





# MP Reconstruction System

Uncemented & Cemented

Surgical Technique

## CE 0482

Explanation of Pictograms			
	Manufacturer		Article number
	Material number		Product meets the applicable requirements, which are regulated in the EU harmonization legislation for the affixing of the CE marking.

# MP Reconstruction System

## Uncemented & Cemented

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## System Overview

### Hip Prosthesis Stems, uncemented

**MAT** Tilastan-S (TiAl6V4 alloy)

160 mm - 210 mm - Ø12 mm

160 mm - 330 mm - Ø14, 16, 18, 20, 22.5, 25 mm

### Expansion bolts

41 mm and 61 mm



### Neck segments



### Standard + XXL

35 mm and 65 mm,

CCD 126° and 135°



### with suture holes

Standard and XXL

35 mm and 65 mm, CCD 126°

**35 mm neck segments cannot be used with proximal spacers**

### Proximal spacers

10 mm and 20 mm



### Hip Prosthesis Stems, cemented

**MAT** EndoDur-S (CoCrMo alloy)



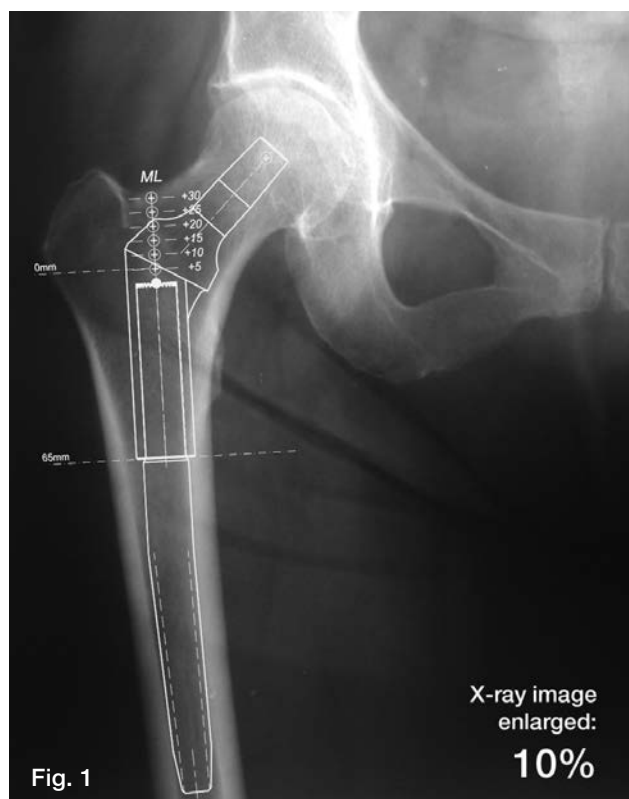
#### INFORMATION:

Use 160 mm stems only with 35 mm neck segments and without proximal spacers.

Do not use 210 mm / Ø12 mm stems with proximal spacers.

The MP Reconstruction System is for uncemented use. Only cemented labeled modular stems are indicated for cemented use.

## Preoperative Planning



Templating aids as a first orientation in terms of implant choice and implant positioning. Planning templates are available for this purpose (Fig. 1).

The templating should be performed using high quality AP and ML X-rays. Each X-ray should be large enough to apply the whole template.

### Choice of implant sizes and types

As general rule, the hip prosthesis stem should be measured in such a way that a positive-fit fixation of the prosthesis is created over a sufficient length in vital bone. To this end, it is necessary to make allowance for reaming the femoral canal. The reduction of the cortical wall thickness caused by reaming should not exceed 1.5 mm in the planning. In order to restore the proper offset and center of rotation, the acetabular cup center of rotation is matched with the desired head center of rotation of the neck segment. The MP Reconstruction System offers different offsets with different CCD angles. This combined with femoral heads with up to four head-neck lengths allows the surgeon great flexibility.

In-situ implants and the bone cement must be completely removed before implanting a MP Reconstruction System.

Preoperative planning supports optimal surgical outcomes by ensuring the most appropriate implants are selected for the patient. The key objectives are to correctly position the central rotational point of the hip, to achieve the correct leg length and finally preserve or restore sufficient soft tissue tension by avoiding medialization of the femur.

#### INFORMATION:

Templating is an important element of the pre-operative planning. However, final decisions regarding implant choice and fit should be made intra-operatively to ensure appropriate leg length and joint stability.

Standing, weight bearing X-rays are recommended.

Both an AP and a lateral X-rays should be used to determine the required implant sizes.

Account for pelvic tilt to ensure correct positioning of the implants.

**The surgical instructions below for reconstructing a damaged hip joint using the MP Reconstruction System depict an idealized surgical situation. However, every procedure has individual particularities, and the surgeon decides during the surgery which method can be expected to achieve the most success in the current case.**

### Reaming of Medullary Canal

If opening the medullary canal is necessary the start drill is used. Reaming of the femoral canal begins with a tapered reamer corresponding to the planned hip prosthesis stem length (A), but with a diameter 1-2 sizes smaller than the planned stem diameter; this does not apply when using the smallest diameter (Ø12 mm 160-210 mm).

The reaming depth is determined by the position of the ring markings on the shaft of the tapered reamer. The ring markings refer to the stem length. The marking should be in relation to an anatomical landmark on the bone, determined during the preoperative planning.

If no proximal spacers are used, the position of the lower marking ring should be at the medial level of the original femoral neck resection (Fig. 2). This landmark can be easily identified on the X-ray, enabling a reference marking to be determined for the surgery.

#### INFORMATION:

**The fourth ring (start counting at the stem length marking) is approximately at the level of the tip of the greater trochanter, and the ring with stem length marking (lower ring) a thumb's breadth above the lesser trochanter – always without the use of proximal spacers.**

The tapered reamers should only ever be driven into the femoral canal as far as indicated by the position of the marking ring to the specified landmark.

Reaming must be performed carefully. The tapered reamer must not become hot to the touch. Reaming must be performed by hand.

The last tapered reamer is used to prepare the medullary canal until contact is made with the endosteal cortical bone until adequate endosteal engagement is achieved (Fig. 2).

In addition, the surgeon can check whether contact surface is sufficiently large when the last tapered reamer is carefully removed clockwise. Bone particles on the tapered reamer shaft can provide information on the reaming distance.

The last reaming step must always be performed with a diameter identical to that of the implant stem.

For example, if an implant with Ø18 mm is used, the last reaming step must be performed with a Ø18 mm tapered reamer.

### Reaming depth without proximal spacer(s)

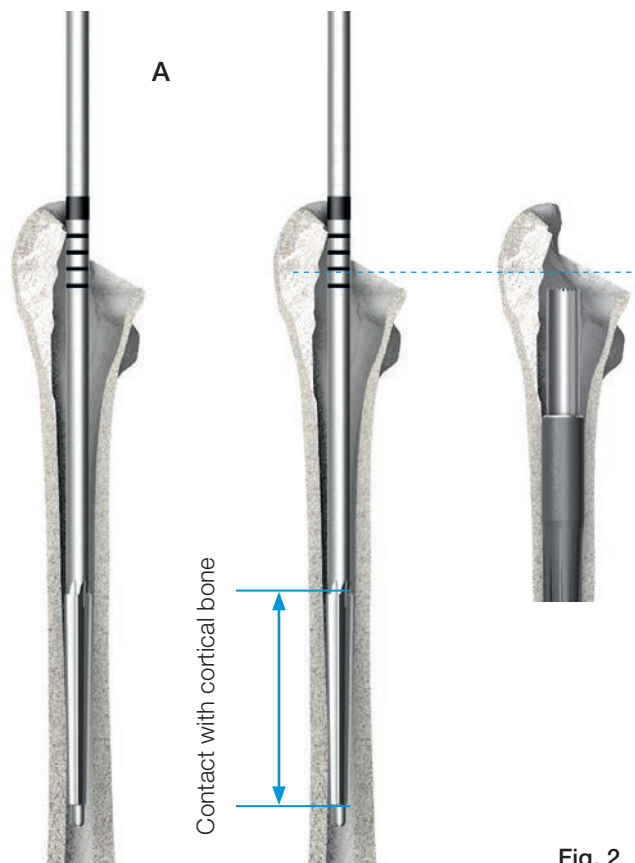


Fig. 2

### Insertion of the Hip Prosthesis Stem

The selected stem of the MP Reconstruction System (Fig. 4, B), which corresponds to the size of the last tapered reamer used, is screwed tightly to the **inserter for stems by using the hex screwdriver** (Fig. 4, C).

The line marking on the stem marks the 3° kink (Fig. 4, center). The orientation of the marking is used for a better positioning when inserting the stem. The arrow on the striking surface indicates where the kink of the stem is. This allows inserting the stem into the femoral canal precisely aligned to the natural curvature of the femur (Fig. 4/with curvature).

The stem is then carefully driven in to the final depth using a mallet. The final position must be verified by means of radioscopic control (Figs. 5 and 6).

**The stem must not be driven in deeper than intended in the preoperative planning.**

Should it prove impossible to achieve stable fixation of the stem at the intended depth due to poor bone quality, any shortening of the leg that results from driving the stem in deeper can be compensated by using proximal spacers of up to 30 mm (10 mm, 20 mm, or 20 mm + 10 mm).

Intentional lengthening of the leg is also possible with a proximal spacer (see Fig. 3).

Secure fixation of the MP hip prosthesis stem in the medullary canal is always given utmost priority.



Fig. 3



Fig. 4

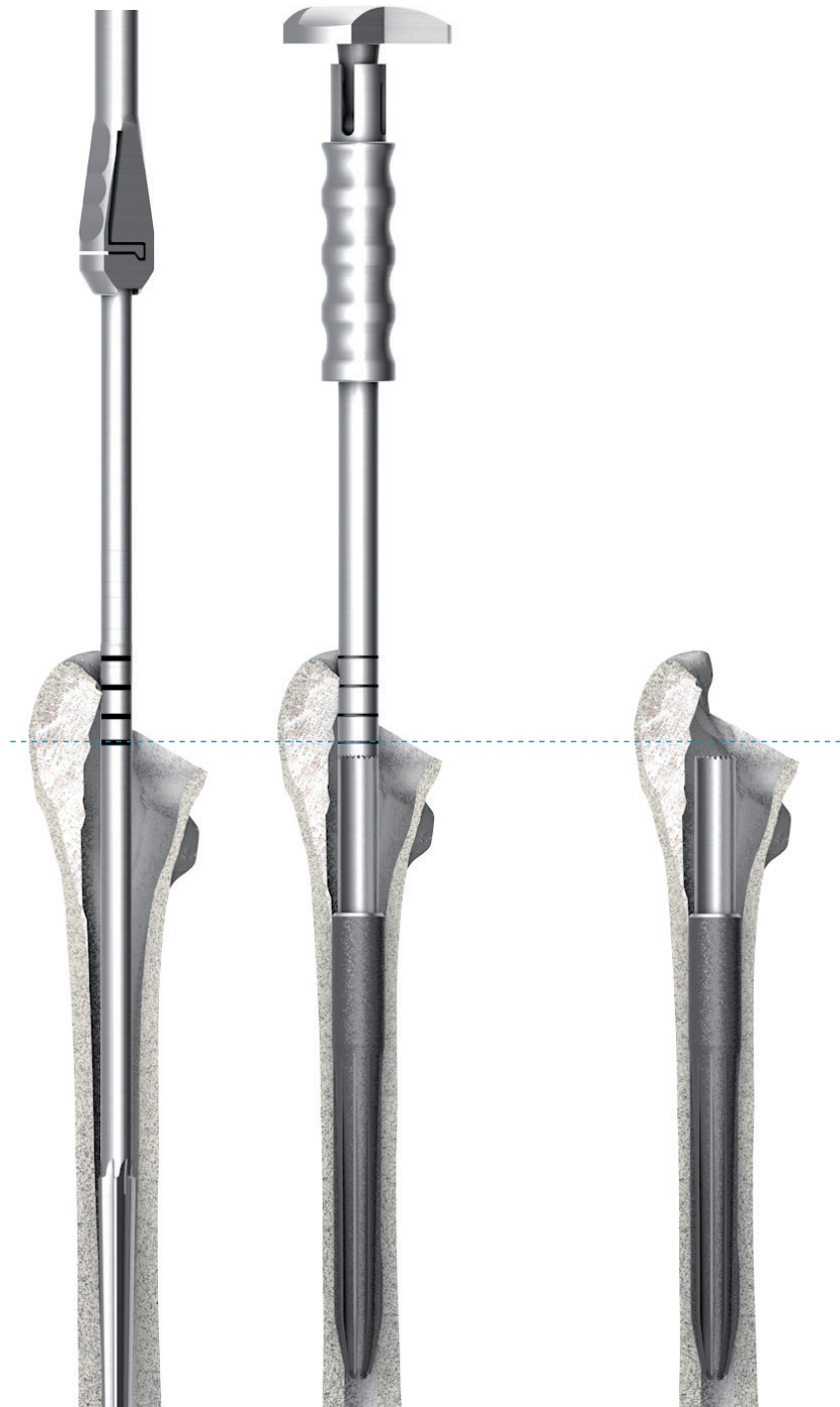


Fig. 5

Fig. 6

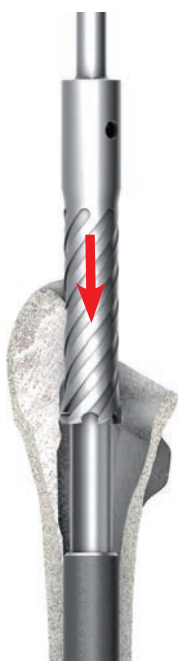


Fig. 7

**Preparation of the proximal femur**

If required, the tubular reamer is used to prepare the implant bed for the neck segment (Fig. 7).

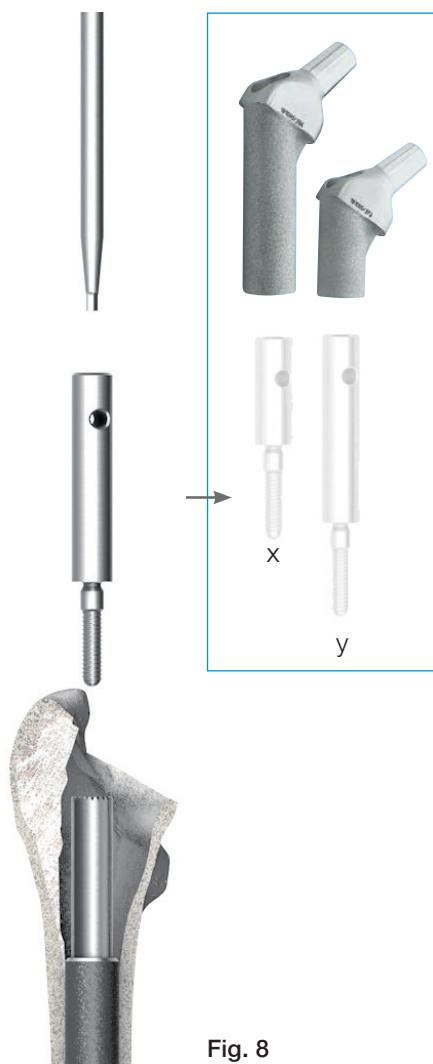


Fig. 8

There are **two reamer guides** available for positioning the tubular reamer on the in-situ stem. Their length must be selected according to the neck segment being used (Fig. 8).

**Short reamer guide --> long neck segment (x)**  
**Long reamer guide --> short neck segment (y)**

The reamer guide can be screwed into the stem by hand or using the hex screwdriver.

The reamer guide also serves as a stop to avoid the teeth of the tubular reamer from coming into contact with the edge of the lower portion of the stem.

**Irrigation is recommended to avoid overheating of the bone.**

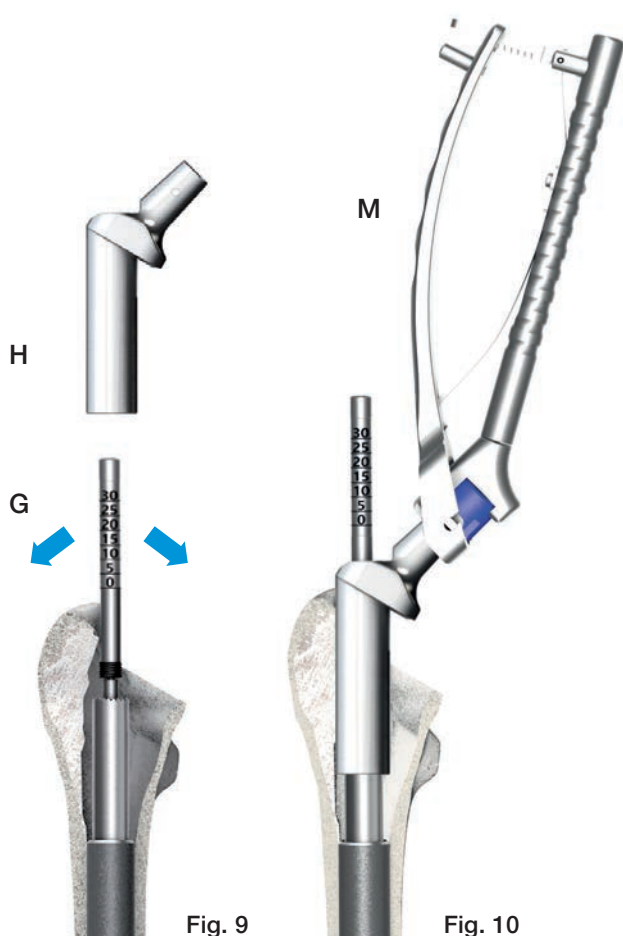


Fig. 9

Fig. 10

### Trial Reduction

The **guide rod** (G), which simplifies positioning of the **trial neck segment** (H) and, where used, the trial proximal spacers, is screwed into the thread of the implanted stem and fixed in place using a hex screwdriver (K) (Fig. 9).

For the functional test, a **trial neck segment** (H) is pushed over the **guide rod** (G) and onto the implanted hip prosthesis stem by hand or insertion forceps (M) (Fig. 10). The teeth inside the trial neck segment must fit into the tothing on the stem.

The trial neck segment can be simply tested by turning it backward and forward.

The final position of the neck segments is indicated by the scale within the window of the neck inserter. If the markings of the guide rod and neck inserter **touch**, the window displays the spacer height (Fig. 11):

- if no spacer is used, the reference is the „0“ line.
- if spacers are used, the total spacer height is the reference line (e.g., 10 mm spacers, the reference line is „10“).

The guide rod is removed and the neck fixed with a trial screw (Q) using the hex screwdriver.

Use the short screw with no spacers or with +10 mm. Use the long screw with spacers between +20 mm and +30 mm (Fig. 13).

#### INFORMATION:

**Usually, the acetabular cup is implanted before the stem component so that trial reduction can now be done.**

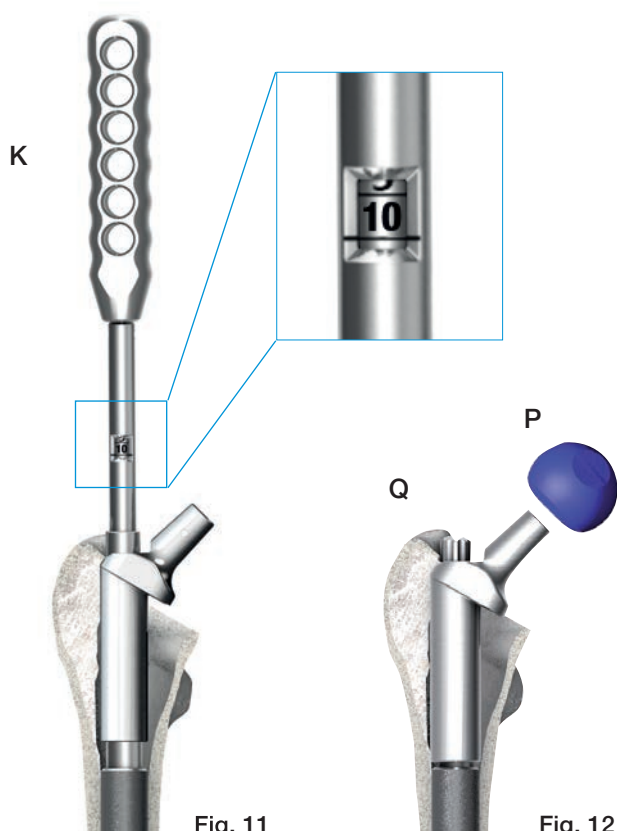


Fig. 11

Fig. 12

Various Trial Heads (P) are used to check for optimal offset rotation, correct leg length and adequate stability. The range of motion is also checked in order to exclude any impingement of bone or implant with the acetabular cup and to prevent any instability (Fig. 12).

The trial components are removed.

## Leg length and lateralization

Leg length can be corrected by 10 mm, 20 mm, or 30 mm (combination of 10 mm and 20 mm proximal spacers) by using trial proximal spacers (Fig. 3).

Fine tuning of the leg length and different lateralization of the hip prosthesis stem can be achieved by selecting:

- Neck segment with 126° or 135° CCD angle in standard neck length or XXL neck length or
- Trial head with suitable head-neck length

### INFORMATION:

A long trial neck segment is obligatory when trial proximal spacers are used.

Short trial neck segments must not be used with trial proximal spacers (Fig. 14).

## Rotation

The rotation angle can be corrected by turning the trial neck segment after loosening the fixation screw. The desired position should then be marked on the bone so that the final neck segment can be positioned correctly.

### INFORMATION:

Use a short trial fixation screw with no or 10 mm proximal spacers. Use a long trial fixation screw with any spacer combination longer than 10 mm. (Fig. 13)

## Use of a Longer Trial Neck Segment

Replacing an originally used 35 mm trial neck segment with a 65 mm trial neck segment can require the use of the tubular reamer due to the longer distal part of the 65 mm neck segment.

Once the leg length, anteversion and joint stability have been checked, the trial prosthesis can be removed.

## Expansion Bolt length)

Proximal spacers (trial + implant)

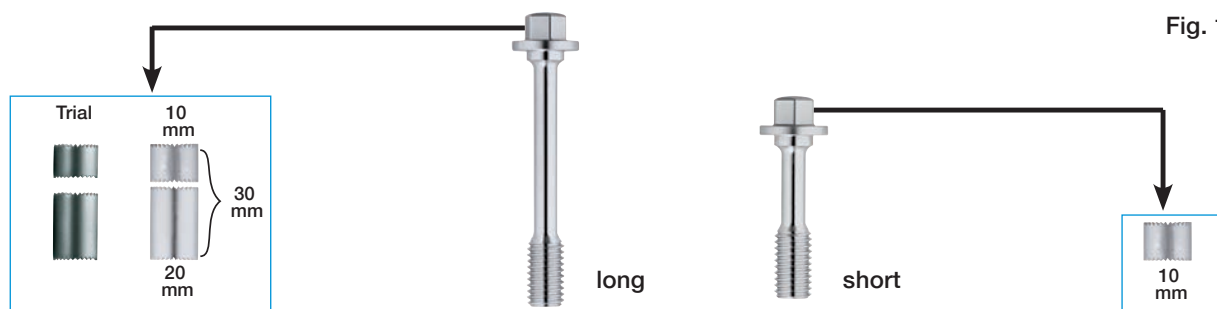


Fig. 13

## Neck segments (trial + implant)

Proximal spacers (trial + implant)



Fig. 14

### Implantation of neck segment

**INFORMATION:**

All components and interfaces must be clean before assembly.

### Implantation of neck segment

Insert the guide rod (G) into the stem using the hex screwdriver (Fig. 15). The neck segment is then slid over the guide rod onto the stem either by hand or insertion forceps (M). The neck segment can be driven into its final position with gentle hammer strokes, using the neck inserter (K) (Fig. 17). If spacers are used, they are slid over the guide rod before inserting the neck segment.

**INFORMATION:**

If using any spacers during surgery only the 65 mm neck segment can be used. The 35 mm neck segment can only be used without spacers.

The final position of the neck segments is indicated by the scale within the window of the neck inserter. If the markings of the guide rod and neck inserter touch, the height of spacers used is shown in the window of the neck inserter.

- The window displays the spacer height (Fig. 17):
- if no spacer is used, the reference is the „0“ line.
  - if spacers are used, the total spacer height is the reference line (e.g., 10 mm spacers, the reference line is „10“).

Once the neck segment is in the final position, the guide rod is removed and the neck fixed with the expansion bolt, using the neck inserter / screwdriver (K) (Fig. 18).

Use the short expansion bolt with no spacers or with +10 mm. Use the long expansion bolt with spacers +20 mm and +30 mm (Fig. 13).

A final trial reduction can be achieved using a plastic trial head. If necessary, the anteversion can now be adjusted by loosening the expansion bolt again. Reinsert the guide rod into the stem, then lift the neck slightly to rotate it. Then the steps of inserting and checking are repeated as described above.

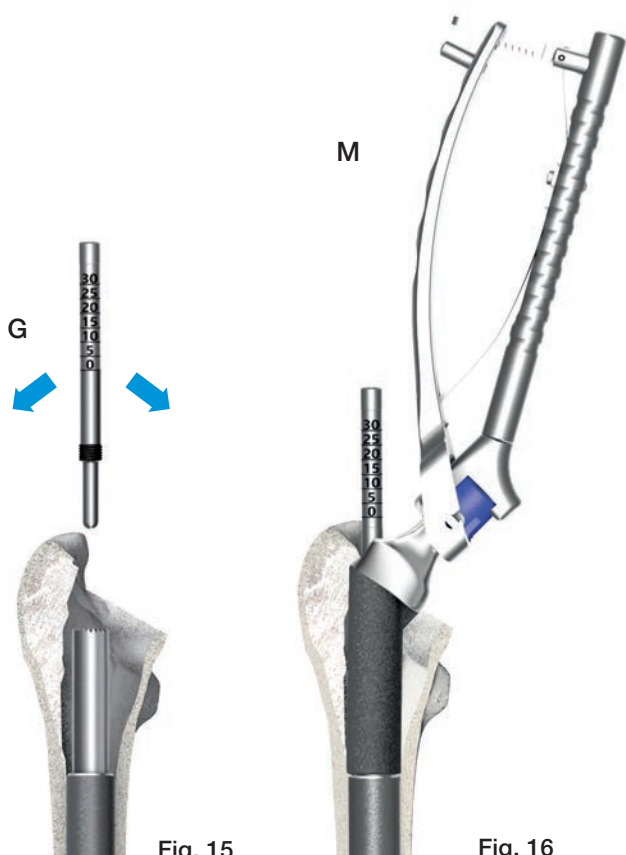


Fig. 15

Fig. 16

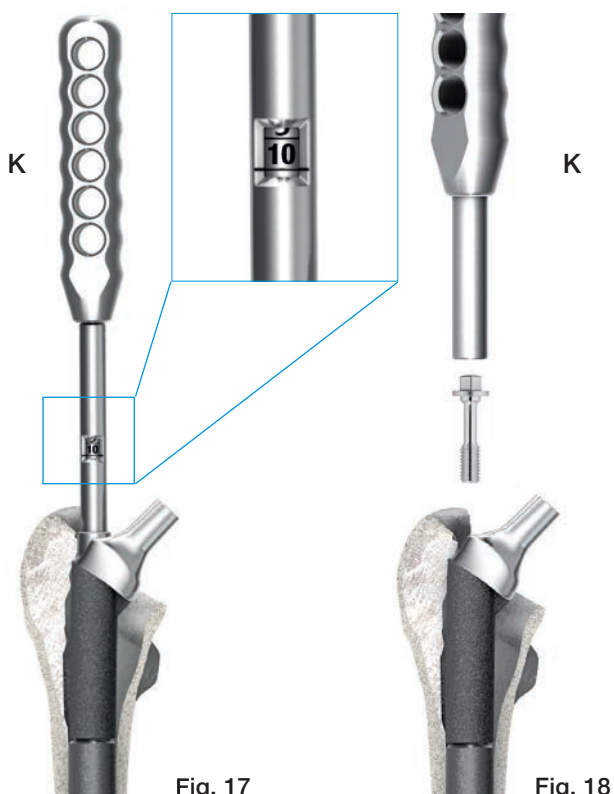


Fig. 17

Fig. 18

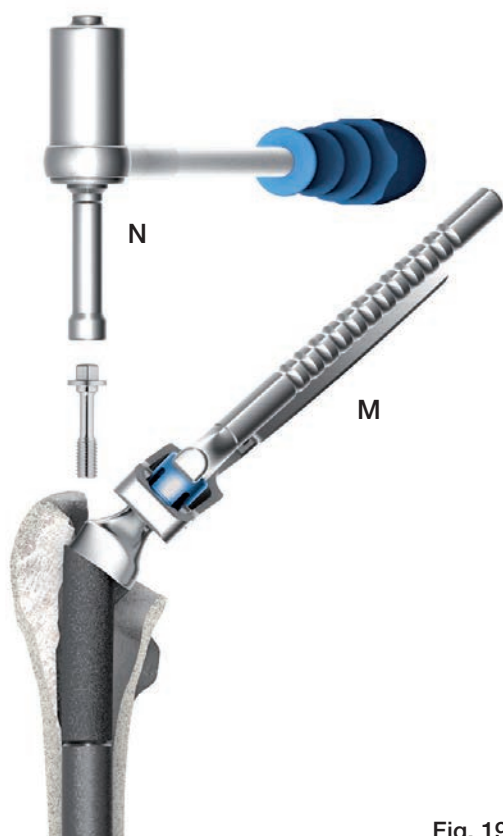


Fig. 19

### Final assembly of the implant

After the expansion bolt is hand tightened with the neck inserter / screwdriver (K), the expansion bolt is tightened with the torque wrench (N).

When tightening the expansion bolt with the torque wrench, the inserter forceps (M) are used as a counter torque by gripping the neck segment over the trunnion. Once the necessary torque is reached, the torque wrench emits a loud snap (Fig. 19).

#### INFORMATION:

The taper caps of the inserter forceps must be checked for damage before use.

#### CAUTION:

Expansion bolts can only be used once. It is not possible to reuse them because no expansion occurs when the bolt is tightened a second time. The torque wrench must never be used to loosen screw connections, as this could have a negative effect on its function.

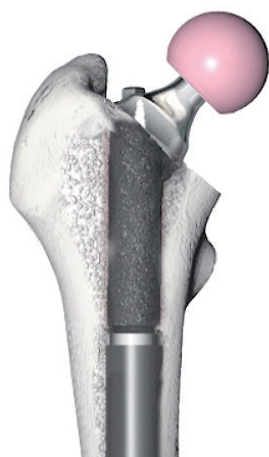


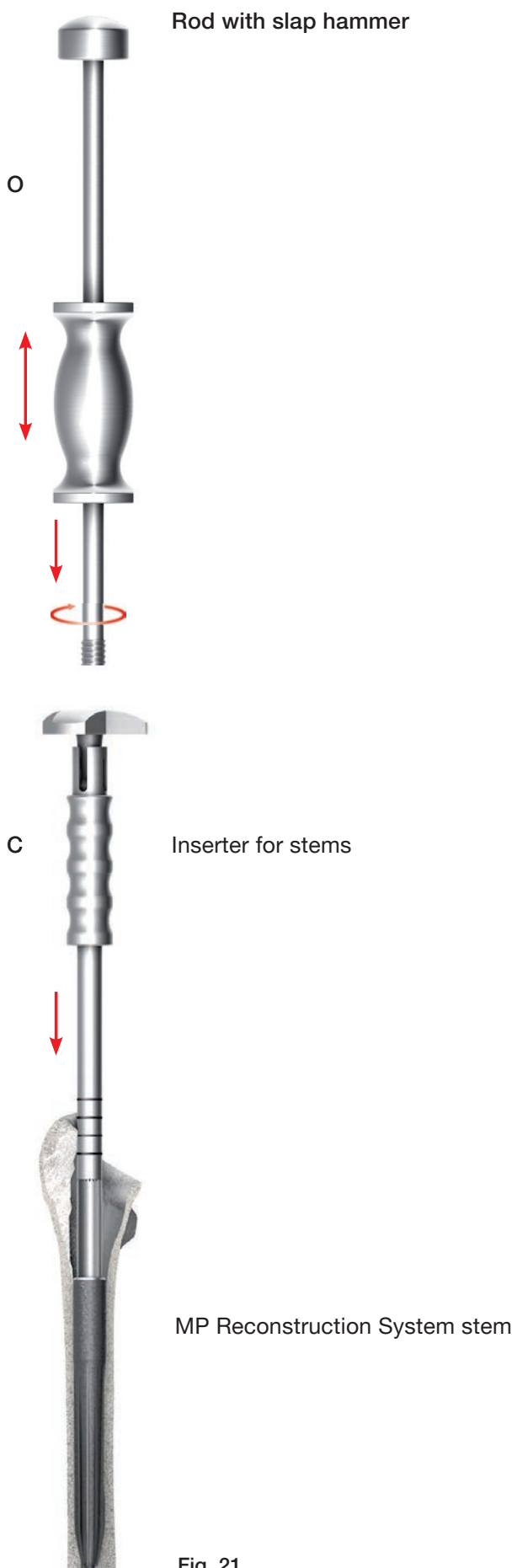
Fig. 20

### Attaching the prosthesis head

The taper of the neck segment is carefully cleaned and dried. This is particularly important with ceramic heads. Then the head is attached by hand with a rotational movement, applying axial pressure. To finish, the driver is used to tap the prosthesis head into position (Fig. 20).

### Final reduction of the joint

After cleaning the joint surfaces, the joint is reduced. The wound is closed in layers.



### Stem Extraction

Should it prove necessary to remove the stem during the surgery or later revision, the inserter (C) is mounted on the in-situ **stem** and screwed to the **rod with slap hammer (O)**.

The stem can be driven out of the medullary canal safely by applying measured blows to the upper stop with the slap hammer (Fig. 21).

Fig. 21

## Procedure

For cemented stem implantation, the 180 mm long MP trial stems (134-070/00), the additional instrument set for the cemented surgical technique (134-110/00), and a UHMWPE insertion sleeve (134-212/00) are required in addition to the basic instrument set.

The medullary canal is prepared with the standard reamers. It is recommended to start with the smallest diameter and open up the medullary canal millimeter by millimeter until contact with the cortical bone is reached distally around the circumference.

For a 1 mm cement coating, the medullary cavity must be reamed at least 2 mm wider than the stem diameter.



Fig. 22

It might be necessary to clear the proximal femur to insert the plastic sleeve. If this can't be achieved using the start reamer please proceed with the following steps.

Once the medullary canal has been prepared to the required diameter, select a 180 mm trial stem corresponding to the last reamer diameter.

The trial stem is secured on the inserter (C) as described on page 06, and then inserted up to the planned proximal marking (Fig. 22).

**CAUTION:**  
Do not exert too much pressure, as the trial stem is not intended to achieve a press fit, and can thus be driven further into the femur than planned.

The **short** reamer guide is screwed onto the trial stem as described on page 08, and then the proximal bone reamed for the cemented preparation with the tubular reamer (134-211/00) (Fig. 23).



Fig. 23

Remove the reamer guide, stem adapter and take out the trial stem using the inserter. If needed, use the slap hammer.

**INFORMATION:**

The plastic sleeves must be checked for damage before use.

The plastic sleeve is screwed to the insertion sleeve, pushed onto the proximal section of the implant stem, and then screwed to the inserter (Fig. 24).

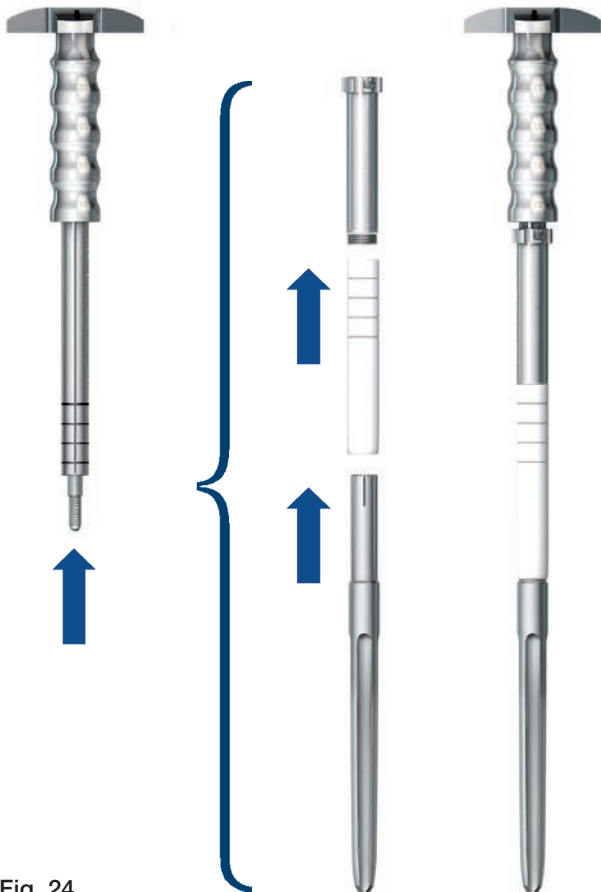


Fig. 24

The medullary cavity is then sealed with a bone dowel or a medullary plug a little below the intended position of the stem tip. Following application of the cement, the hip prosthesis stem is introduced into the medullary space. The markings on the plastic sleeve correspond to the markings on the inserter used in the uncemented surgical technique.

**CAUTION:**

When applying the cement, it is essential to ensure secure fixation of the distal end of the stem. Proximal oozing of the cement should be avoided and any escaping cement removed before it sets.

The stem is held in the required position with the inserter until the cement sets. The plastic sleeve prevents excess cement from coming into contact with the proximal portion of the stem (Fig. 25). Once the cement has completely set, the inserter is disconnected from the implant and removed along with the plastic sleeve.



Fig. 25



To remove the plastic sleeve, the extractor is inserted in the sleeve and the bayonet mount is locked. The plastic sleeve can now be twisted free from the cement and removed (Fig. 26).

The reamer guide is screwed onto the hip prosthesis stem again and further preparation of the proximal femur can continue as shown on page 08.

Any excess cement is then removed from the area of the proximal femur at the next reaming stage and with the tubular reamer (134-200/00).

**INFORMATION:**

**Radioscopic control is recommended to check the cement application and prosthesis positioning.**

Fig. 26

**Hip Prosthesis Stems**



**Hip Prosthesis Stems, uncemented**

**MAT** Tilastan-S (Ti6Al4V)

<b>REF</b> microporous	Prox. stem-Ø mm	Dist. stem-Ø mm	Length mm
172-916/14	14.0	12.0	160
172-916/16	16.0	14.0	160
172-916/18	18.0	16.0	160
172-916/20	20.0	18.0	160
172-916/22	22.5	21.0	160
172-916/25	25.0	23.0	160
172-918/12	12.0	10.0	180
172-918/14	14.0	12.0	180
172-918/16	16.0	14.0	180
172-918/18	18.0	16.0	180
172-918/20	20.0	18.0	180
172-918/22	22.5	21.0	180
172-918/25	25.0	23.0	180
172-921/12	12.0	10.0	210
172-921/14**	14.0	12.0	210
172-921/16	16.0	14.0	210
172-921/18	18.0	16.0	210
172-921/20	20.0	18.0	210
172-921/22	22.5	21.0	210
172-921/25	25.0	23.0	210
172-925/14*	14.0	11.0	250
172-925/16	16.0	13.0	250
172-925/18	18.0	15.0	250
172-925/20	20.0	17.0	250
172-925/22	22.5	19.0	250
172-925/25	25.0	22.0	250
172-929/14*	14.0	9.0	290
172-929/16	16.0	11.0	290
172-929/18	18.0	13.0	290
172-929/20	20.0	15.0	290
172-929/22	22.5	18.0	290
172-929/25	25.0	20.0	290
172-930/14*	14.0	8.0	330
172-930/16	16.0	10.0	330
172-930/18	18.0	12.0	330
172-930/20	20.0	14.0	330
172-930/22	22.5	16.0	330
172-930/25	25.0	19.0	330

**INFORMATION:**

Use 160 mm stems only with 35 mm neck segments and without proximal spacers.

Do not use 210 mm / Ø12 mm stems with proximal spacers.

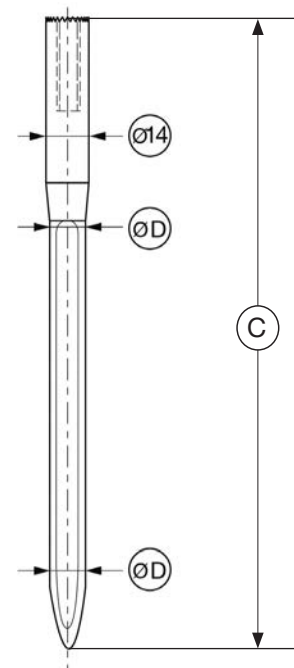
**\* CAUTION:**

Stems with a neck/head combination exceeding 40 mm offset could not be proven meet mechanical normatives.

**\*\*CAUTION**

Do not use proximal spacers with L or XL heads if the neck offset is 40 mm or more.

Hip Prosthesis Stems



**Modular Revision Stems, cemented**

**MAT** EndoDur-S (CoCrMo alloy)

<b>REF</b>	for stem length (C) mm	Stem Ø (D) mm
172-900/12	200	12
172-900/14	200	14
172-900/16	200	16
172-901/12	240	12
172-901/14	240	14
172-901/16	240	16
172-902/12	280	12
172-902/14	280	14
172-902/16	280	16
172-903/12	320	12
172-903/14	320	14
172-903/16	320	16

**CAUTION:**

Modular revision stems are **NOT** to be combined with prosthesis heads size XL.

## Neck Segments

### Standard Neck Segments

**MAT** *TiFastan*, microporous, taper 12/14 mm

REF	Length mm	CCD angle	Offset mm
<a href="#">172-964/26</a>	65	126°	31
<a href="#">172-964/35</a>	65	135°	29
<a href="#">172-965/26</a>	35	126°	31
<a href="#">172-965/35</a>	35	135°	29



### XXL Standard Neck Segments (with 40 mm femoral axis offset)

**MAT** *TiFastan*, microporous, taper 12/14 mm

REF	Length mm	CCD angle	Offset mm
<a href="#">172-984/26</a>	65	126°	40*
<a href="#">172-984/35</a>	65	135°	40*
<a href="#">172-985/26</a>	35	126°	40*
<a href="#">172-985/35</a>	35	135°	40*



### Neck Segments with Suture Holes

**MAT** *TiFastan*, microporous, taper 12/14 mm

REF	Length mm	CCD angle	Offset mm
<a href="#">99-0984/30</a>	65	126°	31
<a href="#">99-0984/32</a>	35	126°	31



### XXL Neck Segments with Suture Holes

**MAT** *TiFastan*, microporous, taper 12/14 mm

REF	Length mm	CCD angle	Offset mm
<a href="#">99-0984/26</a>	65	126°	40*
<a href="#">99-0984/28</a>	35	126°	40*



**\* CAUTION:**

Do NOT use with L or XL heads together with stems 250 mm / Ø14 mm, 290 mm / Ø14 mm or 330 mm / Ø14 mm.

### Proximal Spacers and Expansion Bolts

#### Proximal Spacers

**MAT** EndoDur-S (CoCrMo alloy)

REF	Length mm
172-950/10	10
172-950/20	20



#### Expansion Bolts

**MAT** EndoDur-S (CoCrMo alloy)

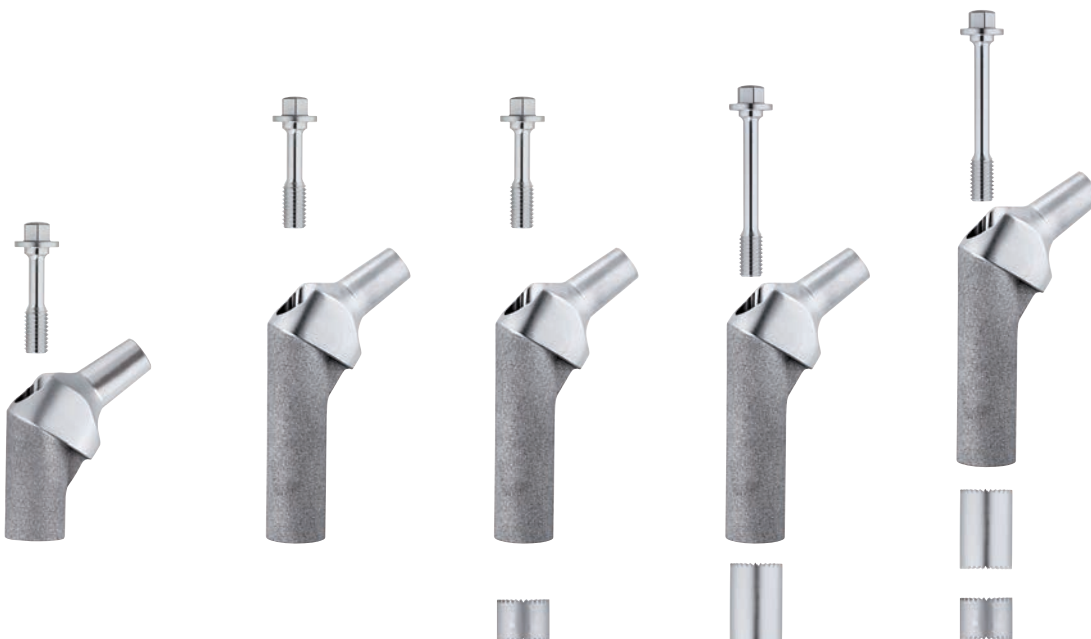
REF	Description	Hex mm	Length mm
172-947/38	Expansion bolt	8	41
172-947/58	Expansion bolt	8	61

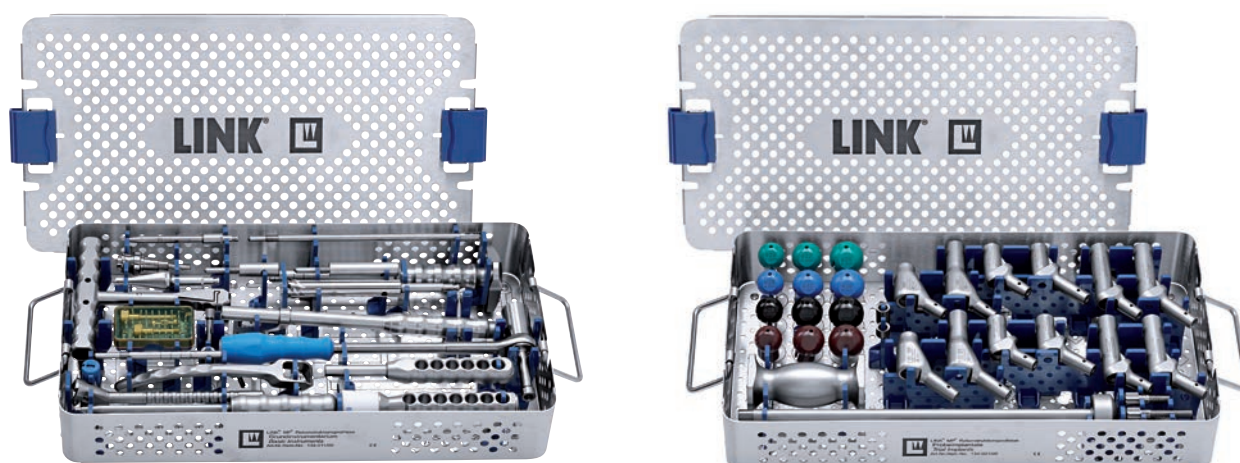


#### Possible Combinations:

Neck Segments Length mm	Proximal Spacers		Expansion mm	Expansion bolt Length mm
	10 mm	20 mm		
65	-	-	0	41
65	10	-	10	41
65	-	20	20	61
65	10	20	30	61
35 <sup>1)</sup>	-	-	-	41

1) Combination with proximal spacer(s) not possible.



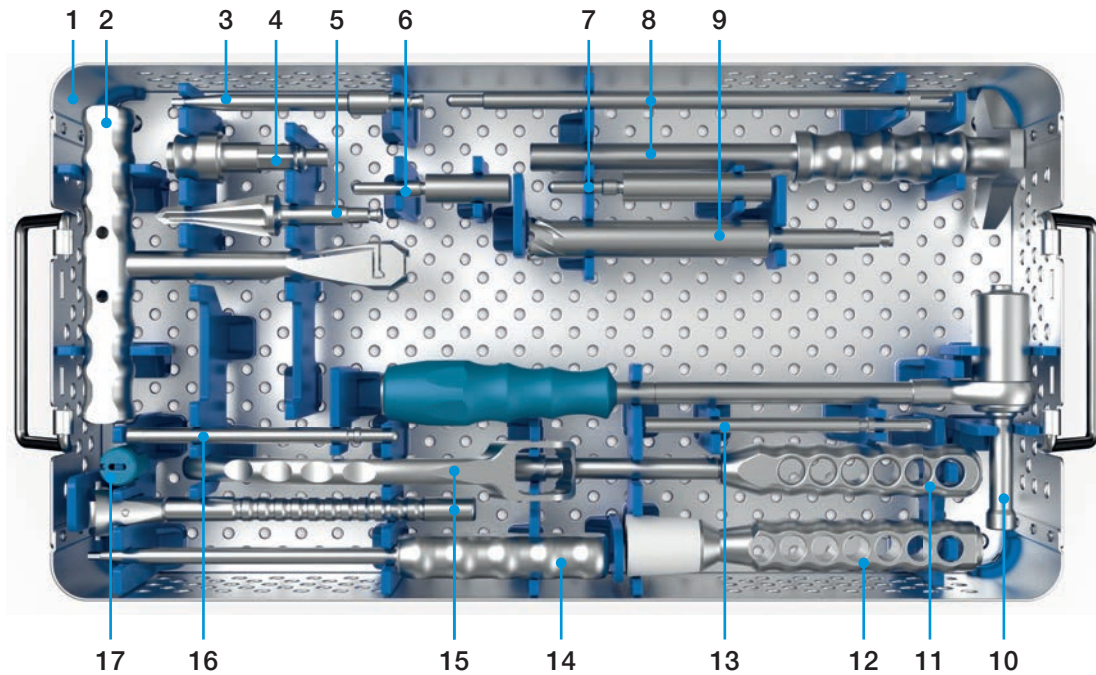


Additional Instrument Set

<b>REF</b>	Complete instrument set (incl. trays 1, 2, 3 and 4)
	Set in 4 instrument trays, comprising:
134-010/00	Instrument tray 1, basic instrument set
134-020/00	Instrument tray 2, trial implants
134-030/00	Instrument tray 3, tapered reamers 160 - 250 mm
134-040/00	Instrument tray 4, tapered reamers 290 - 330 mm

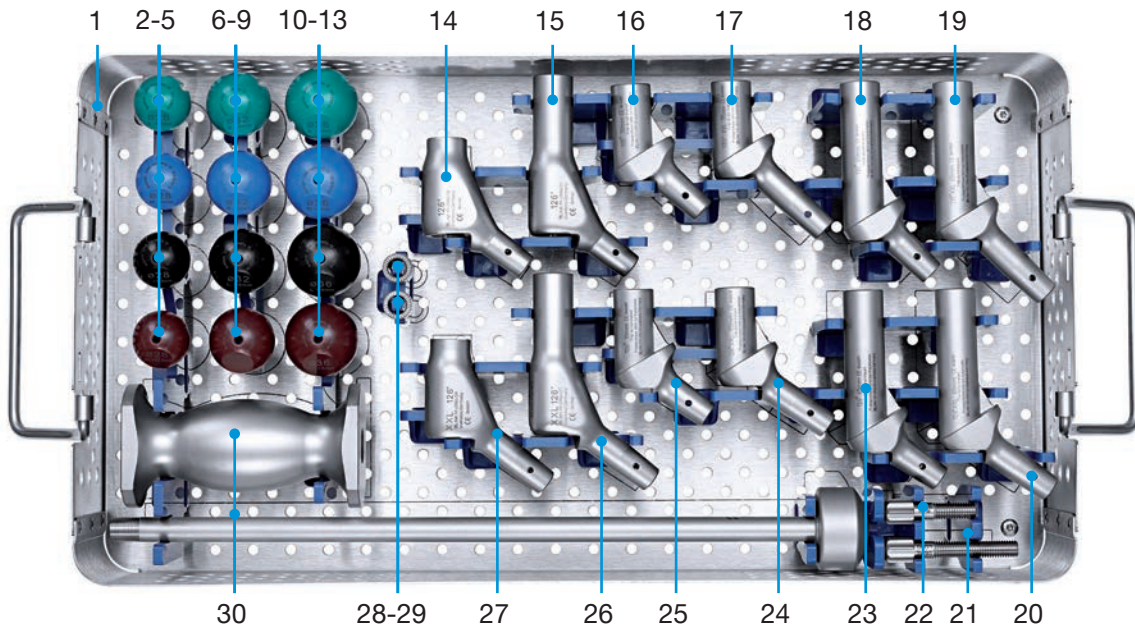
<b>REF</b>	Additional instruments, trays 5, 6, 7, 8, 9 and 10
134-050/00	Instrument tray 5, tapered reamers, uneven, 160 - 250 mm
134-060/00	Instrument tray 6, tapered reamers, uneven, 290 - 330 mm
134-070/00	Instrument tray 7, trial stems 160 - 180 mm
134-080/00	Instrument tray 8, trial stems 210 - 250 mm
134-090/00	Instrument tray 9, trial stems 290 - 330 mm
134-110/00	Instrument tray 10, cemented technique

134-010/00 Instrument Tray 1, basic instrument set



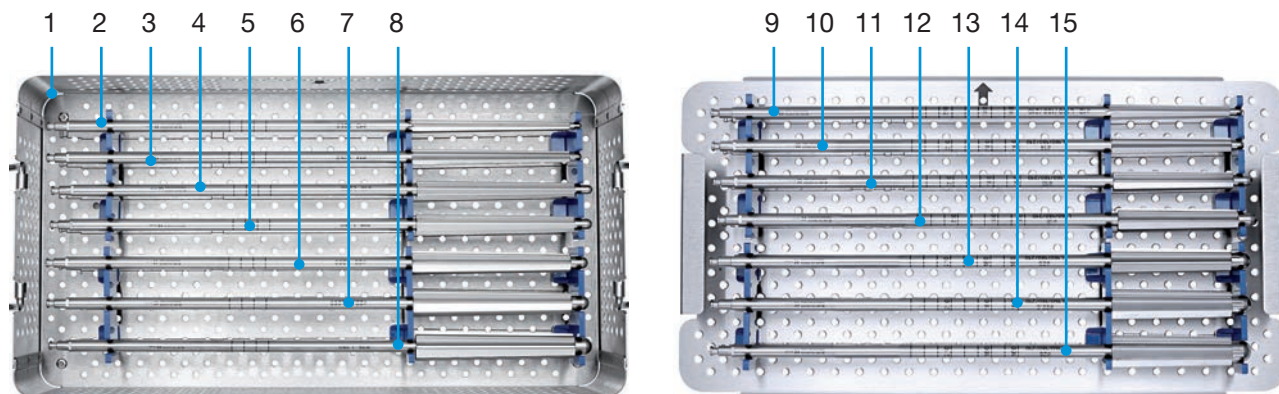
	REF	Description
1	134-011/00	Instrument tray 1, empty, 485 x 253 x 80 mm
2	15-6053/00	T-handle, Hudson
3	134-105/00	Screwdriver, size 3.5 mm, Hudson
4	16-3283/01 16-3284/00 16-3286/00	Adapter, optional Adapter, Hudson female / Jacobs male Adapter, Hudson female / AO male Adapter, Hudson female / Harris male
5	15-6037/00	Start drill
6	134-204/35	Reamer guide, for 65 mm neck segments
7	134-204/65	Reamer guide, for 35 mm neck segments
8	134-210/00	Inserter for stems
9	134-200/00	Tubular reamer, Hudson
10	134-140/00	Torque wrench, size 8 mm, 380 mm
11	134-216/00	Neck inserter / Screwdriver, hex 8 mm
12	130-600	Driver for prosthesis heads
13	134-215/00	Guide rod
14	64-8008/02	Hex screwdriver, size 3.5 mm
15	134-141/00	Insertion forceps for MP neck segments
16	134-215/01	Guide rod, short for MP stem, L 160 mm, Ø12 mm only
17	131-830/04	Taper cap

134-020/00 Instrument Tray 2, trial implants



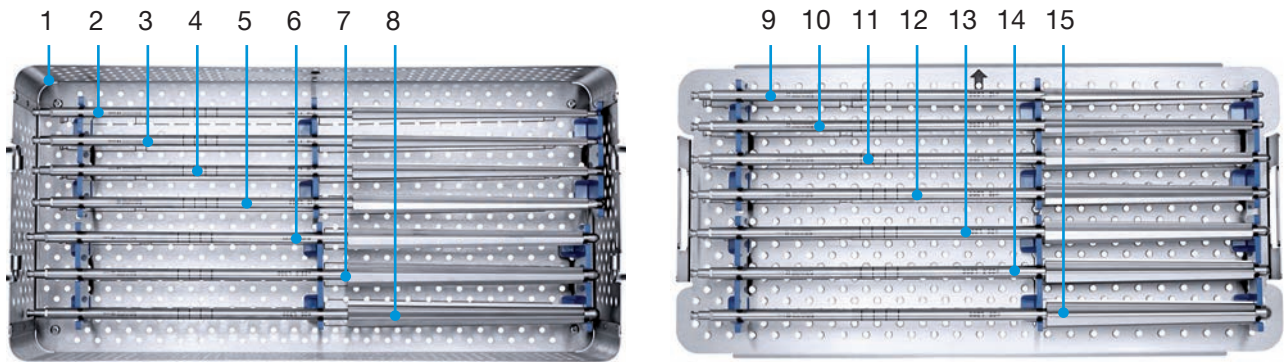
	REF	Description
1	134-021/00	Instrument tray 2, empty
2	175-928/11	Trial head, 28 mm, S
3	175-928/12	Trial head, 28 mm, M
4	175-928/13	Trial head, 28 mm, L
5	175-928/14	Trial head, 28 mm, XL
6	175-932/11	Trial head, 32 mm, S
7	175-932/12	Trial head, 32 mm, M
8	175-932/13	Trial head, 32 mm, L
9	175-932/14	Trial head, 32 mm, XL
10	175-936/11	Trial head, 36 mm, S
11	175-936/12	Trial head, 36 mm, M
12	175-936/13	Trial head, 36 mm, L
13	175-936/14	Trial head, 36 mm, XL
14	99-0984/33	Trial neck segment, 35 mm, 126° with suture hole
15	99-0984/31	Trial neck segment, 65 mm, 126° with suture hole
16	131-395/35	Trial neck segment, 35 mm, 135°
17	131-393/35	Trial XXL neck segment, 35 mm, 135°
18	131-396/35	Trial neck segment, 65 mm, 135°
19	131-394/35	Trial XXL neck segment, 65 mm, 135°
20	131-394/26	Trial XXL neck segment, 65 mm, 126°
21	134-100/61	Trial fixation screw, long
22	134-100/41	Trial fixation screw, short
23	131-396/26	Trial neck segment, 65 mm, 126°
24	131-393/26	Trial XXL neck segment, 35 mm, 126°
25	131-395/26	Trial neck segment, 35 mm, 126°
26	99-0984/27	Trial XXL neck segment, 65 mm, 126° with suture hole
27	99-0984/29	Trial XXL neck segment, 35 mm, 126° with suture hole
28	131-398/10	Trial proximal spacer, 10 mm
29	131-398/20	Trial proximal spacer, 20 mm
30	317-661	Threaded rod with slap hammer

**134-030/00 Instrument Tray 3, tapered reamers 160-250 mm**



	REF	Description
1	134-031/00	Instrument tray 3, empty
2	134-600/00	Tapered reamer, Ø 12 mm, for stem size 250 mm
3	134-600/01	Tapered reamer, Ø 14 mm, for stem size 250 mm
4	134-600/02	Tapered reamer, Ø 16 mm, for stem size 250 mm
5	134-600/03	Tapered reamer, Ø 18 mm, for stem size 250 mm
6	134-600/04	Tapered reamer, Ø 20 mm, for stem size 250 mm
7	134-600/05	Tapered reamer, Ø 22.5 mm, for stem size 250 mm
8	134-600/06	Tapered reamer, Ø 25 mm, for stem size 250 mm
9	134-500/00	Tapered reamer, Ø 12 mm, for stem size 160-210 mm
10	134-500/01	Tapered reamer, Ø 14 mm, for stem size 160-210 mm
11	134-500/02	Tapered reamer, Ø 16 mm, for stem size 160-210 mm
12	134-500/03	Tapered reamer, Ø 18 mm, for stem size 160-210 mm
13	134-500/04	Tapered reamer, Ø 20 mm, for stem size 160-210 mm
14	134-500/05	Tapered reamer, Ø 22.5 mm, for stem size 160-210 mm
15	134-500/06	Tapered reamer, Ø 25 mm, for stem size 160-210 mm

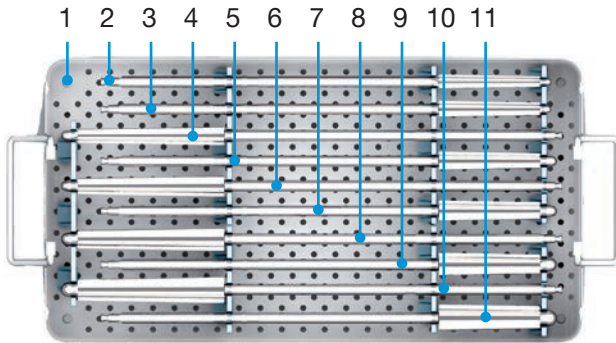
**134-040/00 Instrument Tray 4, tapered reamers 290-330 mm**



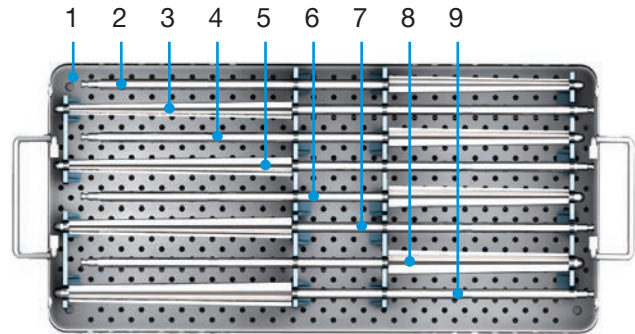
	REF	Description
1	134-041/00	Instrument tray 4, empty
2	134-800/00	Tapered reamer, Ø 12 mm, for stem size 330 mm
3	134-800/01	Tapered reamer, Ø 14 mm, for stem size 330 mm
4	134-800/02	Tapered reamer, Ø 16 mm, for stem size 330 mm
5	134-800/03	Tapered reamer, Ø 18 mm, for stem size 330 mm
6	134-800/04	Tapered reamer, Ø 20 mm, for stem size 330 mm
7	134-800/05	Tapered reamer, Ø 22.5 mm, for stem size 330 mm
8	134-800/06	Tapered reamer, Ø 25 mm, for stem size 330 mm
9	134-700/00	Tapered reamer, Ø 12 mm, for stem size 290 mm
10	134-700/01	Tapered reamer, Ø 14 mm, for stem size 290 mm
11	134-700/02	Tapered reamer, Ø 16 mm, for stem size 290 mm
12	134-700/03	Tapered reamer, Ø 18 mm, for stem size 290 mm
13	134-700/04	Tapered reamer, Ø 20 mm, for stem size 290 mm
14	134-700/05	Tapered reamer, Ø 22.5 mm, for stem size 290 mm
15	134-700/06	Tapered reamer, Ø 25 mm, for stem size 290 mm

Additional Instrument Set, tapered reamers 5 and 6, uneven

**134-050/00 Instrument Tray 5**  
Tapered reamers, uneven  
160-250 mm



**134-060/00 Instrument Tray 6**  
Tapered reamers, uneven  
290-330 mm

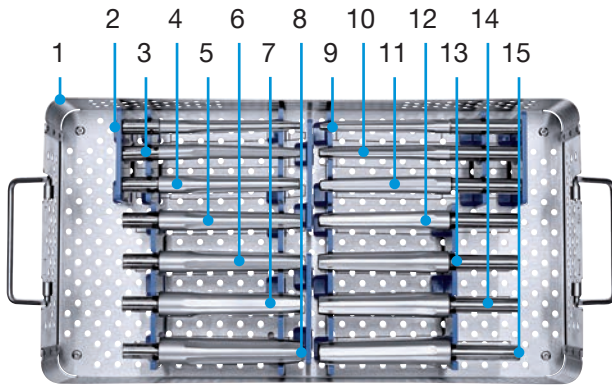


	REF	Description
1	134-051/00	Instrument tray 5, empty
2	134-500/07	Tapered reamer, Ø 13 mm for stem size 160 mm-210 mm
3	134-500/08	Tapered reamer, Ø 15 mm for stem size 160 mm-210 mm
5	134-500/09	Tapered reamer, Ø 17 mm for stem size 160 mm-210 mm
7	134-500/10	Tapered reamer, Ø 19 mm for stem size 160 mm-210 mm
9	134-500/11	Tapered reamer, Ø 21 mm for stem size 160 mm-210 mm
11	134-500/12	Tapered reamer, Ø 24 mm for stem size 160 mm-210 mm
4	134-600/09	Tapered reamer, Ø 17 mm for stem size 250 mm
6	134-600/10	Tapered reamer, Ø 19 mm for stem size 250 mm
8	134-600/11	Tapered reamer, Ø 21 mm for stem size 250 mm
10	134-600/12	Tapered reamer, Ø 24 mm for stem size 250 mm

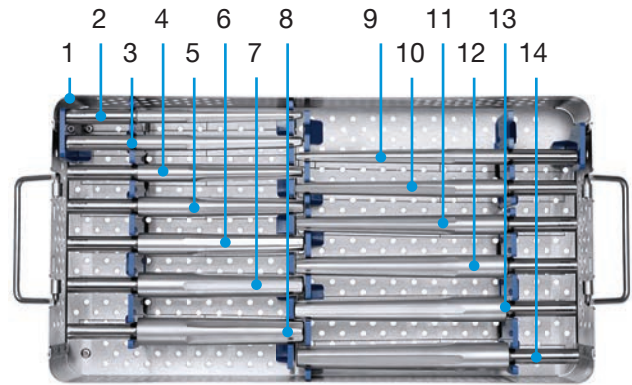
	REF	Description
1	134-061/00	Instrument tray 6, empty
2	134-700/09	Tapered reamer, Ø 17 mm for stem size 290 mm
4	134-700/10	Tapered reamer, Ø 19 mm for stem size 290 mm
6	134-700/11	Tapered reamer, Ø 21 mm for stem size 290 mm
8	134-700/12	Tapered reamer, Ø 24 mm for stem size 290 mm
3	134-800/09	Tapered reamer, Ø 17 mm for stem size 330 mm
5	134-800/10	Tapered reamer, Ø 19 mm for stem size 330 mm
7	134-800/11	Tapered reamer, Ø 21 mm for stem size 330 mm
9	134-800/12	Tapered reamer, Ø 24 mm for stem size 330 mm

Additional Instrument Sets

**134-070/00 Instrument Tray 7,  
Trial stems 160-180 mm**



**134-080/00 Instrument Tray 8,  
Trial stems 210-250 mm**

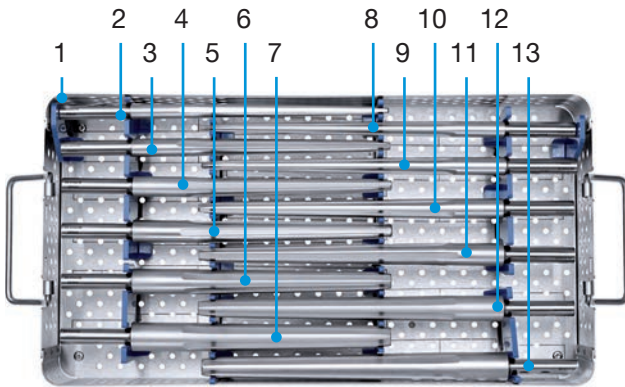


	REF	Description
1	134-071/00	Instrument tray 7, empty
2	134-900/12	Trial stem, Ø 12 mm, 160 mm
3	134-900/14	Trial stem, Ø 14 mm, 160 mm
4	134-900/16	Trial stem, Ø 16 mm, 160 mm
5	134-900/18	Trial stem, Ø 18 mm, 160 mm
6	134-900/20	Trial stem, Ø 20 mm, 160 mm
7	134-900/22	Trial stem, Ø 22.5 mm, 160 mm
8	134-900/25	Trial stem, Ø 25 mm, 160 mm
9	99-0155/12	Trial stem, Ø 12 mm, 180 mm
10	99-0155/14	Trial stem, Ø 14 mm, 180 mm
11	99-0155/16	Trial stem, Ø 16 mm, 180 mm
12	99-0155/18	Trial stem, Ø 18 mm, 180 mm
13	99-0155/20	Trial stem, Ø 20 mm, 180 mm
14	99-0155/22	Trial stem, Ø 22.5 mm, 180 mm
15	99-0155/25	Trial stem, Ø 25 mm, 180 mm

	REF	Description
1	134-081/00	Instrument tray 8, empty
2	99-0142/12	Trial stem, Ø 12 mm, 210 mm
3	99-0142/14	Trial stem, Ø 14 mm, 210 mm
4	99-0142/16	Trial stem, Ø 16 mm, 210 mm
5	99-0142/18	Trial stem, Ø 18 mm, 210 mm
6	99-0142/20	Trial stem, Ø 20 mm, 210 mm
7	99-0142/22	Trial stem, Ø 22.5 mm, 210 mm
8	99-0142/25	Trial stem, Ø 25 mm, 210 mm
9	99-0143/14	Trial stem, Ø 14 mm, 250 mm
10	99-0143/16	Trial stem, Ø 16 mm, 250 mm
11	99-0143/18	Trial stem, Ø 18 mm, 250 mm
12	99-0143/20	Trial stem, Ø 20 mm, 250 mm
13	99-0143/22	Trial stem, Ø 22.5 mm, 250 mm
14	99-0143/25	Trial stem, Ø 25 mm, 250 mm

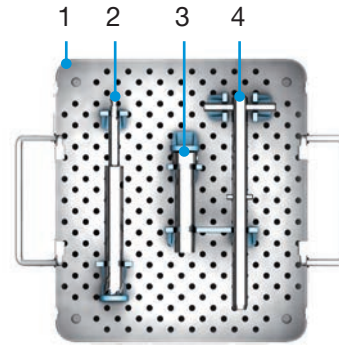
Additional Instrument Set, cemented

**134-090/00 Instrument Tray 9,  
Trial stems 290-330 mm**



	REF	Description
1	134-091/00	Instrument tray 9, empty
2	99-0144/14	Trial stem, Ø 14 mm, 290 mm
3	99-0144/16	Trial stem, Ø 16 mm, 290 mm
4	99-0144/18	Trial stem, Ø 18 mm, 290 mm
5	99-0144/20	Trial stem, Ø 20 mm, 290 mm
6	99-0144/22	Trial stem, Ø 22.5 mm, 290 mm
7	99-0144/25	Trial stem, Ø 25 mm, 290 mm
8	99-0145/14	Trial stem, Ø 14 mm, 330 mm
9	99-0145/16	Trial stem, Ø 16 mm, 330 mm
10	99-0145/18	Trial stem, Ø 18 mm, 330 mm
11	99-0145/20	Trial stem, Ø 20 mm, 330 mm
12	99-0145/22	Trial stem, Ø 22.5 mm, 330 mm
13	99-0145/25	Trial stem, Ø 25 mm, 330 mm

**134-110/00 Instrument Tray 10**



	REF	Description
1	134-111/00	Instrument tray 10, empty
2	134-211/00	Tubular reamer, Ø 19 mm
3	134-213/00	Insertion sleeve
4	134-214/00	Extractor

**134-212/00 Insertion sleeve, UHMWPE**

## Accessories

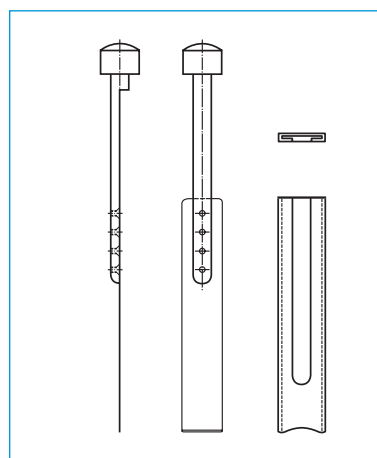
### Additional Instruments

(not included in instrument set)



Blade Chisel with Sheath, 250 mm

REF	Width mm	Working length mm
65-1700/20	20	65
65-1700/25	25	65



## X-ray Templates

**X-ray Templates** for MP Reconstruction System  
110% natural size, taper 12/14 mm, set of 7 plates

(X-ray templates 120% natural size available on request)

REF	CCD angle	Head-Ø mm	Neck length	for stem length mm	Set
175-870/02	126°	32	Short (S)	160	7 plates
175-870/05	135°	32	Short (S)	160	7 plates
175-870/08	126°	32	Medium (M)	180	7 plates
175-870/11	135°	32	Medium (M)	180	7 plates
175-870/14	126°	32	Long (L)	210-330	7 plates
175-870/17	135°	32	Long (L)	210-330	7 plates

## Cleaning and Care Instructions

Corresponding instructions for the instrument sets are available from [info@link-ortho.com](mailto:info@link-ortho.com) on request.

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Additional Literature



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