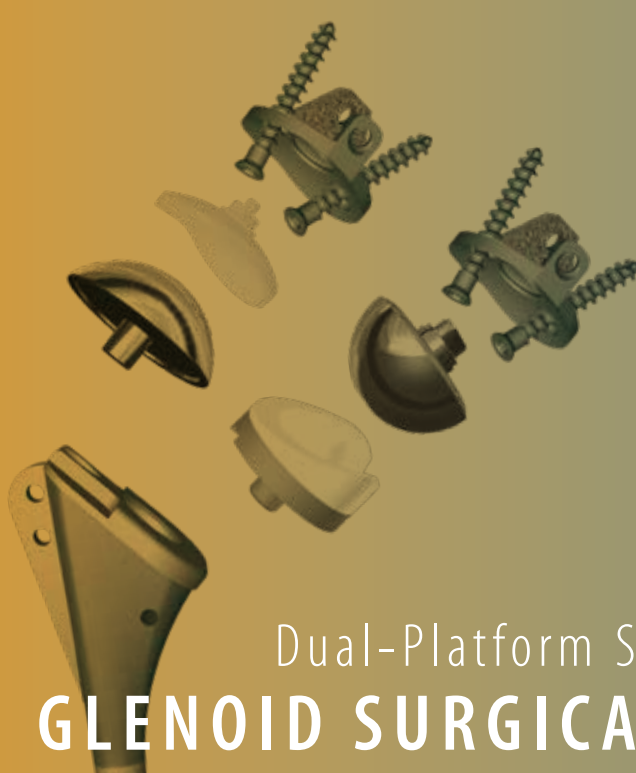


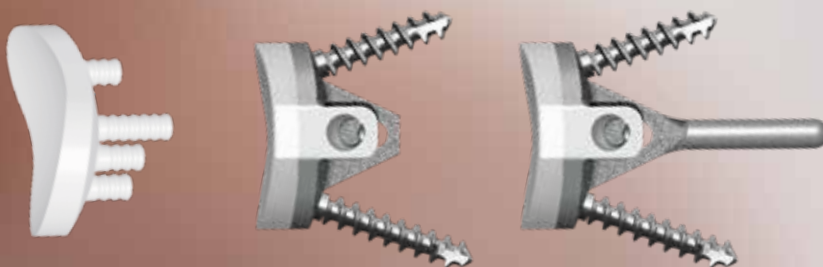
UP. EXTREMITY



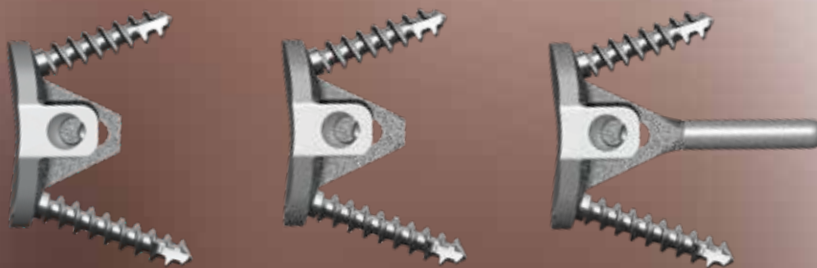
Dual-Platform Shoulder Prosthesis GLENOID SURGICAL TECHNIQUE



ANATOMICAL



REVERSE



FH ORTHO[™]
www.FHortho.com

REFERENCE NUMBERS



HUMERAL STEM

REFERENCE	DIAMETER	HEIGHT
267 360	Ø 06	100
265 102	Ø 08	120
265 103	Ø 08	170
265 104	Ø 10	125
265 105	Ø 12	130
265 106	Ø 14	135
267 361	Ø 16	135

CENTERED HUMERAL HEAD



REFERENCE	DIAMETER	HEIGHT
265 107	Ø 40	15
265 108	Ø 40	17
265 109	Ø 44	16
265 110	Ø 44	18
265 111	Ø 46	16
265 112	Ø 46	18
265 113	Ø 46	21
265 114	Ø 48	16
265 115	Ø 48	18
265 116	Ø 48	21
265 117	Ø 50	17
265 118	Ø 50	19
265 119	Ø 50	21
265 120	Ø 52	19
265 121	Ø 52	21
265 122	Ø 54	19
265 123	Ø 54	21

OFF-CENTRED HUMERAL HEAD



REFERENCE	DIAMETER	HEIGHT
265 124	Ø 44	16
265 125	Ø 44	18
265 126	Ø 46	16
265 127	Ø 46	18
265 128	Ø 46	21
265 129	Ø 48	16
265 130	Ø 48	18
265 131	Ø 48	21
265 132	Ø 50	17
265 133	Ø 50	19
265 134	Ø 50	21
265 135	Ø 52	19
265 136	Ø 52	21

CEMENTED GLENOID



REFERENCE	SIZE
265 137	44
265 138	46
265 139	48
265 140	50

GLENOID INSERT



REFERENCE	SIZE
265 157	44
265 158	46
265 159	48



POROUS GLENOID IMPLANT

REFERENCE	SIZE
267 702	44S
267 701	44
267 704	46
267 705	48
268 698	44S-LP*
267 703	44-LP*
268 699	46-LP*

* LONG POST

GLENOSPHERE



REFERENCE	DIAMETER
265 150	Ø 36
265 151	Ø 39
265 152	Ø 42

HUMERAL INSERT



REFERENCE	DIAMETER	HEIGHT
265 141	Ø 36	00
265 142	Ø 36	05
265 143	Ø 36	10
265 144	Ø 39	00
265 145	Ø 39	05
265 146	Ø 39	10
265 147	Ø 42	00
265 148	Ø 42	05
265 149	Ø 42	10

CANCELLOUS BONE SCREW

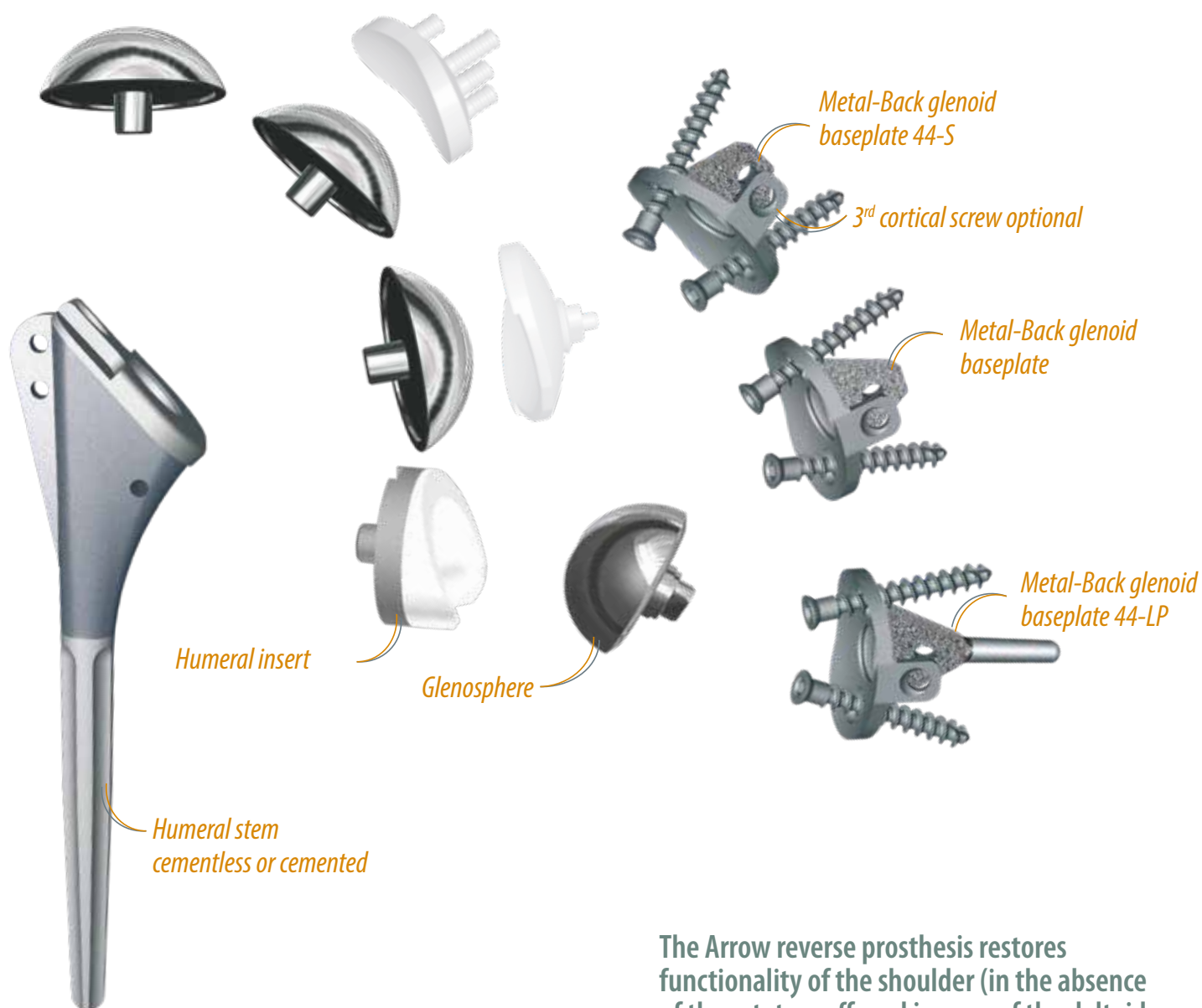


REFERENCE	DIAMETER	LENGTH
265 161	Ø 5.5	24
265 162	Ø 5.5	28
265 163	Ø 5.5	32
265 164	Ø 5.5	36
265 165	Ø 5.5	40
265 166	Ø 5.5	45
265 167	Ø 5.5	50

CORTICAL BONE SCREW



REFERENCE	DIAMETER	LENGTH
265 168	Ø 4.5	32
265 169	Ø 4.5	34
265 170	Ø 4.5	36
265 171	Ø 4.5	38
265 172	Ø 4.5	40



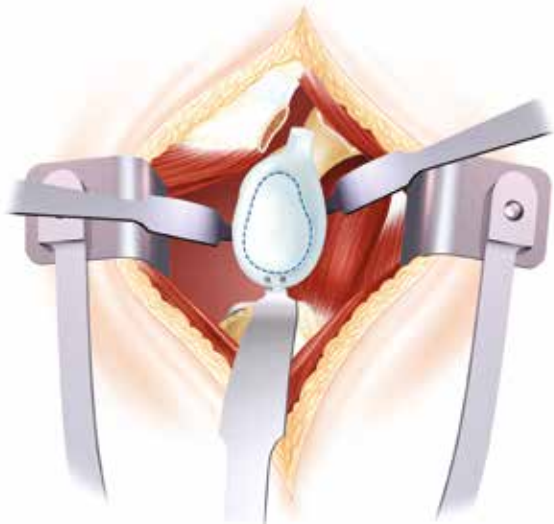
The Arrow reverse prosthesis restores functionality of the shoulder (in the absence of the rotator cuff, making use of the deltoid alone).

The Arrow prosthesis can be used for virtually any case due to the Arrow system's common humeral stem and cementless Metal-Back glenoid baseplate, which makes implantation simpler and easier.

With its wide range of glenoid implants, it can be adapted to any morphology.

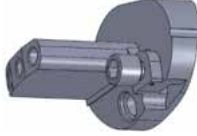

1 - GLENOID PREPARATION

1.1 - GLENOID GUIDE PIN POSITIONING

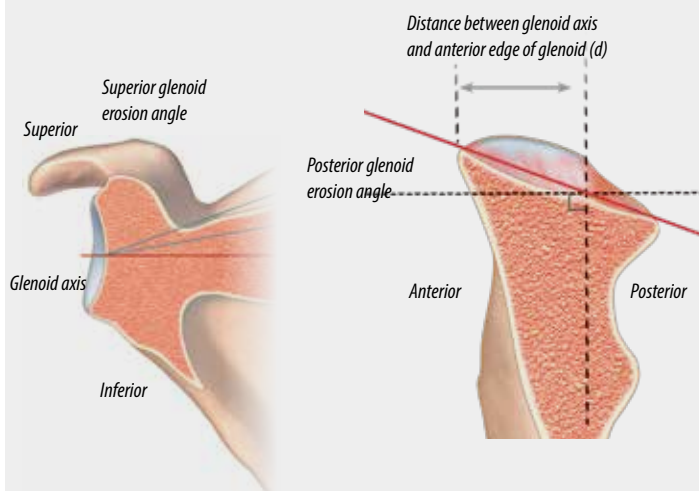


- ✦ Capsulectomy and circumferential excision of the labrum (360°) helps to expose and delimit the glenoid. The retractors are positioned below, behind, and in front of the glenoid.

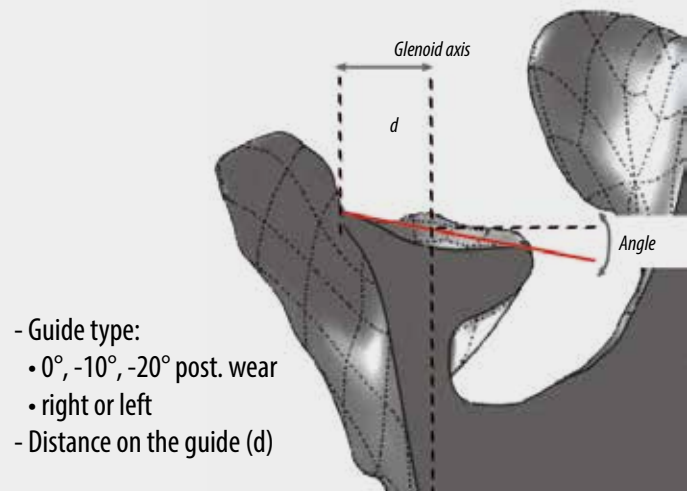
Retractor: *ref. 261 059*

Glenoid guides (<i>ref. 269 086 to 269 091</i>)	Stylus glenoid guide (<i>ref. 269 092 and 269 093</i>)
	

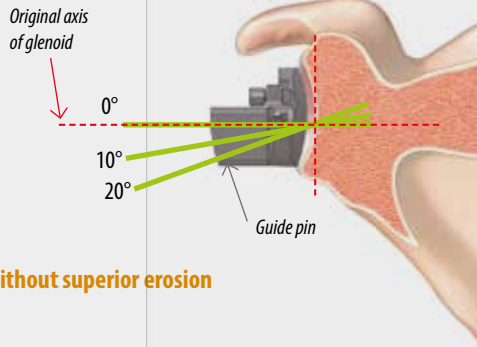
a. Required pre-op CT scan measurements



b. Measurements on a preoperative CT scan



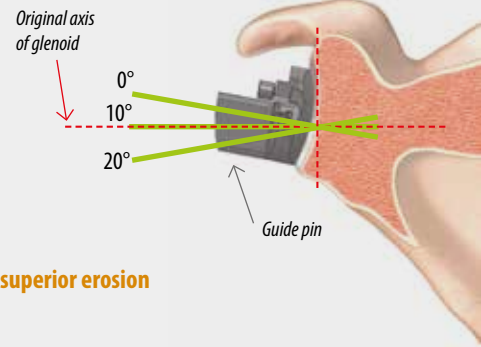
c. Tilt choice



Glenoid without superior erosion

Without superior erosion, We recommend:

- 0° for an Anatomical case
- -10° or -20° for a Reverse case

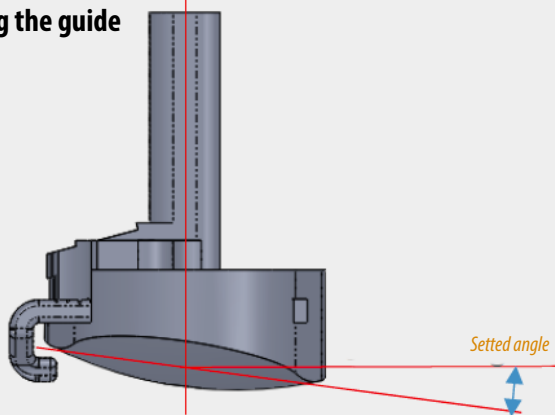


Glenoid with 10° superior erosion

If the glenoid has a 10° superior erosion, the tilt must be choice at:

- 10° to have a tilt of 0°
- 20° to have a tilt of 10°

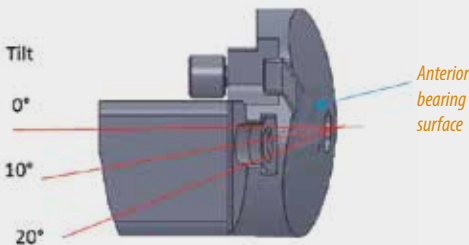
d. Using the guide



e. Distance adjustment (Stylus use)



f. Glenoid guide settings



The glenoid guide could be connected to M5 handle (ref. 267 667) or to the blue handle (ref. 261 844).

The guide is placed on the glenoid surface.
The bearing surface must be in contact with the anterior glenoid.
The guide pin (ref. 269 138) is inserted with the previously selected tilt.



A scale at the inferior aspect of the guide corresponds to the determined size of the glenoid implant.

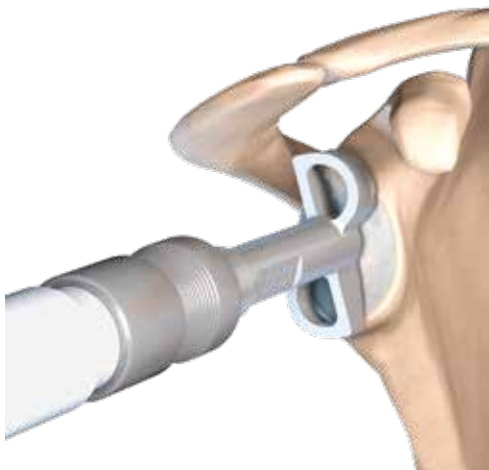


We recommend to place the guide size flush to the inferior margin of the glenoid.



The glenoid guide pin have to be inserted to the second laser mark

1.2 - GLENOID REAMING



- Ream the glenoid using the bow-tie glenoid reamers to provide a congruent fit of the convex porous glenoid baseplate.

Bow-tie reamers: 44 ref. 267 650
46 ref. 267 651
48 ref. 267 652
50 ref. 267 653

- Ream the glenoid using the bow-tie glenoid reamers to provide a congruent fit of the convex porous glenoid baseplate.
- Initiate reamer a few millimeters off the bone to avoid risk of fracture.

1.3 - CEMENTED GLENOID PREPARATION



- After reaming, use the full-polyethylene glenoid drill guide and alternately drill the three holes utilizing the quick release peripheral drill shaft and 5 mm "leave behind" drill bits for stability.



Quick release peripheral drill shaft ref. 269 242



Cannulated drill bit Ø5 ref. 269 148



DRILLING PROCEDURE

Insert a quick-release drill into the quick-release peripheral drill shaft.

Drill the inferior hole until the stop is engaged.

Remove the driver from the joint while leaving the drill in place, working as an anti-rotation peg.

Complete the preparation using the cannulated drill bit (ref. 269 148) to drill the center hole.

Place the chosen anatomical glenoid trial into the prepared glenoid and impact with the impaction handle assembly (refs. 264 459 and 267 659).

Anatomical trial glenoid: S44 ref. 261 070
S46 ref. 261 071
S48 ref. 261 072
S50 ref. 267 653



1.4 - METAL-BACK PREPARATION



Select the appropriate-sized keel drill guide.

Drill guides	Baseplate sizes
Metal-Back drill guide 44S <i>ref. 268 470</i>	44S/44S-LP
Metal-Back drill guide 44/46/48 <i>ref. 268 471</i>	44/46/48
	44-LP/46-LP

Once the keel drill guide is positioned, alternately drill the two holes utilizing the quick release peripheral drill shaft and 5 mm “leave behind” drill bits for stability.



DRILLING PROCEDURE

Insert a quick-release drill into the quick-release peripheral drill shaft.

Drill the inferior hole until the stop is engaged.

Remove the driver from the joint while leaving the drill in place, working as an anti-rotation peg.

Repeat the technique with the second quick-release drill for the superior hole.



Quick release peripheral drill shaft

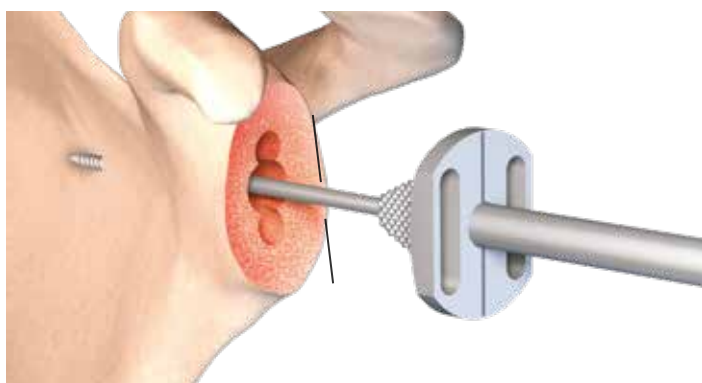
ref. 269 242



Remove the keel drill guide and use the cannulated tapered reamer (*ref. 269 132*) to complete the central hole



In case of sclerotic bone, it is recommended to collapse remaining bone bridges with a rongeur.



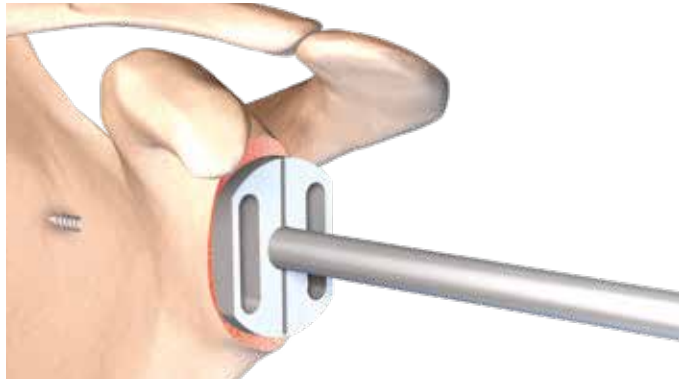
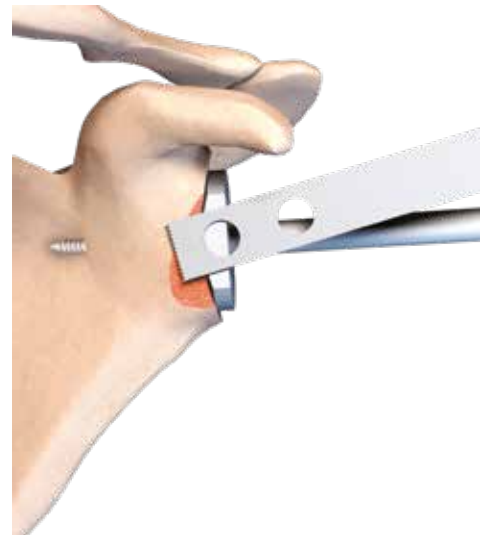
Use the cannulated punch to create the keel footprint.



Repeat progressive back and forth impactions until the punch shield is in contact with the glenoid surface.

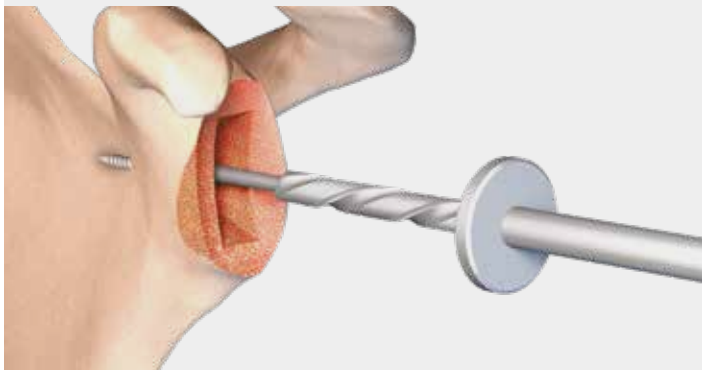
Instruments matching table

ref. 269 133	Cannulated glenoid punch 44S	MB 44S
ref. 269 134	Cannulated glenoid punch 44	MB 44 & 44-LP
ref. 269 135	Cannulated glenoid punch 46	MB 46
ref. 269 136	Cannulated glenoid punch 48	MB 48



Use an oscillating saw to achieve an economical cut to accommodate the baseplate lateral winglet. Use the edge of the punch shield as a cutting surface.

Long post baseplates



- Perform the post preparation with the Ø5mm long cannulated drill bit (ref. 269 149). Drill until the stop ring is in contact to the bone surface.



Finish the keel shape using the trial baseplate.

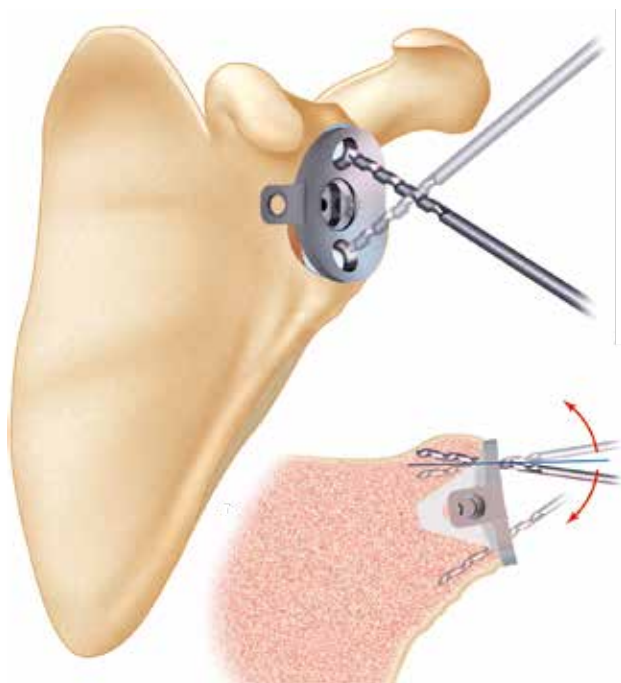


- Perform a trial fit of the baseplate using the trial impactation handle (ref. 267 667). Confirm primary stability and contact of the porous glenoid baseplate with the glenoid surface.

Trial porous glenoid implants:

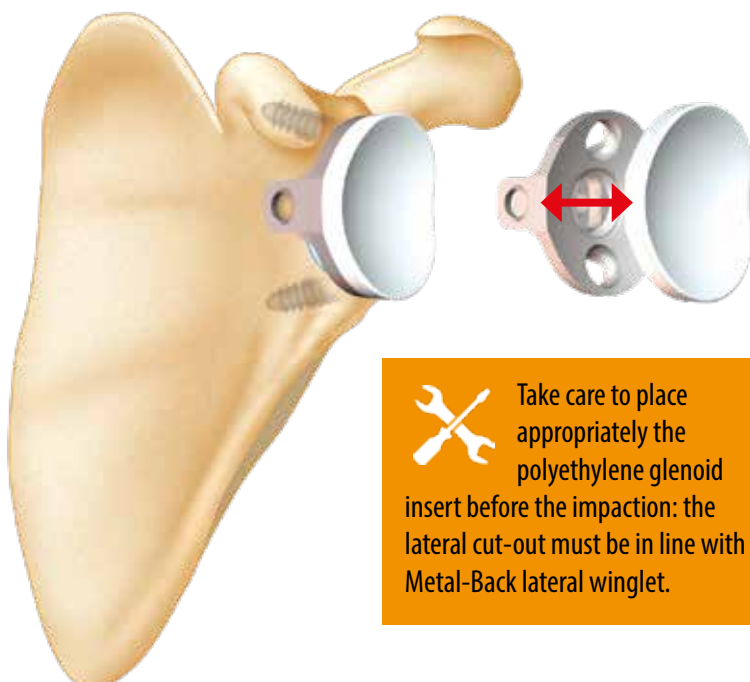
S44S	ref. 264 101
S44S-LP	ref. 269 056
S44	ref. 261 088
S44-LP	ref. 264 951
S46	ref. 261 089
S46-LP	ref. 268 988
S48	ref. 261 090

2 - DEFINITIVE IMPLANTS : METAL-BACK GLENOID BASEPLATE



- ✦ Connect the definitive porous glenoid baseplate to the baseplate insertion handle (ref. 261 101) and impact using the baseplate impaction assembly (refs 264 459 and 267 659).
 - Drill the superior and inferior holes with the 3.2 mm drill bit.
 - The superior 5.5 mm cancellous screw targets the base of the coracoid process.
 - The inferior 5.5 mm cancellous screw targets the pillar of the scapula.

ARROW screw barrel	ref. 261 846
ARROW drill sleeve	ref. 264 479
Hexagonal screwdriver	ref. 264 683
ARROW length gauge	ref. 269 241



- ✦ Once the screws are placed into the definitive porous glenoid baseplate, properly align the appropriate modular glenoid insert and impact into position. There should be no gaps present after seating.
A Ø4.5mm anterior-posterior cortical screw may be useful during revision of glenoid loosening.

⚠ The glenoid insert size 44 fits also with sizes 44S & 44-LP.



Take care to place appropriately the polyethylene glenoid insert before the impaction: the lateral cut-out must be in line with Metal-Back lateral winglet.

3 - DEFINITIVE IMPLANTS

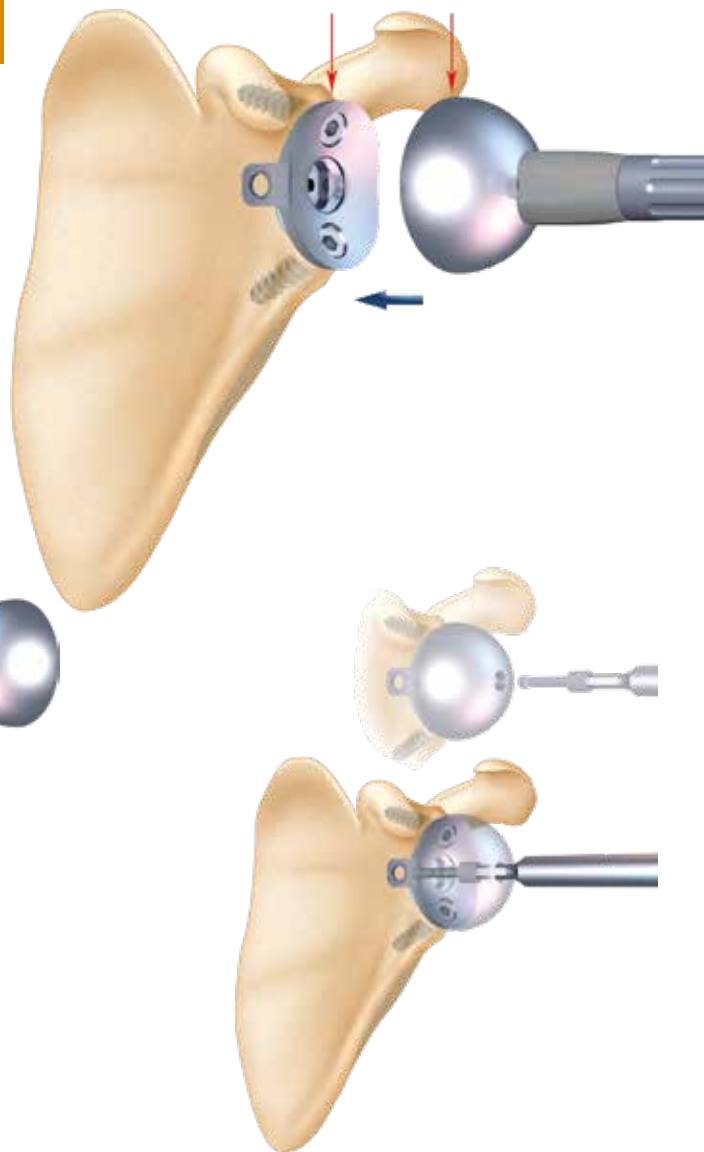
3.1 - DEFINITIVE GLENOSPHERE

- ➔ **1.** Assemble to glenosphere positioner/impactor to the glenosphere, aligning the arrow on the distal end of the positioner with the notch on the glenosphere.

The orientation of the morse taper is in line with the arrow.

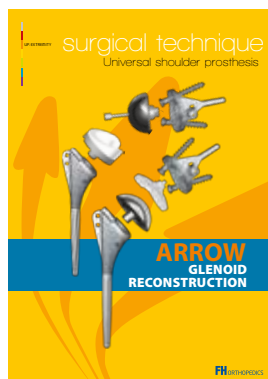
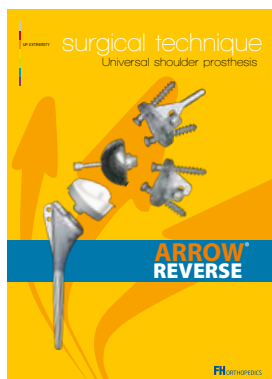
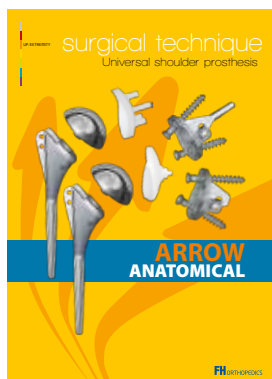
Twist the top handle clockwise relative to the bottom handle to tighten mechanism to the glenosphere.

Twist the top handle of the positioner clockwise relative to the bottom handle to firmly connect to glenosphere. Once glenosphere is fully-locked to baseplate, turn the top handle counter-clockwise one full-turn relative to the bottom handle to disengage.



- ➔ **2.** Secure the definitive glenosphere in place using the hexagonal screwdriver (ref. 264 683) and screw.

For more information, please refer to the following surgical techniques :



Ref.	Designation	
269146	Arrow tray	
267802	Arrow tray lid	
269086	Glenoid guide 0° post wear - right	
269087	Glenoid guide 0° post wear - left	
269088	Glenoid guide -10° post wear - right	
269089	Glenoid guide -10° post wear - left	
269090	Glenoid guide -20° post wear - right	
269091	Glenoid guide -20° post wear - left	
269092	Glenoid guide stylus - right	
269093	Glenoid guide stylus - left	
269138	Threaded pin Ø3 L170	
269148	Cannulated drill bit Ø5	
267649	Cannulated long drill bit Ø5	
267650	Cannulated reamer XS-S / 44	
267651	Cannulated reamer M / 46	
267652	Cannulated reamer L / 48	
267653	Cannulated reamer XL / 50	
269147	glenoid reamer handle AO - Stryker / Zimmer Hall	

Ref.	Designation	
269240	Quick-release peripheral drill Ø5 (x2)	
269242	Quick-release peripheral drill shaft	
267654	Full PE drilling guide	
268470	Metal-Back drill guide 44S	
268471	Metal-Back drill guide 44-46-48	
269132	Cannulated tapered reamer	
269133	Cannulated glenoid punch 44S	
269134	Cannulated glenoid punch 44	
269135	Cannulated glenoid punch 46	
269136	Cannulated glenoid punch 48	
264479	Drill sleeve	
267115	Drill bit Ø3,2	
269241	Depth gauge	
269137	Glenosphere positioner/impactor	



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