

SURGICAL TECHNIQUE GUIDE  
**FREEFIX<sup>®</sup>**  
**forearm plating system**



 **skeletal dynamics<sup>®</sup>**  
UNDERSTANDING THE UPPER EXTREMITY

As described by:  
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# FREEFIX<sup>®</sup>

## forearm plating system

### Description

The Forearm Plating System contains bone plates for the repair of midshaft radius and ulna fractures. Included in the set are titanium bone screws, k-wires, and specialized instrumentation.

The Forearm Plates are available in various sizes and are made of medical grade titanium alloy. The system is provided non-sterile and is sterilized at the user facility.

The Forearm Plating System is comprised of:

- Titanium alloy plates and screws
- Stainless steel k-wires (for provisional fixation; not for implantation)
- System specific instrumentation

### Indications for Use

The Forearm Plating System is intended for the treatment of fractures, fusions, and osteotomies of the radius and ulna.



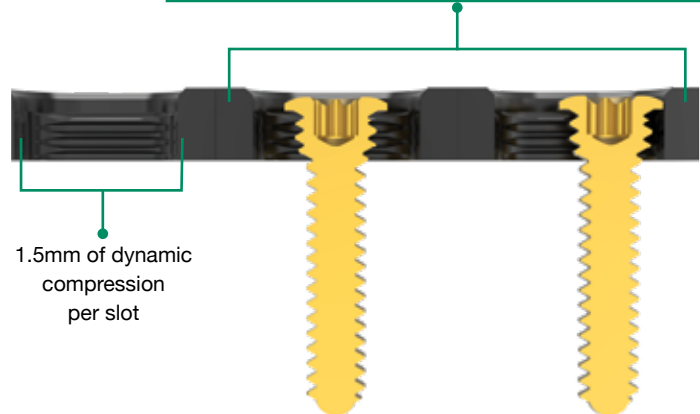
Midshaft Ulna Plate  
Lengths: 81mm - 188mm

Midshaft Radius Plate  
Lengths: 81mm - 188mm

Both compression and locking screws can be inserted in any position in FreeFix<sup>®</sup> slots



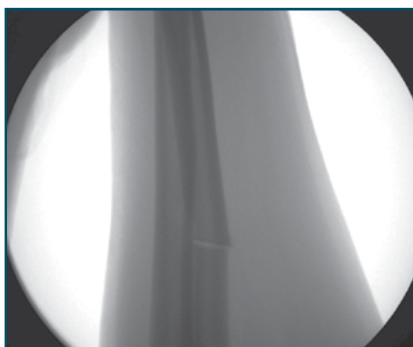
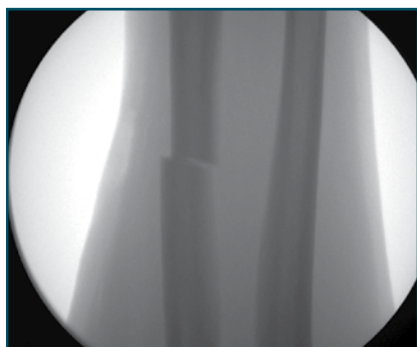
Patented horizontal thread pattern allows dynamic compression with locking screws



1.5mm of dynamic  
compression  
per slot

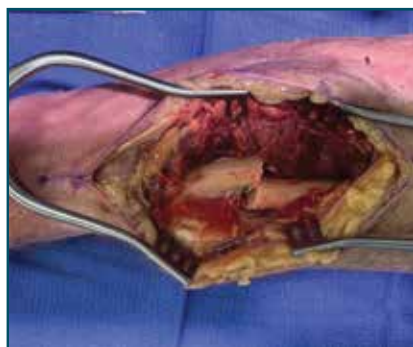
# 1

## EXPOSURE



Expose the radius and/or ulna using the optimal approach(es) for the fracture location.

**Note:**  
Identify and protect the nerves and vasculature.



# 2

## REDUCE AND LAG FRACTURE



Debride the fracture, reduce it and address comminution using lag screws as needed. Bone clamps are useful for provisional fixation.

If the fracture does not require use of a lag screw, proceed to plate selection.



CLMP-FRG-135: Fragment Bone Clamp, 135cm OAL, Curved, With Speed Lock

## PLATE SELECTION

# 3

Select the appropriate plate length. Six cortices are recommended proximal and distal to the extent of the fracture.

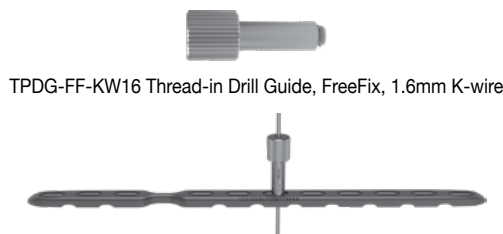
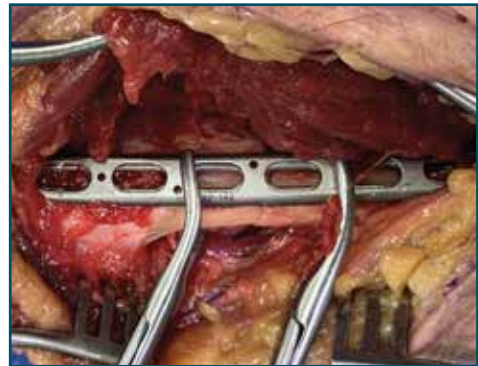
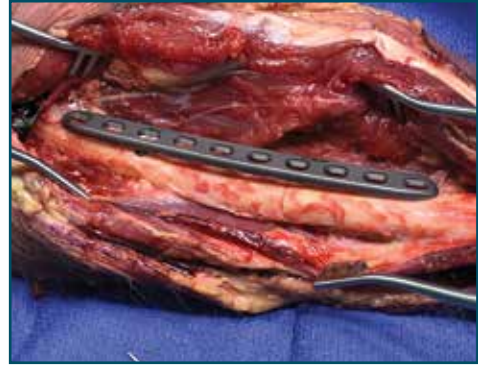
Use the appropriate plate curvature for the local anatomy. In general, the curved plate best fits the radius and the straight plate best fits the ulna. Forceps can be used to aid in plate placement or fracture reduction. K-wires may be used with the threaded k-wire guides in the FreeFix slots to aid in provisional fixation.

### Note:

If needed, use bending irons to bend the plate for precise anatomical fit. When bending the plate, make small adjustments until the desired angle is achieved.

### Warning:

Bending may weaken or break the plate. Be sure to inspect the plate for damage prior to use.



TPDG-FF-KW16 Thread-in Drill Guide, FreeFix, 1.6mm K-wire

## PLATE FIXATION

# 4

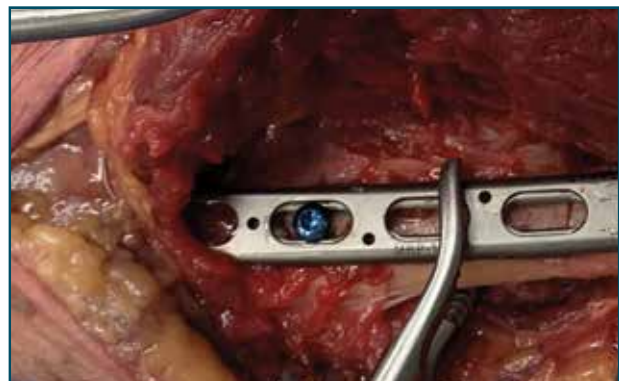
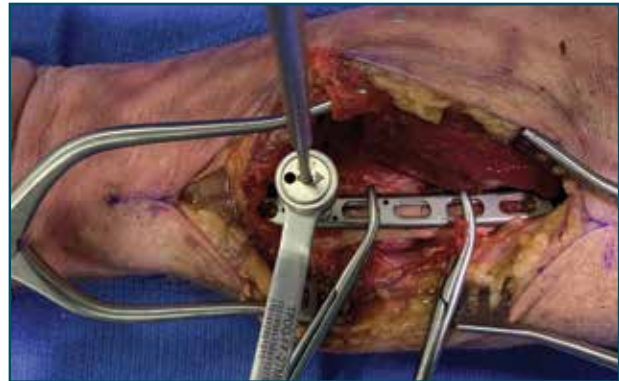
Utilizing the center hole of the drill guide, drill a pilot hole in a chosen FreeFix® slot on one side of the fracture.

Use the depth gauge to determine the appropriate screw length. Insert and tighten a 3.5mm cortical non-locking screw.

Repeat this step on the opposite side of the fracture to obtain initial fracture stability.

### Note:

A smaller diameter drill bit is available for osteoporotic bone, if necessary.



TPDG-FF-27ML: Drill Guide, FreeFix, 2.7mm

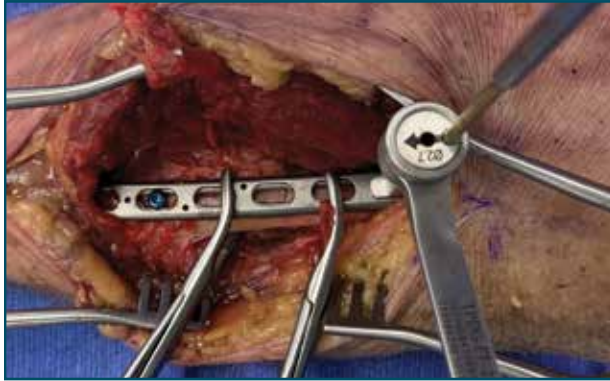
DRLL-SSC-27050: Drill, 2.7mm x 50mm

DPGA-FF-050: Depth Gauge, FreeFix, 50 mm

# 5

## DYNAMIC COMPRESSION

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Place the drill guide in the chosen slot ensuring the off-center hole is furthest from the fracture.

Drill through the off-center hole, then measure using the depth gauge to determine the appropriate screw length.

**Note:**

FreeFix® plates have a patented horizontal thread pattern which allows dynamic compression with either compression or locking screws.

Before engaging the head of the screw with the threads of the FreeFix® slot, loosen any previously placed screws on the corresponding side of the fracture. Then tighten the screw for dynamic compression.

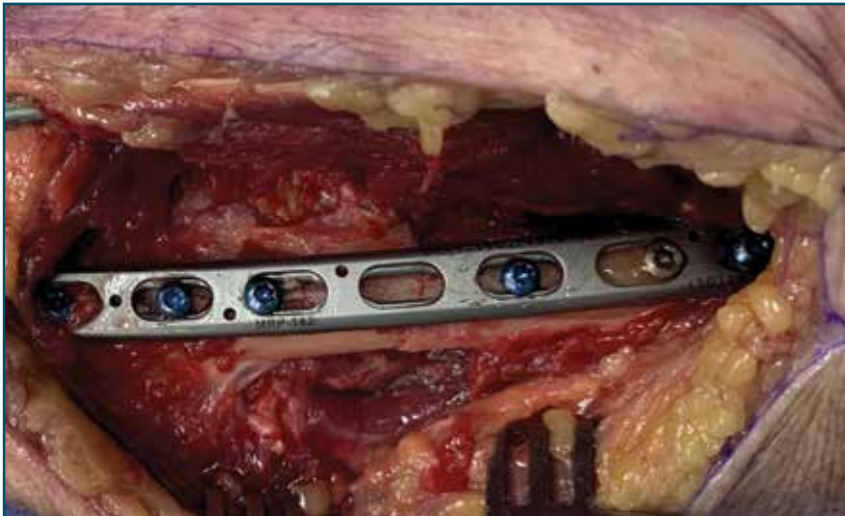
Once the screw is fully seated, retighten any previously loosened screws.



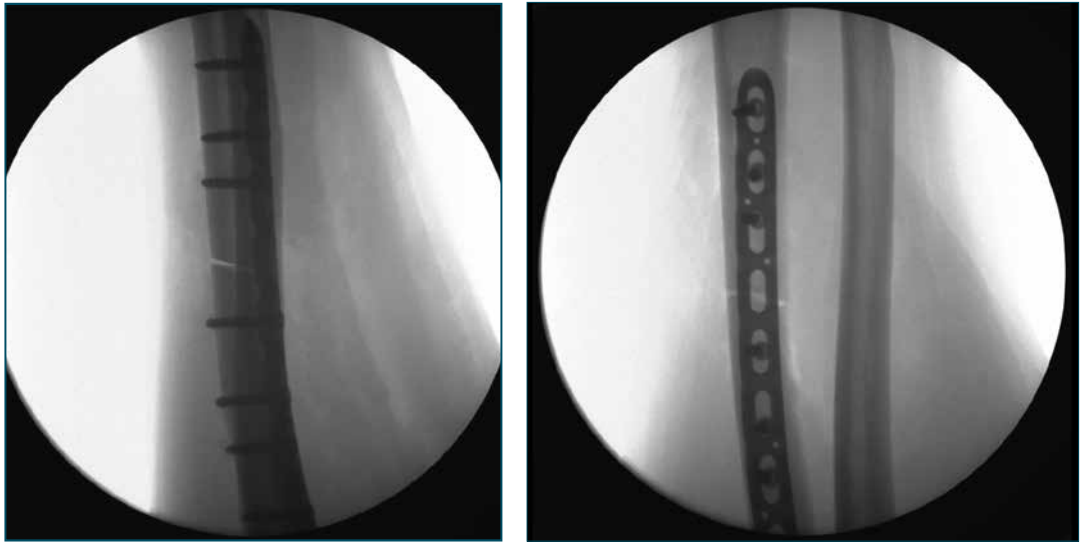
# 6

## FINAL PLATE FIXATION

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Fill the necessary screw holes on each side of the fracture to provide the recommended minimum six cortices of stability.

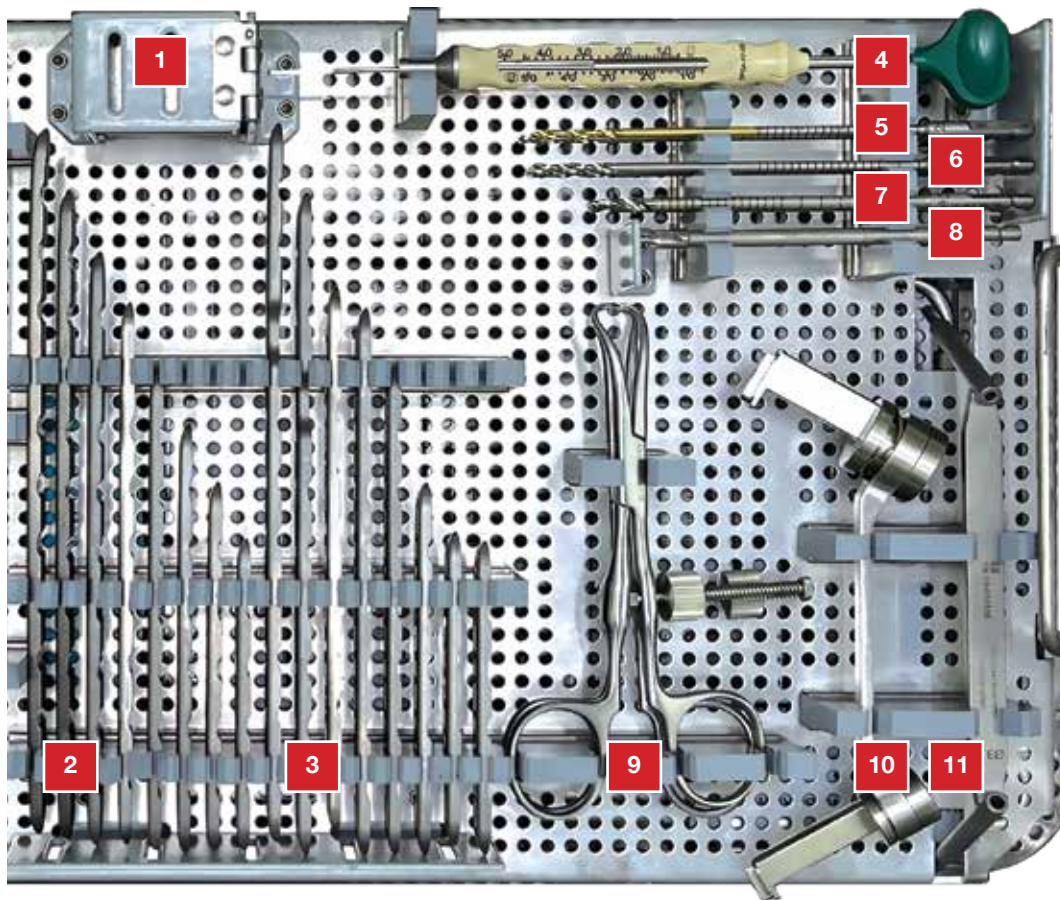


Confirm proper reduction, alignment and screw length with fluoroscopy.

Close the incision in the usual fashion.

External forearm support, such as casting or orthosis, should be indicated based on bone condition and stability. Early finger and elbow motion and forearm rotation is desired. Weight bearing is allowed when fracture healing has been confirmed.

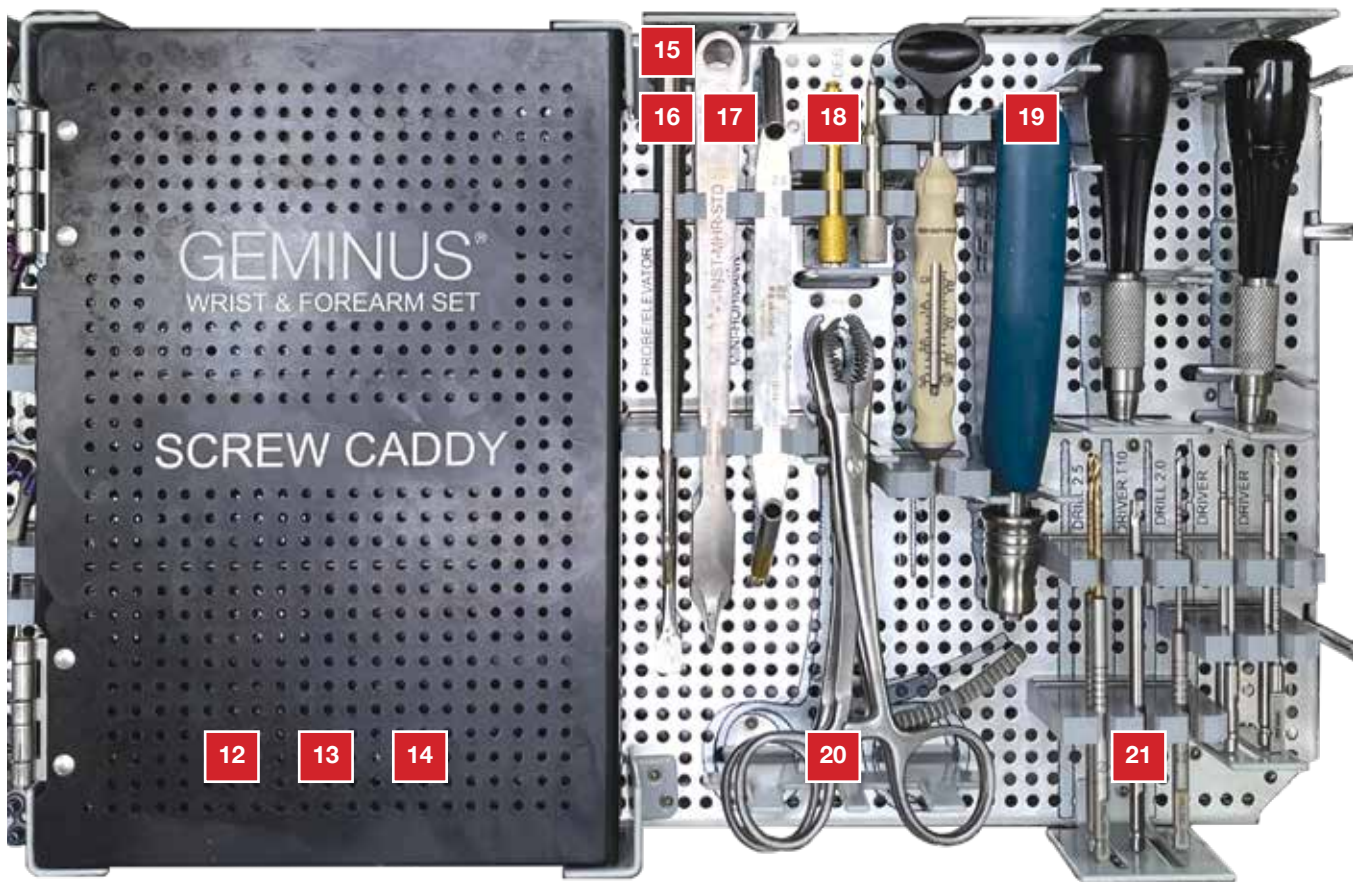
## INSTRUMENT TRAY (Standard Configuration)



Loc#	Catalog#	Description	Loc#	Catalog#	Description
1	TPDG-FF-KW16	Thread-in Drill Guide, FreeFix, 1.6mm K-wire	9	CLMP-FRG-135	Fragment Bone Clamp, 135cm OAL, Curved, With Speed Lock
2	MRP-081 MRP-097 MRP-112 MRP-127 MRP-142 MRP-157 MRP-173 MRP-188	FreeFix Midshaft Radius Plate, 81mm FreeFix Midshaft Radius Plate, 97mm FreeFix Midshaft Radius Plate, 112mm FreeFix Midshaft Radius Plate, 127mm FreeFix Midshaft Radius Plate, 142mm FreeFix Midshaft Radius Plate, 157mm FreeFix Midshaft Radius Plate, 173mm FreeFix Midshaft Radius Plate, 188mm	10	TPDG-FF-27ML	Drill Guide, FreeFix, 2.7mm
3	MUP-081 MUP-097 MUP-112 MUP-127 MUP-142 MUP-157 MUP-173 MUP-188	FreeFix Midshaft Ulna Plate, 81mm FreeFix Midshaft Ulna Plate, 97mm FreeFix Midshaft Ulna Plate, 112mm FreeFix Midshaft Ulna Plate, 127mm FreeFix Midshaft Ulna Plate, 142mm FreeFix Midshaft Ulna Plate, 157mm FreeFix Midshaft Ulna Plate, 173mm FreeFix Midshaft Ulna Plate, 188mm	11	TPDG-DSD-2735	Tissue Protector / Drill Guide, Dual Sided, 2.7mm x 3.5mm
4	DPGA-FF-050	Depth Gauge, FreeFix, 50mm			
5	DRLL-SSC-25050	Drill, 2.5mm x 50mm			
6	DRLL-SSC-27050	Drill, 2.7mm x 50mm			
7	DRLL-SSC-35070	Drill, 3.5mm x 70mm			
8	DRLL-CSK-56	Countersink, 5.6mm			

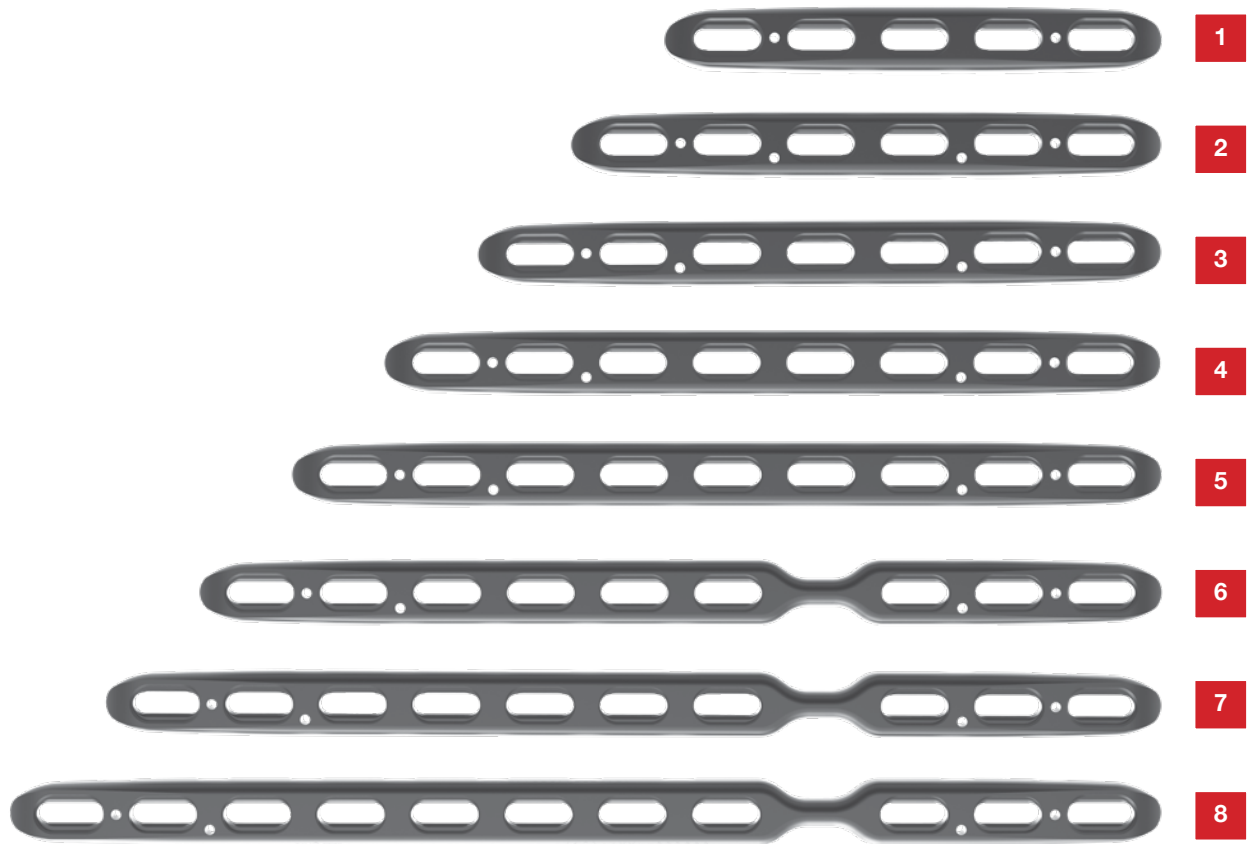


## INSTRUMENT TRAY (Standard Configuration)



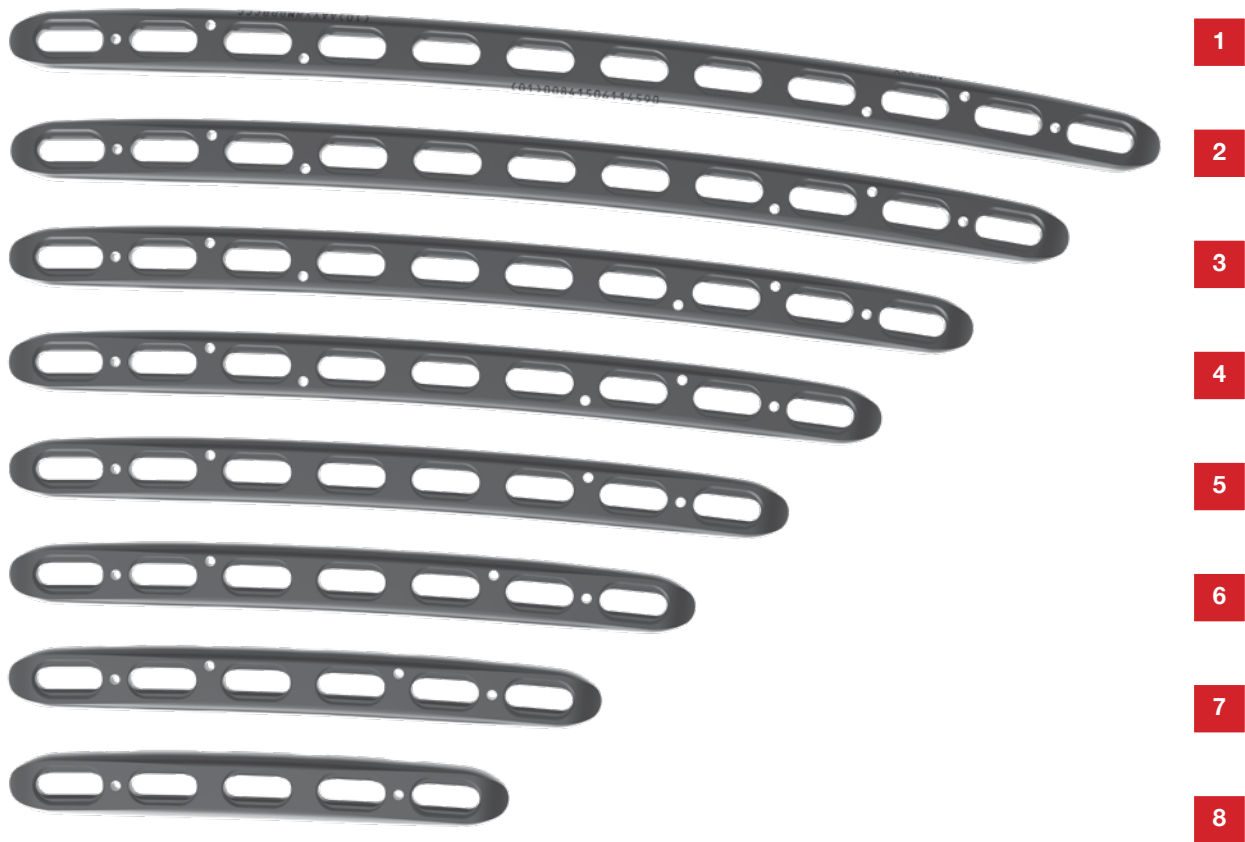
Loc#	Catalog#	Description	Loc#	Catalog#	Description
12	PANL-35080-TS	Screw, Cortical Non Locking, 3.5mm x 8mm, Ti	14	KWIR-STD-15127	K-Wire, Standard Tip, 1.6mm x 127mm
	PANL-35090-TS	Screw, Cortical Non Locking, 3.5mm x 9mm, Ti	15	INST-KPE-STD	Instrument, Key Periosteal Elevator, Standard
	PANL-35100-TS	Screw, Cortical Non Locking, 3.5mm x 10mm, Ti	16	INST-SHP-STD	Instrument, Sharp Hook Probe, Standard
	PANL-35110-TS	Screw, Cortical Non Locking, 3.5mm x 11mm, Ti	17	INST-MHR-STD	Instrument, Mini-Hohmann Retractor, Standard
	PANL-35120-TS	Screw, Cortical Non Locking, 3.5mm x 12mm, Ti	18	TPDG-FF-35	Thread-in Drill Guide, FreeFix, 3.5mm
	PANL-35130-TS	Screw, Cortical Non Locking, 3.5mm x 13mm, Ti	19	HNDL-UQC-FXD	Handle, Universal Quick Connect, Fixed
	PANL-35140-TS	Screw, Cortical Non Locking, 3.5mm x 14mm, Ti	20	FRCP-BHM-RTC	Forceps, Bone Holding Medium, Ratcheting
	PANL-35150-TS	Screw, Cortical Non Locking, 3.5mm x 15mm, Ti	21	DRVR-UQC-T10	Driver, Universal Quick Connect, T10
	PANL-35160-TS	Screw, Cortical Non Locking, 3.5mm x 16mm, Ti			
	PANL-35180-TS	Screw, Cortical Non Locking, 3.5mm x 18mm, Ti			
	PANL-35200-TS	Screw, Cortical Non Locking, 3.5mm x 20mm, Ti			
	PANL-35220-TS	Screw, Cortical Non Locking, 3.5mm x 22mm, Ti			
	PANL-35240-TS	Screw, Cortical Non Locking, 3.5mm x 24mm, Ti			
	PANL-35260-TS	Screw, Cortical Non Locking, 3.5mm x 26mm, Ti			
	PANL-35280-TS	Screw, Cortical Non Locking, 3.5mm x 28mm, Ti			
13	COLS-35080-TS	Screw, Cortical, Locking, 3.5mm x 8mm, Ti			
	COLS-35090-TS	Screw, Cortical, Locking, 3.5mm x 9mm, Ti			
	COLS-35100-TS	Screw, Cortical, Locking, 3.5mm x 10mm, Ti			
	COLS-35110-TS	Screw, Cortical, Locking, 3.5mm x 11mm, Ti			
	COLS-35120-TS	Screw, Cortical, Locking, 3.5mm x 12mm, Ti			
	COLS-35130-TS	Screw, Cortical, Locking, 3.5mm x 13mm, Ti			
	COLS-35140-TS	Screw, Cortical, Locking, 3.5mm x 14mm, Ti			
	COLS-35150-TS	Screw, Cortical, Locking, 3.5mm x 15mm, Ti			
	COLS-35160-TS	Screw, Cortical, Locking, 3.5mm x 16mm, Ti			
	COLS-35180-TS	Screw, Cortical, Locking, 3.5mm x 18mm, Ti			
	COLS-35200-TS	Screw, Cortical, Locking, 3.5mm x 20mm, Ti			
	COLS-35220-TS	Screw, Cortical, Locking, 3.5mm x 22mm, Ti			
	COLS-35240-TS	Screw, Cortical, Locking, 3.5mm x 24mm, Ti			
	COLS-35260-TS	Screw, Cortical, Locking, 3.5mm x 26mm, Ti			
	COLS-35280-TS	Screw, Cortical, Locking, 3.5mm x 28mm, Ti			

## FREEFIX® Midshaft Ulna Plates



Loc#	Catalog#	Description
1	MUP-081	FreeFix Midshaft Ulna Plate, 81mm (5 slot)
2	MUP-097	FreeFix Midshaft Ulna Plate, 97mm (6 slot)
3	MUP-112	FreeFix Midshaft Ulna Plate, 112mm (7 slot)
4	MUP-127	FreeFix Midshaft Ulna Plate, 127mm (8 slot)
5	MUP-142	FreeFix Midshaft Ulna Plate, 142mm (9 slot)
6	MUP-157	FreeFix Midshaft Ulna Plate, 157mm (9 slot with neck)
7	MUP-173	FreeFix Midshaft Ulna Plate, 173mm (10 slot with neck)
8	MUP-188	FreeFix Midshaft Ulna Plate, 188mm (11 slot with neck)

## FREEFIX® Midshaft Radius Plates



Loc#	Catalog#	Description
1	MRP-081	FreeFix Midshaft Radius Plate, 81mm (5 slot)
2	MRP-097	FreeFix Midshaft Radius Plate, 97mm (6 slot)
3	MRP-112	FreeFix Midshaft Radius Plate, 112mm (7 slot)
4	MRP-127	FreeFix Midshaft Radius Plate, 127mm (8 slot)
5	MRP-142	FreeFix Midshaft Radius Plate, 142mm (9 slot)
6	MRP-157	FreeFix Midshaft Radius Plate, 157mm (10 slot)
7	MRP-173	FreeFix Midshaft Radius Plate, 173mm (11 slot)
8	MRP-188	FreeFix Midshaft Radius Plate, 188mm (12 slot)



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