serf

HYPE®

Femoral stems

SURGICAL TECHNIQUE

Contents

Hype® stem implants range

The range of **Hype®** femoral stems consists of primary femoral implants available in cemented and cementless, collared or collarless versions. 4 offsets options are available: standard offset, lateralized, high offset and coxa vara configurations.

Our implants are manufactured from titanium alloy (TA6V) for cementless options and from stainless steel (M30) for cemented stems.

The cementless stem features a 150 µm thick titanium spray coating over the metaphyseal body completed by a 80 µm thick HA coating over the whole stem surface.

Cemented stems have a highly-polished surface finish and feature a depth indicator marking. The end of the coating on cementless stems and the depth indicator for cemented stems correspond to the impaction limit of the final implants.

The **Hype®** range is made of the following stems:

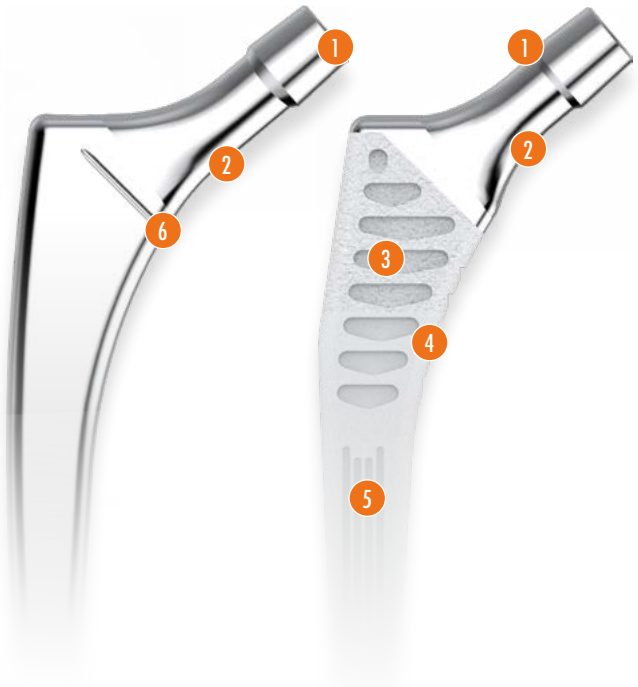
Designation	Femoral stem families	Available sizes	Neck-shaft angle
Hype SCS	Standard offset cementless stem	1 to 11	130°
Hype SCC	Standard offset collared cementless stem	1 to 11	130°
Hype SCC Mini	Mini standard offset collared cementless stem	2 to 7	130°
Hype ACS	Standard offset cemented stem	1 to 11	130°
Hype SCL	Lateralized offset cementless stem	2 to 10	130°
Hype SCLA Mini	Mini lateralized offset collared cementless stem	2 to 7	130°
Hype ACL	Standard offset cemented stem	2 to 9	130°
Hype SCHO	High Offset collared cementless stem	3 to 11	130°
Hype SCV	Coxa vara cementless stem	2 to 9	120°

The **Hype®** femoral neck length increases proportionally between each size for all stem families except for Hype® SCV stems (coxa vara).

The **Hype®** Mini stems are specifically designed to adapt MIS and anterior surgical approaches and are 20% shorter than Hype® SCC and SCL stems.

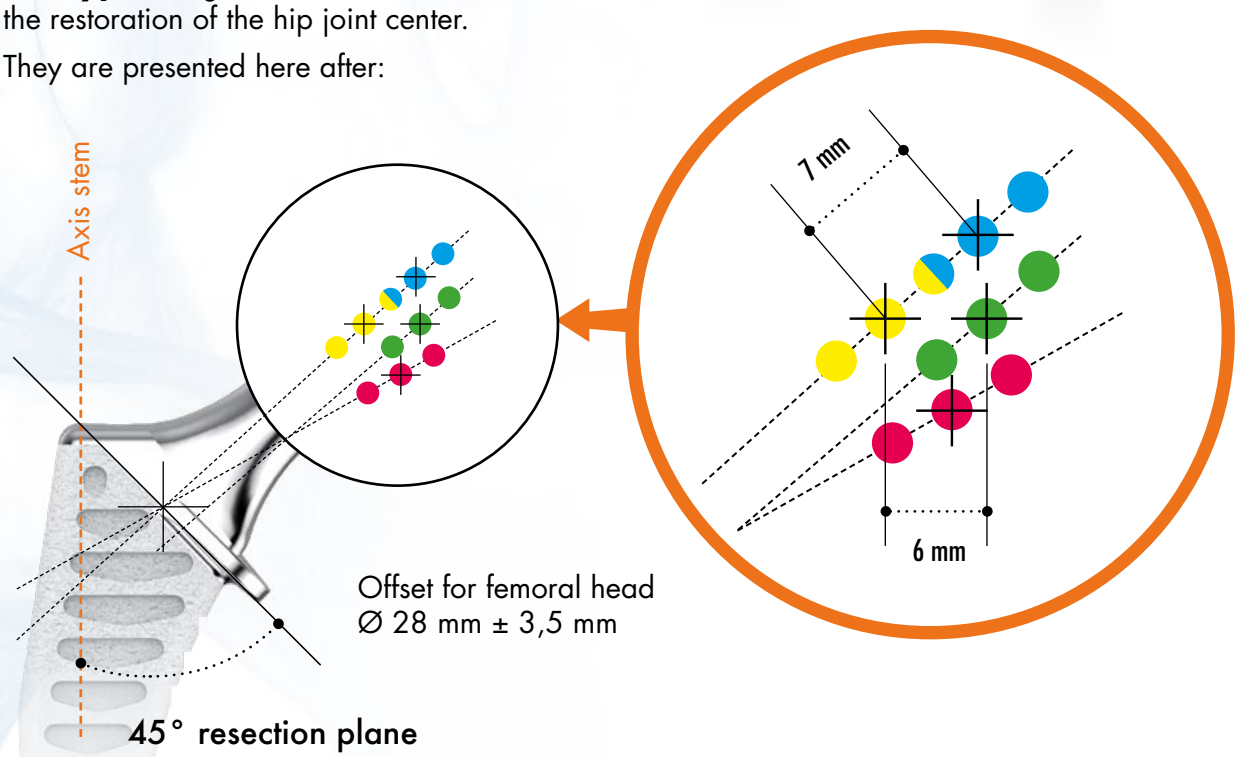
12
14
5°43

1. Tapper
2. Polished narrow ovoid neck geometry
3. Macro-relief surface
4. Support ridges
5. Anterior and posterior longitudinal grooves
6. Insertion depth marking



The **Hype**® range offer several choice for the restoration of the hip joint center.

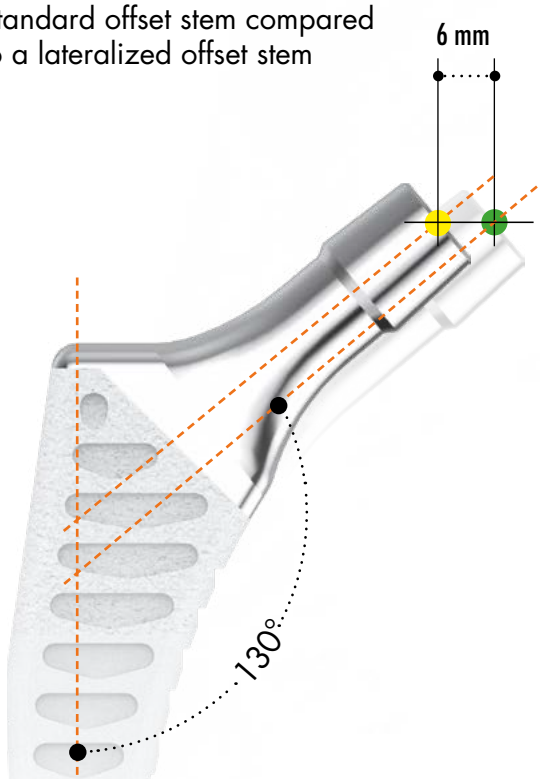
They are presented here after:



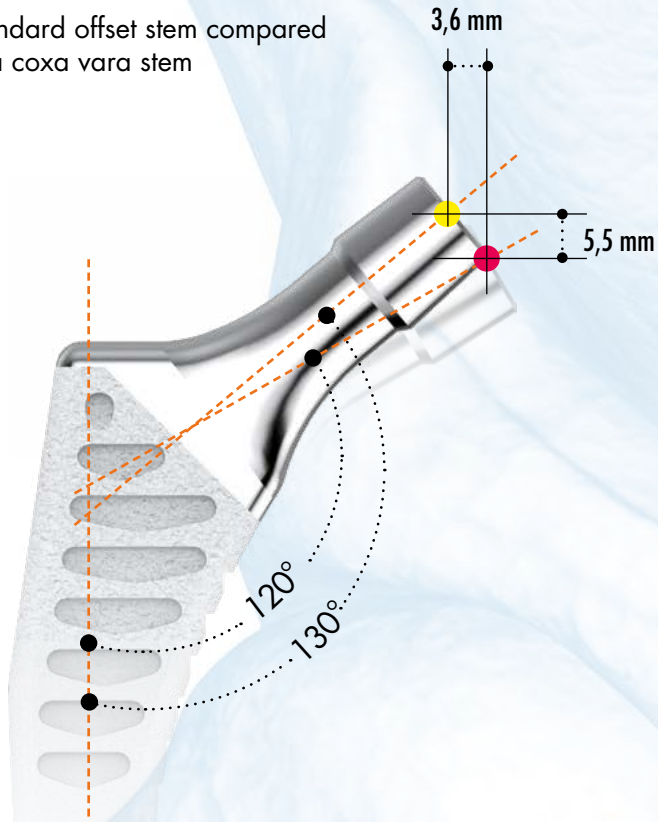
- Hype® standard cementless stem (SCS - SCC - SCC Mini)
  Tiges Hype® standard cemented stem (ACS)
- Hype® lateralized cementless stem (SCL - SCLA Mini)
  Hype® lateralized cemented stem (ACL)
- Hype® coxa vara cementless stem (SCV)
- Hype® high offset cementless stem (SCHO)

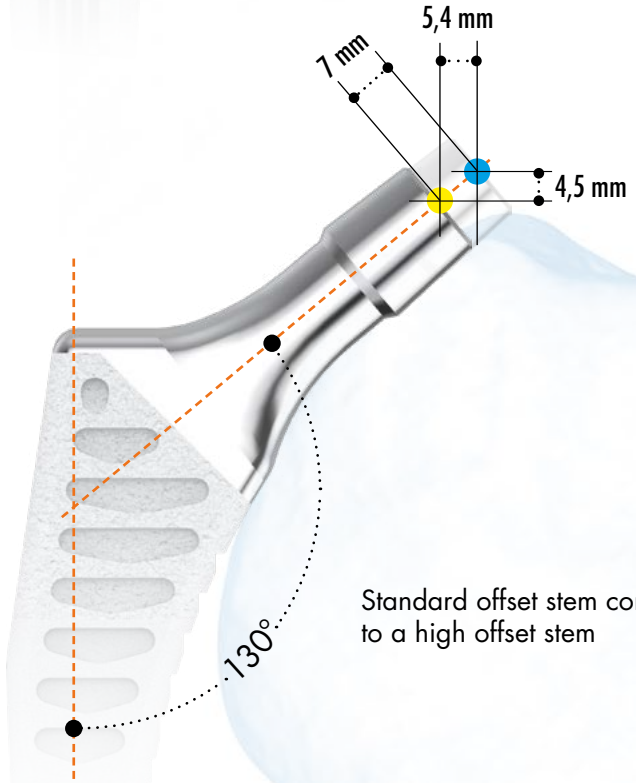
Hype® stem implants range

Standard offset stem compared
to a lateralized offset stem



Standard offset stem compared
to a coxa vara stem



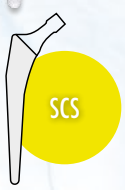


Standard offset stem compared
to a high offset stem

Hype® standard and lateralized cementless stem

STANDARD OFFSET

Standard stem	Reference
Hype SCS 1	RM12000001
Hype SCS 2	RM12000002
Hype SCS 3	RM12000003
Hype SCS 4	RM12000004
Hype SCS 5	RM12000005
Hype SCS 6	RM12000006
Hype SCS 7	RM12000007
Hype SCS 8	RM12000008
Hype SCS 9	RM12000009
Hype SCS 10	RM12000010
Hype SCS 11	RM12000011

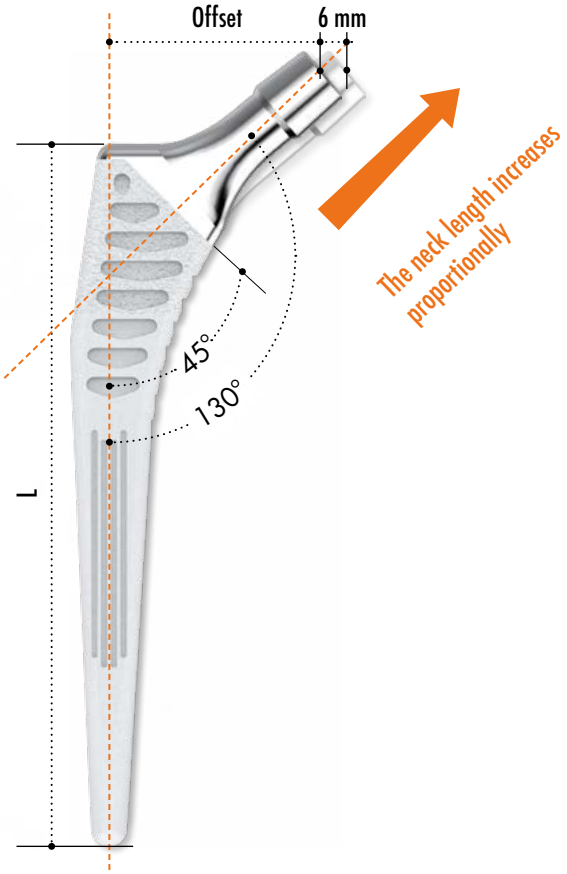


Standard collared stem	Reference
Hype SCC 1	RM12100001
Hype SCC 2	RM12100002
Hype SCC 3	RM12100003
Hype SCC 4	RM12100004
Hype SCC 5	RM12100005
Hype SCC 6	RM12100006
Hype SCC 7	RM12100007
Hype SCC 8	RM12100008
Hype SCC 9	RM12100009
Hype SCC 10	RM12100010
Hype SCC 11	RM12100011

LATERALIZED OFFSET

Lateralized Stem	Reference
Hype SCL 2	RM12200002
Hype SCL 3	RM12200003
Hype SCL 4	RM12200004
Hype SCL 5	RM12200005
Hype SCL 6	RM12200006
Hype SCL 7	RM12200007
Hype SCL 8	RM12200008
Hype SCL 9	RM12200009
Hype SCL 10	RM12200010

Dimensions

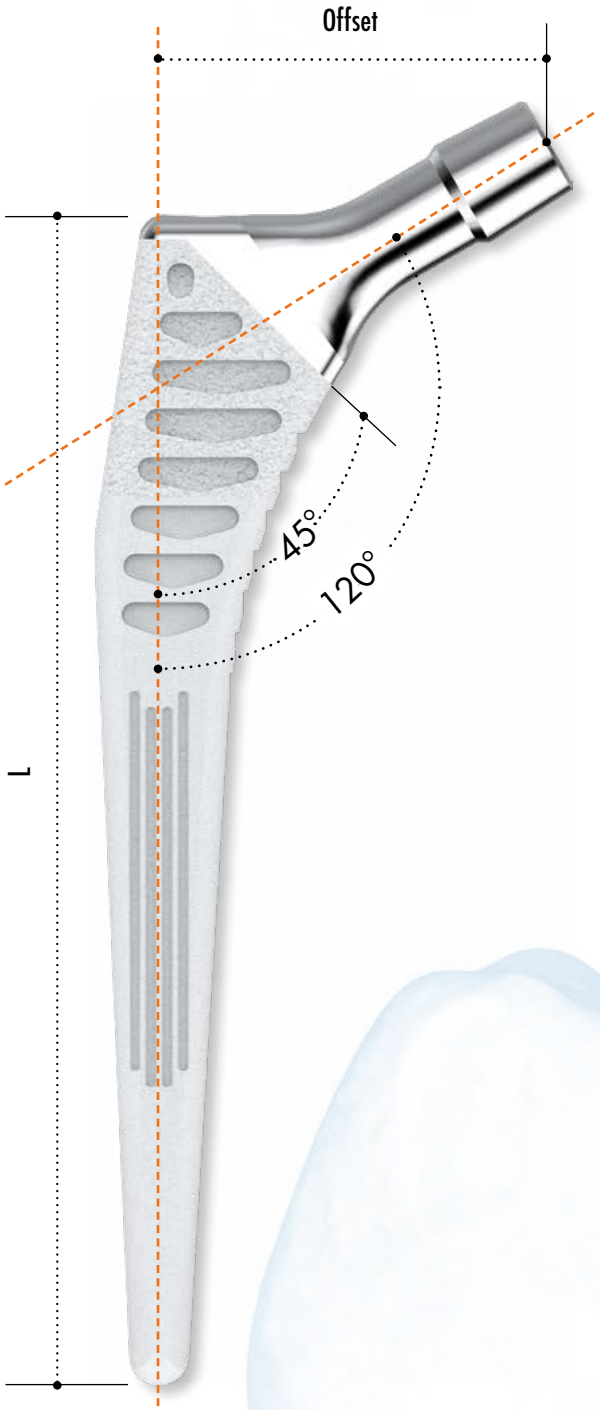


Size	L (mm)	Offset (mm)	
		Standard stem	Lateralized stem
1	125	38	/
2	130	39	45
3	140	40	46
4	145	41	47
5	150	42	48
6	155	43	49
7	160	44	50
8	165	45	51
9	170	46	52
10	175	47	53
11	180	48	/

Materials

- Stem : Titanium alloy (TA6V)
- Coating: 150 µm Titanium spray + 80 µm Hydroxyapatite

Hype® coxa vara cementless stem



NB: neck length is constant for all sizes

Dimensions

Size	L (mm)	Offset (mm)
2	130	42,9
3	140	44
4	145	44,8
5	150	45,6
6	155	46,4
7	160	47,2
8	165	48
9	170	48,8

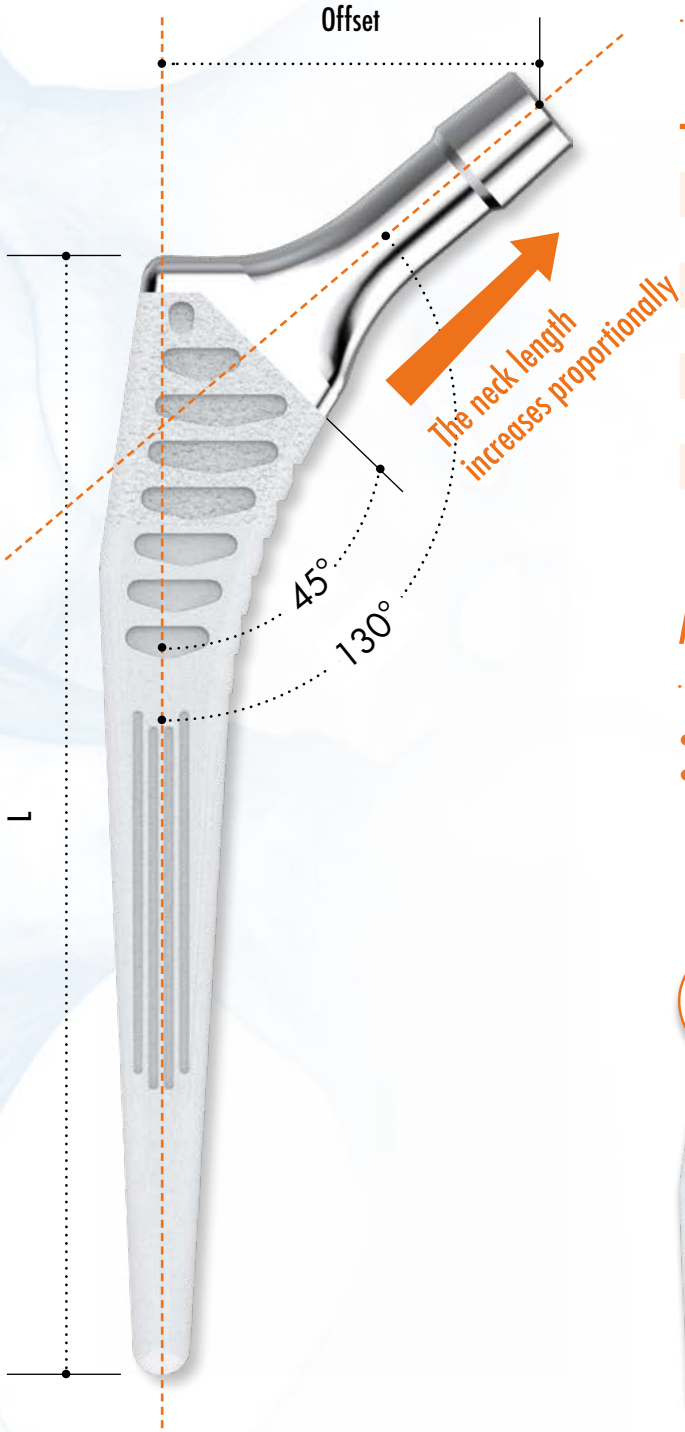
Materials

- Stem: Titanium alloy (TA6V)
- Coating : 150 µm Titanium spray + 80 µm Hydroxyapatite

COXA VARA

Coxa vara stem	Reference
Hype SCV 2	RM12400002
Hype SCV 3	RM12400003
Hype SCV 4	RM12400004
Hype SCV 5	RM12400005
Hype SCV 6	RM12400006
Hype SCV 7	RM12400007
Hype SCV 8	RM12400008
Hype SCV 9	RM12400009

Hype® high offset cementless stem



Dimensions

Size	L (mm)	Offset (mm)
3	140	45
4	145	46
5	150	47
6	155	48
7	160	49
8	165	50
9	170	51
10	175	52
11	180	53

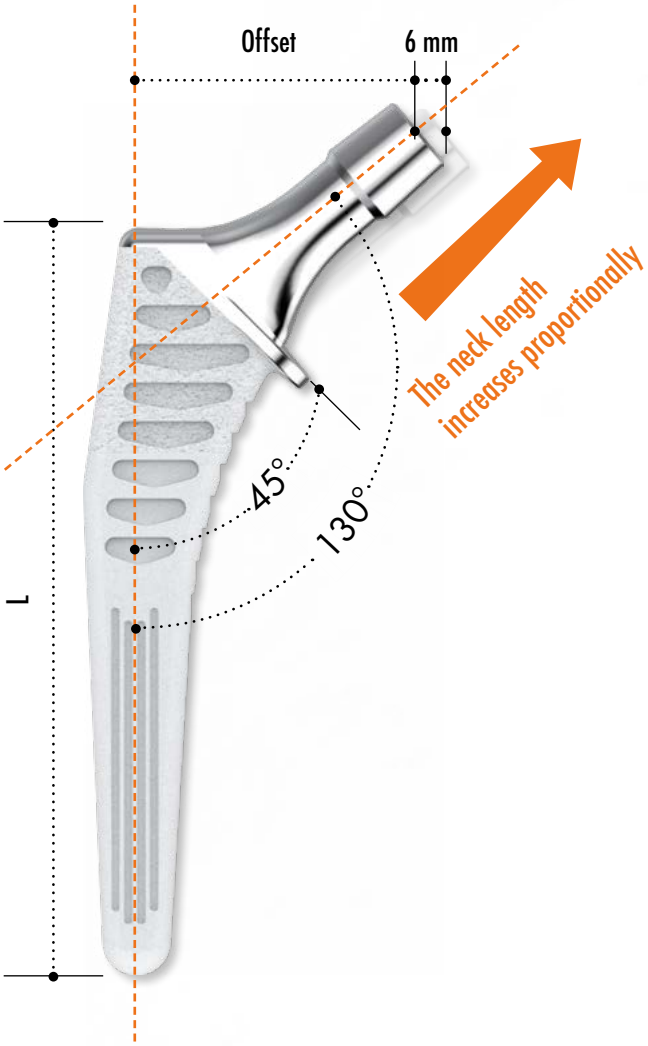
Materials

- Stem: Titanium alloy (TA6V)
- Coating: 150 µm Titanium spray + 80 µm Hydroxyapatite

HIGH OFFSET

High offset stem	Reference
Hype SCHO 3	RM12300003
Hype SCHO 4	RM12300004
Hype SCHO 5	RM12300005
Hype SCHO 6	RM12300006
Hype SCHO 7	RM12300007
Hype SCHO 8	RM12300008
Hype SCHO 9	RM12300009
Hype SCHO 10	RM12300010
Hype SCHO 11	RM12300011

Hype® mini standard and lateralized cementless stem



Dimensions

Size	L (mm)	Offset (mm)	
		Standard mini stem	Lateralized mini stem
2	104	39	45
3	112	40	46
4	116	41	47
5	120	42	48
6	124	43	49
7	128	44	50

Materials

- Stem: Titanium alloy (TA6V)
- Coating: 150 µm Titanium spray + 80 µm Hydroxyapatite

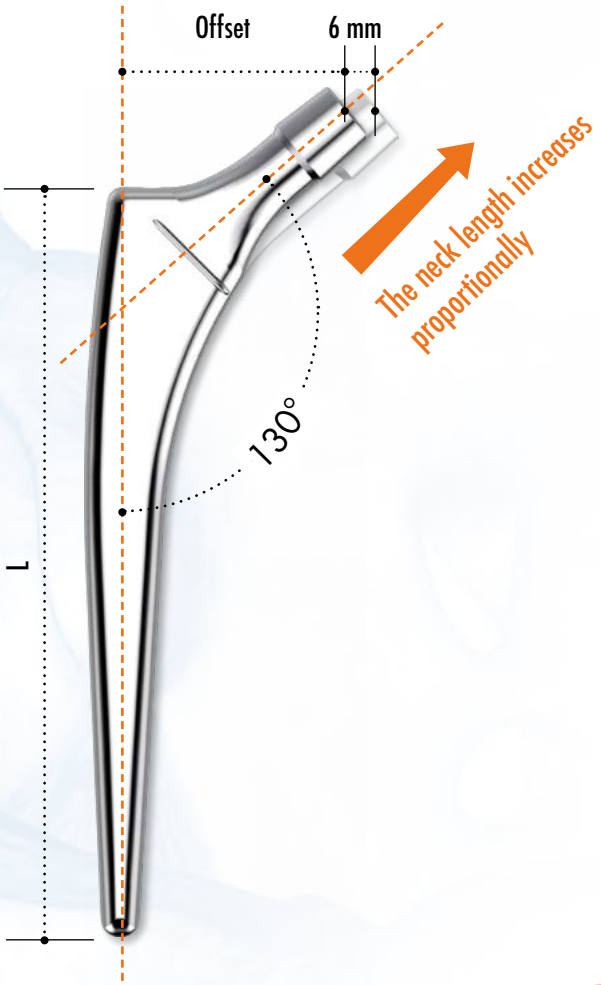
STANDARD OFFSET

Standard collared mini stem	Reference
Hype SCC 2 Mini	RM12600002
Hype SCC 3 Mini	RM12600003
Hype SCC 4 Mini	RM12600004
Hype SCC 5 Mini	RM12600005
Hype SCC 6 Mini	RM12600006
Hype SCC 7 Mini	RM12600007

LATERALIZED OFFSET

Lateralized collared mini stem	Reference
Hype SCLA 2 Mini	RM12700002
Hype SCLA 3 Mini	RM12700003
Hype SCLA 4 Mini	RM12700004
Hype SCLA 5 Mini	RM12700005
Hype SCLA 6 Mini	RM12700006
Hype SCLA 7 Mini	RM12700007

Hype® standard and lateralized cemented stem



Dimensions

Size	L (mm)	Offset (mm)	
		Standard stem	Lateralized stem
1	125	38	/
2	130	39	45
3	140	40	46
4	145	41	47
5	150	42	48
6	155	43	49
7	160	44	50
8	165	45	51
9	170	46	52
10	175	47	/
11	180	48	/

Materials

- Stem: highly-polished stainless steel ISO 5832-9

STANDARD OFFSET

Standard cemented stem	Reference
Hype ACS 1	RM12800001
Hype ACS 2	RM12800002
Hype ACS 3	RM12800003
Hype ACS 4	RM12800004
Hype ACS 5	RM12800005
Hype ACS 6	RM12800006
Hype ACS 7	RM12800007
Hype ACS 8	RM12800008
Hype ACS 9	RM12800009
Hype ACS 10	RM12800010
Hype ACS 11	RM12800011

LATERALIZED OFFSET

Lateralized cemented stem	Reference
Hype ACL 2	RM12500002
Hype ACL 3	RM12500003
Hype ACL 4	RM12500004
Hype ACL 5	RM12500005
Hype ACL 6	RM12500006
Hype ACL 7	RM12500007
Hype ACL 8	RM12500008
Hype ACL 9	RM12500009

Compatible femoral heads

The femoral heads compatible with the **Hype®** femoral stems have a 12/14 taper and are the following:

Material	Ø (mm)	Designation	Reference
 12 14 5°43 Biolox® delta ceramic (ISO 6474-2)	Ø 28	D28-CC (- 3,5 mm)	RM30650001
		D28-CM (0)	RM30650002
		D28-CL (+ 3,5 mm)	RM30650003
	Ø 32	D32-CC (- 4 mm)	RM30650004
		D32-CM (0)	RM30650005
		D32-CL (+ 4 mm)	RM30650006
	Ø 36	D36-CC (- 4 mm)	RM30650008
		D36-CM (0)	RM30650009
		D36-CL (+ 4 mm)	RM30650010

Material	Ø (mm)	Designation	Reference
 12 14 5°43 Stainless steel (ISO 5832-9)	Ø 22,2	I22-CC (- 2,5 mm)	RM30100001
		I22-CM (0)	RM30100002
		I22-CL (+ 2,5 mm)	RM30100003
	Ø 28	I28-CC (- 3,5 mm)	RM30100005
		I28-CM (0)	RM30100006
		I28-CL (+ 3,5 mm)	RM30100007
 12 14 5°43 Cobalt chromium (ISO 5832-12)	Ø 22,2	C22-CC (- 2,5 mm)	RM30400001
		C22-CM (0)	RM30400002
		C22-CL (+ 2,5 mm)	RM30400003
	Ø 28	C28-CC (- 3,5 mm)	RM30400004
		C28-CM (0)	RM30400005
		C28-CL (+ 3,5 mm)	RM30400006

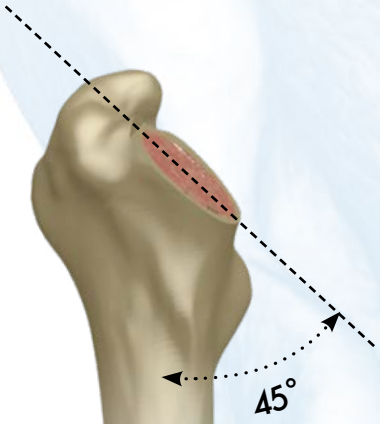
Compatible acetabular cups

The **Hype®** range of femoral stems is compatible with the following acetabular cups:

Surgical technique

1 Femoral neck resection

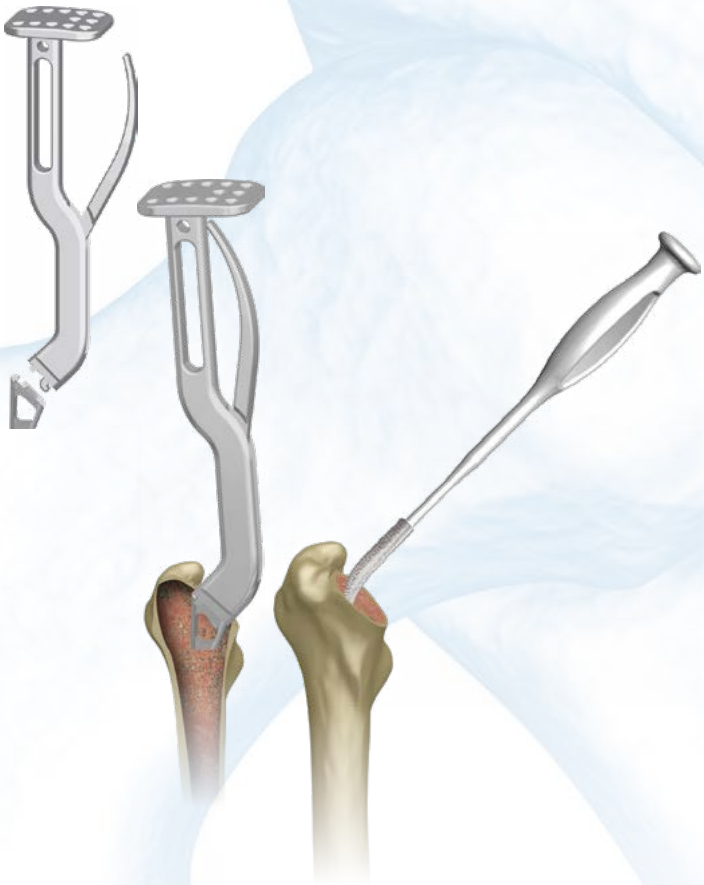
The level of the femoral neck resection is determined during preoperative planning using radiographic templates then intraoperatively confirmed based on the anatomical landmarks.
The osteotomy should be 45° to the anatomical axis of the femur.

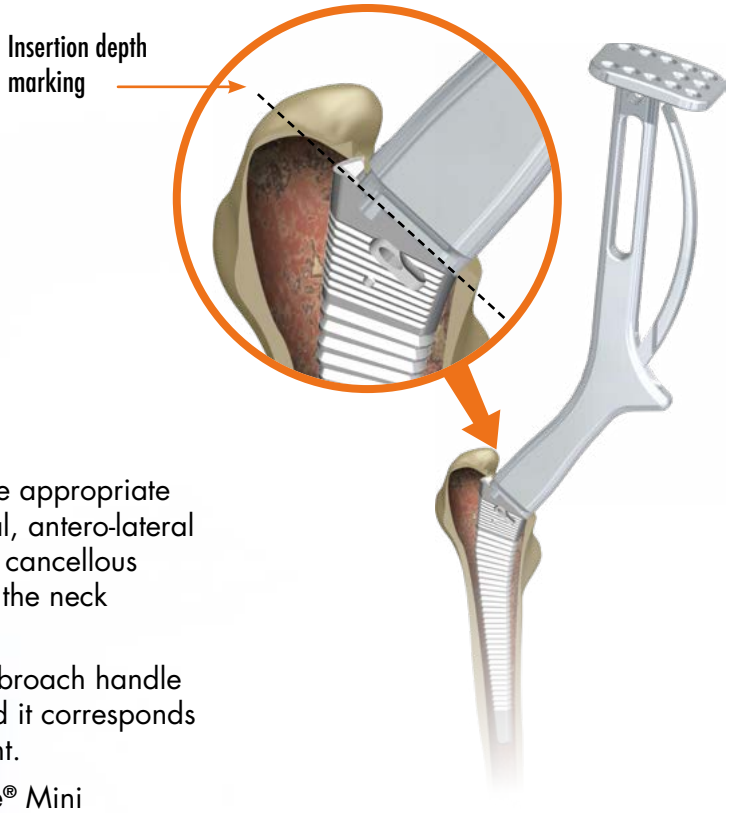


2 Greater trochanter and metaphyseal preparation

A small size broach or a bone chisel can be used to enter the femoral canal and remove medial bone in the area of the greater trochanter.

Care must be taken when broaching the inner part of the greater trochanter to prevent varus positioning of the subsequent broaches and final implant.





3 Broaching

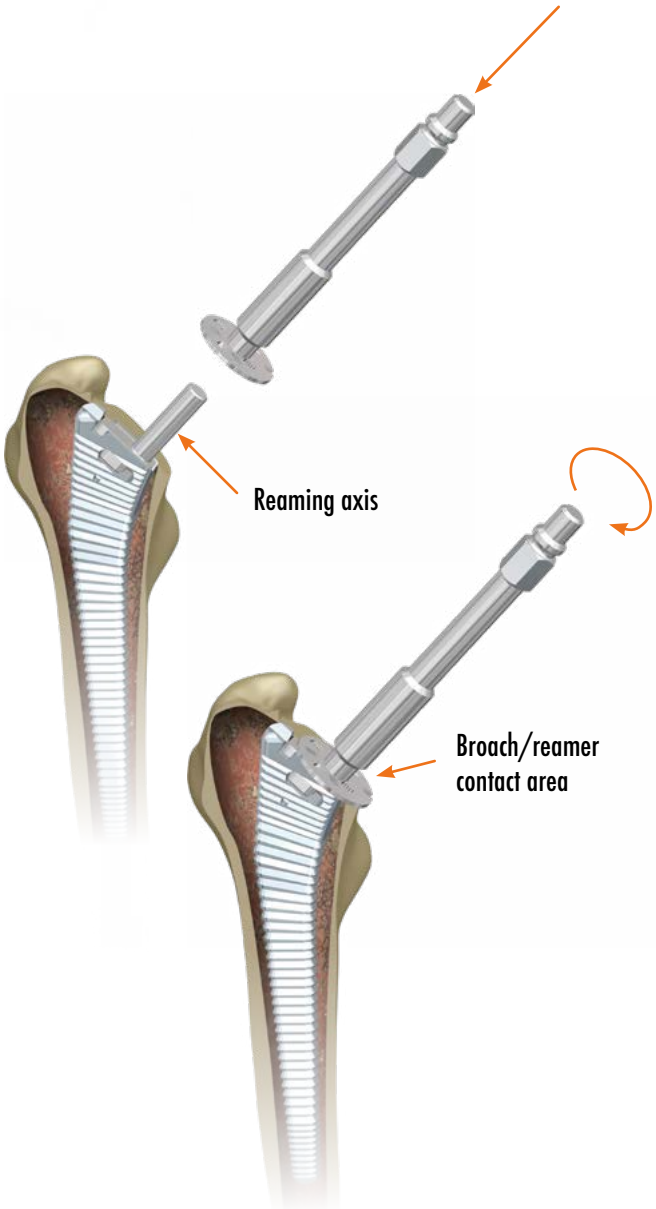
The **Hype**® broaches are connected to the appropriate broach handle designed for postero-lateral, antero-lateral or anterior surgical approaches. Proximal cancellous bone compaction is then performed up to the neck resection plane.

The junction between the broach and the broach handle is the limit of impaction of the broach, and it corresponds to the limit of impaction of the final implant.

Specific broaches are available for **Hype**® Mini (Standard and Lateralized) stems.

An alignment rod may be assembled to the handle to assess anteversion.

The broach that provides proper rotational stability indicates the definitive implant size.



4 Calcar reaming (collared stem)

Initiate power to the reamer mounted onto the broach then ream until the reamer/broach are in contact.

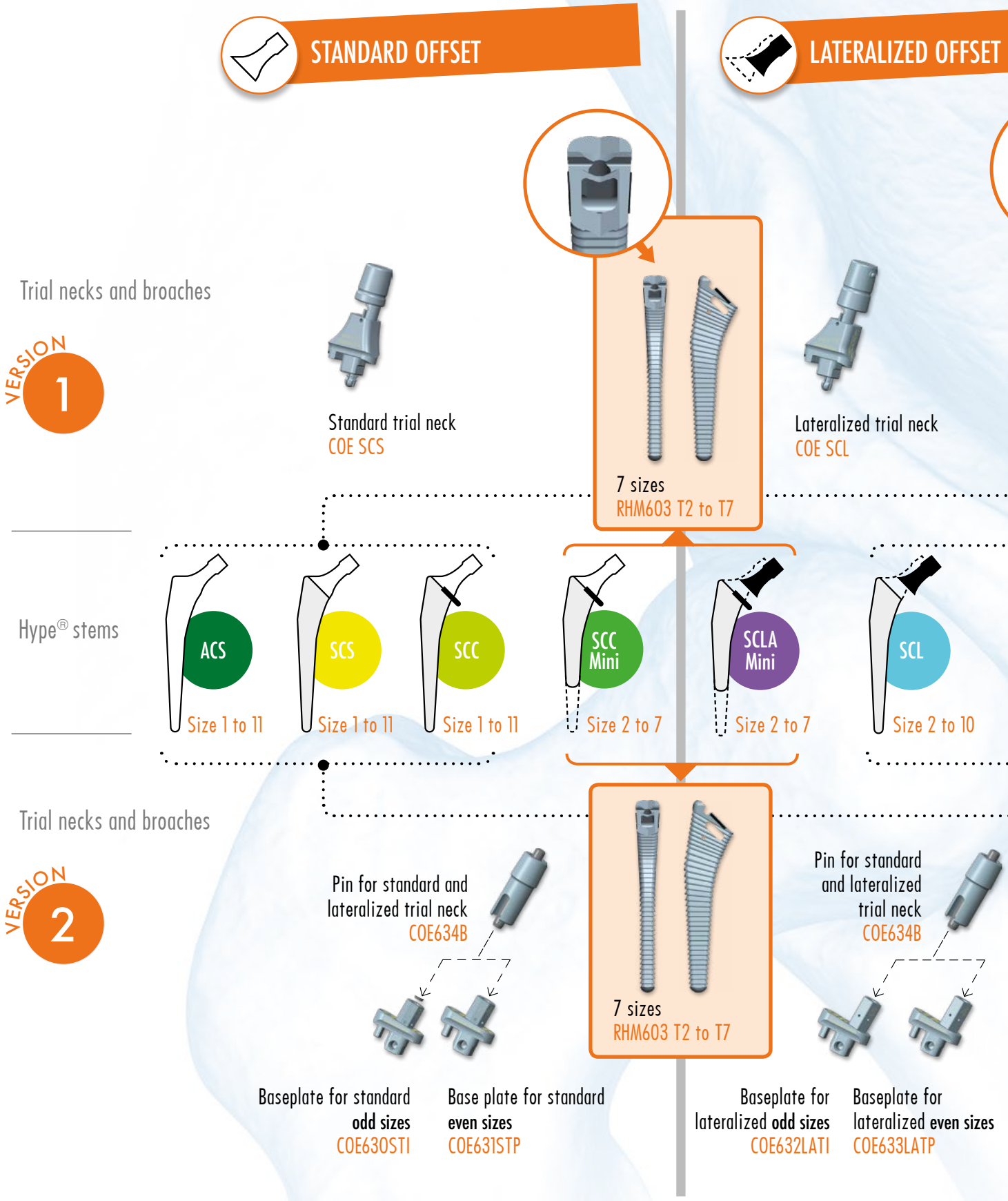
Reaming should allow the upper surface of the broach to sit level with the femoral resection plane.

The calcar reamer should normalize the resection plane for collared stems.

5 Trial reduction with final broach

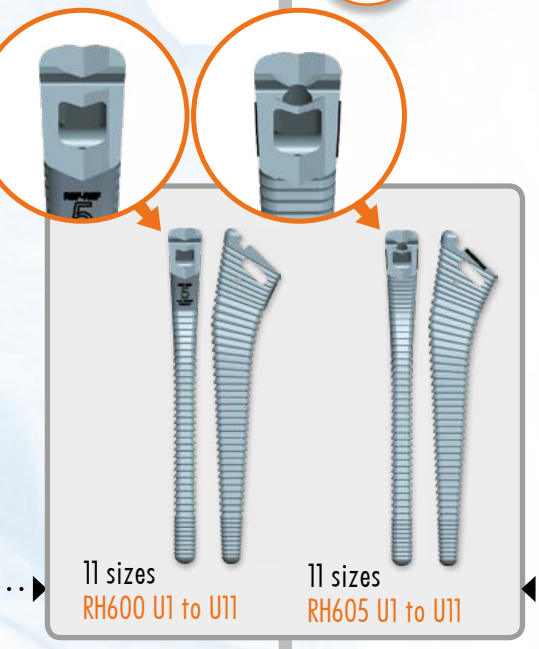
With the last broach in situ and in order to do the trial reduction, trial necks are required for Standard, Lateralized, Coxa vara or High offset stem to assess hip joint centre.

Two different versions of trial necks exists. Hereafter you will find the details of those two versions and their broach compatibility:



HIGH OFFSET

COXA VARA



11 sizes
RH600 U1 to U11

11 sizes
RH605 U1 to U11

Trial neck
High offset
COE SCHO

Coxa Vara
trial neck
COE SCV

Size 2 to 9

Size 3 to 11

Size 2 to 9

11 sizes
RHM605 U1 to U11

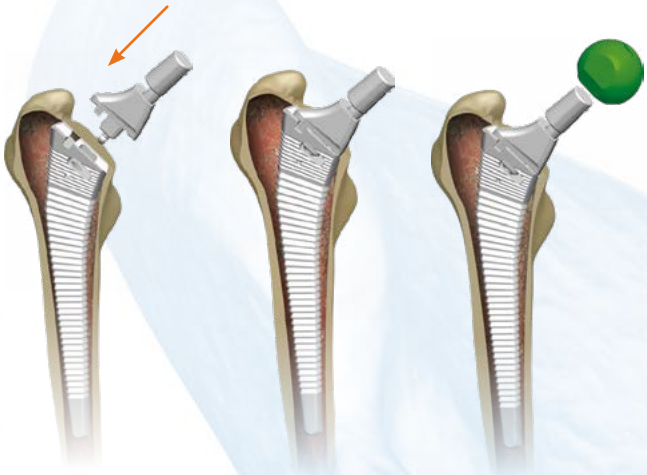
Pin for High offset
trial neck
COE635BHO

Baseplate for
standard **odd sizes**
COE630STI

Baseplate for
standard **even sizes**
COE631STP

Coxa Vara
trial neck
COE SCV

5 Trial reduction with final broach (continuing)



Trial reduction with trial necks

VERSION 1

The taper should be firmly pushed up to the stop to achieve correct length and proper neck locking.

Trial heads can be used to check joint stability at this stage.

After validation of the diameter and/or length of the neck, remove the trial head.

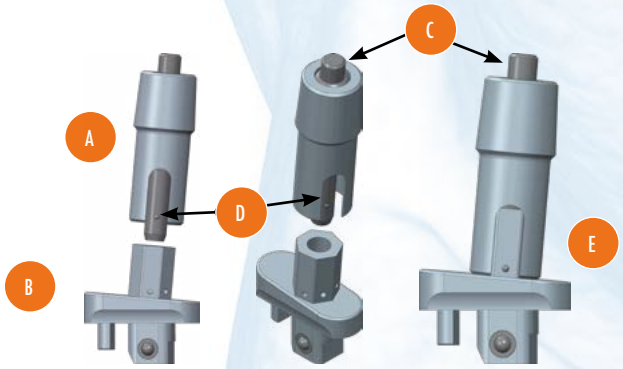
Trial reduction with trial necks

VERSION 2

Neck assembly is to proceed according to the following instructions (and according to their compatibility as seen on previous page):

1. The pin (A) should face the neck baseplate (B) for proper assembly
2. Press the push-button (C) to unlock the ball (D) and allow insertion of the pin into the baseplate. The pin should be aligned with the selected size, engraved on the baseplate.

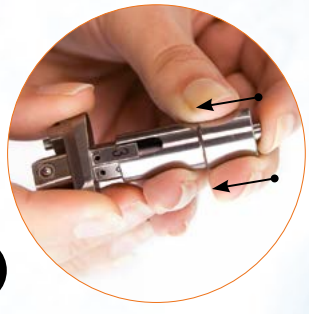
   Once the ball is engaged into the shaft of the baseplate, release the push-button (C) which must be blocked in lower position.
3. Proper locking of the pin (A) over the baseplate (B) is confirmed by an audible click. The push-button (C) is then released.



- (A) Pin for trial neck
- (B) Baseplate for trial neck
- (C) Push-button
- (D) Ball
- (E) Trial neck assembly

Present the trial neck in front of the broach, and firmly push up to the stop to achieve correct length and proper neck locking (do not push on the push-button as this will change the fixed parameters).

1



2

3

Trial heads can be used to check joint stability at this stage.

After validation of the diameter and/or length of the neck, remove the trial head.

6 Stem insertion

Cementless stem

The stem is inserted and driven in the femoral canal without excessive force using the punch or angled impactor (with if needed the stem orientation device mounted on it). Definitive impaction is obtained when the stem coating is at the level of the resection plane.

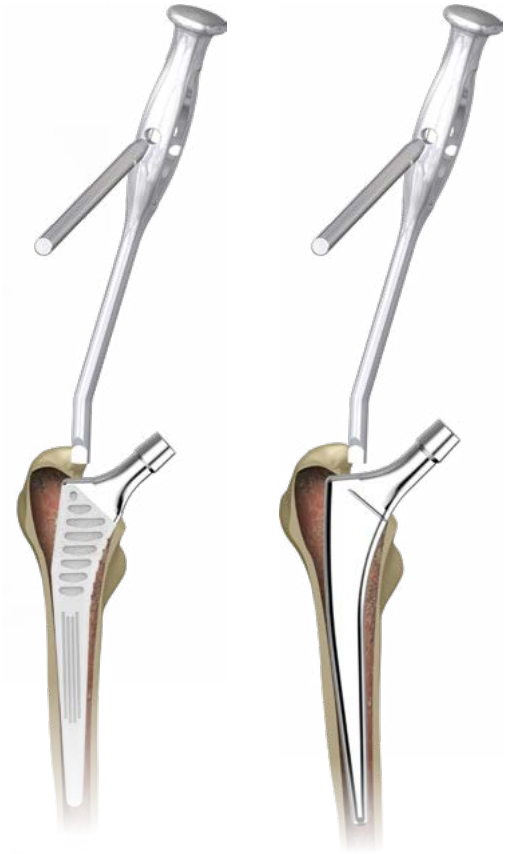
Cemented stem

The stem is progressively inserted into the cement mantle by applying manual pressure.

The constraint impactor placed into the housing (stem shoulder) helps adjust the definitive stem orientation. The alignment rod connected to the handle will indicate stem anteversion.

The insertion depth has been reached when the depth indicator marking on the implant sits level with the osteotomy line.

The non-constraint impaction punch will maintain pressure on the stem during cement setting.



7 Femoral head insertion

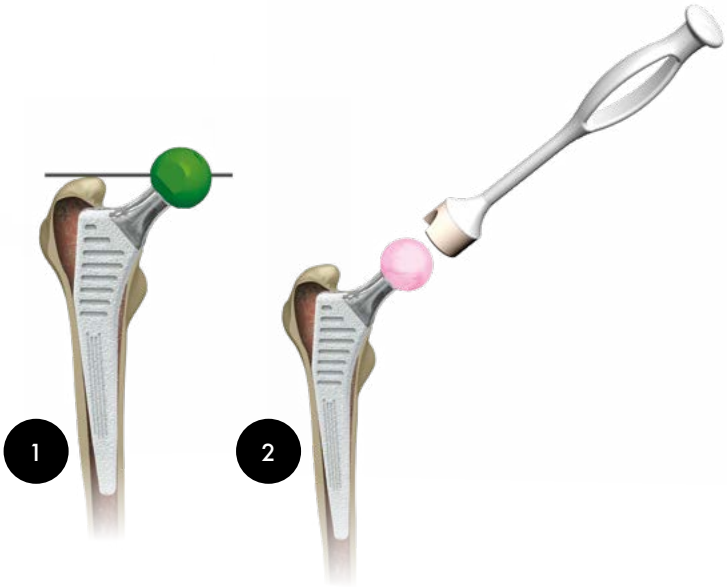
1 Trialing on implant

Trial heads can be used to check joint stability directly on the definitive stem (same trials can be performed on broach and the trial neck).

The Alignment rod for trial head be used to assess the position of the joint center, compared to the greater trochanter.
Place the rod in the holes on the trial head.

Nb: The identification of the joint center with the alignement rod is only valid for standard offset stems, lateralized offset stems and high offset stems.

After validation of the diameter and/or length of the neck, remove the trial head.



2 Femoral head impaction

The taper should be carefully cleaned and dried.

The definitive femoral head is mounted on the stem taper with a rotational movement.

The head is firmly seated with one mallet blow on the impactor in an axial direction.

The hip can then be reduced.

Stem extraction (per operative)

Assembly

The clamp is assembled to the stem taper (the taper flat surface abuts against the bottom of the clamp), tighten the nut using the alignment guide then connect the broach handle.

The femoral stem can then be extracted.

Do not re-use this implant since the Morse taper might have been damaged.

Disassembly

Unscrew the nut using the alignment guide during disassembly.

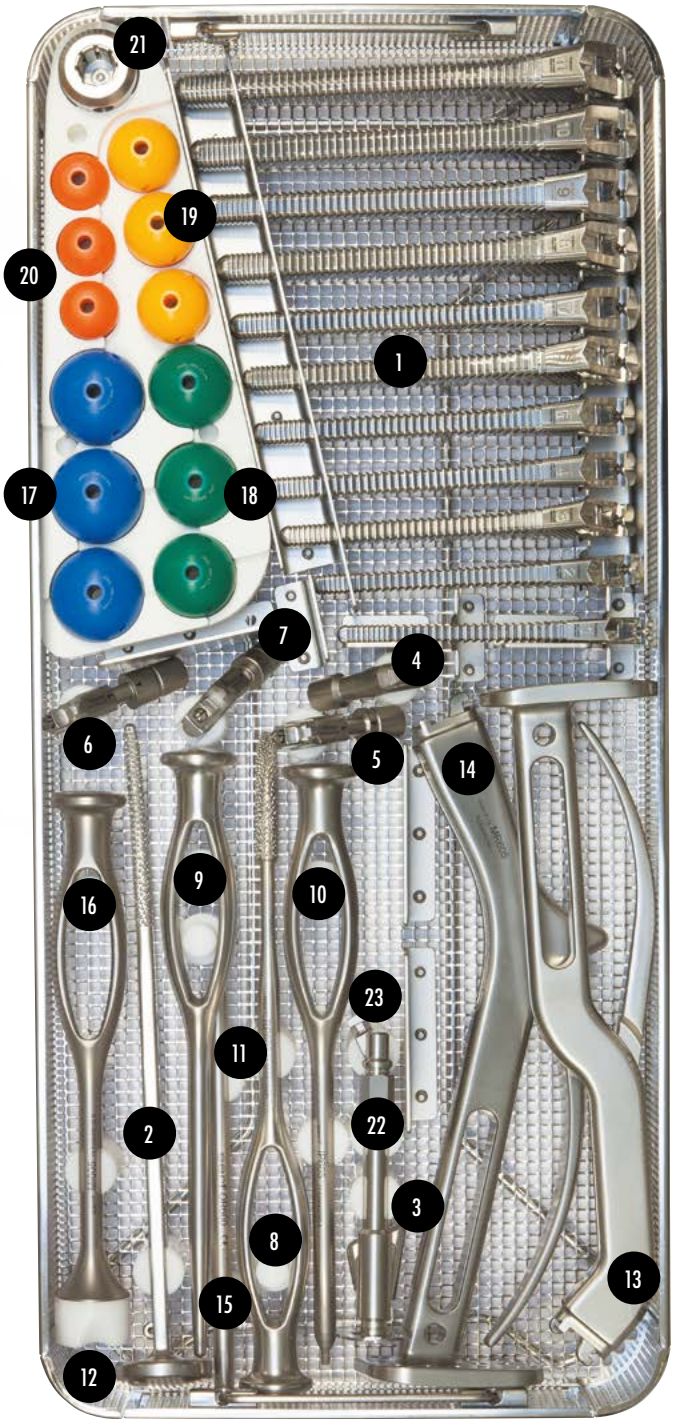
In case of difficulty, please return the extractor + cleaned stem assembly.

Instrumentation set

Hype® stem VARAHL01

VERSION 1

N°	Reference	Designation
1	RH605-U1 to RH605-U11	Machined Hype broach for femoral preparation T1 to 11
2	RP601	Machined Hype broach for femoral preparation
3	OST600	Femoral osteotome
4	COE-SCL	Trial neck for Hype lateralized stem
5	COE-SCS	Trial neck for Hype standard stem
6	COE-SCV	Hype coxa vara trial neck
7	COE-SCHO	Trial neck for Hype high offset stem
8	RP602	Broach for anterior surgical approach preparation
9	PI600	Impaction punch
10	IP605	Angled impactor
11	OR601	Alignment rod for trial head
12	EI602	Impactor tip
13	MR600	Standard broach handle
14	MR605	Anterior approach broach handle
15	OR600	Stem orientation device
16	MI605	Impactor tip handle
17	TE607-36CC TE607-36CM TE607-36CL	Trial head Ø 36 mm short (-4) Trial head Ø 36 mm medium (0) Trial head Ø 36 mm long (+4)
18	TE607-32CC TE607-32CM TE607-32CL	Trial head Ø 32 mm short (-4) Trial head Ø 32 mm medium (0) Trial head Ø 32 mm long (+4)
19	TE607-28CC TE607-28CM TE607-28CL	Trial head Ø 28 mm short (-3.5) Trial head Ø 28 mm medium (0) Trial head Ø 28 mm long (+3.5)
20	TE607-22.2CC TE607-22.2CM TE607-22.2CL	Trial head Ø 22.2 mm short (-2,5) Trial head Ø 22.2 mm medium (0) Trial head Ø 22.2 mm long (+2.5)
21	ET602	Stem extraction adapter
22	FC602	Calcar reamer
23	FC602 adapter	Calcar reamer holder

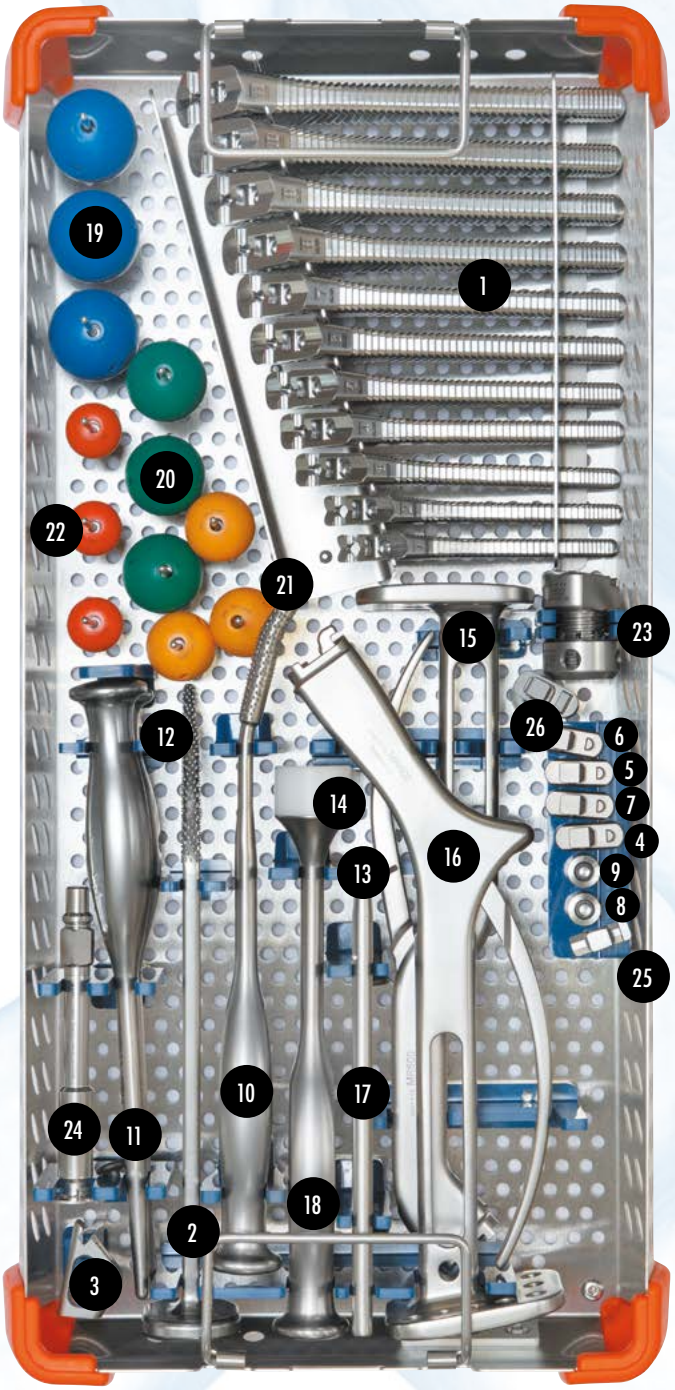


Instrumentation set

Hype® stem VARAHL01

VERSION 2

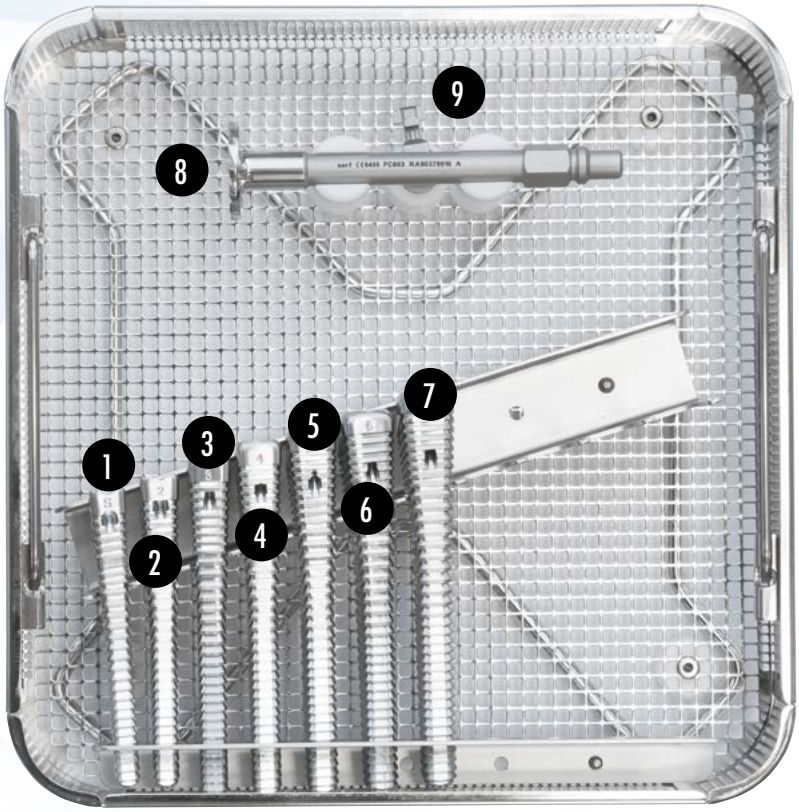
N°	Reference	Designation
1	RH605 U1 to U11	Machined Hype® broach for femoral preparation T1 to T11
2	RP601	Machined Hype® broach for femoral preparation
3	OST600	Femoral osteotome
4	COE630STI	Trial neck for Hype® stem, odd
5	COE631STP	Trial neck for Hype® stem, even
6	COE632LATI	Trial neck for Hype® lateralized stem, odd
7	COE633LATP	Trial neck for Hype® lateralized stem, even
8	COE634B	Broach for Hype® trial neck
9	COE635BHO	Broach for Hype® high offset trial neck
10	RP602	Broach for anterior surgical approach preparation
11	PI600	Impaction punch
12	IP605	Angled impactor
13	OR601	Alignment rod for trial head
14	EI602	Impactor tip
15	MR600	Standard broach handle
16	MR605	Anterior approach broach handle
17	OR600	Stem orientation device
18	MI605	Impactor tip handle
19	TE607-36CC TE607-36CM TE607-36CL	Trial head Ø 36 mm short (-4) Trial head Ø 36 mm medium (0) Trial head Ø 36 mm long (+4)
20	TE607-32CC TE607-32CM TE607-32CL	Trial head Ø 32 mm short (-4) Trial head Ø 32 mm medium (0) Trial head Ø 32 mm long (+4)
21	TE607-28CC TE607-28CM TE607-28CL	Trial head Ø 28 mm short (-3.5) Trial head Ø 28 mm medium (0) Trial head Ø 28 mm long (+3.5)
22	TE607-22.2CC TE607-22.2CM TE607-22.2CL	Trial head Ø 22.2 mm short (-2,5) Trial head Ø 22.2 mm medium (0) Trial head Ø 22.2 mm long (+2.5)
23	ET602	Stem extraction adapter
24	FC602	Calcar reamer
25	FC602 ADAPTATEUR	Calcar reamer holder
26	COE SCV	Hype® coxa vara trial neck



Instrumentation set

Complement for Hype® Mini stems VARAHM01

N°	Reference	Designation
1	RHM603 S	Starter machined broach for femoral
2	RHM603 T2	Machined broach for femoral preparation size 2
3	RHM603 T3	Machined broach for femoral preparation size 3
4	RHM603 T4	Machined broach for femoral preparation size 4
5	RHM603 T5	Machined broach for femoral preparation size 5
6	RHM603 T6	Machined broach for femoral preparation size 6
7	RHM603 T7	Machined broach for femoral preparation size 7
8	FC603	Calcar reamer
9	FC603 adapter	Calcar reamer adapter



Access to the dematerialized Instructions For Use

SERF offers, for each type of implant, dematerialized Instructions for Use (IFU) regularly updated, and easy to download and to print according to your needs.

You will find in these IFU not only the regulatory information and technical specifications of our implants, but also valuable information on indications, contraindications, and compatibilities between implants, etc.

These dematerialized instructions, provided in PDF format, are available and downloadable via two ways:
• from a QR code on the packaging of the implant, which can be read using a smartphone or tablet (requires Internet connection, 3G / 4G, WiFi ...) and an application appropriate reading (available for free download on Google Play, Apple® AppStore and Windows® Store according to the device used)
• with an Internet connection via a PC, smartphone or tablet, typing directly the URL address written near the QR code, to your usual Internet browser's,.

Here are below the QR code and URL address of he dematerialized IFU covering the range of Hype® stems presented in this document:

Hype® SCS, SCC & SCL
Hype® SCS, SCC et SCL
http://doc.serf.fr/0904.pdf

Hype® SCHO
Hype® SCHO
http://doc.serf.fr/0902.pdf

Hype® SCV
Hype® SCV
http://doc.serf.fr/0905.pdf

Hype® SCC Mini & SCLA Mini
Hype® Mini
http://doc.serf.fr/0901.pdf

Hype® ACS & ACL
Hype® ACV-ACL
http://doc.serf.fr/0903.pdf

12/14 femoral heads
Hype® 12/14 femoral heads
http://doc.serf.fr/0906.pdf

Notes

Notes

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All the medical devices mentioned in this document are CE marked in accordance with Medical Device Directive 93/42/EEC and its amendments unless they are specifically identified as "not CE marked".
The medical devices mentioned in this document are class I, IIa and III devices.

Class IIa and III medical devices are marked "CE 0459" by GMED.

Before using any SERF product, make sure to read the instructions for use and the surgical technique. Refer to the labels and instruction leaflets for the complete list of indications, contraindications, risks, warnings, precautions and directions for use. For further information please contact SERF's local distributor.

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