

SURGICAL TECHNIQUE

ALP Titanium distal plate
TIDIS II



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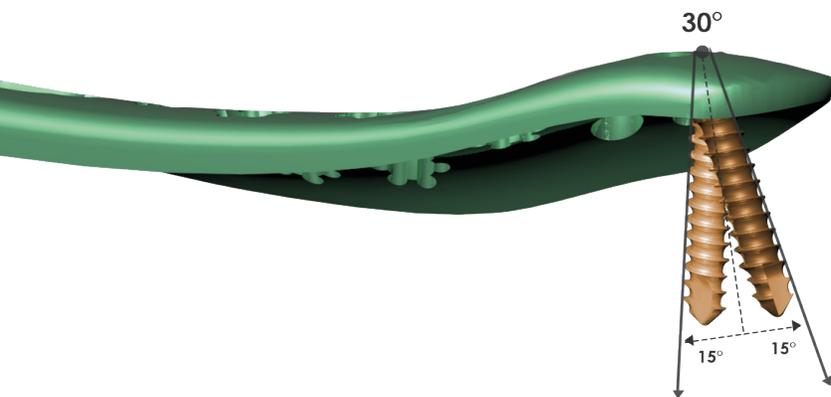
TECHNOLOGICAL ADVANTAGES

The Traufix **ALP** titanium distal plate **TIDIS II** combines some osteosynthesis techniques with techniques that use locking screws. The holes that the plate has along its shaft are a combination of dynamic compression holes (DCU) with one for locking screws. These holes provide the flexibility that axial compression gives us as well as the locking capability throughout the plate. The use of locking screws allows you to create a fixed angle; this ability to lock the screws is very useful when fastening the screws could be affected in osteopenic bone fractures or when multi-fragmented fractures occur. This works because, to withstand the patient's weight, the locking screws act as if they were several small layers formed in an angle, rather than relying on compression of the plate on the bone.



DESCRIPTION OF THE PLATE

- The head of the plate is low profile for minimal prominence on the medial malleolus.
- Seven distal variable angle polyaxial holes for 3.5mm locking screw that allow 15° inclination in any direction.
- Distal screw towards the tibial malleolus with a 30° inclination and an additional 15° that provides the polyaxial hole in any direction.
- Upper notches for low contact that allow better circulation of blood vessels.
- Unidirectional locking holes to avoid perforation and immobility of the fibula.
- Rounded edges to minimize irritation to soft tissues.
- The plate is made of titanium alloy Ti6Al4V ELI.
- Combination holes in the shaft accept the following screws:
 - 3.5 mm cortex screws
 - 3.5mm locking screws



SURGICAL INDICATIONS

TIDIS-II distal tibia ALP plate is indicated for use for fixing complex intra-articular and extra-articular fractures, as well as for osteotomies of the distal part of the tibia.

GENERAL CONTRAINDICATIONS

- Systemic inflammatory response syndrome (to be evaluated by the surgeon).
- Septicemia.
- Osteomyelitis.
- Patient unable to comply with post-operation care.
- Hypersensitivity to the materials (titanium).

DESCRIPTION OF THE SURGICAL TECHNIQUE

Patient Position

Place the patient in a supine decubitus position on an operating room radio-transparent table.

Reducing the joint surface

Tip: Before reducing, applying an external fastener or large distractor can make it easier to see and reduce the joint surface.

An open or percutaneous approach may be used, depending on the fracture.

Reduce the fragments of the fracture and check the reduction with the fluoroscope (see image 1). The reduction can be stabilized by the following methods:

- Independent Kirschner wires.
- Kirschner wires through the plate.
- Schanz screws (independent traction).
- Traction screws through the plate.
- Locking screws through the plate.

Locking screws do not provide inter-fragmental compression; therefore, any desired compression will have to be achieved with traditional lag screws. Before applying the ALP plate, it is necessary to reduce and compress joint fractures with locking screws.

Note: To verify that independent traction screws will not interfere with plate placement, evaluate placement during intervention using anteroposterior and side images with the fluoroscope .

Caution

This technique is suggested to describe the use of TRAUFIX instruments and implants, not aiming to interfere with the experience and decisions of the traumatologist considering his/her vast clinical and surgical experience to determine the best proposal for each particular patient.

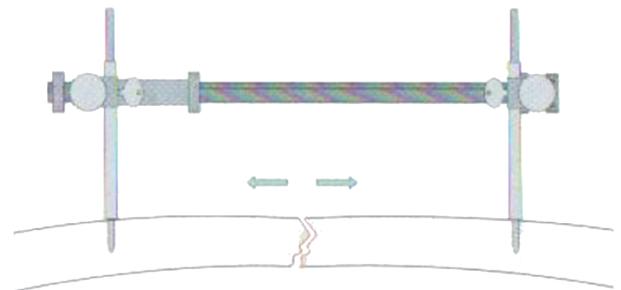


Image 1

Inserting the plate

An open or percutaneous approach may be used to carry out this activity, depending on the fracture.

1. Percutaneous introduction

For minimally traumatic insertion of plate into the medial tibia, a single simple incision is suggested on the inner face of the tibia and carefully insert the plate under the soft tissue. Make incisions in the diaphyseal area to insert the screws into the shaft area.

Note: Use a threaded plate fastener in one of the distal holes to serve as a handle for percutaneous insertion. Before positioning the plate against the bone, use the 3.5 universal drill guide in the distal holes. If you choose a percutaneous approach, be careful not to damage the saphenous nerve or saphenous vein.

2. Open introduction

Open the necessary area to expose the joint. Gently push the plate under the soft parts for shaft placement and between the plate and over the inner malleolus.



Image 2

Plate placement and provisional fixation

Before inserting the screws, check the alignment of the plate on the bone using the fluoroscope and make any adjustments you deem necessary.

The locking plate is pre-molded to fit the inner distal part of the tibia.

The plate can be temporarily held in place by one of the following options to be able to mobilize the plate to its final position, and the rotation of the plate will be avoided while the first locking screw is inserted:

- Instrument for time reduction (reduction instrument for pushing and pulling)
- Standard plates-holding clamps.
- Kirschner's wires through the plate.

Attention: Ensure proper reduction before inserting the locking screw. Once the locking screws are inserted, a subsequent reduction is no longer possible without loosening them.



Image 3

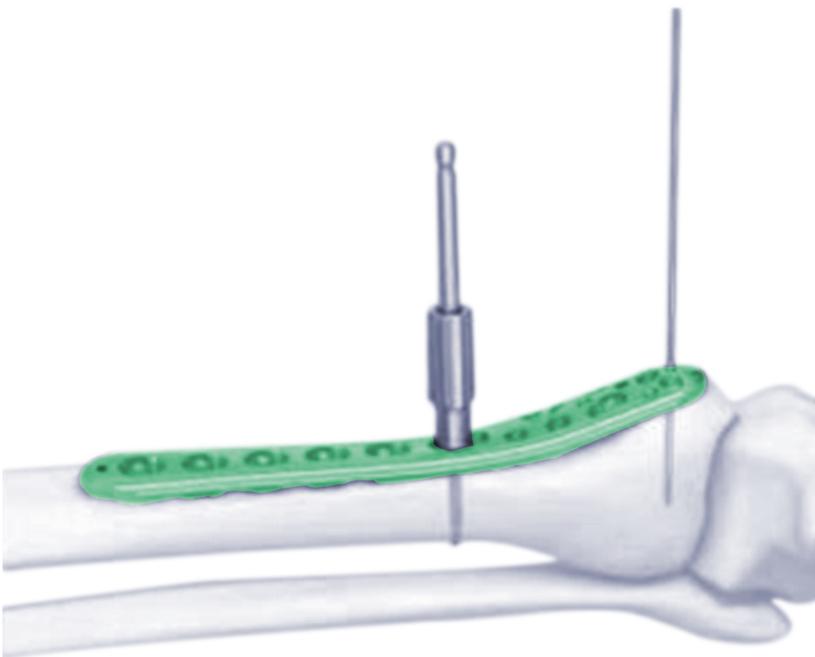
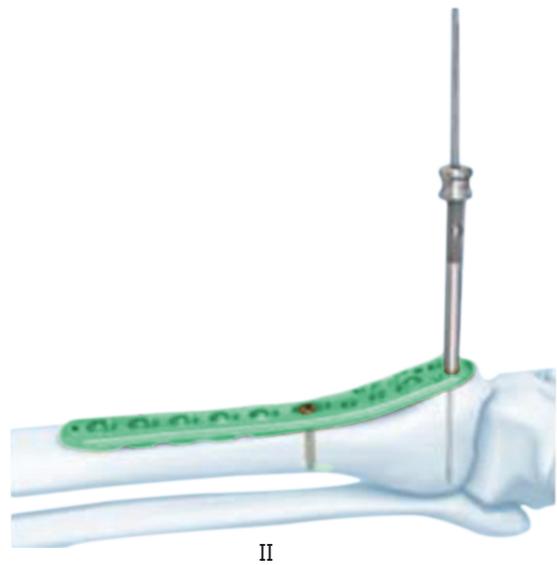
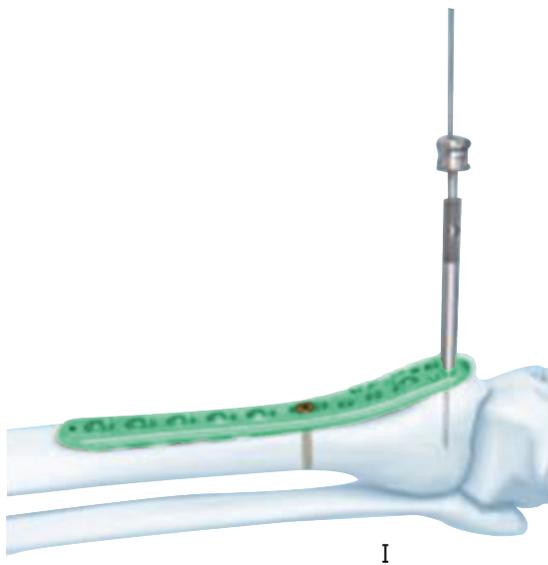


Image 4

Checking the placement of the screws

The direction of the locking screws depends on the contour of the plate, so it is advisable to check the final position of the screws with the help of the fluoroscope with Kirschner wires, before insertion. This is especially important in cases such as when applied near a joint, or in the case of an unusual anatomy.

Screw a threaded drill guide (128.27) into the desired locking hole, then insert the 1.6 threaded guide. (see image I)



Insert a 1.6mm Kirschner wire through the threaded guide, drill with it to the desired depth. (See image II) Check the position of the Kirschner wire with the fluoroscope to see if the final position of the screw will be acceptable.

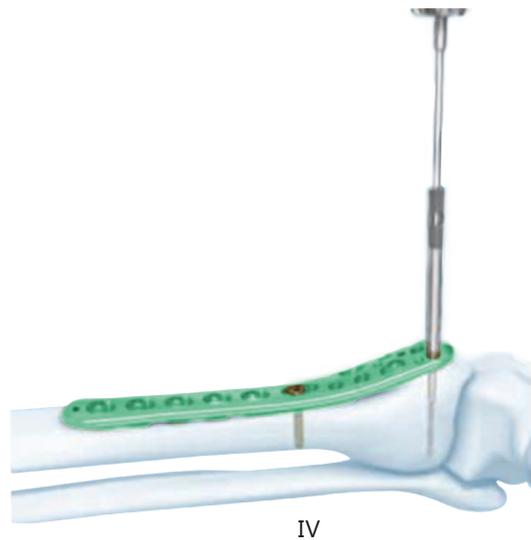
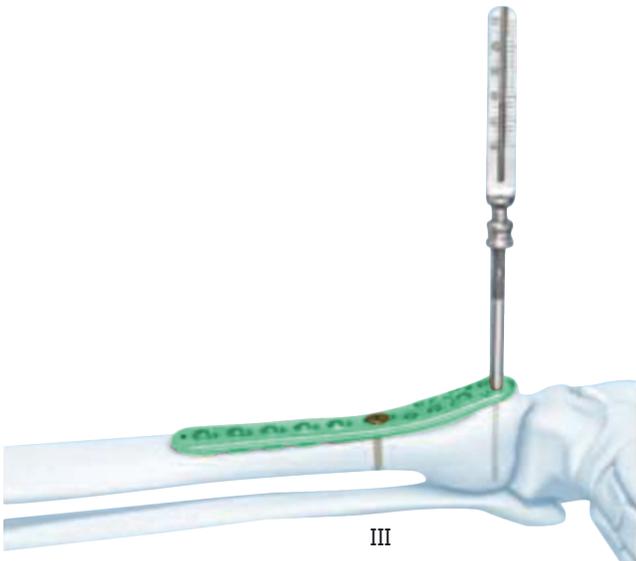
Important: The position of the Kirschner wire corresponds to the final position of the locking screw. Check that Kirschner's wire does not penetrate the joint.



To determine the length of the screw, slide the sharp end of the depth meter onto the Kirschner wire, until you reach the threaded guide. (See image III)

Remove the depth meter, Kirschner wire, and threaded guide, and leave only the threaded drill guide.

Drill with the 2.7mm drill bit, then remove the drill guide and insert the locking screw of the appropriate length.



Screws insertion

1. Inserting the distal screws

Making sure that the plate is compressed against the bone before inserting the locking screws.



Screw the drill guide (128.27) into a distal locking hole, threaded or locking part of a distal combined hole, until it is fully flush (See image V).

Use the 2.7mm drill bit to drill to the desired depth.

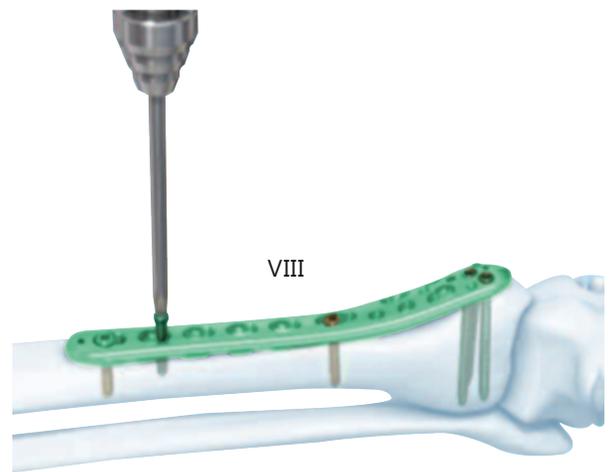
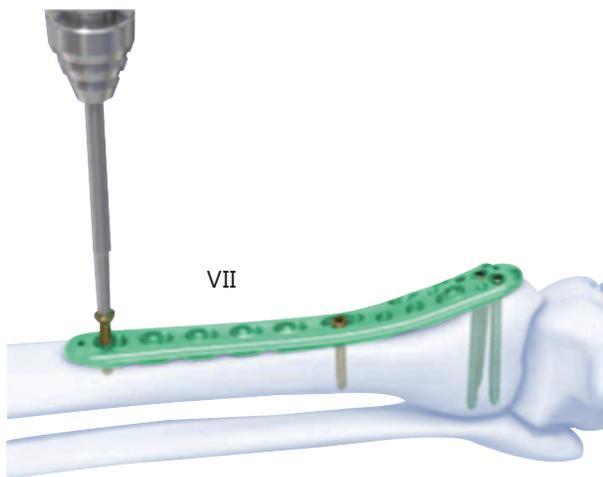
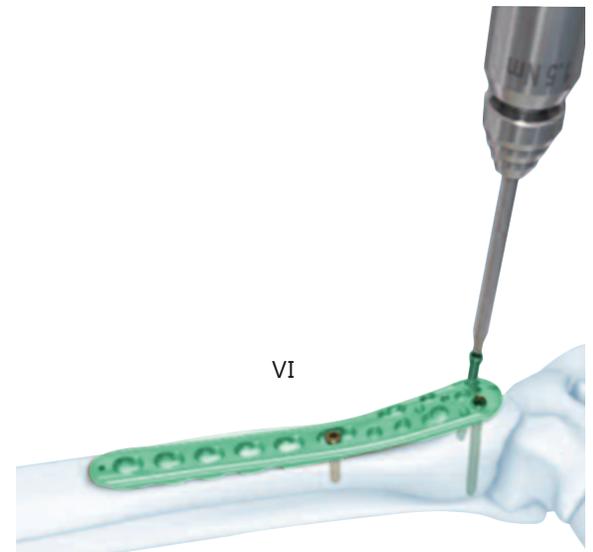
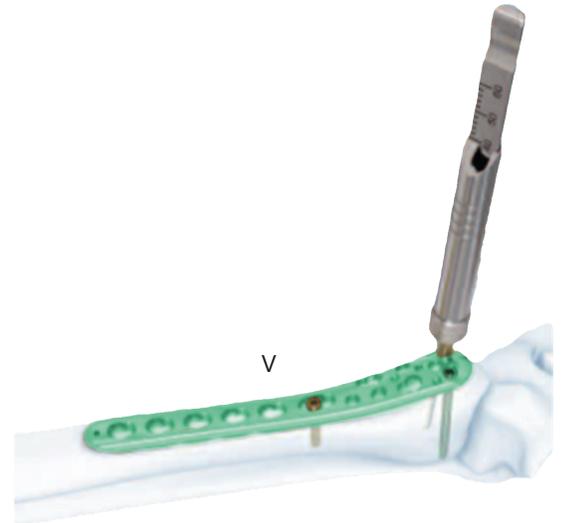
Remove the drill guide. Insert the locking screw with the appropriate screwdriver (see image VI). Make sure the plate is securely attached to the bone to prevent plate rotation when the screw locks on it.

2. Inserting the screws into the plate shaft

If you use the threaded part of the combined holes, repeat the steps described for inserting distal locking screws (see image VII and VIII).

Determine if you will use \varnothing 3.5mm locking screws or \varnothing 3.5mm cortex screws. If using cortex and locking screws on the same plate, you must first insert the cortex screws, as well ensure that the plate is compressed against the bone before inserting the locking screws.

For the introduction of \varnothing 3.5 mm cortex screws, place the drill guide and drill using a 2.7 mm drill. Use depth gauge to determine screw length. Insert screw with the help of a screwdriver.



Implant removal

The decision to remove the implant is up to the treating physician. It is recommended to remove the implant once completed the consolidation process, provided that it is feasible and suitable for the patient. To remove the screws, first clear the head of the screw, removing the tissue that may have been able to penetrate the hexagonal inlet to ensure that the screwdriver enters properly and reduce the risk of damage to it that prevents it from being removed. Unscrew all screws and remove them to then remove the plate.

IMPLANTS AND INSTRUMENTS

PLATES

ALP TITANIUM DISTAL TIBIA PLATE TIDIS-II RIGHT

164.05 ALP titanium distal tibia plate TIDIS-II 5 holes right

164.07 ALP titanium distal tibia plate TIDIS-II 7 holes right

164.09 ALP titanium distal tibia plate TIDIS-II 9 holes right

164.11 ALP titanium distal tibia plate TIDIS-II 11 holes right

164.13 ALP titanium distal tibia plate TIDIS-II 13 holes right

ALP TITANIUM DISTAL TIBIA PLATE TIDIS-II LEFT

165.05 ALP titanium distal tibia plate TIDIS-II 5 holes left

165.07 ALP titanium distal tibia plate TIDIS-II 7 holes left

165.09 ALP titanium distal tibia plate TIDIS-II 9 holes left

165.11 ALP titanium distal tibia plate TIDIS-II 11 holes left

165.13 ALP titanium distal tibia plate TIDIS-II 13 holes left

SCREWS

3.5mm TITANIUM CORTEX LOCKING SCREW

- 106.12 3.5mm titanium cortex locking screw 12mm
- 106.14 3.5mm titanium cortex locking screw 14mm
- 106.16 3.5mm titanium cortex locking screw 16mm
- 106.18 3.5mm titanium cortex locking screw 18mm
- 106.20 3.5mm titanium cortex locking screw 20mm
- 106.22 3.5mm titanium cortex locking screw 22mm
- 106.24 3.5mm titanium cortex locking screw 24mm
- 106.26 3.5mm titanium cortex locking screw 26mm
- 106.28 3.5mm titanium cortex locking screw 28mm
- 106.30 3.5mm titanium cortex locking screw 30mm
- 106.32 3.5mm titanium cortex locking screw 32mm
- 106.34 3.5mm titanium cortex locking screw 34mm
- 106.36 3.5mm titanium cortex locking screw 36mm
- 106.38 3.5mm titanium cortex locking screw 38mm
- 106.40 3.5mm titanium cortex locking screw 40mm
- 106.45 3.5mm titanium cortex locking screw 45mm
- 106.50 3.5mm titanium cortex locking screw 50mm
- 106.55 3.5mm titanium cortex locking screw 55mm
- 106.60 3.5mm titanium cortex locking screw 60mm

3.5mm TITANIUM CANCELLOUS LOCKING SCREW

- 107.12 3.5mm titanium cancellous locking screw 12mm
- 107.14 3.5mm titanium cancellous locking screw 14mm
- 107.16 3.5mm titanium cancellous locking screw 16mm
- 107.18 3.5mm titanium cancellous locking screw 18mm
- 107.20 3.5mm titanium cancellous locking screw 20mm
- 107.22 3.5mm titanium cancellous locking screw 22mm
- 107.24 3.5mm titanium cancellous locking screw 24mm
- 107.26 3.5mm titanium cancellous locking screw 26mm
- 107.28 3.5mm titanium cancellous locking screw 28mm
- 107.30 3.5mm titanium cancellous locking screw 30mm
- 107.32 3.5mm titanium cancellous locking screw 32mm
- 107.34 3.5mm titanium cancellous locking screw 34mm
- 107.36 3.5mm titanium cancellous locking screw 36mm
- 107.38 3.5mm titanium cancellous locking screw 38mm
- 107.40 3.5mm titanium cancellous locking screw 40mm
- 107.45 3.5mm titanium cancellous locking screw 45mm
- 107.50 3.5mm titanium cancellous locking screw 50mm
- 107.55 3.5mm titanium cancellous locking screw 55mm
- 107.60 3.5mm titanium cancellous locking screw 60mm

3.5mm TITANIUM CORTEX SCREW

- 112.12 3.5mm titanium cortex screw 12mm
- 112.14 3.5mm titanium cortex screw 14mm
- 112.16 3.5mm titanium cortex screw 16mm
- 112.18 3.5mm titanium cortex screw 18mm
- 112.20 3.5mm titanium cortex screw 20mm
- 112.22 3.5mm titanium cortex screw 22mm
- 112.24 3.5mm titanium cortex screw 24mm
- 112.26 3.5mm titanium cortex screw 26mm
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- 112.38 3.5mm titanium cortex screw 38mm
- 112.40 3.5mm titanium cortex screw 40mm
- 112.45 3.5mm titanium cortex screw 45mm
- 112.50 3.5mm titanium cortex screw 50mm
- 112.55 3.5mm titanium cortex screw 55mm
- 112.60 3.5mm titanium cortex screw 60mm

INSTRUMENTS

The following instruments are designed to anchor only on Traufix implants, the use of instruments from other brands may damage the product and not anchor properly.

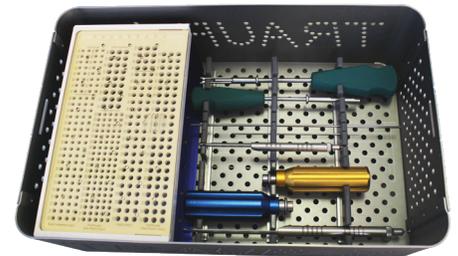
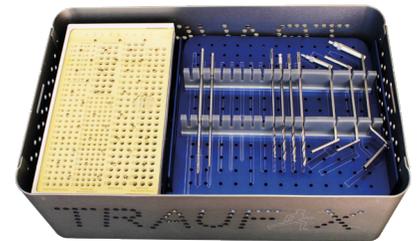
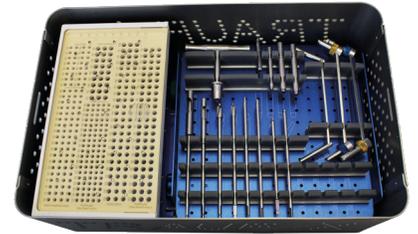
CODE	DESCRIPTION
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128.27	Drill guide for 2.7mm drill bit
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Other generic instruments needed:

QTY.	DESCRIPTION
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2	2.0mm threaded guide-wire
2	1.5mm threaded guide-wire
1	2.5mm hexagonal screwdriver for 3.5mm/4.5mm screw
1	2.5mm eccentric neutral drill guide
1	2.5mm/3.5mm double drill guide
1	2.5mm/3.5mm double drill guide
1	Torque wrench AO of 1.5Nm
1	T-handle with quick coupling (AO)
1	60mm depth gauge
1	6mm countersink tip for 3.5mm/4.0mm screw
1	2.5mm screwdriver hexagonal tip
1	2.5mm hexagonal screw extractor tip
1	3.5mm tap tip
1	6.5mm reamer tip for small fragments
1	2.5mm drill bit quick coupling
1	2.7mm drill bit quick coupling





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