TORNIER

AEQUALIS™ REVERSED II

Glenoid Shoulder System

SURGICAL TECHNIQUE

WRIGHT

FOCUSED EXCELLENCE

Tornier Upper Extremities

Contents

Implant Description

chapter 1

The Glenoid Sphere

Specifications for 36/39/42mm:

» Centred glenoid sphere (standard)

» +2mm lowered eccentric glenoid sphere (to reduce risk of scapular notching)

» 10° tilted glenoid sphere (to compensate for superior glenoid wear)

Specifications for 33mm:

» 10° tilted glenoid sphere

» Lateralised +6mm

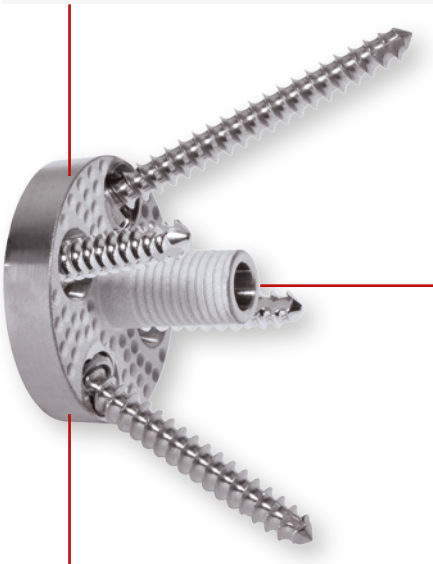
» Lateralised +8mm

The Glenoid Baseplate

Available in 2 diameters:

25 and 29 mm.

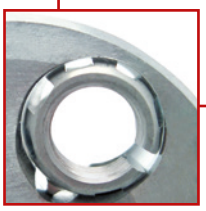
Designed to enhance primary fixation (conical central post and 4 peripheral screws) and secondary fixation.



The Central Post

» To facilitate initial primary fixation, preparation of the glenoid central hole is accomplished by drilling with the 7.5 mm drill bit which allows a good press-fit for the 8.3 mm central Post.

» 2 lengths 15 and 25 mm for revision and bone graft.

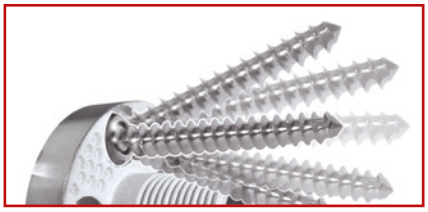


The Threaded Rings

Threaded rings have been designed in the superior and inferior holes of the Glenoid Baseplate to allow free angulation of the screws within a certain range, and locking of the screws in the desired position :

» superior screw range of angulation is 0° to 30° superior towards the base of the coracoid process and +/-15° in the transverse plane.

» inferior screw range of angulation is 0° to 30° inferior towards the lateral scapula spine and +/-15° in the transverse plane.



The Anterior/Posterior Compression Screws

4.5 mm self-tapping screws allow for added fixation and compression of the baseplate. With variable angles (+/-15°), it enhances cortical fixation.

The Superior/Inferior Multidirectional Screws

A 4.5 mm self-tapping locking head design allows proper orientation of the screw and then secures the angle for optimal fixation.

*Some of the sizes are optional, please contact your sales representative for more information.

Surgical Technique

chapter 2

Pre-Operative Planning

Pre-operative planning is performed using x-ray templates of known magnification in the frontal and sagittal views to determine implant size and positioning.

The use of a CT scan or MRI is recommended to determine the orientation of the glenoid and bone stock quality.

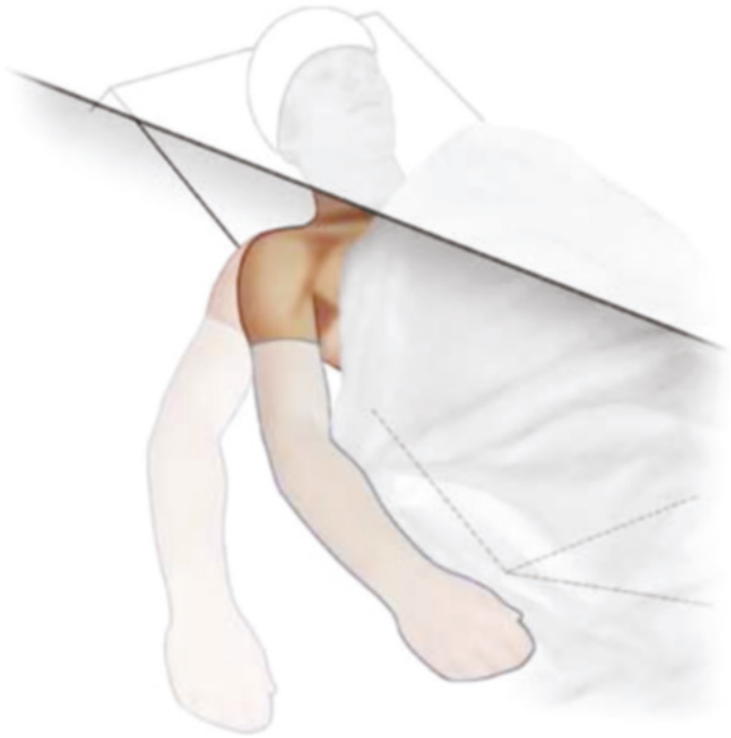
X-ray templates allow the surgeon to assess:

» The size and the optimal length of the gleno-humeral implants.

» The diameters of the metaphysis, the poly insert and the glenoid sphere.

Patient Positioning

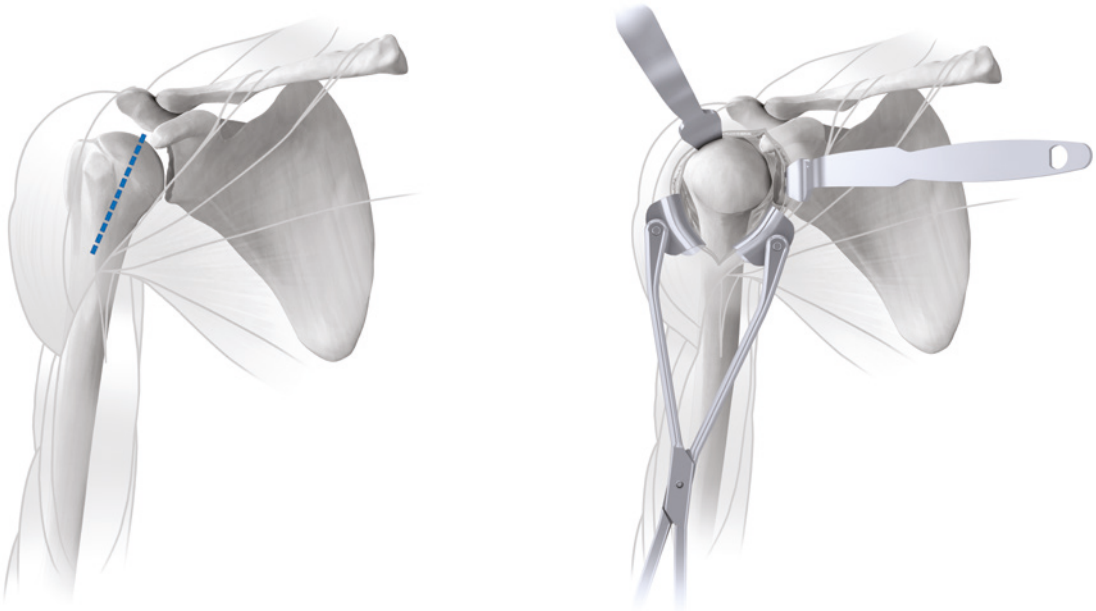
Beach chair position with the shoulder positioned sufficiently lateral to allow full arm extension.



Humeral and Glenoid Exposure

DELTO-PECTORAL APPROACH

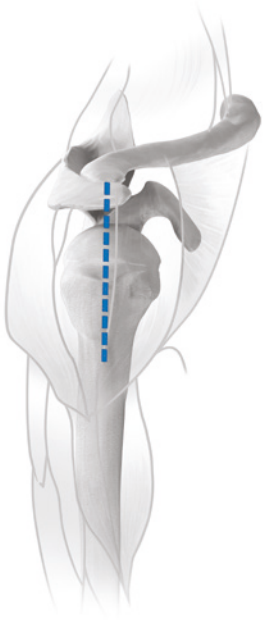
An incision is made from the tip of the coracoid along the deltopectoral groove, slightly lateral to the axillary fold. The pectoralis major is identified. The deltoid and cephalic veins are retracted laterally to open the deltopectoral groove.
The coracoid process is identified. A Hohmann retractor is positioned behind the coracoid. Care should be taken to preserve the origin and insertion of the deltoid.
The clavipectoral fascia is incised at the external border of the coraco-brachialis. The axillary nerve is then identified before opening the subscapularis.
With the arm externally rotated, a conservative anterior and inferior capsule release from the humerus to the glenoid may be performed. With adequate releases made, the humeral head is dislocated into the deltopectoral interval by abduction of the arm and progressive external rotation and extension. In cases of severely restricted external rotation (0° or less), it is recommended to further release the upper pectoralis insertion.

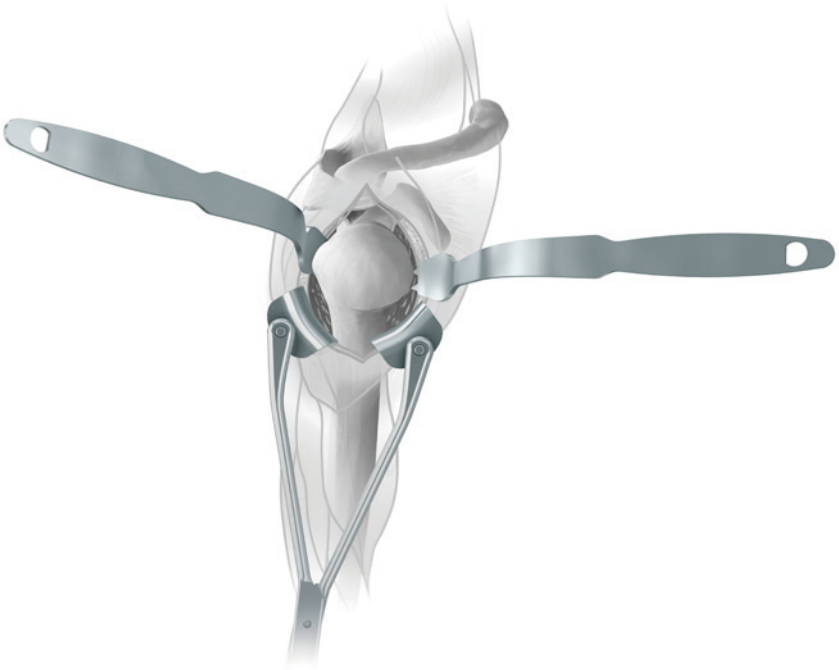


SUPERO-LATERAL APPROACH

The incision is made from the acromioclavicular joint along the anterior border of the acromion and downward approximately 4 cm.
The deltoid is split in line with its fibers. Extra care should be taken to avoid any damage to the axillary nerve, which is located approximately 4 cm distal to the acromion. The anterior part of the deltoid and the coracoacromial ligament are then carefully detached from their acromial insertion up to the acromioclavicular joint.
The humeral head will then become visable at the anterior border of the acromion. Next, the subscapularis bursa is released and the humeral head dislocated by placing the arm in flexion and external rotation.
To optimize the exposure, the anterior border and the remaining superior cuff can be resected. In some cases, the remaining subscapularis tendon may be resected.

Note: *for the implantation of the humeral implant, please refer to the related surgical techniques.*





GLENOID EXPOSURE

A partial capsulotomy and resection of the remaining glenoid labrum are performed to expose the glenoid.
A Kolbel retractor is positioned at the inferior border of the glenoid.
The two prongs retractor is seated on the pillar of the scapula for the superolateral approach or at the posterior aspect of the glenoid for the deltopectoral approach.
Additional retractors are positioned anterior and posterior to the glenoid for the supero-lateral approach and superior and inferior for the deltopectoral approach.
Once the initial exposure is achieved, an additional capsulotomy is performed if necessary.
Glenoid osteophytes are removed to further reveal the anatomical shape.

GLENOID PREPARATION TECHNIQUES

AEQUALIS™ Reversed II instrumentation allows for use of different surgical techniques to better suit the situation and surgeon preferences.
The instrumentation allows either a standard glenoid preparation or a cannulated preparation referencing a guide pin positioned at a chosen orientation.

» **Standard glenoid surgical technique (See from page 10 to 12)**

» **Cannulated glenoid surgical technique (See from page 13 to 17)**

Standard Glenoid Preparation Standard Technique

a) Central hole drilling

The 6 mm drill guide is the same outer diameter as the final glenoid baseplate. (ø 25 mm or ø 29 mm).

Choose the appropriate diameter central post drill guide that matches the diameter of the determined final baseplate diameter.

Two types of drill guide handles are available:

» A peripheral handle can be assembled to one of the three holes in the peripherical aspect of the drill guide.

» A central handle can be assembled to the central hole of the drill guide.

According to surgeon preference, exposure and surgical approach, one of the two handles is selected and assembled to the 6 mm drill guide.
The drill guide is positioned making sure that its bottom surface is properly seated on the bone surface.
To limit any risk of impingment, it is important to properly align the inferior edge of the drill guide with the inferior edge of the glenoid.

Mark the central hole with a bovie and remove the guide to confirm central hole orientation prior to drilling. When evaluating the central hole location and angle of entry for eroded glenoids, the hole orientation and angle of entry may need to be adjusted to compensate for wear.
According to pre-operative CT scan or MRI, the central hole should be located inferiorly and slightly posterior from the anatomical center.

Insert the 6 mm drill bit into the drill guide and drill until the depth stop makes contact with the bone.

» Standard glenoid surgical technique

b) Glenoid Reaming

To obtain good bone seating and secure fixation of the glenoid baseplate it is important to flatten the glenoid surface.

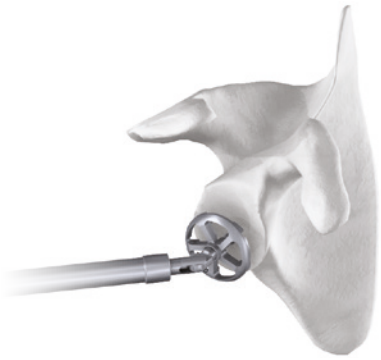
Six different reamers are availlable:

» Two central reamers for the baseplate diameter (25 mm or 29 mm) to create the flat surface for the glenoid baseplate (25 mm or 29 mm).

» Four peripheral reamers for the sphere diameter (36 mm or 42 mm) to create the grove around the baseplate.

» 36 mm Diam. Central and peripheral reamers must be used with 33 mm and 36 mm spheres during glenoid preparation.

» 42 mm Diam. Central and peripheral reamers must be used with 39 mm and 42 mm spheres during glenoid preparation.



c) Using the Articulated Driver

1. To use the articulated driver, attach the reamer in the unlocked straight position.
2. Once attached, pivot the reamer and insert the tip of thereamer into the central hole of the glenoid.
3. Once the reamer tip is seated, use the handle as a lever and retract the driver shaft into the straight position (Unlocked). Slide the outer sleeve into the locked position (Locked).

CAUTION: The articulated driver can only be used in the straight locked position.

Always begin by hand reaming and advance to a power reamer only if necessary. When reaming under power, apply power to the reamer prior to seating on the glenoid surface and then apply pressure.

The reamer should remain perpendicular to the medullary canal. The goal of reaming is to obtain a bony surface that matches the backside of the glenoid component.

However, it is not advisable to ream down to cancellous bone because of the limited glenoid bone stock. Over aggressive reaming should be avoided to prevent possible glenoid fracture.

» Standard glenoid surgical technique

d) Central Hole Re-Drilling

Final drilling of the glenoid central hole is performed under power using the 7.5 mm drill bit to enable a press-fit when impacting the final glenoid baseplate (the baseplate central peg is 8.3 mm diameter).

Two drill bits are available according to the length of the baseplate central Post:

» A 15 mm drill bit for standard post baseplate

» A 25 mm drill bit for long post baseplate

The long post baseplate is typically recommended in cases where bone graft is used between glenoid baseplate and native glenoid.
It is important to check that the tip of the post is properly implanted into the native glenoid.

Select the appropriate drill bit and connect it to power.

Drill until the depth stop contacts the surface of the glenoid bone.

Remove the drill bit.

Note : *Please go to page 23 for the positioning and definitive implantation of the baseplate.*

» Standard glenoid surgical technique

Cannulated Glenoid Preparation Technique

a) Introduction

Two types of ø 2.5 mm pin guides are available (ø 25 mm or ø 29 mm).

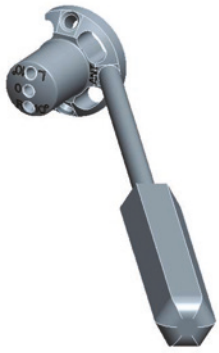
The ø 2.5 mm pin guide has the same outer diameter as the glenoid baseplate.

Left

Right

The 0° pin hole can be used to prepare the baseplate perpendicular to the glenoid. The 10° tilted hole can be used to place an inferior tilt to the baseplate.

According to surgeon preference, exposure and surgical approach, the handles can be assembled to the 2.5 mm drill guide in various orientations.



» Cannulated glenoid surgical technique

b) Guide Pin Positioning

Place the 2.5 mm drill guide into the glenoid surface making sure that its bottom surface is perfectly seated on the bone.

To limit any risk of impingment, it is important to properly position the drill guide referencing the inferior glenoid edge.

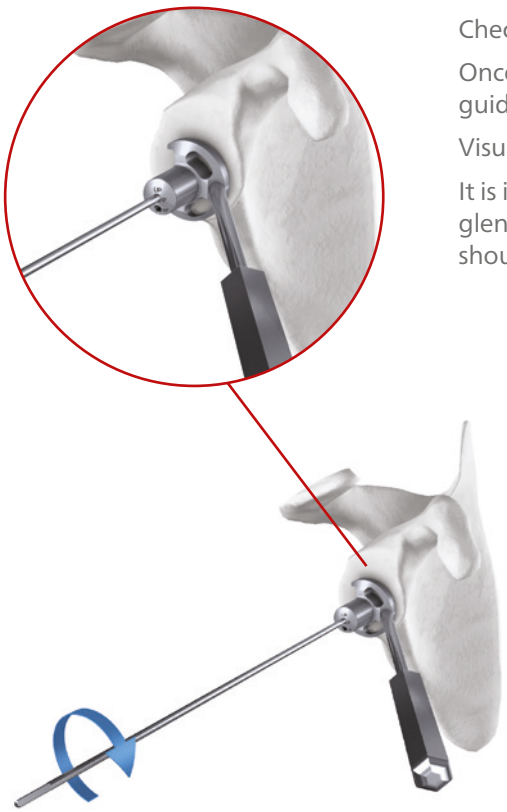
Once the drill guide is positioned, insert the single use alignment pin into the guide and drill until a trans-cortical fixation is obtained.

Check the stability of the pin to avoid any migration in subsequent steps.

Once the alignment pin is inserted, remove the drill guide sliding it over the guide pin.

Visually check the position and orientation of the pin.

It is important to check the alignment pin condition after every step of the glenoid preparation. If the guide pin is damaged or bent, a new guide pin should be inserted.



» Cannulated glenoid surgical technique

c) Glenoid Reaming

To obtain good seating and secure fixation of the glenoid baseplate, it is important to create a flat glenoid surface using the canulated circular reamer of the same diameter of the baseplate.

Connect the appropriate reamer to power, slide the assembly into the guide pin and ream.

It is recommended to start the reamer before contacting the glenoid surface and ream until the glenoid surface is flat.

If insertion of reamer is difficult, remove or reposition retractors for greater exposure.

A T-handle is available if manual reaming is desired.

Preserve as much bone as possible to support good primary fixation.

It is not advisable to ream down to cancellous bone due to limited glenoid bone stock. Overly aggressive reaming should be avoided to minimize the risk of glenoid fracture.

If the guide pin is damaged or bent, a new guide pin should be placed.

» Cannulated glenoid surgical technique

d) Peripheral Reaming

To obtain good fixation of the glenoid sphere on the baseplate, peripheral reaming is necessary.

Four manual cannulated peripheral reamers are available according to the size of the glenoid sphere:

» 36 mm reamer for 25 mm and 29 mm baseplate

» 42 mm reamer for 25 mm and 29 mm baseplate

» 36 mm Diam. peripheral reamers must be used with 33 mm spheres during glenoid preparation.

» 42 mm Diam. peripheral reamers must be used with 39 mm spheres during glenoid preparation.

Assemble the T-handle to the peripheral reamer and ream until the depth stop contacts the bony surface. The peripheral reamer should never be used with power to avoid the risk of fracture.

After using the peripheral reamer, cortical bone outside the groove has to be removed to make the glenoid sphere assemble easier.

Remove the reamer and visually check the adequacy of the reaming.

e) Central Hole Drilling

The glenoid central hole is drilled using the ø 7.5 mm cannulated drill bit to enable a press-fit when impacting the final glenoid baseplate (the baseplate central post is ø 8.3mm).

Two 7.5 mm cannulated drill bits are available according to the length of the Glenoid Baseplate central post:

» A 15 mm drill bit for standard post baseplate

» A 25 mm drill bit for long post baseplate

A long post baseplate is typically recommended in cases where bone graft is used between glenoid baseplate and native glenoid. It is important to check that the tip of the post is properly implanted into the native glenoid.

Select the appropriate drill bit and connect it to power.
Slide the assembly onto the guide pin and drill the central hole until the depth stop contacts the surface of the glenoid.

Remove the drill bit. Remove the guide pin using power.

» Cannulated glenoid surgical technique

POSITIONING OF THE GLENOID BASEPLATE

The glenoid baseplate is attached to the baseplate impactor through its central hole using a screw in the impactor central shaft.

Care should be taken to ensure that the two pegs on the impactor seat properly into their respective holes on the implant baseplate.

To assemble, check that the small engagement hole on the baseplate is situated inferiorly, at the left side of the impactor.

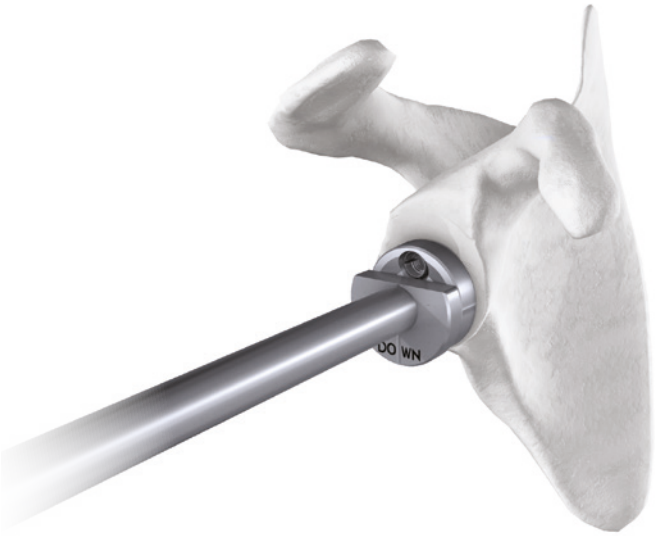
The central peg of the glenoid baseplate is then impacted into the previously drilled 7.5 mm diameter hole.

Note: *Care should be taken to correctly orient the superior/inferior position of the impactor before impacting the baseplate.*
The flat section of the baseplate impactor should be positioned on the superior aspect of the glenoid. In addition, the proper orientation can be determined by orienting the impactor according to the „up" and „down" markings on the visible surface of the impactor.

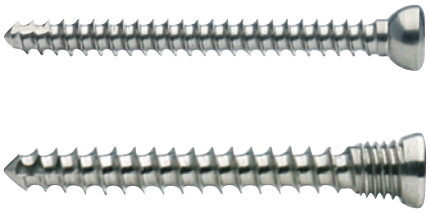
Once impacted, the baseplate should seat fully on the glenoid. If not, impact until fully seated.

The baseplate impactor is then removed by unscrewing the knob on the handle of the impactor.

Check that the peripheral aspect of the baseplate is flush with the prepared glenoid surface.



» Cannulated glenoid surgical technique



FIXATION OF THE GLENOID BASEPLATE

The glenoid baseplate is fixed to the glenoid with four 4.5 mm self-tapping screws.

There are two types of screws:

» 2 compression screws

» 2 multidirectional locking screws

Anterior & Posterior screws

The two anterior and posterior screws are self-tapping and have a hemispherical head to provide compression.
Each screw can be oriented in any direction within a 30° arc.
To optimize fixation, it is recommended to achieve bi-cortical fixation.

Inferior & Superior screws

The two inferior and superior screws are self-locking and can be oriented within a deflection range of:

Inferior screw:

» 30° inferiorly and +/- 15° in the transverse plane

Superior screw:

» 30° superiorly and +/- 15° in the transverse plane

To optimize fixation, it is recommended to achieve:

» bi-cortical fixation or

» fixation in cortical bone in the pillar of the scapula or coracoid process.

Anterior and Posterior Screw Fixation

The anterior and posterior screws are positioned first to optimize compression of the baseplate. Each screw can be oriented in any direction within a 30° arc.

Using the ø 3 mm drill bit, drill the screw hole through the compression screw drill guide for anterior-posterior compression screws.

To obtain a good cortical fixation the anterior screw should be directed posterior (15°) and superior (20°).

The screw length is read by locating the laser mark on the drill through the window of the drill guide.

If desired, a standard depth gauge is available.

The anterior screw is inserted with the 4.5 mm screwdriver without fully tightening to avoid anterior baseplate rocking.

The posterior screw is then placed in the same manner as the anterior screw.

To obtain a good cortical fixation, the posterior screw should be directed anterior and inferior to the central Post.

Alternate final tightening of the two compression screws until fully tightened.

Superior and Inferior Screw Fixation

The ø 3 mm locking screw drill guide for the superior and inferior screws is positioned into the inferior threaded hole of the baseplate.

The direction of the drill axis is chosen by free orientation of the drill guide. The ø 3 mm drill bit is passed through the guide and the hole is drilled bicortically.

The inferior screw is positioned into the pillar of the scapula. The inferior screw can be oriented within a range of 30° inferiorly and +/- 15° in the transverse plane.

The pillar of the scapula is generally situated downwards in the vertical axis of the glenoid at an angle of approximately 20°.

The screw length is read directly on the drill guide by locating the laser mark on the drill through the window on the drill guide. If desired, a standard depth gauge is available. The screw is introduced into the inferior hole and fully tightened with the 4.5 mm screwdriver.

Finally, the superior screw is placed in the same manner as in the inferior screw.

The superior screw is positioned into the base of the coracoid process.

The coracoid is generally situated superiorly in the vertical axis of the glenoid at an angle of approximately 20° and anteriorly in the transverse axis of the glenoid at an angle of approximately 10°.

Note: *In the event of poor bone fixation, the orientation of the drill guide should be changed and the hole drilled again into more sufficient bone stock.*

POSITIONING OF THE FINAL GLENOID SPHERE

» 36, 39 and 42mm spheres are compatible with 25 and 29mm diameter baseplates. 33mm spheres are compatible with 25mm diameter baseplates only.

Note: *If desired, a trial glenoid sphere can be used to assess the deltoid tension.*

Once the desired sphere is chosen, the final implantation can be performed. Prior to positioning of the definitive glenoid sphere, it is important to remove any soft tissue between the baseplate and the glenoid sphere .

Connect the small AO handle to the 3.5 mm hexagonal tip.

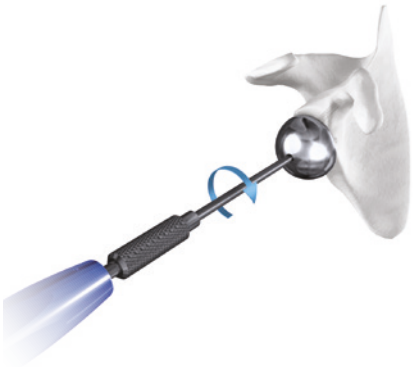
Place the glenoid sphere onto the baseplate using the 3.5 mm hexagonal screwdriver.

Assemble glenoid sphere impactor tip onto the impactor handle.
The glenoid sphere is then impacted onto the taper of glenoid baseplate with the glenoid sphere impactor assembly.
The fixation of the assembly is visually checked to ensure that no soft tissue is present between the baseplate and the glenoid sphere.

Once impacted, secure the assembly by tightening the glenoid sphere screw clockwise with the 3.5 mm diameter screwdriver.

ATTENTION : It is mandatory that the glenoid sphere is screwed manually and the implant is handled with clean gloves.

In some cases it may be necessary to remove the humeral trial to avoid metallic contact that could damage the glenoid sphere.



REDUCTION, TRIAL AND CLOSURE

Reduction, Trial and Closure

The prosthesis is then reduced using the reducer and stability is checked.

Peri-Operative function

Pull the arm away from the body after reduction to ensure that there is no pistoning effect. A complete separation of the humeral insert from the glenoid sphere indicates inadequate tensioning of the deltoid.
Abduction of the arm is performed to check that there is no impingement and that anterior elevation and abduction has been restored.
External rotation with the elbow at the side checks for mobility and risk of subluxation. Internal rotation with the elbow at the side and in abduction (the forearm has to be parallel to the thorax) is performed.
Adduct the arm to check that there is no impingement between the pillar of the scapula and the humeral implant. After reduction, the conjoined tendon should show sufficient muscular tension (similar to the deltoid).

Closure

In the supero-lateral approach, the deltoid is reattached to the acromion with a trans-osseous suture.
In the delto-pectoral approach, a full or partial re-insertion of the subscapularis is performed, if possible.

Post-Operative Care

COMPLICATIONS

Postoperative stiffness

In case of significant preoperative stiffness, it may be difficult to regain postoperative mobility. A surgical arthrolysis in conjunction with a capsulotomy may be required with the removal of soft tissue adhesions and removal of the tuberosities. Postoperatively, the arm is usually immobilized in a shoulder abduction splint for 3 to 6 weeks (in 60 degrees abduction). Passive elevation above the splint in the scapular plane is started immediately.

Prosthesis instability

Possible causes:

» Improper humeral cut

» Massive humeral bone deficiency

Such cases are the consequence of insufficient deltoid tension.
In case of early postoperative dislocation, a closed reduction under local anesthesia is performed. If the prosthesis is in good position, then immobilization for 6 weeks normally restores stability.
With recurrent instability, a revision is needed to check the humeral version and increase (if necessary) the humeral lateralization utilizing a thicker insert and/or lateralized spacer.

Scapula notch

Impingement between the pillar of the scapula and the humeral implant can lead to bone scapula erosion. This notch usually does not impact function or mobility but may compromise fixation. X-ray follow-ups are recommended.

Absence of active external rotation

In the absence of the Teres Minor and Infraspinatus due to cuff tear or fatty infiltration, there may be loss of active external and internal rotation. At the time of surgery, a Latissimus Dorsi Transfer alone or with Pectoralis Major transfer to the greater tuberosity may be considered.

REHABILITATION

Post-operative rehabilitation

The arm is placed in a brace with the elbow close to the body in neutral or internal rotation. An abduction cushion can be used especially in cases of deltoid detachment or if the supero-lateral approach was performed. Rehabilitation is performed with passive pendular motion exercices five times per day at 5 minutes per session. Aquatic therapy can begin as soon as healing has occurred.

Arm motion to be avoided

Abduction/external rotation or abduction/internal rotation.

Note: *active motion in the arm is restricted in daily activity as only elbow, wrist and finger motion is allowed.*

6 weeks post-op

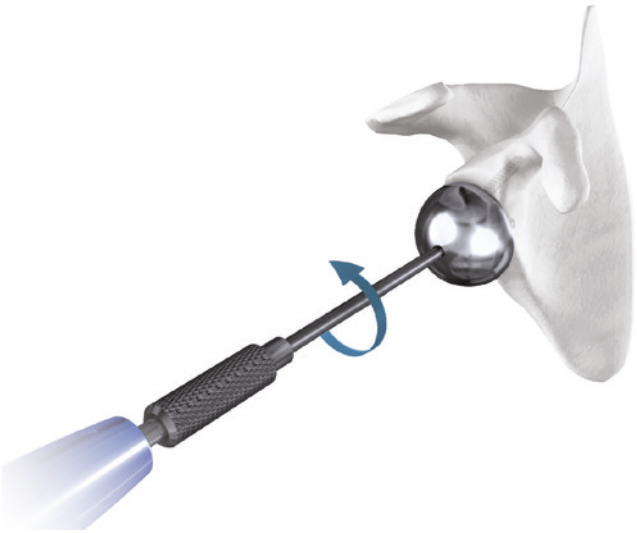
Strengthening of the deltoid muscle and external rotators at 6 weeks post-op can be initiated with isometric exercise against resistance. Strengthening of the external rotators with the elbow at the level of the arm can be initiated by isometric exercise against resistance. Provided that deltoid attachment has not been disrupted, normal active elevation is generally rapidly recovered.

Glenoid Sphere extraction in Revision Cases

UNSCREWING THE SPHERE CENTRAL SCREW

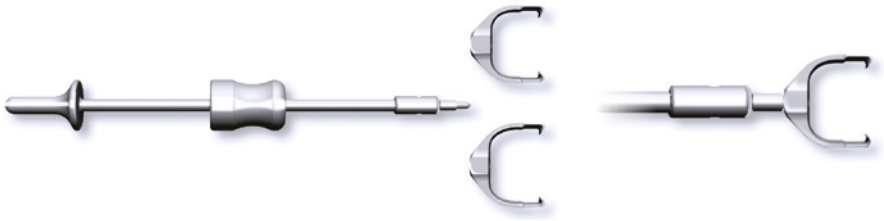
Insert the hexagonal 3.5 mm screwdriver into the central screw and unscrew until there is complete disengagement of the screw within the baseplate.

It takes 4 turns to completely unscrew it.



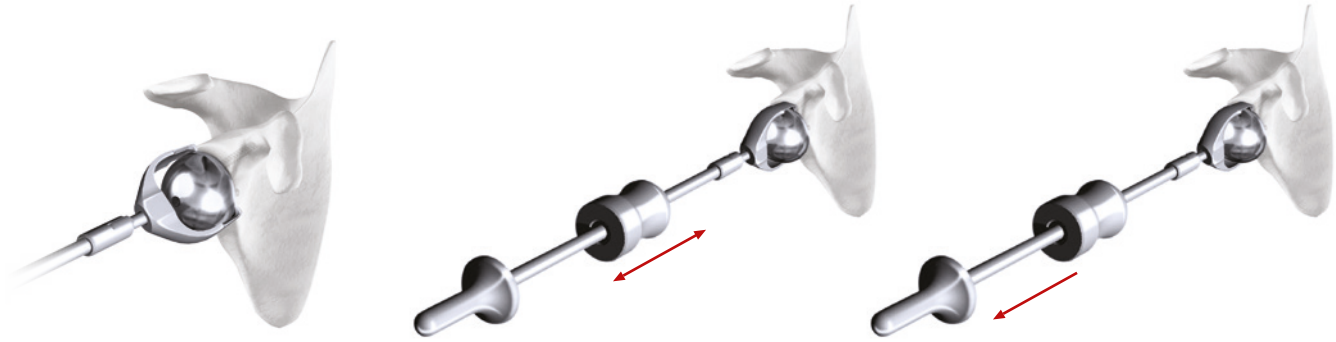
SPHERE UNIMPACTION

Assemble the slap hammer to the sphere extraction hook. Four sizes of hook are available depending on the implanted sphere (33, 36, 39 and 42mm).



Extraction hook will have to be positionning under the sphere.

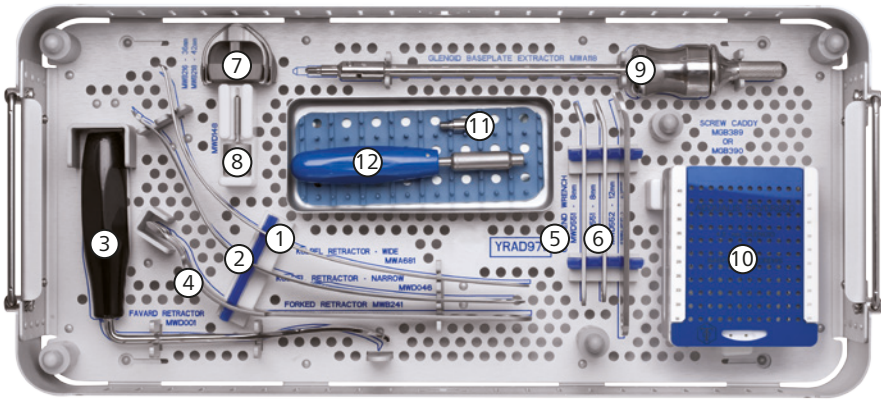
Slide the hook behind the sphere and unimpact the sphere using the slap Hammer.



Compatibility Table

GLENOID SIDE		
Glenoid Preparation		Trial Sphere
Baseplate	Sphere	
ø25mm	ø33mm	10° Tilted
		(+)6mm Lateralized
		(+)8mm Lateralized
	ø36mm	Centered
		(+)2mm Eccentric
		10° Tilted
	ø39mm	Centered
		(+)2mm Eccentric
		10° Tilted
	ø42mm	Centered
		(+)2mm Eccentric
		10° Tilted
ø29mm	ø36mm	Centered
		(+)2mm Eccentric
		10° Tilted
	ø39mm	Centered
		(+)2mm Eccentric
		10° Tilted
	ø42mm	Centered
		(+)2mm Eccentric
		10° Tilted

Instrumentation



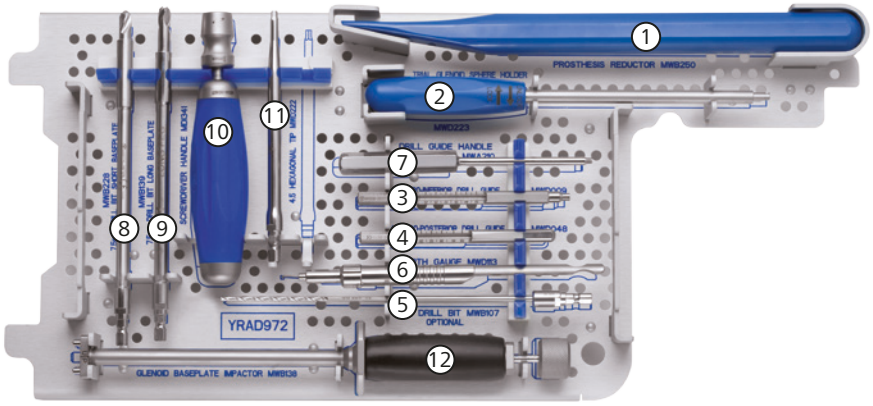
Glenoid Instruments YKAD97
Universal Instruments

LOWER TRAY: UNIVERSAL INSTRUMENTATION			
#	Description	Reference	Quantity
1	Kolbel Retractor - Wide	MWA681	1
2	Kolbel Retractor - Narrow	MWD046	1
3	Favard Retractor	MWD001	1
4	Forked Retractor	MWB241	1
5	Dia. 8 mm Open-Ended Wrench	MWD551	2
6	Dia. 12 mm Open-Ended Wrench	MWD552	1
7	Glenoid Sphere Extractor(s) - Dia. 36 mm	MWB216	1
7	Glenoid Sphere Extractor(s) - Dia. 42 mm	MWB218	1
8	Glenoid Sphere Extractor Screw	MWD148	1
9	Glenoid Baseplate Extractor	MWA118	1
10	Screw Caddy*	MGB389	1
11	Glenoid Baseplate Extractor Adaptor	MDE072	1
12	3.5 mm Hexagonal driver Handle	MWB346	1
13**	3,5mm Hexagonal driver Tip***	MWB991	2

* on upon request only.

** if not available in the set, available as a single use sterile item in the implant Kit.

*** the hexagonal screwdriver tip should be discarded and replaced as soon as the hex tip starts to be twisted.



Glenoid Instruments YKAD97
Universal Instruments

UPPER TRAY: GLENOID PREPARATION INSTRUMENTATION			
#	Description	Reference	Quantity
1	Prosthesis reducer	MWB250	1
2	Glenoid sphere/humeral head trial handle	MWD223	1
3	Drill Guide (supero inferior screws)	MWD009	1
4	Drill Guide (antero posterior screws)	MWD048	1
5*	Dia. 3mm drill bit (220mm)	MWB107	2
6	Depth Gauge	MWD113	1
7	Glenoid pin guide handle	MWA210	1
8	Dia. 7.5mm cannulated drill bit (15mm post)	MWB228	1
9	Dia. 7.5mm cannulated drill bit (25mm post)	MWB139	1
10	4.5mm hexagonal driver handle	MDI341	1
11	4.5 hexagonal driver tip	MWD222	1
12	Universal glenoid baseplate impactor Including subset stem MWE007	MWB138	1

* if not available in the set, available as a single use sterile item in the implant Kit.

Glenoid Instruments YKAD98 Lower Tray (Module 983) - 25 mm Tray

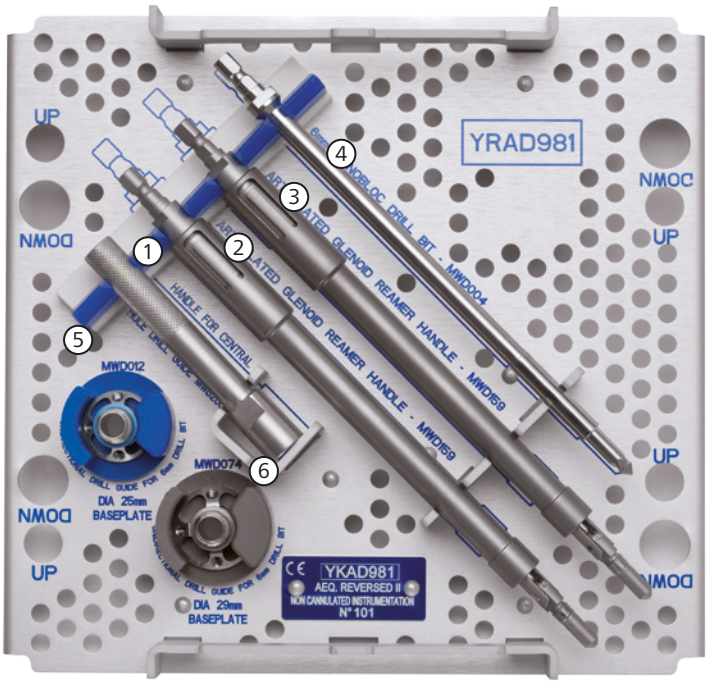
#	Description	Reference	Quantity
1	Dia. 36 mm Centered Trial Glenoid Sphere for Dia. 25 mm Baseplate	MWD180	1
2	Dia. 36 mm 10° Tilted Trial Glenoid Sphere for Dia. 25 mm Baseplate	MWD181	1
3	Dia. 36 mm + 2 mm Eccentric Trial Glenoid Sphere for Dia. 25 mm Baseplate	MWD182	1
4	Dia. 42 mm Centered Trial Glenoid Sphere for Dia. 25 mm Baseplate	MWD183	1
5	Dia. 42 mm 10° Tilted Trial Glenoid Sphere for Dia. 25 mm Baseplate	MWD184	1
6	Dia. 42 mm + 2mm Eccentric Trial Glenoid Sphere for Dia. 25 mm Baseplate	MWD185	1
7	Dia. 36 mm Glenoid Reamer for Dia. 25 mm Baseplate*	MWD124	1
8	Dia. 42 mm Glenoid Reamer for Dia. 25 mm Baseplate*	MWD125	1
9	Dia. 25mm Cannulated Glenoid Reamer	MWD150	1
10	Dia. 36 mm Glenoid Sphere Reamer for Dia. 25mm Baseplate	MWD151	1
11	Dia. 42 mm Glenoid Sphere Reamer for Dia. 25 mm Baseplate	MWD152	1

* Including Blue handle MWD139.

Glenoid Instruments YKAD98 Lower Tray (Module 984) - 29 mm Tray

#	Description	Reference	Quantity
12	Dia. 36 mm Centered Glenoid Sphere for Dia. 29 mm Baseplate	MWD190	1
13	Dia. 36 mm 10° Tilted Trial Glenoid Sphere for Dia. 29 mm Baseplate	MWD191	1
14	Dia. 36 mm + 2 mm Eccentric Trial Glenoid Sphere for Dia. 29 mm Baseplate	MWD192	1
15	Dia. 42 mm Centered Trial Glenoid Sphere for Dia. 29 mm Baseplate	MWD193	1
16	Dia. 42 mm 10° Tilted Trial Glenoid Sphere for Dia. 29 mm Baseplate	MWD194	1
17	Dia. 42 mm + 2 mm Eccentric Trial Glenoid Sphere for Dia. 29 mm Baseplate	MWD195	1
18	Dia. 36 mm Glenoid Reamer for Dia. 29 mm Baseplate*	MWD126	1
19	Dia. 42 mm Glenoid Reamer for Dia. 29 mm Baseplate*	MWD127	1
20	Dia. 29mm Cannulated Glenoid Reamer	MWD153	1
21	Dia. 36 mm Glenoid Sphere Reamer for Dia. 29 mm Baseplate	MWD154	1
22	Dia. 42 mm Glenoid Sphere Reamer for Dia. 29 mm Baseplate	MWD155	1

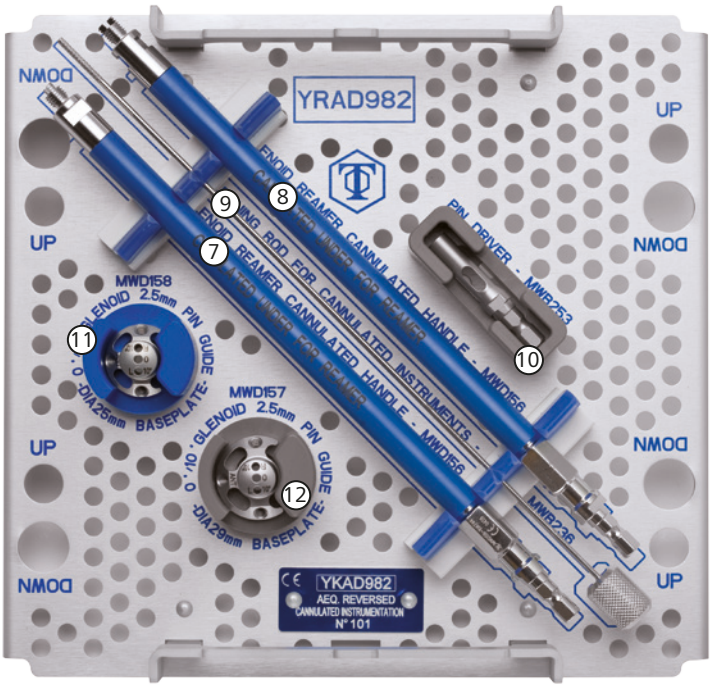
* Including Grey handle MWD140.



Glenoid Instruments YKAD98 Upper Tray (Module 981) Non-Cannulated

#	Description	Reference	Quantity
1	Central Handle for Central Hole Drill Guide	MWB260	1
2	Articulated Handle with Pilot for Glenoid Reamer*	MWD159	1
3	Articulated Handle with Pilot for Glenoid Reamer*	MWD159	1
4	Dia. 6 mm Monobloc Drill Bit	MWD004	1
5	Dia. 25 mm Unidirectional Drill Guide for Ø 6 mm Drill Bit	MWD012	1
6	Dia. 29 mm Unidirectional Drill Guide for Ø 6 mm Drill Bit	MWD074	1

* Including Sliding Handle MWD319.

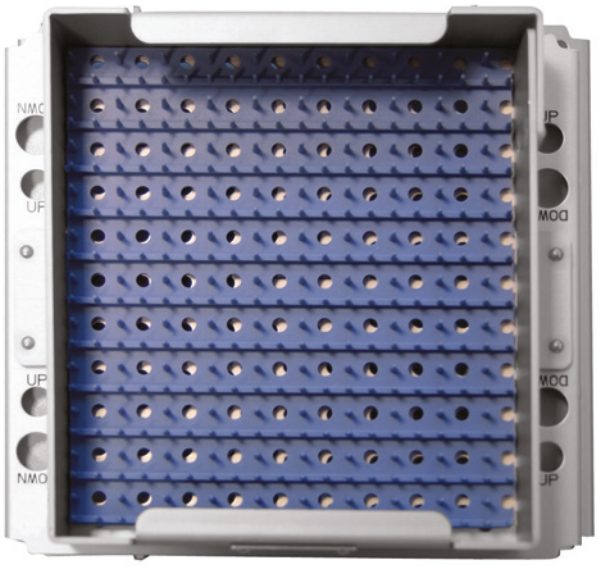


Glenoid Instruments YKAD98 Upper Tray (Module 982) Cannulated

#	Description	Reference	Quantity
7	Cannulated Handle for Reamer *	MWD156	1
8	Cannulated Handle for Reamer *	MWD156	1
9	Cleaning Rod for Cannulated Instruments	MWB236	1
10	Pin Driver	MWB253	1
11	0/10° Glenoid Pin Guide for Dia. 25 mm Baseplate**	MWD158	1
12	0/10°Glenoid Pin Guide for Dia. 29 mm Baseplate**	MWD157	1

* Including Cutting Tip MWD318. **For Dia. 2,5 mm Pin

Glenoid Instruments YKAD985 Open Tray (Optional)

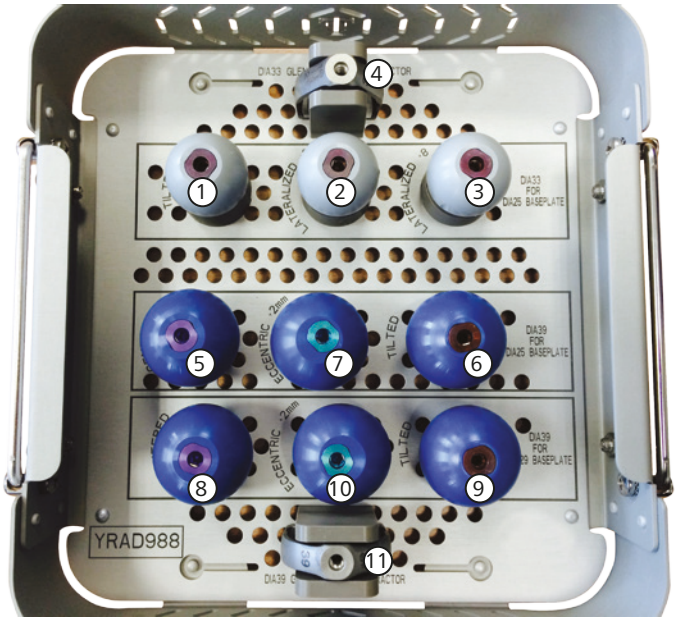


Reversed II Single Use Items

The Following Items will be Provide Sterile - Single Use

#	Description	Reference	Quantity
1	Ø 3 mm Drill Bit	DWD055	1
2	Ø 2.5 mm Pin L 150 mm	DWD065	2
3	Ø 2.5 mm Alignment Pin L 200 mm	DWD063	2
4	Pilot for Cannulated Reamer*	DWD164	1
5	Ø 3.5 mm Hex screw driver bit	DWD167	2
	Guide pin in non-sterile delivery (also available in a single use sterile delivery)		
---	Dia. 2,5mm Pin L 200 mm - Threaded Tip	MWB319	2
	or		
---	Alignment Pin L = 200mm	MWE157	2

*Pilot tip used for pie shaped reamers so it can be used in the non-cannulated setting.



Glenoid Instruments YKAD988
33&39mm (upon request)

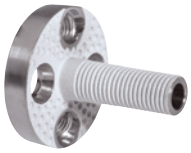
#	Description	Reference	Quantity
1	Dia. 33mm 10° Tilted Trial Glenoid Sphere for Dia. 25mm Baseplate	MWG901	1
2	Dia. 33mm Lateralized +6mm Trial Glenoid Sphere for Dia. 25mm Baseplate	MWG902	1
3	Dia. 33mm Lateralized +8mm Trial Glenoid Sphere for Dia. 25mm Baseplate	MWG903	1
4	Dia. 33mm Glenoid Sphere Extractor	MWG160	1
5	Dia. 39mm Centered Trial Glenoid Sphere for Dia. 25mm Baseplate	MWG904	1
6	Dia. 39mm Tilted Trial Glenoid Sphere for Dia. 25mm Baseplate	MWG905	1
7	Dia. 39mm Eccentric +2mm Trial Glenoid Sphere for Dia. 25mm Baseplate	MWG906	1
8	Dia. 39mm Centered Trial Glenoid Sphere for Dia. 29mm Baseplate	MWG907	1
9	Dia. 39mm Tilted Trial Glenoid Sphere for Dia. 29mm Baseplate	MWG908	1
10	Dia. 39mm Eccentric +2mm Trial Glenoid Sphere for Dia. 29mm Baseplate	MWG909	1
11	Dia. 39mm Glenoid Sphere Extractor	MWG161	1

Implants

Glenoid Implants

Glenoid Baseplate

Description	Reference
Dia. 25 mm Glenoid Baseplate	DWD172
Dia. 29 mm Glenoid Baseplate	DWD001



Description	Reference
Dia. 25 mm Glenoid Baseplate with Long Post	DWD173
Dia. 29 mm Glenoid Baseplate with Long Post	DWD068

Glenoid Sphere for Glenoid Baseplate – CoCr

Diameter	Description	Reference
Ø 25 mm	Dia. 33 mm 10° Tilted glenoid sphere	DWH901R
	Dia. 33 mm Lateralized +6 mm glenoid sphere	DWH902R
	Dia. 33 mm Lateralized +8 mm glenoid sphere	DWH903R
	Dia. 36 mm Centered glenoid sphere	DWD180R
	Dia. 36 mm 10° Tilted glenoid sphere	DWD181R
	Dia. 36 mm Eccentric + 2 mm glenoid sphere	DWD182R
	Dia. 39 mm Centered glenoid sphere	DWH904R
	Dia. 39 mm 10° Tilted glenoid sphere	DWH905R
	Dia. 39 mm Eccentric + 2 mm glenoid sphere	DWH906R
	Dia. 42 mm Centered glenoid sphere	DWD183R
	Dia. 42 mm 10° Tilted glenoid sphere	DWD184R
	Dia. 42 mm Eccentric + 2 mm glenoid sphere	DWD185R
Ø 29 mm	Dia. 36 mm Centered glenoid sphere	DWD190R
	Dia. 36 mm 10° Tilted glenoid sphere	DWD191R
	Dia. 36 mm Eccentric + 2 mm glenoid sphere	DWD192R
	Dia. 39 mm Centered glenoid sphere	DWH907R
	Dia. 39 mm 10° Tilted glenoid sphere	DWH908R
	Dia. 39 mm Eccentric + 2 mm glenoid sphere	DWH909R
	Dia. 42 mm Centered glenoid sphere	DWD193R
	Dia. 42 mm 10° Tilted glenoid sphere	DWD194R
	Dia. 42 mm Eccentric + 2 mm glenoid sphere	DWD195R

Spheres Specifications Table

Ø 33 mm	Ø 36 mm	Ø 39 mm	Ø 42 mm
10° Tilted	Centered	Centered	Centered
lateralized +6 mm	10° Tilted	10° Tilted	10° Tilted
lateralized +8 mm	eccentric +2 mm	eccentric +2 mm	eccentric +2 mm

IMPORTANT NOTE:

» 33 & 39 mm spheres are only compatible with 33 & 39 mm inserts of the AEQUALIS ASCENDTM Flex.

» 33 mm spheres are only compatible with ø 25 mm baseplates.

» Excessive lateralization can lead to articular overtension, difficulties in joint reduction and/or in subscapularis repair.

» Low lateralization can lead to osseous impingements, loss of articular mobility, instability.

Sterile Glenoid Baseplate Screws

Ø 4.5 mm Compression Screw	
Size	Reference
L 18 mm	VDV118
L 20 mm	VDV120
L 23 mm	VDV123
L 26 mm	VDV126
L 29 mm	VDV129
L 32 mm	VDV132
L 35 mm	VDV135
L 38 mm	VDV138
L 41 mm	VDV141
L 45 mm	VDV145

Ø 4.5 mm Multidirectional Screw	
Size	Reference
L 20 mm	DWD120
L 23 mm	DWD123
L 26 mm	DWD126
L 29 mm	DWD129
L 32 mm	DWD132
L 35 mm	DWD135
L 38 mm	DWD138
L 41 mm	DWD141
L 44 mm	DWD144
L 47 mm	DWD147
L 50 mm	DWD150

Notes

Notes

Proper surgical procedures and techniques are the responsibility of the medical professional. The following guidelines are furnished for information purposes only as techniques used by the design surgeons. Each surgeon must evaluate the appropriateness of the procedures based on his or her personal medical training and experience. Prior to use of the system, the surgeon should refer to the product package insert for complete warnings, precautions, indications, contraindications and adverse effects. Package inserts are also available by contacting Wright Medical Technology, Inc. Contact information can be found on the back of this surgical technique, and the package insert is available at www.wmt.com.

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Prior to using any Tornier device, please review the instructions for use and surgical technique for a complete listing of indications, contraindications, warnings, precautions, potential adverse events, and directions for use.

CE 0459 CE marking is only valid if it is also mentioned on the external package labeling.

AEQUALIS™ Reversed II UDXT161 Brazil May 2016