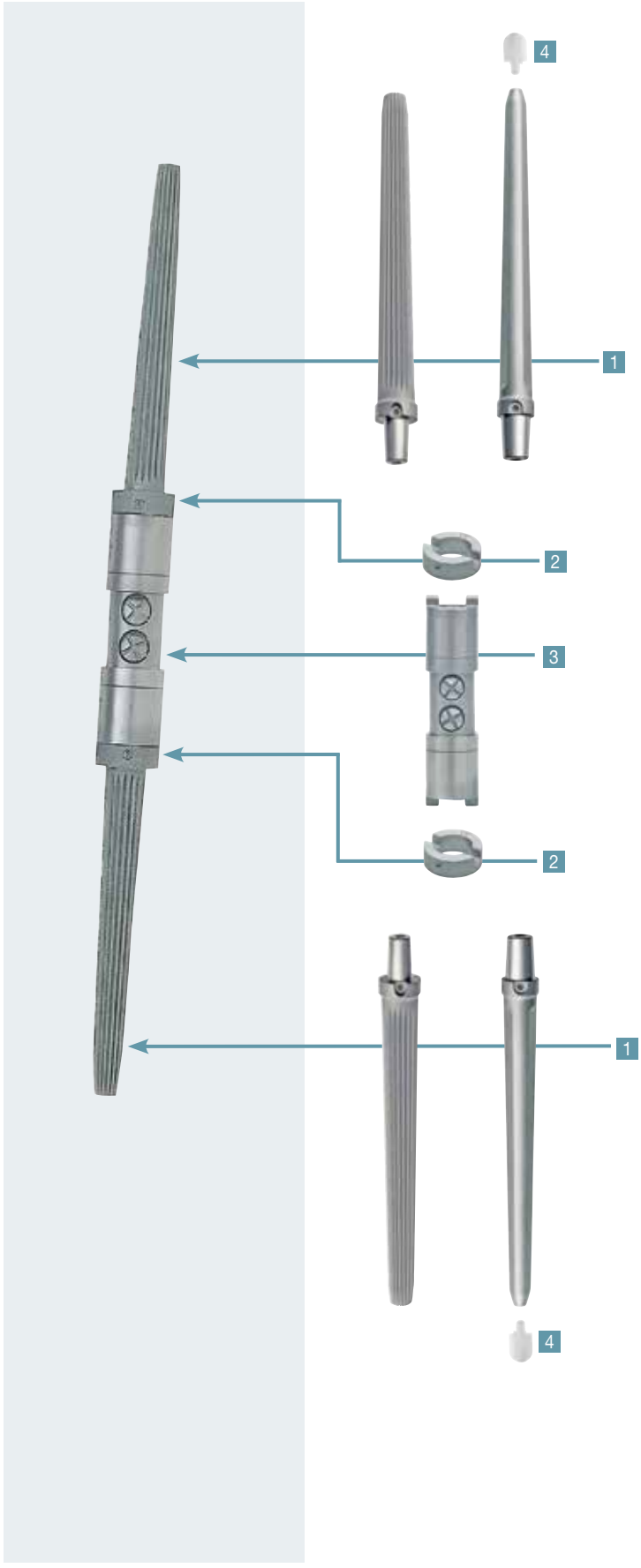
3 **Support Ring**

4 **Stem Segments**

5 **Modular Stems** cementless + cemented

6 **Centralizers**

Varity of Assembly 8



1 **Modular Stems**
cementless + cemented

2 **Support Ring**

3 **Coupling** for diaphyseal spacer

4 **Centralizers**

Neck Segments

Neck Segments, massive, MEGASYSTEM-C®

	Material: Tilastan®	
Item no.	Length	CCD angle
15-8503/35	65 mm	135°
15-8503/26	65 mm	126°
15-8504/35	35 mm	135°
15-8504/26	35 mm	126°

Neck Segments, microporous

		Material: Tilastan®	
without collar Item no.	with collar Item no.	Length	CCD angle
172-964/35	172-960/35	65 mm	135°
172-964/26	172-960/26	65 mm	126°
172-965/35	172-961/35	35 mm	135°
172-965/26	172-961/26	35 mm	126°

Neck Segments XXL, 40 mm offset, microporus

		Material: Tilastan®	
without collar Item no.	with collar Item no.	Length	CCD angle
172-964/35	172-960/35	65 mm	135°
172-964/26	172-960/26	65 mm	126°
172-965/35	172-961/35	35 mm	135°
172-965/26	172-961/26	35 mm	126°

Neck Segments

Expansion bolts serve to secure the fixation of the neck segments.

Surgical technique and instruments available on request.

Expansion Bolts,
key width 8 mm

Item no.	Material: CoCrMo Length
172-947/38	41 mm
172-947/58	61 mm

Proximal Spacers

Item no.	Material: CoCrMo Length	Ø
172-950/10	10 mm	14 mm
172-950/20	20 mm	14 mm

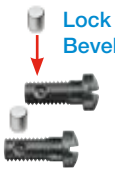
Warning:
to be used only with 65 mm neck segments.

Stem Components

Push-through Stems for total femur replacement

	Material: CoCrMo, UHMWPE	
Item no.	Ø	Length
15-8523/70	14 mm	120 mm
15-8523/71	14 mm	160 mm
15-8523/72	14 mm	200 mm
15-8523/73	14 mm	240 mm
15-8523/74	14 mm	280 mm
15-8523/75	14 mm	320 mm
15-8523/76	14 mm	360 mm
15-8522/70	16 mm	120 mm
15-8522/71	16 mm	160 mm
15-8522/72	16 mm	200 mm
15-8522/73	16 mm	240 mm
15-8522/74	16 mm	280 mm
15-8522/75	16 mm	320 mm
15-8522/76	16 mm	360 mm

15-8522/65
Coupling for diaphyseal spacer,
Material: Tilastan®

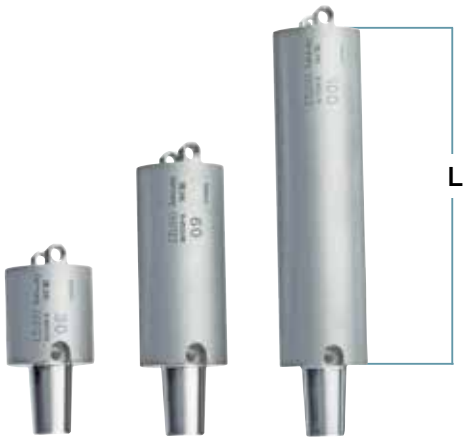


Lock bolts:
Bevelled side is inserted first !

Knee Fusion Nail – Coupling Components
modular, 10/12 taper

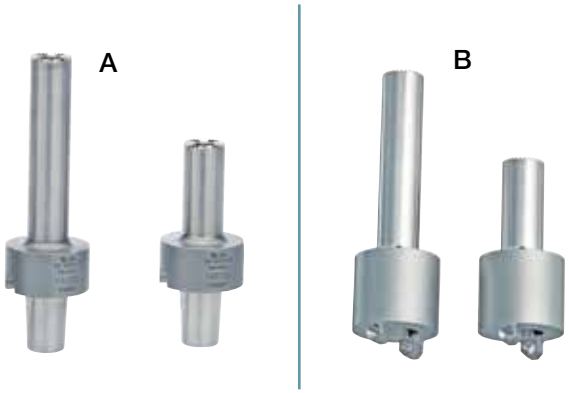
Item no.	Material: UHMWPE, CoCrMo
15-0028/07	left
15-0028/08	right

Stem Components



Stem Segments, Ø 28 mm

Item no.	Material: Tilastan® Length (L)
15-8522/02	30 mm
15-8522/04	40 mm
15-8522/06	50 mm
15-8522/08	60 mm
15-8522/10	100 mm
15-8522/12	150 mm
15-8522/14	200 mm
15-8522/16	250 mm



Coupling Components for total femur (A) and proximal femur replacement (B)

Item no.	Material: CoCrMo
15-8522/24	for total femur replacement, short
15-8522/26	for total femur replacement, long
15-8522/28	for prox. femur replacement, short
15-8522/30	for prox. femur replacement, long

Support Rings, height 10 mm

Item no.	Material: Tilastan® for stem-Ø
15-8502/66	up to Ø 18 mm

Stem Components

Terminals oval, height 10 mm

Item no.	Material: Tilastan®
	Dimensions:
15-8512/83	26 x 34 mm, 24 mm Inner-Ø
15-8512/84	30 x 44 mm, 24 mm Inner-Ø
15-8512/85	34 x 48 mm, 24 mm Inner-Ø

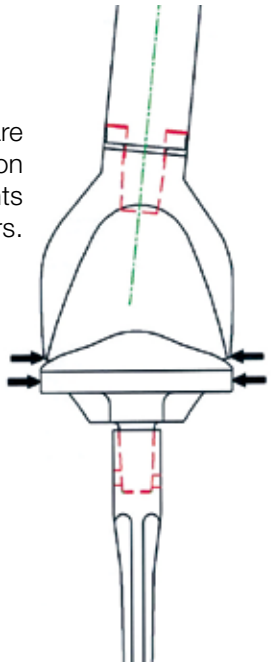
Endo-Model® Modular Joint Components

Condylar Replacement

Joint Component unit	Femoral Component, condylar replacement	Tibial Component
		

Unit consisting of: ▶			Material: CoCrMo, UHMWPE			
Item no.	Size	Side	Item no.	Width	Item no.	Width
15-8521/05	small	right	**15-8521/06**	60 mm	**15-2814/02**	60 mm
15-8521/07	small	left	**15-8521/08**	60 mm		
15-8521/09	medium	right	**15-8521/10**	65 mm	**15-2814/03**	65 mm
15-8521/11	medium	left	**15-8521/12**	65 mm		
15-8521/13	large	right	**15-8521/14**	75 mm	**15-2814/04**	75 mm
15-8521/15	large	left	**15-8521/16**	75 mm		

The joint components are equipped with an anti-luxation device. Femoral components feature female tapers.



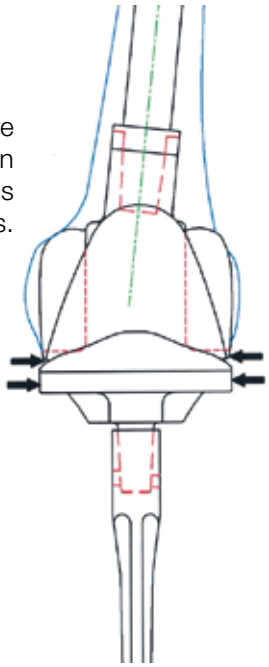
Endo-Model® Modular Joint Components

Intracondylar Version

Joint Component unit	Femoral Component, intracondylar	Tibial Component
		

Unit consisting of:		▶	Material: CoCrMo, UHMWPE			
Item no.	Size	Side	Item no.	Width	Item no.	Width
15-8521/25	small	right	**15-8521/26**	60 mm	**15-2814/02**	60 mm
15-8521/27	small	left	**15-8521/28**	60 mm		
15-8521/29	medium	right	**15-8521/30**	65 mm	**15-2814/03**	65 mm
15-8521/31	medium	left	**15-8521/32**	65 mm		
15-8521/33	large	right	**15-8521/34**	75 mm	**15-2814/04**	75 mm
15-8521/35	large	left	**15-8521/36**	75 mm		

The joint components are equipped with an anti-luxation device. Femoral components feature female tapers.



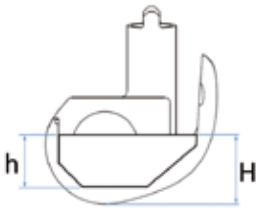
Joint Components for Endo-Model® SL® Rotating and Non-Rotating Hinge Knee

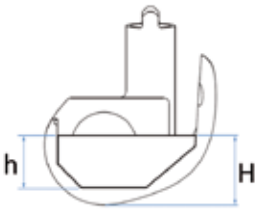
Femoral Components, intracondylar, with patellar flange, modular

Item no.	Material: CoCrMo, UHMWPE		
16-2821/21	small	right	63 mm wide
16-2821/22	small	left	63 mm wide
16-2823/21	medium	right	69 mm wide
16-2823/22	medium	left	69 mm wide
16-2825/21	large	right	72,5 mm wide
16-2825/22	large	left	72,5 mm wide

Distal Femoral Replacement Components, modular

Item no.	Material: CoCrMo, UHMWPE		
16-2853/21	small	right	60 mm wide
16-2853/22	small	left	60 mm wide
16-2855/21	medium	right	65 mm wide
16-2855/22	medium	left	65 mm wide
16-2857/21	large	right	75 mm wide
16-2857/22	large	left	75 mm wide





Femoral Segments for femoral components, to replace distal condyles, height: **H** 25 mm

Item no.	Material: Tilastan®, cementless			h mm
15-8517/01	small	right	medial	18
15-8517/02	medium	right	medial	19
15-8517/03	large	right	medial	17
15-8517/11	small	right	lateral	18
15-8517/12	medium	right	lateral	19
15-8517/13	large	right	lateral	17
15-8518/01	small	left	medial	18
15-8518/02	medium	left	medial	19
15-8518/03	large	left	medial	17
15-8518/11	small	left	lateral	18
15-8518/12	medium	left	lateral	19
15-8518/13	large	left	lateral	17

Femoral Segments for femoral components, to replace distal condyles, height: **H** 25 mm

Item no.	Material: UHMWPE, cemented			h mm
15-8519/01	small	right	medial	18
15-8519/02	medium	right	medial	19
15-8519/03	large	right	medial	17
15-8519/11	small	right	lateral	18
15-8519/12	medium	right	lateral	19
15-8519/13	large	right	lateral	17
15-8520/01	small	left	medial	18
15-8520/02	medium	left	medial	19
15-8520/03	large	left	medial	17
15-8520/11	small	left	lateral	18
15-8520/12	medium	left	lateral	19
15-8520/13	large	left	lateral	17

Joint Components for Endo-Model® SL® Rotating and Non-Rotating Hinge Knee

Tibial Components, neutral

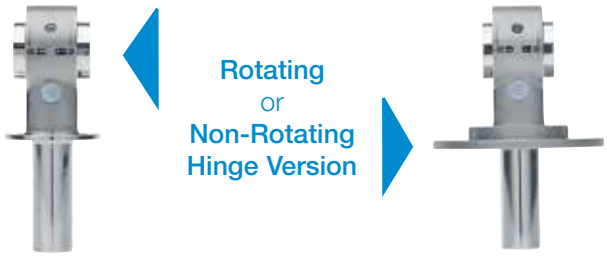
Item no.	Material: CoCrMo, UHMWPE	
16-2817/02	small	60 mm wide
16-2817/05	medium	65 mm wide
16-2817/07	large	75 mm wide

Tibial Components System SL®, modular, neutral

Item no.	Material: CoCrMo, UHMWPE	
16-2817/32	small	60 mm wide
16-2817/35	medium	65 mm wide
16-2817/37	large	75 mm wide

Proximal Tibia Replacement Components, modular, neutral

Item no.	Material: Tilastan®, UHMWPE	
16-2849/22	small	60 mm wide
16-2849/25	medium	65 mm wide
16-2849/27	large	75 mm wide



Connection Components, incl. Tibial Plateaus (UHMWPE)

Item no.	**Rotating Hinge** Material: CoCrMo, UHMWPE		Item no.	**Non-Rotating Hinge** Material:CoCrMo, UHMWPE	
16-2840/02	small	neutral	16-2841/02	small	neutral
16-2840/05	medium	neutral	16-2841/05	medium	neutral
16-2840/07	large	neutral	16-2841/07	large	neutral

Proximal Tibial Spacers, Tilastan® and UHMWPE
for Endo-Model® SL® Rotating and Non-Rotating Hinge Knee

Proximal Tibia Spacers, full, Tilastan®
for right and left,
incl. 2 countersunk screws, wrench size 2.5 mm

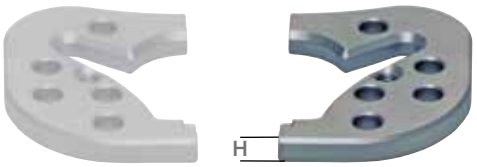
Material: Tilastan®			
Item no.	Size	H Height mm	Width mm
16-2910/05	small	5	60
16-2910/10	small	10	60
16-2910/15	small	15	60
16-2920/05	medium	5	65
16-2920/10	medium	10	65
16-2920/15	medium	15	65
16-2930/05	large	5	75
16-2930/10	large	10	75
16-2930/15	large	15	75

Proximal Tibia Spacers, full, UHMWPE
for right and left

Material: UHMWPE			
Item no.	Size	H Height mm	Width mm
16-3000/05	small	5	60
16-3000/10	small	10	60
16-3000/15	small	15	60
16-3010/05	medium	5	65
16-3010/10	medium	10	65
16-3010/15	medium	15	65
16-3020/05	large	5	75
16-302010	large	10	75
16-3020/15	large	15	75

Important note:
Proximal tibial spacers may not be combined!

Proximal Tibial Spacers, Tilastan®
for Endo-Model® SL® Rotating and Non-Rotating Hinge Knee



Proximal Tibial Spacers, half,
lateral and medial usable,
incl. 1 countersunk screw, wrench size 2.5 mm

Material: Tilastan®		
Item no.	Size	**H** Height mm
16-2950/05	small	5
16-2950/10	small	10
16-2950/15	small	15
16-2960/05	medium	5
16-2960/10	medium	10
16-2960/15	medium	15
16-2970/05	large	5
16-2970/10	large	10
16-2970/15	large	15

Important note:
Proximal tibial spacers may not be combined with each other!

Modular Stems

Modular Stems* with male taper (for 6 mm flanges)

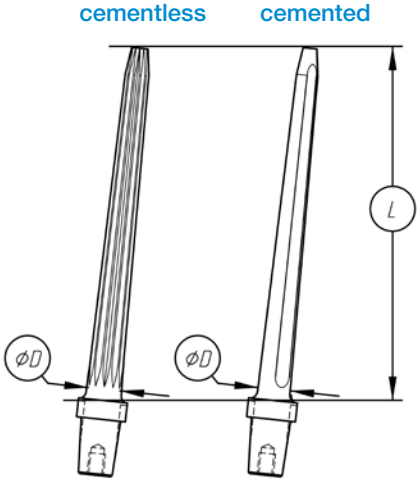
Cementless, Material: Tilastan®					
Item no.	Stem length L 100 mm	Item no.	Stem length L 130 mm	Item no.	Stem length L 160 mm
15-8524/50	Ø 12/9 mm	15-8523/50	Ø 12/8 mm	15-8522/50	Ø 12/7 mm
15-8524/51	Ø 13/10 mm	15-8523/51	Ø 13/9 mm	15-8522/51	Ø 13/8 mm
15-8524/52	Ø 14/11mm	15-8523/52	Ø 14/10 mm	15-8522/52	Ø 14/9 mm
15-8524/53	Ø 15/12mm	15-8523/53	Ø 15/11 mm	15-8522/53	Ø 15/10 mm
15-8524/54	Ø 16/13mm	15-8523/54	Ø 16/12 mm	15-8522/54	Ø 16/11 mm
15-8524/55	Ø 17/14mm	15-8523/55	Ø 17/13 mm	15-8522/55	Ø 17/12 mm
15-8524/56	Ø 18/15 mm	15-8523/56	Ø 18/14 mm	15-8522/56	Ø 18/13 mm
15-8524/57	Ø 19/16 mm	15-8523/57	Ø 19/15 mm	15-8522/57	Ø 19/14 mm
15-8524/58	Ø 20/17 mm	15-8523/58	Ø 20/16 mm	15-8522/58	Ø 20/15 mm
15-8524/59	Ø 21/18 mm	15-8523/59	Ø 21/17 mm	15-8522/59	Ø 21/16 mm
15-8524/60	Ø 22/19 mm	15-8523/60	Ø 22/18 mm	15-8522/60	Ø 22/17 mm
15-8524/61	Ø 23/20 mm	15-8523/61	Ø 23/19 mm	15-8522/61	Ø 23/18 mm
15-8524/62	Ø 24/21 mm	15-8523/62	Ø 24/20 mm	15-8522/62	Ø 24/19 mm

Modular Stems* with male taper (for 6 mm flanges)

Cemented, Material: CoCrMo					
Item no.	Stem length L 100 mm	Item no.	Stem length L 130 mm	Item no.	Stem length L 160 mm
15-8524/40	Ø 12/9 mm	15-8523/40	Ø 12/8 mm	15-8522/40	Ø 12/7 mm
15-8524/42	Ø 14/11 mm	15-8523/42	Ø 14/10 mm	15-8522/42	Ø 14/9 mm
15-8524/44	Ø 16/13 mm	15-8523/44	Ø 16/12 mm	15-8522/44	Ø 16/11 mm

*** These modular stems can be combined with:**

- coupling device to assemble a proximal partial femur replacement
- femoral joint component, solid, or a stem segment attached to it to assemble a distal partial femur replacement
- coupling device for the diaphyseal spacer
- proximal tibial replacement



Modular Stems

Modular Stems* with female taper (with 6 mm flanges)

Cementless, Material: Tilastan®					
Item no.	Stem length L 100 mm	Item no.	Stem length L 130 mm	Item no.	Stem length L 160 mm
15-8517/50	Ø 12/9 mm	15-8516/50	Ø 12/8 mm	15-8515/50	Ø 12/7 mm
15-8517/51	Ø 13/10 mm	15-8516/51	Ø 13/9 mm	15-8515/51	Ø 13/8 mm
15-8517/52	Ø 14/11 mm	15-8516/52	Ø 14/10 mm	15-8515/52	Ø 14/9 mm
15-8517/53	Ø 15/12 mm	15-8516/53	Ø 15/11 mm	15-8515/53	Ø 15/10 mm
15-8517/54	Ø 16/13 mm	15-8516/54	Ø 16/12 mm	15-8515/54	Ø 16/11 mm
15-8517/55	Ø 17/14 mm	15-8516/55	Ø 17/13 mm	15-8515/55	Ø 17/12 mm
15-8517/56	Ø 18/15 mm	15-8516/56	Ø 18/14 mm	15-8515/56	Ø 18/13 mm

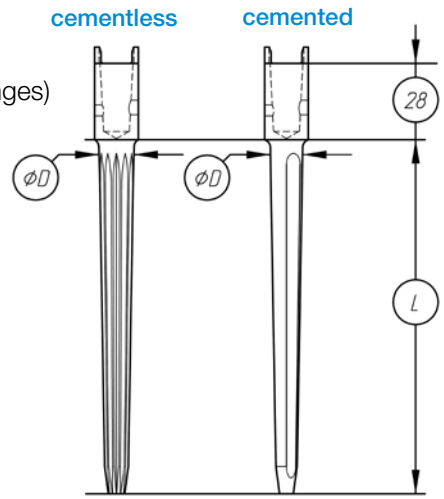
Modular Stems* with female taper (with 6 mm flanges)

Cemented, Material: CoCrMo					
Item no.	Stem length L 100 mm	Item no.	Stem length L 130 mm	Item no.	Stem length L 160 mm
15-8527/40	Ø 12/9 mm	15-8526/40	Ø 12/8 mm	15-8525/40	Ø 12/7 mm
15-8527/42	Ø 14/11 mm	15-8526/42	Ø 14/10 mm	15-8525/42	Ø 14/9 mm
15-8527/44	Ø 16/13 mm	15-8526/44	Ø 16/12 mm	15-8525/44	Ø 16/11 mm

*** These modular stems can be combined with:**

- tibial components, neutral, modular (with 6 mm flanges)

Ø 12 mm Ø 14 mm Ø 16 mm

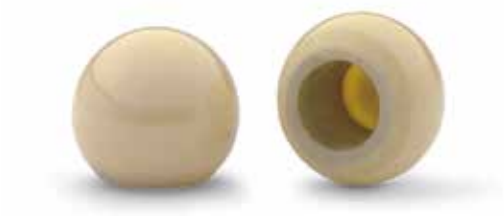


Centering Stars

Material: UHMWPE		
Item no.	Item no.	Size
Set:	consisting of:	
15-2975/01	15-2975/12	small
	15-2975/14	medium
	15-2975/16	large

Prosthesis Heads

Prosthesis Heads A - forte
Material: BIOLOX® forte*



All components made of BIOLOX® forte are compatible with each other.

* BIOLOX® forte is made by CeramTec GmbH, Plochingen, Germany

Item no.	Head Ø mm	Taper mm	Neck length mm
128-928/01	28	12/14	short -3.5
128-928/02	28	12/14	medium 0
128-928/03	28	12/14	long +3.5
128-932/01	32	12/14	short -4.0
128-932/02	32	12/14	medium 0
128-932/03	32	12/14	long +4.0

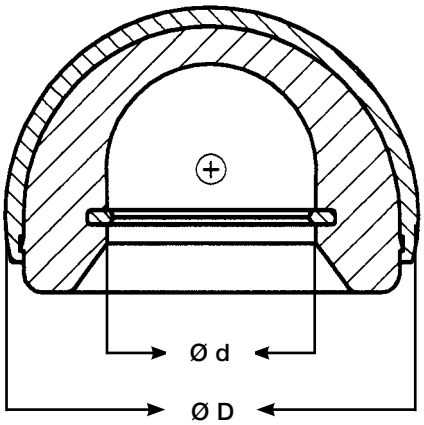
Prosthesis Heads

Prosthesis Heads B
Material: CoCrMo alloy

Item no.	Head Ø mm	Taper mm	Neck length mm
128-828/01	28	12/14	short -3.5
128-828/02	28	12/14	medium 0
128-828/03	28	12/14	long +3.5
128-828/04**	28	12/14	extra long +10.5
128-832/01	32	12/14	short -4.0
128-832/02	32	12/14	medium 0
128-832/03	32	12/14	long +4.0
128-832/04**	32	12/14	extra long +8.5

**on request

Vario-Cup Prosthesis



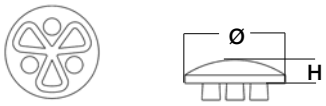
LINK® Vario-Cup Prostheses, self-centering

Material: CrCoMo, UHMWPE			
Item no. **24.1 mm** Inner-Ø (d)	Item no. **28.1 mm** Inner-Ø (d)	Item no. **32.1 mm** Inner-Ø (d)	Outer-Ø (D)
107-210/39*# 107-210/40*#			Ø 39 mm Ø 40 mm
107-210/41* 107-210/42* 107-210/43*			Ø 41 mm Ø 42 mm Ø 43 mm
	107-220/44 107-220/45 107-220/46		Ø 44 mm Ø 45 mm Ø 46 mm
	107-220/47 107-220/48 107-220/49	 107-230/49	Ø 47 mm Ø 48 mm Ø 49 mm
	107-220/50 107-220/51 107-220/52	107-230/50 107-230/51 107-230/52	Ø 50 mm Ø 51 mm Ø 52 mm
	107-220/53 107-220/54 107-220/55	107-230/53 107-230/54 107-230/55	Ø 53 mm Ø 54 mm Ø 55 mm
	107-220/56 107-220/57 107-220/58	107-230/56 107-230/57 107-230/58	Ø 56 mm Ø 57 mm Ø 58 mm
	107-220/59 107-220/60 107-220/61	107-230/59 107-230/60 107-230/61	Ø 59 mm Ø 60 mm Ø 61 mm
	107-220/62 107-220/63 107-220/64	107-230/62 107-230/63 107-230/64	Ø 62 mm Ø 63 mm Ø 64 mm
	107-220/65	107-230/65	Ø 65 mm

* without safety ring
\# not self-centering

Accessories:
130-915/02 **X-ray Templates,** 110% actual size, 4 sheets

Patella Components



LINK® Patella Components

Material: UHMWPE			
Item no.	Size	Ø mm	Height mm
318-401/25	1	25	7
318-401/28	2	28	8
318-401/31	3	31	9
318-401/34	4	34	10

Instrument set for patella components available on request.

15-8710/01 Container A – Tapered Reamers 100 mm

1	15-8711/01	**Tray,** empty, 550 x 265 x 50 mm	
		Tapered Reamers: for prosthesis stems 100 mm, conical, with fitting B: Hudson	
2	16-5100/12	for: stem-Ø 12 mm	stem length 100 mm
3	16-5100/13	for: stem-Ø 13 mm	stem length 100 mm
4	16-5100/14	for: stem-Ø 14 mm	stem length 100 mm
5	16-5100/15	for: stem-Ø 15 mm	stem length 100 mm
6	16-5100/16	for: stem-Ø 16 mm	stem length 100 mm
7	16-5100/17	for: stem-Ø 17 mm	stem length 100 mm
8	16-5100/18	for: stem-Ø 18 mm	stem length 100 mm
9	16-5100/19	for: stem-Ø 19 mm	stem length 100 mm
10	16-5100/20	for: stem-Ø 20 mm	stem length 100 mm
11	16-5100/21	for: stem-Ø 21 mm	stem length 100 mm
12	16-5100/22	for: stem-Ø 22 mm	stem length 100 mm
13	16-5100/23	for: stem-Ø 23 mm	stem length 100 mm
14	16-5100/24	for: stem-Ø 24 mm	stem length 100 mm

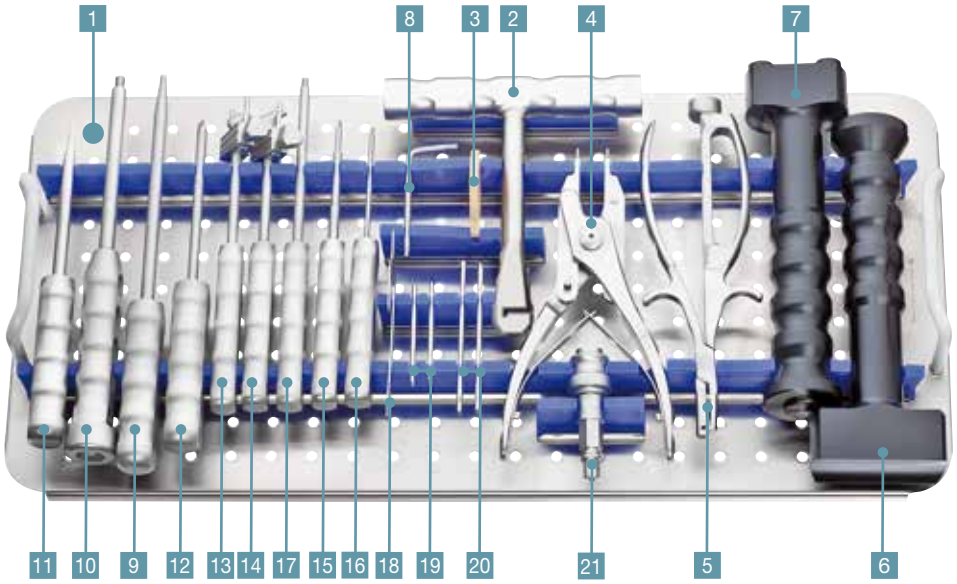
15-8720/01 Container B – Tapered Reamers 130 mm

1	15-8721/01	**Tray,** empty, 550 x 265 x 50 mm	
		Tapered Reamers: for prosthesis stems 130 mm, conical, with fitting B: Hudson	
2	16-5130/12	for: stem-Ø 12 mm	stem length 130 mm
3	16-5130/13	for: stem-Ø 13 mm	stem length 130 mm
4	16-5130/14	for: stem-Ø 14 mm	stem length 130 mm
5	16-5130/15	for: stem-Ø 15 mm	stem length 130 mm
6	16-5130/16	for: stem-Ø 16 mm	stem length 130 mm
7	16-5130/17	for: stem-Ø 17 mm	stem length 130 mm
8	16-5130/18	for: stem-Ø 18 mm	stem length 130 mm
9	16-5130/19	for: stem-Ø 19 mm	stem length 130 mm
10	16-5130/20	for: stem-Ø 20 mm	stem length 130 mm
11	16-5130/21	for: stem-Ø 21 mm	stem length 130 mm
12	16-5130/22	for: stem-Ø 22 mm	stem length 130 mm
13	16-5130/23	for: stem-Ø 23 mm	stem length 130 mm
14	16-5130/24	for: stem-Ø 24 mm	stem length 130 mm

15-8730/01 Container C – Tapered Reamers 160 mm

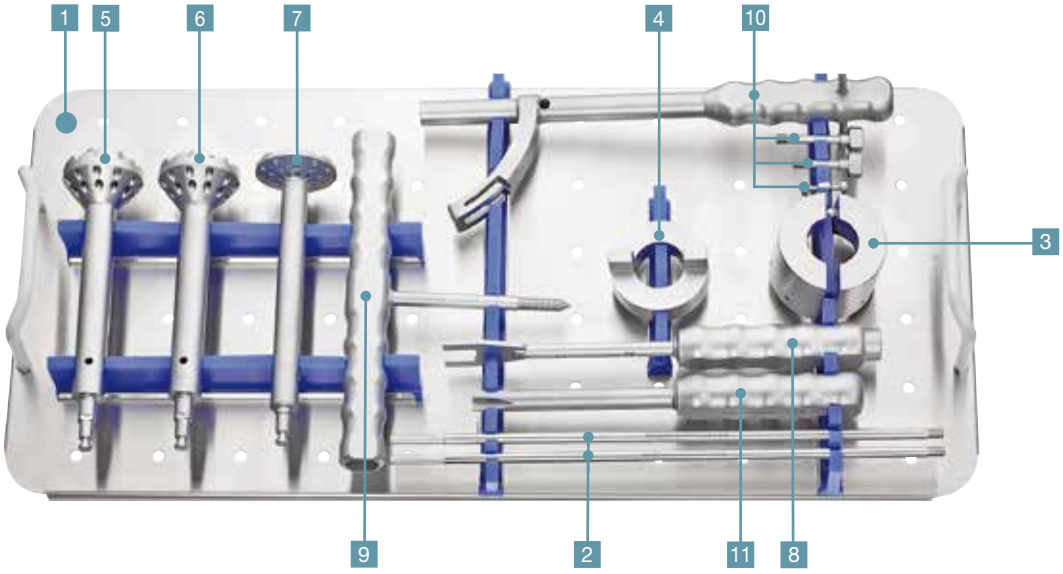
1	15-8731/01	**Tray,** empty, 550 x 265 x 50 mm	
		Tapered Reamers: for prosthesis stems 160 mm, conical, with fitting B: Hudson	
2	16-5160/12	for: stem-Ø 12 mm	stem length 160 mm
3	16-5160/13	for: stem-Ø 13 mm	stem length 160 mm
4	16-5160/14	for: stem-Ø 14 mm	stem length 160 mm
5	16-5160/15	for: stem-Ø 15 mm	stem length 160 mm
6	16-5160/16	for: stem-Ø 16 mm	stem length 160 mm
7	16-5160/17	for: stem-Ø 17 mm	stem length 160 mm
8	16-5160/18	for: stem-Ø 18 mm	stem length 160 mm
9	16-5160/19	for: stem-Ø 19 mm	stem length 160 mm
10	16-5160/20	for: stem-Ø 20 mm	stem length 160 mm
11	16-5160/21	for: stem-Ø 21 mm	stem length 160 mm
12	16-5160/22	for: stem-Ø 22 mm	stem length 160 mm
13	16-5160/23	for: stem-Ø 23 mm	stem length 160 mm
14	16-5160/24	for: stem-Ø 24 mm	stem length 160 mm

15-8740/01 Container D – General Instruments I



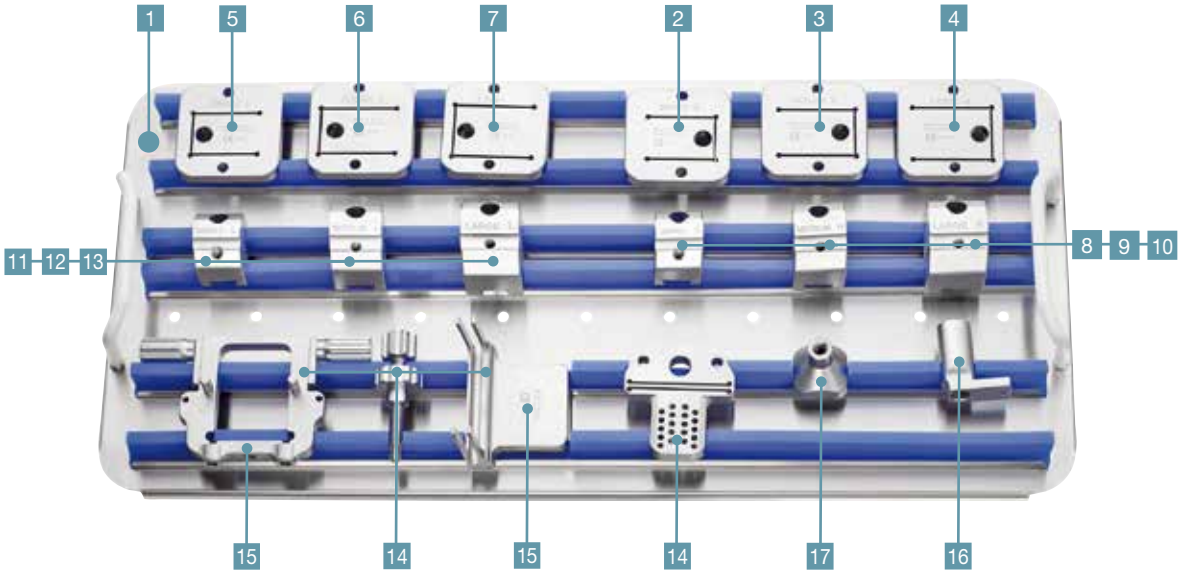
1	15-8741/01	**Tray,** empty, 550 x 265 x 50 mm
2	15-6053/00	**T-Handle,** with Hudson fitting
3	16-3203/00	**Impaction Plate** for tapered reamers
4	16-0020/01	**Connecting/Disconnecting Forceps,** 175 mm
5	317-586	**Extraction Forceps** for fixation pins, 210 mm
6	317-646/01	**Grooved Driver** for femoral components, 210 mm
7	16-0018/02	**Grooved Driver** für tibial components SL®
8	16-0116/01	**Hex Screwdriver,** wrench size 2.5 mm
9	64-8008/02	**Hex Screwdriver** with metal handle, wrench size 3.5 mm, 250 mm
10	15-8516/45	**Driver Extractor,** with metal handle, for modular stems, 365 mm
11	322-145/01	**Screwdriver** with metal handle, blade width 8 mm, 210 mm
12	317-658/01	**Bone Awl,** with metal handle and trocar point, 215 mm
13	15-8035/02	**Insertion Instrument** for PE plateaus Endo-Model® S, M and L, with metal handle
14	15-8035/03	**Insertion Instrument** for PE plateaus Endo-Model® XS and Endo-Model® SL®
15	10-5373/01	**Hex Screwdriver** with metal handle, wrench size 2.5 mm, 180 mm
16	15-2546	**Torque Wrench Hex Screwdriver** with metal handle, wrench size 2.0 mm, 175 mm
17	16-0017/01	**Separate Rod M5** with metal handle, 220 mm
18	317-607/50	**Cutting Template**
19	317-585/65	**Wire Pins,** Ø 3 mm, 65 mm (4 ea. included)
20	317-585/95	**Wire Pins,** Ø 3 mm, 95 mm (4 ea. included)
		Adapters optional with fittings:
21	16-3283/00	Hudson female/Jacobs male
22	16-3284/00	Hudson female/AO male
23	16-3285/00	Hudson female/Harris male

15-8750/01 Container E – General Instruments II



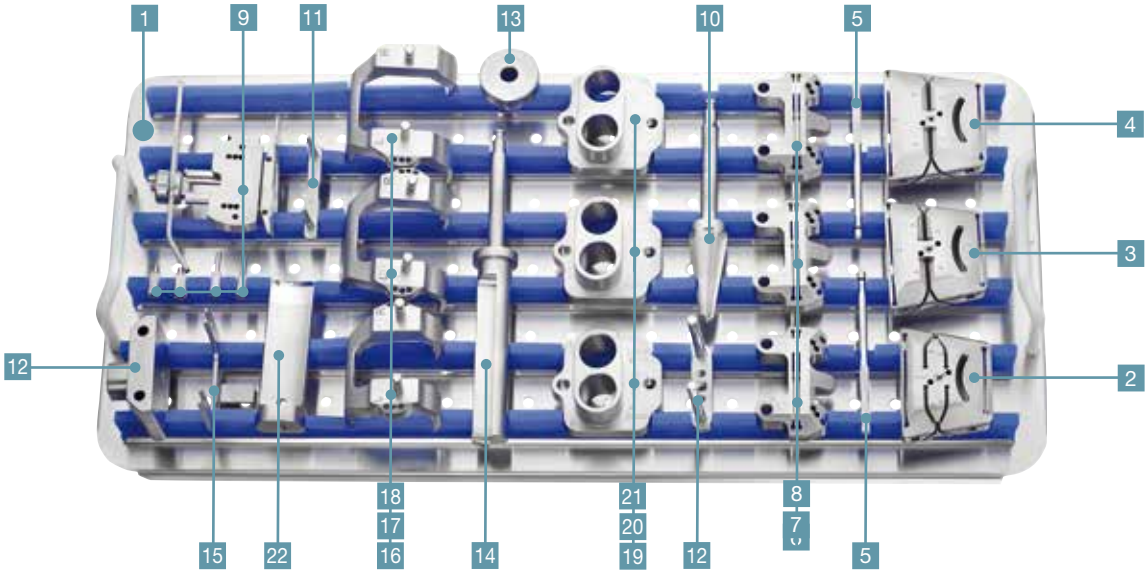
1	15-8751/01	**Tray,** empty, 550 x 265 x 50 mm
2	16-3235/00	**Guide Rod** for saw guide for notching (2 ea. included)
3	16-3236/00	**Adapter Ring** for saw guide for notching
4	16-3237/00	**Saw Guide** for notching
5	16-3204/18	**Step Reamer,** Ø 18 mm, with Hudson fitting
6	16-3204/24	**Step Reamer,** Ø 24 mm, with Hudson fitting
7	16-3205/30	**Reamer,** Ø 30 mm, with Hudson fitting, 85 mm
8	15-8516/41	**Seperator** with metal handle, 235 mm
9	15-8506/52	**Distraction Instrument** with metal handle
10	131-379/00	**Insertion Instrument** with metal handle, for neck segments standard + XXL (4 parts)
11	16-3290/00	**Cross Slot Screwdriver** with metal handle, 210 mm

15-8760/01 Container F – Femur I



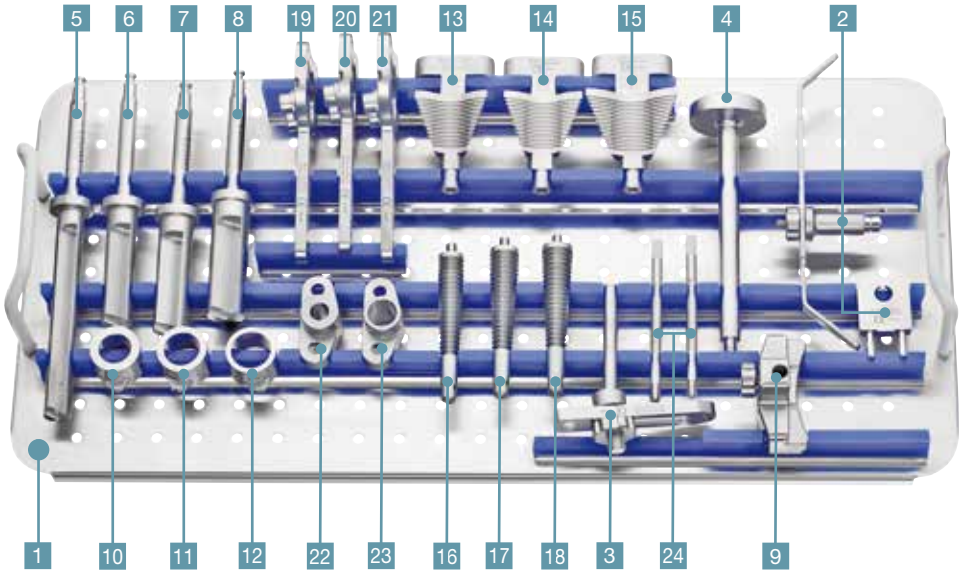
1	15-8761/01	**Tray,** empty, 550 x 265 x 50 mm	
		Saw Attachments for femoral components SL®	
2	16-3221/01	small S	right
3	16-3223/01	medium M	right
4	16-3225/01	large L	right
5	16-3221/02	small S	left
6	16-3223/02	medium M	left
7	16-3225/02	large L	left
		Femoral Trial Box for femoral components SL®	
8	16-3261/01	small S	right
9	16-3263/01	medium M	right
10	16-3265/01	large L	right
11	16-3261/02	small S	left
12	16-3263/02	medium M	left
13	16-3265/02	large L	left
14	16-3277/00	**Revision Cutting Block,** distal, for femoral components SL® (2 parts)	
15	16-3278/00	**Revision Alignment Gauge,** distal, for femoral components SL® (2 parts)	
16	16-3282/00	**Aligment Instrument** for femoral trial box	
17	16-3271/00	**Adapter** for femoral trial box	

15-8770/01 Container G – Femur II



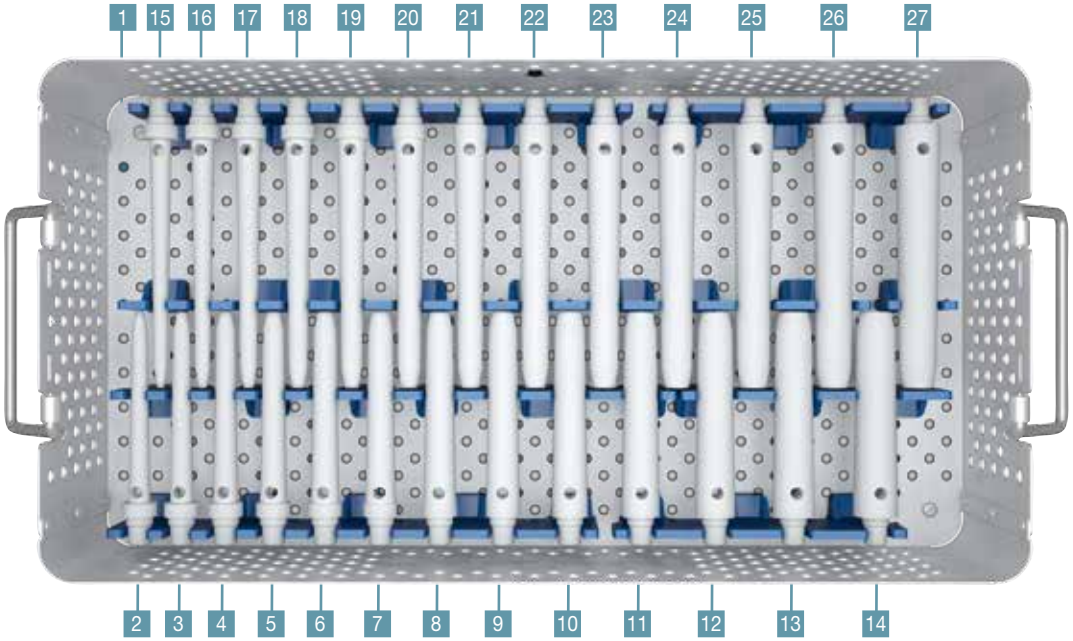
1	15-8771/01	**Tray,** empty, 550 x 265 x 50 mm	
		Femur Cutting Blocks for chamfer cuts	
2	16-3250/02	size 2	
3	16-3250/03	size 3	
4	16-3250/04	size 4	
5	317-802/58	**Alignment Rods** for epicondyles, 100 mm (2 ea. included)	
		Femur Cutting Blocks for distal cut	
6	16-3228/02	size 2	
7	16-3228/03	size 3	
8	16-3228/04	size 4	
9	16-3276/00	**Alignment Instrument,** for determination of external rotation (5 parts)	
10	16-3202/00	**Drill,** conical, to open femoral and tibial cavity, with Hudson fitting	
11	317-802/36	**Dove Tail Adapter,** neutral, for femoral cutting blocks	
12	16-3275/00	**Alignment Instrument** for valgus angulation (2 parts)	
13	16-3281/00	**Center Sleeve** for drill cap femur	
14	16-3206/20	**Drill** with stop, with Hudson fitting, Ø 20 mm	
15	16-3279/00	**Holding Clamp**	
		Condyle Caps Femur	
16	16-3240/02	size 2	right/left
17	16-3240/03	size 3	right/left
18	16-3240/04	size 4	right/left
		Drill Caps Femur, Ø 20 mm	
19	16-3213/02	size 2	right/left
20	16-3213/03	size 3	right/left
21	16-3213/04	size 4	right/left
22	317-802/32	**Chisel** for patella glide, 80 mm	

15-8780/01 Container **H** – Tibia



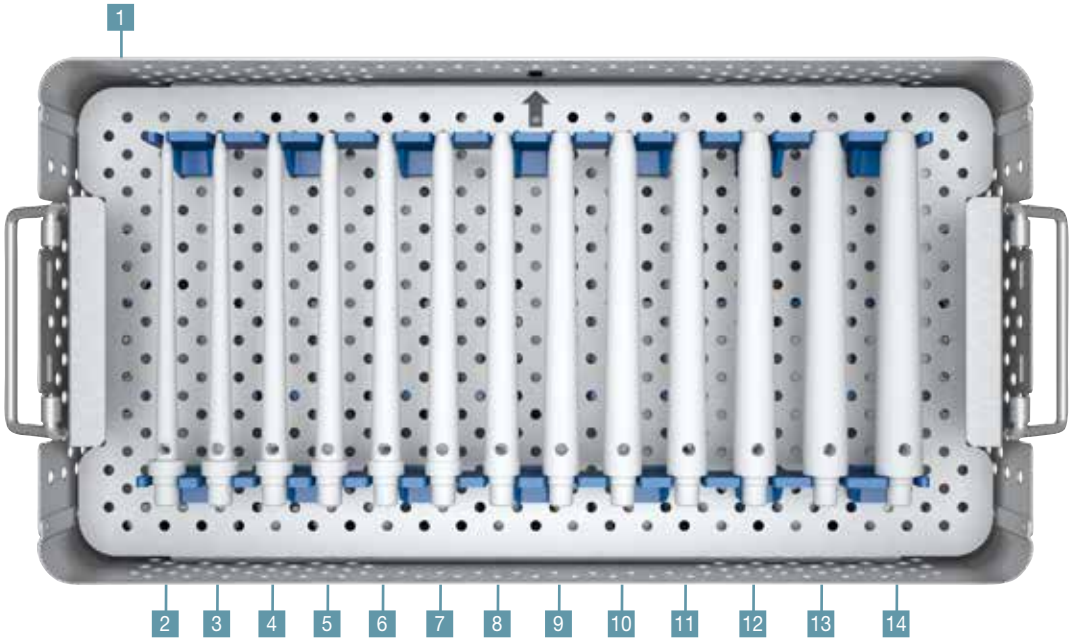
1	15-8781/01	**Tray,** empty, 550 x 265 x 50 mm
2	317-802/52	**Stylus** for tibial saw guide, adjustable (2 parts)
3	16-3212/08	**Connector,** size 8°, for tapered reamer/tibial saw guide
4	16-3197/00	**Handle,** for tibial compressor/femoral trial box
5	16-3207/16	**Drill** with stop, for tibial components SL®, ventral side, Ø 16 mm
		Drill with stop, for tibial components SL®
6	16-3208/18	small S Ø 18 mm
7	16-3208/20	medium M Ø 20 mm
8	16-3208/22	large L Ø 22 mm
9	16-3241/00	**Tibial Saw Guide** for tibial components SL®
		Drill Guides for drill templates
10	16-3270/18	small S Ø 18 mm
11	16-3270/20	medium M Ø 20 mm
12	16-3270/22	large L Ø 22 mm
		Compressors for tibial components SL®
13	16-3199/12	small S
14	16-3199/13	medium M
15	16-3199/14	large L
		Stem Compressors for tibial components SL®
16	16-3201/02	small S
17	16-3201/03	medium M
18	16-3201/04	large L
		Drill Templates for tibial components SL®
19	16-3198/12	small S
20	16-3198/13	medium M
21	16-3198/14	large L
22	16-3266/00	**Alignment Gauge,** tibia, for drill templates
23	16-3267/00	**Drill Guide,** tibia, for ventral cut, Ø 16 mm
24	16-3211/00	**Guide Rod,** tibia, for drill template (2 ea. included)

15-8790/02 Container – Femur Trial Stems 100 and 130 mm



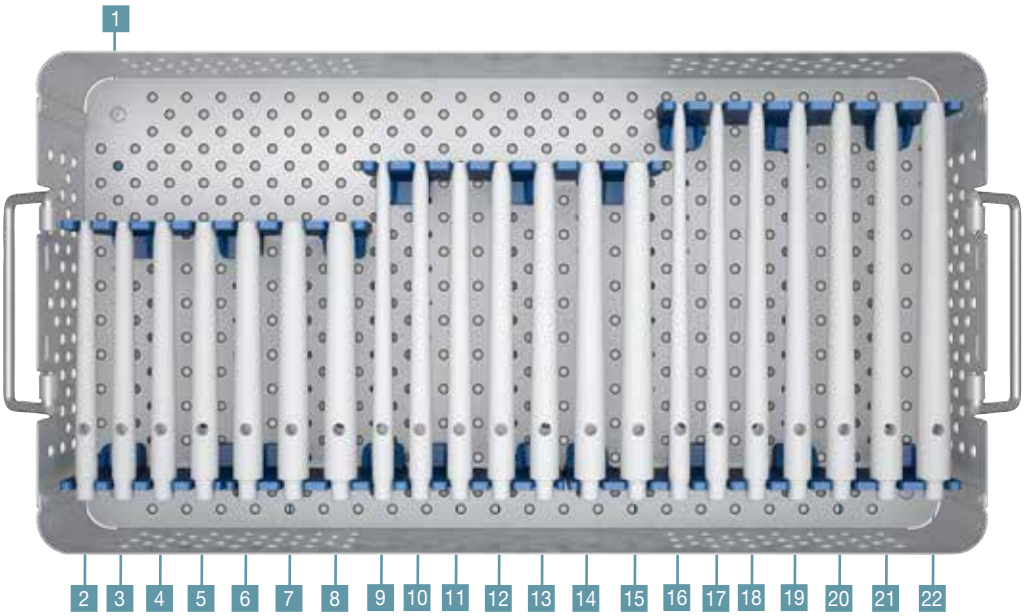
1	15-8791/02	**Tray,** empty, 550 x 265 x 50 mm	
		Trial Stems for prosthesis stems 100 mm	
2	16-3101/12	for: stem-Ø 12 mm	stem length 100 mm
3	16-3101/13	for: stem-Ø 13 mm	stem length 100 mm
4	16-3101/14	for: stem-Ø 14 mm	stem length 100 mm
5	16-3101/15	for: stem-Ø 15 mm	stem length 100 mm
6	16-3101/16	for: stem-Ø 16 mm	stem length 100 mm
7	16-3101/17	for: stem-Ø 17 mm	stem length 100 mm
8	16-3101/18	for: stem-Ø 18 mm	stem length 100 mm
9	16-3101/19	for: stem-Ø 19 mm	stem length 100 mm
10	16-3101/20	for: stem-Ø 20 mm	stem length 100 mm
11	16-3101/21	for: stem-Ø 21 mm	stem length 100 mm
12	16-3101/22	for: stem-Ø 22 mm	stem length 100 mm
13	16-3101/23	for: stem-Ø 23 mm	stem length 100 mm
14	16-3101/24	for: stem-Ø 24 mm	stem length 100 mm
		Trial Stems for prosthesis stems 130 mm	
15	16-3131/12	for: stem-Ø 12 mm	stem length 130 mm
16	16-3131/13	for: stem-Ø 13 mm	stem length 130 mm
17	16-3131/14	for: stem-Ø 14 mm	stem length 130 mm
18	16-3131/15	for: stem-Ø 15 mm	stem length 130 mm
19	16-3131/16*	for: stem-Ø 16 mm	stem length 130 mm
20	16-3131/17	for: stem-Ø 17 mm	stem length 130 mm
21	16-3131/18*	for: stem-Ø 18 mm	stem length 130 mm
22	16-3131/19	for: stem-Ø 19 mm	stem length 130 mm
23	16-3131/20	for: stem-Ø 20 mm	stem length 130 mm
24	16-3131/21	for: stem-Ø 21 mm	stem length 130 mm
25	16-3131/22	for: stem-Ø 22 mm	stem length 130 mm
26	16-3131/23	for: stem-Ø 23 mm	stem length 130 mm
27	16-3131/24	for: stem-Ø 24 mm	stem length 130 mm

15-8790/02 Container – Femur Trial Stems 160 mm



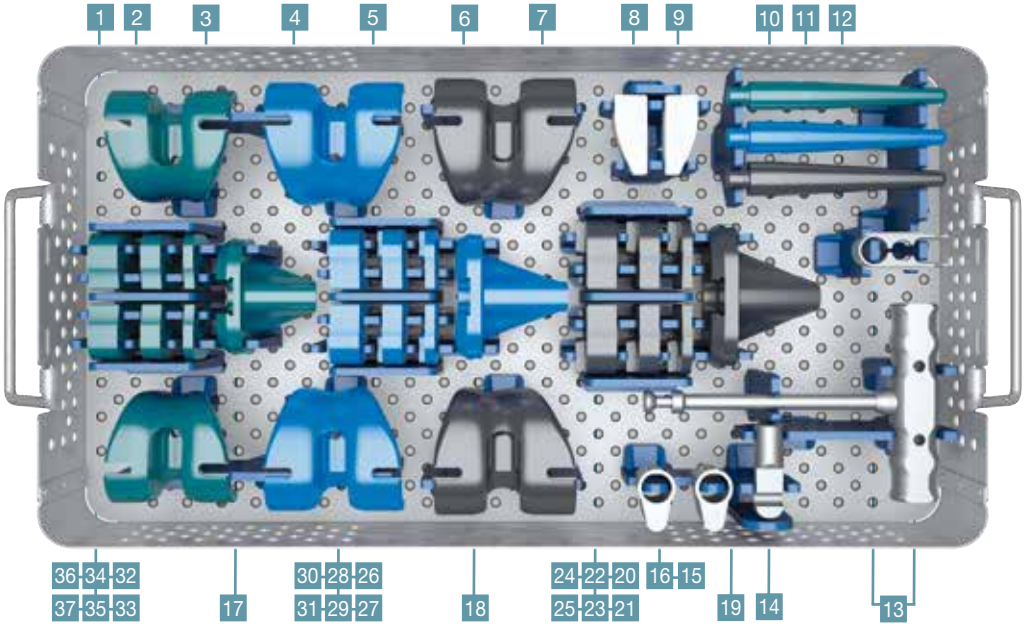
1	15-8791/02	**Tray,** empty, 550 x 265 x 50 mm	
		Trial Stems for prosthesis stems 160 mm	
2	16-3161/12	for: stem-Ø 12 mm	stem length 160 mm
3	16-3161/13	for: stem-Ø 13 mm	stem length 160 mm
4	16-3161/14	for: stem-Ø 14 mm	stem length 160 mm
5	16-3161/15	for: stem-Ø 15 mm	stem length 160 mm
6	16-3161/16	for: stem-Ø 16 mm	stem length 160 mm
7	16-3161/17	for: stem-Ø 17 mm	stem length 160 mm
8	16-3161/18	for: stem-Ø 18 mm	stem length 160 mm
9	16-3161/19	for: stem-Ø 19 mm	stem length 160 mm
10	16-3161/20	for: stem-Ø 20 mm	stem length 160 mm
11	16-3161/21	for: stem-Ø 21 mm	stem length 160 mm
12	16-3161/22	for: stem-Ø 22 mm	stem length 160 mm
13	16-3161/23	for: stem-Ø 23 mm	stem length 160 mm
14	16-3161/24	for: stem-Ø 24 mm	stem length 160 mm

15-8810/02 Container – Tibial Trial Stems 100, 130 and 160 mm



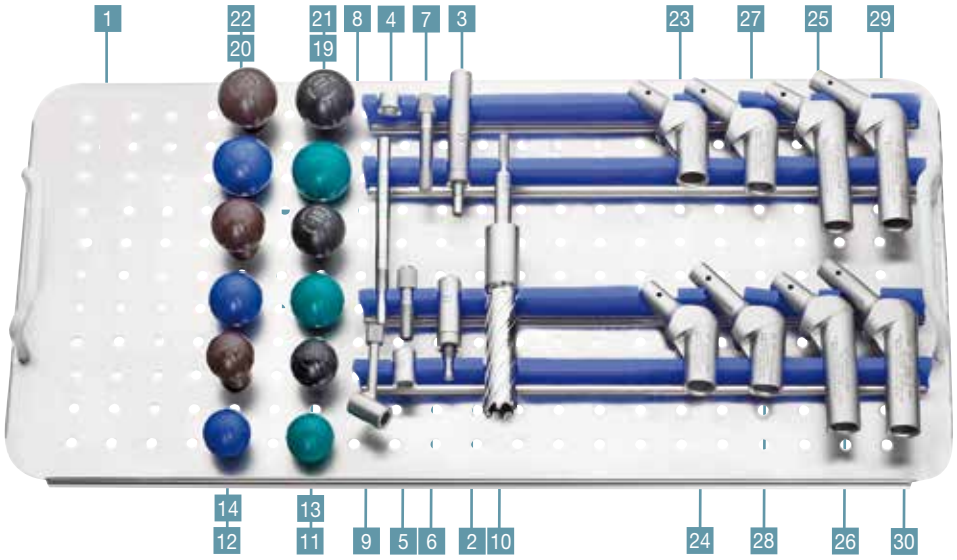
1	15-8811/02	**Tray,** empty, 550 x 265 x 50 mm	
		Trial Stems for modular tibia: 100 mm, 130 mm + 160 mm, conical	
2	16-4101/12	for: stem-Ø 12 mm	for modular tibia 100 mm
3	16-4101/13	for: stem-Ø 13 mm	for modular tibia 100 mm
4	16-4101/14	for: stem-Ø 14 mm	for modular tibia 100 mm
5	16-4101/15	for: stem-Ø 15 mm	for modular tibia 100 mm
6	16-4101/16	for: stem-Ø 16 mm	for modular tibia 100 mm
7	16-4101/17	for: stem-Ø 17 mm	for modular tibia 100 mm
8	16-4101/18	for: stem-Ø 18 mm	for modular tibia 100 mm
9	16-4131/12	for: stem-Ø 12 mm	for modular tibia 130 mm
10	16-4131/13	for: stem-Ø 13 mm	for modular tibia 130 mm
11	16-4131/14	for: stem-Ø 14 mm	for modular tibia 130 mm
12	16-4131/15	for: stem-Ø 15 mm	for modular tibia 130 mm
13	16-4131/16	for: stem-Ø 16 mm	for modular tibia 130 mm
14	16-4131/17	for: stem-Ø 17 mm	for modular tibia 130 mm
15	16-4131/18	for: stem-Ø 18 mm	for modular tibia 130 mm
16	16-4161/12	for: stem-Ø 12 mm	for modular tibia 160 mm
17	16-4161/13	for: stem-Ø 13 mm	for modular tibia 160 mm
18	16-4161/14	for: stem-Ø 14 mm	for modular tibia 160 mm
19	16-4161/15	for: stem-Ø 15 mm	for modular tibia 160 mm
20	16-4161/16	for: stem-Ø 16 mm	for modular tibia 130 mm
21	16-4161/17	for: stem-Ø 17 mm	for modular tibia 130 mm
22	16-4161/18	for: stem-Ø 18 mm	for modular tibia 130 mm

15-8820/02 Container – Femur and Tibial Trial Prostheses, intracondylar



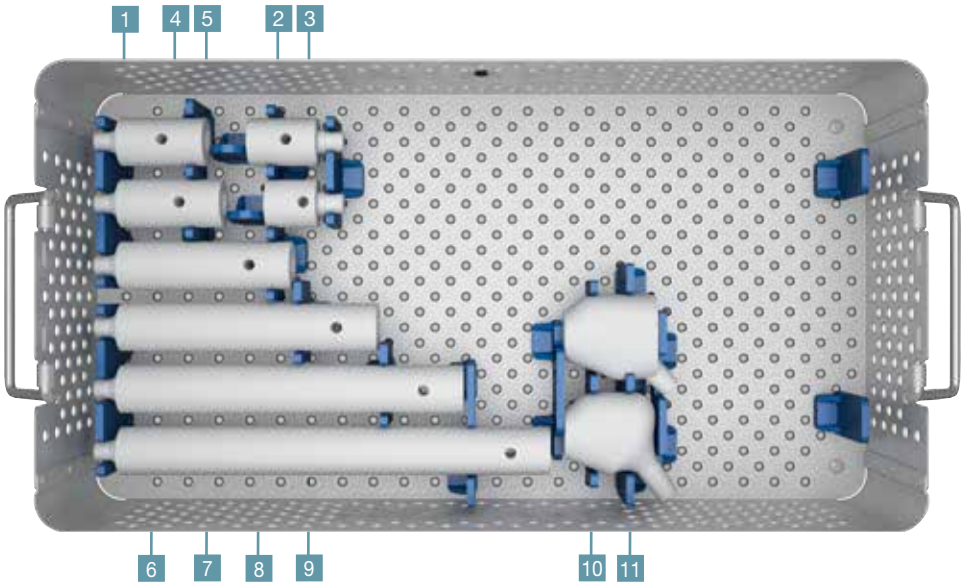
1	15-8821/02	**Tray,** empty, 550 x 265 x 50 mm		
		Femur Trial Prostheses, intracondylar		
2	16-3181/12	left	small S	
3	16-3181/11	right	small S	
4	16-3183/12	left	medium M	
5	16-3183/11	right	medium M	
6	16-3185/12	left	large L	
7	16-3185/11	right	large L	
8	16-4368/01	**Femur Trial Segment,** right, size S/M/L, 25 mm height		
9	16-4368/02	**Femur Trial Segment,** left, size S/M/L, 25 mm height		
10	16-3170/12	**Tibial Trial Stems,** small S		
11	16-3170/13	**Tibial Trial Stems,** medium M		
12	16-3170/14	**Tibial Trial Stems,** large L		
13	15-6061/00	**Extraction Instrument** for trial prostheses		
14	16-4367/20	**Trial Axis** for mobile and hinged versions		
15	16-4367/00	**Trial Connection Component** for hinge knee		
16	16-4367/10	**Trial Connection Component** for rotational knee		
17	16-3175/12	**Tibial Trial Prostheses,** intracondylar, small S		
18	16-3175/13	**Tibial Trial Prostheses,** intracondylar, medium M		
19	16-3175/14	**Tibial Trial Prostheses,** intracondylar, large L		
		Tibial Trial Spacers, intracondylar		
20	16-4361/01	right	small S	5 mm height
21	16-4362/01	left	small S	5 mm height
22	16-4363/01	right	small S	10 mm height
23	16-4364/01	left	small S	10 mm height
24	16-4365/01	right	small S	15 mm height
25	16-4366/01	left	small S	15 mm height
26	16-4361/02	right	medium M	5 mm height
27	16-4362/02	left	medium M	5 mm height
28	16-4363/02	right	medium M	10 mm height
29	16-4364/02	left	medium M	10 mm height
30	16-4365/02	right	medium M	15 mm height
31	16-4366/02	left	medium M	15 mm height
32	16-4361/03	right	large L	5 mm height
33	16-4362/03	left	large L	5 mm height
34	16-4363/03	right	large L	10 mm height
35	16-4364/03	left	large L	10 mm height
36	16-4365/03	right	large L	15 mm height
37	16-4366/03	left	large L	15 mm height

15-8820/01 Container L – Trial Prostheses Proximal Femur



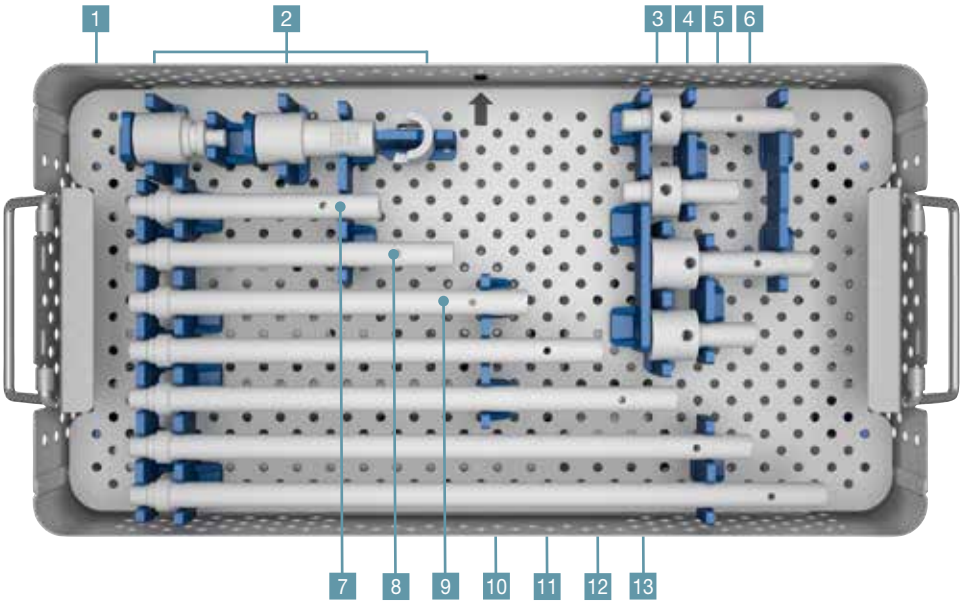
1	15-8821/01	**Tray,** empty, 550 x 265 x 50 mm	
2	131-383	**Drill Guide** with stop, for proximal femur replacement, 60 mm	
3	131-383/90	**Drill Guide** with stop, for proximal femur replacement, 90 mm	
4	131-398/10	**Trial Proximal Spacer,** 10 mm	
5	131-398/20	**Trial Proximal Spacer,** 20 mm	
6	131-397/38	**Trial Fixation Screw,** 38 mm	
7	131-397/58	**Trial Fixation Screw,** 58 mm	
8	131-377/01	**Guide Rod** for positioning neck segment, 120 mm	
9	131-376	**Go/no Go Guide,** 60 mm	
10	131-384/01	**Tubular Reamer** with external chip disposal, with fitting Jacobs Chuck, 175 mm	
		Plastic Trial Heads, colored, 12/14 mm taper, **Ø 28 mm**	
11	131-928/01	short	green
12	131-928/02	medium	blue
13	131-928/03	long	black
14	131-928/04	extra long	brown
		Plastic Trial Heads, colored, 12/14 mm taper, **Ø 32 mm**	
15	131-932/01	short	green
16	131-932/02	medium	blue
17	131-932/03	long	black
18	131-932/04	extra long	brown
		Plastic Trial Heads, colored, 12/14 mm taper, **Ø 36 mm**	
19	131-936/01	short	green
20	131-936/02	medium	blue
21	131-936/03	long	black
22	131-936/04	extra long	brown
		Trial Neck Segments, 12/14 mm taper	
23	131-395/26	35 mm	126° CCD
24	131-395/35	35 mm	135° CCD
25	131-396/26	65 mm	126° CCD
26	131-396/35	65 mm	135° CCD
		Trail Neck Segments XXL with 40 mm offset, 12/14 mm taper	
27	131-393/26	35 mm	126° CCD
28	131-393/35	35 mm	135° CCD
29	131-394/26	65 mm	126° CCD
30	131-394/35	65 mm	135° CCD

15-8830/02 Container – **Trial Instruments** for Total Femur Replacement



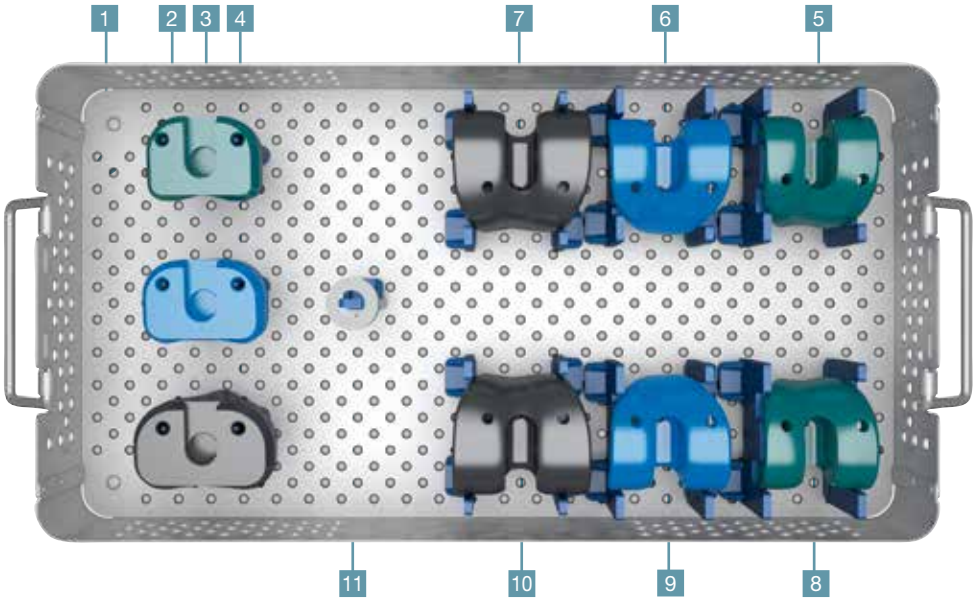
1	15-8831/02	**Tray,** empty, 550 x 265 x 50 mm
		Trial Prostheses, for stem segments
2	16-3030/01	30 mm
3	16-3040/01	40 mm
4	16-3050/01	60 mm
5	16-3060/01	60 mm
6	16-3100/01	100 mm
7	16-3150/01	150 mm
8	16-3200/01	200 mm
9	16-3250/01	250 mm
		Trial Neck Segments
10	16-3213/35	135° CCD-Angle
11	16-3213/26	126° CCD-Angle

15-8830/02 Container – **Trial Instruments** for Total Femur Replacement



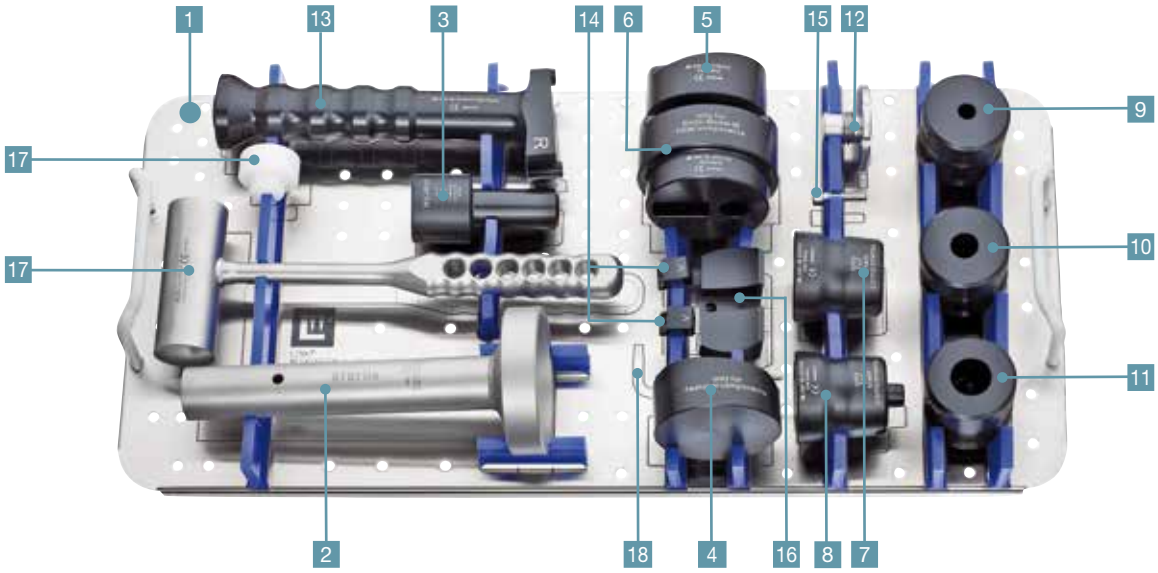
1	15-8831/02	**Tray,** empty, 550 x 265 x 50 mm
2	16-3204/01	**Trial Prosthesis** for coupling for diaphyseal spacer (3 parts)
		Couplings
3	16-3212/26	for Total Femur Replacement, long
4	16-3212/24	for Total Femur Replacement, short
5	16-3212/30	for Proximal Femur Replacement, long
6	16-3212/28	for Proximal Femur Replacement, short
		Trial Prostheses for push-through stems
7	16-4120/01	120 mm
8	16-4160/01	160 mm
9	16-4200/01	200 mm
10	16-4240/01	240 mm
11	16-4280/01	280 mm
12	16-4320/01	320 mm
13	16-4360/01	360 mm

15-8840/02 Container – **Trial Instruments** for Distal Femur and Proximal Tibia Replacement



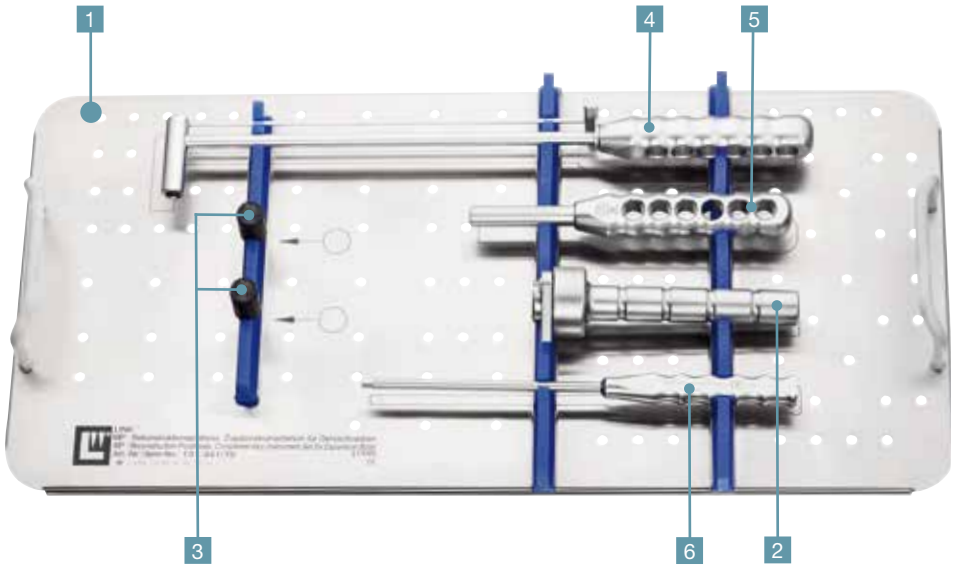
1	15-8841/02	**Tray,** empty, 550 x 265 x 50 mm	
		Trial Prosthesis for proximal tibia replacement	
2	16-3180/12	small S	
3	16-3180/13	medium M	
4	16-3180/14	large L	
		Trial Prostheses for distal femur replacement	
5	16-3191/12	small S	left
6	16-3193/12	medium M	left
7	16-3195/12	large L	left
8	16-3191/11	small S	right
9	16-3193/11	medium M	right
10	16-3195/11	large L	right
11	15-6094/00	Trial Support Ring, Ø 28 mm, Height 10 mm	

16-0100/00 Container O – Assembling Instrument Set



1	16-0100/01	**Tray,** empty, 550 x 265 x 50 mm
2	16-0118/01	**Assembling Table: upper part**
3	16-0118/03	**Assembling Table: silencer**
4	16-0110/01	**Femur Assembling Plate**
5	16-0110/02	**Tibia Assembling Plate** for Endo-Model® SL® knee prosthesis
6	16-0110/03	**Tibia Assembling Plate** for Endo-Model® knee prosthesis
7	16-0111/01	**Assembling Protector** for female taper
8	16-0111/02	**Assembling Protector** for male taper
		Assembling Protectors
9	16-0112/01	Size 1
10	16-0112/02	Size 2
11	16-0112/03	Size 3
12	16-0113/01	**Metal Core** for assembling protector, for modular stem (size 1-3)
13	16-0114/01	**Handle** for femur assembling protector
14	16-0114/02	**Block,** spare part for femur assembling protector 16-0114/01 (2 ea. included)
15	16-0114/04	**Screw** for assembling protectors femur
16	16-0114/03	**Plate,** spare part for femur assembling protector 16-0114/01
17	16-0115/01	**Mallet,** non-resilient, 800g, complete
18	16-0116/02	**Hex Screwdriver,** hex 5 mm

131-340/04 Container **P** – Complementary Instrument Set for Expansion Bolts



1	131-341/10	**Tray,** empty, 550 x 265 x 50 mm
2	131-378/10	**Holder** for MP® neck segments, 150 mm
3	131-378/11	**Plastic Sleevers** for 131-378/10, taper 12/14 mm (2 ea. included)
4	131-385/10	**Torque Wrench,** key width 8 mm, 380 mm
5	131-385/01	**Screwdriver,** key width 8 mm, 185 mm
6	131-378/20	**Hex Wrench,** key width 5 mm, 244 mm

Assembling Instruments

16-0118/01

Assembling Table: Superior Component

16-0118/02

AssemblingTable: Inferior Component

with fixed base plate

16-0118/03

Assembling Table: Silence

Assembling Instruments

16-0110/01
Femur Assembling Plate

16-0110/02
Tibia Assembling Plate
for Endo-Model® SL® Knee Prostheses

16-0110/03
Tibia Assembling Plate
for Endo-Model® Knee Prostheses

16-0111/01
Assembling Protector for female taper

16-0111/02
Assembling Protector for male taper

Assembling Protectors
16-0112/01 for modular stem, size 1
16-0112/02 for modular stem, size 2
16-0112/03 for modular stem, size 3

16-0113/01
Metal Core for assembling protector,
for modular stem (size 1-3)

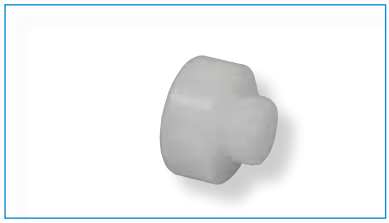
Assembling Instruments

16-0114/01
Femur Assembling Protector,
complete

16-0114/02
Block, spare part,
for femur assembling protector
16-0114/01

16-0114/03
Plate, spare part,
for femur assembling protector
16-0114/01

16-0115/01
Mallet, non-resilient proof,
800g



16-0115/02
Spare Mallet Head,
plastic, for 16-0115/01

16-0116/02
Hex Screwdriver,
Ø 5 mm

Description of Use: Mounting the Assembling Table

The Assembling Table is mounted before the operation as illustrated below.

The Superior Component 16-0118/01 and the Silencer 16-0118/03 are assembled in sterile condition. The Inferior Component 16-0118/02 with fixed Base Plate may be kept non-sterile.

The Silencer is screwed onto the Inferior Component.

The Superior Component is attached.

In use of the Assembling Table, place foot on base plate to prevent the table from toppling over. The table is dismantled in reverse order.

Description of Use: Connecting modular Stems to Modular Femoral and Tibial Components

The Femur Assembling Plate 16-0110/01 is placed into the reception of the Superior Component of the Assembling Table 16-0118/01.

According to the chosen size of modular stem, the Metal Core 16-0113/01 is screwed into Assembling Protector Modular Stem, size 1-3 (16-0112/01-03).

Prosthesis stem and femoral joint component are connected by hand (the taper surfaces must be clean and dry) and, observing the 6° valgus alignment of the femoral implant, placed on the Assembling Plate so that the prosthesis stem is vertical. If not, the implant assembly must be rotated 180°.

As shown in the picture, the components are struck with two powerful blows of the non-resilient mallet 16-0115/01 in order to firmly engage the taper connection (the second blow is a safety measure). The metal face of the Mallet must only be used.

Description of Use: Connecting Modular Stems to Modular Femoral and Tibial Components

When using Modular Tibial Implants, the Tibial Assembling Plate 16-0110/02 or /03 is first placed into the reception of the Superior Table Component.

Proceed according to the assembly of Modular Femoral Implant. Before using the Locking Screws, the taper connections must be connected firmly as described, using the Assembling Instruments.

Description of Use: Connecting Stem Elements

The Assembling Protector for Female Taper 16-0111/01 is placed into the reception of the assembling Table Superior Component.

Attaching the selected Stem Element.

Attaching the Stem Element to be connected and the Assembling Protector for Male Taper 16-0111/02.

Assemble the elements with two blows of the non-resilient Mallet, using the metal face of the Mallet only.

Use and Mounting of the Femur Assembling Protector

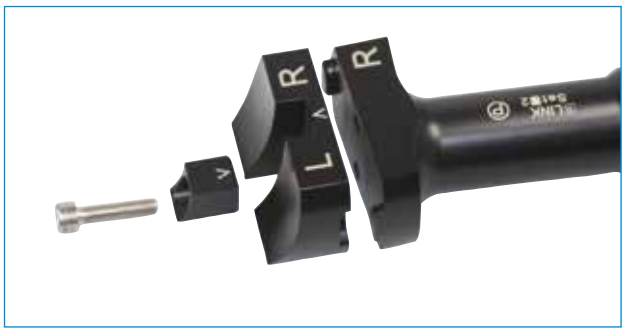
Use

The femur assembling protector is always used if the surgical procedure does not permit assembly of implant components outside the operating field (e.g. connecting femoral joint components to push-through stems). The instrument compensates for the valgus geometry of the knee implant and permits the engagement of the tapers in axial alignment in the transverse and sagittal plane.

Its use enables taper engagement in axial alignment.

Assembly

The femur assembling protector is mounted as shown in below illustration. First the plate is connected to the handle so that, depending on the side being operated on, the letters “R” for the right side or the letters “L” for the left side are lined up. In the illustration the right side is choosen. Consecutively the block for Assembling Protector is secured using the Hex Screwdriver. The two arrows (of bock and plate) must point toward each other.



Standard Preparation – Tibia

Intramedullary Alignment

01
Mark the entry site with the awl (317-658/01) and open the tibial canal with the conical drill (16-3202/00).

02
Mount the awl of the previously planned length (100, 130 or 160 mm) at the handle (16-3210/00). The im-paction plate (16-3203/00) latches into the slot on the shaft of the awl.

When uncemented modular stems are used, ream with an increasing diameter until the awl makes cortical contact over a continuous distance of approx. 50 mm. The uncemented implant that will be used must correspond in length and diameter to the last awl used.

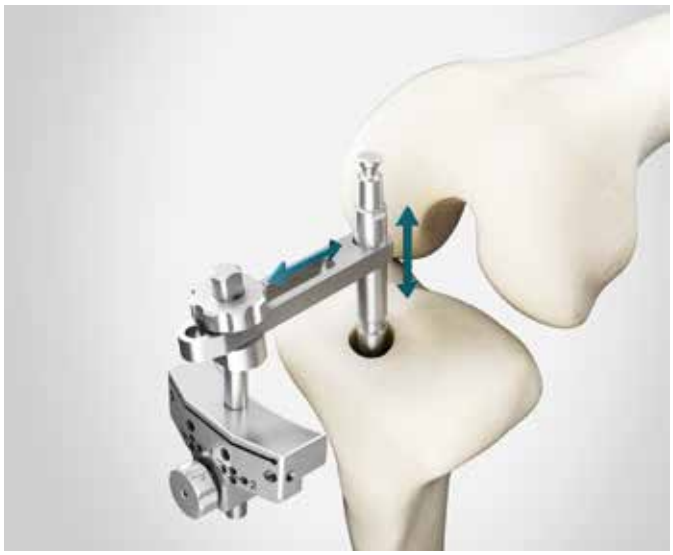
For cemented modular stems, the awl should be at least 2 mm larger than the planned stem diameter.

Important notes:
The position of the impaction plate represents the level of the joint line. Using the awls with a power tool is not permitted.

Standard Preparation – Tibia

03
After the desired stability is achieved, the handle (16-3210/00) and the impaction plate (16-3203/00) are removed.

04
Attach the connector (16-3212/08) to the shaft of the awl.



05
Attach the tibial saw guide (16-3241/00) to the anterior shaft of the connector and fix it provisionally by tightening the knurled screw.

Standard Preparation – Tibia

06
Attach the stylus for the tibial saw guide (317-802/52), preferably medially. The stylus tip marked 10 marks the resection level in the primary procedure (10 mm resection level).The stylus tip marked 2 can be used in revision surgery and marks a resection level of 2 mm. Alternatively, the stylus can be omitted and the resection level can be set using the cutting template (317-607/50).

07
The tibial saw guide (16-3241/00) is fixed to the proximal tibia by means of two wire pins (317-585/65 or /95) through the lower row of parallel holes.

08
The bone is resected following removal of the stylus, connector and awl. The resection can be extended distally by 2- or 4-mm by shifting the tibial saw guide.

To achieve the correct resection geometry, sawblades with a thickness between 1.24 mm and 1.27 mm must be used.

Standard Preparation – Tibia

09
The last-used awl is inserted into the medullary cavity again. By placing the drill template (16-3198/12, /13, /14) that corresponds exactly to the implant size, the definitive implant size is determined. It is important that the implant covers the resection surface as far as possible. Projection over the cortical margin of the tibia must be avoided.

10
The alignment gauge (16-3266/00) is placed over the shaft of the awl and connected to the pegs of the drill template. After rotational alignment of the drill template, it is fixed to the resection surface with at least two wire pins.

11
Remove al of the alignment gauge. The awl Ø 24 mm must also be removed temporarly and then reinstalled.

Standard Preparation – Tibia

12
Attached 16 mm diameter drill guide (16-3267/00) and drill the proximal tibia (manually or machine-operated) with the 16 mm drill (16-3207/16) until stop.

13
After removing the 16 mm drill guide, the drill guide (16-3270/18, /20, /22) is attached to drill the central tibial opening. The drill guide must correspond to the size of the drill template.

Standard Preparation – Tibia

14
Drill the central tibial opening with the drill corresponding in diameter to the drill guide (16-3208/18, /20, /22) until stop.

15
Screw the guide rods (16-3211/00) into the anterior threaded holes of the drill template.

Standard Preparation – Tibia

16
Screw the stem compressor (16-3201/02, /03, /04 to the corresponding compressor (16-3199/12, /13, /14) for the proximal contour. Attach the handle (16-3197/00).

17
Drive in the compressor over the guide rods until the compressor touches the drill template.

18
Preparation of the tibia is now complete.

Standard Preparation – Femur

19
Mark the entry site with the awl (317-658/01) and open the femoral canal with the conical drill (16-3202/00).

20 + 21
Mount the awl in the planned length (100, 130 or 160 mm) in the handle (16-3210/00). The impaction plate (16-3203/00) latches into the slot on the shaft of the awl.

When uncemented modular stems are used, ream with an increasing awl diameter until the awl makes cortical contact over a continuous distance of approx. 50 mm. The uncemented implant that will be used must correspond in length and diameter to the last awl used.

For cemented modular stems, the awl should be at least 2 mm larger than the planned stem diameter.

Important notes:
The position of the impaction plate represents the level of the joint line. Using the awls with a power tool is not permitted.

Standard Preparation – Femur

22
Remove the impaction plates and attach the alignment instrument for valgus angulation (16-3275/00). Ensure that the correct instrument for the right or left side is attached. The word “Left“ or “Right“ must face upward.

23
The appropriate saw block (16-3228/02, /03, /04) for the distal saw cut – according to the previously determined size – is fixed to the valgus alignment instrument using the clamp. The cut can be simulated with the cutting template (317-607/50).

There is a +3 mm slot for proximal offset of the cut or the instrument can be moved by +2 mm after it is fixed by wire pins.

24
After fixing the saw guide by means of two parallel and one oblique wire pins, the valgus alignment instrument and the awl are removed and the distal cut is made.

To achieve the correct resection geometry, sawblades with a thickness between 1.24 mm and 1.27 mm must be used.

Standard Preparation – Femur

25
With the alignment instrument for determination of external rotation (16-3276/00), the selected femoral size is first set and fixed with a pin.

The alignment instrument allows external rotation to be set to 0°, 3° and 5° with reference to the posterior condylar tangent. Alternatively, external rotation can also be aligned using the Whiteside line with the small dipstick in the center of the instrument. Small alignment rods can be attached medially and laterally for orientation to the epicondylar line (Insall line).

Deficits in flexion and extension gap can be balanced by using femoral segments or tibial spacers.

26
Once the correct position is found, the instrument is fixed with two wire pins through the medial and lateral holes.

27
After the wire pins and alignment instrument have been removed, the dovetail adapter (317-802/36) is inserted in the depressions created by the wire pins.

Standard Preparation – Femur

28
The cutting block for chamfer cuts (16-3250/02, /03, 04) is pushed onto the side of the dovetail adapter and the central hex screw is fixed in the selected position with the hex screwdriver, wrench size 2.5 mm (10-5373/01). 2 wire pins can then be inserted for additional fixation. The anterior cut is made first, then the dorsal and finally the anterior and posterior oblique cut.

To achieve the correct resection geometry, sawblades with a thickness between 1.24 mm and 1.27 mm are to be used.

29
Before the trochlea is prepared with the chisel (317-802/32) for the patellar gliding groove, the cutting block for chamfer cuts is aligned somewhat lateral to the center. Then the chisel is connected to the handle (15-8516/45), and the trochlea is then prepared with it.

30
Following preparation of the distal femur, the last used awl is inserted into the medullary canal again.

Standard Preparation – Femur

31
The condyle cap (16-3240/02, /03, /04) is placed on the prepared bone surfaces. The shaft of the awl forms the center.

32
A drill cap (16-3213/02, /03, /04) of the same size as the condyle cap is placed on the pegs of the condyle cap. The word “Left“ or “Right“ must be situated horizontally.

33
Using the center sleeve (16-3281/00), the instruments are aligned and centered on the shaft of the awl.

Standard Preparation – Femur

34
Following alignment, the drill cap is fixed to the condyle cap with the holding clamp (16-3279/00). The condyle cap is fixed to the bone with 2 wire pins. The center sleeve and awl are removed. If necessary, the drill cap must also be removed temporarily and then re-attached again.

35
The drill for femur Ø 20 mm (16-3206/20) is inserted as far as stop.

36
After removing the holding clamp, the drill cap is removed, the saw attachment matching the selected prosthesis size (e.g.16-3223/02) is attached and secured again with the holding clamp. The femur box is then prepared with an oscillating saw.

Standard Preparation – Femur

37
Preparation of distal femur is complete.

38
The tibial trial stem and trial prosthesis are joined by screwing them together and inserted into the prepared tibia.

39
The femoral trial stem and trial prosthesis are joined by screwing them together and inserted into the prepared femur.

Standard Preparation – Femur

40
Connect the two joint pieces by inserting the dorsal recess of the trial axis into the axis of the femoral component and then pushing the tibia up. Fix the screw with the hex screwdriver (64-8008/02).
Test the prosthesis. Deficits in the flexion and extension gap are compensated for with trial femoral segments and/or trial tibial washers.
The components are separated by proceeding in reverse order.

41
Remove the trial femoral and tibial components with the extraction instrument for trial prostheses (15-6061/00).

Assembling the Tibial Components

42
The tibial stems are fixed by means of a tapered connection on the tibial component. It should be ensured that the flanges of the prosthetic stems are inserted into the intended slots. The stem is then fixed to the tibial component with screw assembly.

After the underside of the tibial prosthetic component has been coated with a thin layer of bone cement, the prosthesis is inserted into the tibia with the impactor (16-0018/02).

43
Until the bone cement has set, the trial screw remains in the prosthesis thread in order to protect it. After the cement has set, the screw is removed with the screwdriver (322-145/01).

The femoral prosthetic component coated with bone cement is placed on the femur and gently tapped home with the impactor (317-646/01) until the implant fits snugly (excess bone cement is removed).

If the intention was to use a tibial component with pre-assembled PE sleeve and tension plate, these parts are no longer required, as they now form part of the connecting components.

Assembling the Tibial Components

44
After the bone cement has set, the transport lock is removed by loosening the screw joint with the screwdriver (10-5373/01) and withdrawing the lock with slight rotation. The plateau securing screw is removed.

45
The connector with the rotation axis is put on the tibial component, and the PE plateau is then inserted and screwed home.

For easier access to the plateau retaining screw, the connector is rotated slightly.

Assembling the Tibial Components

46
The connecting component is inserted into the intracondylar slot of the femoral component. Then the U-shaped opening of the securing sleeve is rotated 180° until the opening faces upwards. The securing sleeve can then be pushed upwards along the spring wire, thereby unloading the spring so that it presses the axis halves outwards. The prosthesis axis is inserted into the bushings by slightly lifting the connecting component and carefully moving the joint components. A 2 mm torque wrench hex screwdriver (15-2546) is used to tighten the securing screw, which is already in the sleeve. Then the axis lock is removed.

47
When assembly is complete, the two drill holes in the prosthetic axis are located exactly under the arrow marks.

To remove the connecting component, the securing screw is removed, the connecting and separating forceps (16-0020/01- or /02) are inserted, and the prosthetic axis is squeezed together. Then the connecting component can be decoupled ventrally.

Assembling the Tibial Components

48
It the intention is to use a hinged joint version, the two small screws in the tibial plateau must first be removed with the hex screwdriver (64-1181/16).

The connector with hinge axis is placed on the tibial component.

The connector is then screwed in place using the hex screwdriver (10-5373/01) and the PE plateau is inserted.

49
The connecting component is inserted into the intracondylar slot of the femoral component. Then the U-shaped opening of the securing sleeve is rotated 180° until the opening faces upwards. The securing sleeve can then be pushed upwards along the spring wire, thereby unloading the spring so that it presses the axis halves outwards. The prosthesis axis is inserted into the bushings by slightly lifting the connecting component and carefully moving the joint components. A 2 mm torque wrench hex screwdriver (15-2546) is used to tighten the securing screw, which is already in the sleeve. Then the axis lock is removed.

Assembling the Tibial Components

50

When assembly is complete, the two drill holes in the prosthetic axis are located exactly under the arrow marks. The PE plateau is then screwed home.

To remove the connecting component, the securing screw is removed, the connecting and separating forceps (16-0020/01- or /02) are inserted, and the prosthetic axis is squeezed together. Then the connecting component can be decoupled ventrally.

Proximal Tibial Replacement

51
Resection of the proximal tibia at the planned level.

52
Mount the awl in the planned length (100, 130 or 160 mm) in the handle (16-3210/00). When uncemented modular stems are used, ream with an increasing diameter until the awl makes cortical contact over a continuous distance of approx. 50 mm. The uncemented implant that will be used must correspond in length and diameter to the last awl used.

For cemented modular stems, the awl should be at least 2 mm larger than the planned stem diameter.

Important notes:
Using the awls with a drive motor is not permitted.

Proximal Tibial Replacement

53
When use of a recess ring is planned as a flat attachment of the extramedullary part of the implant to the bone, the awl is inserted deeply into the medullary canal until the cutting edges of the awl are at the same level as the resection level. The handle is removed and connected to the reamer (16-3205/30).

54
The resection surface is reamed flat with the reamer, which is guided by the shaft of the awl.

Proximal Tibial Replacement

55
The reamer and awl are removed.

56
The trial stem and trial prosthesis for proximal tibial replacement are joined by screwing them together and inserted into the prepared tibia.

57
The femoral trial stem and trial prosthesis are joined by thread attachment and inserted into the prepared femur.

Proximal Tibial Replacement

58
The femoral trial prosthesis is assembled, inserted and connected as described under “Standard preparation of the femur“. By extending, flexing and rotating the treated limb, it is possible to estimate the leg length and degrees of rotation and flexion.

Distal Femoral Replacement

59
Depending on the indication, the distal femoral replacement can be extended in 10 mm increments after an initial further resection of 30 mm. Bone preparation is performed as described above.

60
In this situation, trial prostheses for stem elements (e.g. 16-3100/00) are assembled between the trial stem and trial prosthesis for distal femoral replacement. Depending on the resection length, different trial prostheses for stem elements can be combined together to represent the desired leg length.

Bone Preparation without using a recess ring (optional procedure)

61
Resection of the bone at the desired site. The cutting edges of the awl are then inserted in the medullary canal 10 mm deeper than the resection level and the resection level is prepared with the step reamer (16-3204/18 up to a stem diameter of 18 mm, 16-3204/24 for 19 mm or more).

62
Assembling the selected trial prostheses.

63
The two guide rods (16-3235/00) are screwed into the adapter ring (16-3236/00) and placed from proximal to distal (vice versa in the tibia) through the two holes of the trial joint component.

Bone Preparation without using a recess ring (optional procedure)

64
The saw guide for notching (16-3237/00) is placed on the adapter ring in such a way that the notch and spring engage.

65
The trial prosthesis is inserted into the bone as far as its final position. It is essential to ensure correct rotational alignment of the trial prosthesis. The adapter ring must sit flush on the resection surface.

66
The saw guide for notching is fixed with two wire pins. The trial implant with the adapter ring is then removed.

Bone Preparation without using a recess ring (optional procedure)

67
Preparing the notches with the oscillating saw.

68
Prepared notches.

Push-through Prosthesis

69
Prior to implantation of the push-through stems for total femoral replacement, the medullary cavity is reamed with ball reamers or flexible medullary reamers approx. 1 – 2 mm larger than the diameter of the selected prosthesis (available in 14 mm or 16 mm).

The length of the push-through prosthesis and the level of the femoral shaft resection should be chosen so that the sprocket for accepting the neck components is approximately 15 – 20 mm above the lesser trochanter. If necessary to adjust the length, this can be done by means of the proximal spacers (172-950/10-20).

70
The push-through stems can be inserted directly with the femoral components, as described in example 4 in the brochure “Implants and Instruments“, or, as shown here, in combination with shaft elements. Fixation at the resection site is again optional (recess ring or notches).

The proximal part of the push-through prosthesis after implantation.

Push-through Prosthesis

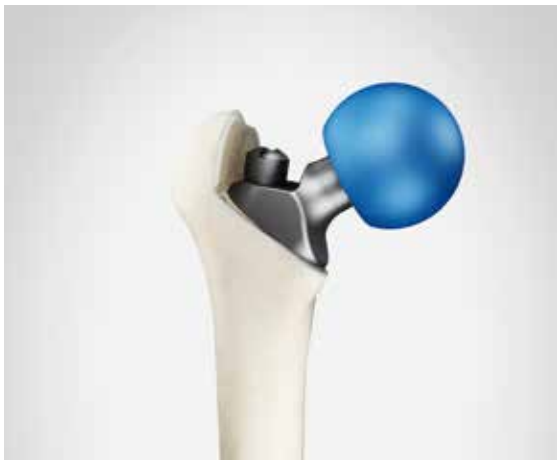
71
The tubular reamer (131-384/01) is used to prepare the metaphyseal medullary cavity, in the selected length after connecting drill guide with stop as illustrated. The drill guide with stop acts as a drill stop and at the same time prevents damage to the push-through prosthesis.

Screw on the drill guide with stop (131-383 or /90) using the cross-slot screwdriver (16-3290/00).

72
With the tubular reamer (131-384/01) the implant bed is prepared for the neck component.

The selected neck component is then pushed on the sprocket of the push-through stem, the desired anteversion is obtained and the neck component is fixed with the trial fixation screw (131-397/38 or /58) using the hex screwdriver (64-8008/02).

Push-through Prosthesis



73
Colored plastic trial heads (131-928/01-04, 131-932/01-04, 131-936/01-04) in diameters 28, 32 or 36 mm and neck lengths short, medium, long and extra long are used for trial reduction.

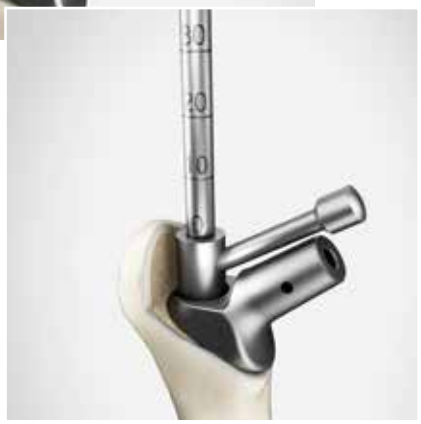
If leg lengthening is necessary, spacers can be used in the illustrated combination when using neck components with a length of 65 mm. Trial spacers (131-398/10 or /20) are available for trial reduction.

74
Fixation screws (trial + implant)
Spacers (trial + implant)

75
Neck components (trial + implant)
Spacers (trial + implant)

Push-through Prosthesis

76
After final alignment of the neck component, the guide rod with ruler is screwed into the upper part of the push-through stem through the shoulder of the neck component using the hex screwdriver (64-8008/02).



The go/no go guide (131-376) is then passed over the guide rod as far as the shoulder, as illustrated. The toothing of the neck component and push-through stem then engage correctly when the edge of the go/no go guide is exactly on one mark of the lines at the ruler (0, 10, 20 or 30).

77
Expansion bolts (172-947/38 or /58) are used for finally joining the neck component to the push-through stems. A precise description of use of the bolts and their instruments is given on page 98.

With loss of the proximal femur, the push-through stems can be combined with the neck elements (solid) as described in example 6 of the brochure “MEGASYSTEM-C® Implants and Instruments“. The correct position of the implant and fixation with expansion bolts are checked as described previously.

Proximal Femoral Replacement

78
Resection of the proximal femur at the planned site and preparation of the medulary cavity to accept the selected stem model as described under “Proximal tibial replacement“.

After implantation of the modular stem, attachment of stem elements is optional.

79
Attachment of the coupling component for proximal femur replacement, short or long (15-8512/28 or /30).

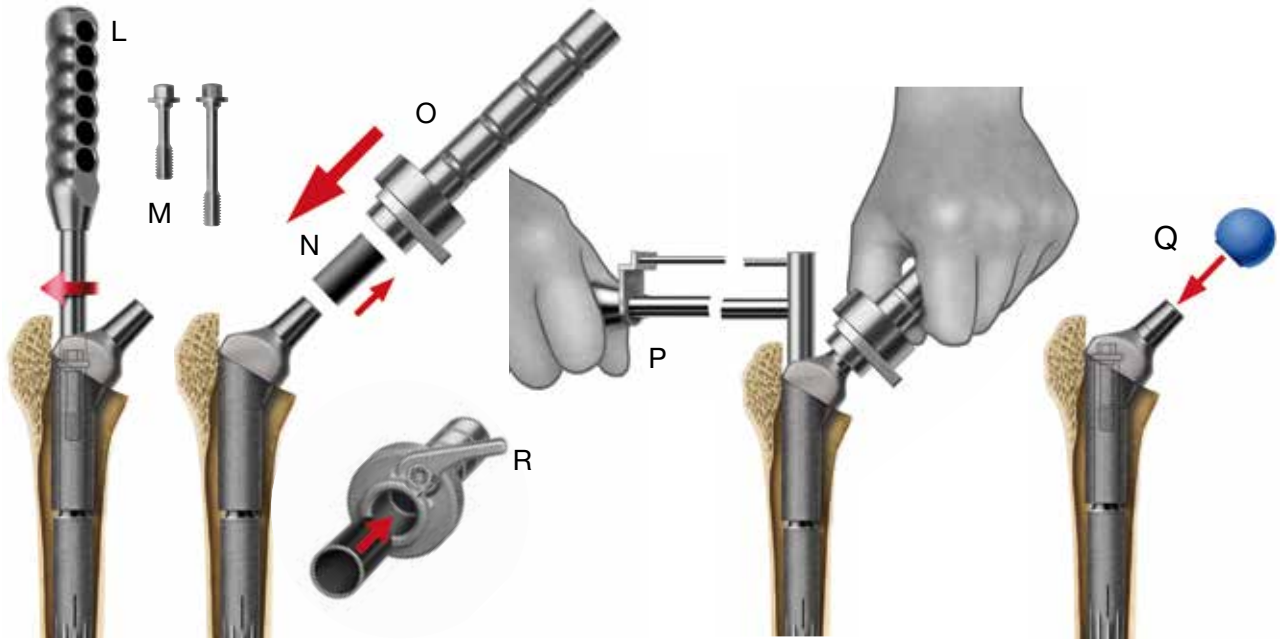
Attachment of the neck (solid). Fix the implant as described under “push-through prosthesis“.

Interposition Implant

80
Resection of the femoral diaphysis at the planed sites and preparation of the medullary cavity to accept the selected modular stems as described under “Proximal tibial replacement“.

Situation after implantation of the interposition components as described in example 8 of the brochure “MEGASYSTEM-C® Implants and Instruments“. The two interposition components are joined with the aid of the cross-slot screw-driver (16-3290/00) and enclosed screws.

Instruction of Expansions Bolts



The stem, any spacers and the neck segment are connected with either a 41 mm or 61 mm expansion bolt (M), depending on the neck segment length and the number of spacers. The expansion bolt securely fixes the MP® neck segments to the modular MP® stem.

Two bolt lengths are available: 41 and 61 mm
- The 41 mm bolt is used if no spacer or one 10 mm spacer is used.
- The 61 mm bolt is used if one 20 mm spacer is used or a 10 mm spacer is used in conjunction with a 20 mm spacer (overall height: 30 mm)

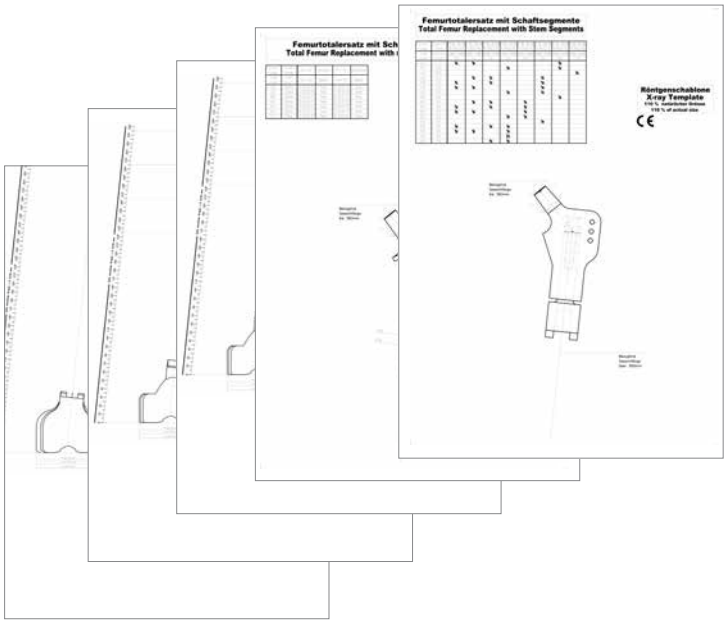
Using the screwdriver (L), the expansion bolt is screwed in as far as stop and lightly tightened. Then the holder (O) with plastic sleeve (N) is attached to the taper of the neck segment and fastened by operating the lever (R).

Using the torque wrench (P) the inserted expansion bolt is tightened twice as far as short mark 1 on the scale. While tightening, it is important to keep a firm grip on both the holder and the torque wrench to ensure that the neck segment remains in situ without rotation. Tightening the expansion bolt as far as short mark 1 on the scale corresponds to a tightening torque of 14.5 to 16.3 Nm. The resulting elastic expansion of the bolt effectively fastens the connection.

The trial head (Q) is placed on the taper of the neck segment and a final trial reduction is performed to check ante-version.

Caution!
LINK® implants and expansion bolts are solely designed for single use. They must not be reused. The torque wrench is supplied with a calibration certificate. The torque wrench is to be sent to WALDEMAR LINK GmbH & Co. KG for re-calibration after 250 applications.

The torque wrench must never be used to undo screw connections, since this could damage it. Plastic-sleeve integrity must be checked prior to use.



X-ray Templates,
110% of actual size, set = 5 sheets

Item no.	
15-8516/61	for LINK® MEGASYSTEM-C® with SL® knee components

Guide Rod with Slaphammer
(without picture)
(optional for stem extraction:
guide rod 317-661 in combination with
driver extractor 15-8516/45)

Item no.	Length
317-661	365 mm

Please note the following regarding the use of our implants:

1. **Choosing the right implant is very important.**
   The size and shape of the human bone determine the size and shape of the implant and also limit the load capacity. Implants are not designed to withstand unlimited physical stress. Demands should not exceed normal functional loads.

2. **Correct handling of the implant is very important.**
   Under no circumstances should the shape of a finished implant be altered, as this shortens its life span.
   Our implants must not be combined with implants from other manufacturers.

   The instruments indicated in the Surgical Technique must be used to ensure safe implantation of the components.

3. **Implants must not be reused.**
   Implants are supplied sterile and are intended for single use only. Used implants must not be reused.

4. **After-treatment is also very important.**
   The patient must be informed of the limitations of the implant. The load capacity of an implant cannot compare with that of healthy bone!

5. **Unless otherwise indicated, implants are supplied in sterile packaging.**
   Note the following conditions for storage of packaged implants:
- Avoid extreme or sudden changes in temperature.
- Sterile implants in their original, intact protective packaging may be stored in permanent buildings up until the “Use by” date indicated on the packaging.
- They must not be exposed to frost, dampness or direct sunlight, or mechanical damage.
- Implants may be stored in their original packaging for up to 5 years after the date of manufacture. The “Use by” date is indicated on the product label.
- Do not use an implant if the packaging is damaged.

6. **Traceability is important.**
   Please use the documentation stickers provided to ensure traceability.

7. **Further information** on the material composition is available on request from the manufacturer.

Follow the instructions for use!

Waldemar Link GmbH & Co. KG, Hamburg

The Surgical Technique described has been written to the best of our knowledge and belief, but it does not relieve the surgeon of his/her responsibility to duly consider the particularities of each individual case.

Unless otherwise indicated, all instruments are made of surgical stainless steel.

Exclusive for use in US market

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