

medartis®

PRECISION IN FIXATION

SURGICAL TECHNIQUE – STEP BY STEP

Hand
1.2–2.3



APTUS®
Hand

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For further information regarding the APTUS product line visit www.medartis.com

Introduction

Product Materials

APTUS implants, plates and screws, are made of pure titanium (ASTM F67, ISO 5832-2) or titanium alloy (ASTM F136, ISO 5832-3). All of the titanium materials used are biocompatible, corrosion-resistant and non-toxic in a biological environment.

K-wires and staples are made of stainless steel (ASTM F138, ASTM F139); instruments are made of stainless steel, PEEK, aluminum or titanium.

Indications

- Fractures of the distal, middle and proximal phalanges as well as of the metacarpals
- All transverse fractures, spiral fractures, fractures near joints with or without joint involvement, shaft fractures, comminuted fractures, dislocated fractures and ligament/ bone avulsions
- Arthrodeses in the hand

Contraindications

- Pre-existing or suspected infection at or near the implantation site
- Known allergies and/or hypersensitivity to implant materials
- Inferior or insufficient bone quality to securely anchor the implant
- Patients who are incapacitated and/or uncooperative during the treatment phase
- Growth plates are not to be blocked with plates and screws

Color Coding

System Size	Color Code
APTUS 1.2	Red
APTUS 1.5	Green
APTUS 2.0	Blue
APTUS 2.3	Brown

Plates and Screws

Special implant plates and screws have their own color:

Implant plates gold	Fixation plates
Implant plates blue	TriLock plates (locking)
Implant screws gold	Cortical screws (fixation)
Implant screws blue	TriLock screws (locking)

Possible Combination of Plates and Screws

Plates and screws can be combined within one system size:

1.2 / 1.5 Fixation Plates

- 1.2 Cortical Screws, HexaDrive 4
- 1.5 Cortical Screws, HexaDrive 4
- 1.8 Emergency Screws, HexaDrive 4

1.5 TriLock Plates

- 1.2 Cortical Screws, HexaDrive 4
- 1.5 Cortical Screws, HexaDrive 4
- 1.5 TriLock Screws, HexaDrive 4

2.0 / 2.3 Fixation Plates

- 2.0 / 2.3 MC Compression Plates
- 2.0 Cortical Screws, HexaDrive 6
- 2.3 Cortical Screws, HexaDrive 6
- 2.5 Emergency Screws, HexaDrive 6





2.0 TriLock Plates

- 2.0 Cortical Screws, HexaDrive 6
- 2.0 TriLock Screws, HexaDrive 6
- 2.3 Cortical Screws, HexaDrive 6
- 2.5 Emergency Screws, HexaDrive 6

2.0 / 2.3 TriLock Arthrodesis Plates

- 2.0 Cortical Screws, HexaDrive 6
- 2.0 TriLock Screws, HexaDrive 6
- 2.3 Cortical Screws, HexaDrive 6
- 2.5 Emergency Screws, HexaDrive 6

Symbols

-  HexaDrive
-  TriLock screw hole on sizing templates
-  Non-locking screw hole on sizing templates
-  Compression screw hole on sizing templates










































System Overview

The APTUS Hand fixation system is used for fractures, osteotomies and arthrodesis of the hand. According to the respective APTUS system size (1.2, 1.5, 2.0 and 2.3) and plate technology (fixation vs. locking), plates are available in different designs (e.g. straight vs. grid plates, or L-, Y-,

T-shape) and in various plate sizes (e.g. total length, number of holes, thickness).

For the complete implant portfolio, please refer to the APTUS Ordering Catalog, also available at www.medartis.com.

Description	Examples			Main Feature	Plate Thickness	System
Straight plates	 A-4300.03				0.6 mm	1.2/1.5
	 A-4350.08			locking	0.8 mm	1.2/1.5
	 A-4600.03				1.0 mm	2.0/2.3
	 A-4650.03			locking	1.0 mm	2.0/2.3
	 A-4645.03			compression	1.3 mm	2.0/2.3
	 A-4655.03			locking	1.3 mm	2.0/2.3
L, Y, T-plates	 A-4300.20	 A-4300.13	 A-4300.11		0.6 mm	1.2/1.5
	 A-4350.14			locking	0.8 mm	1.2/1.5
	 A-4600.20	 A-4600.13	 A-4600.11		1.0 mm	2.0/2.3
	 A-4650.20	 A-4650.13	 A-4650.11	locking	1.0 mm	2.0/2.3
	 A-4645.20		 A-4645.16	compression	1.3 mm	2.0/2.3
	 A-4655.20	 A-4655.16	 A-4655.11	locking	1.3 mm	2.0/2.3

Description		Examples		Main Feature	Plate Thickness	System
Grid plates		 A-4300.62	 A-4300.58		0.6 mm	1.2/1.5
		 A-4350.62		locking	0.8 mm	1.2/1.5
		 A-4600.62	 A-4600.58		1.0 mm	2.0/2.3
		 A-4650.62	 A-4650.58	locking	1.0 mm	2.0/2.3
		 A-4655.56		locking	1.3 mm	2.0/2.3
Special plates	Hook plate	 A-4340.32		compression	0.6 mm	1.2/1.5
	Biconcave washers	 A-4300.70			0.6 mm	1.2/1.5
		 A-4600.70			0.8 mm	2.0/2.3
	Condylar plates	 A-4340.30		compression	0.6 mm	1.2/1.5
		 A-4640.30		compression	1.0 mm	2.0/2.3
	Scaphoid plate	 A-4350.80		locking	0.8 mm	1.2/1.5
	Rotation plates	 A-4350.23		locking	0.8 mm	1.2/1.5
		 A-4655.24		locking	1.3 mm	2.0/2.3
	Arthrodesis plates	 A-4660.10		locking	1.4 mm	2.0/2.3
 A-4660.15		locking	1.4 mm	2.0/2.3		

Instrument Application




General Instrument Application

Sizing Templates

Sizing templates facilitate the intraoperative selection of the appropriate implant.

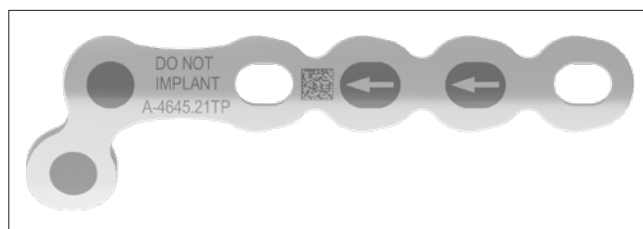
Sizing templates for the Hand System 1.2–2.3 are available according to the Appendix Implants and Instruments.

The sizing templates feature symbols that indicate the type of the screw hole and its position on the respective implant:

-  for a TriLock screw hole (locking) using a TriLock or a cortical screw
-  for a non-locking screw hole (fixation) using a cortical screw only
-  for a compression screw hole (compression/fixation) using a cortical screw only
The arrow «→» indicates the direction of the compression.

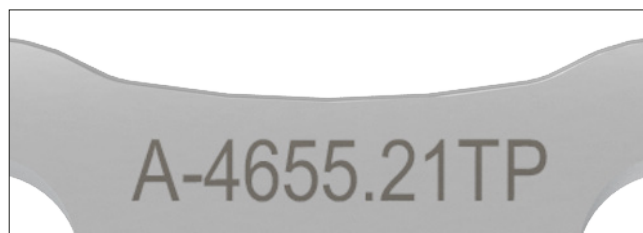


Sizing template with TriLock screw symbols for a TriLock plate (locking)



Sizing template with non-locking and compression screw hole symbols for a fixation plate

The article number of the sizing template (e.g. A-4655.21TP) corresponds to the article number of the sterile implant (e.g. A-4655.21S). The suffix TP stands for template.



A-4655.21TP
Template for A-4655.21S

Use appropriate K-wires to temporarily fix the sizing template to the bone, if necessary.

Caution

Do not implant sizing templates.

Do not bend or cut sizing templates.

Plate Holding and Positioning

The plate holding and positioning instrument (A-2350, A-2650) is used to pick up the plate in order to position it on the bone.



A-2350
1.2/1.5 Plate Holding and Positioning Instrument

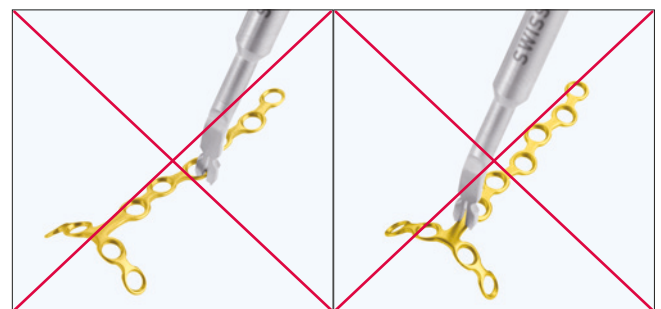
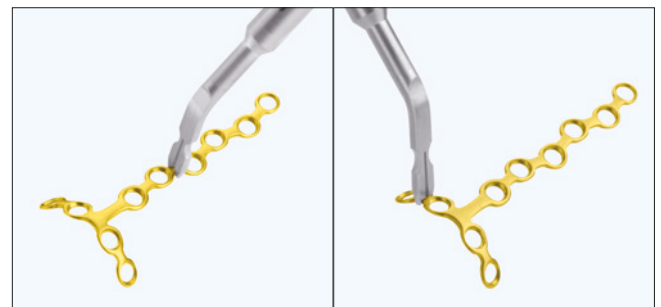


A-2650
2.0/2.3 Plate Holding and Positioning Instrument

Choose the appropriate plate holding and positioning instrument based on the system size of the plate. Pick up the plate at the bar.

Notice

The plate holding and positioning instruments are not compatible with the 1.5 TriLock plates (A-4350.xx).



The ball tip end of the 1.2/1.5 plate holding and positioning instrument (A-2350) facilitates positioning, moving and holding the implant on the bone and can be used with all system sizes.

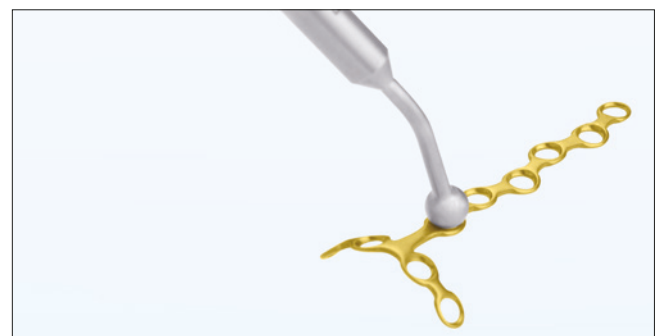
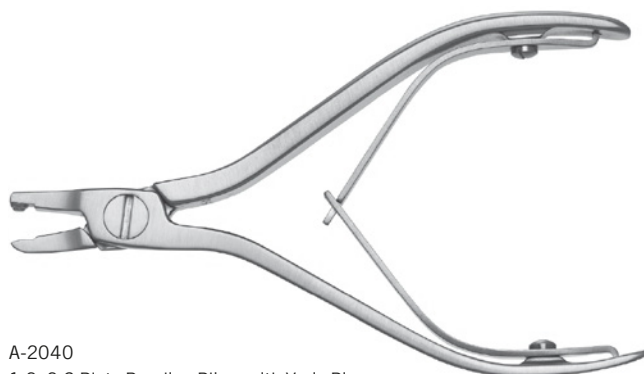


Plate Bending

If required, plates can be bent with the plate bending pliers (A-2040). The plate bending pliers have a pin to protect the plate holes during the bending process. The pin fits all 1.2/1.5 and 2.0/2.3 APTUS Hand plates.



A-2040
1.2–2.3 Plate Bending Pliers with Vario Pin

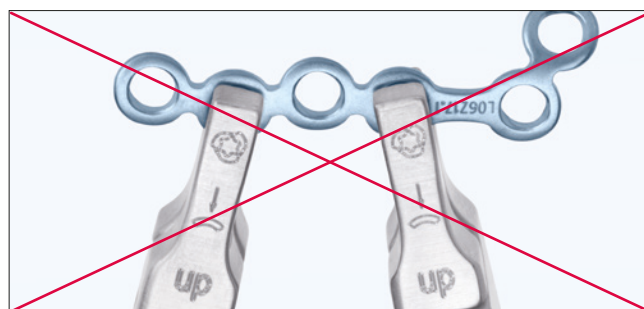
The labeled side of the plate must always face upwards when inserting the plate into the bending pliers.

When bending a plate, the plate bending pliers must be held so that the letters «UP» are legible from above. This ensures that the plate holes are not damaged.



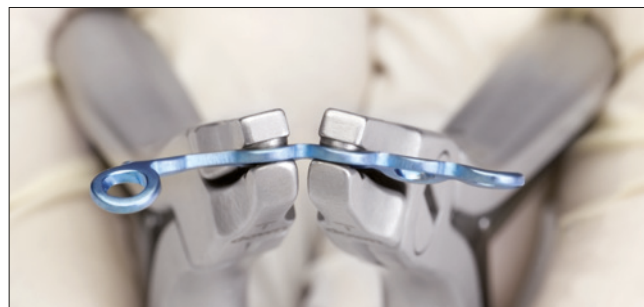
Notice

While bending, the plate must always be held at two adjacent holes to prevent contour deformation of the intermediate plate hole.



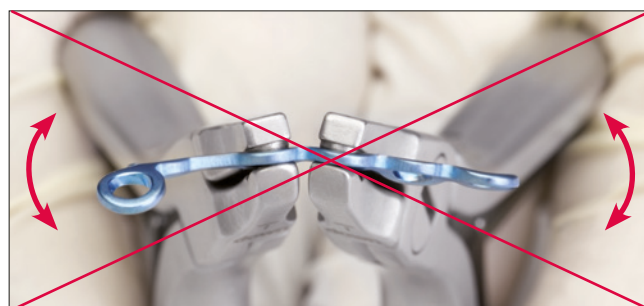
Caution

Do not bend the plate by more than 30°. Bending the plate further may deform the plate holes and may cause the plate to break postoperatively.



Caution

Repeatedly bending the plate in opposite directions may cause the plate to break postoperatively. Always use the provided plate bending pliers to avoid damaging the plate holes. Damaged plate holes prevent correct and secure seating of the screw in the plate and increase the risk of system failure.



Cutting

If required, the 1.2–2.8 plate cutting pliers (A-2046) can be used to cut the APTUS Hand plates 1.2/1.5 and 2.0/2.3, as well as K-wires up to a diameter of 1.8 mm.



A-2046
1.2-2.8 Plate Cutting Pliers

Ensure that there are no remaining plate segments in the cutting pliers (visual check). Insert the plate from the front into the open cutting pliers. Always ensure that the labeled side of the plate is facing upwards. Hold the implantable plate segment with your hand during and after cutting.

Recommendation

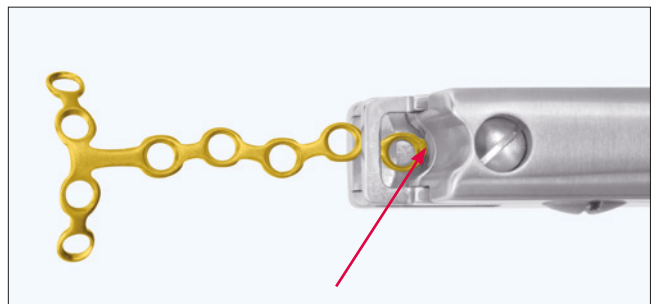
To facilitate the insertion of the plate, support the cutting pliers slightly with your middle finger.



You can visually check the desired cutting line through the cutting window in the head of the pliers (see figure). Always leave enough material on the rest of the plate to keep the adjacent hole intact.

Notice

Always cut the plate holes individually. If two plate holes need to be cut off, two cutting procedures are necessary.



Shorten the K-wires by inserting the wire through the opening located on the side of the plate cutting pliers. Cut the wire by pressing the pliers.



Drilling

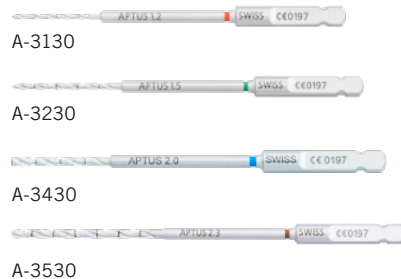
Color-coded twist drills are available for every APTUS system size. All twist drills are color-coded via a ring system.

System Size	Color Code
APTUS 1.2	Red
APTUS 1.5	Green
APTUS 2.0	Blue
APTUS 2.3	Brown

There are two different types of twist drills available for every system size: The core hole drills are characterized by one colored ring, the gliding hole drills (for lag screw technique) are characterized by two colored rings.

Notice

Twist drills are also available in different lengths, with different stops and with different shaft ends. For details, please refer to the APTUS Ordering Catalog.



Core hole drills = one colored ring



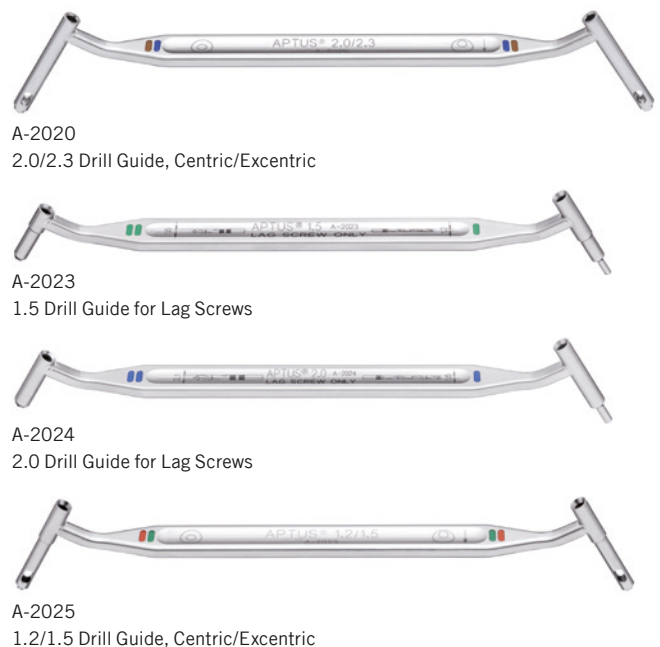
Gliding hole drills = two colored rings

Drill guides for core holes (for TriLock and cortical screws):

- for 1.2 screws A-2025 (centric drilling)
- for 1.5 screws A-2025 (centric drilling) or A-2023 (one green marking)
- for 2.0 screws A-2020 (centric drilling) or A-2024 (one blue marking)
- for 2.3 screws A-2020 (centric drilling)

Drill guides for gliding holes (only for cortical screws):

- for 1.2 screws A-2025 (centric drilling)
- for 1.5 screws A-2023 (two green markings)
- for 2.0 screws A-2020 (centric drilling) or A-2024 (two blue markings)
- for 2.3 screws A-2020 (centric drilling)




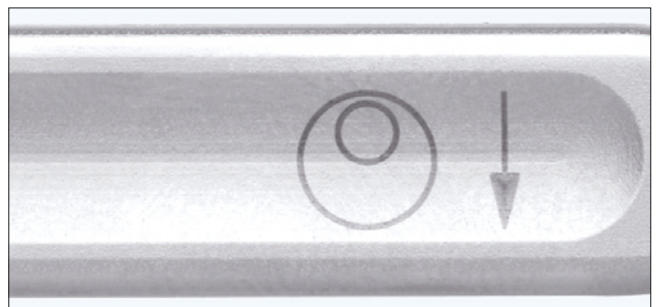
This symbol marks the end of the drill guide used for centric drilling. This end is used for all fixation and TriLock plates, as well as for lag screws.



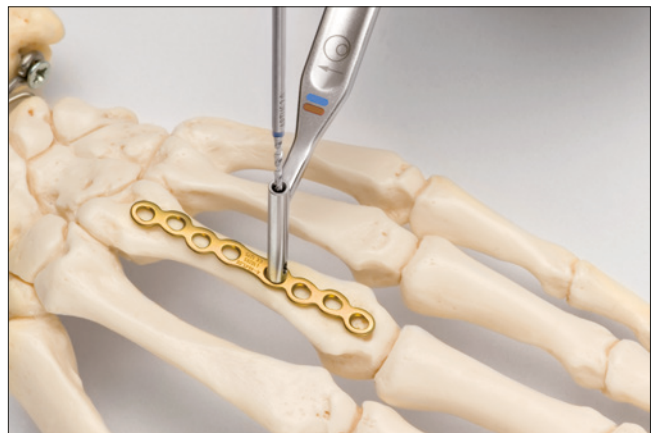
This symbol marks the end of the drill guide used for eccentric drilling. This end is used for compression plates only.

Notice

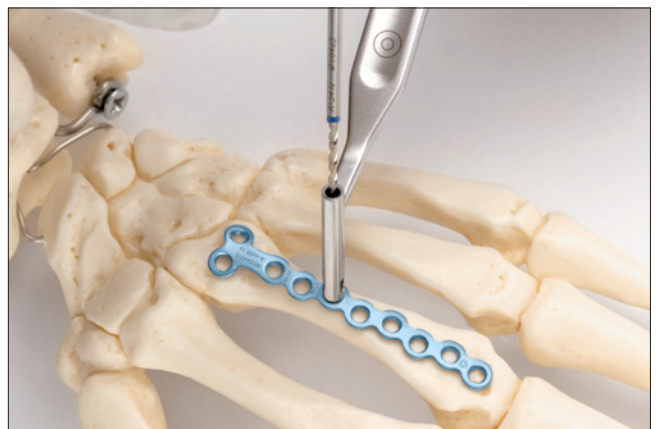
The arrow «» indicates the direction of the compression and must always point towards the fracture line.



The twist drill must always be guided through a drill guide. This prevents damage to the screw hole and protects the surrounding tissue from direct contact with the drill. The drill guide also serves to limit the pivoting angle.



After positioning the plate, insert the drill guide and the twist drill into the screw hole. In the APTUS system, the drill is guided by the drill shaft and not the drill flute.



Caution

For TriLock plates ensure that the screw holes are pre-drilled with a pivoting angle of no more than $\pm 15^\circ$. For this purpose, the drill guides show a limit stop of $\pm 15^\circ$. A pre-drilled pivoting angle of $> 15^\circ$ no longer allows the TriLock screws to correctly lock in the plate.



Countersinking

In case of inserting a cortical screw without plate, the corresponding countersink (A-3310, A-3610) may be used to create a recess in the bone for the screw head.



A-3310
1.2/1.5 Countersink for Cortical Screws, Dental



A-3610
2.0/2.3 Countersink for Cortical Screws, Dental



Recommendation

Use the handle (A-2071) instead of a power tool.



A-2071
Handle with Quick Connector, Dental

Assigning the Screw Length

The depth gauge (A-2030, A-2032) is used to assign the ideal screw length for use in monocortical or bicortical screw fixation.



A-2030
1.2/2.3 Depth Gauge



A-2032
2.0/2.3 Depth Gauge

Retract the slider of the depth gauge.

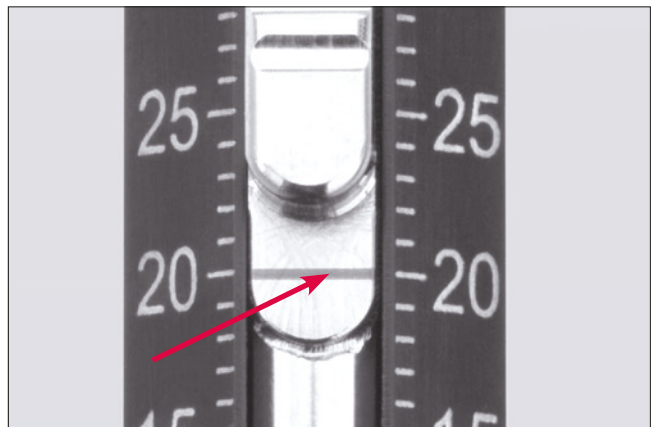
The depth gauge caliper has a hooked tip that is either inserted to the bottom of the hole or is used to catch the far cortex of the bone. When using the depth gauge, the caliper stays static, only the slider is adjusted.



To assign the screw length, place the distal end of the slider onto the implant plate or directly onto the bone (e.g. for fracture fixation with lag screws).

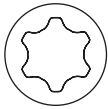


The ideal screw length for the assigned drill hole can be read on the scale of the depth gauge.



Screw Pick-Up

The screwdrivers (A-2310, A-2610) and the screwdriver blades (A-2311, A-2611) feature the patented HexaDrive self-holding system.



A-2310
1.2/1.5 Screwdriver, HD4, Self-Holding



A-2610
2.0/2.3 Screwdriver, HD6, Self-Holding



A-2311
1.2/1.5 Screwdriver Blade, HD4, AO



A-2611
2.0/2.3 Screwdriver Blade, HD6, AO



A-2073
Cannulated Handle with Quick Connector, AO

To remove the screws from the implant container, insert the appropriately color-coded screwdriver perpendicularly into the screw head of the desired screw and pick up the screw with axial pressure.

Notice

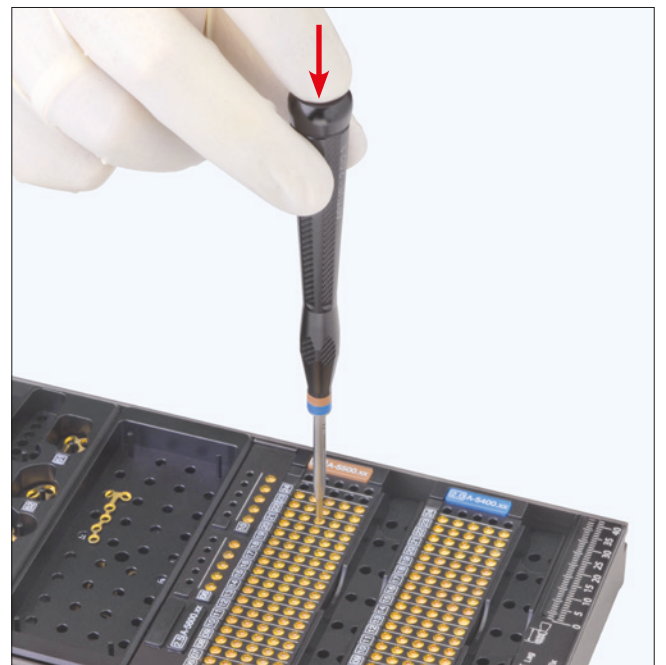
The screw will not hold without axial pressure!

Vertically extract the screw from the compartment.

Notice

Picking up the screw repeatedly may lead to permanent deformation of the self-retaining area of the HexaDrive inside the screw head. Therefore, the screw may no longer be able to be picked up correctly. In this case, a new screw has to be used.

Check the screw length and diameter at the scale of the measuring module. The screw length is determined at the end of the screw head.



Surgical Techniques

General Surgical Technique

Lag Screw Technique

1. Drilling the core hole

Use the twist drill for core holes (one colored ring) of the required system size (see chapter «Drilling») and drill through both cortices. Drill at a right angle to the fracture line.



2. Drilling the gliding hole

Use the twist drill for gliding holes (two colored rings) of the same system size (see chapter «Drilling») to overdrill the near cortex.

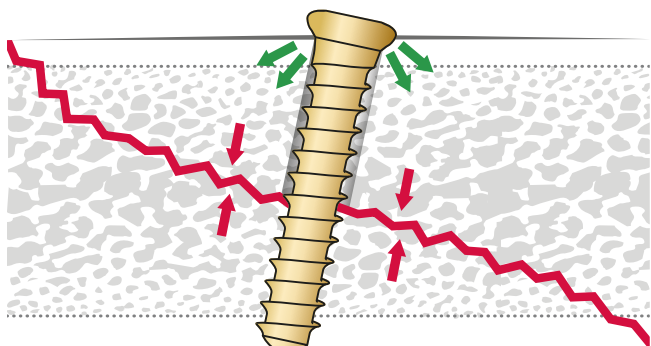
Recommendation

Do not drill further than to the fracture line.



3. Compressing the fracture

Compress the fracture with the corresponding cortical screw.



4. Optional steps before compression

If required, use the corresponding countersink (A-3310, A-3610) to create a recess in the bone for the screw head.

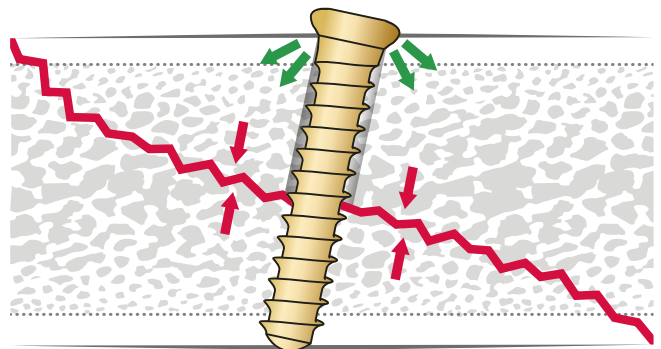
Recommendation

Use the handle (A-2071) instead of a power tool.



Recommendation

If the cortical bone is soft, a biconcave washer (A-4300.70, A-4600.70) can be used for the cortical screw in order to distribute the forces over a larger bone surface around the screw head.



Specific Surgical Techniques

Hook Plate

A-4340.32 for mallet fractures (avulsion fractures)

1. Picking up and positioning the plate

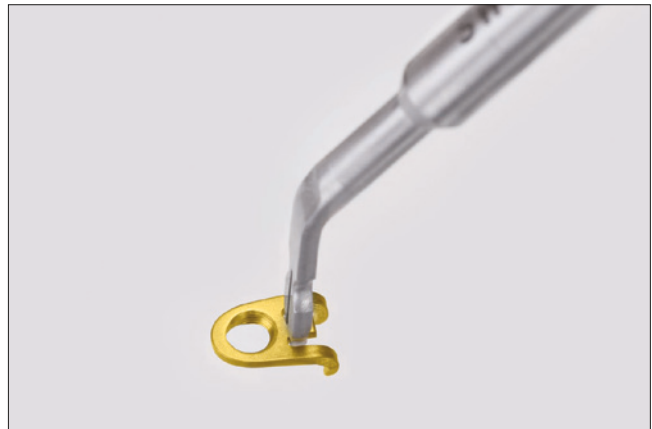
Take the hook plate (A-4340.32) from the implant container and position it on a firm and sterile surface.

Pick up the hook plate with the plate holding and positioning instrument (A-2350) in a 90° angle with axial pressure.

Press the hooks into the avulsed fragment of the extensor tendon and reduce the fracture to its original anatomical shape.

Notice

Subperiosteal elevation of the nail matrix will prevent pression of the plate on the nail matrix with the risk of nail growth disturbance.



2. Drilling

Drill a hole using the drill guide (A-2025) while keeping the plate in place with the holding instrument.

Notice

To apply compression, the end of the drill guide marked for eccentric drilling has to be used (see chapter «Drilling»). Correct compression is only achieved if the drill guide is hold in a 90° angle to the plate.



3. Assigning the screw length

Use the depth gauge (A-2030) to assign the required screw length for bicortical fixation.

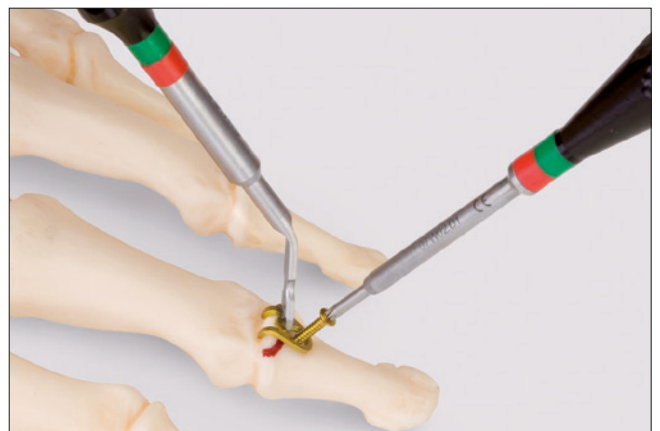


4. Fixation of the plate

Carefully insert the cortical screw (A-5100.xx, A-5200.xx) and fix the avulsed fragment to the bone.

Notice

To apply compression, the screw has to be inserted perpendicularly to the plate into the pre-drilled eccentric hole. (See step 2).



Recommendation

Check that the hooks of the plate do not impinge the distal joint surface of the middle phalanx.



Rotation Plates

A-4350.23 for rotational malalignment in phalanges

A-4655.24 for rotational malalignment in metacarpals

1. Positioning the plate

Position the rotation plate (at the long bar for A-4350.23, at the laser marking for A-4655.24) over the fracture line or the planned site for the osteotomy. If required, bend the plate with the bending pliers (A-2040) to adapt it to the individual shape of the bone.



2. Pre-fixation of the plate

Fix the straight part of the plate on the bone shaft with two TriLock screws (A-5250.xx, A-5450.xx). To do so, drill the core hole using the drill guide and the twist drill of the corresponding system size, assign the screw length with the depth gauge and insert the screws (see chapter «Drilling» and «Assigning the Screw Length»).



Notice

In case of an osteotomy, the plate can now be removed and refixed after performing the osteotomy cut.

3. Correcting the rotation

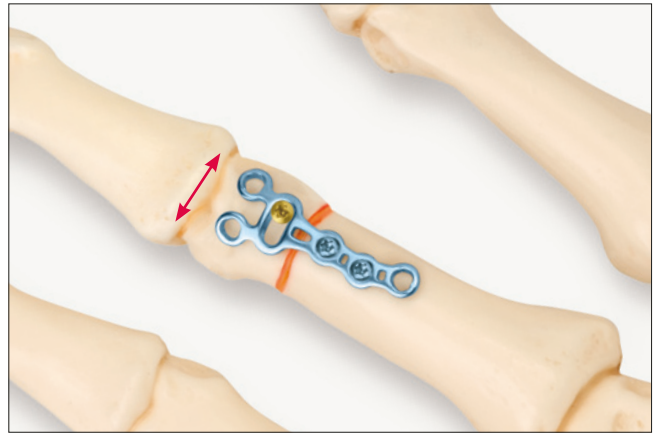
Fix the plate on the ulnar or radial side of the oblong hole with a cortical screw (A-5200.xx, A-5400.xx) depending on the necessary correction. Do not fully tighten the screw.



Adjust the alignment by sliding the cortical screw along the oblong hole. Once the correct alignment is reached, tighten the screw.

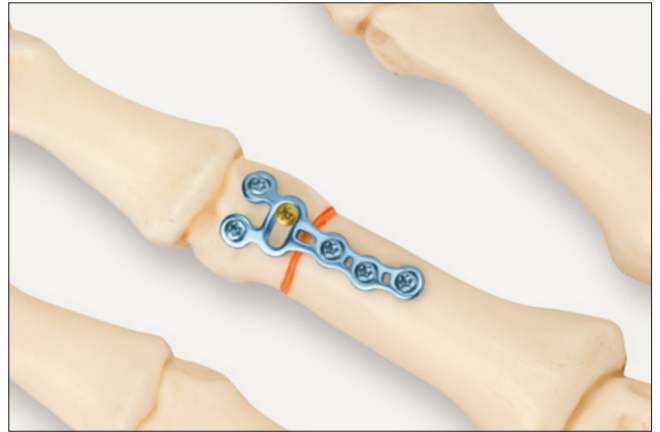
Recommendation

Flex the fingers almost completely (i.e. fist position) to check successful adjustment.



4. Fixation of the plate

Fill the screw holes with TriLock screws (A-5250.xx, A-5450.xx).



TriLock® Locking Technology

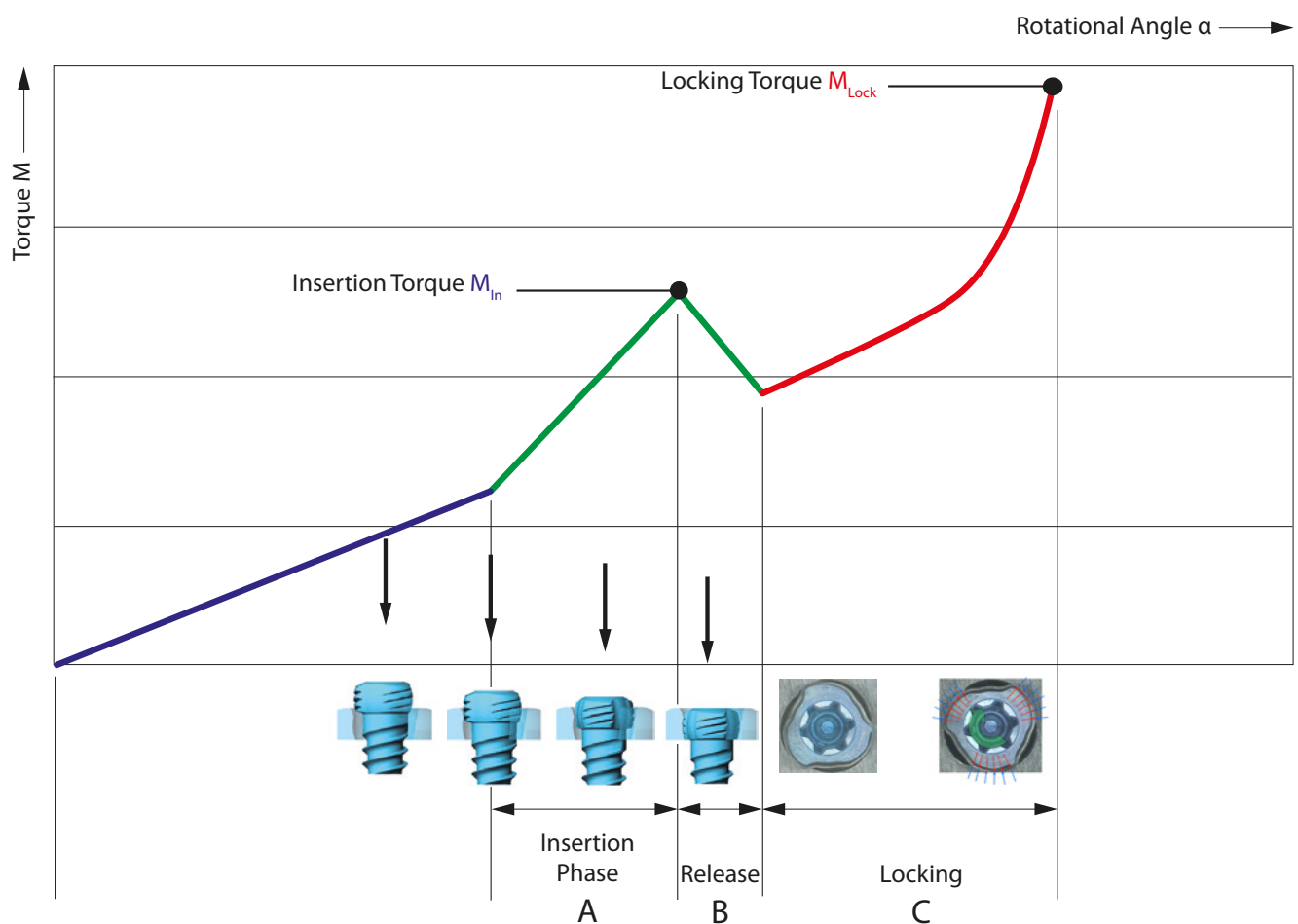
Correct Application of the TriLock Locking Technology

The screw is inserted through the plate hole into a pre-drilled canal in the bone. An increase of the tightening torque will be felt as soon as the screw head gets in contact with the plate surface.

This indicates the start of the «Insertion Phase» as the screw head starts entering the locking zone of the plate (section «A» in the diagram). Afterwards, a drop of the tightening torque

occurs (section «B» in the diagram). Finally, the actual locking is initiated (section «C» in the diagram) as a friction connection is established between screw and plate when tightening firmly.

The torque applied during fastening of the screw is decisive for the quality of the locking as described in section «C» of the diagram.



Correct Locking ($\pm 15^\circ$) of the TriLock Screws in the Plate

Visual inspection of the screw head projection provides an indicator of correct locking. Correct locking has occurred only when the screw head has locked flush with the plate surface (Fig. 1 and 3).

However, if there is still a noticeable protrusion (Fig. 2 and 4), the screw head has not completely entered the plate and reached the locking position. In this case, the screw has to be

retightened to obtain full penetration and proper locking. In case of poor bone quality, a slight axial pressure might be necessary to achieve proper locking. Due to the system characteristics, a screw head protrusion of around 0.2 mm exists when using plates with 1.0 mm thickness.

Do not overtighten the screw, otherwise the locking function cannot be guaranteed anymore.

Correct: LOCKED



Figure 1

Incorrect: UNLOCKED

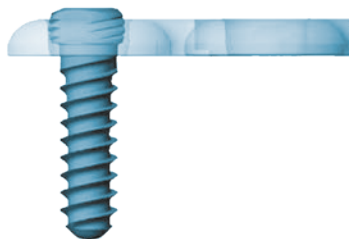


Figure 2

Correct: LOCKED

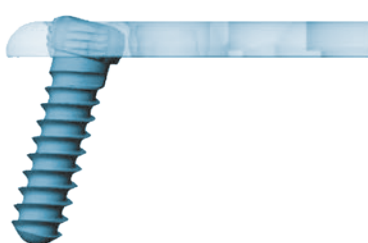


Figure 3

Incorrect: UNLOCKED

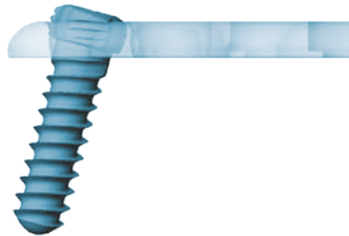


Figure 4

Appendix

Implants and Instruments

For detailed ordering information, please refer to the APTUS Ordering Catalog, also available at www.medartis.com

Plates

Art. No.	Art. No.	Art. No.	Art. No.	Art. No.
A-4300.01	A-4300.66S	A-4600.05	A-4645.01	A-4655.01
A-4300.01S	A-4300.67	A-4600.06	A-4645.01S	A-4655.01S
A-4300.03	A-4300.67S	A-4600.10	A-4645.02	A-4655.02
A-4300.03S	A-4300.70	A-4600.10S	A-4645.02S	A-4655.02S
A-4300.04	A-4300.70/1	A-4600.11	A-4645.03	A-4655.03
A-4300.04S	A-4300.70/1S	A-4600.11S	A-4645.03S	A-4655.03S
A-4300.05	A-4340.11	A-4600.13	A-4645.08	A-4655.08
A-4300.06	A-4340.12	A-4600.13S	A-4645.08S	A-4655.08S
A-4300.10	A-4340.30	A-4600.20	A-4645.10	A-4655.10
A-4300.10S	A-4340.30S	A-4600.20S	A-4645.10S	A-4655.10S
A-4300.11	A-4340.31	A-4600.21	A-4645.16	A-4655.11
A-4300.11S	A-4340.31S	A-4600.21S	A-4645.16S	A-4655.11S
A-4300.12	A-4340.32	A-4600.51	A-4645.20	A-4655.16
A-4300.12S	A-4340.32S	A-4600.52	A-4645.20S	A-4655.16S
A-4300.13	A-4350.01	A-4600.53	A-4645.21	A-4655.17
A-4300.13S	A-4350.01S	A-4600.54	A-4645.21S	A-4655.17S
A-4300.20	A-4350.08	A-4600.55	A-4645.22	A-4655.20
A-4300.20S	A-4350.08S	A-4600.56	A-4645.22S	A-4655.20S
A-4300.21	A-4350.14	A-4600.56S	A-4645.23	A-4655.21
A-4300.21S	A-4350.14S	A-4600.58	A-4645.23S	A-4655.21S
A-4300.50	A-4350.17	A-4600.59	A-4650.03	A-4655.22
A-4300.51	A-4350.17S	A-4600.60	A-4650.03S	A-4655.22S
A-4300.51S	A-4350.23	A-4600.60S	A-4650.10	A-4655.23
A-4300.54	A-4350.23S	A-4600.61	A-4650.10S	A-4655.23S
A-4300.54S	A-4350.41	A-4600.61S	A-4650.11	A-4655.24
A-4300.55	A-4350.41S	A-4600.62	A-4650.11S	A-4655.24S
A-4300.55S	A-4350.50	A-4600.62S	A-4650.13	A-4655.51
A-4300.56	A-4350.50S	A-4600.64	A-4650.13S	A-4655.51S
A-4300.56S	A-4350.56	A-4600.65	A-4650.20	A-4655.56
A-4300.58	A-4350.56S	A-4600.66	A-4650.20S	A-4655.56S
A-4300.59	A-4350.62	A-4600.66S	A-4650.21	A-4655.62
A-4300.60	A-4350.62S	A-4600.67	A-4650.21S	A-4655.62S
A-4300.60S	A-4350.66	A-4600.67S	A-4650.51	A-4655.66
A-4300.61	A-4350.66S	A-4600.70	A-4650.51S	A-4655.66S
A-4300.61S	A-4350.80	A-4600.70/1	A-4650.56	A-4660.10
A-4300.62	A-4350.80S	A-4600.70/1S	A-4650.56S	A-4660.10S
A-4300.62S	A-4600.01	A-4640.11	A-4650.58	A-4660.11
A-4300.64	A-4600.01S	A-4640.12	A-4650.59	A-4660.11S
A-4300.64S	A-4600.03	A-4640.30	A-4650.62	A-4660.15
A-4300.65	A-4600.03S	A-4640.30S	A-4650.62S	A-4660.15S
A-4300.65S	A-4600.04	A-4640.31	A-4650.67	
A-4300.66	A-4600.04S	A-4640.31S	A-4650.67S	

Screws, K-Wires

Art. No.	Art. No.	Art. No.
A-5040.21	A-5100.14	A-5200.14
A-5040.21/1	A-5100.14/1	A-5200.14/1
A-5040.21/2S	A-5100.14/1S	A-5200.14/1S
A-5040.41	A-5100.16	A-5200.15
A-5040.41/1	A-5100.16/1	A-5200.15/1
A-5040.41/2S	A-5100.16/1S	A-5200.15/1S
A-5042.21	A-5100.18	A-5200.16
A-5042.21/1	A-5100.18/1	A-5200.16/1
A-5042.21/2S	A-5100.18/1S	A-5200.16/1S
A-5042.41	A-5100.20	A-5200.17
A-5042.41/1	A-5100.20/1	A-5200.17/1
A-5042.41/2S	A-5100.20/1S	A-5200.17/1S
A-5100.04	A-5200.04	A-5200.18
A-5100.04/1	A-5200.04/1	A-5200.18/1
A-5100.04/1S	A-5200.04/1S	A-5200.18/1S
A-5100.05	A-5200.05	A-5200.19
A-5100.05/1	A-5200.05/1	A-5200.19/1
A-5100.05/1S	A-5200.05/1S	A-5200.19/1S
A-5100.06	A-5200.06	A-5200.20
A-5100.06/1	A-5200.06/1	A-5200.20/1
A-5100.06/1S	A-5200.06/1S	A-5200.20/1S
A-5100.07	A-5200.07	A-5200.21
A-5100.07/1	A-5200.07/1	A-5200.21/1
A-5100.07/1S	A-5200.07/1S	A-5200.21/1S
A-5100.08	A-5200.08	A-5200.22
A-5100.08/1	A-5200.08/1	A-5200.22/1
A-5100.08/1S	A-5200.08/1S	A-5200.22/1S
A-5100.09	A-5200.09	A-5200.23
A-5100.09/1	A-5200.09/1	A-5200.23/1
A-5100.09/1S	A-5200.09/1S	A-5200.23/1S
A-5100.10	A-5200.10	A-5200.24
A-5100.10/1	A-5200.10/1	A-5200.24/1
A-5100.10/1S	A-5200.10/1S	A-5200.24/1S
A-5100.11	A-5200.11	A-5250.04
A-5100.11/1	A-5200.11/1	A-5250.04/1
A-5100.11/1S	A-5200.11/1S	A-5250.04/1S
A-5100.12	A-5200.12	A-5250.05
A-5100.12/1	A-5200.12/1	A-5250.05/1
A-5100.12/1S	A-5200.12/1S	A-5250.05/1S
A-5100.13	A-5200.13	A-5250.06
A-5100.13/1	A-5200.13/1	A-5250.06/1
A-5100.13/1S	A-5200.13/1S	A-5250.06/1S

RCI

Art. No.	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.
A-5250.07	A-5400.05/1	A-5400.19/1	A-5450.14/1	A-5500.15/1	A-5500.34/1	A-3110	A-3414
A-5250.07/1	A-5400.05/1S	A-5400.19/1S	A-5450.14/1S	A-5500.15/1S	A-5500.34/1S	A-3110S	A-3414S
A-5250.07/1S	A-5400.06	A-5400.20	A-5450.16	A-5500.16	A-5600.06	A-3111	A-3420
A-5250.08	A-5400.06/1	A-5400.20/1	A-5450.16/1	A-5500.16/1	A-5600.06/1	A-3111S	A-3420S
A-5250.08/1	A-5400.06/1S	A-5400.20/1S	A-5450.16/1S	A-5500.16/1S	A-5600.10	A-3112	A-3421
A-5250.08/1S	A-5400.07	A-5400.21	A-5450.18	A-5500.17	A-5600.10/1	A-3112S	A-3421S
A-5250.09	A-5400.07/1	A-5400.21/1	A-5450.18/1	A-5500.17/1	A-5600.10/1S	A-3113	A-3424
A-5250.09/1	A-5400.07/1S	A-5400.21/1S	A-5450.18/1S	A-5500.17/1S		A-3113S	A-3424S
A-5250.09/1S	A-5400.08	A-5400.22	A-5450.20	A-5500.18		A-3120	A-3430
A-5250.10	A-5400.08/1	A-5400.22/1	A-5450.20/1	A-5500.18/1		A-3120S	A-3430S
A-5250.10/1	A-5400.08/1S	A-5400.22/1S	A-5450.20/1S	A-5500.18/1S		A-3121	A-3431
A-5250.10/1S	A-5400.09	A-5400.23	A-5500.05	A-5500.19		A-3121S	A-3431S
A-5250.11	A-5400.09/1	A-5400.23/1	A-5500.05/1	A-5500.19/1		A-3130	A-3434
A-5250.11/1	A-5400.09/1S	A-5400.23/1S	A-5500.05/1S	A-5500.19/1S		A-3130S	A-3434S
A-5250.11/1S	A-5400.10	A-5400.24	A-5500.06	A-5500.20		A-3131	A-3510
A-5250.12	A-5400.10/1	A-5400.24/1	A-5500.06/1	A-5500.20/1		A-3131S	A-3510S
A-5250.12/1	A-5400.10/1S	A-5400.24/1S	A-5500.06/1S	A-5500.20/1S		A-3210	A-3511
A-5250.12/1S	A-5400.11	A-5450.06	A-5500.07	A-5500.21		A-3210S	A-3511S
A-5250.13	A-5400.11/1	A-5450.06/1	A-5500.07/1	A-5500.21/1		A-3211	A-3512
A-5250.13/1	A-5400.11/1S	A-5450.06/1S	A-5500.07/1S	A-5500.21/1S		A-3211S	A-3512S
A-5250.13/1S	A-5400.12	A-5450.07	A-5500.08	A-5500.22		A-3212	A-3513
A-5250.14	A-5400.12/1	A-5450.07/1	A-5500.08/1	A-5500.22/1		A-3212S	A-3513S
A-5250.14/1	A-5400.12/1S	A-5450.07/1S	A-5500.08/1S	A-5500.22/1S		A-3213	A-3520
A-5250.14/1S	A-5400.13	A-5450.08	A-5500.09	A-5500.23		A-3213S	A-3520S
A-5250.16	A-5400.13/1	A-5450.08/1	A-5500.09/1	A-5500.23/1		A-3220	A-3521
A-5250.16/1	A-5400.13/1S	A-5450.08/1S	A-5500.09/1S	A-5500.23/1S		A-3220S	A-3521S
A-5250.16/1S	A-5400.14	A-5450.09	A-5500.10	A-5500.24		A-3221	A-3530
A-5250.18	A-5400.14/1	A-5450.09/1	A-5500.10/1	A-5500.24/1		A-3221S	A-3530S
A-5250.18/1	A-5400.14/1S	A-5450.09/1S	A-5500.10/1S	A-5500.24/1S		A-3230	A-3531
A-5250.18/1S	A-5400.15	A-5450.10	A-5500.11	A-5500.26		A-3230S	A-3531S
A-5250.20	A-5400.15/1	A-5450.10/1	A-5500.11/1	A-5500.26/1		A-3231	A-3610
A-5250.20/1	A-5400.15/1S	A-5450.10/1S	A-5500.11/1S	A-5500.26/1S		A-3231S	A-3610S
A-5250.20/1S	A-5400.16	A-5450.11	A-5500.12	A-5500.28		A-3310	A-3630
A-5300.06	A-5400.16/1	A-5450.11/1	A-5500.12/1	A-5500.28/1		A-3310S	A-3630S
A-5300.06/1	A-5400.16/1S	A-5450.11/1S	A-5500.12/1S	A-5500.28/1S		A-3410	A-3631
A-5300.06/1S	A-5400.17	A-5450.12	A-5500.13	A-5500.30		A-3410S	A-3631S
A-5300.10	A-5400.17/1	A-5450.12/1	A-5500.13/1	A-5500.30/1		A-3411	A-3635
A-5300.10/1	A-5400.17/1S	A-5450.12/1S	A-5500.13/1S	A-5500.30/1S		A-3411S	A-3635S
A-5400.04	A-5400.18	A-5450.13	A-5500.14	A-5500.32		A-3412	A-5045.40
A-5400.04/1	A-5400.18/1	A-5450.13/1	A-5500.14/1	A-5500.32/1		A-3412S	A-5045.40/1
A-5400.04/1S	A-5400.18/1S	A-5450.13/1S	A-5500.14/1S	A-5500.32/1S		A-3413	A-5045.41/1
A-5400.05	A-5400.19	A-5450.14	A-5500.15	A-5500.34		A-3413S	A-5045.41/2S

Instruments

Art. No.	Art. No.	Art. No.	Art. No.	Art. No.
A-5045.41/4	A-2020	A-4300.54TP	A-4645.08TP	A-7009
A-5045.42/1	A-2021	A-4300.55TP	A-4645.10TP	A-7010
A-5045.42/2S	A-2022	A-4300.56TP	A-4645.16TP	A-7011
A-5045.42/4	A-2023	A-4300.60TP	A-4645.20TP	A-7012
A-5045.43/1	A-2024	A-4300.61TP	A-4645.21TP	A-7013
A-5045.43/2S	A-2025	A-4300.62TP	A-4645.22TP	A-9100
A-5045.43/4	A-2030	A-4300.64TP	A-4645.23TP	A-9110
A-5045.44/1	A-2030.1	A-4300.65TP	A-4650.03TP	A-9112.01
A-5045.44/2S	A-2031	A-4300.66TP	A-4650.10TP	A-9112.02
A-5045.44/4	A-2031.1	A-4300.67TP	A-4650.11TP	A-9112.03
A-5045.45/1	A-2032	A-4340.30TP	A-4650.13TP	A-9113.01
A-5045.45/2S	A-2032.1	A-4340.31TP	A-4650.20TP	A-9113.02
A-5045.45/4	A-2040	A-4350.01TP	A-4650.21TP	A-9113.03
A-5045.46/1	A-2041	A-4350.08TP	A-4650.51TP	A-9114.01
A-5045.46/2S	A-2041.1	A-4350.14TP	A-4650.56TP	A-9114.02
A-5045.46/4	A-2042	A-4350.17TP	A-4650.62TP	S-2080
A-5045.47/1	A-2043	A-4350.23TP	A-4650.67TP	S-02072.13.5
A-5045.47/2S	A-2046	A-4350.41TP	A-4655.01TP	S-02072.13.5.1
A-5045.47/4	A-2046.1	A-4350.50TP	A-4655.02TP	S-02072.4.1.9
	A-2047	A-4350.56TP	A-4655.03TP	S-02072.4.2.9
	A-2048	A-4350.62TP	A-4655.08TP	S-02072.4.6
	A-2050	A-4350.66TP	A-4655.10TP	
	A-2060	A-4350.80TP	A-4655.11TP	
	A-2071	A-4600.01TP	A-4655.16TP	
	A-2310	A-4600.03TP	A-4655.17TP	
	A-2311	A-4600.04TP	A-4655.20TP	
	A-2611	A-4600.10TP	A-4655.21TP	
	A-2073	A-4600.11TP	A-4655.22TP	
	A-2350	A-4600.13TP	A-4655.23TP	
	A-2610	A-4600.20TP	A-4655.24TP	
	A-2620	A-4600.21TP	A-4655.51TP	
	A-2650	A-4600.56TP	A-4655.56TP	
	A-4300.01TP	A-4600.60TP	A-4655.62TP	
	A-4300.03TP	A-4600.61TP	A-4655.66TP	
	A-4300.04TP	A-4600.62TP	A-7001	
	A-4300.10TP	A-4600.66TP	A-7002	
	A-4300.11TP	A-4600.67TP	A-7003	
	A-4300.12TP	A-4640.30TP	A-7004	
	A-4300.13TP	A-4640.31TP	A-7005	
	A-4300.20TP	A-4645.01TP	A-7006	
	A-4300.21TP	A-4645.02TP	A-7007	
	A-4300.51TP	A-4645.03TP	A-7008	

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