



GLOBUS
MEDICAL



ANTHEM™

Proximal Humerus Fracture System

Life moves us 

The Surgical Technique shown is for illustrative purposes only. The technique(s) actually employed in each case always depends on the medical judgment of the surgeon exercised before and during surgery as to the best mode of treatment for each patient. Additionally, as instruments may occasionally be updated, the instruments depicted in this Surgical Technique may not be exactly the same as the instruments currently available. Please consult with your sales representative or contact Globus directly for more information.

SURGICAL TECHNIQUE GUIDE

ANTHEM™

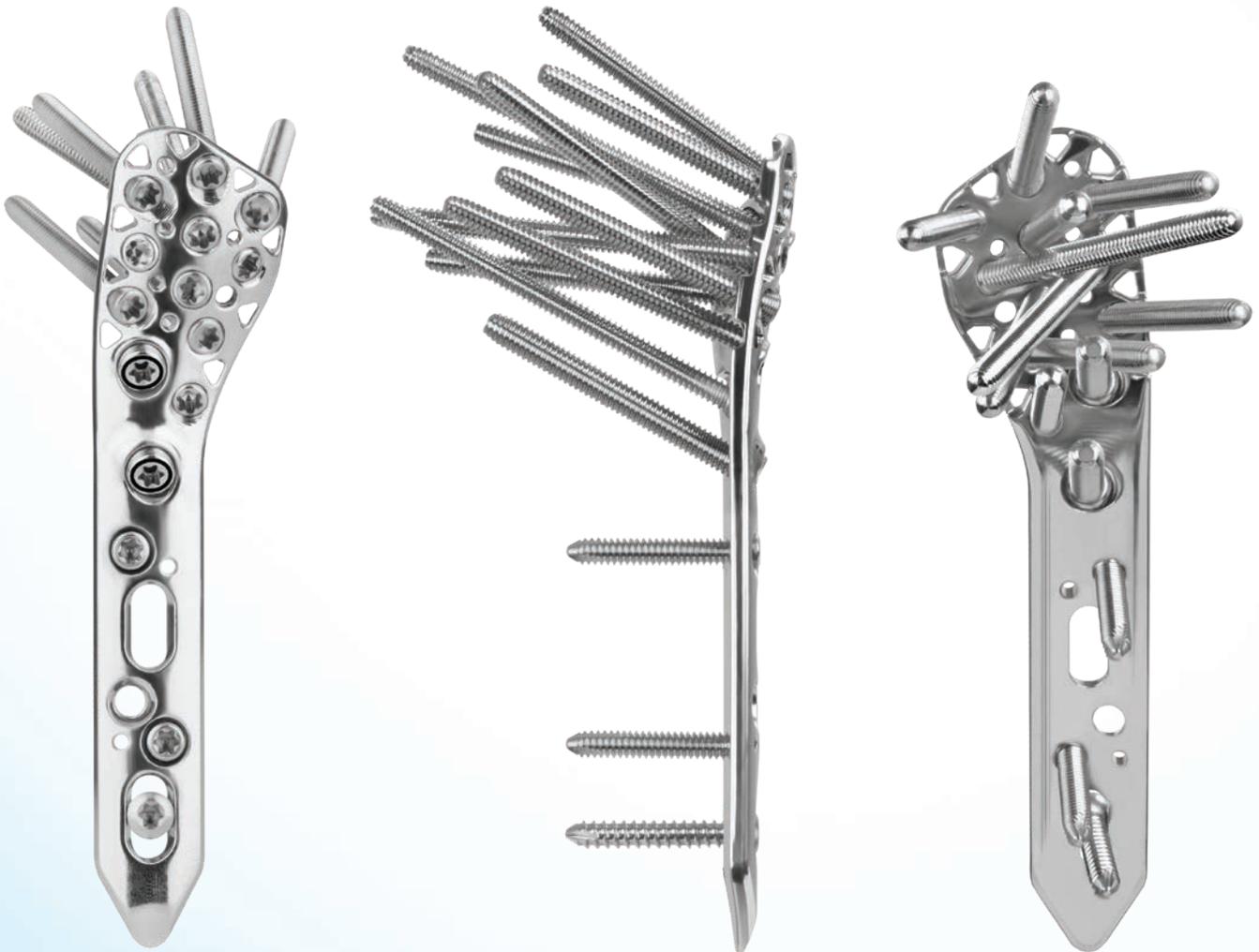
Proximal Humerus Fracture System

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ANTHEM™

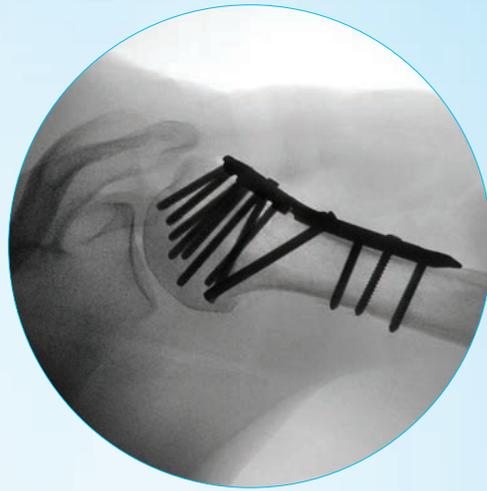
Proximal Humerus Fracture System

The ANTHEM™ Proximal Humerus Fracture System features polyaxial technology for intraoperative versatility and is designed to streamline procedural flow during fracture fixation.



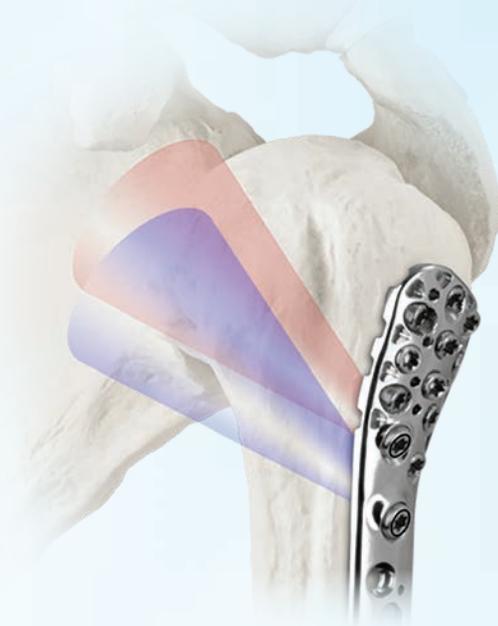
Anatomic Contour

The low-profile plate is contoured to sit low to avoid acromial impingement. Polyaxial locking calcar screws provide ideal bone purchase following optimal plate placement to minimize the risk of varus collapse.



Multiple Calcar Solutions

The system features two polyaxial locking calcar screws that allow for a $\pm 20^\circ$ cone of angulation and one fixed angle calcar screw with an optimized shaft-head inclination angle. Cannulated screws are also available and allow for ideal plate placement.



Unique Instruments

Radiolucent retractors aid in visibility of the fracture site.



Radiolucent Browne Deltoid and Blunt Hohmann Retractors (outlined above)



Radiolucent Weitlaner

IMPLANT OVERVIEW

Calcar Fixation

- Polyaxial locking screws allow for a $\pm 20^\circ$ cone of angulation and may be inserted and removed up to four times
- Two polyaxial calcar screw holes facilitate ideal bone purchase in varying patient anatomies
- Cannulated screws allow for ideal plate placement
- One fixed angle calcar screw hole with optimized shaft-head inclination angle



Suture Fixation

- Unique triangular suture holes for convenient suturing after securing the plate to bone



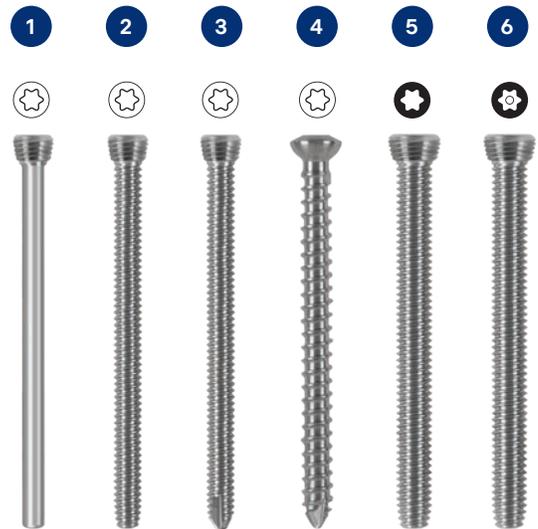
Plate Design

- Comprehensive offering includes plates ranging from 88-315mm in length
- Low profile to minimize impingement
- Optimally contoured to proximal humerus anatomy, wrapping posteriorly to buttress the greater tuberosity
- Scalloped undercuts to limit periosteal damage and aid in plate bending
- Available in stainless steel or titanium



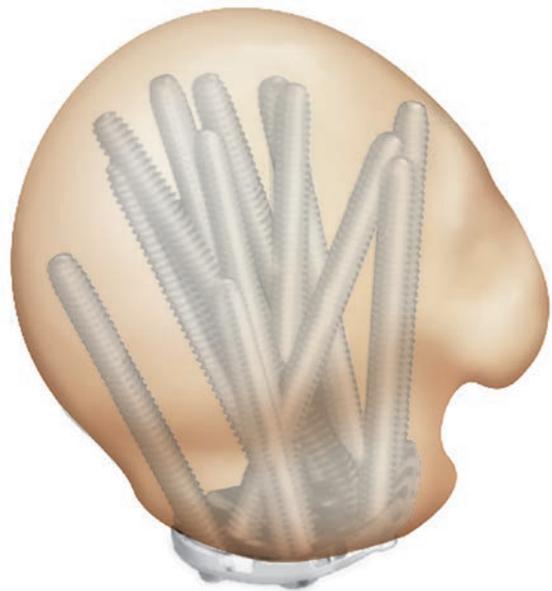
Header Text

- 1 2.7mm MonoAx™ Locking Peg
- 2 3.5mm MonoAx™ Locking Screw, Blunt Tip
- 3 3.5mm MonoAx™ Locking Screw, Cutting Flutes
- 4 3.5mm Non-Locking Screw
- 5 4.0mm Locking Screw
- 6 4.0mm Cannulated Locking Screw



Screw Trajectories

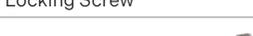
- Nine fixed angle locking screws in the head of the plate form divergent and convergent patterns to maximize plate fixation

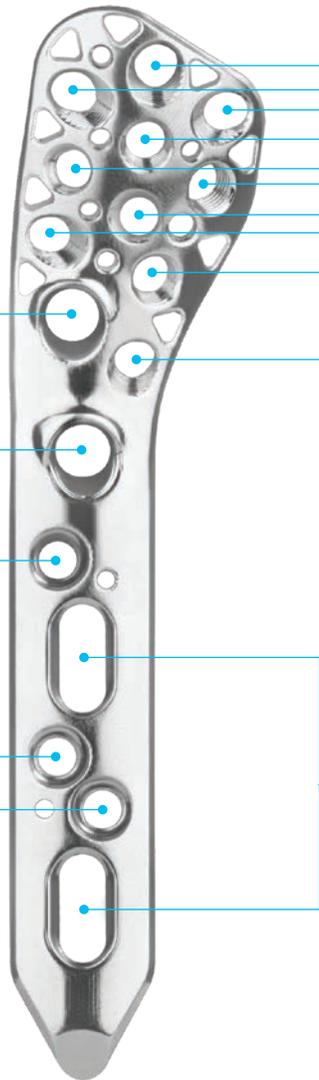


SCREW COMPATIBILITY

If screw/plate locking is desired in a Polyaxial Locking Hole, only use Locking Screws. MonoAx™ Locking Screws may not be used in a Polyaxial Locking Hole.

Polyaxial Locking Holes	
	
	

Stacked Holes	
	
	
	



MonoAx™ Locking Holes	
	
	
	
	

Non-Locking Slots	
	

SURGICAL TECHNIQUE

ANTHEM™

Proximal Humerus Fracture System

Refer to the device insert (also printed at the back of this technique guide) for important information on the intended use/indications, device description, contraindications, precautions, warnings, and potential risks associated with this system.

STEP 1 Preoperative Planning

High-quality radiographs and computed tomography (CT) scans may be used to assess the fracture. Determine the desired surgical approach, fracture reduction strategy, and fixation sequence. Estimate plate length, type, position, and screw placement.

STEP 2 Patient Positioning

The patient is positioned in the beach chair or supine position. A radiolucent table may be used for ease of imaging. For beach chair positioning, an articulating device may be used to position the arm. A bolster or towel roll may also be used to support the scapula in supine positioning. If supine, position the patient with the head at the edge of the table to optimize shoulder access. The arm can be supported by a padded Mayo stand or radiolucent arm board. Using fluoroscopy, examine the fracture.



Beach chair positioning



Articulating device



Supine positioning

INTRAOPERATIVE IMAGING

Based on surgeon preference, bring the C-arm in from above the patient or from the opposite side of the table. When positioning the C-arm from the opposite side, tuck the arm on the table for optimal access rather than using an arm board. To avoid interference with the C-arm in the supine position, the patient's arm should be positioned at the edge of the table and supported on a hand board or Mayo stand to allow for standard axillary imaging.

If desired, confirm that intraoperative fluoroscopy can be obtained after positioning but prior to prepping and draping. Suggestions for common intraoperative imaging are illustrated below.



True AP/Grashey View

The C-arm should be positioned perpendicular to the scapula with the patient's arm in neutral rotation. This view makes the relationship between the humeral shaft, humeral head, and greater tuberosity apparent.



Axillary View

The arm is held in neutral rotation and abduction. The view is obtained with the beam oriented as illustrated to show the position of the lesser tuberosity and the relationship of the humeral head to the glenoid anteroposterior. This view is useful to verify reduction, plate position, and screw safety on a lateral projection of the humerus.



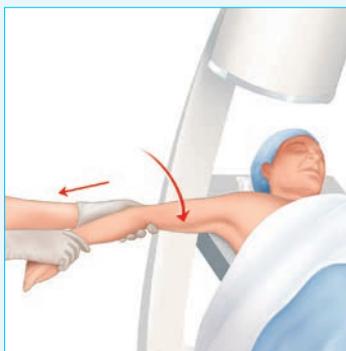
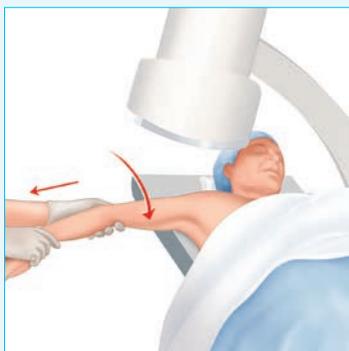
Trans-Scapular Y View

This view is obtained perpendicular to the plane of the glenohumeral joint with the arm in adduction and neutral rotation. The view is useful to verify reduction, plate position, and screw safety on a lateral projection of the humerus.



Velpeau Axillary View

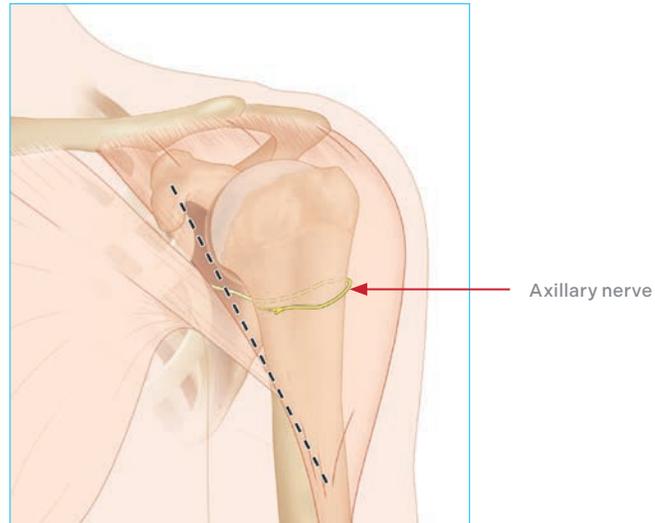
The arm is held in internal rotation and slight longitudinal traction. Gentle traction lateralizes the scapula away from the operating table and the patient's head, allowing an unobstructed image of the proximal humerus and glenoid.



STEP 3 Surgical Approach

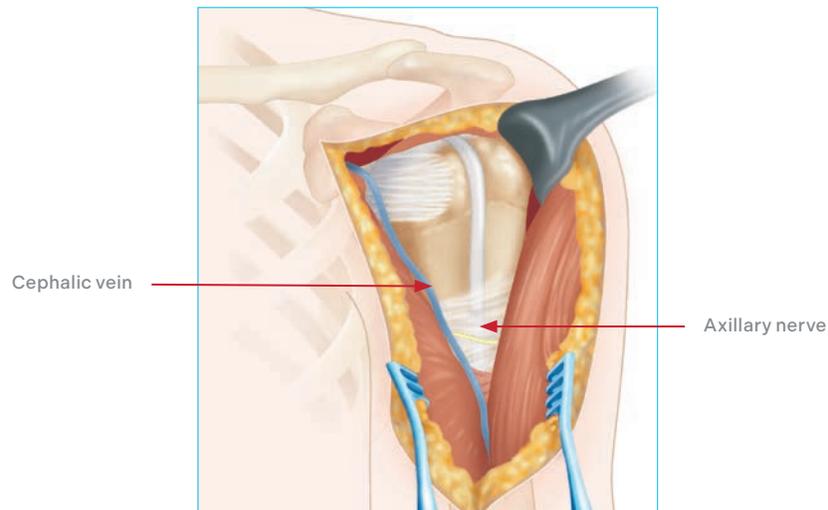
Deltopectoral Approach

Create an incision that starts at the coracoid process and extends to the humerus at the level of the deltoid tuberosity. As the surgery requires more lateral than medial access, it is useful to translate the incision more laterally.



Deltopectoral incision

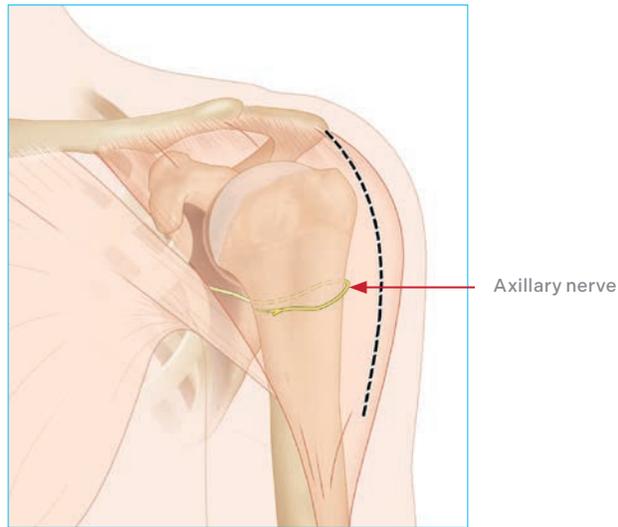
Identify and retract the cephalic vein to enter the deltopectoral interval. Avoid damage to the axillary nerve. Optionally, release the anterior aspect of the deltoid insertion to facilitate exposure. Radiolucent instruments may be useful at this stage.



Deltopectoral approach

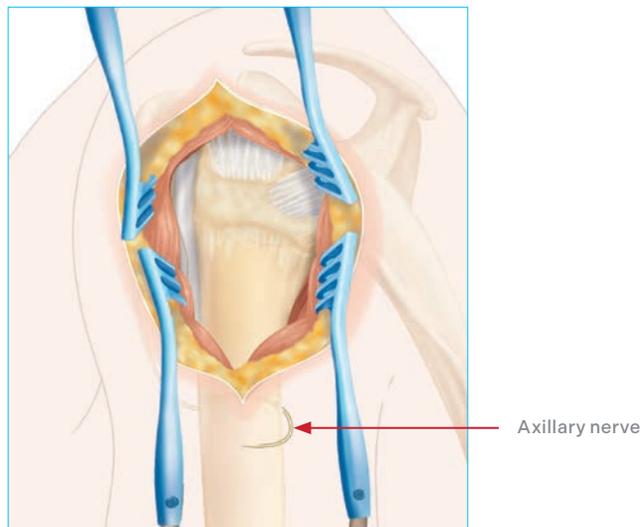
Deltoid Split/Extended Anterolateral Approach

Most approaches use a laterally based incision starting at the edge of the acromion and proceeding distally.



Deltoid split incision

Identify the raphe between the anterior and middle heads of the deltoid and perform blunt dissection until the axillary nerve can be palpated 5cm from the lateral edge of the acromion. Care must be taken to protect the nerve. Dissect the subdeltoid bursa to access the fracture.



Deltoid split approach

! Placing a suture in the deltoid may help prevent further splitting beyond 5cm.

Fracture Reduction

Excise any obstructive bursal tissue and fracture hematoma and mobilize fracture fragments. Reduction strategies may vary based on fracture patterns.

The fracture may be reduced and provisionally fixed using K-wires, reduction forceps, and/or suture fixation. Reduction instruments should be placed to avoid interference with final plate placement.

Non-resorbable sutures placed into the subscapularis and supraspinatus tendons can help with reduction and can later be tied to the plate to supplement fixation.

Suggestions for fracture reduction and provisional fixation are shown below.

SUGGESTIONS

A K-wire may be placed in the proximal segment to serve as a reduction "joystick."



Before reduction



After reduction

A periosteal elevator may be used to eliminate varus.



Before reduction



After reduction

A periosteal elevator may be used to eliminate valgus.



Before reduction



After reduction

SUGGESTIONS (CONT'D)

The plate can be used as a reduction tool for fractures in valgus alignment.

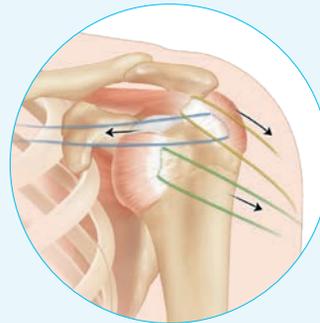


Before reduction



After reduction

Sutures in the rotator cuff tendon insertions may be used to aid manipulation and reduction of the fracture. Traction on the sutures helps to achieve reduction. When tied, the sutures bring fragments together for stability.



Suture reduction

Once reduction is achieved, a provisional K-wire configuration can be created by inserting a K-wire from the greater tuberosity toward the medial metaphysis with additional K-wires placed just lateral to the bicipital groove and aimed into the humeral head segment. When positioned appropriately, K-wires do not obstruct plate placement.



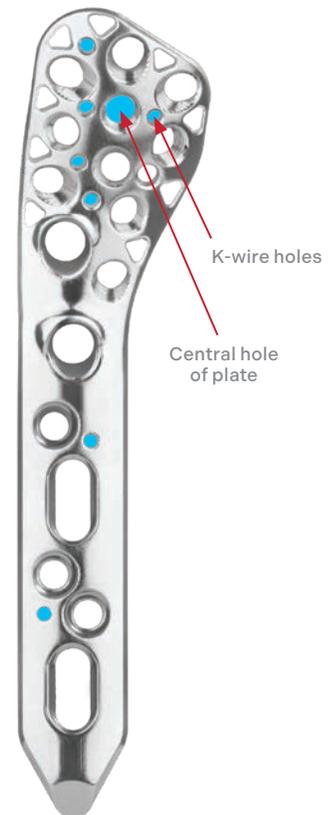
Provisional fixation
with K-wires

STEP**5**

Plate Positioning

Select the plate size that best accommodates patient anatomy and fracture pattern. Plate length is dependent on fracture pattern and surgeon preference. Distal extension of the fracture and the use of longer plates may require detachment of the anterior half of the distal deltoid muscle insertion.

To reduce the risk of subacromial impingement, position the plate at least 3cm distal to the superior border of the greater tuberosity. The anterior aspect of the plate should fit just lateral to the bicipital groove. Adjust cranial and caudal plate position to allow appropriate calcar screw placement and to avoid subacromial impingement. K-wires may be used to provisionally fix the plate to the bone. Confirm plate placement using fluoroscopy or palpation.



For optimal screw placement, place a K-wire through the central hole of the plate. Using AP and axial fluoroscopy, confirm plate position by centering the K-wire in the humeral head.

Polyaxial calcar screws in the plate allow for ideal plate placement and optimize placement in a variety of plate positions and varying patient anatomies. The images below show varying plate positions with ideal calcar purchase.



Low plate placement with calcar purchase



High plate placement with calcar purchase

STEP 6 Screw Insertion

⚙️ COLOR-CODED INSTRUMENTS

Drills and drill guides are color-coded to the screw size.

Color	Screw Diameter	Drill Diameter
Gold	2.7mm MonoAx™ Locking Peg	2.7mm
Fuchsia	3.5mm MonoAx™ Locking Screw, 3.5mm Non-Locking Screw	2.7mm
Light Green	4.0mm Locking Screw	3.2mm
Gray	4.0mm Cannulated Locking Screw	3.2mm

Plate Shaft Screws

For non-locking screws, use the **2.7mm Drill Bit** and the **3.5mm Soft Tissue Protector, Spring Loaded**.

For locking screws, use the 2.7mm Drill Bit and the **2.7mm Threaded Drill Guide**. Drill the desired screw hole to the appropriate depth.



- 3.5mm Non-Locking Screw
- 3.5mm MonoAx™ Locking Screw, Cutting Flutes
- 3.5mm Locking Screw

Measure screw length using the **Depth Gauge**.



Use the **T15 Driver** or **Screw Holding Forceps** to select the desired screw. Verify screw length and diameter using the gauge within the screw module. Using the T15 Driver, insert the screw into a shaft hole.

Screws may be inserted manually using the **Quick-Connect Handle** or under power. If screws are inserted under power, perform final tightening manually. Repeat for all desired shaft holes. Use the elongated slot in the plate for provisional fixation. If necessary, the slot allows for repositioning.



Screw Insertion (Cont'd)

Proximal Locking Screws

Once the fracture is reduced, insert the proximal locking screws by pre-drilling a hole using the 2.7mm Drill Bit and selected drill guide from the options shown below.



- 2.7mm MonoAx™ Locking Peg
- 3.5mm MonoAx™ Locking Screw, Blunt Tip
- 3.5mm Locking Screw

DRILL GUIDE OPTIONS

The **Targeting Guide**, **2.7mm Threaded Drill Guide**, or **Low-Profile Drill Guides** may be used to facilitate drilling and insertion of proximal locking screws.

2.7mm Threaded Drill Guide

Secure the 2.7mm Threaded Drill Guide to the plate by threading it into the desired locking screw hole. The T15 driver also fits through the drill guide.



2.7mm Threaded Drill Guide

Screw Insertion (Cont'd)

DRILL GUIDE OPTIONS (CONT'D)

Targeting Guide

Attach the Targeting Guide to the corresponding left or right plate. Lock the plate into place with a clockwise half rotation using a T15 Driver and Quick-Correct Handle.

Insert the Targeting Guide Drill Sleeve into the desired hole of the Targeting Guide. Insert the 2.7mm Drill Bit into the Targeting Guide Drill Sleeve and drill the desired screw hole to the appropriate depth.

Measure hole depth using the calibration on the drill bit or remove the Targeting Guide Drill Sleeve and insert the Depth Gauge. The screw may be inserted through the Targeting Guide.



Targeting Guide

Low-Profile Drill Guide

Secure the Low-Profile Drill Guide to the plate by threading it into the desired locking hole with the T15 Driver and Quick-Connect Handle.



Low-Profile Drill Guide

Measure hole depth using the calibration on the drill bit or remove the Targeting Guide Drill Sleeve and insert the Depth Gauge.



Use the T15 Driver or Screw Holding Forceps to select the desired screw. Verify screw length and diameter using the gauge within the screw module. Using the T15 Driver, insert the appropriate length screw through the screw hole. Screws may be inserted manually with the Quick-Connect Handle or under power. If desired, use the **1.5Nm Torque-Limiting Attachment** to ensure adequate final tightening torque.

Place the desired number of screws (typically five) into the humeral head. The number of screws is determined by the fracture pattern, morphology, and bone quality. In osteoporotic bone, more screws may be required.



Screw insertion with the T15 Driver and QC Handle

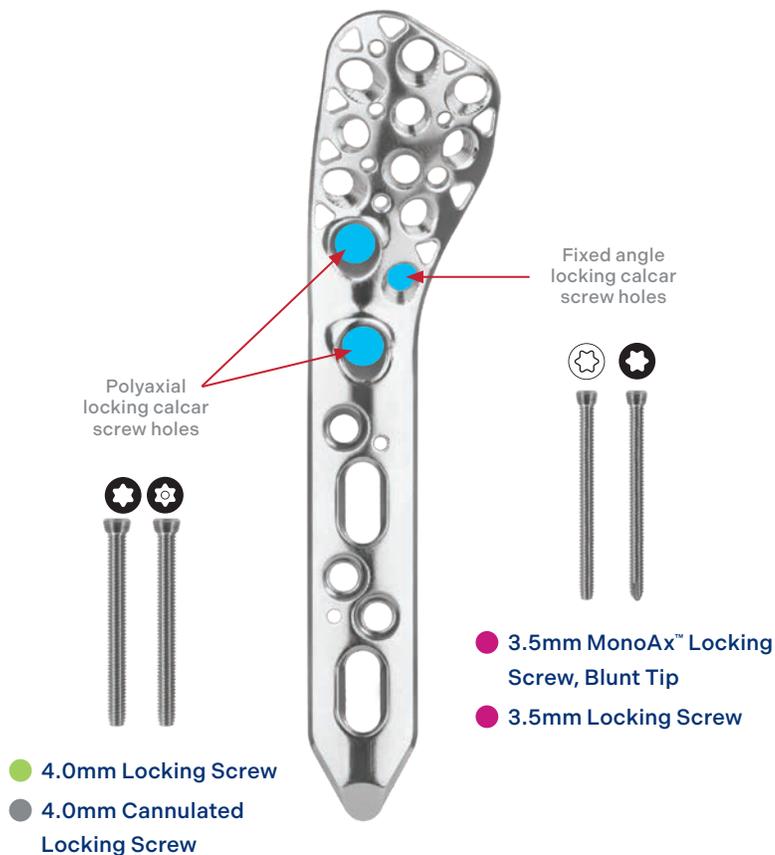
Screw Insertion (Cont'd)

Calcar Screws

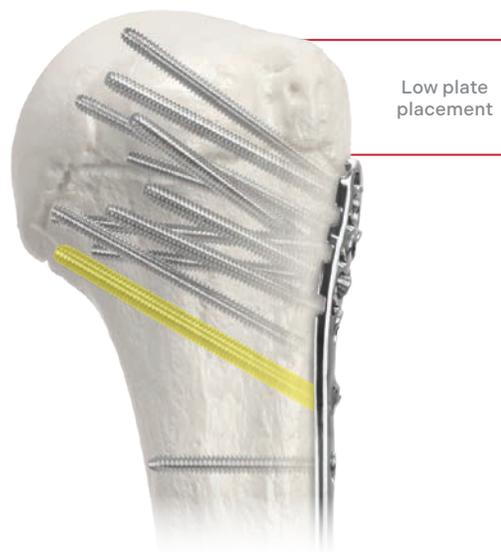
The plate accepts two polyaxial locking calcar screws and one fixed angle locking calcar screw. Polyaxial locking holes accept 4.0mm Locking Screws and 4.0mm Cannulated Locking Screws. The fixed angle calcar hole accepts a 3.5mm MonoAx™ Locking Screw.

Do not use screw lengths that may penetrate the joint. Screws of appropriate length should stop approximately 5-8mm from the articular surface. If screws are inserted under power, final tightening should be performed manually.

Cannulated and solid screws are available for use in polyaxial locking holes.



High plate placement with calcar purchase



Low plate placement with calcar purchase

Cannulated Calcaneal Screws

For nominal screw angulation, use the nominal side of the **1.6mm Polyaxial Soft Tissue Protector**. For polyaxial angulation, use the polyaxial side of the guide. Insert the **1.6mm K-Wire** through the desired side of the guide. Confirm K-wire position and depth using fluoroscopy.



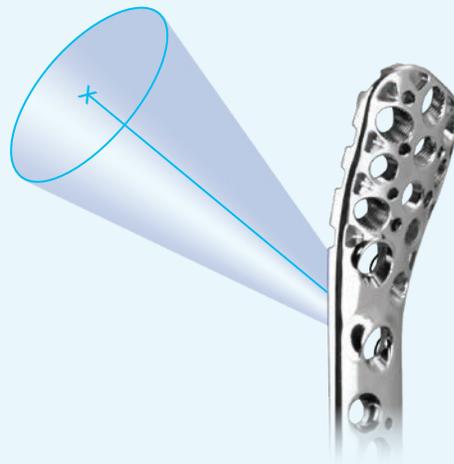
Nominal trajectory



Polyaxial trajectory

NOMINAL TRAJECTORY

Nominal trajectory is the central axis of the range of polyaxial angulations.

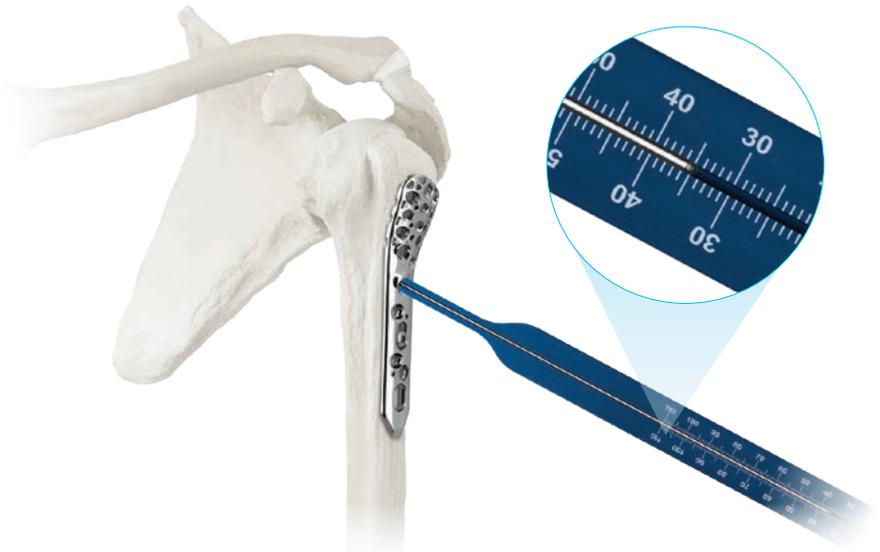


Screw Insertion (Cont'd)

Use the **3.2mm Cannulated Drill Bit** to drill over the K-wire to the desired depth. Confirm drill position and depth using fluoroscopy.



Measure hole depth by inserting the **Direct Measuring Device** over the K-wire and seat flush against the plate.



Use the **Cannulated T15 Driver** or Screw Holding Forceps to select the desired screw. Verify screw length and diameter using the gauge within the screw module. Using the driver, insert the screw over the K-wire and through the screw hole. Screws may be inserted using the **2.5Nm Torque-Limiting Quick-Connect Handle** or under power. If screws are inserted under power, perform final tightening manually.



Cannulated calcaneal screw insertion

Non-Cannulated Calcaneal Screws

For nominal screw angulation, use the nominal side of the **3.2mm Polyaxial Soft Tissue Protector**. For polyaxial angulation, use the polyaxial side of the drill guide. Insert the **3.2mm Drill Bit** into the desired side of the drill guide and drill the screw hole to the desired depth.



Nominal trajectory



Polyaxial trajectory

Remove the drill guide. Insert the Depth Gauge into the screw hole and measure depth.



Screw Insertion (Cont'd)

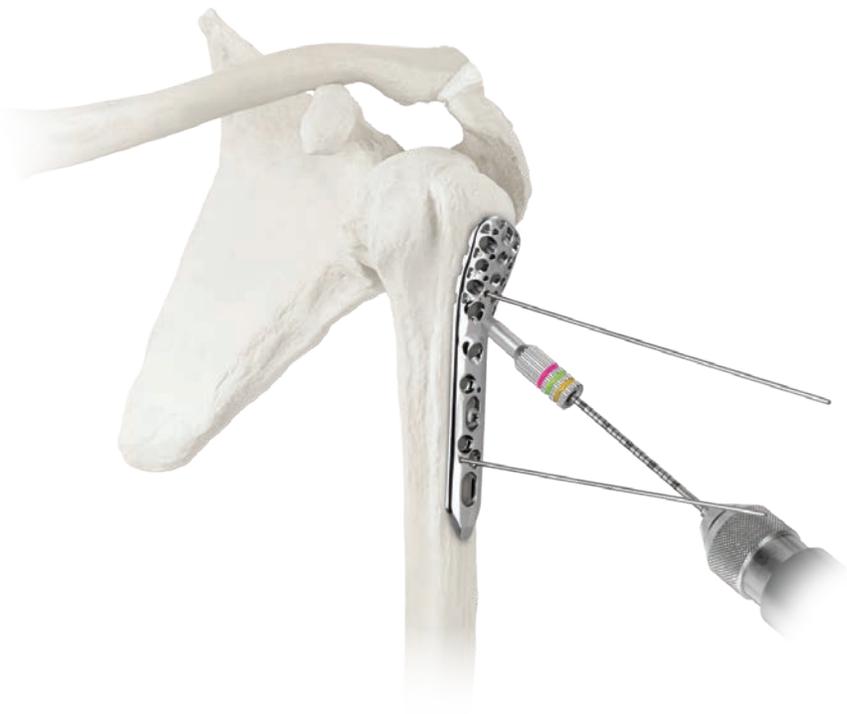
Use the T15 Driver or Screw Holding Forceps to select the desired screw. Verify screw length and diameter using the gauge within the screw module. Using the T15 Driver, insert the screw through the screw hole. Screws may be inserted with the 2.5Nm Torque-Limiting Quick-Connect Handle or under power. If screws are inserted under power, the final tightening should be performed manually.



Non-cannulated calcar
screw insertion

Fixed Angle Calcar Screws

Thread the 2.7mm Threaded Drill Guide into the fixed angle calcar screw hole. Insert the 2.7mm Drill Bit into the drill guide and drill to the desired depth.



Measure hole depth by the calibrations on the drill bit or remove the drill guide and insert the Depth Gauge.



Screw Insertion (Cont'd)

Use the T15 Driver or Screw Holding Forceps to select the desired screw. Verify screw length and diameter using the gauge within the screw module. Using the T15 Driver, insert the appropriate length screw through the screw hole. Screws may be inserted with the Quick-Connect Handle or under power. If screws are inserted under power, the final tightening should be performed manually.



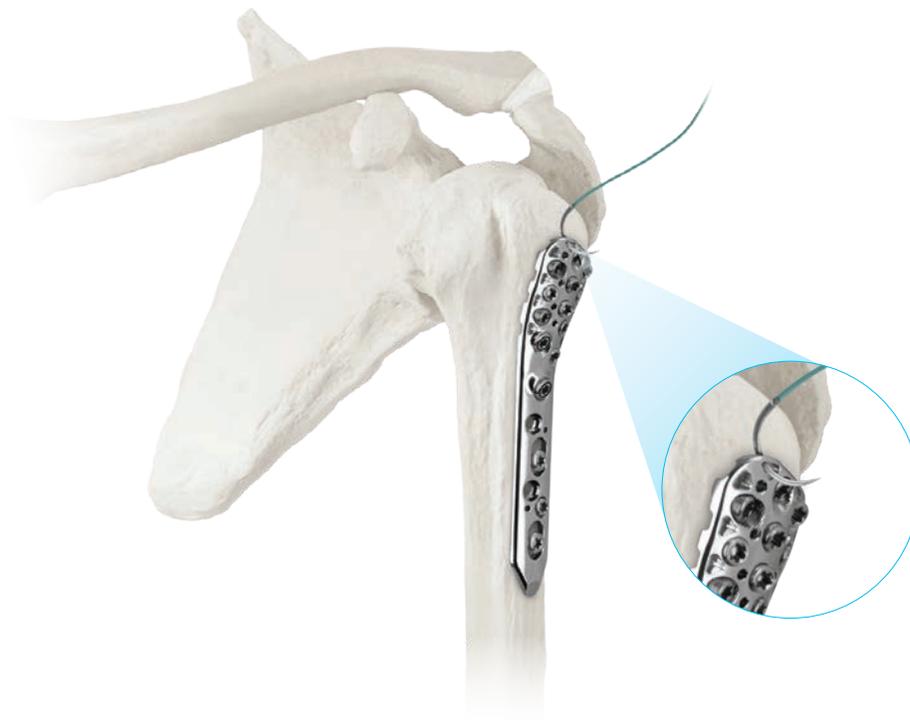
Fixed angle calcar
screw insertion

STEP 7 Suture Attachment

Sutures may be placed through designated suture holes in the plate.



Suture holes located around the perimeter of the plate



STEP 8 Verify Placement

Using fluoroscopy, direct visualization, and palpation, check for correct reduction and fixation at various arm positions. Ensure that screw tips are not intra-articular. Check plate and screw placement in all planes as angulation and direction may be difficult to visualize.

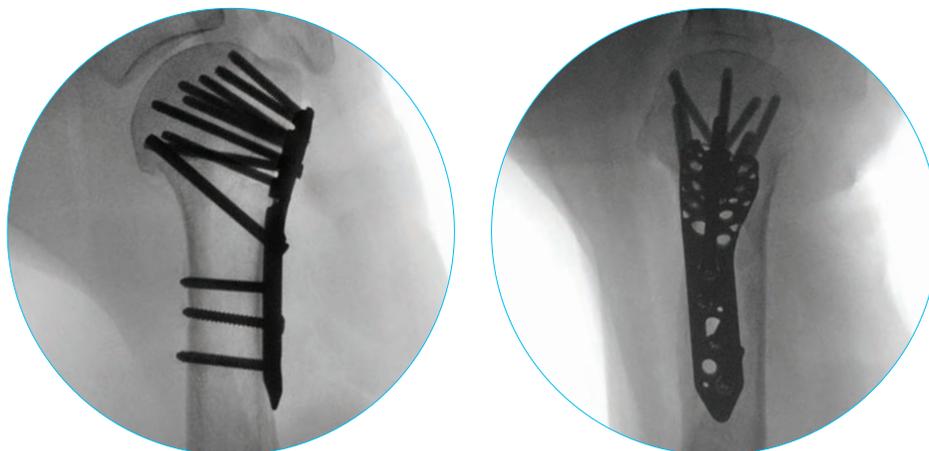


Plate and screw placement

Final Construct



ANTHEM™ Proximal Humerus Plate

Optional: Removal

If removal is required, detach the sutures from the construct. Use the T15 Driver to unlock all of the locking screws from the plate, but do not remove them. This prevents simultaneous rotation of the plate during removal. Once all locking screws are unlocked, remove all remaining screws from the plate using the T15 Driver. Once all screws are removed, the plate may be removed.



Non-Self-Retaining Drivers are recommended for removal.

INSTRUMENT OVERVIEW

RETRACTORS



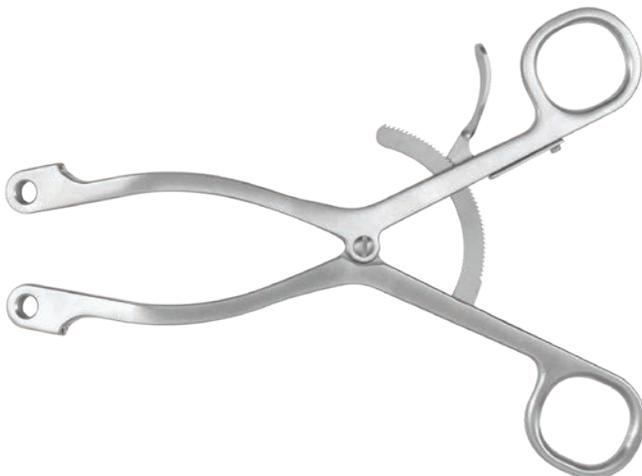
Stabilizing Radiolucent Weitlaner, 3x4, 8", Blunt Tip 6171.0005



Browne Deltoid Retractor, Radiolucent 6168.7002



Blunt Hohmann Retractor, Radiolucent 6168.7003



Self-Retaining Retractor Handle 6168.2002

RETRACTORS (CONT'D)



30mm Radiolucent Retractor Blade, Toothed 6168.2030



50mm Radiolucent Retractor Blade, Toothed 6160.2050



30mm Radiolucent Retractor Blade, Smooth 6168.2130



50mm Radiolucent Retractor Blade, Smooth 6168.2150

REDUCTION INSTRUMENTS



1.6mm K-Wire, Trocar Tip, 229mm 6168.1116



1.6mm K-Wire, Threaded Tip, 229mm 6168.1316

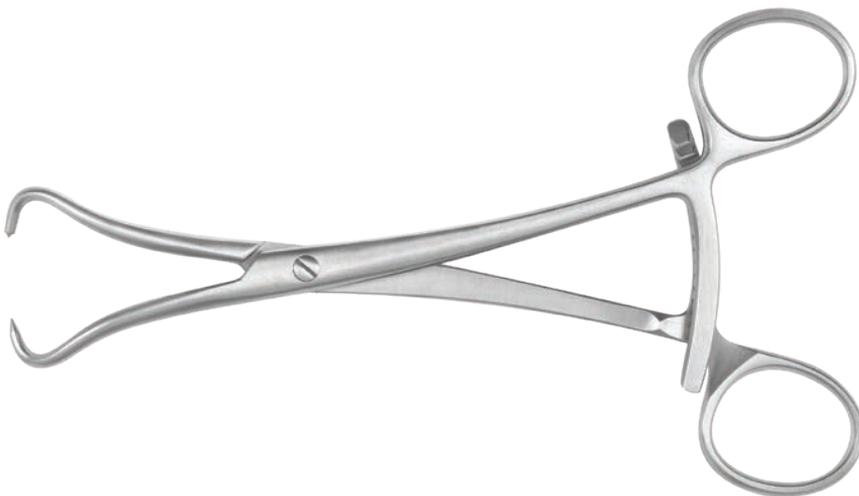
REDUCTION INSTRUMENTS (CONT'D)



Bone Holding Clamp, Large 6168.2001

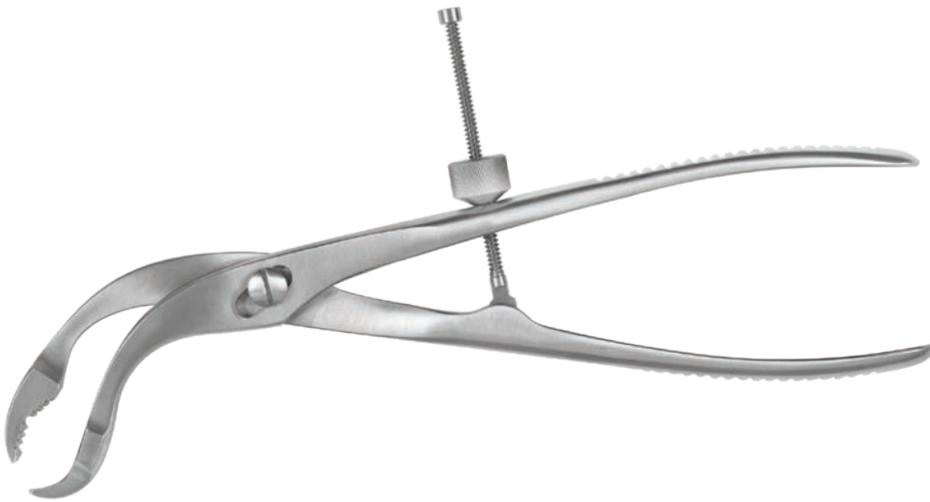


Point-to-Point Reduction Forceps, Large, Ratcheting 6168.2003



Point-to-Point Reduction Forceps, Medium, Ratcheting 6168.2004

REDUCTION INSTRUMENTS (CONT'D)



Verbrugge Clamp, Large 6168.2005



Periosteal Elevator, Curved Round Tip, 6mm 6179.7019



Periosteal Elevator, Straight Square Tip, 13mm 6168.7005



Shoulder Hook 6168.7006



Dental Pick, Curved Tip, Small Handle 6179.7012



Plate Reduction Instrument 6179.7023

SCREW PREPARATION INSTRUMENTS



1.6mm K-Wire Sleeve Insert 6179.3316



2.7mm Threaded Drill Guide 6179.3227



Targeting Guide, Left 6168.1000



Targeting Guide, Right 6168.2000



Targeting Guide Drill Sleeve 6168.1001



Low-Profile Drill Guide 6168.3000

SCREW PREPARATION INSTRUMENTS (CONT'D)



3.5mm Soft Tissue Protector, Spring Loaded 6179.3135



3.2mm Polyaxial Soft Tissue Protector 6168.3140



1.6mm Polyaxial Soft Tissue Protector 6168.3141

SCREW PREPARATION INSTRUMENTS (CONT'D)



2.7mm Drill Bit, 125mm, AO Quick-Connect 6179.5027



2.7mm Drill Bit, 175mm, AO Quick-Connect 6179.5028



3.2mm Drill Bit, 175mm, AO Quick-Connect 6168.5032



3.2mm Drill Bit, Cannulated, 175mm, AO Quick-Connect 6168.5332



3.5mm Drill Bit, 110mm, AO Quick-Connect 6179.5035



3.5mm Tap 6179.5135



Countersink 6179.7000

SCREW PREPARATION INSTRUMENTS (CONT'D)



Depth Gauge, 60mm 6179.7020



Depth Gauge, 110mm 6179.7031



Direct Measuring Device 6168.7004



Large Torque-Limiting Handle, 2.5Nm,
Cannulated, AO Quick-Connect 6168.7011



Medium Handle, Ratcheting, Cannulated,
AO Quick-Connect 6179.7013

SCREW INSTRUMENTS



Screw Holding Forceps 6179.2000



T15 Driver, SR, 100mm, AO Quick-Connect 6179.6015

SCREW INSTRUMENTS (CONT'D)

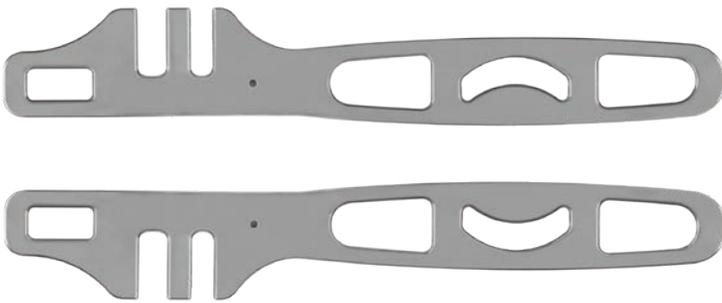


T15 Driver, SR, Cannulated, 150mm, AO Quick-Connect 6168.5215

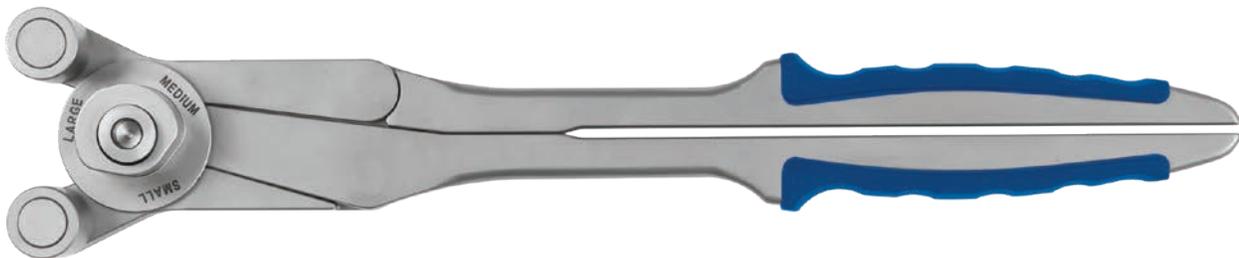


Torque-Limiting Attachment, 1.5Nm, AO Quick-Connect 6179.7018

PLATE BENDING INSTRUMENTS



Proximal Humerus Plate Bending Irons 6168.7000



Power Plate Bender 6168.7009

CLEANING INSTRUMENTS



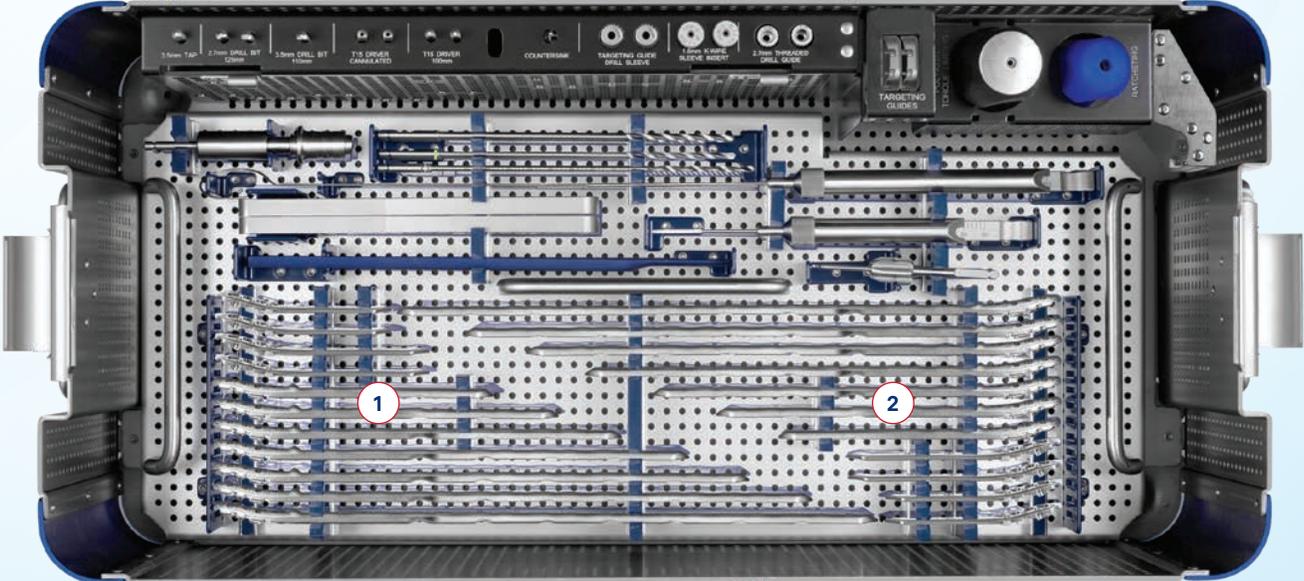
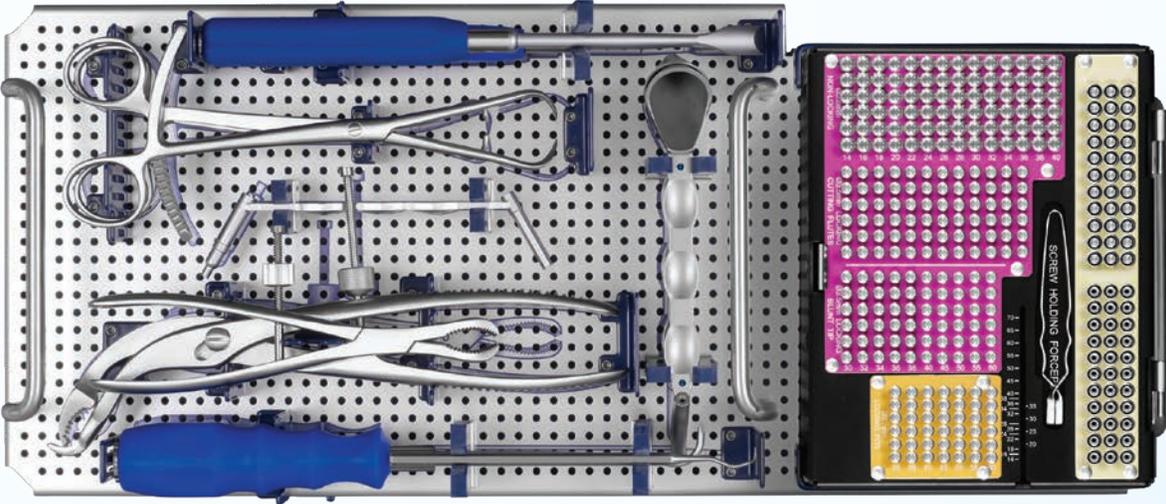
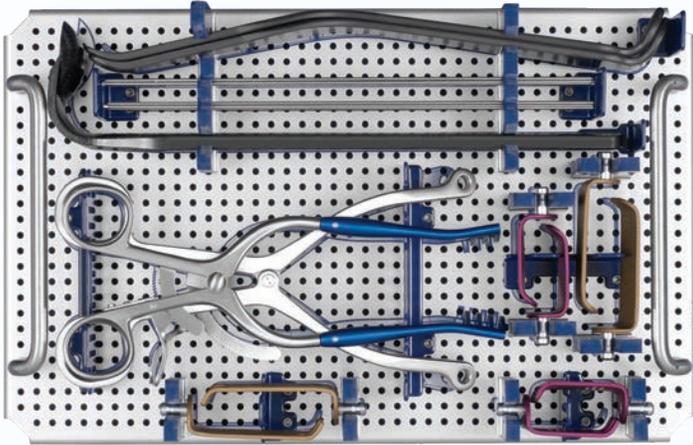
Cleaning Brush, 1.4-1.6mm Cannulation 6178.7000

ANTHEM™ SS Proximal Humerus Fracture System

Implants 9168.9002

Part No.	Description	Qty
2168.1088	ANTHEM™ Proximal Humerus Plate, Left, 88mm, SS	2
2168.1103	ANTHEM™ Proximal Humerus Plate, Left, 103mm, SS	2
2168.1135	ANTHEM™ Proximal Humerus Plate, Left, 135mm, SS	1
2168.1165	ANTHEM™ Proximal Humerus Plate, Left, 165mm, SS	1
1 2168.1195	ANTHEM™ Proximal Humerus Plate, Left, 195mm, SS	1
2168.1225	ANTHEM™ Proximal Humerus Plate, Left, 225mm, SS	1
2168.1255	ANTHEM™ Proximal Humerus Plate, Left, 255mm, SS	1
2168.1285	ANTHEM™ Proximal Humerus Plate, Left, 285mm, SS	1
2168.1315	ANTHEM™ Proximal Humerus Plate, Left, 315mm, SS	1
2168.2088	ANTHEM™ Proximal Humerus Plate, Right, 88mm, SS	2
2168.2103	ANTHEM™ Proximal Humerus Plate, Right, 103mm, SS	2
2168.2135	ANTHEM™ Proximal Humerus Plate, Right, 135mm, SS	1
2168.2165	ANTHEM™ Proximal Humerus Plate, Right, 165mm, SS	1
2 2168.2195	ANTHEM™ Proximal Humerus Plate, Right, 195mm, SS	1
2168.2225	ANTHEM™ Proximal Humerus Plate, Right, 225mm, SS	1
2168.2255	ANTHEM™ Proximal Humerus Plate, Right, 255mm, SS	1
2168.2285	ANTHEM™ Proximal Humerus Plate, Right, 285mm, SS	1
2168.2315	ANTHEM™ Proximal Humerus Plate, Right, 315mm, SS	1

ANTHEM™ SS Proximal Humerus Fracture System Implants 9168.9002



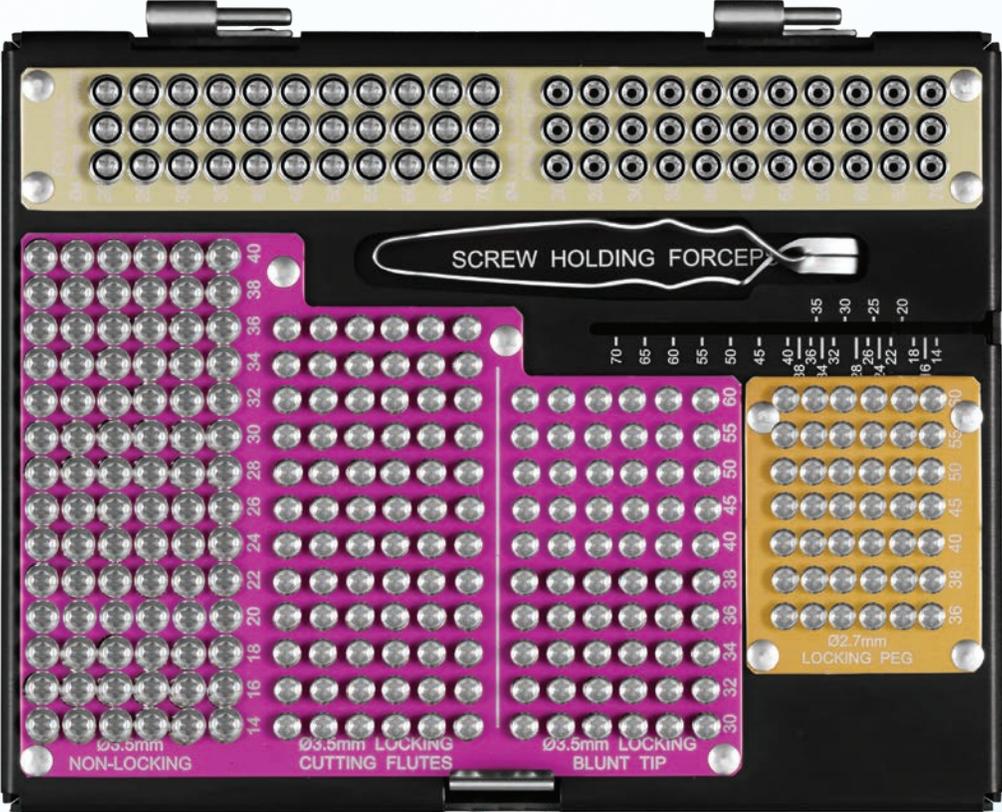
ANTHEM™ SS Proximal Humerus Fracture System

Screw Module 9168.9012

Part No.	Description	Qty	Part No.	Description	Qty
2168.3036	Locking Peg, 2.7x36mm, SS	6	2179.3014	Non-Locking Screw, 3.5x14mm, SS	6
2168.3038	Locking Peg, 2.7x38mm, SS	6	2179.3016	Non-Locking Screw, 3.5x16mm, SS	6
2168.3040	Locking Peg, 2.7x40mm, SS	6	2179.3018	Non-Locking Screw, 3.5x18mm, SS	6
2168.3045	Locking Peg, 2.7x45mm, SS	6	2179.3020	Non-Locking Screw, 3.5x20mm, SS	6
2168.3050	Locking Peg, 2.7x50mm, SS	6	2179.3022	Non-Locking Screw, 3.5x22mm, SS	6
2168.3055	Locking Peg, 2.7x55mm, SS	6	2179.3024	Non-Locking Screw, 3.5x24mm, SS	6
2168.3060	Locking Peg, 2.7x60mm, SS	6	2179.3026	Non-Locking Screw, 3.5x26mm, SS	6
2168.6030	Locking Screw, 3.5x30mm, Blunt Tip, SS	6	2179.3028	Non-Locking Screw, 3.5x28mm, SS	6
2168.6032	Locking Screw, 3.5x32mm, Blunt Tip, SS	6	2179.3030	Non-Locking Screw, 3.5x30mm, SS	6
2168.6034	Locking Screw, 3.5x34mm, Blunt Tip, SS	6	2179.3032	Non-Locking Screw, 3.5x32mm, SS	6
2168.6036	Locking Screw, 3.5x36mm, Blunt Tip, SS	6	2179.3034	Non-Locking Screw, 3.5x34mm, SS	6
2168.6038	Locking Screw, 3.5x38mm, Blunt Tip, SS	6	2179.3036	Non-Locking Screw, 3.5x36mm, SS	6
2168.6040	Locking Screw, 3.5x40mm, Blunt Tip, SS	6	2179.3038	Non-Locking Screw, 3.5x38mm, SS	6
2168.6045	Locking Screw, 3.5x45mm, Blunt Tip, SS	6	2179.3040	Non-Locking Screw, 3.5x40mm, SS	6
2168.6050	Locking Screw, 3.5x50mm, Blunt Tip, SS	6	7168.4020	Locking Screw, 4.0x20mm, CoCr	3
2168.6055	Locking Screw, 3.5x55mm, Blunt Tip, SS	6	7168.4025	Locking Screw, 4.0x25mm, CoCr	3
2168.6060	Locking Screw, 3.5x60mm, Blunt Tip, SS	6	7168.4030	Locking Screw, 4.0x30mm, CoCr	3
2179.5014	Locking Screw, 3.5x14mm, Cutting Flutes, SS	6	7168.4035	Locking Screw, 4.0x35mm, CoCr	3
2179.5016	Locking Screw, 3.5x16mm, Cutting Flutes, SS	6	7168.4040	Locking Screw, 4.0x40mm, CoCr	3
2179.5018	Locking Screw, 3.5x18mm, Cutting Flutes, SS	6	7168.4045	Locking Screw, 4.0x45mm, CoCr	3
2179.5020	Locking Screw, 3.5x20mm, Cutting Flutes, SS	6	7168.4050	Locking Screw, 4.0x50mm, CoCr	3
2179.5022	Locking Screw, 3.5x22mm, Cutting Flutes, SS	6	7168.4055	Locking Screw, 4.0x55mm, CoCr	3
2179.5024	Locking Screw, 3.5x24mm, Cutting Flutes, SS	6	7168.4060	Locking Screw, 4.0x60mm, CoCr	3
2179.5026	Locking Screw, 3.5x26mm, Cutting Flutes, SS	6	7168.4065	Locking Screw, 4.0x65mm, CoCr	3
2179.5028	Locking Screw, 3.5x28mm, Cutting Flutes, SS	6	7168.4070	Locking Screw, 4.0x70mm, CoCr	3
2179.5030	Locking Screw, 3.5x30mm, Cutting Flutes, SS	6	7168.5020	Cannulated Locking Screw, 4.0x20mm, CoCr	3
2179.5032	Locking Screw, 3.5x32mm, Cutting Flutes, SS	6	7168.5025	Cannulated Locking Screw, 4.0x25mm, CoCr	3
2179.5034	Locking Screw, 3.5x34mm, Cutting Flutes, SS	6	7168.5030	Cannulated Locking Screw, 4.0x30mm, CoCr	3
2179.5036	Locking Screw, 3.5x36mm, Cutting Flutes, SS	6	7168.5035	Cannulated Locking Screw, 4.0x35mm, CoCr	3
			7168.5040	Cannulated Locking Screw, 4.0x40mm, CoCr	3
			7168.5045	Cannulated Locking Screw, 4.0x45mm, CoCr	3
			7168.5050	Cannulated Locking Screw, 4.0x50mm, CoCr	3
			7168.5055	Cannulated Locking Screw, 4.0x55mm, CoCr	3
			7168.5060	Cannulated Locking Screw, 4.0x60mm, CoCr	3
			7168.5065	Cannulated Locking Screw, 4.0x65mm, CoCr	3
			7168.5070	Cannulated Locking Screw, 4.0x70mm, CoCr	3

ANTHEM™ SS Proximal Humerus Fracture System

Screw Module 9168.9012



ANTHEM™ Ti Proximal Humerus Fracture System

Implants 9168.9001

Part No.	Description	Qty
1168.1088	ANTHEM™ Proximal Humerus Plate, Left, 88mm, Ti	2
1168.1103	ANTHEM™ Proximal Humerus Plate, Left, 103mm, Ti	2
1168.1135	ANTHEM™ Proximal Humerus Plate, Left, 135mm, Ti	1
1168.1165	ANTHEM™ Proximal Humerus Plate, Left, 165mm, Ti	1
1168.1195	ANTHEM™ Proximal Humerus Plate, Left, 195mm, Ti	1
1168.1225	ANTHEM™ Proximal Humerus Plate, Left, 225mm, Ti	1
1168.1255	ANTHEM™ Proximal Humerus Plate, Left, 255mm, Ti	1
1168.1285	ANTHEM™ Proximal Humerus Plate, Left, 285mm, Ti	1
1168.1315	ANTHEM™ Proximal Humerus Plate, Left, 315mm, Ti	1
1168.2088	ANTHEM™ Proximal Humerus Plate, Right, 88mm, Ti	2
1168.2103	ANTHEM™ Proximal Humerus Plate, Right, 103mm, Ti	2
1168.2135	ANTHEM™ Proximal Humerus Plate, Right, 135mm, Ti	1
1168.2165	ANTHEM™ Proximal Humerus Plate, Right, 165mm, Ti	1
1168.2195	ANTHEM™ Proximal Humerus Plate, Right, 195mm, Ti	1
1168.2225	ANTHEM™ Proximal Humerus Plate, Right, 225mm, Ti	1
1168.2255	ANTHEM™ Proximal Humerus Plate, Right, 255mm, Ti	1
1168.2285	ANTHEM™ Proximal Humerus Plate, Right, 285mm, Ti	1
1168.2315	ANTHEM™ Proximal Humerus Plate, Right, 315mm, Ti	1

ANTHEM™ Ti Proximal Humerus Fracture System

Screw Module 9168.9011

Part No.	Description	Qty	Part No.	Description	Qty
2168.3036	Locking Peg, 2.7x36mm, SS	6	1179.3014	Non-Locking Screw, 3.5x14mm, Ti	6
2168.3038	Locking Peg, 2.7x38mm, SS	6	1179.3016	Non-Locking Screw, 3.5x16mm, Ti	6
2168.3040	Locking Peg, 2.7x40mm, SS	6	1179.3018	Non-Locking Screw, 3.5x18mm, Ti	6
2168.3045	Locking Peg, 2.7x45mm, SS	6	1179.3020	Non-Locking Screw, 3.5x20mm, Ti	6
2168.3050	Locking Peg, 2.7x50mm, SS	6	1179.3022	Non-Locking Screw, 3.5x22mm, Ti	6
2168.3055	Locking Peg, 2.7x55mm, SS	6	1179.3024	Non-Locking Screw, 3.5x24mm, Ti	6
2168.3060	Locking Peg, 2.7x60mm, SS	6	1179.3026	Non-Locking Screw, 3.5x26mm, Ti	6
2168.6030	Locking Screw, 3.5x30mm, Blunt Tip, SS	6	1179.3028	Non-Locking Screw, 3.5x28mm, Ti	6
2168.6032	Locking Screw, 3.5x32mm, Blunt Tip, SS	6	1179.3030	Non-Locking Screw, 3.5x30mm, Ti	6
2168.6034	Locking Screw, 3.5x34mm, Blunt Tip, SS	6	1179.3032	Non-Locking Screw, 3.5x32mm, Ti	6
2168.6036	Locking Screw, 3.5x36mm, Blunt Tip, SS	6	1179.3034	Non-Locking Screw, 3.5x34mm, Ti	6
2168.6038	Locking Screw, 3.5x38mm, Blunt Tip, SS	6	1179.3036	Non-Locking Screw, 3.5x36mm, Ti	6
2168.6040	Locking Screw, 3.5x40mm, Blunt Tip, SS	6	1179.3038	Non-Locking Screw, 3.5x38mm, Ti	6
2168.6045	Locking Screw, 3.5x45mm, Blunt Tip, SS	6	1179.3040	Non-Locking Screw, 3.5x40mm, Ti	6
2168.6050	Locking Screw, 3.5x50mm, Blunt Tip, SS	6	7168.4020	Locking Screw, 4.0x20mm, CoCr	3
2168.6055	Locking Screw, 3.5x55mm, Blunt Tip, SS	6	7168.4025	Locking Screw, 4.0x25mm, CoCr	3
2168.6060	Locking Screw, 3.5x60mm, Blunt Tip, SS	6	7168.4030	Locking Screw, 4.0x30mm, CoCr	3
2179.5014	Locking Screw, 3.5x14mm, Cutting Flutes, SS	6	7168.4035	Locking Screw, 4.0x35mm, CoCr	3
2179.5016	Locking Screw, 3.5x16mm, Cutting Flutes, SS	6	7168.4040	Locking Screw, 4.0x40mm, CoCr	3
2179.5018	Locking Screw, 3.5x18mm, Cutting Flutes, SS	6	7168.4045	Locking Screw, 4.0x45mm, CoCr	3
2179.5020	Locking Screw, 3.5x20mm, Cutting Flutes, SS	6	7168.4050	Locking Screw, 4.0x50mm, CoCr	3
2179.5022	Locking Screw, 3.5x22mm, Cutting Flutes, SS	6	7168.4055	Locking Screw, 4.0x55mm, CoCr	3
2179.5024	Locking Screw, 3.5x24mm, Cutting Flutes, SS	6	7168.4060	Locking Screw, 4.0x60mm, CoCr	3
2179.5026	Locking Screw, 3.5x26mm, Cutting Flutes, SS	6	7168.4065	Locking Screw, 4.0x65mm, CoCr	3
2179.5028	Locking Screw, 3.5x28mm, Cutting Flutes, SS	6	7168.4070	Locking Screw, 4.0x70mm, CoCr	3
2179.5030	Locking Screw, 3.5x30mm, Cutting Flutes, SS	6	7168.5020	Cannulated Locking Screw, 4.0x20mm, CoCr	3
2179.5032	Locking Screw, 3.5x32mm, Cutting Flutes, SS	6	7168.5025	Cannulated Locking Screw, 4.0x25mm, CoCr	3
2179.5034	Locking Screw, 3.5x34mm, Cutting Flutes, SS	6	7168.5030	Cannulated Locking Screw, 4.0x30mm, CoCr	3
2179.5036	Locking Screw, 3.5x36mm, Cutting Flutes, SS	6	7168.5035	Cannulated Locking Screw, 4.0x35mm, CoCr	3
			7168.5040	Cannulated Locking Screw, 4.0x40mm, CoCr	3
			7168.5045	Cannulated Locking Screw, 4.0x45mm, CoCr	3
			7168.5050	Cannulated Locking Screw, 4.0x50mm, CoCr	3
			7168.5055	Cannulated Locking Screw, 4.0x55mm, CoCr	3
			7168.5060	Cannulated Locking Screw, 4.0x60mm, CoCr	3
			7168.5065	Cannulated Locking Screw, 4.0x65mm, CoCr	3
			7168.5070	Cannulated Locking Screw, 4.0x70mm, CoCr	3

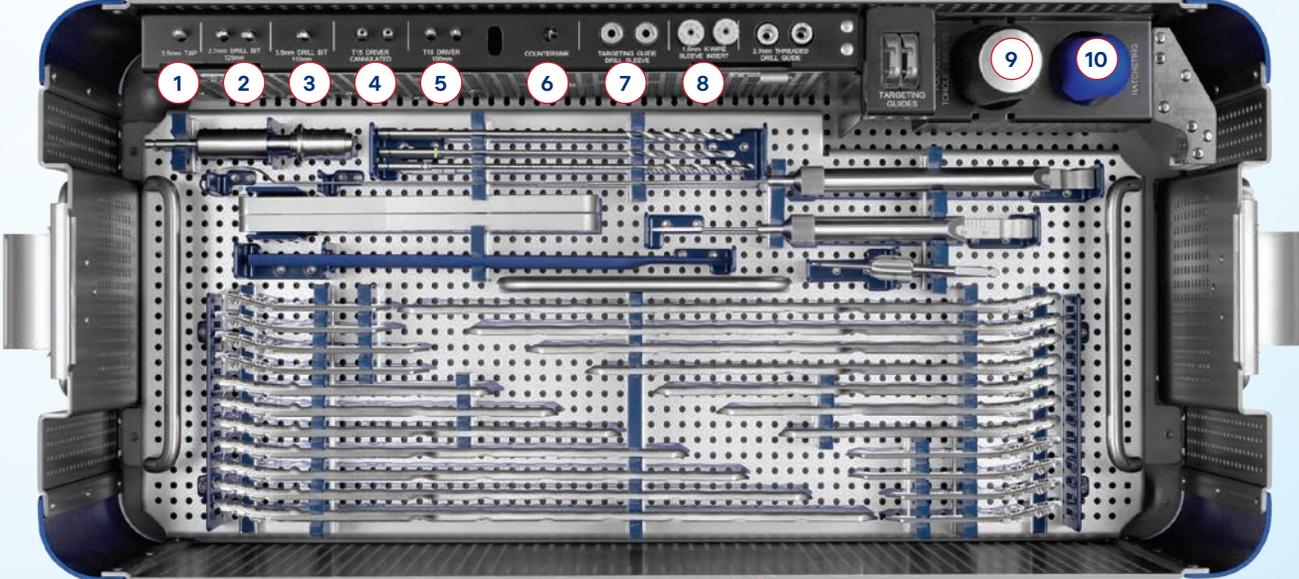
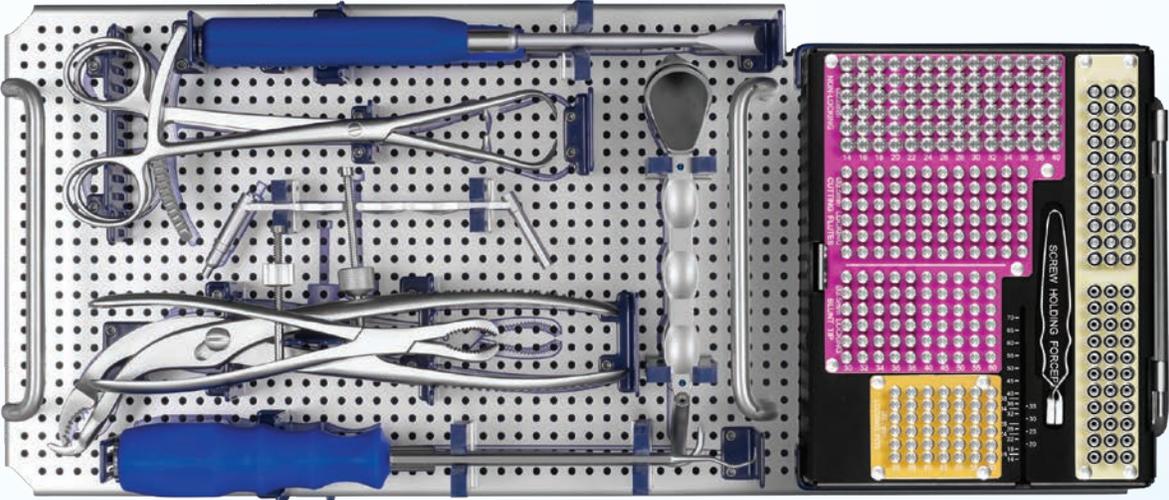
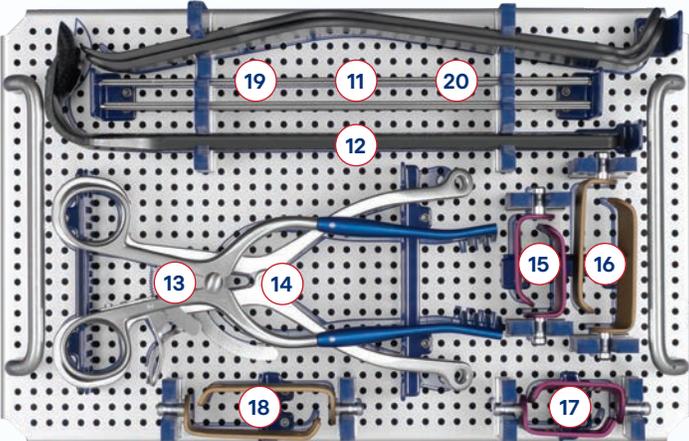
Anthem™ Proximal Humerus Fracture System

Instruments 9168.9001 and 9168.9002

	Part No.	Description	Qty
1	6179.5135	3.5mm Tap	1
2	6179.5027	2.7mm Drill Bit, 125mm, AO Quick-Connect	2
3	6179.5035	3.5mm Drill Bit, 110mm, AO Quick-Connect	1
4	6168.5215	T15 Driver, SR, Cannulated, 150mm, AO Quick-Connect	2
5	6179.6015	T15 Driver, SR, 100mm, AO Quick-Connect	2
6	6179.7000	Countersink	1
7	6179.3316	1.6mm K-Wire Sleeve Insert	2
8	6179.3227	2.7mm Threaded Drill Guide	2
9	6168.7011	Large Torque-Limiting Handle, 2.5Nm, Cannulated, AO Quick-Connect	1
10	6179.7013	Medium Handle, Ratcheting, Cannulated, AO Quick-Connect	1
11	6168.7003	Blunt Hohmann Retractor, Radiolucent	2
12	6168.7002	Browne Deltoid Retractor, Radiolucent	1
13	6171.0005	Stabilizing Radiolucent Weitlaner, 3x4, 8", Blunt Tip	1
14	6168.2002	Self-Retaining Retractor Handle	1
15	6168.2130	30mm Radiolucent Retractor Blade, Smooth	2
16	6168.2150	50mm Radiolucent Retractor Blade, Smooth	2
17	6168.2030	30mm Radiolucent Retractor Blade, Toothed	2
18	6168.2050	50mm Radiolucent Retractor Blade, Toothed	2
19	6168.1116	1.6mm K-Wire, Trocar Tip, 229mm	10
20	6168.1316	1.6mm K-Wire, Threaded Tip, 229mm	10

Anthem™ Proximal Humerus Fracture System

Instruments 9168.9001 and 9168.9002



Anthem™ Proximal Humerus Fracture System

Instruments 9168.9001 and 9168.9002 (Cont'd)

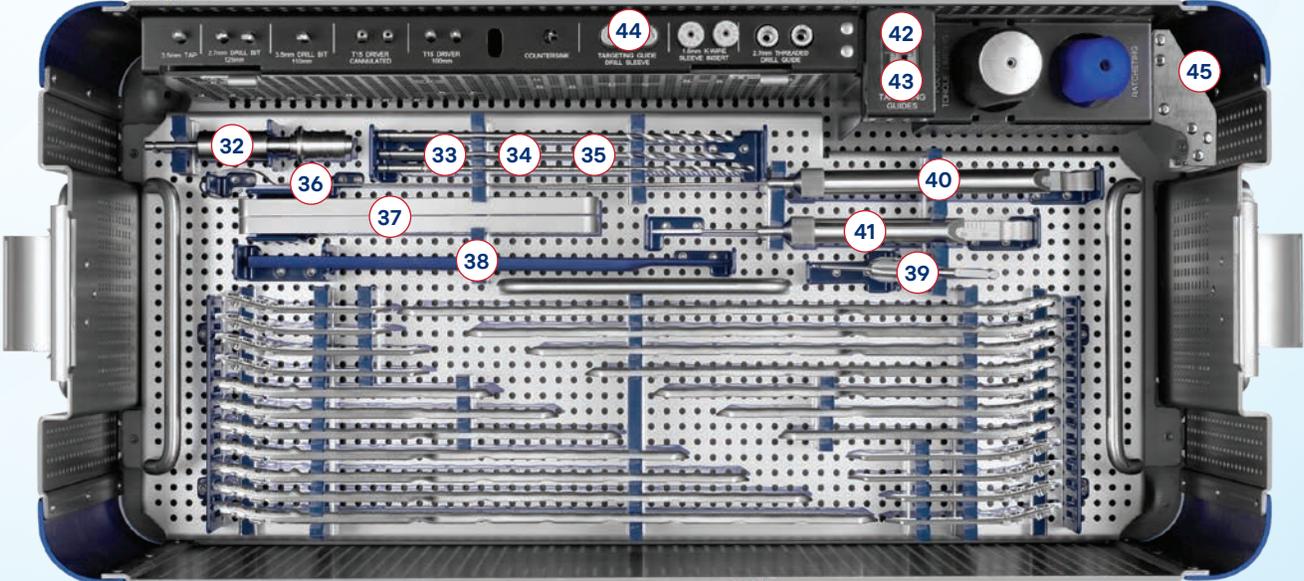
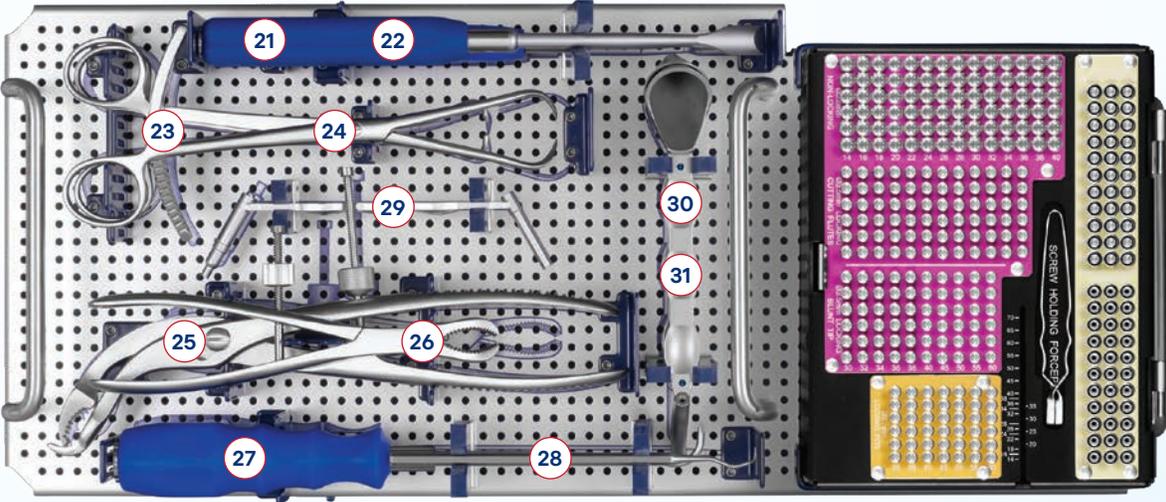
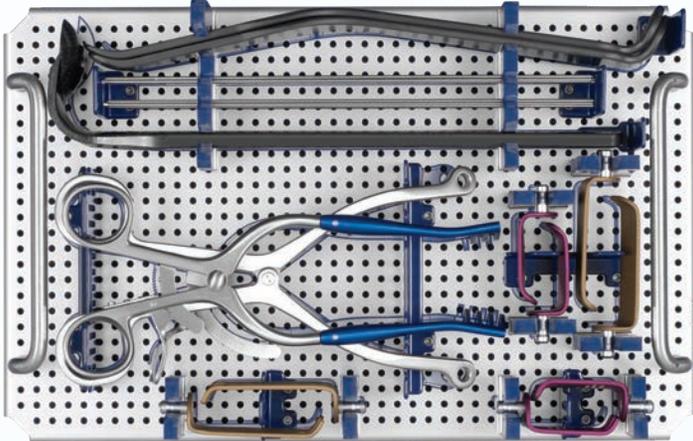
	Part No.	Description	Qty
21	6168.7005	Periosteal Elevator, Straight Square Tip, 13mm	1
22	6179.7019	Periosteal Elevator, Curved Round Tip, 6mm	1
23	6168.2003	Point-to-Point Reduction Forceps, Large, Ratcheting	1
24	6168.2004	Point-to-Point Reduction Forceps, Medium, Ratcheting	1
25	6168.2005	Verbrugge Clamps, Large	1
26	6168.2001	Bone Holding Clamp, Large	1
27	6168.7006	Shoulder Hook	1
28	6179.7012	Dental Pick, Curved Tip, Small Handle	1
29	6179.3135	3.5mm Soft Tissue Protector, Spring Loaded	1
30	6168.3140	3.2mm Polyaxial Soft Tissue Protector	1
31	6168.3141	1.6mm Polyaxial Soft Tissue Protector	1
32	6179.7018	Torque-Limiting Attachment, 1.5Nm, AO Quick-Connect	1
33	6168.5332	3.2mm Drill Bit, Cannulated, 175mm, AO Quick-Connect	2
34	6168.5032	3.2mm Drill Bit, 175mm, AO Quick-Connect	2
35	6179.5028	2.7mm Drill Bit, 180mm, AO Quick-Connect	2
36	6178.7000	Cleaning Brush, 1.4-1.6mm Cannulation	1
37	6168.7000	Proximal Humerus Plate Bending Irons	2
38	6168.7004	Direct Measuring Device	1
39	6179.7023	Plate Reduction Instrument	1
40	6179.7031	Depth Gauge, 110mm	1
41	6179.7020	Depth Gauge, 60mm	1
42	6168.1000	Targeting Guide, Left	1
43	6168.2000	Targeting Guide Drill Sleeve, Right	1
44	6168.1001	Targeting Guide Drill Sleeve	2
45	6168.3000	Low-Profile Drill Guide	10
	9168.3001	Low-Profile Drill Guide Module	

Additionally Available

6168.7009 Power Plate Bender

Anthem™ Proximal Humerus Fracture System

Instruments 9168.9001 and 9168.9002 (Cont'd)



Important Information on the ANTHEM™ Fracture System

DESCRIPTION

The ANTHEM™ Fracture System is a family of plates and screws designed to be used for internal bone fixation. The implants are available in various sizes and shapes to accommodate patient anatomy, and may be contoured or straight, with locking and non-locking screws. ANTHEM™ implants are manufactured from titanium, titanium alloy, cobalt chromium molybdenum alloy, or stainless steel, as specified in ASTM F67, F136, F1295, F1472, F1537, F2229, F138 and F139. All implants are for single use only.

INDICATIONS

The ANTHEM™ Fracture System is indicated for fixation of fractures, osteotomies, arthrodesis and reconstruction of bones for the appropriate size of the device to be used in adult patients, including the clavicle, scapula, humerus, radius, ulna, small bones (metacarpals, metatarsals, phalanges), wrist, pelvis, femur, tibia, fibula, ankle, and foot. The clavicle hook plate may be used for dislocations of the acromioclavicular joint. Distal femur plates are indicated for diaphyseal, metaphyseal, epiphyseal, supracondylar, intra-articular, extra-articular, condylar, periprosthetic, and comminuted fractures, and for non-unions and malunions. Mini fragment plates are also indicated for fixation of fractures of the acetabulum, patella, and bone fragments, replantation, malunions and nonunion, and for non-load bearing stabilization and reduction of long bone fragments. Metaphyseal plates are indicated for non-load bearing stabilization and reduction of long bone fragments, and for fixation of bones including the radius and ulna.

In addition to adult patients, small fragment, mini fragment, proximal tibia, clavicle, metaphyseal, and distal fibula plates are indicated for use in infant, child, and adolescent pediatric subgroups and small stature adults. Distal femur plates are indicated for use in the diaphyseal and metaphyseal areas of long bones in adolescent pediatric patients. Distal radius, distal tibia, metaphyseal, and mini fragment plates are indicated for use in adolescents (12-21 years of age). Plating can be used in patients with osteopenic bone.

CONTRAINDICATIONS

Use of these implants is contraindicated in patients with the following conditions:

- Any active or suspended latent infection or marked local inflammation in or about the affected area.
- Compromised vascularity that would inhibit adequate blood supply to the fracture or the operative site.
- Bone stock compromised by disease, infection or prior implantation that cannot provide adequate support and/or fixation of the devices.
- Use of plating on or around growth plates in pediatric patients.
- Material sensitivity, documented or suspected.
- Obesity. An overweight or obese patient can produce loads on the implant that can lead to failure of the device itself.
- Patients having inadequate tissue coverage over the operative site.
- Implant utilization that would interfere with anatomical structures or physiological performance.
- Any mental or neuromuscular disorder which would create an unacceptable risk of fixation failure or complications in postoperative care.
- Other medical or surgical conditions which would preclude the potential benefit of surgery.

WARNINGS

The correct implant selection is extremely important. Failure to use the appropriate implant for the fracture condition may accelerate clinical failure. Failure to use the proper component to maintain adequate blood supply and provide rigid fixation may result in loosening, bending, cracking or fracture of the implant and/or bone. The correct implant size for a given patient can be determined by evaluating the patient's height, weight, functional demands and anatomy. Every implant must be used in the correct anatomic location, consistent with accepted standards of internal fixation.

PRECAUTIONS

The implantation of fixation devices should be performed only by experienced surgeons with specific training in the use of this system because this is a technically demanding procedure presenting a risk of serious injury to the patient. Preoperative planning and patient anatomy should be considered when selecting implant size.

Surgical implants must never be reused. Even though the device appears undamaged, it may have small defects and internal stress patterns which could lead to breakage.

MRI SAFETY INFORMATION

These devices have not been evaluated for safety and compatibility in the MR environment. It has not been tested for heating, migration, or image artifact in the MR environment. The safety of these devices in the MR environment is unknown. Scanning a patient who has this device may result in patient injury.

CAUTIONS

Pre-operative

- These implants are for single use only.
- Implants that came in contact with body fluids should never be reused.
- Ensure that all components needed for surgery are available in the surgical suite.
- Inspection is recommended prior to surgery to determine if implants have been damaged during storage.
- While rare, intra-operative fracture or breakage of instruments can occur. Instruments which have experienced excessive use or excessive force are susceptible to fracture. Instruments should be examined for wear or damage prior to surgery.

Intra-operative

- Avoid surface damage of implants.
- Discard all damaged or mishandled implants.
- Contouring or bending of an implant should be avoided where possible, because it may reduce its fatigue strength and can cause failure under load.
- Implants are available in different versions, varying for example in length, diameter, material and number of drilled holes. Select the required version carefully.
- During the course of the operation, repeatedly check to ensure that the connection between the implant and the instrument, or between the instruments, is secure.
- Implants which consist of several components must only be used in the prescribed combination (refer to the ANTHEM™ Surgical Technique Guide).
- After the procedure check the proper positioning of all implants using the image intensifier.
- Do not use components from this system in conjunction with components from any other manufacturer's system unless otherwise specified (refer to the ANTHEM™ Surgical Technique Guide).

Post-operative

- Post-operative patient activity: These implants are neither intended to carry the full load of the patient acutely, nor intended to carry a significant portion of the load for extended periods of time. For this reason post-operative instructions and warnings to patients are extremely important. External immobilization (e.g. bracing or casting) may be employed until X-rays or other procedures confirm adequate bone consolidation.
- The implant is a short-term implant. In the event of a delay in bone consolidation, or if such consolidation does not take place, or if explantation is not carried out, complications may occur, for example fracture or loosening of the implant or instability of the implant system. Regular post-operative examinations (e.g., X-ray checks) are advisable.
- The risk of post-operative complication (e.g. failure of an implant) is higher if patients are obese and/or cannot follow the recommendations of the physician because of any mental or neuromuscular disorder. For this reason those patients must have additional post-operative follow-up.
- Implant removal should be followed by adequate postoperative management to avoid fracture or refracture of the bone.

Informing the Patient

The implant affects the patient's ability to carry loads and her/his mobility and general living circumstances. The surgeon must counsel each patient individually on correct behavior and activity after the implantation.

The surgeon must warn each patient that the device cannot and does not replicate a normally healthy bone, that the device can break or become damaged as a result of strenuous activity, trauma, mal-union or non-union and that the device has a finite expected service life and may need to be removed at some time in the future.

ADVERSE EFFECTS

In many instances, adverse results may be clinically related rather than device related. The following are the most frequent adverse effects involving the use of internal fracture fixation devices:

- Delayed union or non-union of the fracture site.
- These devices can break when subjected to the increased loading associated with delayed unions and/or non-unions. Internal fixation devices are load sharing devices which are intended to hold fracture bone surface in a position to facilitate healing. If healing is delayed or does not occur, the appliance may eventually break due to metal fatigue. Loads on the device produced by load bearing and the patient's activity level will dictate the longevity of the device.
- Conditions attributable to non-union, osteoporosis, osteomalacia, diabetes,

Important Information on the ANTHEM™ Fracture System

inhibited revascularization and poor bone formation can cause loosening, bending, cracking, fracture of the device or premature loss of rigid fixation with the bone.

- Improper alignment can cause a mal-union of the bone and/or bending, cracking or even breakage of the device.
- Increased fibrous tissue response around the fracture site due to unstable comminuted fractures.
- Early or late infection, deep or superficial.
- Deep venous thrombosis.
- Avascular necrosis.
- Shortening of the effected bone/fracture site.
- Subclinical nerve damage may possibly occur as a result of the surgical trauma.
- Material sensitivity reactions in patients following surgical implantation have rarely been reported, however their significance awaits further clinical evaluation.

PACKAGING

These implants may be supplied pre-packaged and sterile, using gamma irradiation. The integrity of the sterile packaging should be checked to ensure that sterility of the contents is not compromised. Packaging should be carefully checked for completeness and all components should be carefully checked to ensure that there is no damage prior to use. Damaged packages or products should not be used, and should be returned to Globus Medical. During surgery, after the correct size has been determined, remove the products from the packaging using aseptic technique.

The instruments are provided nonsterile and are steam sterilized prior to use, as described in the STERILIZATION section below. Following use or exposure to soil, instruments and instrument trays and cases must be cleaned, as described in the CLEANING section below.

HANDLING

All instruments and implants should be treated with care. Improper use or handling may lead to damage and/or possible malfunction. Instruments should be checked to ensure that they are in working order prior to surgery.

Implants are single use devices and should not be cleaned. Re-cleaning of single use implants might lead to mechanical failure and/or material degradation. Discard any implants that may have been accidentally contaminated.

CLEANING

Instruments should be cleaned separately from instrument trays and cases. Lids should be removed from cases for the cleaning process, if applicable. All instruments that can be disassembled must be disassembled for cleaning. All handles must be detached. Instruments may be reassembled following sterilization. The products should be cleaned using neutral cleaners before sterilization and introduction into a sterile surgical field or (if applicable) return of the product to Globus Medical.

Cleaning and disinfecting can be performed with aldehyde-free solvents at higher temperatures. Cleaning and decontamination must include the use of neutral cleaners followed by a deionized water rinse. Note: certain cleaning solutions such as those containing formalin, glutaraldehyde, bleach and/or other alkaline cleaners may damage some devices, particularly instruments; these solutions should not be used.

The following cleaning methods should be observed when cleaning instruments and instrument trays and cases after use or exposure to soil, and prior to sterilization:

1. Immediately following use, ensure that the instruments are wiped down to remove all visible soil and kept from drying by submerging or covering with a wet towel.
2. Disassemble all instruments that can be disassembled.
3. Rinse the instruments under running tap water to remove all visible soil. Flush the lumens a minimum of 3 times, until the lumens flush clean.
4. Prepare Enzo[®] (or a similar enzymatic detergent) per manufacturer's recommendations.
5. Immerse the instruments in the detergent and allow them to soak for a minimum of 2 minutes.
6. Use a soft bristled brush to thoroughly clean the instruments. Use a pipe cleaner for any lumens. Pay close attention to hard to reach areas.
7. Using a sterile syringe, draw up the enzymatic detergent solution. Flush any lumens and hard to reach areas until no soil is seen exiting the area.
8. Remove the instruments from the detergent and rinse them in running warm tap water.
9. Prepare Enzo[®] (or a similar enzymatic detergent) per manufacturer's recommendations in an ultrasonic cleaner.

10. Completely immerse the instruments in the ultrasonic cleaner and ensure detergent is in lumens by flushing the lumens. Sonicate for a minimum of 3 minutes.
11. Remove the instruments from the detergent and rinse them in running deionized water or reverse osmosis water for a minimum of 2 minutes.
12. Dry instruments using a clean soft cloth and filtered pressurized air.
13. Visually inspect each instrument for visible soil. If visible soil is present, then repeat cleaning process starting with Step 3.

CONTACT INFORMATION

Globus Medical may be contacted at 1-866-GLOBUS1 (456-2871). A surgical technique manual may be obtained by contacting Globus Medical.

STERILIZATION

These implants may be available sterile or nonsterile. Instruments are available nonsterile.

Sterile implants are sterilized by gamma radiation, validated to ensure a Sterility Assurance Level (SAL) of 10⁻⁶. Sterile products are packaged in a heat sealed, Tyvek pouch or in a container/pouch. The expiration date is provided in the package label. These products are considered sterile unless the packaging has been opened or damaged. Sterile implants meet pyrogen limit specifications.

Nonsterile implants and instruments have been validated to ensure an SAL of 10⁻⁶. The use of an FDA-cleared wrap is recommended, per the Association for the Advancement of Medical Instrumentation (AAMI) ST79, *Comprehensive Guide to Steam Sterilization and Sterility Assurance in Health Care Facilities*. It is the end user's responsibility to use only sterilizers and accessories (such as sterilization wraps, sterilization pouches, chemical indicators, biological indicators, and sterilization cassettes) that have been cleared by the FDA for the selected sterilization cycle specifications (time and temperature).

When using a rigid sterilization container, the following must be taken into consideration for proper sterilization of Globus devices and loaded graphic cases:

- Recommended sterilization parameters are listed in the table below.
- Only FDA-cleared rigid sterilization containers for use with pre-vacuum steam sterilization may be used.
- When selecting a rigid sterilization container, it must have a minimum filter area of 176 in² total, or a minimum of four (4) 7.5in diameter filters.
- No more than one (1) loaded graphic case or its contents can be placed directly into a rigid sterilization container.
- Stand-alone modules/racks or single devices must be placed, without stacking, in a container basket to ensure optimal ventilation.
- The rigid sterilization container manufacturer's instructions for use are to be followed; if questions arise, contact the manufacturer of the specific container for guidance.
- Refer to AAMI ST79 for additional information concerning the use of rigid sterilization containers.

For implants and instruments provided NONSTERILE, sterilization is recommended (wrapped or containerized) as follows:

Method	Cycle Type	Temperature	Exposure Time	Drying Time
Steam	Pre-vacuum	132°C (270°F)	4 Minutes	30 Minutes

These parameters are validated to sterilize only this device. If other products are added to the sterilizer, the recommended parameters are not valid and new cycle parameters must be established by the user. The sterilizer must be properly installed, maintained, and calibrated. Ongoing testing must be performed to confirm inactivation of all forms of viable microorganisms

CAUTION: Federal (USA) Law Restricts this Device to Sale by or on the order of a Physician.

SYMBOL TRANSLATION			
	CATALOGUE NUMBER		STERILIZED BY IRRADIATION
	LOT NUMBER		AUTHORISED REPRESENTATIVE IN THE EUROPEAN COMMUNITY
	CAUTION		MANUFACTURER
	SINGLE USE ONLY		USE BY (YYYY-MM-DD)
	QUANTITY		

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system instructions for use (IFU) for description, indications, contraindications, warnings,
precautions and other important information at globusmedical.com/eIFU.

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