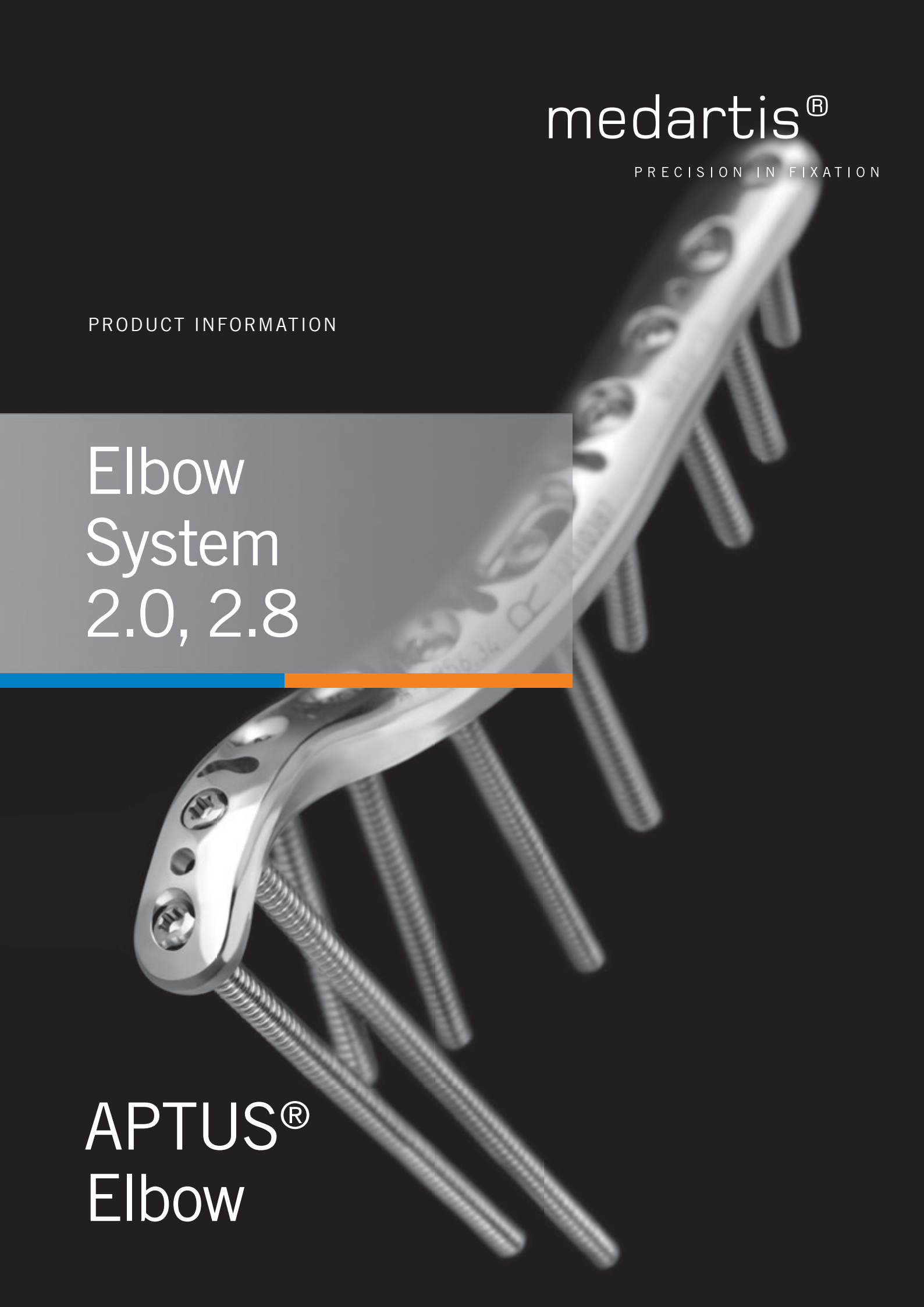
medartis®

PRECISION IN FIXATION

PRODUCT INFORMATION

Elbow System 2.0, 2.8



APTUS® Elbow

Literature

[1] K. J. Burkhart, T. E. Nowak, Y.-J. Kim, P. M. Rommens, L. P. Müller, «Anatomic Fit of Six Different Radial Head Plates: Comparison of Precontoured Low-Profile Radial Head Plates», Journal of Hand Surgery, 2011, 36A:617-624

[2] K. J. Burkhart, K. Wegmann, J. Dargel, C. Ries, L. P. Mueller, «Treatment of radial head and neck fractures: in favor of anatomical reconstruction», 2012, Eur J Trauma Emerg Surg, 38:593–603

[3] K. Wegmann, K. J. Burkhart, L. P. Müller, «Knöcherne Verletzungen des Ellenbogens», Orthopädie und Unfallchirurgie up2date, 2012, 7(5): 339-364

[4] K. J. Burkhart, B. Hollinger, K. Wegmann, L. P. Müller, «Luxationen und Bandverletzungen am Ellenbogen und Unterarm», Orthopädie und Unfallchirurgie up2date, 2012, 7(6): 435-462

[5] L. W. Catalano, K. Crivello, M. Purcelli Lafer, B. Chia, «Potential Dangers of Tension Band Wiring of Olecranon Fractures: An Anatomic Study», J Hand Surg 2011, 36A:1659-1662

[6] S. Rochet, L.Obert, D. Lepage, B. Lemaire, G. Leclerc, P. Garbuio, «Proximal ulna comminuted fractures: Fixation using a double-plating technique», Orthopaedics & Traumatology: Surgery & Research, 2010, 96(7), 734-40

Elbow System 2.0, 2.8

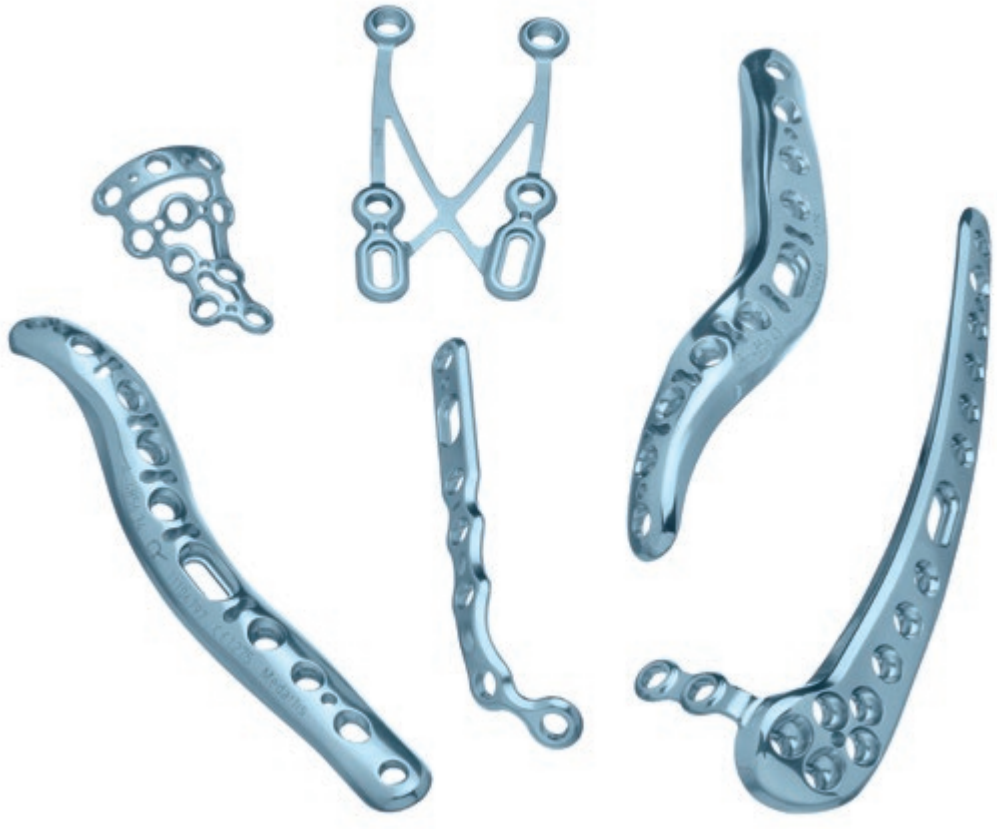
Contents

Elbow System 2.0, 2.8

Stable fixation designed to address soft tissue concerns for complex elbow fractures using anatomic, angular stable plates

Bone injuries to the elbow place high demands on fixation. The APTUS plates and screws are the forefront of a new generation of low profile implants which are designed to treat fractures, osteotomies, and non-unions of the elbow.

Both the highly precise anatomic fit of the plates and innovative concepts such as the lateral double plating of olecranon fractures, address fracture reduction and minimize soft tissue irritations. The unique TriLock technology allows stabilization and bridging of unstable zones in accordance with the «fixateur interne» principle. Multidirectional angular stable screw positioning supports the fixation of individual bone fragments even in the case of the complex anatomy of the elbow joint. This enables early mobilization of the elbow joint during follow-up care.
Thanks to the excellent self-retaining properties of HexaDrive screw driving mechanism, the screws are securely held by the screwdriver. In combination with sophisticated instruments, this results in an extremely user-friendly system.



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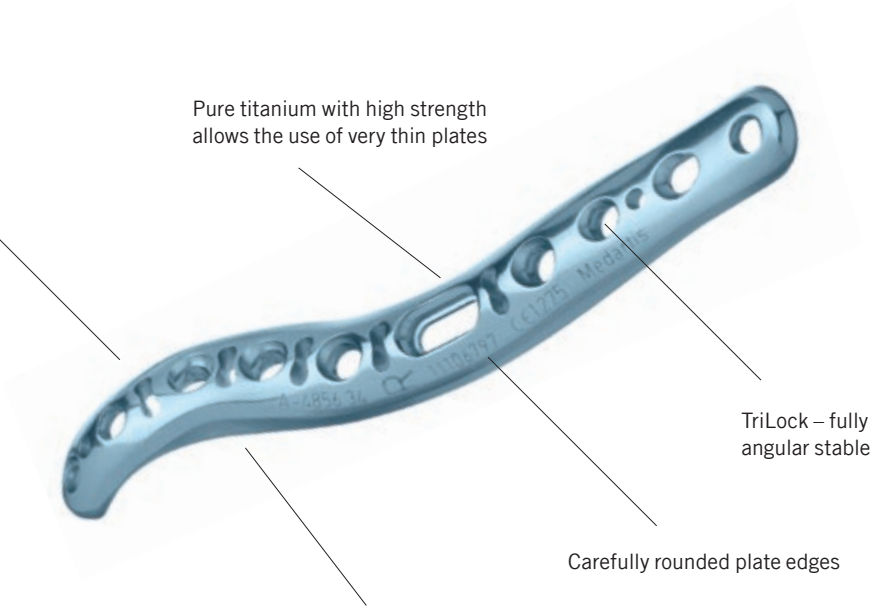
General Plate Features

All elbow plates have been developed according to the Medartis design philosophy which combines innovative approaches with meticulous development and the most sophisticated production techniques.



Clinical Advantages

- Anatomic plate designs support fracture reduction
  - Plate design derived from comprehensive analyses of human anatomy
  - Full 3D design is possible thanks to sophisticated production techniques
- Low profile plates to reduce soft tissue irritation
  - TriLock enables low profile plates
  - Anatomic plate design prevents protrusion of the plate at exposed sites
  - Carefully rounded plates with no sharp edges
- User-friendly locking technology for stable treatment also of complex fractures with poor bone quality
  - Multidirectional locking technology TriLock
  - Fully adjustable pivoting angle of the locking screws up to ± 15°
  - All plate holes (apart from oblong holes and compression holes) are compatible with TriLock or cortical screws
- Plates can be contoured to the individual anatomy of the patient
  - Pliers and bending irons enable the plate shape to be adjusted to anatomic variants with minimal effort
- K-wire holes for temporary fixation of the plate to the bone
- Highly polished metal surface to reduce tissue adhesions

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Radial Head Plates

Treatment Concept

Fracture patterns in the radial head and neck are often very complex. A plate with diverse locking options and multidirectional stability can facilitate fixation. Even multi-fragment fractures can be treated with the plate and prevent radial head resection. As surgery on the radial head is associated with a high risk of stiffening of the elbow, it is important that the plate-screw construct profile is as low as possible and facilitates early mobilization of the joint.

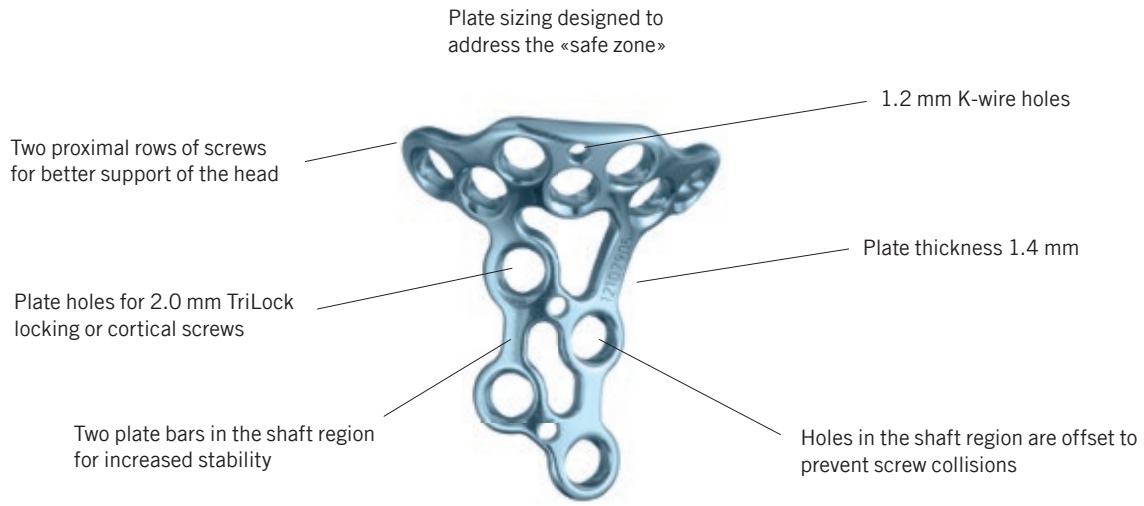

Plate Types

Radial head buttress plate

- Positioned distally of the annular ligament
- Particularly suitable for impression fractures in the neck region
- Can be combined with isolated screws for fixation of fragments

Radial head rim plate

- Positioned close to the rim of the joint surface of the radial head and underneath the annular ligament
- Allows optimal stabilization of fragments to the plate
- Plate geometry enables subchondral screw positioning for angular stable bridging of comminuted fractures

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Clinical Advantages

- Low plate profile reduces soft tissue irritations [1]
  - Very thin plates and non-protruding screw heads protect soft tissue and reduce the risk of stiffening of the elbow
  - Optimal anatomic shape and ease of bending ensure exceptional fit to the bones of the individual patient
  - Smooth plate surface for reduced soft tissue irritations

- Highly stable fixation despite low plate profile
  - High-strength titanium insures the plate thickness can be minimized
  - Grid structure of the plate ensures both high strength and rotational stability in the shaft region
  - All plate holes are compatible with TriLock locking or cortical screws

- Treatment of complex multi-fragment fractures possible [2–4]
  - 2.0 mm screw dimension enables incorporation even of small fragments
  - High number of plate holes allows for various screw configurations
  - Multidirectional angular stability for stabilization of complex fracture patterns

- Easy to use system thanks to uniform screw dimension of 2.0 mm (TriLock locking and cortical screws)

X-ray of a radial head rim plate*

[1–4] Literature on page 2

*X-ray presented with permission from Dr. William Geissler, Jackson, MS, USA

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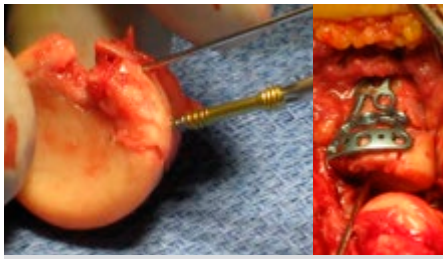
Clinical Examples
Radial Head Plates 2.0

Case 1 – Multi-fragment radial head and radial neck fracture

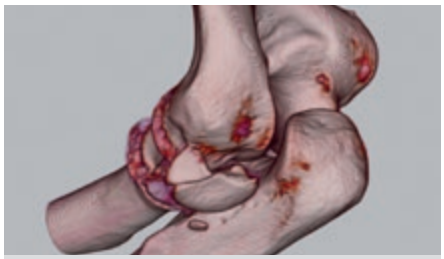
Preoperative X-ray



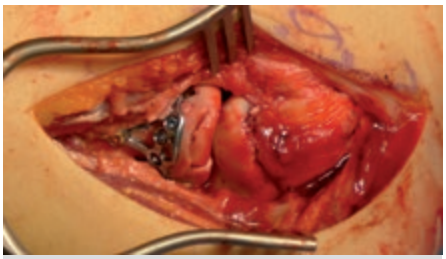
Intraoperative pictures
Left: Fixation of the fragments with a 2.2 SpeedTip CCS (cannulated compressions screw) on the back table
Right: Refixation of the radial head with a rim plate

Postoperative X-ray

Case 2 – Multi-fragment radial head and radial neck fracture



Preoperative CT image. Mason type 3 fracture with avulsion of the radial ligamentous apparatus



Fixation with cannulated compression screws and radial head buttress plate

Intraoperative X-ray

Case 3 - Multi-fragment radial head and radial neck fracture

Preoperative X-ray

Fixation with radial head rim plate

Intraoperative X-ray.
Note the subchondral buttressing of the radial head with proximal screws

Clinical cases presented with permission from:
Case 1: Dr. William Geissler, Jackson, MS, USA | Case 2: Dr Christoph Eicker, Essen, Germany | Case 3: Dr. Angelo Rando, Southport, Australia

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Olecranon Plates

Clinical Requirements

Generally, simple olecranon fractures or osteotomies are treated surgically with tension band wiring while complex olecranon fractures demand treatment with dorsal plating. Both treatment options are associated with high rates of soft tissue complications and corresponding removal of hardware. A novel fixation concept reduces these soft tissue problems. [3, 5, 6]

Olecranon Tension Plate

For fractures **with** inter-fragmentary support

- Contrary to classical tension band wiring, two fracture crossing lag screws take on the primary compression and fixation
- Unlike K-wires, the lag screws enable uniform and controlled compression of the fracture. This results in a primary fixation that can lead to early mobilization
- The tension plate acts as tension relief against the triceps forces that may open the fracture. It also protects the primary fixation of the lag screws

Olecranon Double Plates, Curved

For proximal fractures **without** inter-fragmentary support

- Rigid plates fixed laterally as an alternative to dorsal plating
- The biomechanical advantage of bilateral fixation enables a very low plate profile
- For very proximal fractures, the curved ends of the plates are positioned around the olecranon tip near the triceps tendon insertion

Olecranon Double Plates, Straight

For distal fractures **without** inter-fragmentary support

- For distal olecranon fractures it is possible to anchor the two plates proximally without having to penetrate the triceps tendon insertion

[3, 5, 6] Literature on page 2

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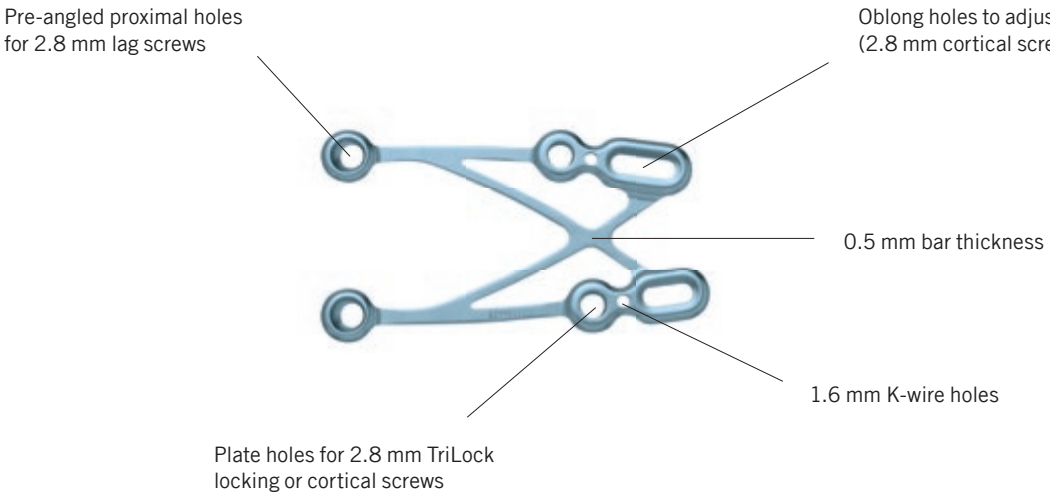
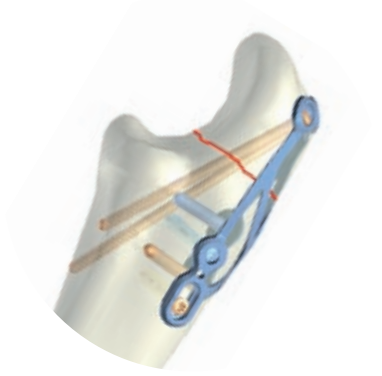
Olecranon Tension Plate

Plate Features



Clinical Advantages

- Low implant profile reduces soft tissue irritations
  - Very thin plate and non-protruding screw heads protect soft tissue and reduce the risk of stiffening of the elbow
  - Ease of bending ensures exceptional fit to the bone
  - Smooth plate surfaces reduce soft tissue irritations
  - No protruding and irritating metal knots
- Solid anchoring using screws reduces the risk of explantation
  - No migrating K-wires
- Controlled and uniform compression of the fracture area
  - Compression of the fracture with cross-fracture lag screws
  - No risk of fracture opening due to dorsal over compression
- Primary fixation of the fracture using lag screws is more stable than K-wires
  - Compression using lag screws ensures stability of the intra-articular fracture in all load directions
- Solid anchoring, even in osteoporotic bones
  - The plate is fixed to the bone distally with four screws



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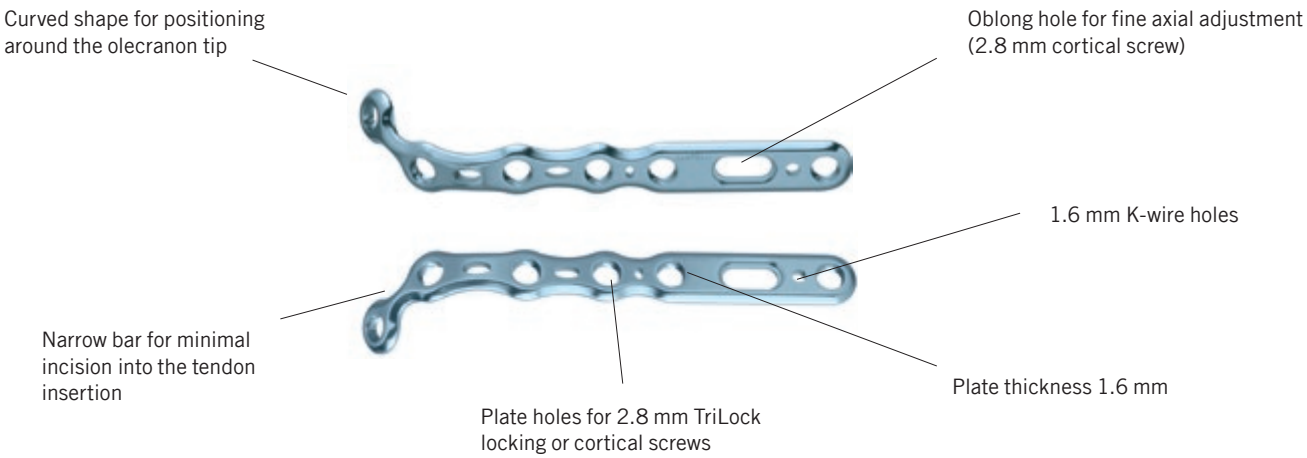
Olecranon Double Plates

Plate Features



Clinical Advantages

- Lateral plate positioning prevents possible healing disorders of the skin
- Low profile plates reduce soft tissue irritations and the risk of skin necrosis
  - Biomechanically favorable lateral plate position enables thinner plates
  - In general, plates can be covered with surrounding muscle tissue
- Better fixation of small proximal fragments
  - Thanks to the 2.8 mm screw dimension and the double plating concept, at least four screws can be placed even in very small proximal fragments
  - Screws in the proximal fragment are placed in a line on both sides resulting in a reduced risk of screw cut-out (cheese wiring)
- More fixation options and stability due to double plating technique
  - Higher variability for screw positioning due to 2.8 mm screws
  - The use of double plates increases rotational stability
- No invasion of the triceps tendon insertion with distal fractures
- Easy to use system with uniform screw dimension of 2.8 mm (TriLock locking and cortical screws)

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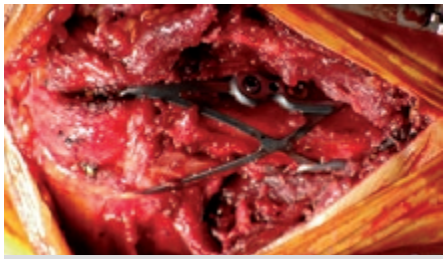
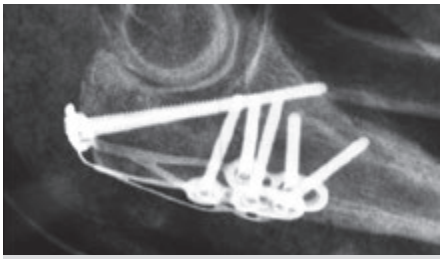
Clinical Examples
Olecranon Plates 2.8

Case 1 – Simple olecranon fracture (tension plate)

Preoperative X-ray

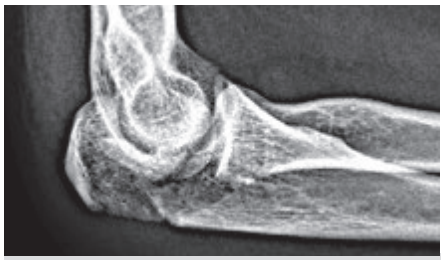


Intraoperative image shows the olecranon tension plate embedded in the triceps tendon



Postoperative X-ray (3 months).
Patient has returned to normal physical activity

Case 2 - Simple olecranon fracture (tension plate)



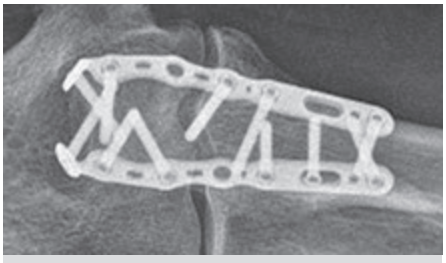
Preoperative X-ray

Intraoperative X-ray with olecranon tension plate. Subchondral buttressing by cross-fracture lag screws

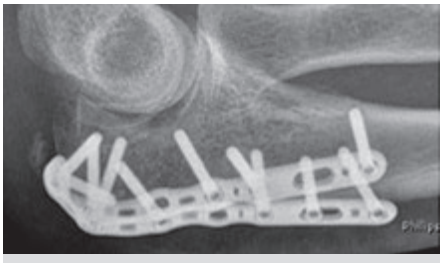
Intraoperative AP X-ray

Case 3 – Dislocated olecranon fracture (curved double plates)

Preoperative X-ray



Intraoperative AP X-ray.
Incorporation of the fragments from two sides thanks to the double plating technique



Intraoperative lateral X-ray.
Position of the plates lateral from the dorsal edge

Clinical cases presented with permission from:
Case 1: Dr. Séverin Rochet, Dr. A. Adam, Prof. Dr. Laurent Obert, Besançon, France | Case 2: Dr. Wolfgang Pichler, Graz, Austria
Case 3: PD Dr. Klaus Burkhart, Prof. Dr. Lars Müller, Cologne, Germany

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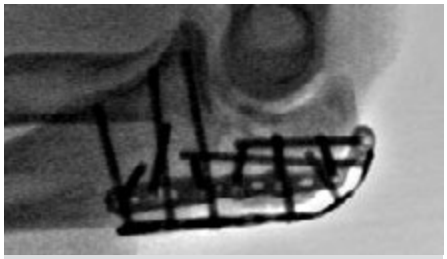
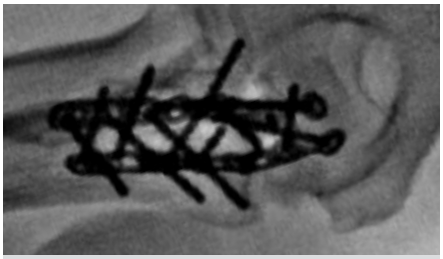
Clinical Examples
Olecranon Plates 2.8

Case 4 – Multi-fragment olecranon fracture (shaped double plates)

Preoperative X-ray.
Schatzker Type C fracture

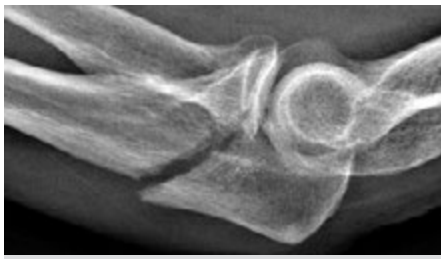


Intraoperative X-ray. Treatment with olecranon double plates. Fixation of three screws in the Coronoid Process



Intraoperative AP X-ray. Double plating technique results in a higher stability using crossing screw patterns

Case 5 – Distal oblique fracture of the olecranon (straight double plates)

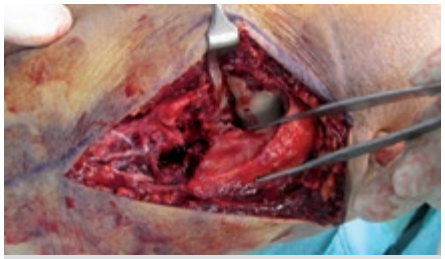


Preoperative X-ray

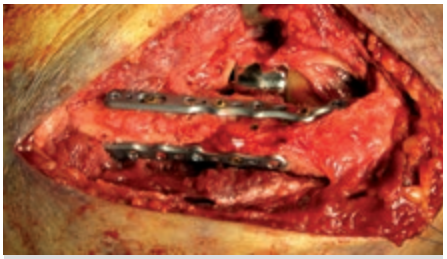
Intraoperative lateral X-ray.
Fixation with straight olecranon double plates resulting in reduced injury of the triceps tendon

Intraoperative AP X-ray

Case 6 – Jupiter type IID Monteggia lesion (double plates)



Intraoperative image of the fracture



Intraoperative image of the treatment using one curved and one straight olecranon double plate

Intraoperative X-ray

Clinical cases presented with permission from:
Case 4: PD Dr. Sven-Oliver Dietz, Dr. Tobias Nowak, Mainz, Germany | Case 5: Dr. William Geissler, Jackson, MS, USA
Case 6: Prof. Dr. Rainer Meffert, Würzburg, Germany

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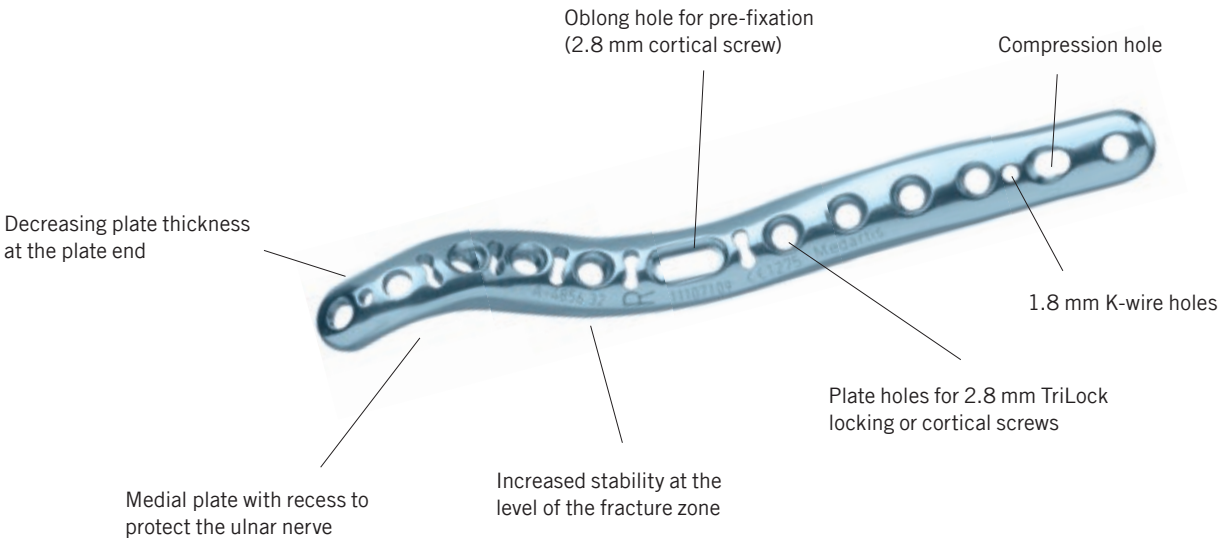
Distal Humerus Plates

Plate Features



Clinical Advantages

- Anatomic plate design supports fracture reduction
  - Three-dimensional shape based on comprehensive anatomical analyses insure a good fit to bone and can be used as a reduction frame in difficult cases

- Insertion of transcondylar TriLock locking screws in the distal condylar bone
  - The multidirectionality of the TriLock locking technology allows even long screws to be inserted through the plate
  - The aiming device helps positioning the transcondylar screws through the narrow space of the distal condyles
- Medial, lateral and posterolateral plate designs allow both 90° and 180° double plate configuration
- Low profile plates for maximum soft tissue protection
  - Plate thickness tapers off at the ends to reduce plate protrusion over the epicondyles
  - Three-dimensional plate design correlates to the shape of the bone
  - Carefully rounded plate edges prevent soft tissue irritations
- Plates can be contoured to address anatomic variations

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- Numerous intra-operative fixation options to address complex fractures due to a large number of plate holes

- No lateral protrusion of the medial plate
  – The medial plate is milled «concave» and can therefore capture the bony edge of the medial distal humerus

- Protection of the ulnar nerve with the medial plate
  – The medial plate has a slight recess in anterior direction on the distal end which lowers the risk of contact between the ulnar nerve and the plate

- Reduces lateral soft tissue dissection proximally with the lateral plate
  – The lateral plates are twisted from distal lateral to proximal posterior reducing the necessary soft tissue detachment
  – Proximal screws can also be placed bicortical (no drilling towards the opposite plate)

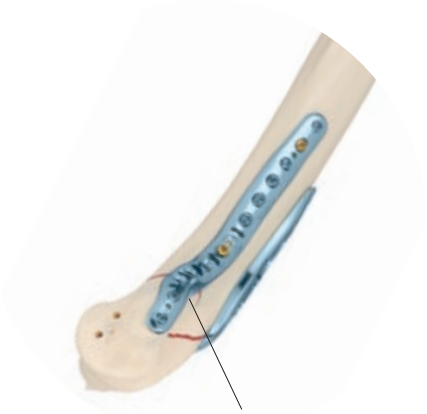
- Good incorporation of distal fragments of the Capitulum by the posterolateral plate
  – The two most distal screw holes in the posterolateral plate are pre-angled to capture very distal shear fragments of the Capitulum

- Attachment of transcondylar screws with the posterolateral plate via a lateral flap

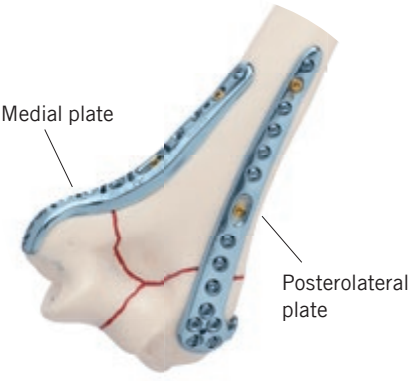
- Reduction in plate thickness at the proximal end reduces the peak stresses in the humerus shaft

- Easy to use system thanks to uniform screw dimension of 2.8 mm

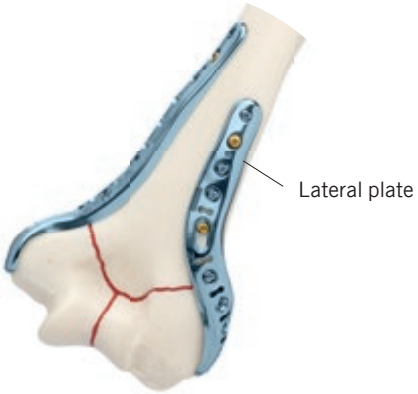
Concave plate



Recess for ulnar nerve



90° Double plate configuration



180° Double plate configuration

Pre-angled holes

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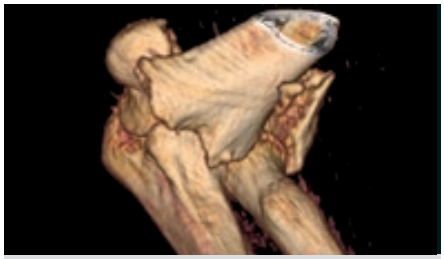
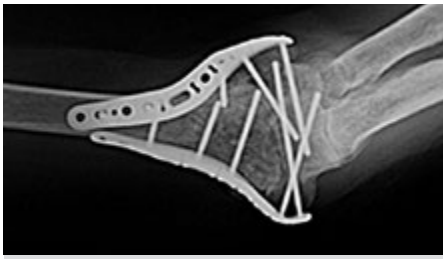
Clinical Examples
Distal Humerus Plates 2.8

Case 1 – Multi-fragment fracture of the distal humerus (180° configuration)



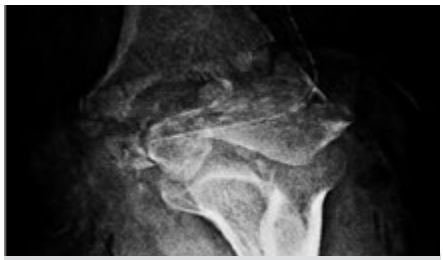
Preoperative CT image.
Fracture type AO C3



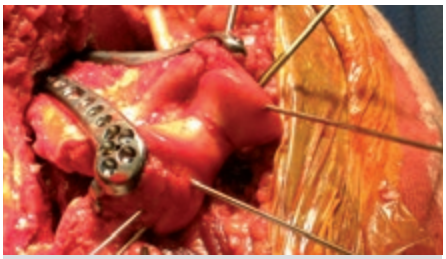
Intraoperative AP X-ray of the fixation with medial and lateral plate.
Note the recess in the lateral plate in the posterior direction to protect the soft tissues

Intraoperative lateral X-ray

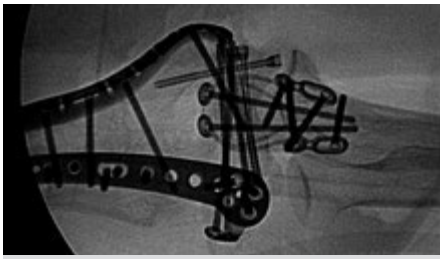
Case 2 – Multi-fragment fracture of the distal humerus (90° configuration)



Preoperative X-ray.
Type AO C3 intra-articular fracture



Fixation with cannulated compression screws and posterolateral and medial distal humerus plates

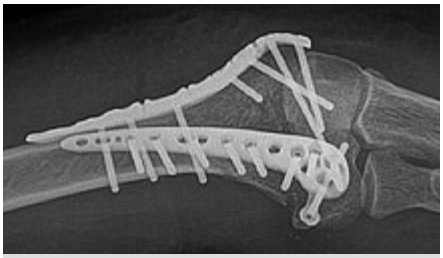


Intraoperative X-ray of the double plate fixation of the distal humerus fracture and fixation of the olecranon osteotomy using an olecranon tension plate

Case 3 – Supracondylar distal humerus fracture (90° configuration)

Preoperative CT image of type AO A3 supracondylar fracture

Intraoperative image with medial and posterolateral plate



Intraoperative X-ray with medial and lateral plate (90° configuration)

Clinical cases presented with permission from:
Case 1: Prim. Dr. Bruno Battiston, Turin, Italy | Case 2: Dr. William Geissler, Jackson, MS, USA
Case 3: Dr. Michael Forray, Prof. Dr. Bernd Kinner, Stuttgart, Germany

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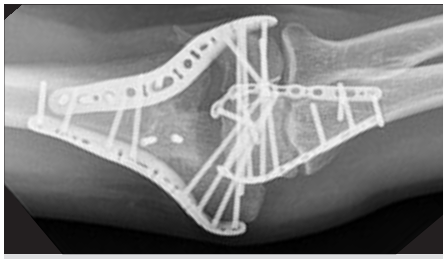
Clinical Examples
Distal Humerus Plates 2.8

Case 4 – Multi-fragment distal humerus fracture (180° configuration)

Preoperative X-ray of a polytrauma patient with a fracture type AO C3

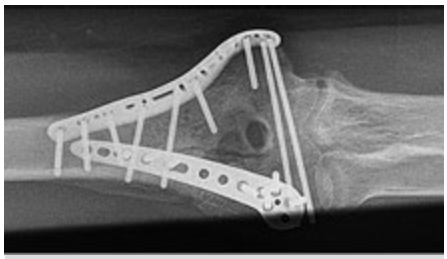


Intraoperative AP X-ray.
Distal humerus fracture treated with medial and lateral plate

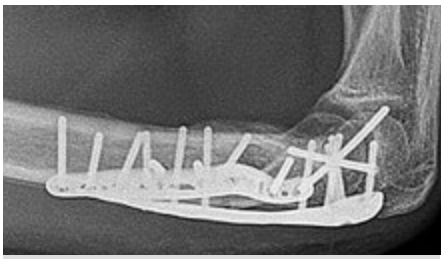
Intraoperative lateral X-ray
Olecranon osteotomy treated with olecranon double plates

Case 5 – Supracondylar distal humerus fracture (90° configuration)

Preoperative X-ray.
Fracture type AO C2

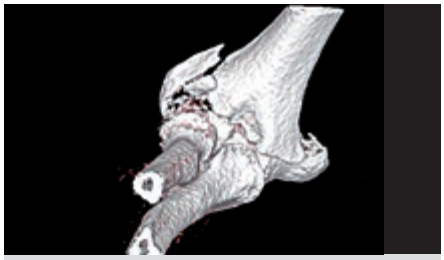


Intraoperative AP X-ray. Treatment with posterolateral and medial plate.
Long, transcondylar screws in the distal condyles, connected to the plate

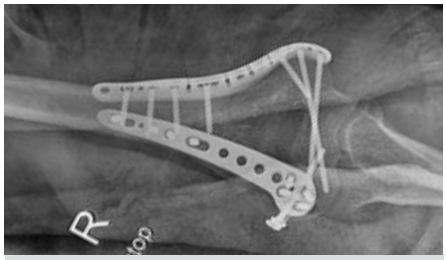


Intraoperative lateral X-ray

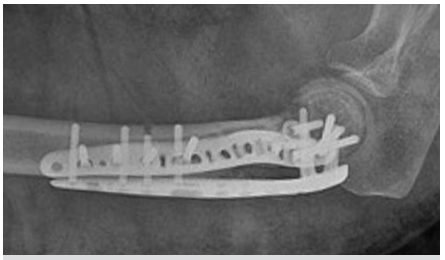
Case 6 – Distal humerus fracture (90° configuration)



Preoperative CT image



Postoperative AP X-ray. Treatment with posterolateral and medial plate.
Lateral transcondylar screw connected via the flap with posterolateral plate



Postoperative lateral X-ray

Clinical cases presented with permission from:
Cases 4 & 5: PD Dr. Klaus Burkhart, Prof. Dr. Lars Müller, Cologne, Germany
Case 6: Associate Professor, Dr. Wolfgang Pichler, Graz, Austria

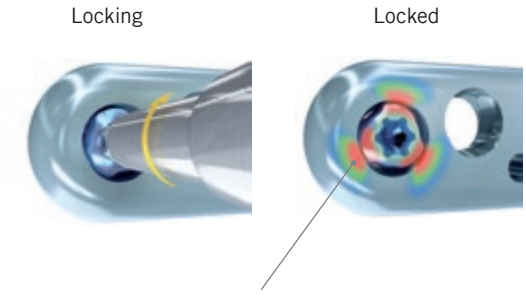
→ www.medartis.com/products/aptus/elbow

Technology, Biomechanics and Screw Features

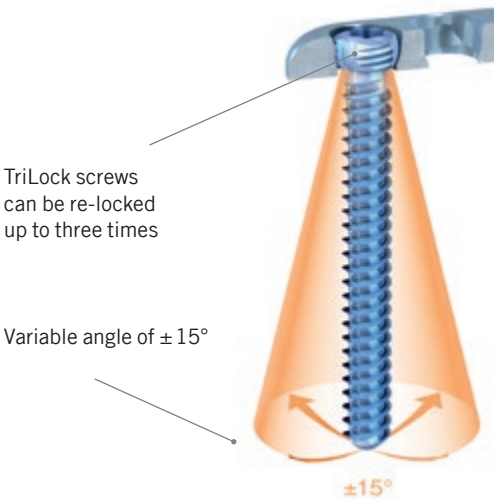
Multidirectional and angular stable TriLock locking technology

Technology

- TriLock locking technology – secure, angular stable locking of the screw in the plate
  - Spherical three-point wedge-locking
  - Friction locking through radial bracing of the screw head in the plate – without additional tensioning components
- Screws can pivot freely by ± 15° in all directions for optimal positioning
- Intra-operative fine tuning capabilities
- TriLock screws can be re-locked in the same plate hole under individual angles up to three times
- Minimal screw head protrusion thanks to internal locking contour
- No cold welding between plate and screws

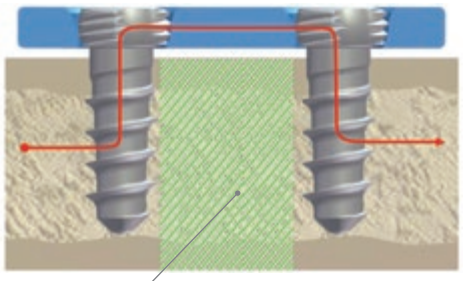


Secure locking of the TriLock screw



Biomechanics

- Internal fixator principle
  - Stable plate – screw construct allows the bridging of unstable zones
  - Improved vascularization of the periosteum due to low contact of the plate

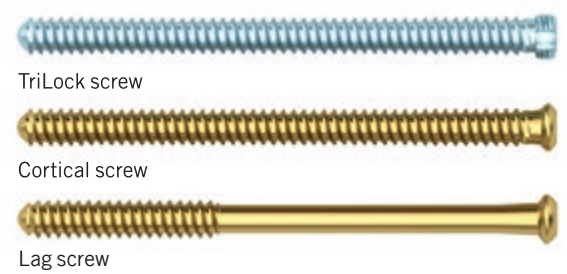


Load-free zone

→ www.medartis.com/products/aptus/elbow

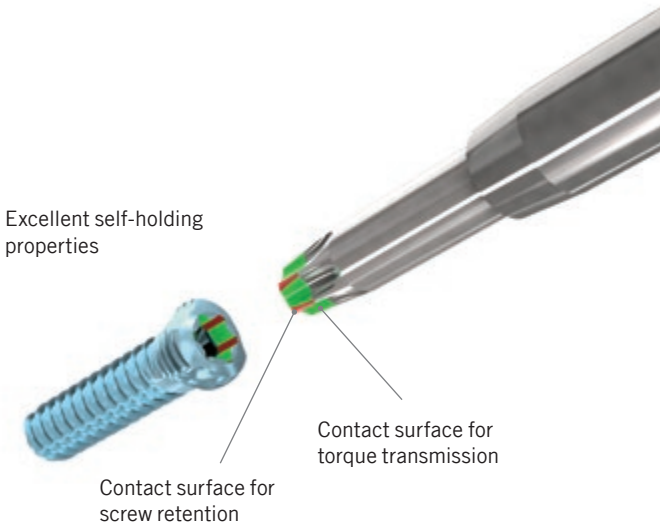
Screw Options

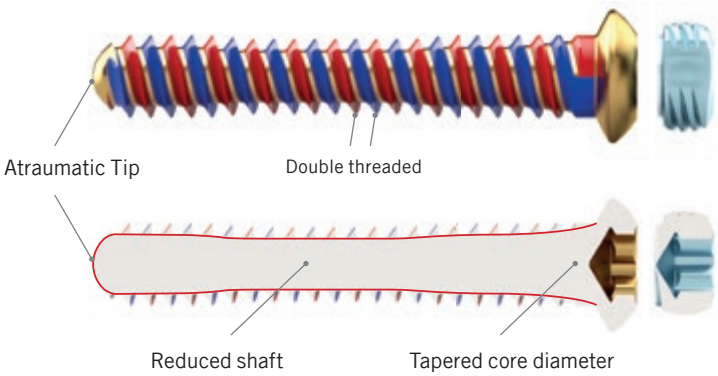
- Blue 2.0, 2.8 TriLock screws (locking)
- Gold 2.0, 2.8 cortical screws (fixation)
- Gold 2.8 lag screws (fixation)

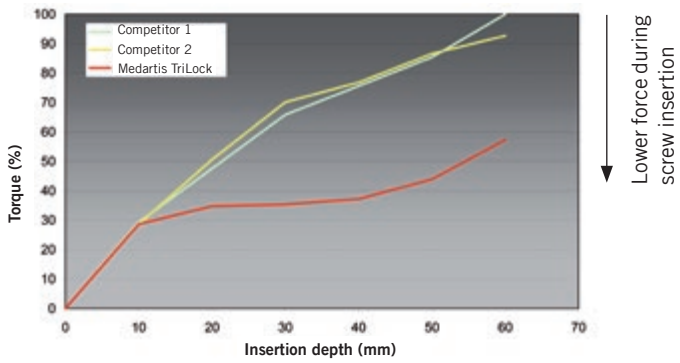


Screw Features

- HexaDrive screw head design
  - Secure connection between screw and screwdriver
  - Increased torque transmission
  - Optimal self-retaining mechanism
- Atraumatic tip prevents soft tissue irritation when inserting screws bicortically
- Tapered core diameter for increased torsional and tensile strength
- Precision cut thread profile for improved sharpness and self-tapping properties
- Double threaded TriLock screws for faster insertion
- Titanium Alloy (TiAl6V4) for improved strength
- **Innovative screw design for all APTUS Elbow 2.8 screws ≥ 36 mm**
  - Screw shaft is slightly reduced in the mid section
  - Screw can be inserted with reduced torque without losing stability and the risk of screw stripping



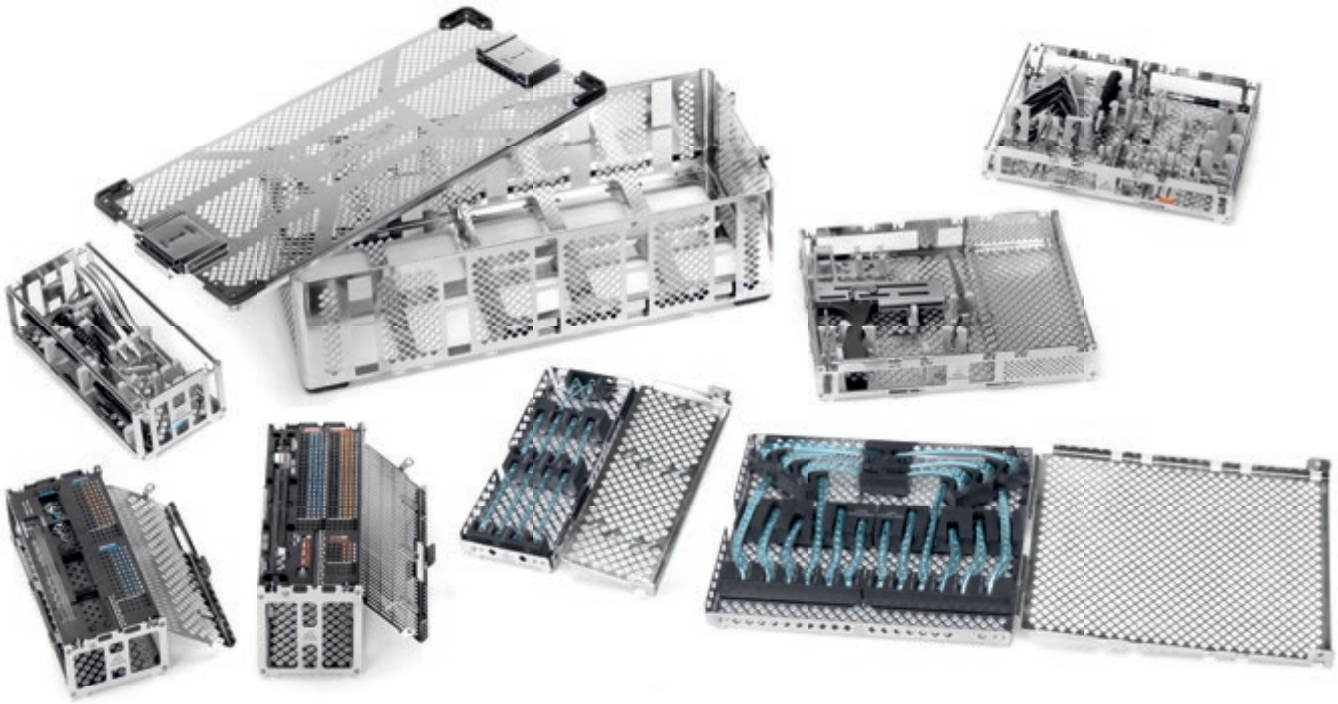




→ www.medartis.com/products/aptus/elbow

Storage

- Completely modular
- Economic and compact system
- Easy handling
- Clear identification and storage of implants and instruments
- Improved cleaning and sterilization capabilities



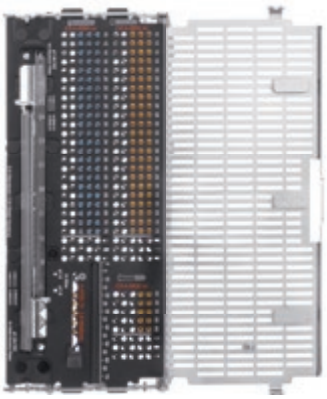
→ www.medartis.com/products/aptus/elbow

Equipped 1/5 implant module with radial head 2.0

Art. No. A-6530 (empty)

Equipped 1/5 screw module 2.8

Art. No. A-6533/A-6583 (empty)

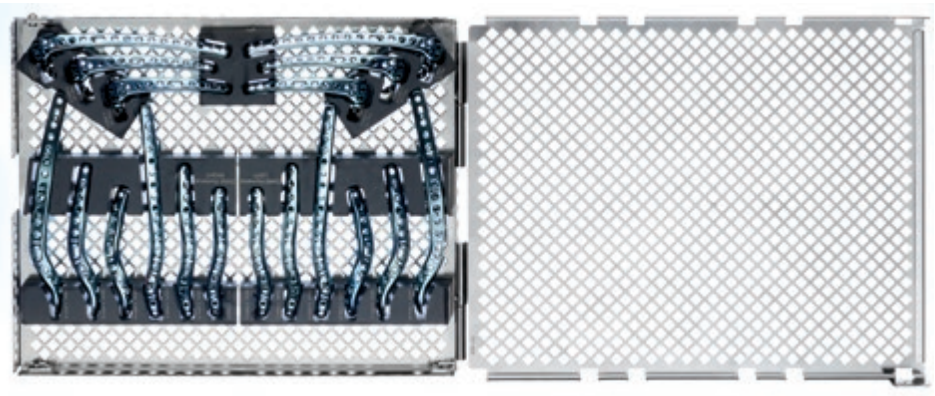


Equipped 3/5 instrument module 2.8

Art. No. A-6536 (empty)

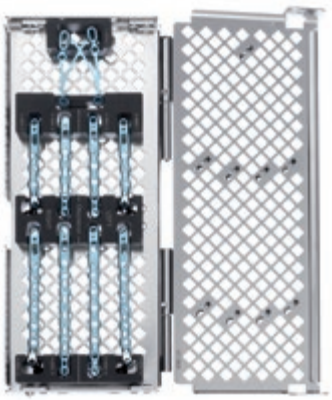
Equipped 3/5 plate module distal humerus 2.8

Art. No. A-6538 (empty)



Equipped 1/5 plate module olecranon 2.8

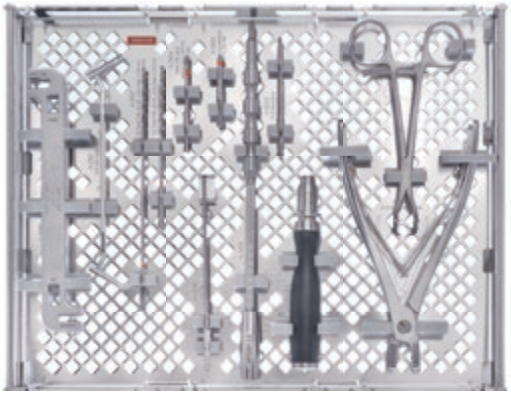
Art. No. A-6537 (empty)



Equipped 1/5 and 3/5 instrument module 2.0, 2.0/2.8 and 2.8

Art. No. A-6531 (empty)

Art. No. A-6534 (empty)



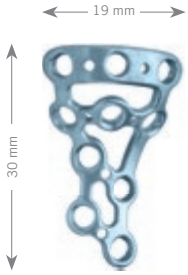
Art. No. A-6535 (empty)

→ www.medartis.com/products/aptus/elbow

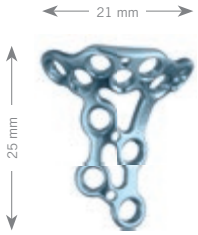
Ordering Information

2.0 TriLock Radial Head Plates

Material: Titanium (ASTM F67)
Plate thickness: 1.4 mm



A-4656.68

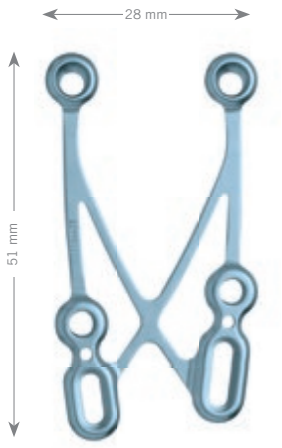


A-4656.69

Art. No.	Description	Holes	Pieces/Pkg
A-4656.68	rim plate	10	1
A-4656.69	buttress plate	11	1

2.8 TriLock Olecranon Plates

Material: Titanium (ASTM F67)
Plate thickness: 0.5 – 1.6 mm



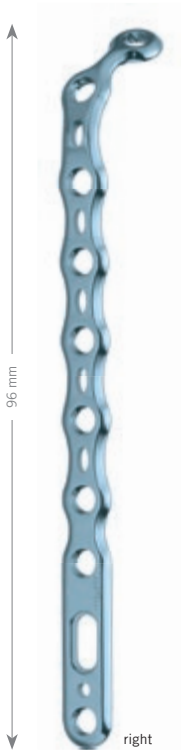
A-4856.01

A-4856.11

A-4856.10

A-4856.12

A-4856.14



A-4856.13

A-4856.15

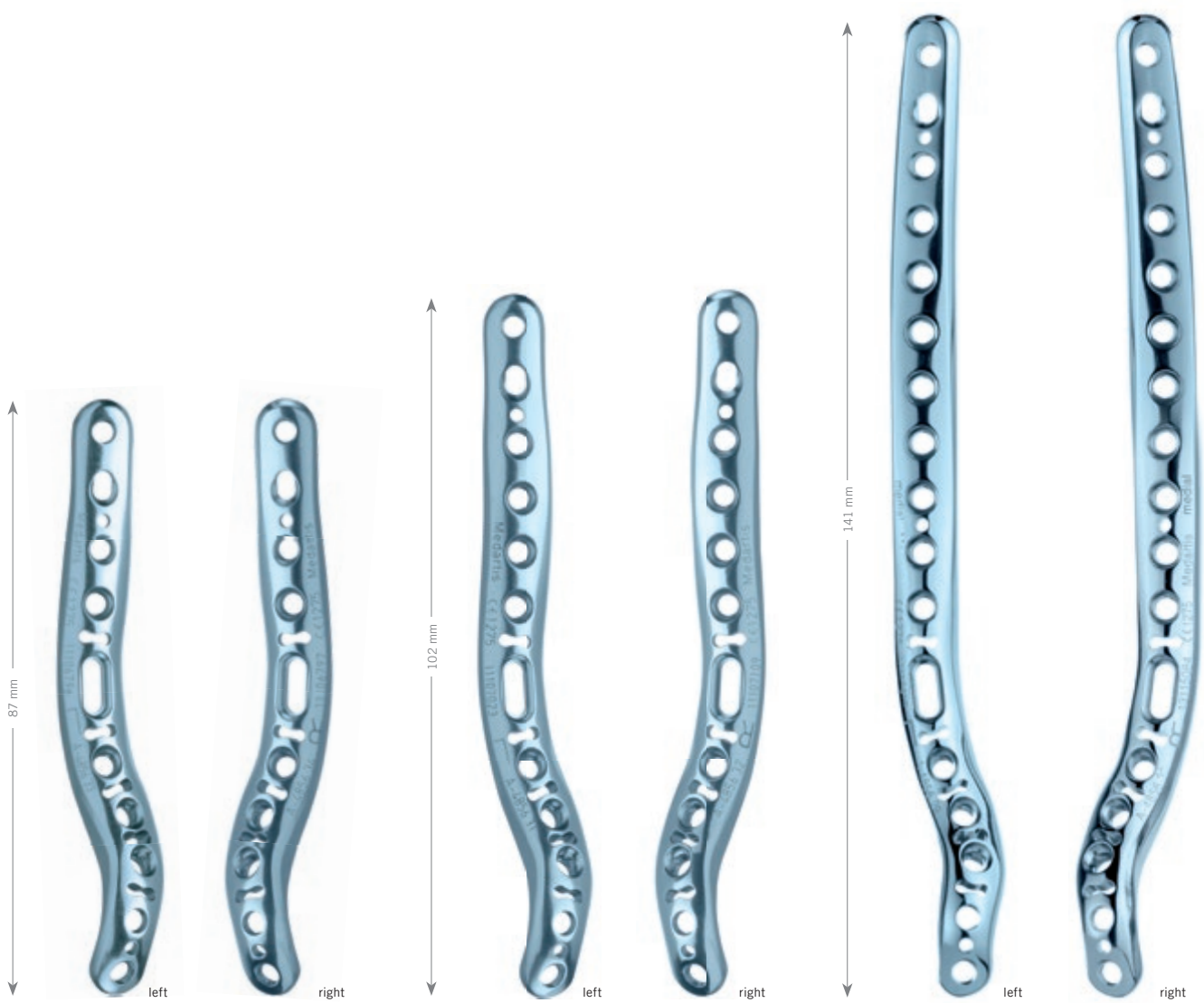
Art. No.	Description	Holes	Pieces/Pkg
A-4856.01	tension plate	6	1
A-4856.10	right, short	7	1
A-4856.11	left, short	7	1
A-4856.12	straight, short	7	1
A-4856.13	right, long	10	1
A-4856.14	left, long	10	1
A-4856.15	straight, long	10	1

Scale: 1:1

→ www.medartis.com/products/aptus/elbow

2.8 TriLock Distal Humerus Plates, Medial

Material: Titanium (ASTM F67)
Plate thickness: 1.6–3.4 mm

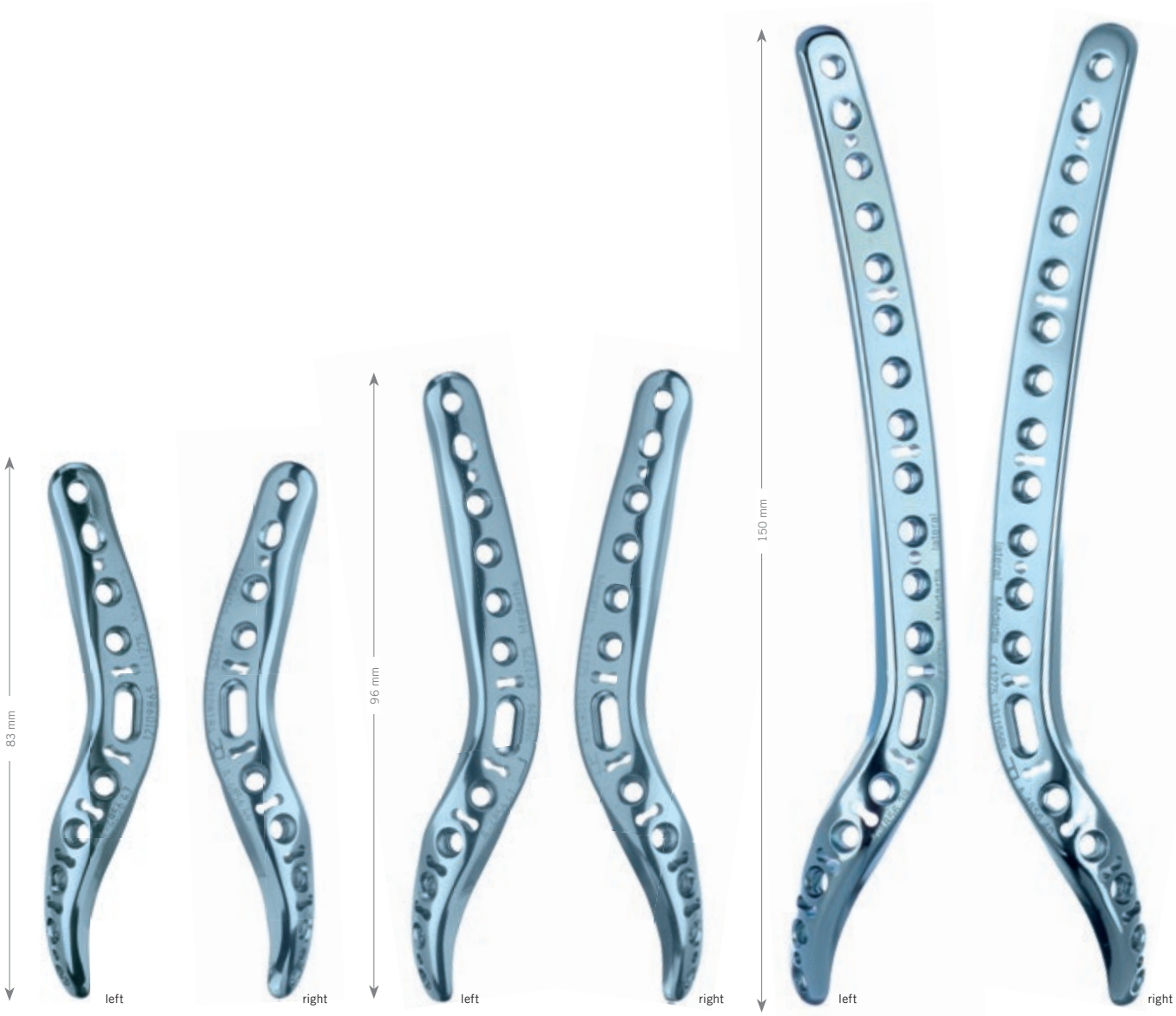


A-4856.33 A-4856.34 A-4856.31 A-4856.32 A-4856.29 A-4856.30

Art. No.	Description	Holes	Pieces/Pkg
A-4856.29	left, long	17	1
A-4856.30	right, long	17	1
A-4856.31	left, medium	12	1
A-4856.32	right, medium	12	1
A-4856.33	left, short	10	1
A-4856.34	right, short	10	1

2.8 TriLock Distal Humerus Plates, Lateral

Material: Titanium (ASTM F67)
Plate thickness: 1.6–3.4 mm



A-4856.43 A-4856.44 A-4856.41 A-4856.42 A-4856.39 A-4856.40

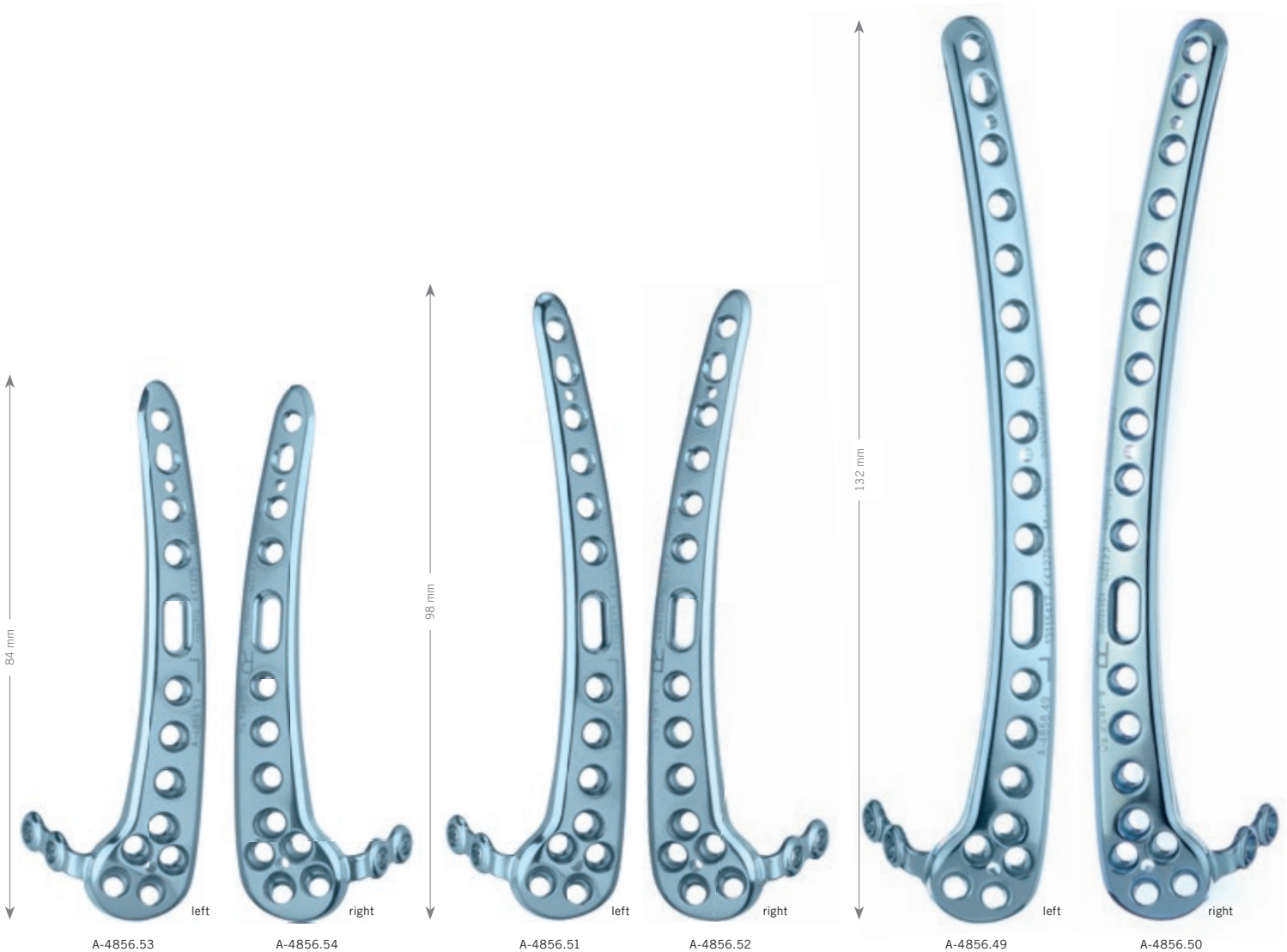
Art. No.	Description	Holes	Pieces/Pkg
A-4856.39	left, long	18	1
A-4856.40	right, long	18	1
A-4856.41	left, medium	12	1
A-4856.42	right, medium	12	1
A-4856.43	left, short	10	1
A-4856.44	right, short	10	1

Scale: 1:1

→ www.medartis.com/products/aptus/elbow

2.8 TriLock Distal Humerus Plates, Posterolateral

Material: Titanium (ASTM F67)
Plate thickness: 1.6 – 3.4 mm



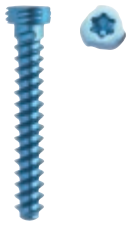
A-4856.53 A-4856.54 A-4856.51 A-4856.52 A-4856.49 A-4856.50

Art. No.	Description	Holes	Pieces/Pkg
A-4856.49	left, long	21	1
A-4856.50	right, long	21	1
A-4856.51	left, medium	17	1
A-4856.52	right, medium	17	1
A-4856.53	left, short	15	1
A-4856.54	right, short	15	1

Scale: 1:1

2.0 TriLock Screws, HexaDrive 6

Material: Titanium (ASTM F136)



Length	Art. No.	Pieces/Pkg	Art. No.	Pieces/Pkg
6 mm	A-5450.06/1	1	A-5450.06	5
8 mm	A-5450.08/1	1	A-5450.08	5
10 mm	A-5450.10/1	1	A-5450.10	5
12 mm	A-5450.12/1	1	A-5450.12	5
14 mm	A-5450.14/1	1	A-5450.14	5
16 mm	A-5450.16/1	1	A-5450.16	5
18 mm	A-5450.18/1	1	A-5450.18	5
20 mm	A-5450.20/1	1	A-5450.20	5
22 mm	A-5450.22/1	1	A-5450.22	5
24 mm	A-5450.24/1	1	A-5450.24	5
26 mm	A-5450.26/1	1	A-5450.26	5
28 mm	A-5450.28/1	1	A-5450.28	5
30 mm	A-5450.30/1	1	A-5450.30	5

2.0 Cortical Screws, HexaDrive 6

Material: Titanium (ASTM F136)

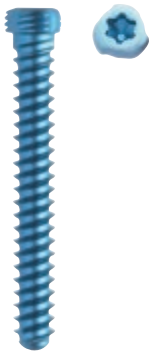
Length	Art. No.	Pieces/Pkg	Art. No.	Pieces/Pkg
6 mm	A-5400.06/1	1	A-5400.06	5
8 mm	A-5400.08/1	1	A-5400.08	5
10 mm	A-5400.10/1	1	A-5400.10	5
12 mm	A-5400.12/1	1	A-5400.12	5
14 mm	A-5400.14/1	1	A-5400.14	5
16 mm	A-5400.16/1	1	A-5400.16	5
18 mm	A-5400.18/1	1	A-5400.18	5
20 mm	A-5400.20/1	1	A-5400.20	5
22 mm	A-5400.22/1	1	A-5400.22	5
24 mm	A-5400.24/1	1	A-5400.24	5
26 mm	A-5400.26/1	1	A-5400.26	5
28 mm	A-5400.28/1	1	A-5400.28	5
30 mm	A-5400.30/1	1	A-5400.30	5

Scale: 2:1

→ www.medartis.com/products/aptus/elbow

2.8 TriLock Screws, HexaDrive 7

Material: Titanium (ASTM F136)



Length	Art. No.	Pieces/Pkg	Art. No.	Pieces/Pkg
8 mm	A-5850.08/1	1	A-5850.08	5
10 mm	A-5850.10/1	1	A-5850.10	5
12 mm	A-5850.12/1	1	A-5850.12	5
14 mm	A-5850.14/1	1	A-5850.14	5
16 mm	A-5850.16/1	1	A-5850.16	5
18 mm	A-5850.18/1	1	A-5850.18	5
20 mm	A-5850.20/1	1	A-5850.20	5
22 mm	A-5850.22/1	1	A-5850.22	5
24 mm	A-5850.24/1	1	A-5850.24	5
26 mm	A-5850.26/1	1	A-5850.26	5
28 mm	A-5850.28/1	1	A-5850.28	5
30 mm	A-5850.30/1	1	A-5850.30	5
32 mm	A-5850.32/1	1	A-5850.32	5
34 mm	A-5850.34/1	1	A-5850.34	5
36 mm	A-5850.36/1	1	A-5850.36	5
38 mm	A-5850.38/1	1	A-5850.38	5
40 mm	A-5850.40/1	1	A-5850.40	5
45 mm	A-5850.45/1	1	A-5850.45	5
50 mm	A-5850.50/1	1	A-5850.50	5
55 mm	A-5850.55/1	1	A-5850.55	5
60 mm	A-5850.60/1	1	A-5850.60	5
65 mm	A-5850.65/1	1	A-5850.65	5
70 mm	A-5850.70/1	1	A-5850.70	5
75 mm	A-5850.75/1	1	A-5850.75	5

2.8 Cortical Screws, HexaDrive 7

Material: Titanium (ASTM F136)

Length	Art. No.	Pieces/Pkg	Art. No.	Pieces/Pkg
8 mm	A-5800.08/1	1	A-5800.08	5
10 mm	A-5800.10/1	1	A-5800.10	5
12 mm	A-5800.12/1	1	A-5800.12	5
14 mm	A-5800.14/1	1	A-5800.14	5
16 mm	A-5800.16/1	1	A-5800.16	5
18 mm	A-5800.18/1	1	A-5800.18	5
20 mm	A-5800.20/1	1	A-5800.20	5
22 mm	A-5800.22/1	1	A-5800.22	5
24 mm	A-5800.24/1	1	A-5800.24	5
26 mm	A-5800.26/1	1	A-5800.26	5
28 mm	A-5800.28/1	1	A-5800.28	5
30 mm	A-5800.30/1	1	A-5800.30	5
32 mm	A-5800.32/1	1	A-5800.32	5
34 mm	A-5800.34/1	1	A-5800.34	5
36 mm	A-5800.36/1	1	A-5800.36	5
38 mm	A-5800.38/1	1	A-5800.38	5
40 mm	A-5800.40/1	1	A-5800.40	5
45 mm	A-5800.45/1	1	A-5800.45	5
50 mm	A-5800.50/1	1	A-5800.50	5
55 mm	A-5800.55/1	1	A-5800.55	5
60 mm	A-5800.60/1	1	A-5800.60	5
65 mm	A-5800.65/1	1	A-5800.65	5
70 mm	A-5800.70/1	1	A-5800.70	5
75 mm	A-5800.75/1	1	A-5800.75	5

2.8 Lag Screws, HexaDrive 7

Material: Titanium (ASTM F136)

1:1

Length	Art. No.	Pieces/Pkg
40 mm	A-5830.40/1	1
45 mm	A-5830.45/1	1
50 mm	A-5830.50/1	1
55 mm	A-5830.55/1	1
60 mm	A-5830.60/1	1
65 mm	A-5830.65/1	1
70 mm	A-5830.70/1	1
75 mm	A-5830.75/1	1

2.5/2.8 Biconcave Washer

Material: Titanium (ASTM F67)

2:1

Art. No.	Pieces/Pkg
A-4750.70	5

K-Wires, Stainless Steel

1:2

Art. No.	∅	Description	Length	Pieces/Pkg
A-5040.21	1.2 mm	trocar	150 mm	10
A-5040.41	1.6 mm	trocar	150 mm	10
A-5040.51	1.8 mm	trocar	150 mm	10

K-Wires, Stainless Steel

1:2

Art. No.	∅	Description	Length	Pieces/Pkg
A-5042.21	1.2 mm	lancet	150 mm	10
A-5042.41	1.6 mm	lancet	150 mm	10
A-5042.51	1.8 mm	lancet	150 mm	10

Twist Drills

A-3434

A-3431

A-3832

A-3837

A-3834

Art. No.	System Size	∅	Stop	Length	Drill Shaft End	Pieces/Pkg
A-3434	2.0	1.6 mm	30 mm	86 mm	AO Quick Coupling	1
A-3431	2.0	2.1 mm (for gliding hole)	10 mm	66 mm	AO Quick Coupling	1
A-3832	2.8	2.35 mm	50 mm	101 mm	AO Quick Coupling	1
A-3837	2.8	2.35 mm	38 mm	151 mm	AO Quick Coupling	1
A-3834	2.8	2.9 mm (for gliding hole)	10 mm	61 mm	AO Quick Coupling	1

Countersink for Cortical Screws

Art. No.	System Size	∅	Length	Drill Shaft End	Pieces/Pkg
A-3835	2.8	3.7 mm	45 mm	AO Quick Coupling	1

2.8 Tap

Art. No.	System Size	Length	Drill Shaft End	Pieces/Pkg
A-3839	2.8	75 mm	AO Quick Coupling	1

Screwdriver, Self-Holding

Art. No.	System Size	Interface	Length	Pieces/Pkg
A-2610	2.0/2.3	HD6	153 mm	1

Handle with Quick Connector

A-2070

A-2073

Art. No.	Description	Length	Drill Shaft End	Pieces/Pkg
A-2070		119 mm	AO Quick Coupling	1
A-2073	with twist cap	124 mm	AO Quick Coupling	1

Screwdriver Blade, Self-Holding, HexaDrive 7

Art. No.	System Size	Length	Drill Shaft End	Pieces/Pkg
A-2013	2.5/2.8	75 mm	AO Quick Coupling	1

Depth Gauges

A-2032

A-2836

Art. No.	System Size	Length	Pieces/Pkg
A-2032	2.0/2.3	151 mm	1
A-2836	2.8	220 mm	1

Plate Bending Iron Elbow

Art. No.	System Size	Length	Pieces/Pkg
A-2090	2.8	160 mm	1

Scale: 1:2

→ www.medartis.com/products/aptus/elbow

Pliers

A-2040

A-2047

A-7003

A-7014*

A-7012

A-7015

Art. No.	System Size	Description	Length	Pieces/Pkg
A-2040	1.2–2.3	plate bending pliers with Vario pin	119 mm	1
A-2047	2.0–2.8	plate bending pliers with pins	158 mm	1
A-7003		reduction forceps	130 mm	1
A-7014*		reduction forceps	205 mm	1
A-7012		plate and bone holding forceps	140 mm	1
A-7015		plate and bone holding forceps	180 mm	1

2.8 Aiming Device (Complete / Individual Parts)

A-2096* COMPLETE

A-2095.1*

A-2095.4*

A-2095.2*

A-2095.3*

Art. No.	System Size	Description	Pieces/Pkg
A-2096*	2.8	2.8 aiming device	1
A-2095.1*	2.8	aiming device, frame with handle	1
A-2095.2*	2.8	aiming device, drill stop	1
A-2095.3*	2.8	aiming device, trigger with target tip	1
A-2095.4*	2.8	aiming device, drill guide 2.8	1

*Scale: 1:4
Scale: 1:3

Periosteal Elevator

Art. No.	Description	Pieces/Pkg
A-7016	6 x 190 mm, round edges	1

Wound Retractor Langenbeck

Art. No.	Description	Pieces/Pkg
A-7018	44 x 210 mm	1

Bone Elevator Hohmann

Art. No.	Description	Pieces/Pkg
A-7017	8 x 220 mm	1

Drill Guides

A-2620

A-2820

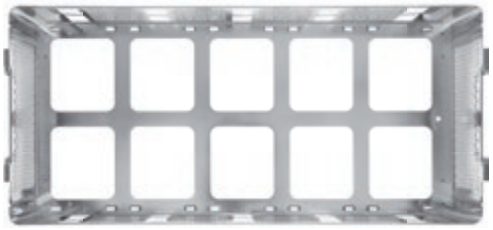
Art. No.	System Size	Description	Length	Pieces/Pkg
A-2620	2.0/2.3	for core and gliding hole	150 mm	1
A-2820	2.8	for core and gliding hole	145 mm	1

Scale: 1:2

→ www.medartis.com/products/aptus/elbow

Cases

A-6502/A-6503

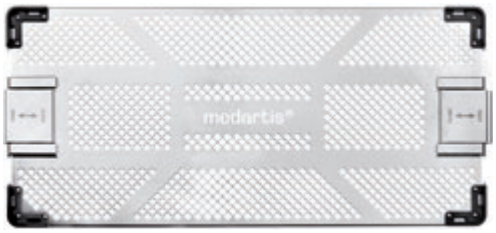


A-6505/A-6517

Art. No.	Description	Effective Height	Pieces/Pkg
A-6502	2/5 case	72 mm	1
A-6503	2/5 case	144 mm	1
A-6505	5/5 case	144 mm	1
A-6517	5/5 case	96 mm	1

Lids for Cases

A-6500



A-6501

Art. No.	Description	Pieces/Pkg
A-6500	for 2/5 case	1
A-6501	for 5/5 case	1

Modules for Elbow Set 2.0

A-6530

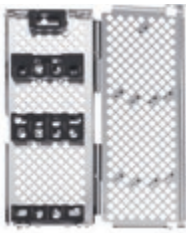
A-6531

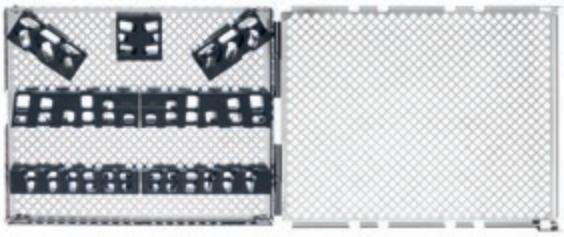
Art. No.	Description	Effective Height	Pieces/Pkg
A-6530	1/5 implant module Elbow 2.0	72 mm	1
A-6531	1/5 instrument module Elbow 2.0	72 mm	1

→ www.medartis.com/products/aptus/elbow

Modules for Elbow Set 2.8


A-6533/A-6583

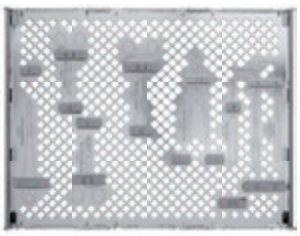

A-6537


A-6538

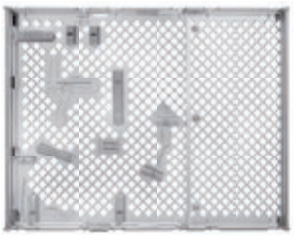

A-6587


A-6585


A-6586


A-6534


A-6535


A-6536

Art. No.	Description	Effective Height	Pieces/Pkg
A-6533	1/5 screw module Elbow 2.8	120 mm	1
A-6534	3/5 instrument module Elbow 2.0/2.8	24 mm	1
A-6535	3/5 instrument module Elbow 2.8	48 mm	1
A-6536	3/5 instrument module Elbow 2.8	48 mm	1
A-6537	1/5 plate module Olecranon 2.8	24 mm	1
A-6538	3/5 plate module distal Humerus 2.8	24 mm	1
A-6583	1/5 screw module Elbow 2.8	96 mm	1
A-6585	2/5 instrument module Elbow 2.8	48 mm	1
A-6586	2/5 instrument module Elbow 2.8	48 mm	1
A-6587	1/5 instrument module Elbow 2.8	72 mm	1

Module Spacers


A-6510


A-6513/A-6514

Art. No.	Description	Effective Height	Pieces/Pkg
A-6510	3/5 module spacer	24 mm	1
A-6513	1/5 module spacer	72 mm	1
A-6514	1/5 module spacer	24 mm	1

→ www.medartis.com/products/aptus/elbow

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