MATHYS
European Orthopaedics

For healthcare professional use only. The illustrated image does not represent a connection between the use of the medical device described, nor its performance.

Surgical technique

Affinis Short

Stemless Anatomic Shoulder Prosthesis

***Preservation** in motion*

Building on our heritage
Moving technology forward
Step by step with our clinical partners
Towards a goal of preserving mobility

***Preservation** in motion*

As a Swiss company, Mathys is committed to this guiding principle and pursues a product portfolio with the goal of further developing traditional philosophies with respect to materials or design in order to address existing clinical challenges. This is reflected in our imagery: traditional Swiss activities in conjunction with continuously evolving sporting equipment.

Table of contents

Remark
Please make yourself familiar with the handling of the instruments, the product-related surgical technique and the warnings, the safety notes as well as the recommendations of the instruction leaflet before using an implant manufactured by Mathys Ltd Bettlach. Make use of the Mathys user training and proceed according to the recommended surgical technique.

Introduction

Affinis Short
The Affinis Short is a shoulder endoprosthesis which can be implanted in only a few steps and whose bone-sparing design enables restoration of the glenohumeral geometry. [1] The anatomical ceramic head, in combination with the Glenoid vitamys, minimises polyethylene wear compared to conventional bearings. [1]

The Short stem has bone windows and a large-pored titanium structure with a calcium phosphate coating which promotes osseointegration and ensures good secondary stability. [2] Simultaneously, the stem geometry allows a bone-sparing revision of the implant if required.

The head, made of inert ceramic, is highly biocompatible. [3] Thanks to its range of sizes, anatomical reconstruction of the glenohumeral geometry can be achieved. [1]

With the Affinis Glenoid vitamys a highly cross-linked polyethylene enriched with vitamin E (VEPE) is introduced into the shoulder arthroplasty portfolio. Like the standard polyethylene design, the glenoid vitamys is equipped with two fixation pegs, for stable and secure anchorage. [1]

- Nickel-free total shoulder prosthesis with ceramic head and vitamys glenoid
- Bone sparing stem geometry facilitates a quick extraction of the implant without extensive bone loss [1]
- Anatomical reconstruction of the glenohumeral geometry [1]
- Simple instrumentation [1]

1 Data on file. Mathys Ltd Bettlach

2 Schwarz M.L.K., M.;Rose, S.;Becker, K.;Lenz, T.;Jani, L. Effect of surface roughness, porosity, and a resorbable calcium phosphate coating on osseointegration of titanium in a minipig model. J Biomed Mater Res A, 2009. 89(3): p. 667-78.

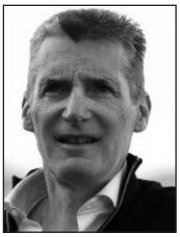
3 Barnes DH, Moavenian A, Sharma A, Best SM. Biocompatibility of Ceramics. ASM Handbook, 2012. 23.

Surgeon design team

The Affinis Short shoulder prosthesis and associated surgical technique provide stemless reconstruction of the glenohumeral joint with a simple instrumentation. [1] This system was developed in cooperation with the following group of European shoulder specialists:

Affinis Short
Prosthesis design and surgical technique


Prof. Ulrich Irlenbusch
Germany


Dr. Thierry Joudet
France

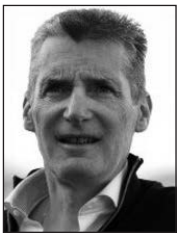

Dr. Cormac Kelly
United Kingdom


Dr. Richard Nyffeler
Switzerland


Prof. Géza Pap
Germany

Affinis Glenoid vitamys
Prosthesis design and surgical technique


Prof. Ulrich Irlenbusch
Germany


Dr. Thierry Joudet
France


Dr. Georges Kohut
Switzerland


Dr. Richard Nyffeler
Switzerland

[1] Data on file. Mathys Ltd Bettlach

1. Indications and contraindications

Indications

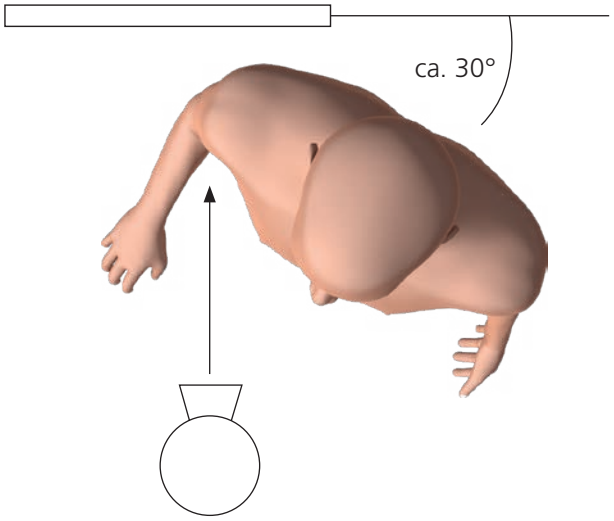
- Primary osteoarthritis
- Secondary osteoarthritis:
  - Posttraumatic osteoarthritis
  - Cuff tear arthropathy (Hamada grade III or IV) with well centred humeral head in younger patients
  - Metabolic joint destruction
- Rheumatoid arthritis
- Fracture sequelae
- Avascular necrosis of the humeral head

Contraindications

- Severe soft tissue, nerve or vessel insufficiency that endangers the function and long-term stability of the implant
- Bone loss or insufficient bone substance which cannot provide adequate support or fixation for the implant
- Local, regional or systemic infection
- Hypersensitivity to materials used

For further information, please refer to the instructions for use or ask your Mathys representative.

2. Preoperative planning



It is strongly advised to perform preoperative planning to determine the adequate implant sizes and position.

Digital and transparent templates of the implants are available in the usual scale of 1.10 : 1 for preoperative determination of the implant size (for details see chapter 8).

The following imaging studies of the affected shoulder are recommended:

- Anterior-Posterior (a. p.) X-ray centred on the joint cavity
- Axial X-ray
- CT scan or MRI

The recommended orientation is the true a. p. view.

3. Surgical technique

Fig. 1

3.1 Positioning

The ideal position of the patient is in a half-sitting position (beach-chair position), with the shoulder that is to be operated upon projecting over the operating table. Make sure that the medial border of the scapula is still supported by the table.
It is important to be able to adduct the arm in extension.

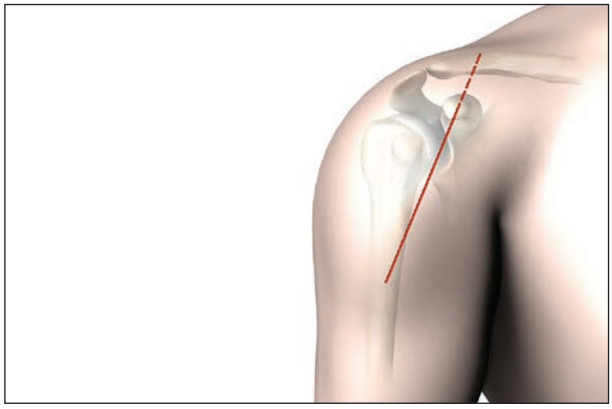


Fig. 2

3.2 Approach

In this surgical technique only the deltopectoral approach is described.
The standard instrumentation for humeral head resection is for the deltopectoral approach. Optional instruments for the lateral approach are also available.
The deltopectoral skin incision should be made from the tip of the coracoid process, along the anterior edge of the deltoid muscle, to the insertion on the shaft of the humerus. If necessary, the skin incision can be extended to the lateral third of the clavicle (as indicated by the broken line).
Other approaches are possible at the surgeon's discretion.

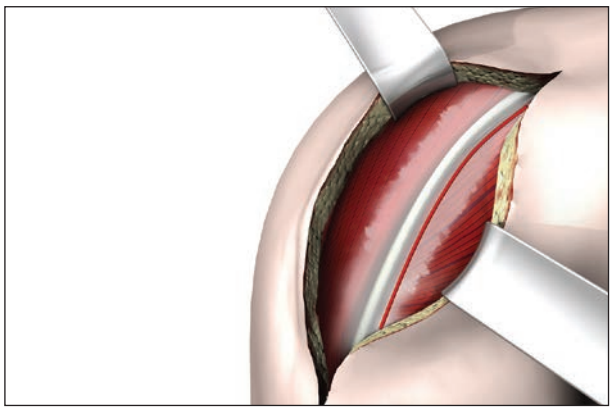


Fig. 3

The lateral skin flap is mobilised and the fascia is incised over the cephalic vein. This vein is usually retracted laterally, together with the deltoid muscle.

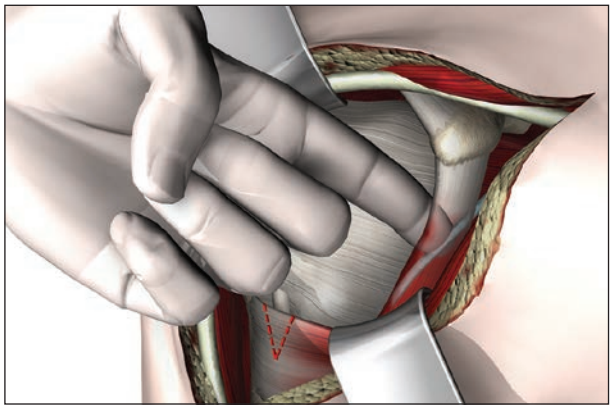


Fig. 4

This is followed by the vertical incision of the clavipectoral fascia.
After mobilisation of the coracobrachial tendon group in a medial direction, the musculocutaneous nerve is palpated posteromedial to the tendons. The nerve should be held to the side with the tendons.
For better exposure, the insertion of the pectoralis major muscle can be incised close to the humerus (for a distance of approx. 2 cm). Marking the most proximal point of its insertion beforehand will facilitate its use as a reference point for later reattachment or repair.
Additionally, the coracoacromial ligament can be incised.

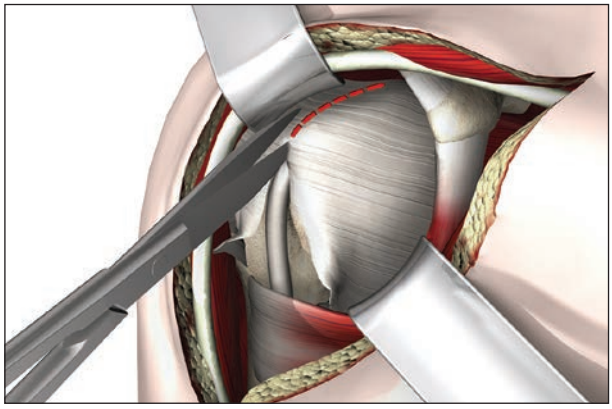


Fig. 5

Split the rotator cuff in the interval up to the base of the coracoid process.
The biceps tendon may be tenotomised and/or tenodesed on the proximal shaft (sulcus area). The intra-articular stump is resected.
After that, the axillary nerve can be palpated at the anterior and lower side of the subscapularis.
Identification can be difficult in the case of revisions, older fractures or adhesions.
The axillary nerve must be protected throughout the entire operation.
The subscapularis tendon is tenotomised approximately 1 cm from its insertion and is marked with stay sutures. In shoulders with contracted musculature, the tendon and muscle can be released distally when the joint capsule is released from the humerus (calcar).
Good exposure of the humeral head can be reached through antero-superior dislocation by externally rotating the extended and adducted limb.
Make sure that the humerus is displaced cranially during the next step to avoid traction injury of the brachial plexus.

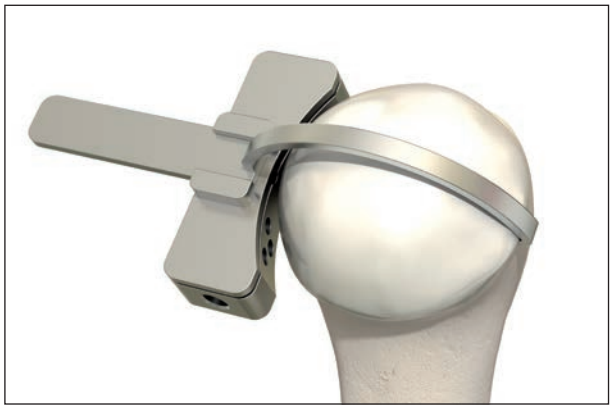


Fig. 6

3.3 Humeral head resection

Remove all osteophytes.
Choose the best fitting Adjustment Arm, slide it onto the Cutting Block and position the tip of the hook on the posterior anatomical neck.
Whilst keeping the posterior contact point at the anatomical neck, bring the slot of the Cutting Block in line with the anterior neck (height and inclination).

Fig. 7

Predrill the 3.2 mm pinholes as required. Insert one 3.2 mm pin through one of the distal holes of the cutting block.

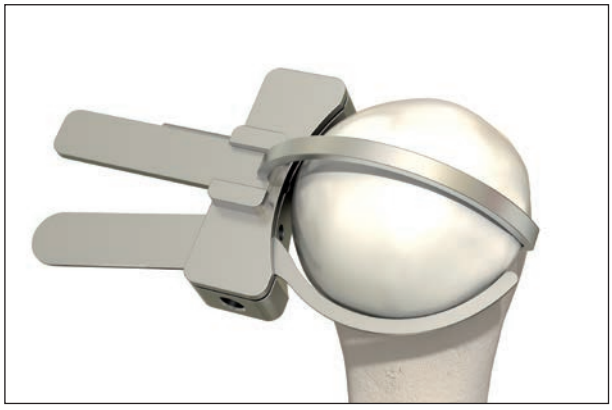


Fig. 8

Use the Stylus to check the correct alignment in more detail. Insert a 2nd pin into a second distal hole.
Slide the cutting block back to remove the Adjustment Arm.

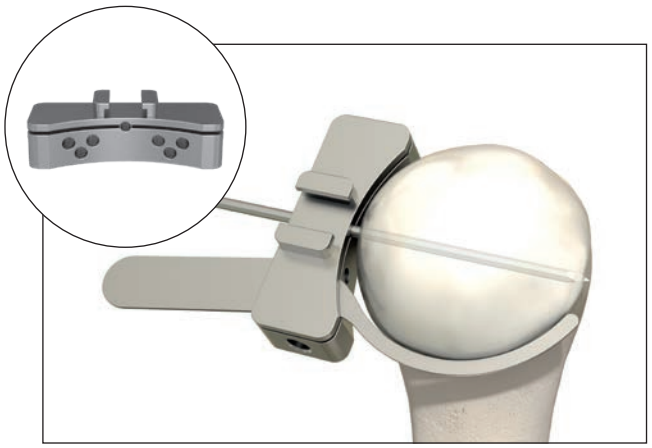


Fig. 9

Optional technique

Insert a Kirschner wire (2.5 mm) centrally and aligned to the anatomical neck. When inserted, mount the Cutting Block through the pinhole in the cutting slot. Use the Stylus to recheck the resection height and the retroversion. Insert two 3.2 mm pins trough the distal holes of the Cutting Block and remove the Kirschner wire. Predrill the pinholes if required.

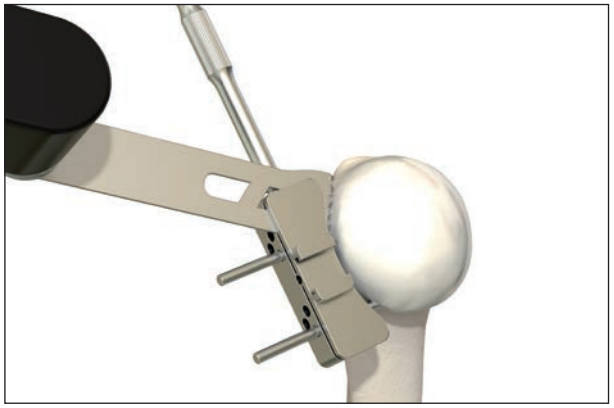


Fig. 10

Resect the humeral head with a sawblade of 0.89 mm thickness. Carefully protect the rotator cuff.
Remove all retractors and check the humeral cut: The resection should be in line with the anatomical neck. If a re-resection is necessary, transfer the Cutting Block onto the pins using the proximal holes (2 mm re-resection).

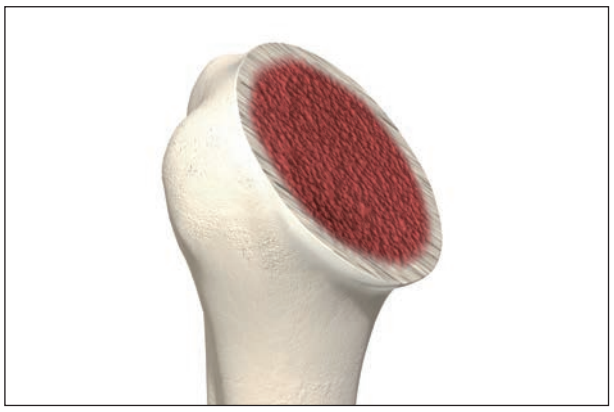


Fig. 11

Remove the instruments.

Fig. 12

Fig. 13

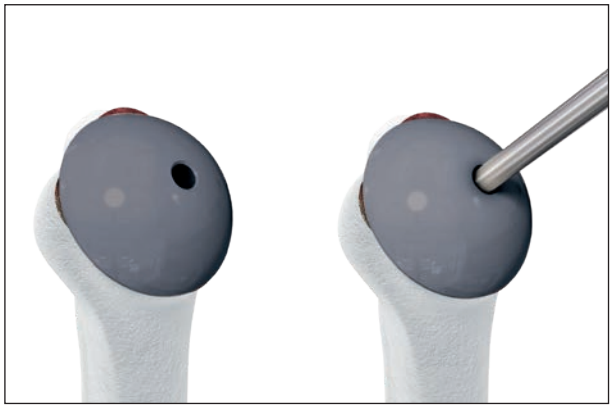


Fig. 14

Determine the head size based on your pre-operative planning and by making a comparative measurement of the resected humeral head using the trial heads.

3.4 Humeral preparation

Centre the Positioning Disc on the resection plane aligned to the outer cortical border. If the resection plane is not circular, align the disc in a lateral position. Residual medial bone overhang may be removed.
Alignment can be facilitated by choosing a smaller size of positioning disc where the outer edges of the cortical bone is visible.
The laser marking with the head size indicator (e. g. 45) should be positioned laterally in the 12 o'clock position.
The numbers (3, 4, 5, 6) on the slot indicate the Impactor (stem) sizes you can use with each Positioning Disc.

This is an important step to achieve a centred humeral implant.

Optional technique

Place the chosen trial head in the desired position on the resected bone surface. Insert the Centring Pin cannulated and secure it with a Kirschner wire (2.5 mm).
The ideal trial head should fit anatomically on the resection plane and does not extend past the circumferential cortical edge.

Fig. 15

Remove the trial head and slide the Centering Sleeve over the Centering Pin.

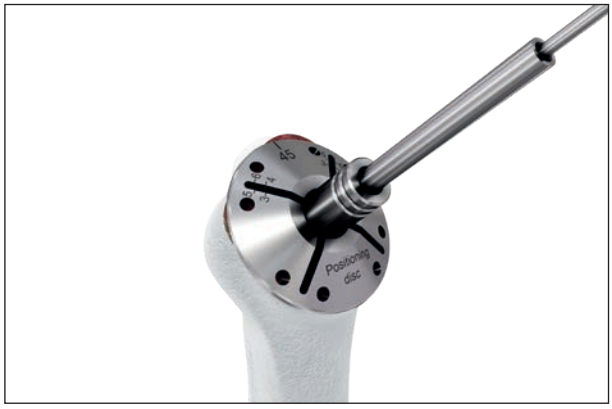


Fig. 16

Slide the positioning disc over the Centering Sleeve.
The laser marking with the head size indicator (e. g. 45) should be positioned laterally in the 12 o'clock position.
The numbers (3, 4, 5, 6) on the slot indicate the Impactor (stem) sizes you can use with each positioning disc.

Fig. 17

There are spikes on the backside of the Positioning Disc for pre-fixing the Disc on the resected humerus.

Take care not to damage the surgical gloves with the backside spikes.

Fig. 18

Fix the positioning disc with at least three 3.2 mm Pins. This prevents the positioning disc from lifting off which could result in malorientation of the implant.

Fig. 19

Insert the Pre-impactor with the Positioner and light hammer blows.

It is mandatory to hold the positioner orthogonal to the resection plane.

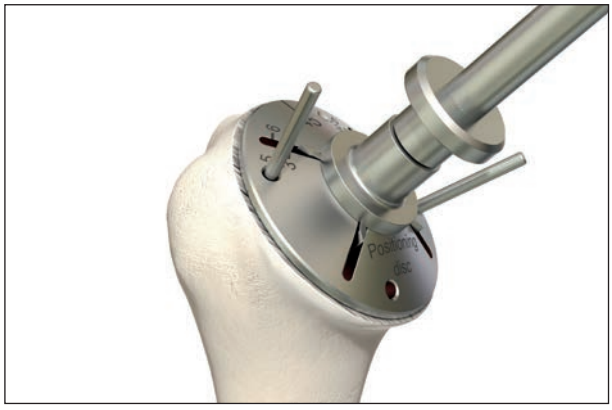


Fig. 20

Insert the Pre-impactor until the stop is completely flush with the positioning disc.

Fig. 21

Extract the Pre-impactor with light hammer blows on the underside of the Positioner handle.

Do not «jiggle-out» the Impactor with the Positioner by hand as this would decrease the quality of the bone bed.

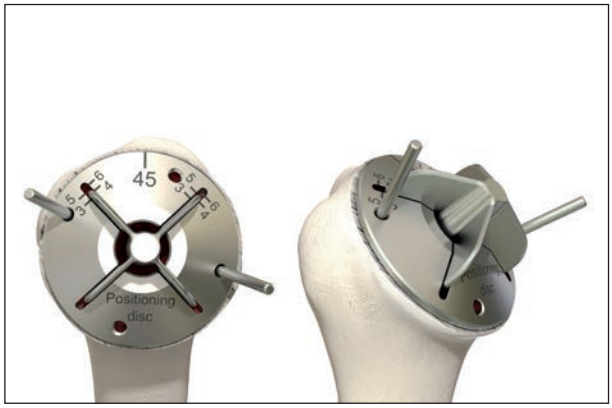


Fig. 22

Lay the stem impactor upside down in the slot of the positioning disc as illustrated in Fig. 22. Choose the appropriate stem size.
The impactor should be fixed solely in the cancellous bone. A distance of 3–5 mm to the inner border of the cortex is recommended.

Do not risk fractures of the proximal humerus. In case of doubt, choose a smaller stem size.

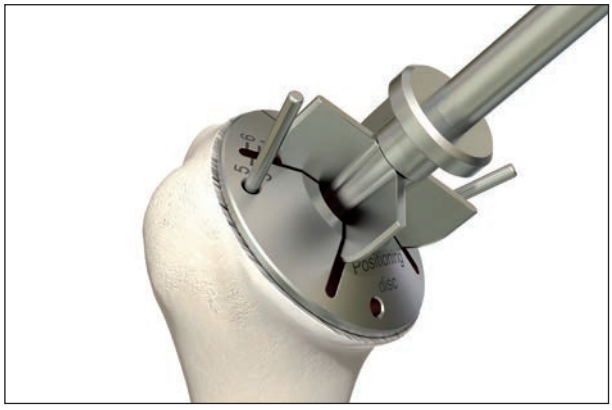


Fig. 23

Impact the chosen stem impactor until the stop is fully flush with the positioning disc.

It is mandatory to hold the Positioner orthogonal to the resection plane.

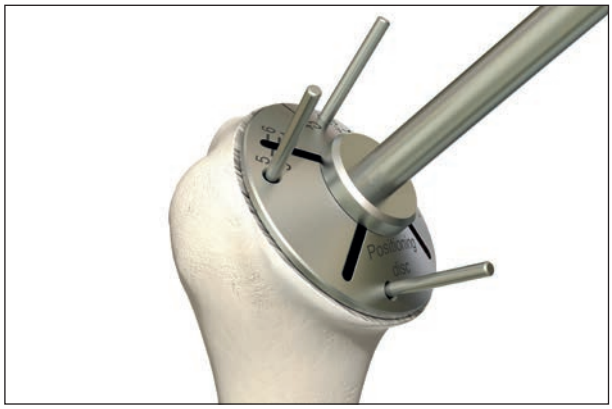


Fig. 24

Unscrew and remove the Positioner, the 3.2 mm Pins and the positioning disc.

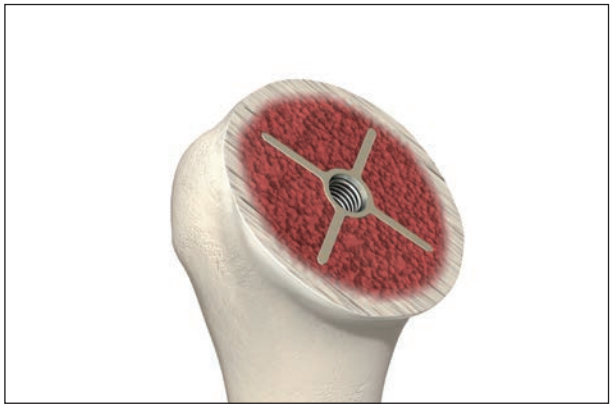


Fig. 25

Leave the Impactor in situ. If a hemiprosthesis is desired, proceed directly to chapter 3.6.

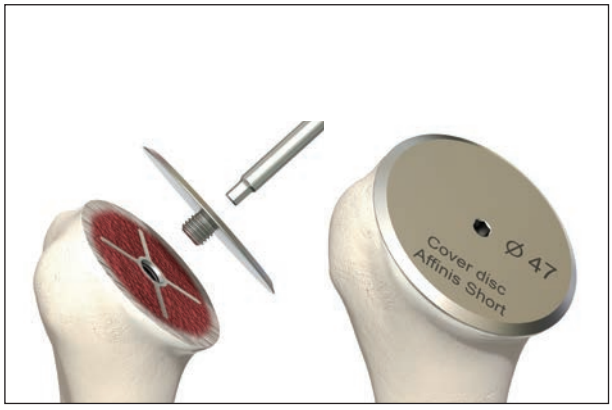


Fig. 26

Use an appropriately sized Cover Disc to protect the humeral resection surface.

Instrument set	**Affinis Glenoid vitamys** (62.34.0050–62.34.0053)	**Affinis PE glenoid** (102.07.02.31.0–102.07.02.43.0)
Affinis Glenoid vitamys Instruments (61.34.0146A)	**OK**	**OK**
Affinis Glenoid Instruments (60.01.0003A)	**Forbidden**	**OK**

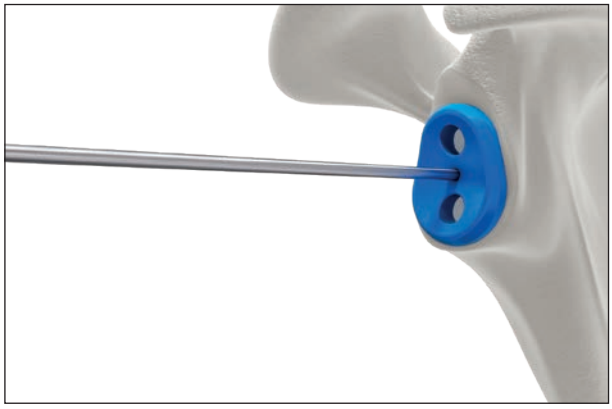


Fig. 27

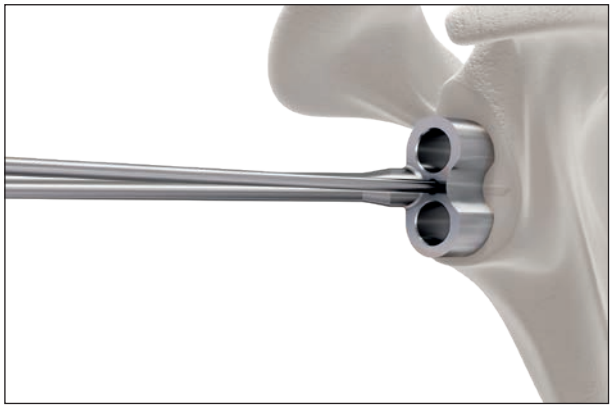


Fig. 28

3.5 Glenoid placement

Depending upon the instrumentation and implants available in your region, Affinis Glenoid implants can be implanted with different instrument sets.
Affinis Glenoid vitamys Instrumentation Set can be used for implantation of both Affinis Glenoid vitamys (62.34.0050–62.34.0053) or Affinis PE glenoid (102.07.02.31.0–102.07.02.43.0). These instruments are used to describe the standard technique below.
Affinis Glenoid Instrumentation Set (60.01.0003A) can only be used for implantation of Affinis PE glenoid (102.07.02.31.0–102.07.02.43.0). These instruments are used to describe the optional technique below where it differs from the standard technique.

The size of the implant may be determined with the Affinis Glenoid vitamys Templates (61.34.0161–61.34.0164).

The template is not meant for correct aiming and insertion of the Kirschner Wire, but for marking of the entry point in consideration of the implant size.

Insert the Kirschner Wire 2.5/150 centrally into the face of the glenoid or at your marked point. For guidance, use the Drill Guide in the correct inclination and version.
The Kirschner Wire serves as a guide for the Reamer and Drill Guide.

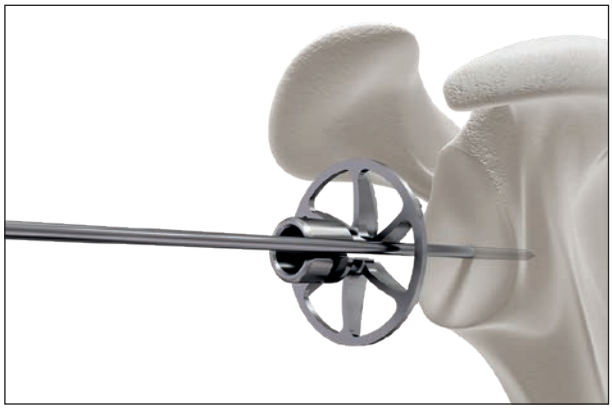


Fig. 29

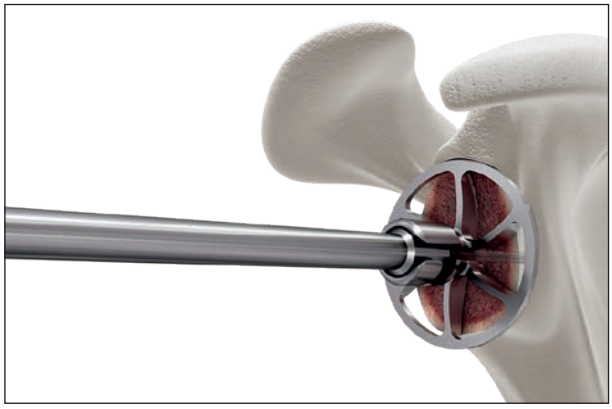


Fig. 30

Modular Reamers – Affinis Glenoid vitamys Instruments (61.34.0146A)

Choose the Reamer size that corresponds to the size of the planned Glenoid implant. Sizes are listed in the table below.

Affinis Glenoid reamer size	Affinis Glenoid implant size
1	1
2	2
3	3
4	4

The modularity of the reamer allows inserting it even in very narrow situations without removing or bending the Kirschner Wire.

Insert the reamer eccentrically over the Kirschner Wire and centre it on the face of the glenoid.

Slide the Handle Glenoid Reamer over the Kirschner Wire and connect it with the reamer. Ream the glenoid. Stay in the subchondral bone. It is recommended to avoid reaming into the cancellous bone.

While reaming, irrigate with saline solution to prevent heat build-up, which may lead to thermal damage of the surrounding bone.

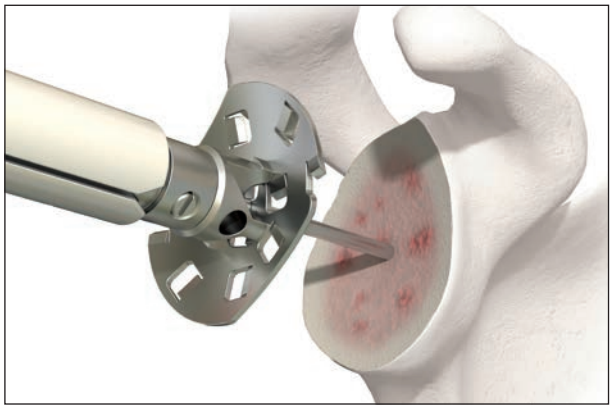


Fig. 31

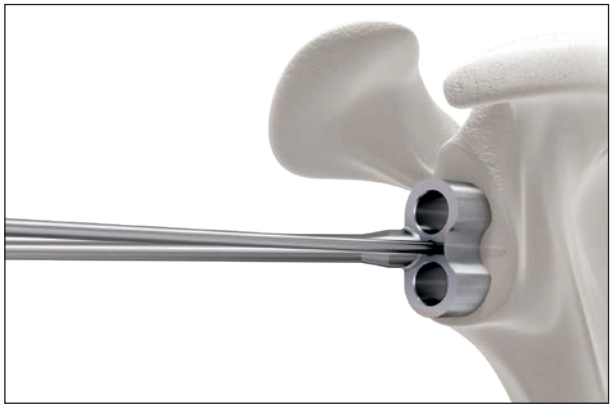


Fig. 32

Fig. 33

Monoblock Reamers – Affinis Glenoid Instruments (60.01.003A)

Choose the Reamer size that corresponds to the size of the planned Glenoid implant. Sizes are listed in the table below.

Glenoid Reamer Ø	Glenoid size
32 mm	1
36 mm	2
44 mm	3 + 4

Slide the Reamer over the Kirschner Wire. Ream the glenoid. Stay in the subchondral bone. It is recommended to avoid reaming into the cancellous bone.

While reaming, irrigate with saline solution to prevent heat build-up, which may lead to thermal damage of the surrounding bone.

Position the Drill Guide over the Kirschner Wire and correctly align the guide. The Drill Guide must be aligned in the longitudinal axis of the glenoid.

Use the Drill Bit to drill the first peg hole.

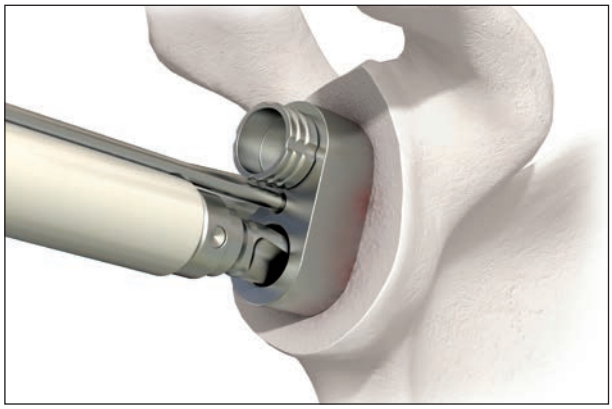


Fig. 34

Remove the Drill Bit. Fix the Drill Guide with the fixation peg.
Use the drill bit to drill the second peg hole.

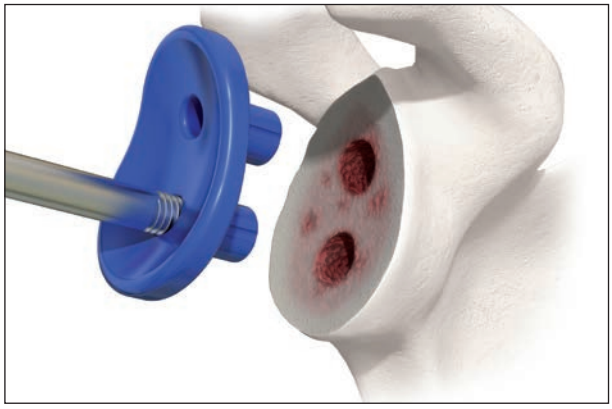


Fig. 35

Remove all instruments.
Select and insert the appropriate Affinis Glenoid Trial. The Trial can be held using the Alignment Rod, Gen 2. Trial reduction may be performed once the humeral head reconstruction is complete.

The tables on the right indicate the radius mismatch of the Affinis Glenoids vitamys/PE with the Affinis Heads. The light blue areas show the best fitting pairings. The non-fitting pairings are marked red (head radius greater than glenoid radius).

Mismatch table for the Affinis Head with the Affinis Glenoid vitamys

Glenoid size	Affinis Head size (Bionit/CoCr)							
	39	41	43	45	47	49	51	53
1								
2								
3								
4								

Colour code	OK	congruent	forbidden

Mismatch table for the Affinis Head with the Affinis PE glenoid

Glenoid size	Affinis Head size (Bionit/CoCr)							
	39	41	43	45	47	49	51	53
1								
2								
3								
4								

Colour code	OK	congruent	forbidden

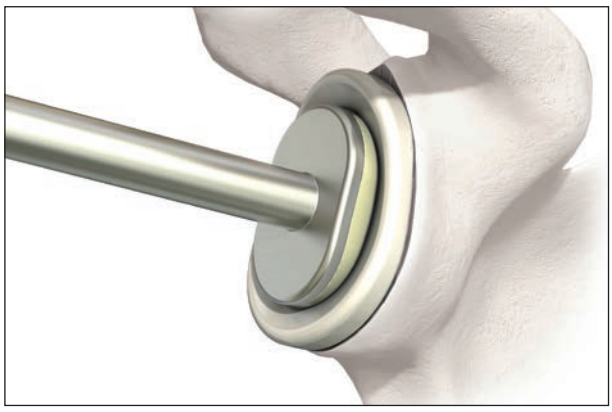


Fig. 36

Remove any Glenoid Trials. Fill the drilled peg holes with bone cement and put a small amount of cement on the backside of the glenoid. Insert the cemented Affinis Glenoid vitamys (62.34.0050– 62.34.0053) or Affinis PE glenoid (102.07.02.31.0–102.07.02.43.0). Carefully use the Glenoid Impactor to drive the pegs into the peg holes to achieve a thin continuous cement mantle on the backside of the implant.
Carefully remove the surplus cement. Press the Impactor on the cemented implant surface until the cement is cured.

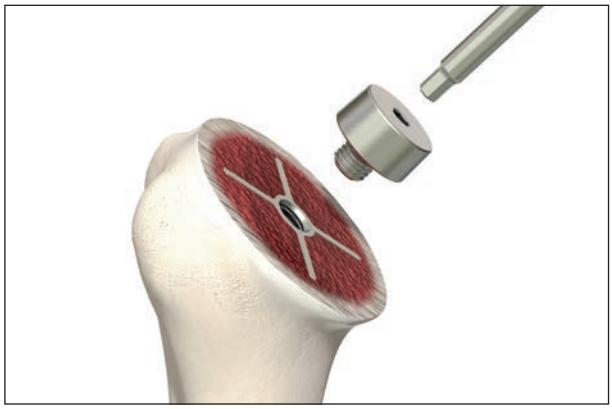


Fig. 37

3.6 Humeral stem & head implantation

Screw the trial cone into the stem impactor using the screwdriver 3.5.

Do not fasten the test cone too tight!

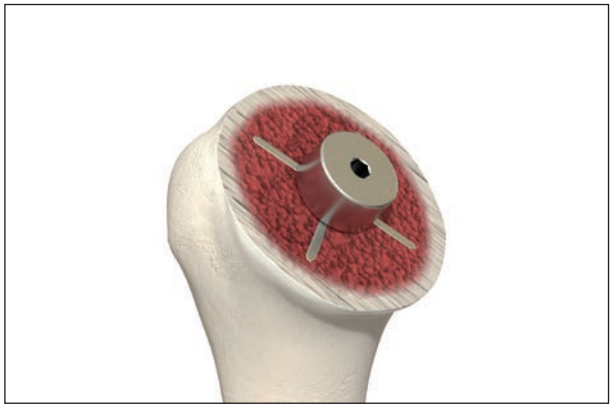


Fig. 38

Technique Tip: Sutures for later attachment of the rotator cuff can be placed at this stage.

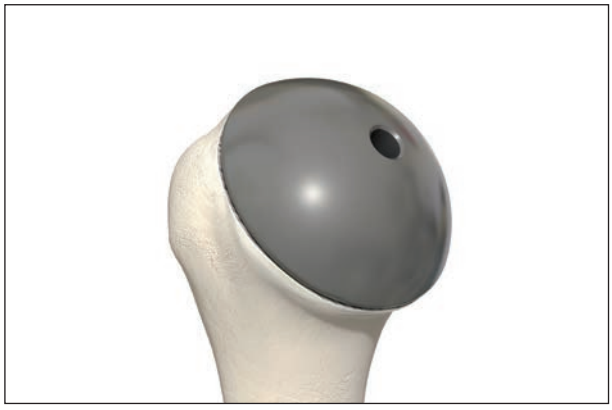


Fig. 39

Place the appropriate trial head onto the trial cone. Perform a trial reduction, check the mobility as well as the articular tension, and correct the size of the head if the result is not satisfactory.

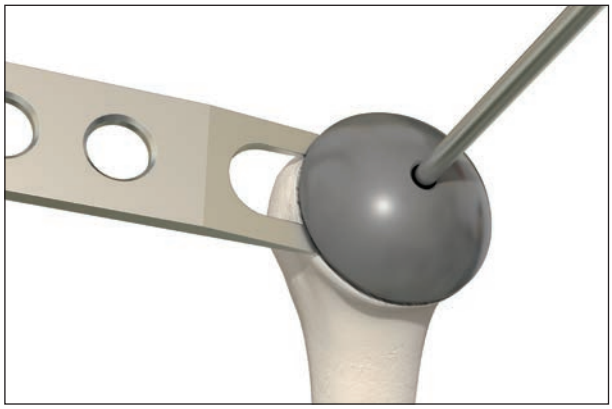


Fig. 40

Remove the trial head with the head extractor and the Screwdriver 3.5 as a stabiliser.

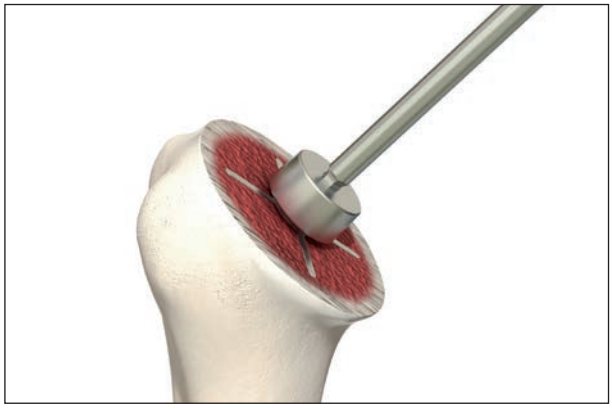


Fig. 41

Remove the trial cone using the Screwdriver 3.5.

Fig. 42

Extract the stem impactor with light hammer blows on the underside of the Positioner handle.

Do not «jiggle-out» the Impactor with the Positioner by hand as this would decrease the quality of the bone bed.

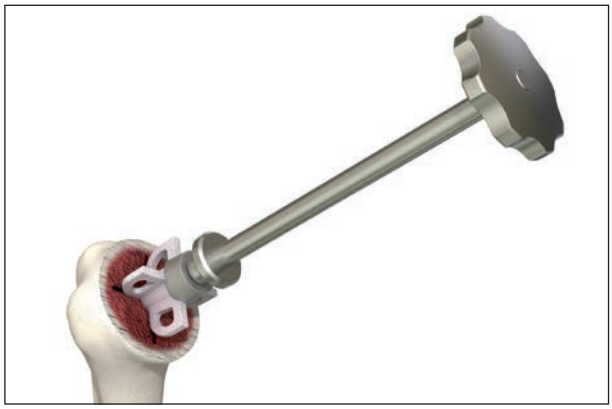


Fig. 43

Insert the final Affinis Short stem with the Positioner orthogonal to the resection plane.

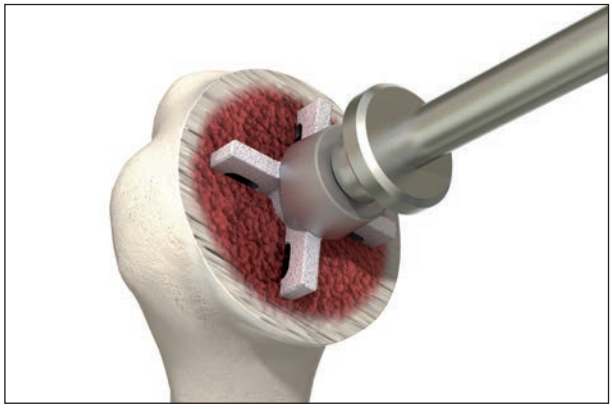


Fig. 44

Impact the stem with the upper fin surfaces parallel to the resection plane.
Stop impacting before the fins sink below the surface of the resected bone (at least 2 mm).
Carefully unscrew and remove the Positioner.

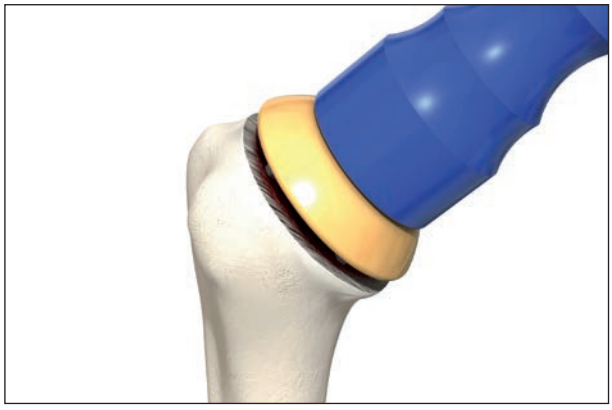


Fig. 45

Prior to impaction, make sure that both the cone of the stem and the recess of the head are absolutely clean and dry.

It is imperative to review the mismatch table for Affinis Heads with Affinis Glenoids in the previous chapter of this surgical technique.

Mount the ceramic head with a compressive and rotational movement by hand.
Impact the whole prosthesis with the Head Impactor until the head is sitting flush on the resection plane.

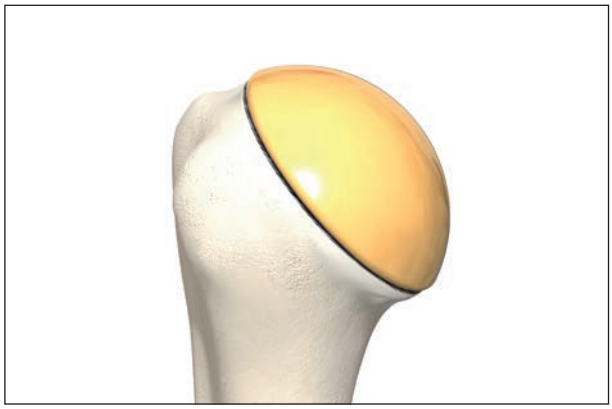


Fig. 46

In dense or sclerotic bone conditions, a small gap between the head and resection plane is acceptable.

4. Revision

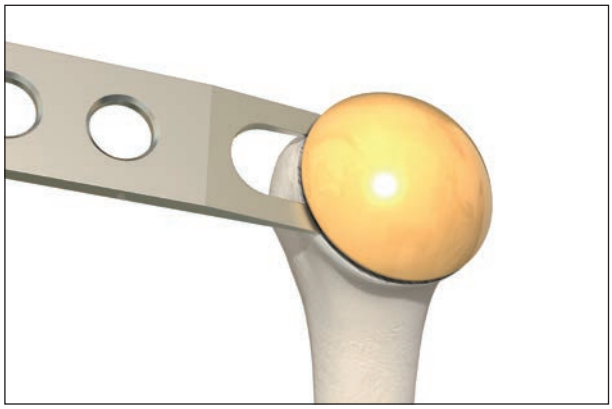


Fig. 47

4.1 Humeral implant removal

Use the Head Extractor to remove the prosthesis head. Axial hammer blows along the handle of the extractor will separate the prosthesis head from the stem.

The Head Extractor must not be used as a lever.

Fig. 48

Loosen the stem by inserting a small chisel (flexible osteotome) along the wings of the stem. Extract the stem with the Positioner and hammer blows on the underside of the positioner handle.

For revision options please contact your local Mathys representative.

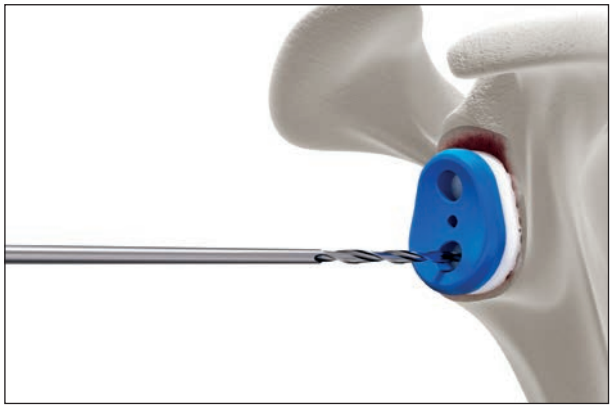


Fig. 49

4.2 Glenoid removal

To remove the Affinis Glenoid, loosen the component with cutting instruments and extract it with a pair of pliers. In order to facilitate the loosening of the Glenoid, the process below may be used.

Align the appropriate Glenoid vitamys Template over the implanted glenoid component. Mark the centre of the glenoid pegs.
Starting with a 2.5 mm drill bit, drill out the centre of the implant pegs to a depth of 15 mm. Use progressively bigger drill bit sizes, up to a maximum diameter of 7.5 mm, to destroy the implant pegs.

Be vigilant to retrieve any implant debris, including both implant contrast markers at the medial tip of the implant pegs.
There are 2 contrast markers per peg.

5. Insufficient bone stock

Fig. 50

Fig. 51

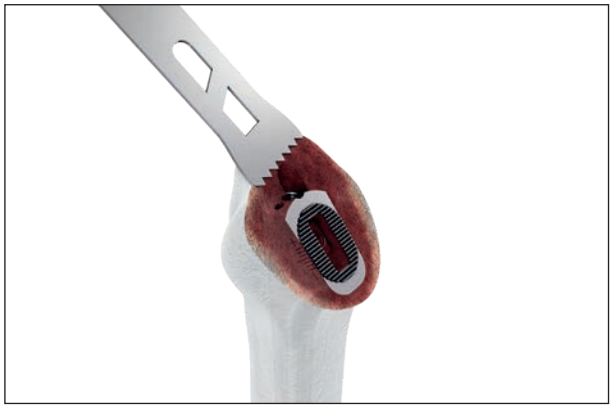


Fig. 52

In case insufficient metaphyseal bone stock is encountered, the implantation of Affinis Short is no longer indicated. In such circumstances, the implantation of the stemmed Affinis Total Shoulder Prosthesis is recommended. This can be accomplished with a reduced instrument set (61.34.0243A).

Screw the Positioner firmly into the Rasp. Screw the Alignment Rod into the Positioner. Align the Alignment Rod parallel to the patient's forearm to achieve 30° of retroversion. Ream the medullary cavity step-by-step (beginning with the smallest size Rasp).

Make sure the Positioner is correctly placed and fixed firmly to the Rasp during impaction.
The correct depth has been reached when the open face of the rasp is in line with the resection plane.

Stem dimensions:

Rasp size	Uncemented Stem	Cemented Stem
6.0	6.0 mm	6.0 mm
7.5	7.5 mm	
9.0	9.0 mm	9.0 mm
10.5	10.5 mm	
12.0	12.0 mm	12.0 mm
13.5	13.5 mm	
15.0	15.0 mm	15.0 mm

Remove the Positioner but leave the Rasp in the humerus.
If the resection and Rasp plane do not concur, use the saw to correct the osteotomy plane with the Rasp in place.

For further information about the implantation of the Affinis Total Shoulder Prosthesis, please consult the appropriate surgical technique (336.020.002).

6. Implants

Affinis Short Bionit head

Item no.	Description (Ø / height / -)
62.34.0020	Affinis Short Bionit head 39/13/1
62.34.0021	Affinis Short Bionit head 41/14/1
62.34.0022	Affinis Short Bionit head 43/15/2
62.34.0023	Affinis Short Bionit head 45/16/2
62.34.0024	Affinis Short Bionit head 47/17/3
62.34.0025	Affinis Short Bionit head 49/18/3
62.34.0026	Affinis Short Bionit head 51/19/4
62.34.0027	Affinis Short Bionit head 53/20/4

Material: Ceramic (Al_2O_3)

Affinis Short stem

Item no.	Description
62.34.0010	Affinis Short stem 1
62.34.0011	Affinis Short stem 2
62.34.0012	Affinis Short stem 3
62.34.0013	Affinis Short stem 4
62.34.0014	Affinis Short stem 5
62.34.0015	Affinis Short stem 6

Material: Ti6Al4V, TiCP + CaP coated

Affinis Glenoid vitamys, cemented

Item no.	Description
62.34.0050	Affinis Glenoid vitamys 1 cem.
62.34.0051	Affinis Glenoid vitamys 2 cem.
62.34.0052	Affinis Glenoid vitamys 3 cem.
62.34.0053	Affinis Glenoid vitamys 4 cem.

Material: Vitamin E highly cross-linked polyethylene (VEPE) / FeCrNiMoMn

Affinis PE glenoid, cemented

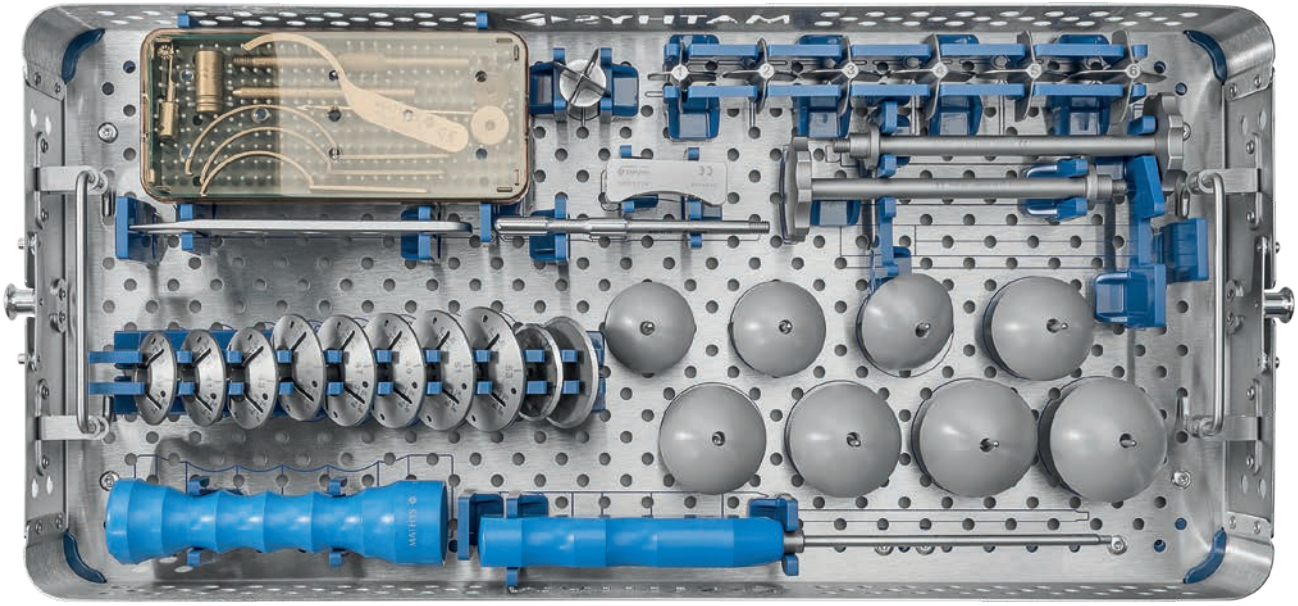
Item no.	Description
102.07.02.31.0	Affinis PE glenoid 1 cem.
102.07.02.35.0	Affinis PE glenoid 2 cem.
102.07.02.39.0	Affinis PE glenoid 3 cem.
102.07.02.43.0	Affinis PE glenoid 4 cem.

Material: UHMWPE / FeCrNiMoMn

7. Instruments

7.1 SMarT Instruments

Affinis Short SMarT Instrument Set 61.34.0241A



Item no.	Description
61.34.0227	Affinis Lid
61.34.0236	Affinis Short Tray

Item no.	Description
61.34.0127	Affinis Short adjustment arm S
61.34.0128	Affinis Short adjustment arm M
61.34.0129	Affinis Short adjustment arm L

Item no.	Description
61.34.0121	Affinis Short cutting block

Item no.	Description
61.34.0210	Affinis Alignment Rod, Gen 2

Item no.	Description
502.06.16.00.0	Affinis stylus

Item no.	Description
71.34.0787	Quick Coupling Square 2.25

Item no.	Description
71.34.0647	Drill Pin 3.2/89/2.25

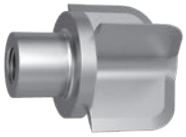
Item no.	Description
3020-INNO	Pin Extractor

Item no.	Description
61.34.0101	Affinis Short trial head 39/13/1
61.34.0102	Affinis Short trial head 41/14/1
61.34.0103	Affinis Short trial head 43/15/2
61.34.0104	Affinis Short trial head 45/16/2
61.34.0105	Affinis Short trial head 47/17/3
61.34.0106	Affinis Short trial head 49/18/3
61.34.0107	Affinis Short trial head 51/19/4
61.34.0108	Affinis Short trial head 53/20/4

Item no.	Description
61.34.0219	Affinis Short Positioning Disk 39, Gen 2
61.34.0220	Affinis Short Positioning Disk 41, Gen 2
61.34.0221	Affinis Short Positioning Disk 43, Gen 2
61.34.0222	Affinis Short Positioning Disk 45, Gen 2
61.34.0223	Affinis Short Positioning Disk 47, Gen 2
61.34.0224	Affinis Short Positioning Disk 49, Gen 2
61.34.0225	Affinis Short Positioning Disk 51, Gen 2
61.34.0226	Affinis Short Positioning Disk 53, Gen 2

Item no.	Description
61.34.0158	Affinis Short Centring Pin cannulated

Item no.	Description
61.34.0159	Affinis Short Centering Sleeve



Item no.	Description
61.34.0090	Affinis Short pre-impactor

Item no.	Description
61.34.0091	Affinis Short stem impactor 1
61.34.0092	Affinis Short stem impactor 2
61.34.0093	Affinis Short stem impactor 3
61.34.0094	Affinis Short stem impactor 4
61.34.0095	Affinis Short stem impactor 5
61.34.0096	Affinis Short stem impactor 6

Item no.	Description
61.34.0097	Affinis Short positioner

Item no.	Description
61.34.0099	Affinis Short cover disc 41
61.34.0100	Affinis Short cover disc 47

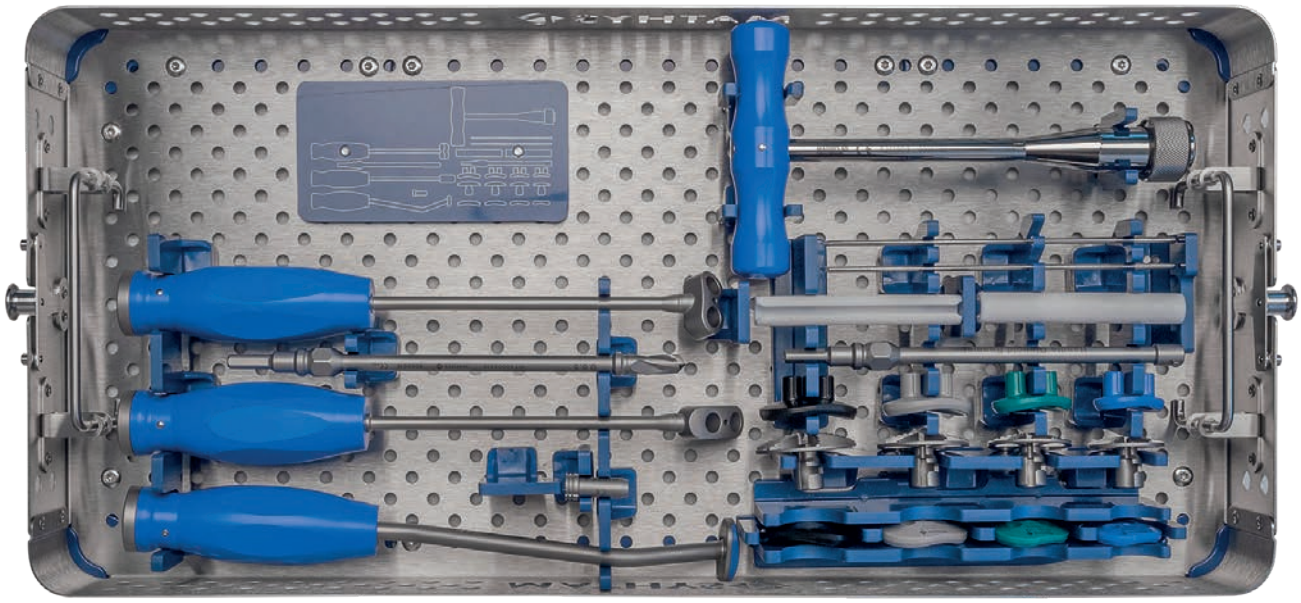
Item no.	Description
60.02.2032	Affinis Inverse screwdriver 3.5

Item no.	Description
61.34.0123	Affinis Short trial cone

Item no.	Description
502.06.03.00.0	Affinis head impactor

Item no.	Description
502.06.08.00.0	Affinis head extractor

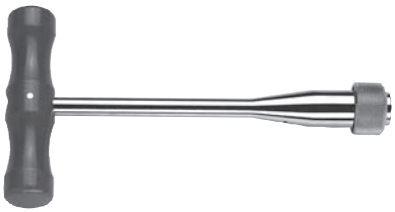
Affinis Glenoid vitamys Instrument Set 61.34.0146A



Item no.	Description
61.34.0148	Affinis Glenoid vitamys Tray
61.34.0149	Affinis Glenoid vitamys Lid

Item no.	Description
61.34.0161	Affinis Glenoid vitamys Template 1
61.34.0162	Affinis Glenoid vitamys Template 2
61.34.0163	Affinis Glenoid vitamys Template 3
61.34.0164	Affinis Glenoid vitamys Template 4

Item no.	Description
292.250	Kirschner wire 2.5/150



Item no.	Description
5241.00.3	Handle

Item no.	Description
61.34.0155	Affinis Holder Glenoid Reamer

Item no.	Description
61.34.0165	Affinis Glenoid vitamys Reamer 1
61.34.0166	Affinis Glenoid vitamys Reamer 2
61.34.0167	Affinis Glenoid vitamys Reamer 3
61.34.0168	Affinis Glenoid vitamys Reamer 4

Item no.	Description
61.34.0171	Affinis Glenoid vitamys Drill Guide DP

Item no.	Description
61.34.0172	Affinis Glenoid vitamys Drill Guide lat.

Item no.	Description
61.34.0169	Affinis Glenoid vitamys Drill Bit

Item no.	Description
61.34.0170	Affinis Glenoid vitamys Sleeve Handle

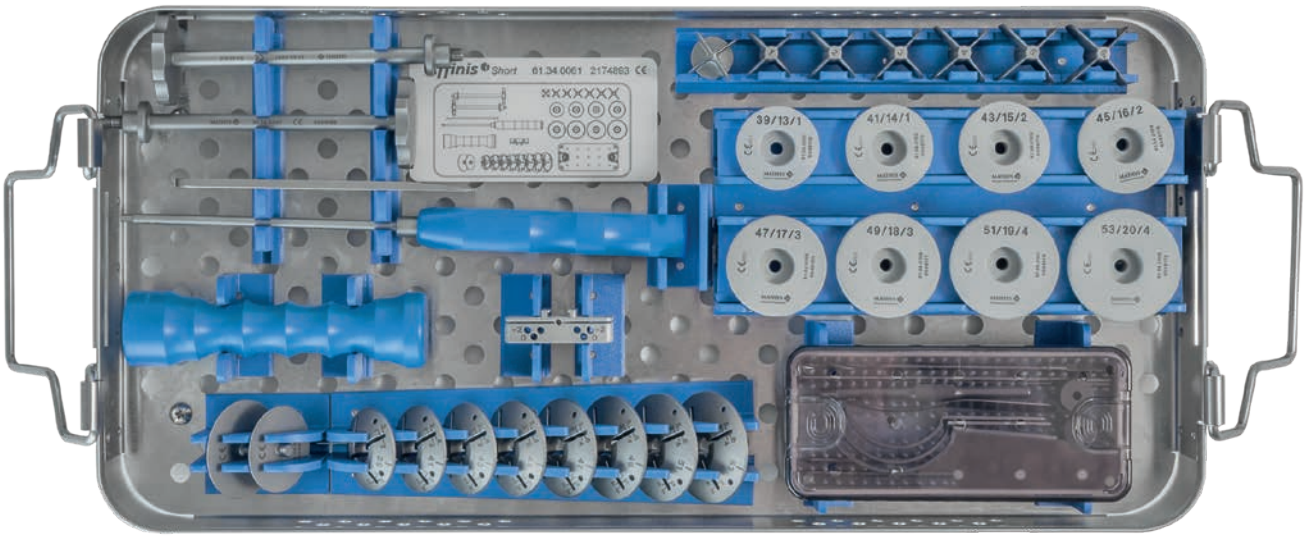
Item no.	Description
502.08.05.01.0	Affinis glenoid fixation peg

Item no.	Description
61.34.0173	Affinis Glenoid vitamys Trial 1
61.34.0174	Affinis Glenoid vitamys Trial 2
61.34.0175	Affinis Glenoid vitamys Trial 3
61.34.0176	Affinis Glenoid vitamys Trial 4

Item no.	Description
502.08.07.00.0	Affinis glenoid impactor

7.2 Standard Instruments

Affinis Short Instrumentation 61.34.0125A



Item no.	Description
61.34.0061	Affinis Short tray
61.34.0062	Affinis Short lid
60.03.0005	Affinis small-instrument case

Item no.	Description
61.34.0127	Affinis Short adjustment arm S
61.34.0128	Affinis Short adjustment arm M
61.34.0129	Affinis Short adjustment arm L

Item no.	Description
61.34.0121	Affinis Short cutting block

Item no.	Description
502.06.02.07.0	Affinis alignment rod

Item no.	Description
502.06.16.00.0	Affinis stylus

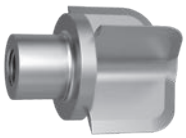
Item no.	Description
315.310	AO Drill bit 3.2

Item no.	Description
503.08.07.75.0	Affinis pin 3.2/75

Item no.	Description
61.34.0101	Affinis Short trial head 39/13/1
61.34.0102	Affinis Short trial head 41/14/1
61.34.0103	Affinis Short trial head 43/15/2
61.34.0104	Affinis Short trial head 45/16/2
61.34.0105	Affinis Short trial head 47/17/3
61.34.0106	Affinis Short trial head 49/18/3
61.34.0107	Affinis Short trial head 51/19/4
61.34.0108	Affinis Short trial head 53/20/4

Item no.	Description
61.34.0082	Affinis Short positioning disc 39
61.34.0083	Affinis Short positioning disc 41
61.34.0084	Affinis Short positioning disc 43
61.34.0085	Affinis Short positioning disc 45
61.34.0086	Affinis Short positioning disc 47
61.34.0087	Affinis Short positioning disc 49
61.34.0088	Affinis Short positioning disc 51
61.34.0089	Affinis Short positioning disc 53

Item no.	Description
61.34.0124	Kirschner wire 2.5/50



Item no.	Description
61.34.0090	Affinis Short pre-impactor

Item no.	Description
61.34.0091	Affinis Short stem impactor 1
61.34.0092	Affinis Short stem impactor 2
61.34.0093	Affinis Short stem impactor 3
61.34.0094	Affinis Short stem impactor 4
61.34.0095	Affinis Short stem impactor 5
61.34.0096	Affinis Short stem impactor 6

Item no.	Description
61.34.0097	Affinis Short positioner

Item no.	Description
61.34.0099	Affinis Short cover disc 41
61.34.0100	Affinis Short cover disc 47

Item no.	Description
60.02.2032	Affinis Inverse screwdriver 3.5

Item no.	Description
61.34.0123	Affinis Short trial cone

Item no.	Description
502.06.03.00.0	Affinis head impactor

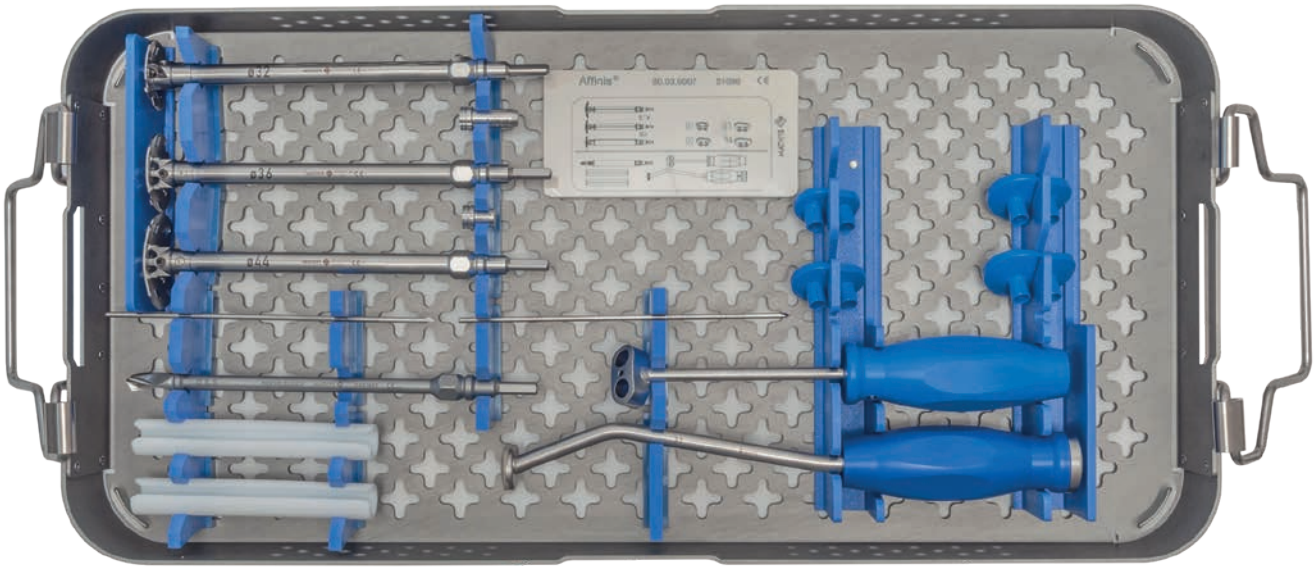
Item no.	Description
502.06.08.00.0	Affinis head extractor

Optional Instruments

Item no.	Description
61.34.0158	Affinis Short Centring Pin cannulated

Item no.	Description
61.34.0159	Affinis Short Centering Sleeve

Affinis Instrumentation for Glenoid 60.01.0003A



Item no.	Description
60.03.0007	Affinis tray f/glenoid
60.03.0008	Affinis lid f/glenoid

Item no.	Description
292.250	Kirschner wire 2.5/150

Item no.	Description
502.08.01.30.0	Affinis glenoid reamer 32
502.08.01.36.0	Affinis glenoid reamer 36
502.08.01.42.0	Affinis glenoid reamer 44

Item no.	Description
502.08.09.00.0	Affinis sleeve handle

Item no.	Description
502.08.10.00.0	Affinis glenoid drill guide

Item no.	Description
502.08.12.00.0	Affinis glenoid drill sleeve

Item no.	Description
502.08.02.00.0	Affinis glenoid drill bit

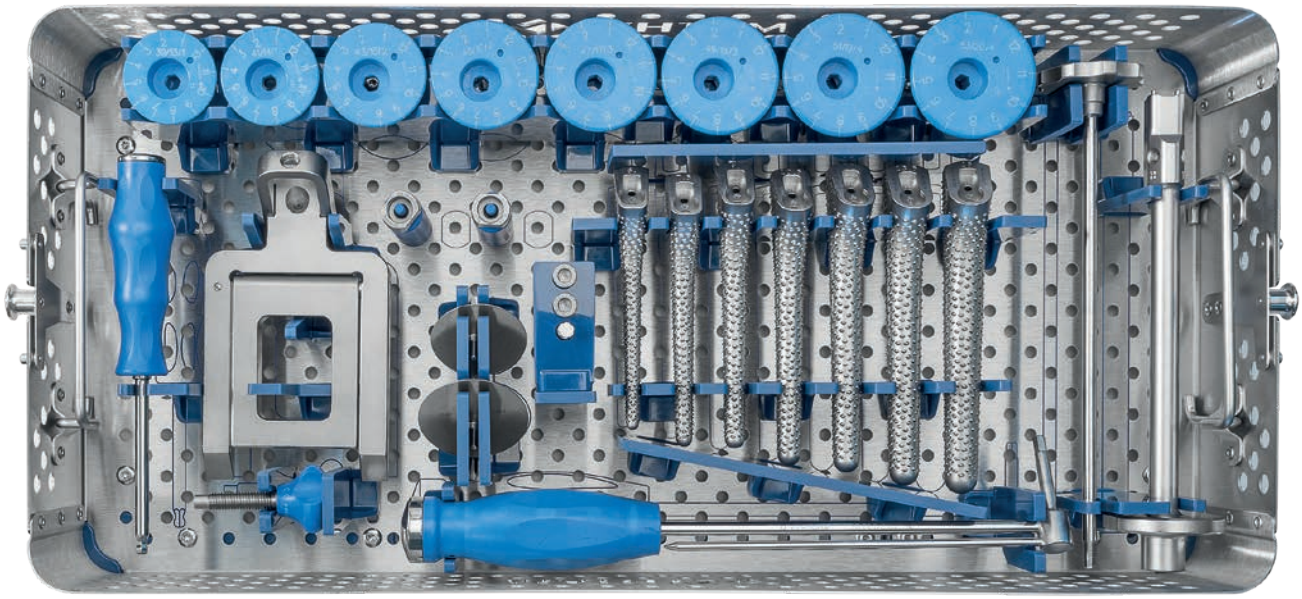
Item no.	Description
502.08.05.01.0	Affinis glenoid fixation peg

Item no.	Description
502.08.11.31.0	Affinis trial glenoid no.1
502.08.11.35.0	Affinis trial glenoid no.2
502.08.11.39.0	Affinis trial glenoid no.3
502.08.11.43.0	Affinis trial glenoid no.4

Item no.	Description
502.08.07.00.0	Affinis glenoid impactor

7.3 Backup Instruments

Affinis Humeral Preparation SMarT Instrument Set 61.34.0243A



Item no.	Description
61.34.0227	Affinis Lid
61.34.0238	Affinis Tray 2

Item no.	Description
502.06.05.06.0	Affinis rasp 6
502.06.05.07.0	Affinis rasp 7.5
502.06.05.09.0	Affinis rasp 9
502.06.05.10.0	Affinis rasp 10.5
502.06.05.12.0	Affinis rasp 12
502.06.05.13.0	Affinis rasp 13.5
502.06.05.15.0	Affinis rasp 15

Item no.	Description
502.06.02.11.1	Affinis sleeve for positioner

Item no.	Description
502.06.02.12.1	Affinis rod for positioner

Item no.	Description
502.06.18.41.0	Affinis cover disc 41
502.06.18.47.0	Affinis cover disc 47

Item no.	Description
502.03.00.13.0	Affinis trial head 39/13/1
502.03.00.14.0	Affinis trial head 41/14/1
502.03.00.15.0	Affinis trial head 43/15/2
502.03.00.16.0	Affinis trial head 45/16/2
502.03.00.17.0	Affinis trial head 47/17/3
502.03.00.18.0	Affinis trial head 49/18/3
502.03.00.19.0	Affinis trial head 51/19/4
502.03.00.20.0	Affinis trial head 53/20/4

Item no.	Description
502.06.06.01.0	Affinis rasp cone

Item no.	Description
502.06.06.02.0	Affinis rasp screw

Item no.	Description
504.99.04.00.0	Affinis Screwdriver 5.0

Item no.	Description
60.02.0001	Affinis push-on sleeve f/trial head

Item no.	Description
502.06.15.01.0	Affinis assembly device

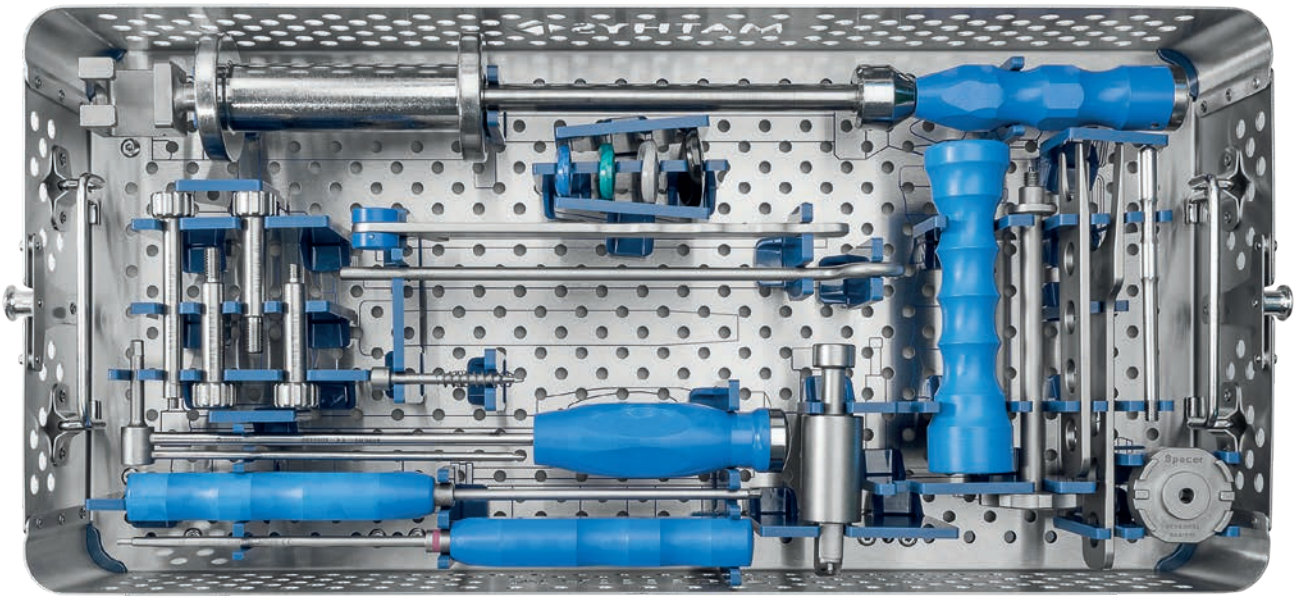
Item no.	Description
504.09.01.08.0	Affinis screw for assembly device

Item no.	Description
6020.00	Torque wrench

Item no.	Description
502.06.03.00.0	Affinis head impactor

7.4 Revision Instruments

Affinis Revision Instrument Set 61.34.0250A



Item no.	Description
61.34.0239	Affinis Revision Tray
61.34.0227	Affinis Lid

Item no.	Description
502.06.08.00.0	Affinis head extractor

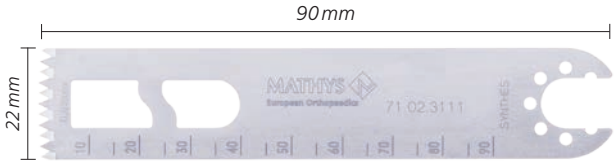
Item no.	Description
61.34.0097	Affinis Short positioner

Item no.	Description
61.34.0161	Affinis Glenoid vitamys Template 1
61.34.0162	Affinis Glenoid vitamys Template 2
61.34.0163	Affinis Glenoid vitamys Template 3
61.34.0164	Affinis Glenoid vitamys Template 4

7.5 Sawblades

The following sawblades are compatible with the **Affinis** instruments:

Standard Sawblades (Single use)



Sawblade sterile 90 x 22 x 0.89

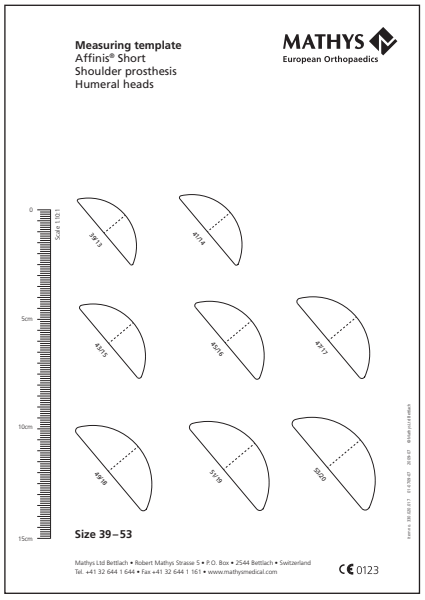
Item no.	Connection	Dimension
71.02.3111	DePuy Synthes	90 x 22 x 0.89

Sawblade sterile 90 x 19 x 0.89

Item no.	Connection	Dimension
71.34.0692	DePuy Synthes	90 x 19 x 0.89

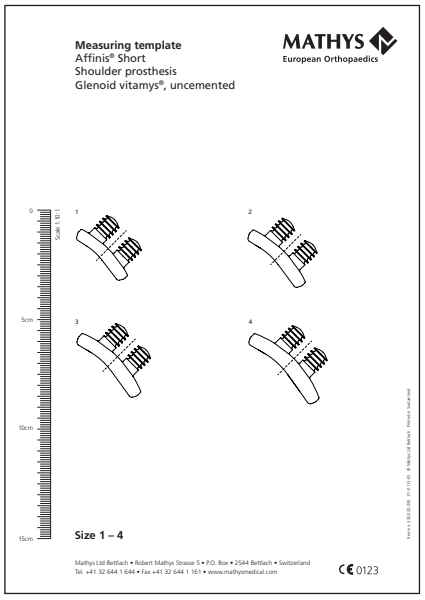
The shoulder sawblades are all sterile and individually packed.

8. Measuring template



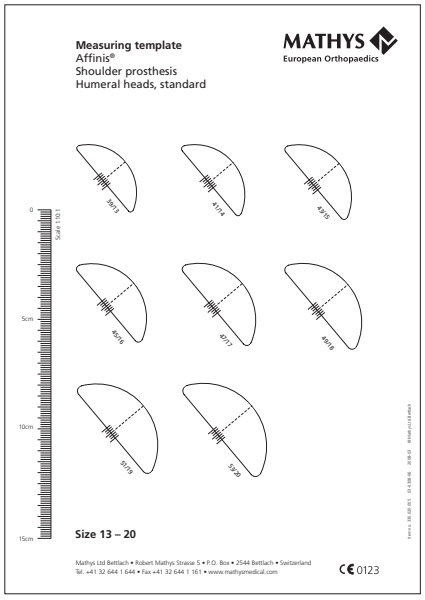
The item code for the two part Affinis Short shoulder prosthesis Measuring Template is 330.020.017.

Item no.	Description
330.020.017	Affinis Short shoulder prosthesis Template



The item code for the one part Affinis glenoid vitamys Measuring Template is 330.020.029.

Item no.	Description
330.020.029	Affinis glenoid vitamys Template



The item code for the seven part Affinis shoulder prosthesis Measuring Template is 330.020.005.

Item no.	Description
330.020.005	Affinis shoulder prosthesis Template

9. Symbols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Caution

Notes

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