

Operative technique



Temporary external fixation system



MR Conditional

This surgical technique is intended for orthopaedic surgeons and describes the standard procedures recommended by the manufacturer. Surgeons should decide the best approach based on their clinical judgment and the patient's needs.

Before use, consult the instruction manual included in the product package.

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INTRODUCTION AND INDICATIONS

Dolphix® is an MR Conditional temporary external fixation system indicated for damage control for the temporary stabilisation of fractures in complex articular and periarticular fractures of the distal femur, proximal tibia, and distal tibia.

Dolphix® can also be used as a temporary reduction and distraction system, allowing the comfortable positioning and immobilisation of the patient.

The Dolphix® system allows implementing numerous configurations with the sterile kits (procedure kits or preassembled kits) or with the individual components in sterile, single-use packaging.

The use of PEEK 30 material and its patented design give the Dolphix® temporary external fixation system distinctive features such as radiolucency, MRI compatibility (MR Conditional), and low weight.



MRI Safety Information

MR Conditional

A patient with this device can safely undergo MRI scanning under the following conditions:

- static magnetic field of 1.5 or 3 Tesla;
- maximum spatial magnetic gradient of 30 T/m;
- maximum whole-body averaged specific absorption rate (SAR) reported by the MR system of 2 W/kg*

* Complete MR safety information can be found on page 20.

NOTE

With a static magnetic field of 1.5 T, Dolphix® can be safely scanned for up to 60 minutes of exposure.

With a static magnetic field of 3 T, Dolphix® can be safely scanned for up to 15 minutes of exposure.

INDICATIONS

Dolphix® temporary external fixators are indicated for the treatment of long bone and pelvic fractures, and of tibial Pilon articular fractures requiring external fixation. Specifically, the system is indicated for:

- Temporary stabilisation of acute open or closed fractures with soft tissue injuries.
- Temporary stabilisation of fractures within the context of multiple traumas.
- Temporary stabilisation of certain pelvic fractures or pelvic injuries.
- Temporary stabilisation of limbs following removal of joint prostheses (knee and ankle) due to infection or failure.
- Temporary stabilisation of non-unions.
- Temporary intraoperative stabilisation to facilitate indirect reduction.

Dolphix® temporary external fixators are intended for non-weight-bearing use.

Dolphix® - SYSTEM COMPONENTS

Dolphix® Pin to Rod Clamp

- Radiolucent
- One for all bone screws
- Low weight
- Quick manual locking



Dolphix® Rod to Rod Clamp

- Radiolucent
- One for all rods
- Low weight
- Quick manual locking



Dolphix® Rods

- Radiolucent
- Low weight
- Diameter 12 mm



Straight rod:
lengths 150, 200, 300, 400, 500, 600, 650 mm



U-shaped rod:
length 300mm, width 200mm



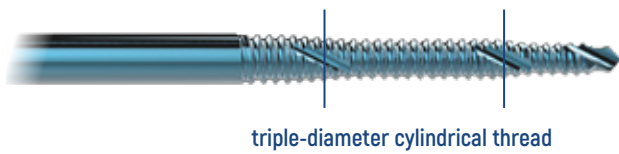
L-shaped rod:
length 300mm, width 100mm
length 250mm, width 70mm



-shaped rod - drill brace
width 300mm

MR Damage Control Bone screw, self-drilling, titanium

- made of titanium alloy;
- triple-diameter cylindrical thread;
- self-drilling and self-tapping profile.



	thread \varnothing mm	stem \varnothing mm	Thread L. mm	Total L. mm
●	2.5 - 3 - 3.5	6	31	90
●	3 - 4 - 5	6	28	120
●	4 - 5 - 6	6	48	160
●	4 - 5 - 6	6	48	200

MR Standard Bone screw, blunt tip, titanium

- made of titanium alloy;
- constant-diameter thread;
- requires pre-drilling.



	thread \varnothing mm	stem \varnothing mm	Thread L. mm	Total L. mm
●	4	6	30	120
●	5	6	40	180
●	6	6	45	200

MR Transfixing bone screw, titanium

- made of titanium alloy;
- central thread available in diameters: 5 - 6 - 7mm;
- colour-coded tip and corresponding clamp.



	stem \varnothing mm	thread \varnothing mm	tip \varnothing mm	Thread L. mm	Total L. mm
○	6	5	4	50	220
○	6	6	5	50	240
○	6	6	5	60	260
○	6	7	6	60	260

Bone screw, self-drilling, stainless steel

- made of stainless steel
- constant-diameter thread;
- Self-drilling and self-tapping.



	thread \varnothing mm	stem \varnothing mm	Thread L. mm	Total L. mm
●	4	6	30	120
●	5	6	40	180
●	6	6	45	200

Dolphix® - SYSTEM FEATURES

Dolphix® was created as a temporary external fixation system designed to meet the clinical needs of patients with multiple traumas, even in advanced diagnostic settings (e.g., MRI) and with specific sensitivities (e.g., nickel allergy).

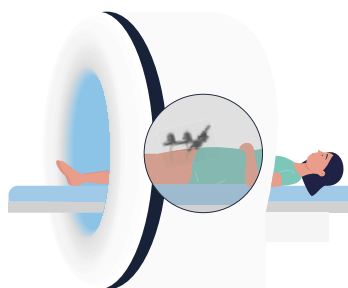
Materials

Peek-CA30

- MRI-compatible
- Completely radiolucent
- For rods and clamps

Titanium

- Biocompatible
- Hypoallergenic
- MRI-compatible
- For bone screws



System design

Damage Control bone screws with triple-diameter cylindrical thread:

- optimal load distribution across both cortices
- possibility of retracting the screw by a couple of turns in case of excessive sinking without loss of stability
- single screw for all bony regions



Examples:

5-4 thread section suitable for the humerus and tibia

6-5 thread section suitable for the femur

Essential system:

This system is based on a single rod diameter and only two types of clamps (Pin to Rod and Rod to Rod).

This simplicity allows you to always have everything you need available in the operating room to create a wide variety of configurations.

Manual clamp closure:

The entire implant and removal process can be performed manually without the use of sterilised instruments.

DOLPHIX® PIN TO ROD CLAMP: ASSEMBLY AND CLOSING

The patented design of the system allows a rapid assembly of the clamps in 3 simple steps and without the use of instruments.

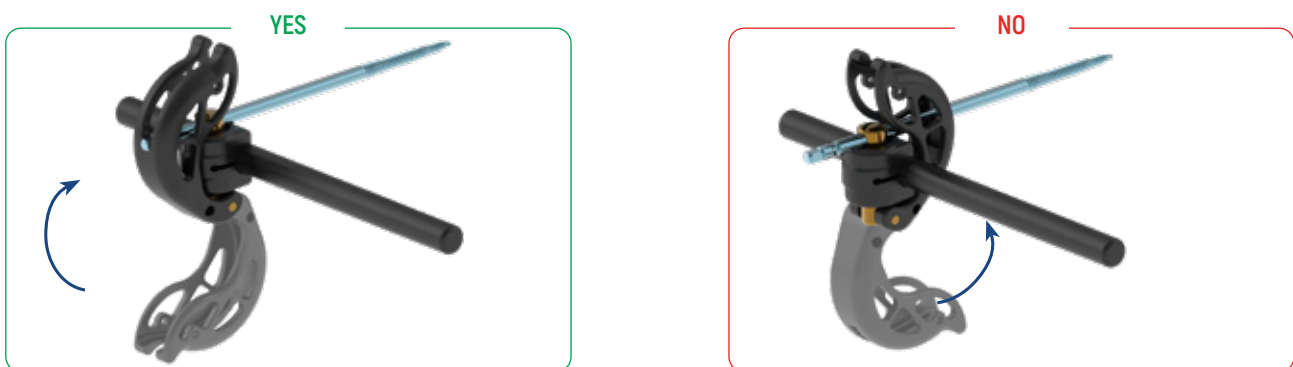
Before starting the procedure, it is important to pay attention to the following conditions:

- A. Ensure that the clamps are correctly positioned in the open position.
- B. Check that the clamps are closed securely and correctly.

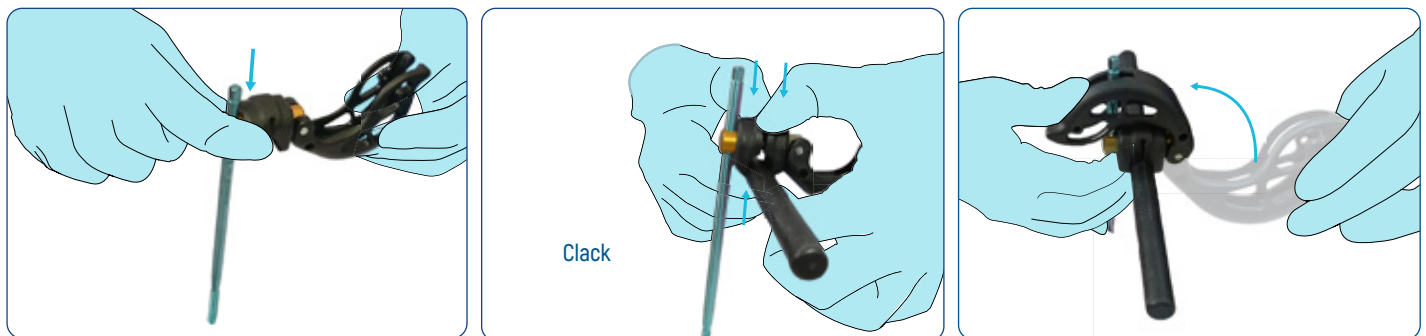
A. Check that the clamp is in the correct open position for inserting the screw.



B. To avoid potential soft tissue impingement, the clamp must be tightened by moving the lever towards the end of the bone screw, i.e., towards the non-threaded portion.



Assembly and Closing in 3 steps



1) After inserting the clamp onto the screw and keeping it in the correct open position, push it to the desired position. For optimal positioning, reach the black line on the screw stem.

2) Bring the rod close to the clamp and apply pressure between the two components, keeping the closing lever fully open.

3) Tighten the clamp by rotating the closing lever and securing together the clamp, screw, and rod.

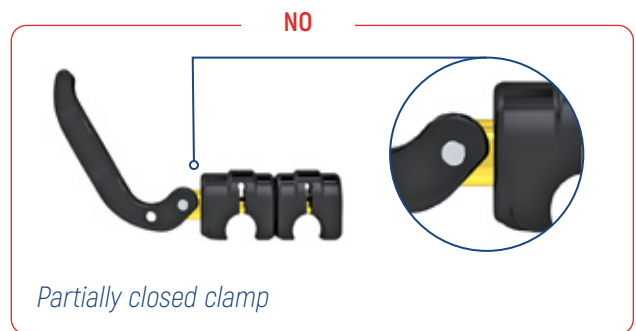
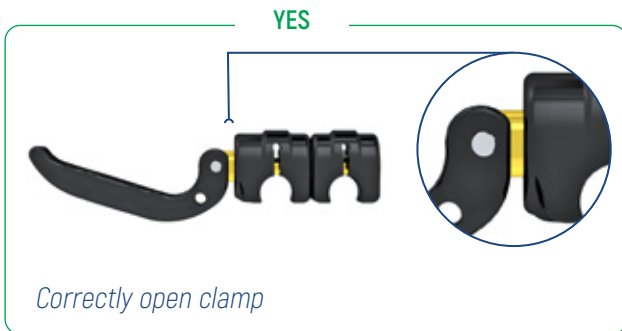
DOLPHIX® ROD TO ROD CLAMP: ASSEMBLY AND CLOSING

The patented design of the system allows a quick assembly of the clamps in 3 simple steps and without the use of tools.

Before starting the procedure, it is important to pay attention to the following conditions:

- A. Ensure that the clamps are correctly positioned in the open position.
- B. Check that the clamps are closed securely and correctly.

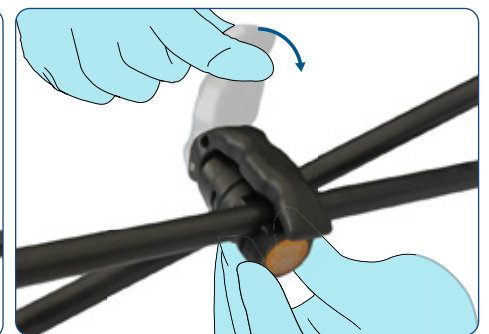
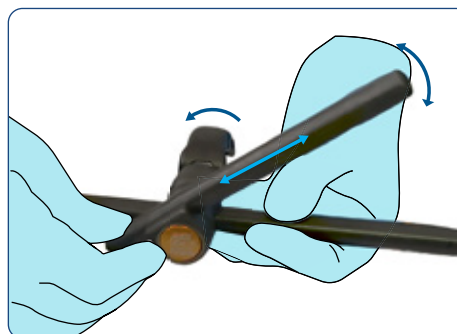
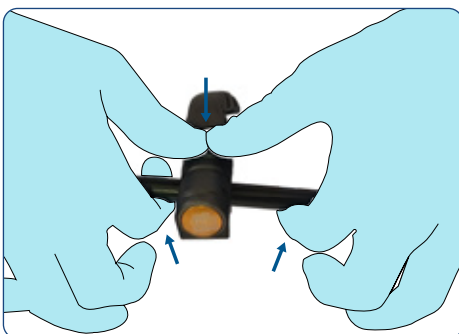
A. Check that the clamp is in the correct open position.



B. Rotate the clamp closing lever to ensure correct and stable tightening.



Assembly and Closing in 3 steps



- 1) Bring the rod close to the clamp and apply pressure between the two components, keeping the closing lever fully open.
- 2) Position the rods until the desired position is reached.
- 3) Tighten the clamp by rotating the locking lever and securing together the clamp and rods.

BONE SCREW INSERTION - Damage Control Bone Screws



The Dolphix® system provides four ways to insert the Damage Control bone screw.

Proceed with the insertion of the bone screw through the two cortices. For optimal fixation, the tip of the bone screw should protrude from the second cortex by approximately 2 mm.



Dolphix® Pin to Rod Clamp (DF210060).

The Dolphix® Pin to Rod Clamp can be used for the manual insertion of the bone screw.



Ω-shaped rod - drill brace (DF312020).

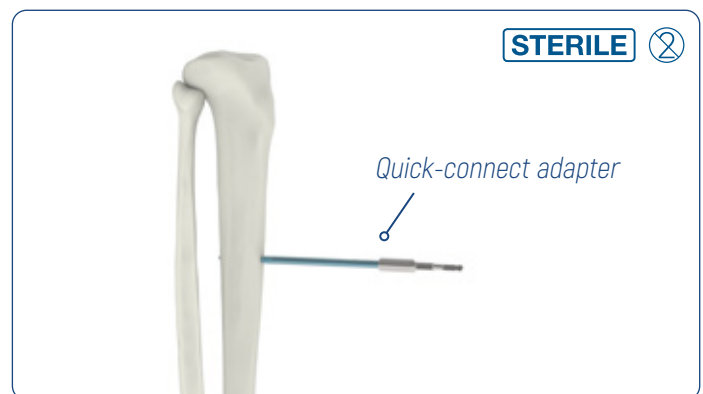
The Ω-shaped rod - drill brace can be used for the manual insertion of the bone screw.

Once the bone screw is inserted, it can be converted into an additional rod for assembly.



T-Handle (DF900006):

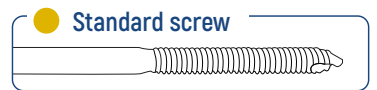
The ø6mm T-Handle can be used for the manual insertion of the bone screw.



Quick-connect adapter (SF1306):

The AO quick-connect adapter can be used to facilitate power-assisted bone screw insertion.

BONE SCREW INSERTION - Standard bone screws (option A)



Pre-drilling



After the incision, pre-drill using the appropriate drill bit for the selected screw:

- Use the $\varnothing 3.2$ mm drill bit for $\varnothing 4$ mm threaded bone screws
- Use the $\varnothing 4$ mm drill bit for $\varnothing 5$ mm threaded bone screws
- Use the $\varnothing 5$ mm drill bit for $\varnothing 6$ mm threaded bone screws

NOTE:

Pre-drilling is required when using standard bone screws and recommended when using Damage Control bone screws in young patients or those with thick cortical bones.

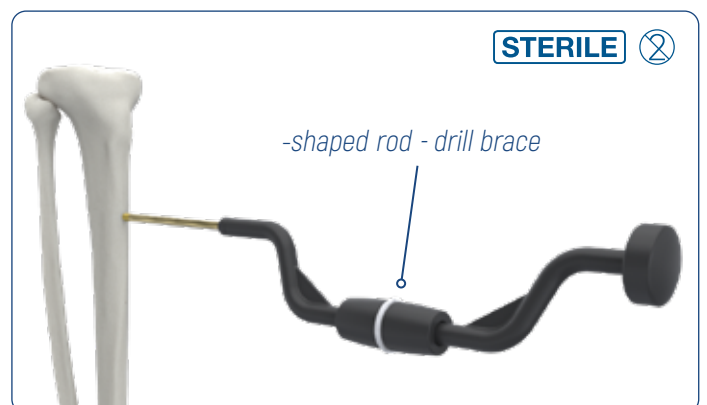
BONE SCREW INSERTION

Proceed with the insertion of the bone screw using one of the four insertion methods through the two cortices. For optimal fixation, the tip of the bone screw should protrude from the second cortex by approximately 2 mm.



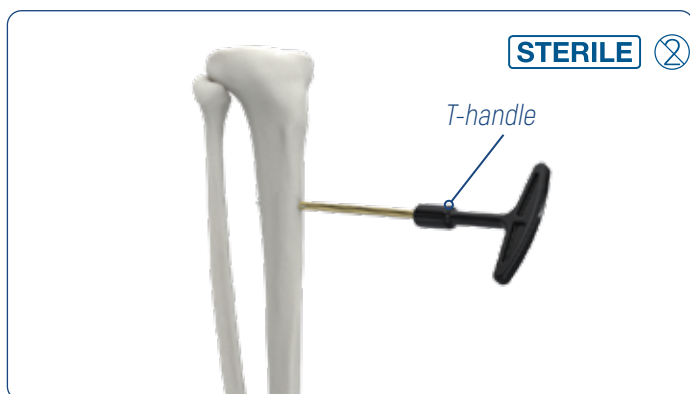
Dolphix® Pin to Rod Clamp (DF210060).

The Dolphix® Pin to Rod Clamp - (DF210060) can be used for the manual insertion of the bone screw.



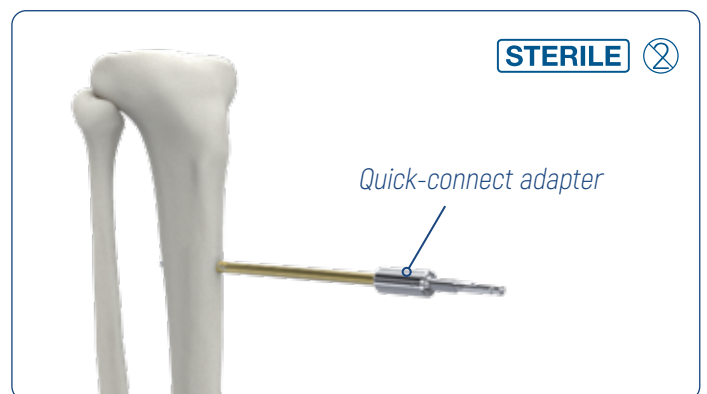
Ω-shaped rod - drill brace (DF312020).

The Ω-shaped rod - drill brace can be used for the manual insertion of the bone screw. Once the bone screw is inserted, it can be converted into an additional rod for assembly.



T-Handle (DF900006):

The $\varnothing 6$ mm T-Handle can be used for the manual insertion of the bone screw.

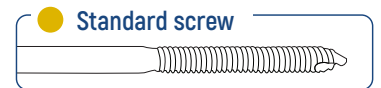


Quick-connect adapter (SF1306):

The AO quick-connect adapter can be used to facilitate power-assisted bone screw insertion.

BONE SCREW INSERTION

Standard bone screws with cooling cannula system (option B)

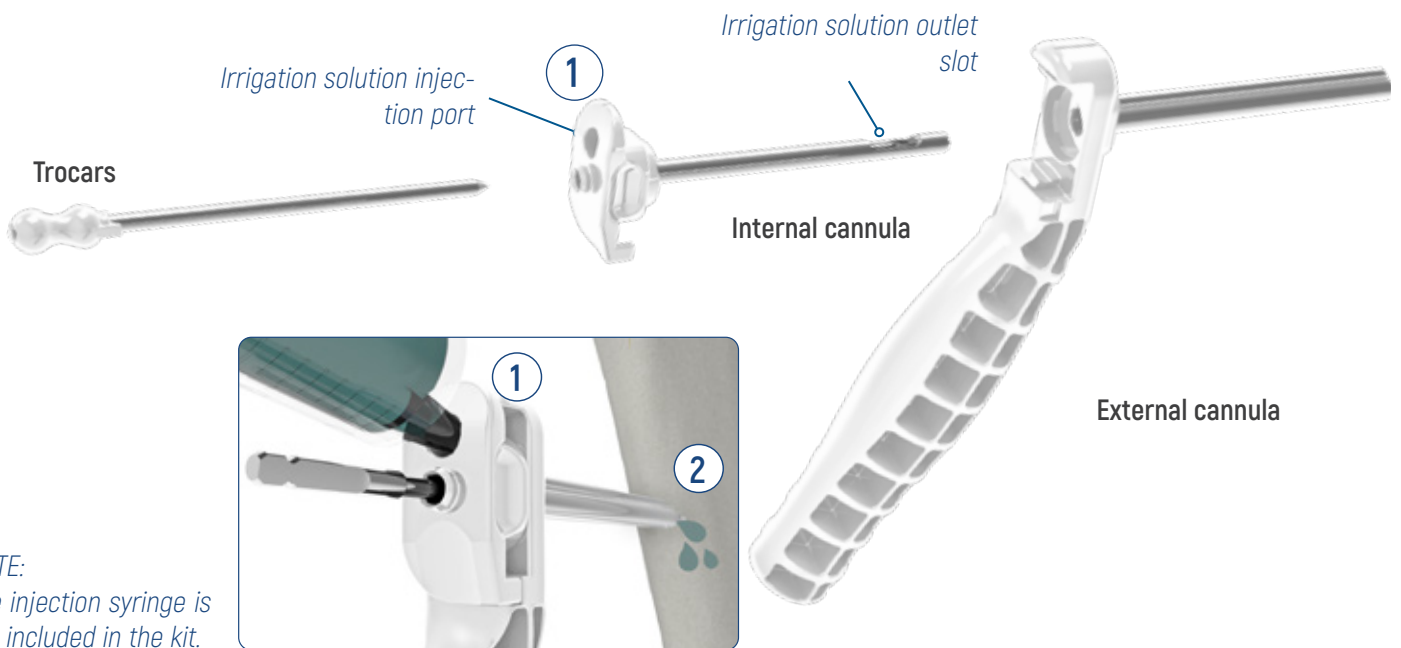


Drill cooling cannula system (DF900040-DF900050 -DF900060)

The cooling cannula system can be used to pre-drill for inserting the bone screws, protecting the soft tissue and ensuring the possibility of irrigating the drill site.

The system allows an effective irrigation of the system during pre-drilling: place the irrigation syringe in the injection port **1**, so that the solution is released into the drilling site **2**.

NOTE:
Pre-drilling is necessary when using Standard bone screws and is recommended when using Damage Control screws in young patients or patients with thick cortical bones..

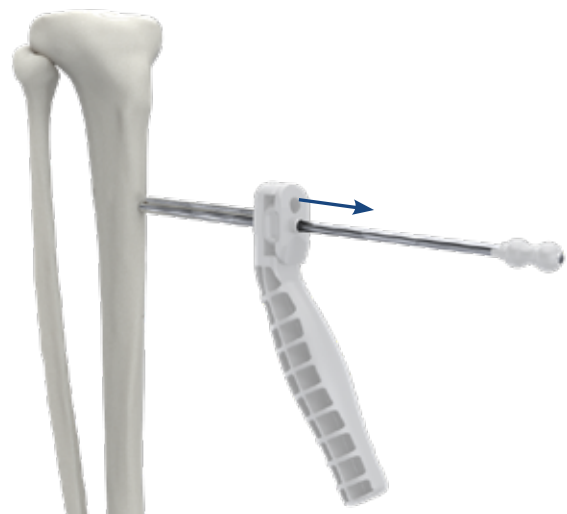


NOTE:
The injection syringe is not included in the kit.

Steps for using the cooling cannula system



1- After making the incision, push the cooling cannula system into the bone.



2- Remove the internal trocar, leaving the external cannula in contact with the cortex.

Cooling cannula system (DF900040-DF900050 -DF900060)

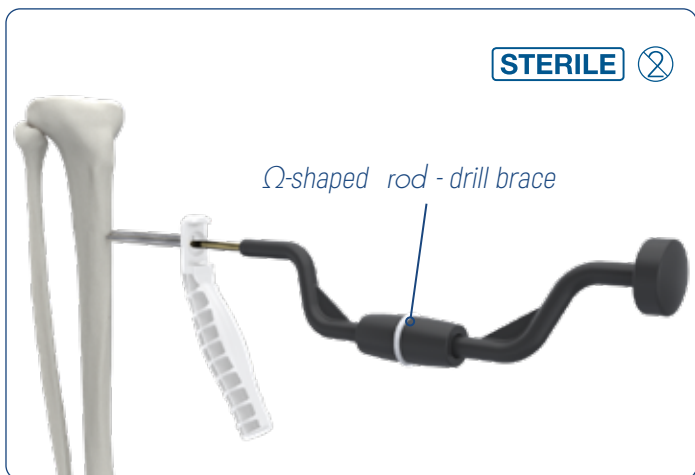


3- By placing the irrigation syringe in the injection port, the irrigation solution is released into the perforation site. Pre-drill using the correct drill bit based on the screw to be inserted:

- Use the $\varnothing 3.2\text{mm}$ drill bit for $\varnothing 4\text{mm}$ bone screws
- Use the $\varnothing 4\text{mm}$ drill bit for $\varnothing 5\text{mm}$ bone screws
- Use the $\varnothing 5\text{mm}$ drill bit for $\varnothing 6\text{mm}$ bone screws

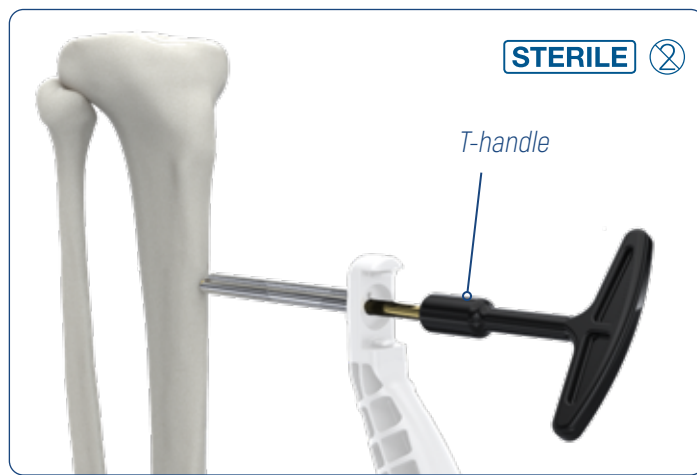
4- Rotate the inner cannula anticlockwise **1** to remove it **2**.

5- Insert the bone screw through the external cannula using one of the following methods:



Ω-shaped rod - drill brace (DF312020).

The Ω -shaped rod - drill brace can be used for the manual insertion of the bone screw. Once the bone screw is inserted, it can be converted into an additional rod for assembly.

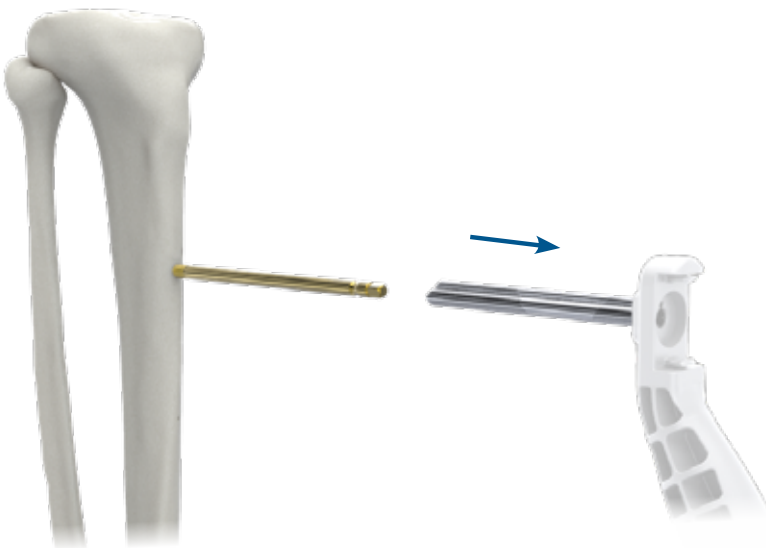


T-Handle (DF900006):

The $\varnothing 6\text{mm}$ T-Handle can be used for the manual insertion of the bone screw.

**Quick-connect adapter (SF1306):**

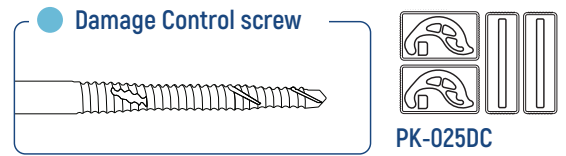
The AO quick-connect adapter can be used to facilitate power-assisted bone screw insertion.



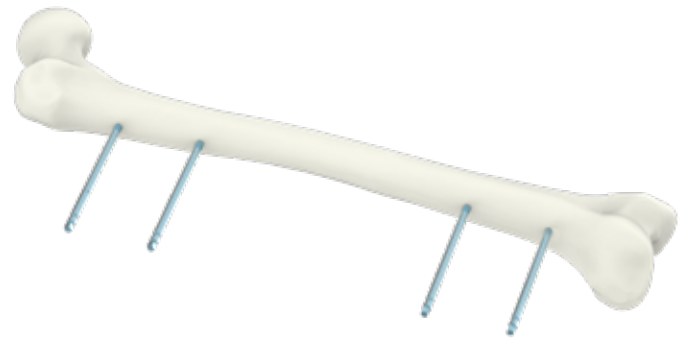
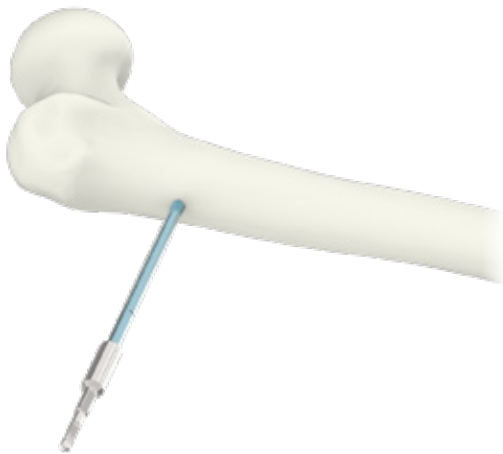
6- Proceed with the insertion of the bone screw through both cortices. For optimal fixation, the tip of the bone screw should protrude from the second cortex by approximately 2 mm.

Remove the external cannula.

Z-FRAME OPERATIVE TECHNIQUE



NOTE:
The technique steps described above are reproducible and applicable to other limbs where a fracture requiring a Z-frame assembly occurs.



1- Insert the first Damage Control bone screw using the quick-connect adapter (SF1306) with a low-speed drill or using one of the manual methods shown on page 11:

2- Complete the insertion of all bone screws.

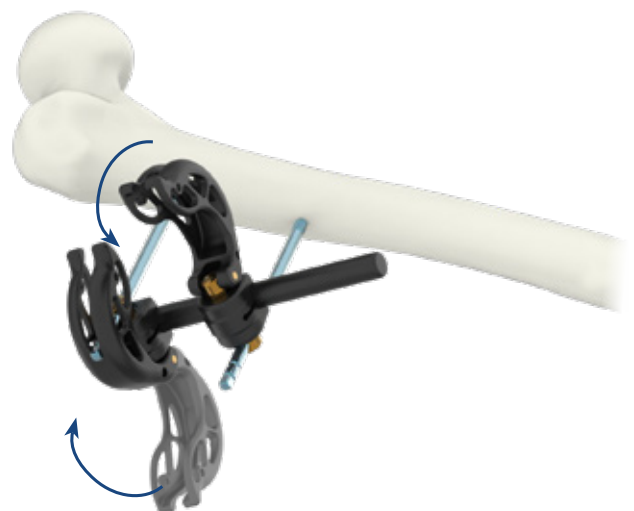
DF210060

DF312020

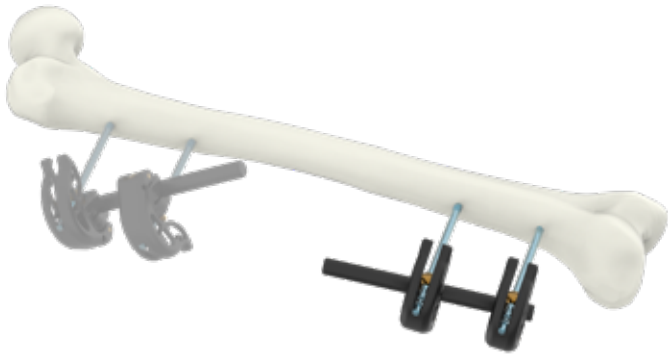
DF900006



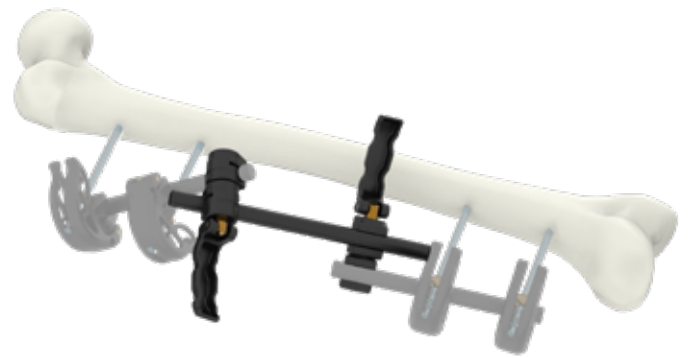
3- Assemble the two proximal Pin to Rod clamps onto the bone screws.



4- Assemble the first rod and close the two clamps.



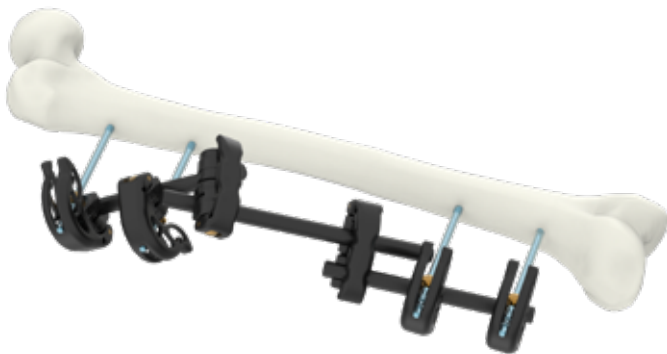
5- Assemble the two distal Pin to Rod clamps onto the bone screws and the second rod. Close the two clamps.



6- Assemble the third rod with two Rod to Rod clamps.

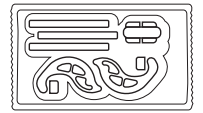
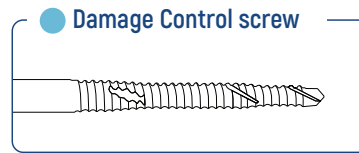
NOTE:

At this stage, a distraction can be performed if the Rod to Rod clamps are open.

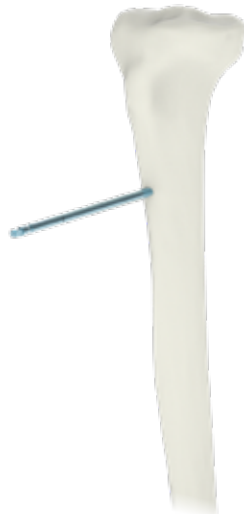


7- Close the two Rod to Rod clamps.

DELTA-FRAME OPERATIVE TECHNIQUE



DF100020



1- Insert the first Damage Control bone screw using the quick-connect adapter (SF1306) with a low-speed drill or using one of the manual methods shown on page 11.

DF210060

DF312020

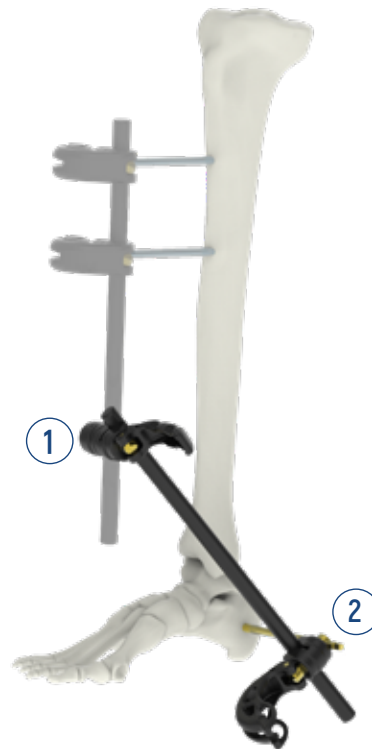
DF900006



2- Insert the second bone screw and assemble two Pin to Rod clamps.



3- Assemble the first rod and close the two clamps. Pre-drill and insert the transfixing bone screw.



4- Assemble a rod and a Rod to Rod clamp. (1). Assemble a Pin to Rod clamp to one end of the transfixing screw and to the rod. (2).



5- Assemble a rod and a Rod to Rod clamp. ①

Assemble a Pin to Rod clamp to the other end of the transfixing bone screw and to the rod ②.

Close all distal clamps.



6- Insert the screw on the metatarsal bone. Assemble a rod, a Pin to Rod clamp, and a Rod to Rod clamp.



7- Close all clamps.

MRI TEST RESULTS

The tested configurations consist of: two types of titanium bone screws, two types of Pin to Rod clamps, one type of Rod to Rod clamp, and rods of various lengths. The non-conductive rods are made of Quadrant Ketron PEEK CA30, and the non-metallic part of the clamps is made of Victrex PEEK 450CA30.



Delta frame



Tibia Z-frame



Femur Z-frame



Pelvis



Knee bridging

Magnetic moment measurement

No magnetic moment effects were observed during the qualitative magnetic moment assessment. Therefore, no quantitative tests were performed.

External configurations with conductive rods showed dynamic magnetic moment effects, such as those caused by aluminium plates. Such dynamic magnetic moment, which occurred during rapid rotation, was not detected in the tested configurations. This is a strong indication that long rods do not conduct well.

The tested parts of the external fixator configurations showed only limited deflection angles of $10^\circ \pm 15^\circ$ or less in a main magnetic field gradient of 40 T/m. No torque effects were detected for any part of the tested configurations up to 3 T.

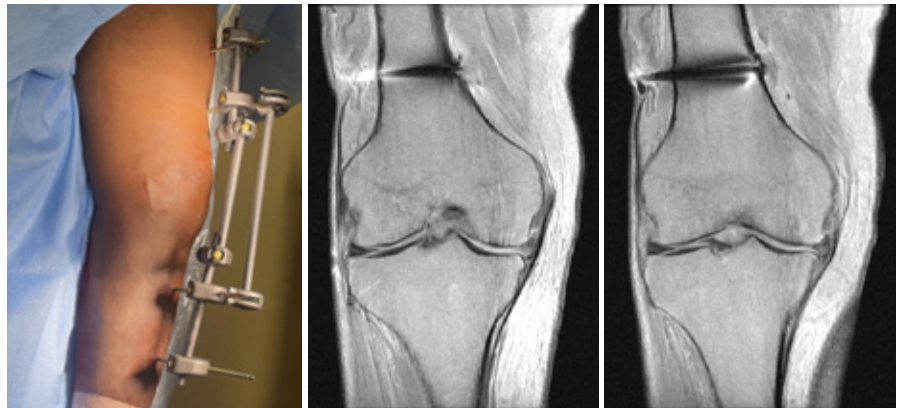
Heating effects

Worst-case RF heating tests, as described by ASTM standards and with a SAR (wbSAR) of 2 W/kg (corrected based on calorimetric measurements), showed temperature increases of up to 7.5°C (3.2°C at 1.5T). The CEM43 value for the temperature curve with a dT of 7.5°C is 15.2 min. This is less than the critical value for bone, >20 min.

At 3T, scanning with 2 W/kg should be limited to 15 min; at 1.5T, no time limit is necessary. Cooling effects due to perfusion and blood flow were not considered.

Imaging Artifacts

Both screw types showed artefact up to 20 mm from the screw surface (18 mm in the case of the spin echo sequence). The metal parts of the clamps showed artefacts up to 15 mm (9 mm in the case of spin echo sequence). The rods showed only artefacts up to 2 mm. The non-metallic parts of the clamps also showed almost no artefacts.



Safety of patients undergoing MRI scanning

MRI scanning in patients with the Dolphix® temporary external fixation system can only be performed with these parameters.

Using other parameters, MRI scanning could cause serious injury to the patient. When using Dolphix® in conjunction with other external fixation systems, please note that this combination has not been tested in an MRI environment and therefore may result in increased heating and serious patient injury.

Since increased heating in vivo cannot be ruled out, careful patient monitoring and constant communication during the scan are necessary.

Immediately discontinue MRI scanning if the patient experiences a burning sensation or pain.

EXAMPLE CONFIGURATIONS LOWER LIMB - Tibial Pilon

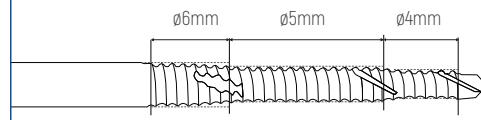


Delta Frame



Assembly compatible with two types of MRI-conditional bone screws:

● Damage Control screw- 3-cylinder threads

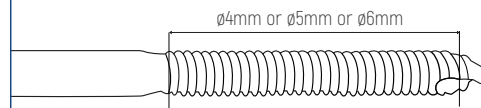


For detailed information, see page 7

- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

Or

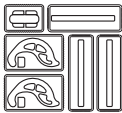
● Standard screw- Constant Diameter



For detailed information, see page 7

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

PRE-ASSEMBLED OPTIONS



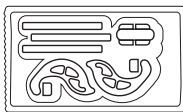
● **PK-024DC** Delta Frame procedure kit with Damage Control bone screws **48**

● **PK-024** Delta Frame procedure kit with Standard bone screws **51**

Kits available with individually packaged and labelled components

● **DF100020** - Tibial Pilon Kit + **DF100021** - Metatarsal Kit **46**

Kit with components in a single package and one label



INDIVIDUAL COMPONENTS

Code	Description	QT.
● DF200020	Clamp with Damage Control bone screw \varnothing 4-5-6mm L.160mm	2
Or		
● DF225180	Clamp with bone screw \varnothing 5mm L. 180-40mm	2
● DF200015	Clamp with Damage Control bone screw \varnothing 3-4-5mm L. 120 mm	1
Or		
● DF224120	Clamp with bone screw \varnothing 4 mm L. 120-30mm	1
● DF207260	2 clamps with Transfixing bone screw \varnothing 7 mm L. 260mm	1
Or		
● DF205220	2 clamps with Transfixing bone screw \varnothing 5mm L. 220mm	1
DF200030	Rod to Rod Clamp	3
DF312150	Rod \varnothing 12mm L. 150mm	1
DF312300	Rod \varnothing 12mm L. 300mm	3

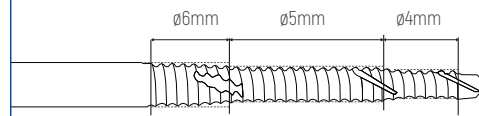


Hybrid Delta Frame

Assembly compatible with two types of MRI-conditional bone screws:



● Damage Control screw- 3-cylinder threads

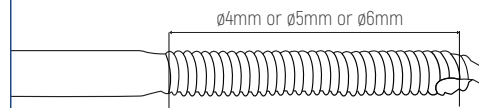


For detailed information, see page 7

- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

Or

● Standard screw- Constant Diameter



For detailed information, see page 7

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

INDIVIDUAL COMPONENTS

Code	Description	QT.
● DF200020	Clamp with Damage Control bone screw \varnothing 6mm L. 160 mm	2
or		
● DF225180	Clamp with bone screw \varnothing 5mm L. 180-40mm	2
DF312300	Rod \varnothing 12mm L. 300mm	3
DF312000	U-shaped rod \varnothing 12mm L. 200x300mm	1
○ DF207260	Clamps with transfixing bone screw \varnothing 7x260mm	1
DF200030	Rod to Rod Clamp	4

Frame with double U-shaped rod and calcaneal screws



Assembly compatible with two types of MRI-conditional bone screws:



● Damage Control screw- 3-cylinder threads

For detailed information, see page 7

- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

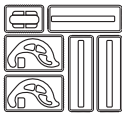
Or

● Standard screw- Constant Diameter

For detailed information, see page 7

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

PRE-ASSEMBLED OPTIONS



● **PK-020DC** U-Rod Procedure Kit with Damage Control bone screws **48**

● **PK-020** U-Rod Procedure Kit with Standard bone screws \varnothing 5 mm **50**

Kits available with individually packaged and labelled components

INDIVIDUAL COMPONENTS

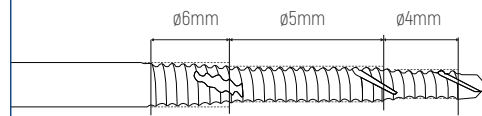
Code	Description	QT.
● DF200040	Clamp with Damage Control bone screw 4-5-6mm L. 200-45mm	4
Or		
● DF225180	Clamp with bone screw \varnothing 5 mm L. 180-40mm	
DF312000	U-shaped rod \varnothing 12mm L. 200x300mm	2
DF200030	Rod to Rod Clamp	2

Frame with double U-shaped rod and transfixing bone screw



Assembly compatible with two types of MRI-conditional bone screws:

● **Damage Control screw- 3-cylinder threads**

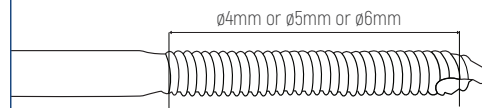


For detailed information, see page 7

- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

Or

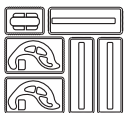
● **Standard screw- Constant Diameter**



For detailed information, see page 7

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

PRE-ASSEMBLED OPTIONS



- **PK-020T-DC** U-Rod procedure kit with Damage Control bone screws and transfixing bone screw $\varnothing 7$ mm **49**
- **PK-020T** U-Rod procedure kit with transfixing bone screw $\varnothing 7$ mm **50**

Kits available with individually packaged and labelled components

INDIVIDUAL COMPONENTS

Code	Description	QT.
● DF207260	Clamps with transfixing bone screw $\varnothing 7 \times 260$ mm	1
● DF200040 Or	Clamp with Damage Control bone screw 4-5-6mm L. 200-45mm	2
● DF225180	Clamp with bone screw $\varnothing 5$ mm L. 180-40mm	2
● DF200015 Or	Clamp with Damage Control bone screw 3-4-5mm L. 120-28mm	1
● DF224120	Clamp with bone screw $\varnothing 4$ mm L. 120-30mm	1
DF312000	U-shaped rod $\varnothing 12$ mm L. 200x300mm	2
DF312150	Rod $\varnothing 12$ mm L. 150mm	1
DF200030	Rod to Rod Clamp	3

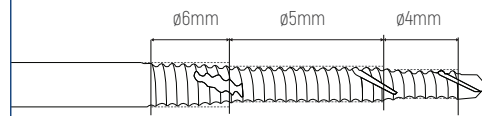


Frame with 3 U-shaped rods and transfixing bone screw

Assembly compatible with two types of MRI-conditional bone screws:



● Damage Control screw- 3-cylinder threads

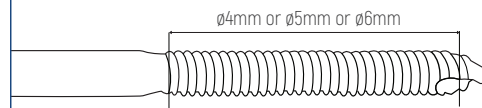


For detailed information, see page 7

- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

Or

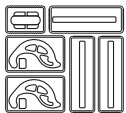
● Standard screw- Constant Diameter



For detailed information, see page 7

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

PRE-ASSEMBLED OPTIONS



● **PK-020 T-HAR U-Rod procedure kit (3)** with transfixing bone screw $\varnothing 7\text{mm}$

Kits available with individually packaged and labelled components

52

INDIVIDUAL COMPONENTS

Code	Description	QT.
● DF207260	Clamps with transfixing bone screw $\varnothing 7 \times 260\text{mm}$	1
● DF225180	Clamp with bone screw $\varnothing 5\text{mm}$ L. 180-40mm	2
Or		
● DF200040	Clamp with Damage Control bone screw 4-5-6mm L. 200-45mm	2
● DF224120	Clamp with bone screw $\varnothing 4 \text{ mm}$ L. 120-30mm	1
Or		
● DF200015	Clamp with Damage Control bone screw $\varnothing 6\text{mm}$ L. 120 mm	1
DF312000	U-shaped rod $\varnothing 12\text{mm}$ L. 200x300mm	3
DF312150	Rod $\varnothing 12\text{mm}$ L. 150mm	1
DF200030	Rod to Rod Clamp	5



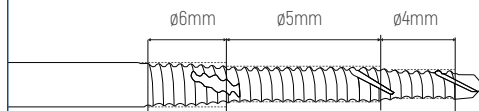
LOWER LIMB - Tibia

Single-rod frame



Assembly compatible with two types of MRI-conditional bone screws:

● **Damage Control screw- 3-cylinder threads**

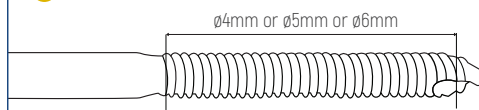


For detailed information, see page 7

- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

Or

● **Standard screw- Constant Diameter**



For detailed information, see page 7

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

INDIVIDUAL COMPONENTS

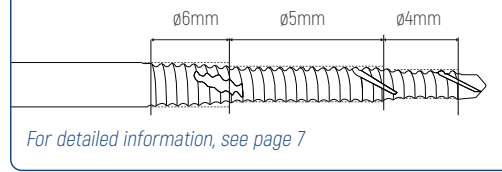
Code	Description	QT.
● DF200020 Or	Clamp with Damage Control bone screw 4-5-6mm L. 160-45mm	4
● DF225180	Clamp with bone screw \varnothing 5mm L. 180-40mm	
DF312400	Rod \varnothing 12mm L. 400mm	1

Z-Frame



Assembly compatible with two types of MRI-conditional bone screws:

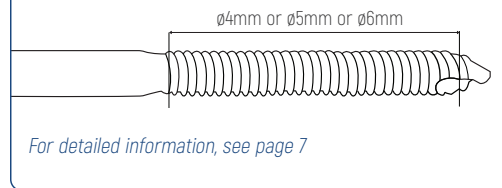
● **Damage Control screw- 3-cylinder threads**



- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

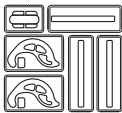
Or

● **Standard screw- Constant Diameter**



- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

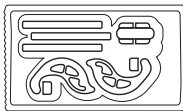
PRE-ASSEMBLED OPTIONS



● **PK-025DC** Lower limb diaphyseal procedure kit with Damage Control bone screws **48**

● **PK-025** Lower limb diaphyseal procedure kit **51**

Kits available with individually packaged and labelled components



● **DF100010** - Dolphix® Basic Kit **46**

Kit with components in a single package and one label

INDIVIDUAL COMPONENTS

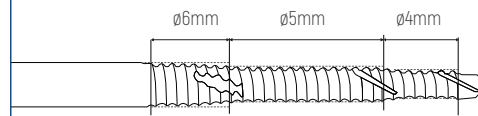
Code	Description	QT.
● DF200020	Clamp with Damage Control bone screw 4-5-6mm L. 160-45mm	4
Or		
● DF225180	Clamp with bone screw \varnothing 5mm L. 180-40mm	4
DF312200	Rod \varnothing 12mm L. 200mm	3
DF200030	Rod to Rod Clamp	2



Three-rod frame on tibial plateau

Assembly compatible with two types of MRI-conditional bone screws:

● Damage Control screw- 3-cylinder threads

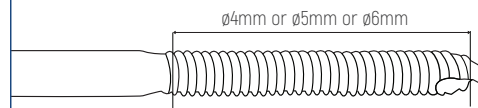


For detailed information, see page 7

- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

Or

● Standard screw- Constant Diameter



For detailed information, see page 7

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients



INDIVIDUAL COMPONENTS

Code	Description	QT.
● DF200020	Clamp with Damage Control bone screw 4-5-6mm L. 160-45mm	5
Or		
● DF225180	Clamp with bone screw \varnothing 5mm L. 180-40mm	5
DF200030	Rod to Rod Clamp	2
DF312200	Rod \varnothing 12mm L. 200mm	2
DF312300	Rod \varnothing 12mm L. 300mm	1



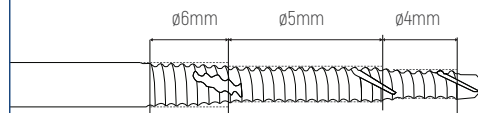
LOWER LIMB - Knee bridging

Z-frame



Assembly compatible with two types of MRI-conditional bone screws:

● Damage Control screw- 3-cylinder threads

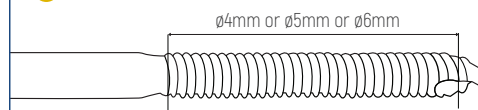


For detailed information, see page 7

- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

Or

● Standard screw- Constant Diameter



For detailed information, see page 7

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

INDIVIDUAL COMPONENTS

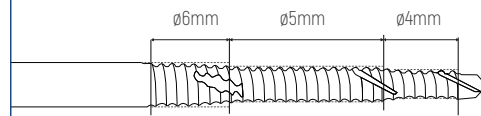
Code	Description	QT.
● DF200040 Or	Clamp with Damage Control bone screw 4-5-6mm L. 200-45mm	2
● DF226200	Clamp with bone screw \varnothing 5mm L. 200-45mm	2
● DF200020 Or	Clamp with Damage Control bone screw 4-5-6mm L. 160-45mm	2
● DF225180	Clamp with bone screw \varnothing 5mm L. 180-40mm	2
DF312300	Rod \varnothing 12mm L. 300mm	3
DF200030	Rod to Rod Clamp	2



Z-frame with L-shaped rods

Assembly compatible with two types of MRI-conditional bone screws:

● Damage Control screw- 3-cylinder threads

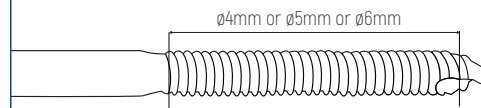


For detailed information, see page 7

- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

Or

● Standard screw- Constant Diameter

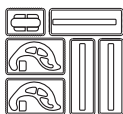


For detailed information, see page 7

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients



PRE-ASSEMBLED OPTIONS



- **PK-020L5** Femur/Tibia (Diaphyseal) L-Rod procedure kit
Kits available with individually packaged and labelled components

52

INDIVIDUAL COMPONENTS

Code	Description	Qty
● DF200040	Clamp with Damage Control bone screw 4-5-6mm L. 200-45mm	2
Or		
● DF226200	Clamp with bone screw \varnothing 5mm L. 200-45mm	2
● DF200020	Clamp with Damage Control bone screw \varnothing 6mm L. 160 mm	2
Or		
● DF225180	Clamp with bone screw \varnothing 5mm L. 180-40mm	2
DF200030	Rod to Rod Clamp	2
DF312010	L-shaped rod \varnothing 12mm L. 100x300mm	2
DF312200	Rod \varnothing 12mm L. 200mm	1

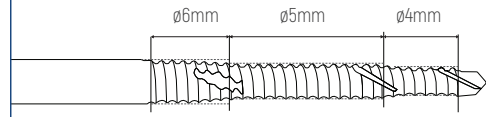


Frame with double U-shaped rod



Assembly compatible with two types of MRI-conditional bone screws:

● Damage Control screw- 3-cylinder threads

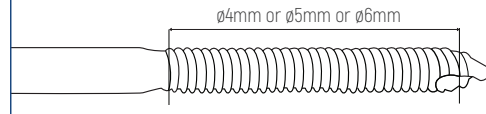


For detailed information, see page 7

- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

Or

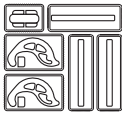
● Standard screw- Constant Diameter



For detailed information, see page 7

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

PRE-ASSEMBLED OPTIONS



- **PK-020DC** U-Rod Procedure Kit with Damage Control bone screws **48**
- **PK-020** U-Rod Procedure Kit with Standard bone screws $\varnothing 5$ mm **50**

Kits available with individually packaged and labelled components

INDIVIDUAL COMPONENTS

Code	Description	Qty
● DF200040 Or ● DF225180	Clamp with Damage Control bone screw 4-5-6mm L. 200-45mm	4
● DF225180	Clamp with bone screw $\varnothing 6$ mm L. 180-40mm	
DF312000	U-shaped rod $\varnothing 12$ mm L. 200x300mm	2
DF200030	Rod to Rod Clamp	2



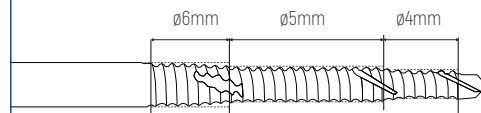
LOWER LIMB - Femur

Single-rod frame



Assembly compatible with two types of MRI-conditional bone screws:

● Damage Control screw- 3-cylinder threads

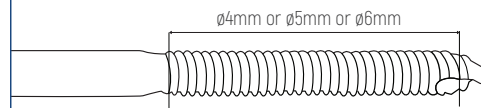


For detailed information, see page 7

- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

Or

● Standard screw- Constant Diameter



For detailed information, see page 7

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

INDIVIDUAL COMPONENTS

Code	Description	QT.
● DF200020 Or	Clamp with Damage Control bone screw 4-5-6mm L. 160-45mm	4
● DF225180	Clamp with bone screw \varnothing 5mm L. 180-40mm	
DF312400	Rod \varnothing 12mm L. 400mm	1

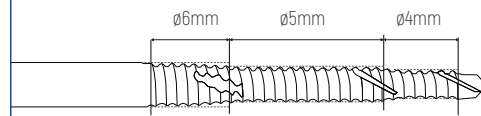


Z-frame



Assembly compatible with two types of MRI-conditional bone screws:

● Damage Control screw- 3-cylinder threads

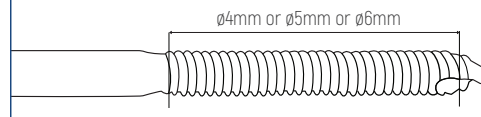


For detailed information, see page 7

- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

Or

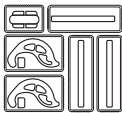
● Standard screw- Constant Diameter



For detailed information, see page 7

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

PRE-ASSEMBLED OPTIONS



● **PK-025DC** Lower limb diaphyseal procedure kit with Damage Control bone screws

48

● **PK-025** Lower limb diaphyseal procedure kit

51

Kits available with individually packaged and labelled components

INDIVIDUAL COMPONENTS

Code	Description	QT.
● DF200020	Clamp with Damage Control bone screw 4-5-6mm L. 160-45mm	4
Or		
● DF225180	Clamp with bone screw \varnothing 6 mm L. 180-40mm	
DF312200	Rod \varnothing 12mm L. 200mm	3
DF200030	Rod to Rod Clamp	2

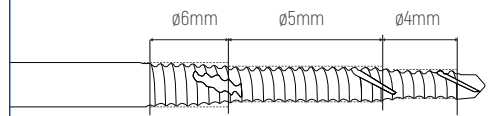


Frame with double L-shaped rod



Assembly compatible with two types of MRI-conditional bone screws:

● Damage Control screw- 3-cylinder threads

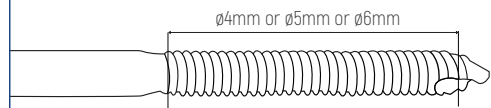


For detailed information, see page 7

- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

Or

● Standard screw- Constant Diameter



For detailed information, see page 7

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

INDIVIDUAL COMPONENTS

Code	Description	Qty
● DF200020 Or	Clamp with Damage Control bone screw 4-5-6mm L. 160-45mm	4
● DF225180	Clamp with bone screw \varnothing 5mm L. 180-40mm	4
DF200030	Rod to Rod Clamp	2
DF312010	L-shaped rod \varnothing 12mm L. 100x300mm	2

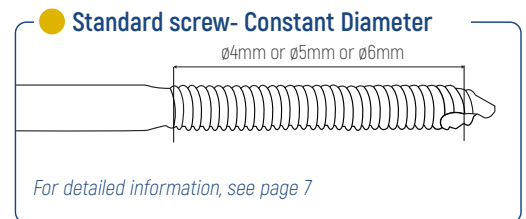
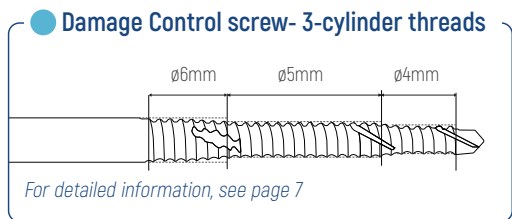


LOWER LIMB - Pelvis

3-rod frame



Assembly compatible with two types of MRI-conditional bone screws:

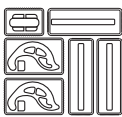


Or

- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

PRE-ASSEMBLED OPTIONS



- **PK-001DC** Dolphix® procedure kit with Damage Control bone screws L. 200mm **49**
Kits available with individually packaged and labelled components

INDIVIDUAL COMPONENTS

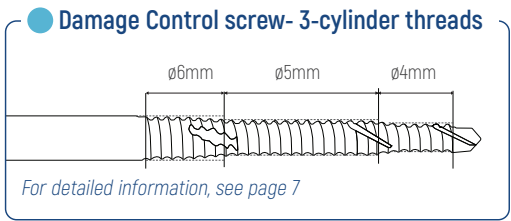
Code	Description	QT.
● DF200040 Or ● DF226200	Clamp with Damage Control bone screw 4-5-6mm L. 200-45mm	4
DF312300	Rod \varnothing 12mm L. 300mm	2
DF312400	Rod \varnothing 12mm L. 400mm	1
DF200030	Rod to Rod Clamp	2



4-rod frame

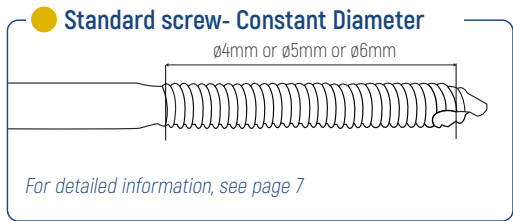


Assembly compatible with two types of MRI-conditional bone screws:



- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

Or



- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

INDIVIDUAL COMPONENTS

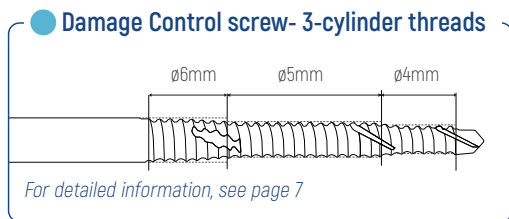
Code	Description	QT.
● DF200040	Clamp with Damage Control bone screw 4-5-6mm L. 200-45mm	4
Or		
● DF226200	Clamp with bone screw \varnothing 6 mm L. 200-45mm	4
DF312200	Rod \varnothing 12mm L. 200mm	4
DF200030	Rod to Rod Clamp	3



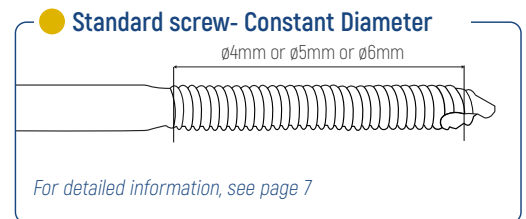
Frame with double L-shaped rod



Assembly compatible with two types of MRI-conditional bone screws:



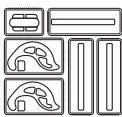
Or



- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

PRE-ASSEMBLED OPTIONS



- **PK-020L6** Pelvis L-rod procedure kit
Kits available with individually packaged and labelled components

52

INDIVIDUAL COMPONENTS

Code	Description	QT.
● DF200040 Or ● DF226200	Clamp with Damage Control bone screw 4-5-6mm L. 200-45mm	4
DF312010	L-shaped rod \varnothing 12mm L. 100x300mm	2
DF200030	Rod to Rod Clamp	2
DF312300	Rod \varnothing 12mm L. 300mm	1



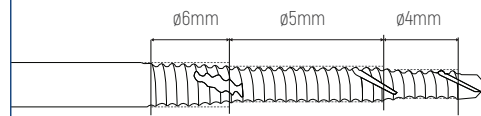
UPPER LIMB - Wrist

Frame with single L-shaped rod



Assembly compatible with two types of MRI-conditional bone screws:

● Damage Control screw- 3-cylinder threads

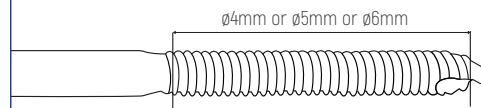


For detailed information, see page 7

- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

Or

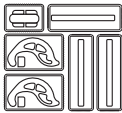
● Standard screw- Constant Diameter



For detailed information, see page 7

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

PRE-ASSEMBLED OPTIONS



● **PK-002DC** Procedure kit with Damage Control bone screws

Kits available with individually packaged and labelled components

50

INDIVIDUAL COMPONENTS

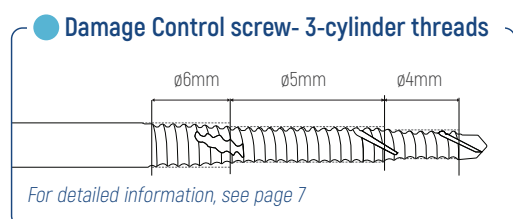
Code	Description	QT.
● DF200015 Or	Clamp with Damage Control bone screw \varnothing 6mm L. 120 mm	4
● DF224120	Clamp with bone screw \varnothing 4 mm L. 120-30mm	4
DF312007	L-shaped rod \varnothing 12mm L. 70x250mm	1

UPPER LIMB - Elbow

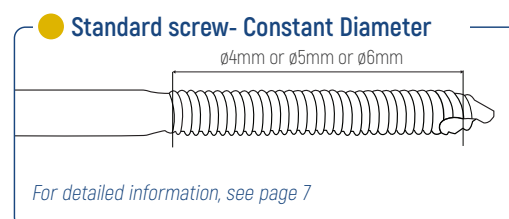
3-rod frame



Assembly compatible with two types of MRI-conditional bone screws:



Or



- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

INDIVIDUAL COMPONENTS

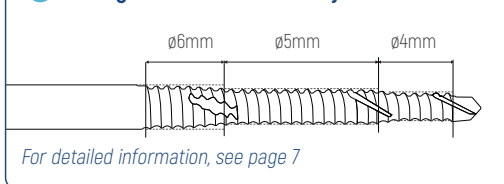
Code	Description	QT.
● DF200015 Or	Clamp with Damage Control bone screw \varnothing 6mm L. 120 mm	2
● DF224120	Clamp with bone screw \varnothing 4 mm L. 120-30mm	2
● DF200020 Or	Clamp with Damage Control bone screw \varnothing 6mm L. 160 mm	2
● DF225180	Clamp with bone screw \varnothing 6 mm L. 180-40mm	2
DF312200	Rod \varnothing 12mm L. 200mm	3
DF200030	Rod to Rod Clamp	2

Frame with double L-shaped rod

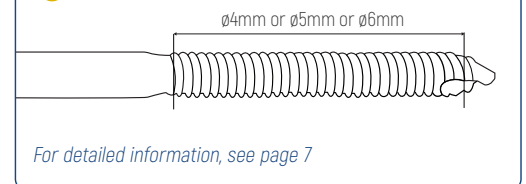


Assembly compatible with two types of MRI-conditional bone screws:

● Damage Control screw- 3-cylinder threads



● Standard screw- Constant Diameter

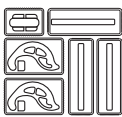


Or

- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

PRE-ASSEMBLED OPTIONS



- **PK-020L4** Elbow L-rod procedure kit
Kits available with individually packaged and labelled components

51

INDIVIDUAL COMPONENTS

Code	Description	QT.
● DF200015 Or	Clamp with Damage Control bone screw \varnothing 6mm L. 120 mm	2
● DF224120	Clamp with bone screw \varnothing 4 mm L. 120-30mm	2
● DF200020 Or	Clamp with Damage Control bone screw \varnothing 6mm L. 160 mm	2
● DF225180	Clamp with bone screw \varnothing 6 mm L. 180-40mm	2
DF312200	Rod \varnothing 12mm L. 200mm	1
DF312200	Rod \varnothing 12mm L. 100x300mm	1
DF200030	Rod to Rod Clamp	2

UPPER LIMB - Humerus

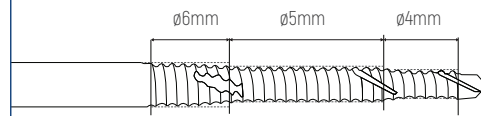
Single-rod frame



Assembly compatible with two types of MRI-conditional bone screws:



● Damage Control SCREW - 3-cylinder threads

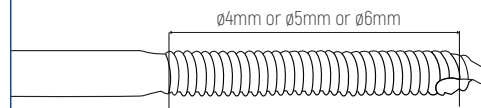


For detailed information, see page 7

- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

Or

● Standard screw- Constant Diameter



For detailed information, see page 7

- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

INDIVIDUAL COMPONENTS

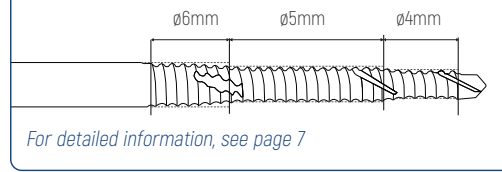
Code	Description	QT.
● DF200020	Clamp with Damage Control bone screw \varnothing 6mm L. 160 mm	4
Or		
● DF225180	Clamp with bone screw \varnothing 5mm L. 180-40mm	4
DF312300	Rod \varnothing 12mm L. 300mm	1

Z-frame



Assembly compatible with two types of MRI-conditional bone screws:

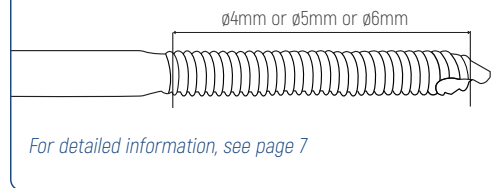
● **Damage Control screw- 3-cylinder threads**



- Single screw for all bone segments.
- No pre-drilling
- Suitable for allergic patients

Or

● **Standard screw- Constant Diameter**



- Different sizes based on the bone segment
- Requires pre-drilling
- Suitable for allergic patients

INDIVIDUAL COMPONENTS

Code	Description	QT.
● DF200020 Or	Clamp with Damage Control bone screw \varnothing 6mm L. 160 mm	4
● DF225180	Clamp with bone screw \varnothing 6 mm L. 180-40mm	4
DF312200	Rod \varnothing 12mm L. 200mm	3
DF200030	Rod to Rod Clamp	2

FIELD KIT: RECOVERY KIT FOR MILITARY OR EMERGENCY USE

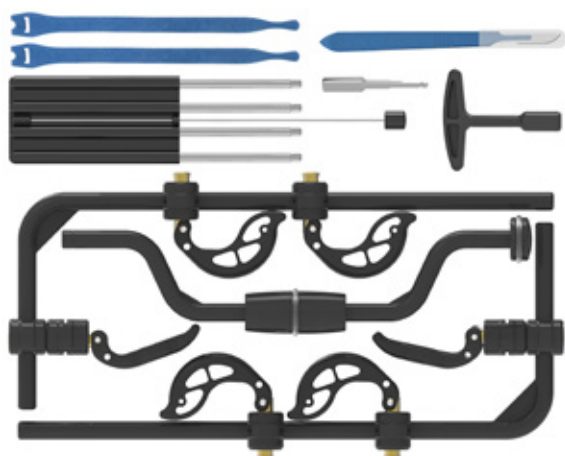
The Dolphix® external fixation system is available in sterile kits suitable for use even in extreme rescue conditions and military operations: lightweight (720g) and compact (210x460x40mm), ready-to-use and requiring no additional tools for application or removal.

DF10FKL1

Dolphix® Fixator L-Rod Field Kit - Diaphyseal

VACUUM

STERILE 



Content

Description	Qt.
L-shaped rod \varnothing 12 mm L. 100x300 mm	2
Ω -shaped rod \varnothing 12 mm L. 300 mm – Drill brace	1
Low reflex bone screw \varnothing 5 mm L. 180-40 mm, self-drilling, stainless steel	4
Clamp for bone screw \varnothing 6mm	4
Rod to Rod Clamp	2
Low reflex Kirshner wire \varnothing 2x250 mm, trocar tip, with handle	1
Cartridge for bone screws and K-Wire	1
Quick-connect adapter for bone screw (stem \varnothing 6mm)	1
T-handle \varnothing 6mm	1
No. 10 scalpels	1
Dolphix® Velcro® security wrap	2

Note: Alternatively, upon request, the DF10FKS2 Kit can be used with individually packaged and labelled components.

Safety corridors and application phases

Applications include fractures of the tibia, femur, humerus, or pelvis, provided neurovascular structures are avoided. Kits include step-by-step instructions.



Femur: Safety corridor

Femur

Between the anterior and lateral regions

Anterior

From the anterior superior iliac spine (or greater trochanter) to 3-4 finger widths proximal to the patella

Lateral

From the greater trochanter to 1-2 finger widths proximal to the knee joint



Tibia: Safety corridor

Subcutaneous

1-2 finger widths distal to the knee joint, avoiding the patellar tendon and the tibial tuberosity

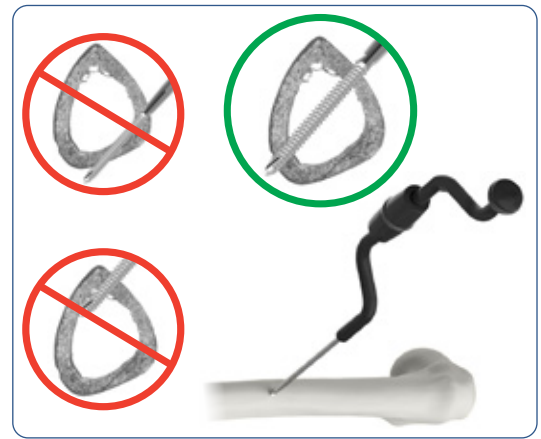
1 finger width proximal to the ankle

Technical Steps

1- Temporarily reduce the fracture.
Make a 1 cm linear incision with the scalpel blade through the skin.

Manually insert the bone screws 2-3 finger widths away from the fracture, using the Ω-shaped rod drill brace through both cortices.

After penetrating the first cortex, a decrease in resistance will be felt.
Using gentle pressure, continue insertion of the bone screw through the second cortex.



2- Insert the bone screws into the femur and assemble the Pin to Rod clamps. Connect the L-shaped rod to the clamps.



3- Close the clamps to lock the components.



4- Assemble a Rod to Rod Clamp to the L-shaped Rod.
Note: Repeat steps 1, 2, and 3 for the other L-shaped Rod on the Tibia.



5- Use the Ω-shaped Rod for screw insertion and then as a connecting rod.



6- Check that the fracture reduction is adequate.
Close the clamps to lock the configuration.



7- Final configuration.

DF10FKS2

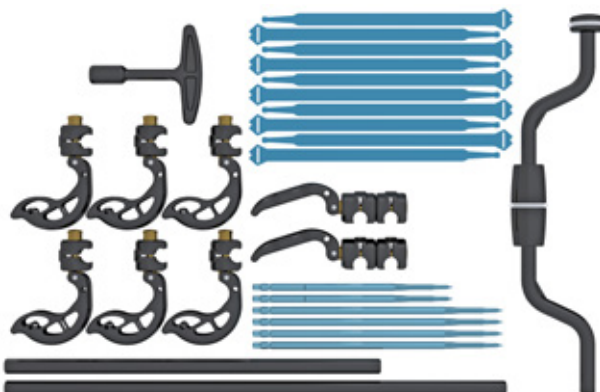
Dolphix® Fixator Field kit straight rod with DC bone screws**

NOT
VACUUM

STERILE



** Kits with components in a single pack and one label



CONTENT

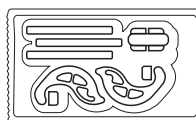
Description

Clamp with DC bone screw 4-5-6mm L. 160-45mm	2
Clamp with DC bone screw 4-5-6mm L. 200-45mm	4
Ω-shaped rod ø12 mm L. 300 mm - Drill brace	1
Rod ø12mm L. 300mm	1
Rod ø12mm L. 400mm	1
Rod to Rod Clamp	2
T-handle ø6mm	1
Dolphix® Velcro® Security Wrap	10



ORDERING INFORMATION - PRE-ASSEMBLED KITS **

** Kits with components in a single pack and one label

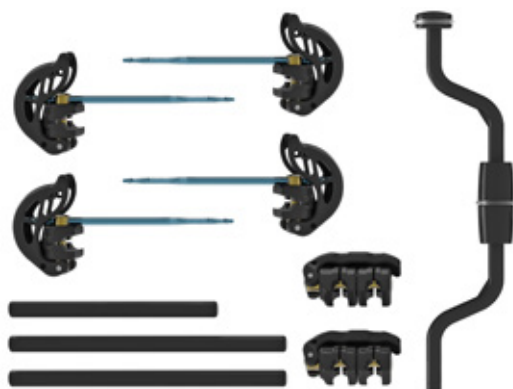


STERILE



DF100010 Dolphix® Basic Kit**

** Kits with components in a single pack and one label



CONTENT

Description	Qt.
Clamp with DC bone screw 4-5-6mm L. 160-45mm	4
Rod to Rod Clamp	2
Rod ø12mm L. 200mm	2
Rod ø12mm L. 150mm	1
Ω-shaped Rod ø12mm L. 300mm - Drill brace	1

DF100020 Dolphix® Tibial Pilon Kit**

** Kits with components in a single pack and one label



CONTENT

Description	Qt.
Clamp with DC bone screw 4-5-6mm L. 160-45mm	2
Rod to Rod Clamp	2
Clamps with transfixing bone screw ø5mm L. 220 mm	1
Rod ø12mm L. 200mm	1
Rod ø12mm L. 280mm	2
Ω-shaped Rod ø12mm L. 300mm - Drill brace	1

DF100021 Dolphix® Metatarsal accessory kit**

** Kits with components in a single pack and one label

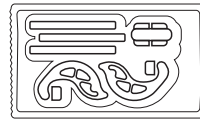


CONTENT

Description	Qt.
Clamp with Damage Control bone screw ø3-4-5mm L.120mm	1
Rod to Rod Clamp	1
Rod ø12mm L. 130mm	1

ORDERING INFORMATION - PRE-ASSEMBLED KITS **

** Kits with components in a single pack and one label

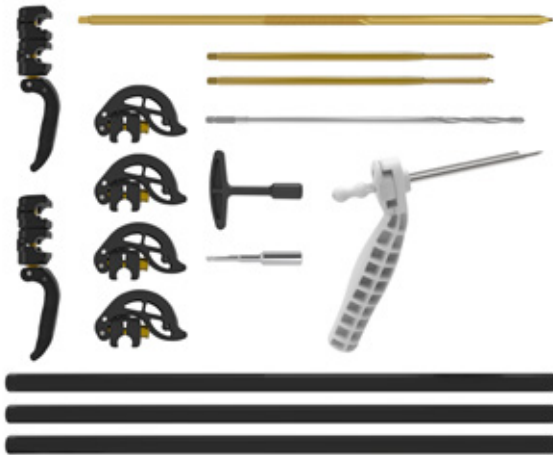
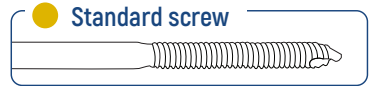


STERILE



DF10012T Dolphix® Delta Kit - Titanium**

** Kits with components in a single pack and one label

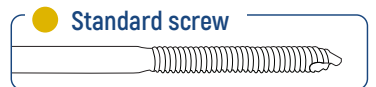


CONTENT

Description	Qt.
Transfixing bone screw \varnothing 7mm L260mm, titanium	1
Standard bone screw \varnothing 5mm L. 180-40mm, blunt tip, titanium	2
Clamp for bone screw (stem \varnothing 6mm)	4
Rod to Rod Clamp	2
Rod \varnothing 12mm L. 300mm	3
Drill bit \varnothing 4x195mm	1
Quick-connect adapter for bone screw (stem \varnothing 6mm)	1
T-handle \varnothing 6mm	1
Cooling cannula system, screw \varnothing 5mm	1

DF10013T Dolphix® Metatarsal Kit - Titanium**

** Kits with components in a single pack and one label

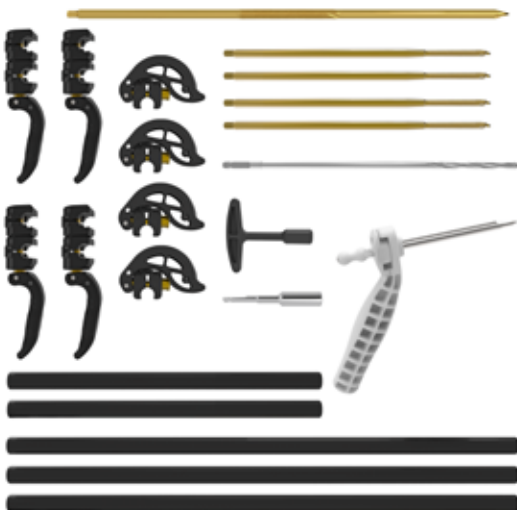
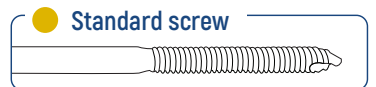


CONTENT

Description	Qt.
Standard bone screw \varnothing 4 mm L. 120-30mm, blunt tip	1
Clamp for bone screw (stem \varnothing 6mm)	1
Rod to Rod Clamp	1
Drill bit \varnothing 3.2x195mm	1
Rod \varnothing 12mm L.150mm	1

DF10019T Dolphix® Universal Kit - Titanium**

** Kits with components in a single pack and one label

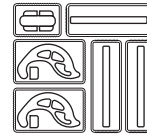


CONTENT

Description	Qt.
Transfixing bone screw \varnothing 7mm L260mm, titanium	1
Standard bone screw \varnothing 5mm L. 180-40mm, blunt tip, titanium	4
Clamp for bone screw (stem \varnothing 6mm)	4
Rod to Rod Clamp	4
Rod \varnothing 12mm L.300mm	3
Rod \varnothing 12mm L.200mm	2
Drill bit \varnothing 4x195mm	1
Quick-connect adapter for bone screw (stem \varnothing 6mm)	1
T-handle \varnothing 6mm	1
Cooling cannula system, screw \varnothing 5mm	1

ORDERING INFORMATION - PROCEDURE KITS **

**Kit available upon request with individually packaged and labelled components

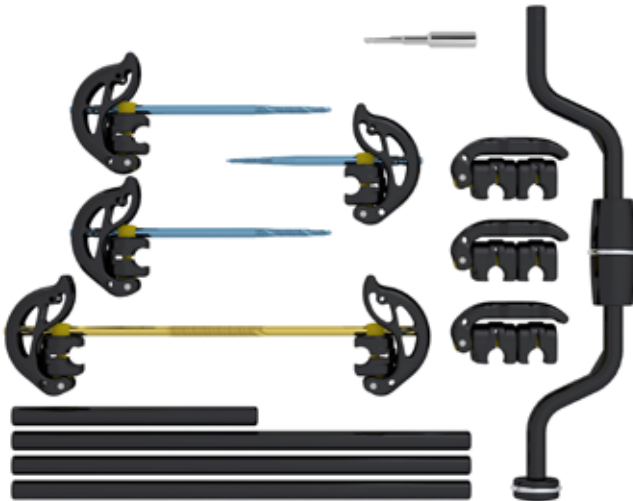


STERILE



PK-024DC PK Delta Frame with DC bone screws**

**Kit available upon request with individually packaged and labelled components

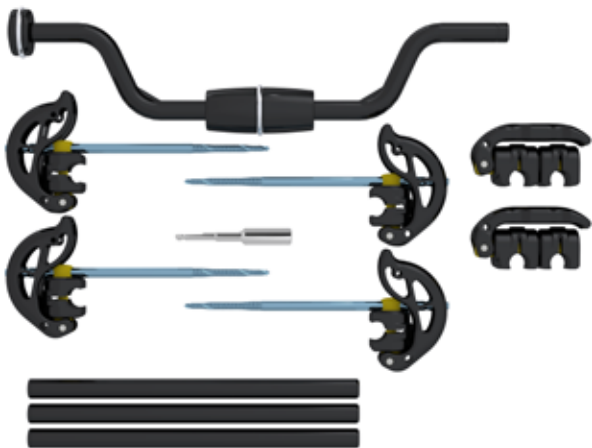


CONTENT

Code	Description	Qt.
DF207260	Clamps with transfixing bone screw $\varnothing 7 \times 260 \text{mm}$	1
DF200020	Clamp with DC bone screw 4-5-6mm L. 160-45mm	2
DF200015	Clamp with DC bone screw 3-4-5mm L. 120-28mm	1
DF312150	Rod $\varnothing 12 \text{mm}$ L. 150mm	1
DF312300	Rod $\varnothing 12 \text{mm}$ L. 300mm	3
DF200030	Rod to Rod clamp	3
SF1306	Quick-connect adapter for bone screw (stem $\varnothing 6 \text{mm}$)	1
DF312020	Ω -shaped rod $\varnothing 12 \text{mm}$ L. 300 mm - Drill brace	1

PK-025DC PK Lower limb diaphyseal kit with DC bone screws**

**Kit available upon request with individually packaged and labelled components

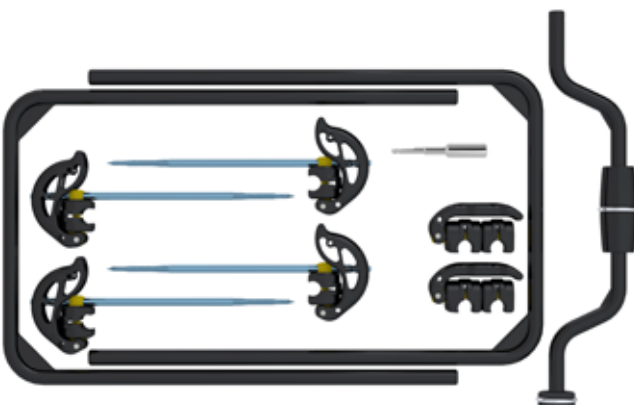


CONTENT

Code	Description	Qt.
DF200020	Clamp with DC bone screw 4-5-6mm L. 160-45mm	4
DF312200	Rod $\varnothing 12 \text{mm}$ L. 200mm	3
DF200030	Rod to Rod clamp	2
SF1306	Quick-connect adapter for bone screw (stem $\varnothing 6 \text{mm}$)	1
DF312020	Ω -shaped rod $\varnothing 12 \text{mm}$ L. 300 mm - Drill brace	1

PK-020DC PK with DC bone screws**

**Kit available upon request with individually packaged and labelled components

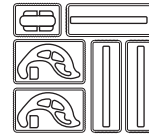


CONTENT

Code	Description	Qt.
DF200040	Clamp with DC bone screw 4-5-6mm L. 200-45mm	4
DF312000	U-shaped rod $\varnothing 12 \text{mm}$ L. 200x300mm	2
DF200030	Rod to Rod clamp	2
SF1306	Quick-connect adapter for bone screw (stem $\varnothing 6 \text{mm}$)	1
DF312020	Ω -shaped rod $\varnothing 12 \text{mm}$ L. 300 mm - Drill brace	1

ORDERING INFORMATION - PROCEDURE KITS **

**Kit available upon request with individually packaged and labelled components

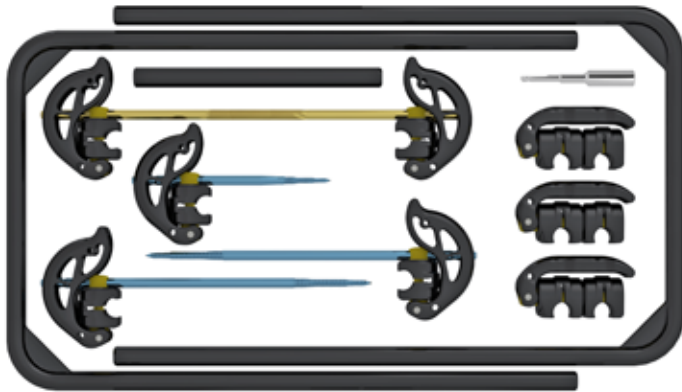


STERILE



PK-020T-DC PK U-shaped Rod with DC bone screws and transfixing bone screw ø7mm**

**Kit available upon request with individually packaged and labelled components



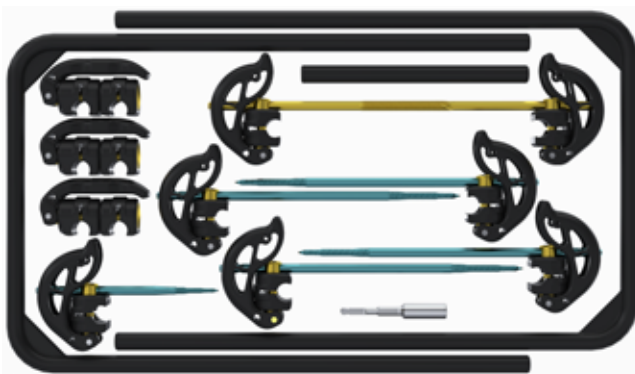
CONTENT

Code	Description	Qt.
DF207260	Clamps with transfixing bone screw ø7x260mm	1
DF200040	Clamp with Damage Control bone screw ø6mm L. 200 mm	2
DF200015	Clamp with Damage Control bone screw ø6mm L. 120 mm	1
DF312000	U-shaped rod ø12mm L. 200x300mm	2
DF312150	Rod ø12mm L. 150mm	1
DF200030	Rod to Rod clamp	3
SF1306	Quick-connect adapter for bone screw (stem ø6mm)	1

PK-020T-DC4 PK U-shaped Rod with 4 DC bone screws and transfixing bone screw ø7mm**

STERILE 2

**Kit available upon request with individually packaged and labelled components



CONTENT

Code	Description	Qt.
DF207260	Clamps with transfixing bone screw ø7x260mm	1
DF200040	Clamp with DC bone screw 4-5-6mm L. 200-45mm	4
DF200015	Clamp with Damage Control bone screw ø6mm L.120mm	1
DF312000	U-shaped rod ø12mm L. 200x300mm	2
DF312150	Rod ø12mm L. 150mm	1
DF200030	Rod to rod clamp	3
SF1306	Quick-connect adapter for bone screw (stem ø6mm)	1

PK-001DC PK Dolphix® with DC bone screws L. 200mm**

**Kit available upon request with individually packaged and labelled components

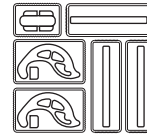


CONTENT

Code	Description	Qt.
DF200040	Clamp with DC bone screw 4-5-6mm L. 200-45mm	4
DF200030	Rod to Rod clamp	2
DF312300	Rod ø12mm L.300mm	2
DF312400	Rod ø12mm L.400mm	1
SF1306	Quick-connect adapter for bone screw (stem ø6mm)	1
DF312020	Ω-shaped Rod ø12mm L. 300mm - Drill brace	1

ORDERING INFORMATION - PROCEDURE KITS **

**Kit available upon request with individually packaged and labelled components

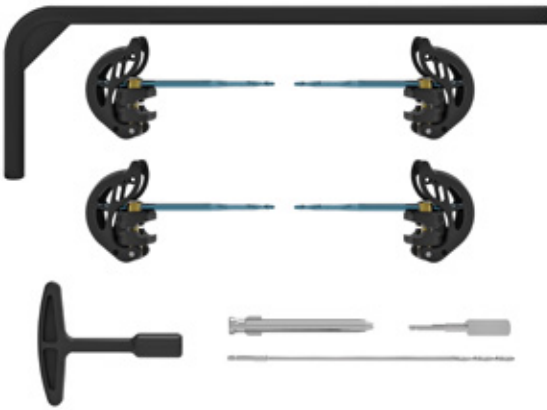


STERILE



PK-0002DC PK with DC bone screws**

**Kit available upon request with individually packaged and labelled components

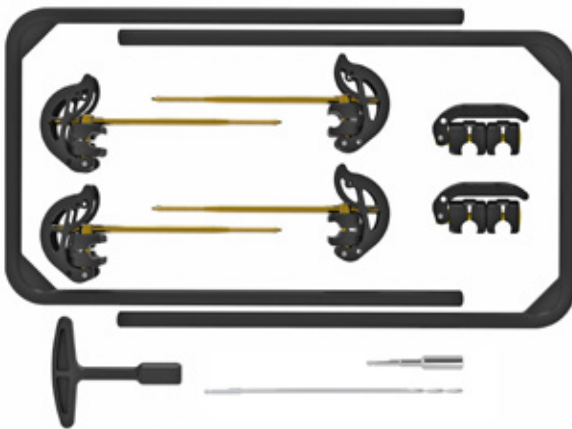


CONTENT

Code	Description	Qt.
DF200015	Clamp with DC bone screw ϕ 3-4-5mm L.120mm	4
DF312007	L-shaped rod ϕ 12mm L. 70x250mm	1
DF900006	T-Handle ϕ 6mm	1
DF900025	Single-use soft tissue protection guide	1
SF1306	Quick-connect adapter for bone screw (stem ϕ 6mm)	1
SF1323	Drill bit ϕ 1.9x195mm	1

PK-020 PK U-shaped Rod with Standard bone screws ϕ 5mm**

**Kit available upon request with individually packaged and labelled components

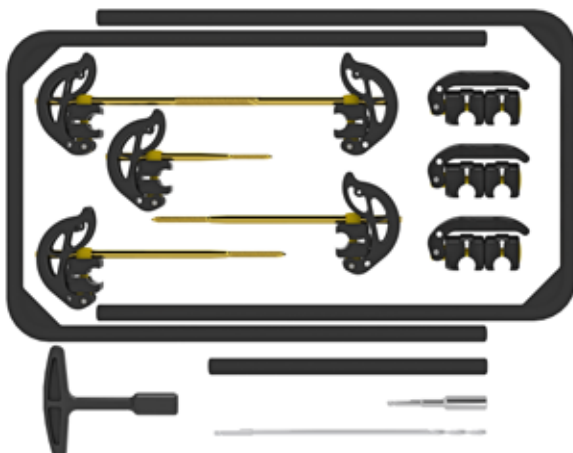


CONTENT

Code	Description	Qt.
DF225180	Clamp with Standard bone screw ϕ 5mm L. 180-40mm	4
DF200030	Rod to Rod clamp	2
DF312000	U-shaped rod ϕ 12mm L. 200x300mm	2
DF900006	T-Handle ϕ 6mm	1
SF1306	Quick-connect adapter for bone screw (stem ϕ 6mm)	1
SF1324	Drill bit ϕ 3.2x195mm	1

PK-020T PK U-shaped Rod with transfixing bone screw ϕ 7 mm**

**Kit available upon request with individually packaged and labelled components

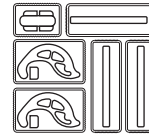


CONTENT

Code	Description	Qt.
DF225180	Clamp with Standard bone screw ϕ 5mm L. 180-40mm	2
DF207260	Clamp with Transfixing bone screw ϕ 7 mm L. 260mm	1
DF224120	Clamp with Standard bone screw ϕ 4mm L. 120-30mm	1
DF200030	Rod to Rod clamp	3
DF312000	U-shaped rod ϕ 12mm L. 200x300mm	2
DF312150	Rod ϕ 12mm L. 150mm	1
DF900006	T-Handle ϕ 6mm	1
SF1306	Quick-connect adapter for bone screw (stem ϕ 6mm)	1
SF1324	Drill bit ϕ 3.2x195mm	1

ORDERING INFORMATION - PROCEDURE KITS **

**Kit available upon request with individually packaged and labelled components



STERILE



PK-024 PK Delta Frame with Standard bone screws**

**Kit available upon request with individually packaged and labelled components

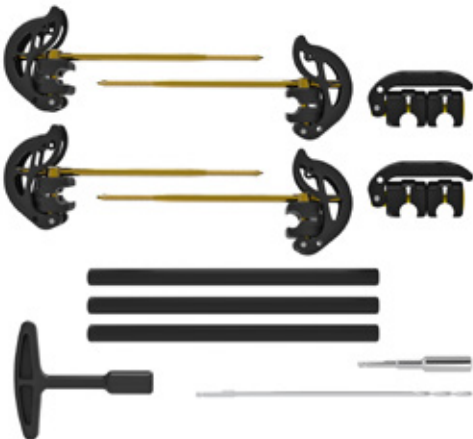


CONTENT

Code	Description	Qt.
DF225180	Clamp with Standard bone screw \varnothing 5mm L. 180-40mm	2
DF224120	Clamp with Standard bone screw \varnothing 4mm L. 120-30mm	1
DF207260	2 clamps with Transfixing bone screw \varnothing 7 mm L. 260mm	1
DF200030	Rod to Rod clamp	3
DF312150	Rod \varnothing 12mm L. 150mm	1
DF312300	Rod \varnothing 12mm L. 300mm	3
DF900006	T-Handle \varnothing 6mm	1
SF1306	Quick-connect adapter for bone screw (stem \varnothing 6mm)	1
SF1324	Drill bit \varnothing 3.2x195mm	1

PK-025 PK Lower limb diaphyseal kit**

**Kit available upon request with individually packaged and labelled components

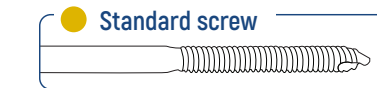
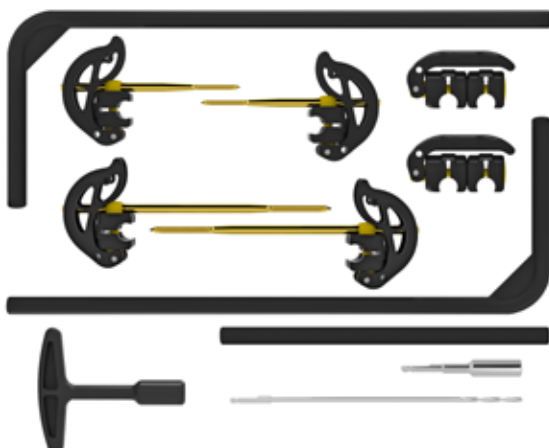


CONTENT

Code	Description	Qt.
DF225180	Clamp with Standard bone screw \varnothing 5mm L. 180-40mm	4
DF200030	Rod to Rod clamp	2
DF312200	Rod \varnothing 12mm L. 200mm	3
DF312010	L-shaped rod \varnothing 12mm L100x300mm	2
DF900006	T-Handle \varnothing 6mm	1
SF1306	Quick-connect adapter for bone screw (stem \varnothing 6mm)	1
SF1324	Drill bit \varnothing 3.2x195mm	1

PK-020L4 PK Elbow L-shaped Rod**

**Kit available upon request with individually packaged and labelled components

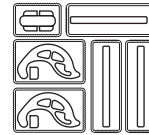


CONTENT

Code	Description	Qt.
DF224120	Clamp with Standard bone screw \varnothing 4mm L. 120-30mm	4
DF200030	Rod to Rod clamp	2
DF312010	L-shaped rod \varnothing 12mm L. 100x300mm	2
DF312200	Rod \varnothing 12mm L. 200mm	1
DF900006	T-Handle \varnothing 6mm	1
SF1306	Quick-connect adapter for bone screw (stem \varnothing 6mm)	1
SF1324	Drill bit \varnothing 3.2x195mm	1

ORDERING INFORMATION - PROCEDURE KITS **

**Kit available upon request with individually packaged and labelled components

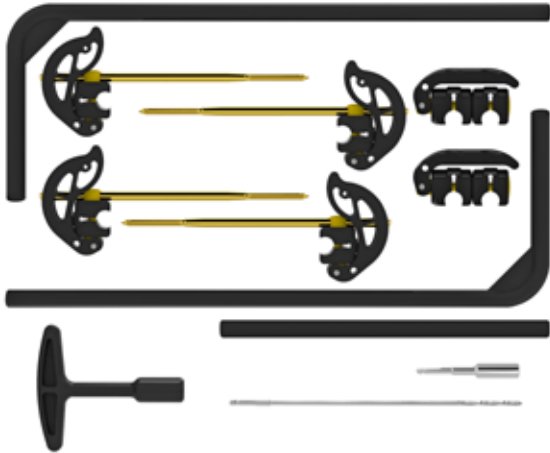


STERILE



PK-020L5 PK Femur/Tibia (Diaphyseal) L-Rod**

**Kit available upon request with individually packaged and labelled components

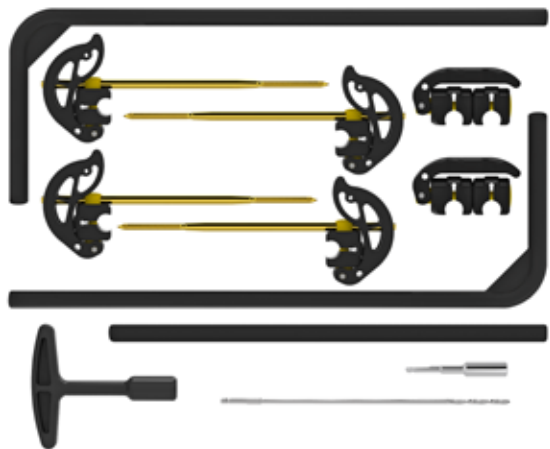


CONTENT

Code	Description	Qt.
DF225180	Clamp with Standard bone screw \varnothing 5mm L. 180-40mm	4
DF200030	Rod to Rod clamp	2
DF312010	L-shaped rod \varnothing 12mm L. 100x300mm	2
DF312200	Rod \varnothing 12mm L. 200mm	1
DF900006	T-Handle \varnothing 6mm	1
SF1306	Quick-connect adapter for bone screw (stem \varnothing 6mm)	1
SF1324	Drill bit \varnothing 3.2x195mm	1

PK-020L6 PK Pelvis L-Rod**

**Kit available upon request with individually packaged and labelled components

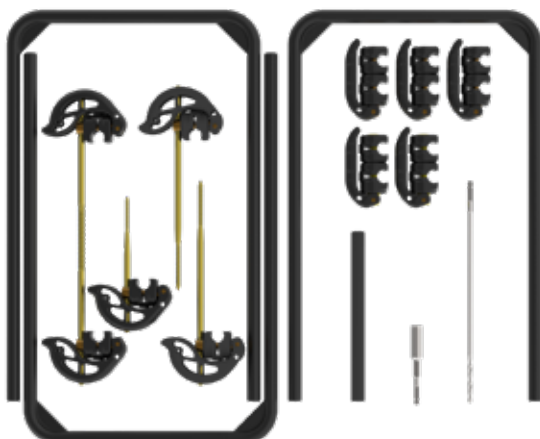


CONTENT

Code	Description	Qt.
DF226200	Clamp with Standard bone screw \varnothing 6mm L. 200-45mm	4
DF200030	Rod to Rod clamp	2
DF312010	L-shaped rod \varnothing 12mm L. 100x300mm	2
DF312300	Rod \varnothing 12mm L. 300mm	1
DF900006	T-Handle \varnothing 6mm	1
SF1306	Quick-connect adapter for bone screw (stem \varnothing 6mm)	1
SF1325	Drill bit \varnothing 4x195mm	1

PK-020T-HAR PK U-Rod (3) with transfixing bone screw \varnothing 7mm**

**Kit available upon request with individually packaged and labelled components



CONTENT

Code	Description	Qt.
DF207260	Clamp with Standard bone screw \varnothing 6mm L. 200-45mm	4
DF225180	Rod to Rod clamp	2
DF224120	L-shaped rod \varnothing 12mm L. 100x300mm	2
DF312000	Rod \varnothing 12mm L. 300mm	1
DF312150	T-Handle \varnothing 6mm	1
DF200030	Rod to Rod clamp	2
SF1306	Quick-connect adapter for bone screw (stem \varnothing 6mm)	1
SF1325	Drill bit \varnothing 4x195mm	1

ORDERING INFORMATION - INDIVIDUAL COMPONENTS




STERILE



CLAMPS

Pin to Rod Clamp



Code	ø mm stem
 DF210040	4
 DF210050	5
 DF210060	6

Rod to Rod Clamp



Code
DF200030

RODS

Straight rod



Code	ø mm	L. mm
DF312150	12	150
DF312200	12	200
DF312300	12	300
DF312400	12	400
DF312500	12	500
DF312600	12	600
DF312650	12	650

L-shaped rod



Code	ø mm	L. mm
DF312007	12	70x250
DF312010	12	100x300

U-shaped rod



Code	ø mm	L. mm
DF312000	12	200x300

Ω-shaped rod - Drill brace



Code	ø mm	L. mm
DF312020	12	300

STERILE 

Clamp with Damage Control bone screw, self-drilling, titanium



Code	thread \varnothing mm	stem \varnothing mm	Thread L. mm	Total L. mm
DF201010	2.5-3-3.5	6	31	90
DF200015	3 - 4 - 5	6	28	120
DF200020	4 - 5 - 6	6	48	160
DF200040	4 - 5 - 6	6	48	200

Clamp with Standard bone screw, blunt tip, titanium



Code	thread \varnothing mm	stem \varnothing mm	Thread L. mm	Total L. mm
DF224120	4	6	30	120
DF225180	5	6	40	180
DF226200	6	6	45	200

Clamp with transfixing bone screw, titanium



Code	tip \varnothing mm	thread \varnothing mm	stem \varnothing mm	Thread L. mm	Total L. mm
DF205220	4	6	5	50	220
DF206240	4	6	5	50	240
DF206260	4	6	5	57	260
DF207260	6	7	6	60	260

Clamp with bone screw, self-drilling, stainless steel



Code	thread \varnothing mm	stem \varnothing mm	Thread L. mm	Total L. mm
DF284120	4	6	30	120
DF285180	5	6	40	180
DF286200	6	6	45	200

NOTE: Stainless steel bone screws have not been evaluated for safety and compatibility in a magnetic resonance imaging (MRI) environment, nor have they been tested for potential heating or migration.

STERILE 

Damage Control Bone screw, self-drilling, titanium



Code	stem \varnothing mm	thread \varnothing mm	Thread L. mm	Total L. mm
DF406160	6	4 - 5 - 6	48	160
DF406200	6	4 - 5 - 6	48	200

Standard Bone screw, blunt tip, titanium



Code	stem \varnothing mm	thread \varnothing mm	Thread L. mm	Total L. mm
DF424120	6	4	30	120
DF425180	6	5	40	180
DF426200	6	6	45	200

Transfixing bone screw, titanium



Code	stem \varnothing mm	thread \varnothing mm	tip \varnothing mm	Thread L. mm	Total L. mm
DF415220	6	5	4	50	220
DF415240	6	5	4	50	240
DF415260	6	5	4	57	260
DF417260	6	7	6	60	260

Bone screw, self-drilling, steel



Code	stem \varnothing mm	thread \varnothing mm	Thread L. mm	Total L. mm
DF484120	6	4	30	120
DF485180	6	5	40	180
DF486200	6	6	45	200

NOTE: Stainless steel bone screws have not been evaluated for safety and compatibility in a magnetic resonance imaging (MRI) environment, nor have they been tested for potential heating or migration.

INSTRUMENT SET

STERILE 

Drill bit



Code	Description
SF1323	Drill bit \varnothing 1.9x150mm
SF1324	Drill bit \varnothing 3.2x195mm
SF1325	Drill bit \varnothing 4x195mm
SF1326	Drill bit \varnothing 5x195mm

Quick-connect adapter



Code	Description
SF1306	Quick-connect adapter for bone screw (stem \varnothing 6mm)

T-handle



Code	Description
DF900006	T-handle \varnothing 6mm

Single-use soft tissue protection guide



Code	Description
DF900025	Single-use soft tissue protection guide for \varnothing 1.9mm or \varnothing 3.2mm drill bit

Drill cooling cannula system



Code	Description
DF900040	Cooling cannula system, screw \varnothing 4mm (for \varnothing 3.2 drill)
DF900050	Cooling cannula system, screw \varnothing 5mm (for \varnothing 4 drill)
DF900060	Cooling cannula system, screw \varnothing 6mm (for \varnothing 5 drill)

DF900100 Dolphix® calcaneal distractor kit**

** Kits with components in a single pack and one label

STERILE 



CONTENT

Description

Description	Qt.
Steel bone screw ø6mm L. 150-40mm	2
Clamp for bone screw ø6mm	2
Rod to Rod Clamp	1
Rod ø12mm L. 200mm	1
Calcaneal distractor-compressor with manoeuvring pin	1
Quick-connect adapter for bone screw (stem ø6mm)	1



Velcro® Security Wrap

NOT STERILE



Code	Description
DF900002	Velcro® Security Wrap (pack of 10 pcs)

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Temporary external fixation system



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