



Including biodegradable plates, screws and pins
Inion OTPS™ Hand System

INION OTPS™
HAND SYSTEM
Biodegradable
Fixation
System

- Predictable degradation
- Optimized implant strength/material ratio
- Biodegradable plates, screws and pins to suit wide range of applications
- Implants supplied sterile: reduced cross infection potential

INION
Intelligent Solution

Inion OTPS™ Hand System

Biodegradable Fixation System

Inion OTPS Hand System includes Inion OTPS Mini Plating System (plates and screws) and Inion OTPS Pins.

Inion OTPS™ Biodegradable Mini Plating System

Indications

The OTPS™ Biodegradable Mini Plating System is intended for use in fixation of non-comminuted diaphyseal fractures of the metacarpal, proximal phalangeal, middle phalangeal and osteotomies in the presence of appropriate immobilization.

The smaller diameter screws and their respective plates are primarily for the phalangeal region whereas the largest screws and plates are intended for the metacarpal area.

Inion Optima™ Material Advantage

Inion OTPS™ materials are made by blending rigid and elastic polymer components.

The resulting polymer blends possess extraordinary combination of strength, toughness (malleability) and degradation profile.

The basic elements of the Inion OTPS™ family of proprietary biomaterials have long, safe and successful clinical histories.

The polymers used in Inion Optima™ family

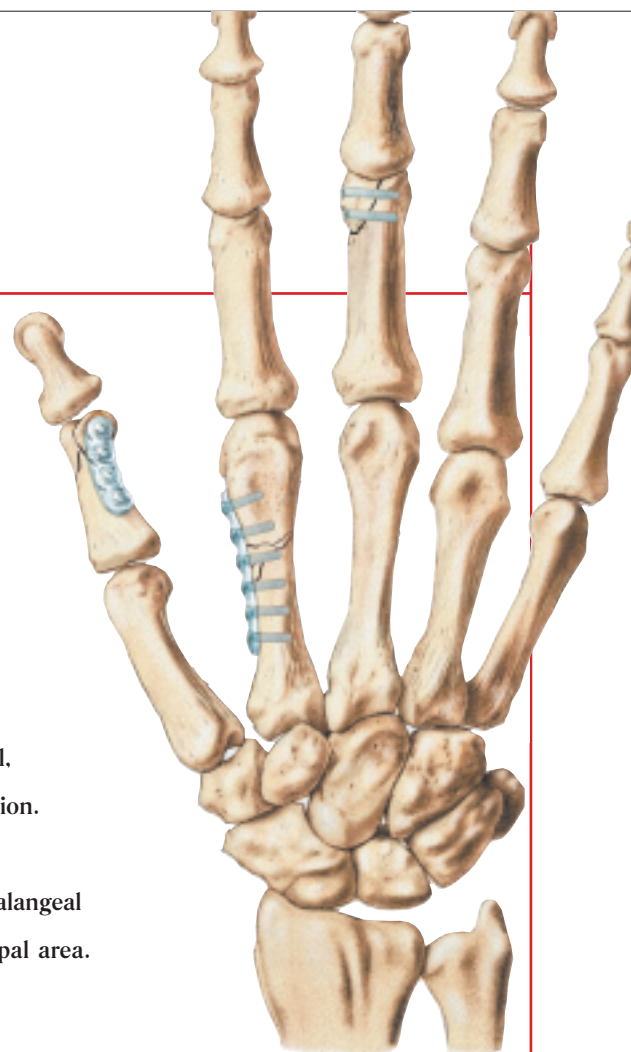
TMC	LPLA	DLPLA
Trimethylene Carbonate	L-Lactide	D, L-Lactide

The degradation profile

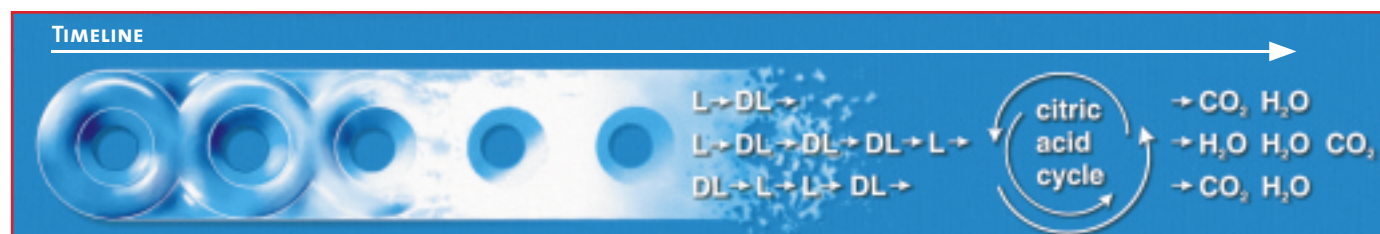
Inion OTPS™ materials are amorphous and degrade *in vivo* by hydrolysis and are metabolized by the body into CO₂ and water.

The degradation profiles have been tailored to provide initial stability and then progressively load bone to stimulate regeneration.

The OTPS Mini Plating System products will gradually lose their strength after 18-36 weeks in vivo with complete strength loss and resorption within two to four years.

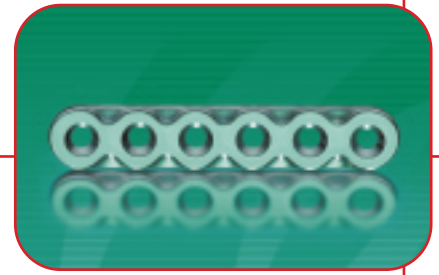


The two-phase process: Degradation of Biodegradable polymers

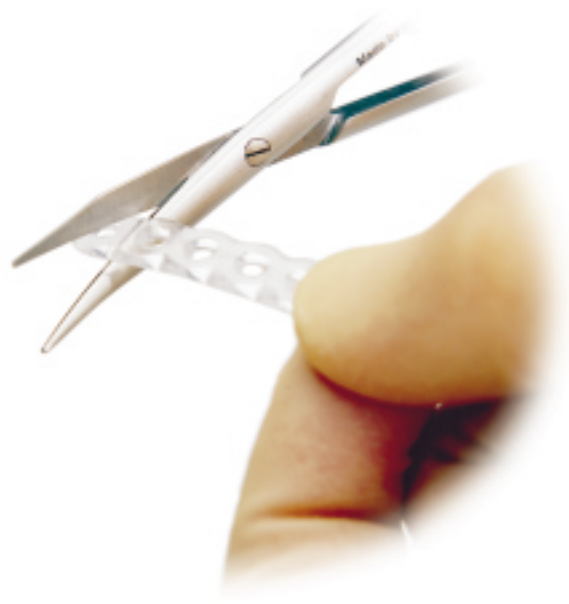


Benefits

- No second surgery required for implant removal reducing patient trauma and cost
- Implants supplied sterile for reduced cross infection potential
- Optimized implant strength/material ratio
- The plates are malleable for easy contouring after activation in Inion Thermo water bath (+55 °C).



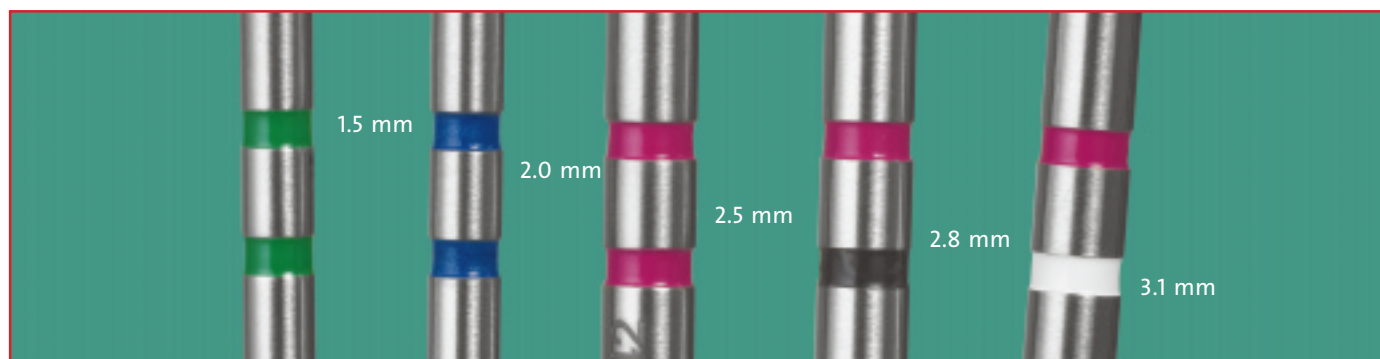
Plates can also be reheated for additional shaping or bent once cooled



Plates can be cut easily with scissors

Screw fixation

- 2.0, 2.5 and 2.8 mm screws are packed in an easy-to-use dispenser containing 2 screws
- Fine screw threads provide maximum engagement in cortical bone
- 1.5 and 3.1 mm screws are packed as singles
- Universal screwdriver blade used for all OTPS Hand System screw sizes
- Simple and secure push-fit screw pick-up
- Instruments are color coded for easy identification



MANUAL TAP METHOD

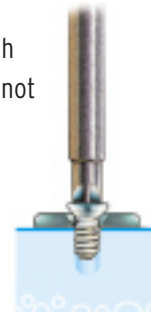
Create a screw hole to the required depth using the appropriate drill bit attached to a slow speed drill (maximum 2,000 rpm) and irrigation.



Manually tap the hole in the bone.



Insert screw with screwdriver. Do not overtighten.



1.5 mm System

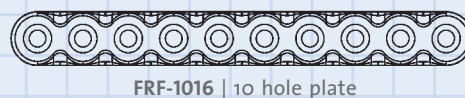
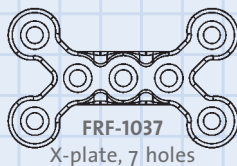
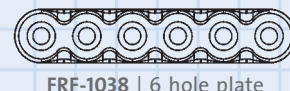
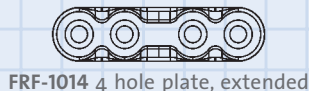
Not available for sale
in the United States

SCREWS 1.5

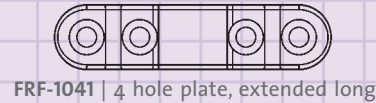
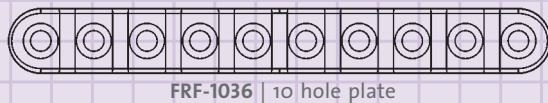
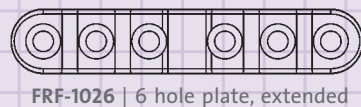
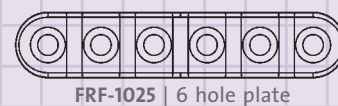
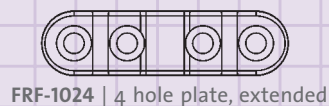
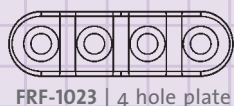
PRODUCT	ART. NO.	
1.5 x 15 mm screw	FRF-1232	1 screw/box



2.0 mm System



2.5 mm System



SCREWS 2.0

PRODUCT	ART. NO.	
2.0 x 9 mm screw	FRF-1284	2 screws/box
2.0 x 11 mm screw	FRF-1285	2 screws/box
2.0 x 13 mm screw	FRF-1286	2 screws/box
2.0 x 15 mm screw	FRF-1287	2 screws/box
2.0 x 17 mm screw	FRF-1288	2 screws/box
2.0 x 20 mm screw	FRF-1289	2 screws/box

SCREWS 2.8

PRODUCT	ART. NO.	
2.8 x 10 mm screw	FRF-1257	2 screws/box
2.8 x 12 mm screw	FRF-1258	2 screws/box
2.8 x 14 mm screw	FRF-1259	2 screws/box
2.8 x 16 mm screw	FRF-1260	2 screws/box
2.8 x 18 mm screw	FRF-1261	2 screws/box
2.8 x 23 mm screw	FRF-1262	2 screws/box
2.8 x 40 mm screw	FRF-1263	2 screws/box

SCREWS 2.5

PRODUCT	ART. NO.	
2.5 x 10 mm screw	FRF-1248	2 screws/box
2.5 x 12 mm screw	FRF-1249	2 screws/box
2.5 x 14 mm screw	FRF-1250	2 screws/box
2.5 x 16 mm screw	FRF-1251	2 screws/box
2.5 x 18 mm screw	FRF-1252	2 screws/box
2.5 x 23 mm screw	FRF-1253	2 screws/box
2.5 x 30 mm screw	FRF-1254	2 screws/box

SCREWS 3.1

PRODUCT	ART. NO.	
3.1 x 10 mm screw	FRF-1266	1 screw/box
3.1 x 12 mm screw	FRF-1267	1 screw/box
3.1 x 14 mm screw	FRF-1268	1 screw/box
3.1 x 16 mm screw	FRF-1269	1 screw/box
3.1 x 18 mm screw	FRF-1270	1 screw/box
3.1 x 40 mm screw	FRF-1271	1 screw/box

Inion OTPS Biodegradable Pins

Indications

The Inion OTPS Biodegradable Pins are indicated for maintenance of alignment and fixation of bone fractures, osteotomies, arthrodeses or bone grafts in the presence of appropriate additional immobilization (e.g. rigid fixation implants, cast, brace).

The Inion OTPS Biodegradable Pins are made of degradable co-polymers composed of L-lactide, D,L-lactide and Trimethylene carbonate to give optimal strength and degradation profiles.

The pins are dyed green for better visualization during the surgical procedure by using a minimal amount of Drug and Cosmetic (D&C) Green No. 6, which is used in several biodegradable sutures.

The OTPS Biodegradable Pins gradually lose their strength during 18-36 weeks. Bioresorption takes place within two to four years. The Inion OTPS Biodegradable Pins are supplied sterile and are available in two diameters (1.5/2.0 mm) and in the lengths of 20-50 mm.

1.5 mm pins



PIN-1520	1.5 x 20 mm
PIN-1530	1.5 x 30 mm
PIN-1540	1.5 x 40 mm
PIN-1550	1.5 x 50 mm

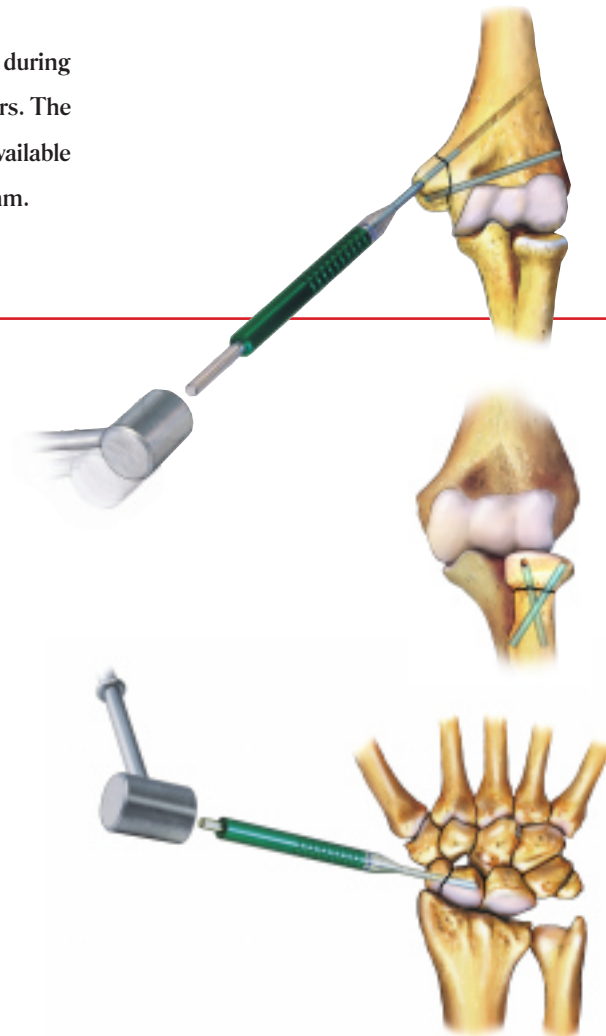
2.0 mm pins

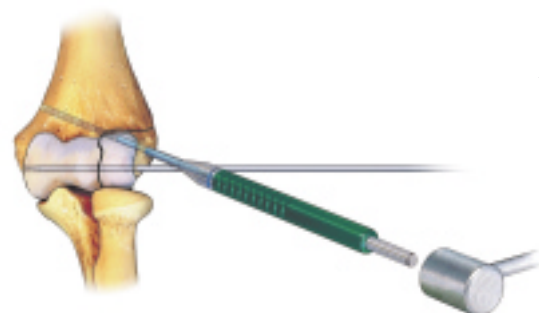
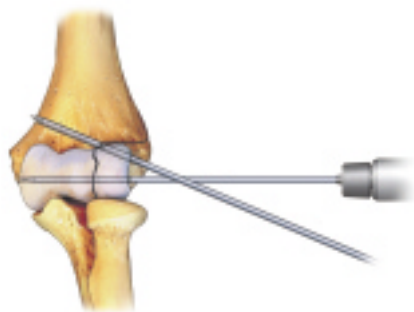


PIN-2020	2.0 x 20 mm
PIN-2025	2.0 x 25 mm
PIN-2030	2.0 x 30 mm
PIN-2035	2.0 x 35 mm
PIN-2040	2.0 x 40 mm
PIN-2050	2.0 x 50 mm

Benefits

- Improved visibility
- No need for removal upon remobilization reducing patient trauma and costs
- Degradation profile tailored to progressively load the bone to improve bone regeneration
- Implants supplied sterile: reduced cross infection potential
- Easily cut to length





Surgical technique*

- 1) Reduce and stabilize the fracture.
- 2) Insert two diverging 1.5 mm or 2.0 mm Inion K-wires through the fragment and both cortices to secure the fragment.
- 3) Check the correct anatomical reduction by using AP and lateral radiographic views.
- 4) Remove one K-wire. Flush and measure the depth of the channel.
- 5) Select an appropriate length OTPS Pin of the same diameter as the K-wire used (1.5 or 2.0 mm).
- 6) Using Inion Pin Applicator (1.5 or 2.0 mm), insert the OTPS Pin hammering it gently in to the channel.
- 7) Replace the other K-wire with an appropriate size OTPS Pin in the same manner.

* Biodegradable fixation in traumatology and orthopaedics.
2nd edition. University of Helsinki, 2002: 47-51.

A plaster splint or brace should be used for 4 weeks post-operatively with the elbow joint flexed 90 degrees and the forearm in mid-position.

ACC-9820 Pin Sterilization tray



Pin applicator



Arthroscopic
Pin applicator

***Color coded instruments
for easier identification:***

1.5 mm green

2.0 mm blue

1.5 mm INSTRUMENTSNot available for sale
in the United States

ART. NO.	DESCRIPTION
INS-9054	1.2 mm drill bit with 16 mm stop (J-latch)
INS-9059	1.5 mm bone tap with 16 mm stop (manual)

2.0 mm INSTRUMENTS

ART. NO.	DESCRIPTION
INS-9055	1.75 mm drill bit with 22 mm stop (J-latch)
INS-9060	2.0 mm bone tap with 22 mm stop (manual)
INS-9104	1.7 mm drill bit with 22 mm stop (AO-bayonet)
INS-9105	2.0 mm bone tap with 22 mm stop (manual AO-bayonet)

2.5 mm INSTRUMENTS

ART. NO.	DESCRIPTION
INS-9056	2.25 mm drill bit with 32 mm stop (J-latch)
INS-9061	2.5 mm bone tap with 32 mm stop (manual)
INS-9070	2.2 mm drill bit with 32 mm stop (AO-bayonet)
INS-9080	2.5 mm bone tap with 32 mm stop (manual, AO-bayonet)

2.8 mm INSTRUMENTS

ART. NO.	DESCRIPTION
INS-9057	2.5 mm drill bit with 42 mm stop (J-latch)
INS-9062	2.8 mm bone tap with 42 mm stop (manual)
INS-9073	2.5 mm drill bit with 42 mm stop (AO-bayonet)
INS-9081	2.8 mm bone tap with 42 mm stop (manual, AO-bayonet)

3.1 mm INSTRUMENTS

ART. NO.	DESCRIPTION
INS-9058	2.8 mm drill bit with 42 mm stop (J-latch)
INS-9063	3.1 mm bone tap with 42 mm stop (manual)
INS-9076	2.8 mm drill bit with 42 mm stop (AO-bayonet)
INS-9082	3.1 mm bone tap with 42 mm stop (manual, AO-bayonet)

INION OTPS PIN INSTRUMENTS

ART. NO.	DESCRIPTION
INS-9230	Pin applicator 1.5 mm
INS-9231	Pin applicator 2.0 mm
INS-9232	Arthroscopic handle
INS-9233	Arthroscopic tip 1.5 mm
INS-9234	Arthroscopic tip 2.0 mm
INS-9235	Arthroscopic piston 1.5 mm
INS-9236	Arthroscopic piston 2.0 mm
INS-9237	Trocar tip drill 1.5 mm
INS-9238	Trocar tip drill 2.0 mm
INS-9240	Wrench
ACC-9820	Pin Sterilization tray

UNIVERSAL INSTRUMENTS

ART. NO.	DESCRIPTION
INS-9007	Universal screwdriver handle
INS-9024	Plate bending pliers
INS-9029	Universal screwdriver blade
INS-9047	Countersink 1.5/2.0 mm
INS-9048	Countersink 2.5/2.8/3.1 mm
INS-9085	Countersink 2.5/2.8/3.1 (AO-bayonet)
INS-9088	Drill guide 2.5/2.8/3.1
INS-9091	Depth gauge 2.0 - 3.1 mm
INS-9093	Screwdriver handle, cannulated
INS-9094	Screwdriver shaft, crosshead
INS-9099	Drill guide 1.5/2.0
ACC-9801	Inion Thermo (water bath 230V + EU plug)
ACC-9804	Inion Thermo (water bath 110V + US plug)
ACC-9809	Inion Thermo (water bath 230V + UK plug)
ACC-9802	Inion Thermo drape
ACC-9813	Sterilization tray for instruments
ACC-9818	Inion compact instrument tray



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