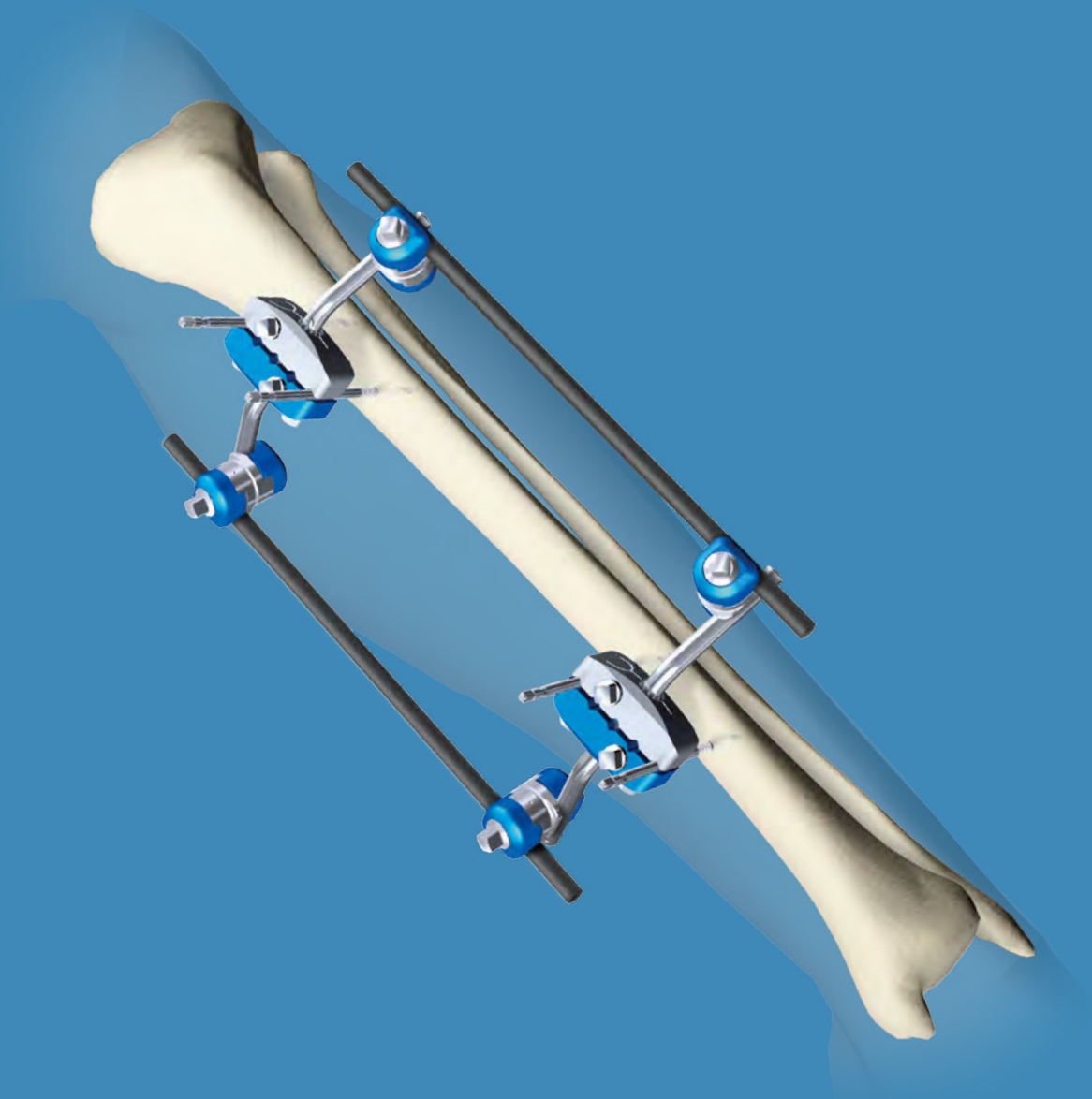
stryker®

Osteosynthesis

Hoffmann II
External Fixation System

Modular System for
- Long Bones
- Pelvis

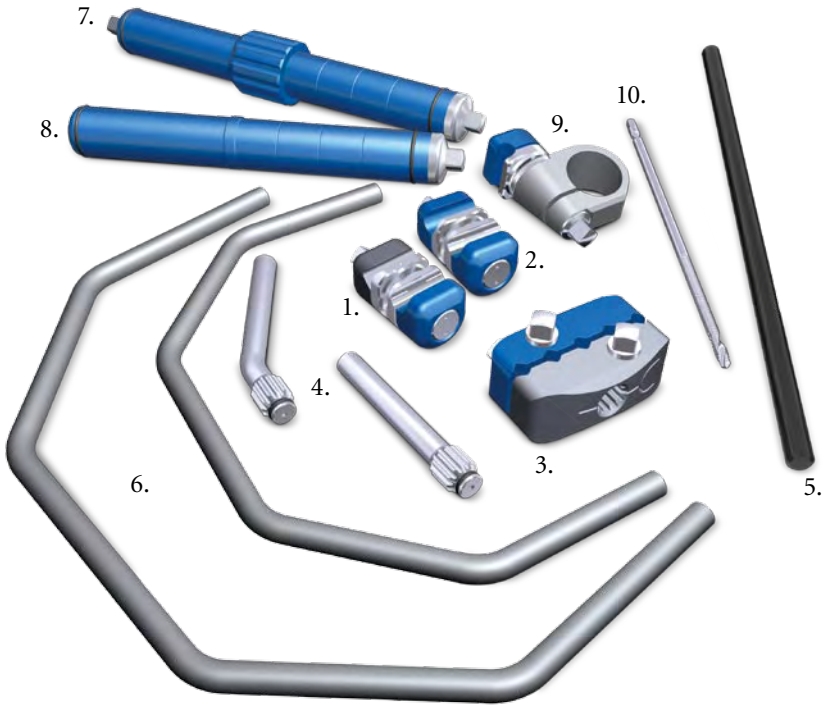


Introduction

In 1938, Raoul Hoffmann, a surgeon from Geneva, Switzerland, designed a revolutionary External Fixation System. The basic features of this system were its modular design and the ability to reduce fractures or to make post operative corrections to the alignment of fragments in three planes with the frame in situ.

The Hoffmann II®[1] has built upon these principles, and today is the gold standard in modular external fixation. Certainly, the Hoffmann II® family of products is unmatched in its ease-of-use, versatility, and patient comfort.

You will find in the following pages the benefits and advantages of the Hoffmann II®, and how the system will help patients heal and return to their normal lives.



1. Pin to Rod Coupling
2. Rod to Rod Coupling
3. 5-Hole Pin Clamp
4. Straight Post / 30° Angled Post
5. ø8mm Connecting Rods
6. Semi-Circular Aluminum Connecting Rods
7. Dynamization Tube
8. Compression/Distraction Tube
9. Tube to Rod Coupling
10. Apex® Self-Drilling Pins

[1] **Hoffmann II® Design Surgeons**

Dr. Gernot Asche,
Andy Burgess M.D.,
Prof. Franz Burny,
Mr. Charles M. Court-Brown,
Prof. Erkki O. Karaharju,
Loren Latta Ph.D.,
Prof. David Seligson M.D.,
Dr. Gregory Zych M.D.

Features & Benefits

Versatility and Ease-of-Use are the keys to an effective external fixator. Whether it is middle-of-the-night trauma, or a complicated fracture with associated soft-tissue damage, the Hoffmann II® system gives the surgeon the right tools to resolve even the most difficult cases.

With full **Independent Pin Placement**, you can easily build a frame to treat fractures close to a joint, capture fracture fragments, or to stay clear of damaged soft-tissue areas.

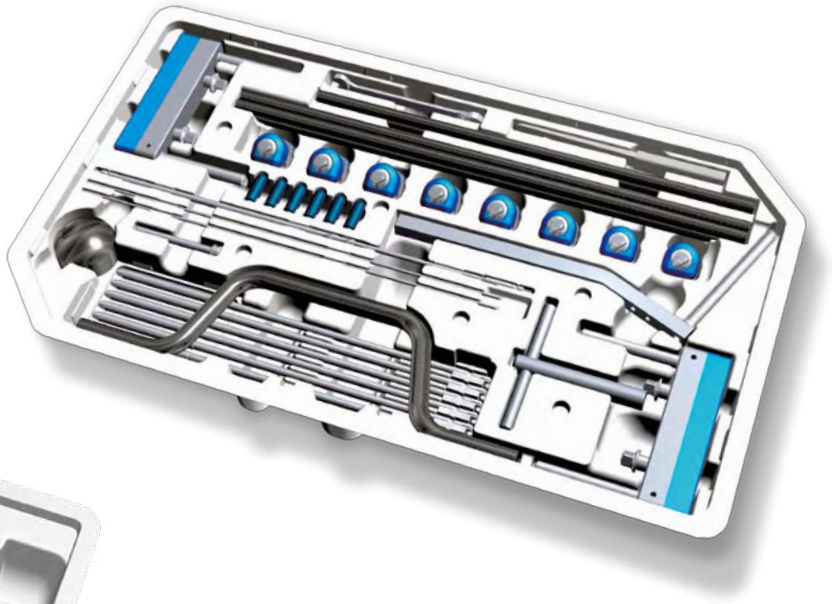
The components are **Color-Coded** and there are just a handful of **High Quality Instruments** in the system. This makes the Hoffmann II very manageable in the Operating Room.

Light-Weight and Advanced component materials create a **Low-Profile, Radiolucent Frame** which adds to patient comfort and fracture healing management. You can make the frame as rigid or elastic as you see necessary.

With the patented "**Snap-Fit" Technology**, stable frame building is simple, and it is possible to reduce the fracture, make post-operative corrections, and treat soft-tissue damage with the frame in situ. You can "click on" and "click off" couplings and rods as your treatment requires.

Features & Benefits

Sterile-Packed Procedural Kits are available which **Saves Time** in critical trauma situations, and they are ideal for **Disaster Planning** (refer to Sterile Kits Brochure 5075-1-010 for full details)



Related Stryker Products

The system can be used together with other Stryker systems to give the surgeon the **Full Package** of fracture treatment.

ASNIS III™ Cannulated Screws

SPS Small and Basic
Fragment Plating Systems

T2™ Nailing Systems

Relative Indications & Contraindications

Relative Indications

Due to its versatility, the Hoffmann II® System is indicated for complete and temporary fracture fixation for Tibia, Femur, Pelvis, and Humerus fractures. It is particularly suited for the following indications:

- Open Fractures or Severe Soft-Tissue Injuries
- Peri-Articular Fractures
- Intra-Articular Fractures where a joint bridging frame can be used
- Temporary Fracture Stabilization leading to definitive treatment
- Poly-Trauma Patients
- Other indications including Osteotomies and Arthrodesis

Relative Contraindications

If uncertainty exists with regard to the anatomic location of the neurovascular structures due to post-traumatic destruction, the device should be used with extreme caution. Under these circumstances, the pins should be inserted under direct vision.

The presence of extensive internal fracture fixation devices

Pre-emptive medical condition

Bone Pathology

Components

The Hoffmann II® System offers a variety of different clamps in order to build the right frame for the right indication.

The 5-Hole Pin Clamp is designed to build a variety of standard frames. Using it in combination with the 30°, 90° or straight post, it is possible to build a mono-lateral or bi-lateral frame in fractures of long bones.

The 10-Hole Pin Clamp allows you to build frames tailored to bridging long distances in the femur and tibia by increasing stability due to its wide pin-spread. It is designed with four holes in which to place the posts.

The Pelvic Clamp is specifically designed to be used with pins placed in the iliac crest. Since the clamp does not have dedicated pin grooves, it can easily clamp onto pins which are not parallel. This gives you additional freedom to place pins where you want.

Components

The system also includes five different types of couplings. All of the couplings are designed with the patented "Snap-Fit" mechanism which allows complete versatility of the frame.

The ø8mm Rod to Rod Coupling connects ø8mm rods together or a rod to a post. It can be used to build any standard frame. It can also be added to an assembled frame to help build a more stable construct if required.

The Pin to Rod Coupling connects ø4mm or ø5mm Apex® Pins to an ø8mm rod. This feature can be used to capture a fracture segment, or to build a frame using completely independent pin placement.

The Inverted Pin to Rod Coupling works exactly like the standard Pin to Rod Coupling except that the pin is placed onto the lower portion of the coupling. This could be beneficial when building frames around the pelvis and the proximal/distal tibia.

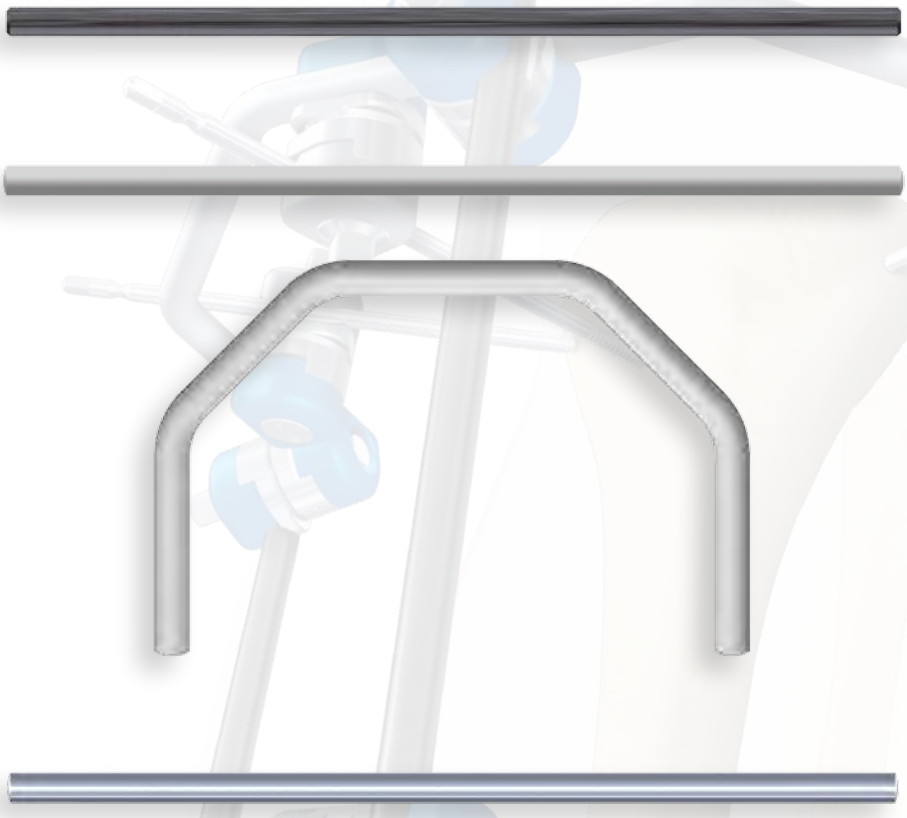
The ø5mm/ø8mm Rod to Rod Coupling allows you to connect a ø5mm rod or post from the Hoffmann II® Compact™ System to the ø8mm rod or post of the Hoffmann II® System. This could be helpful in the ankle/ foot area where bridging to the foot is necessary, or to connect a humerus frame to a radius frame.

The Tube to Rod Coupling connects a ø20mm Dynamization or Compression/Distraction Tube to an ø8mm rod or post. A frame built with these components allows compression, distraction, or dynamization of the fracture site.

Components

Rods and Tubes

The Hoffmann II® System offers Connecting Rods in lengths from 65mm to 500mm and are available in three different materials



Carbon Fiber Rods offer radiolucency and relative elasticity with a light-weight construct.

Aluminium Rods are also lightweight and are more elastic than the Carbon Fiber Rods. These rods also come in a curved design which allows the surgeon to build frames peri-articularly. Three different sizes of the curved rod are available in order to fit the right rod to the right patient anatomy.

Stainless Steel Rods are the most stable of the three rods. If a rigid frame is needed, this material may be used.

It is sometimes necessary to compress or distract a fracture site. The Compression/Distraction Tube allows the surgeon to fine-tune the osteosynthesis either intra- or post-operatively.

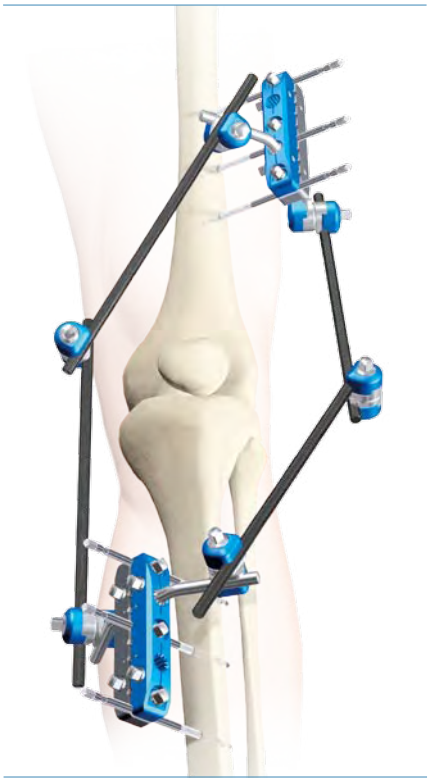
If dynamization is needed, the Dynamization Tube can be added to the frame. This allows controlled micro-movement at the fracture site, which stimulates callus formation.

Frame Examples

The versatility of the Hoffmann II® System allows you to create frames to suit almost any fracture. The following are common frames used for a variety of main indications.

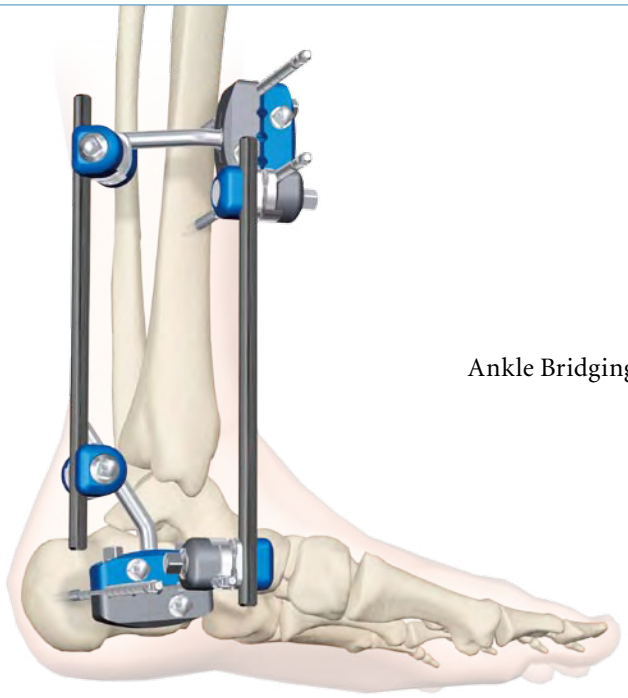
Standard Bi-Lateral Frame

Proximal Tibia Frame



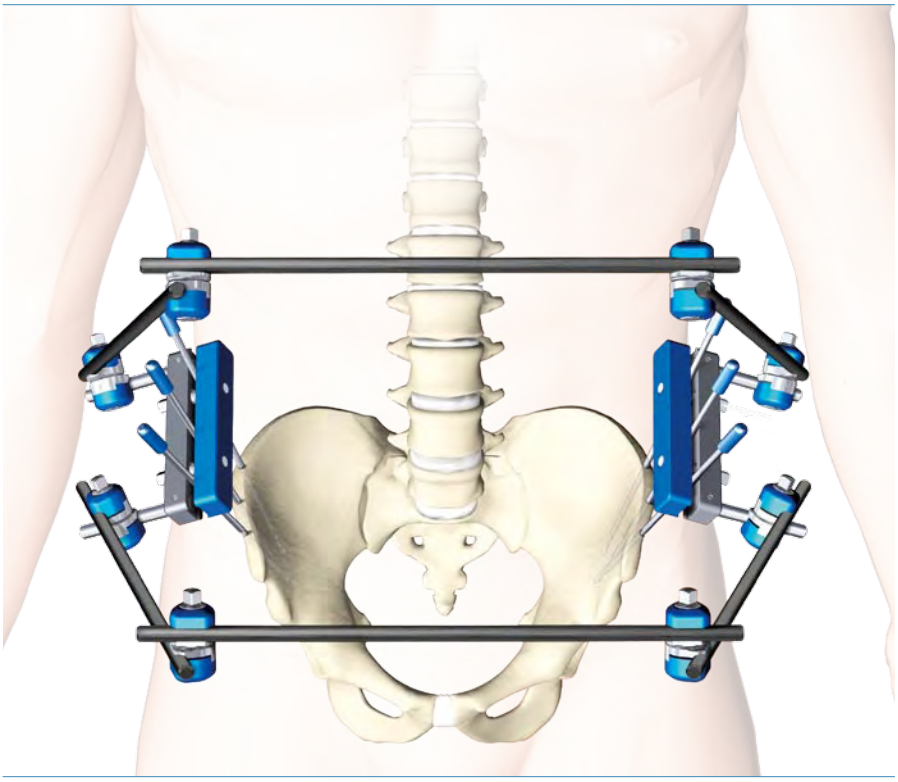
Knee Bridging Frame

Frame Examples

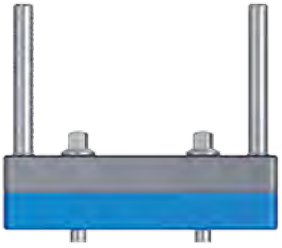


Ankle Bridging Frame

Pelvic Frame



Ordering Information - Components

	REF	Description	
	Hoffmann II® Components		
	4920-2-020	5-Hole Pin Clamp	for ø4, ø5, and ø6mm pins
	4920-2-060	10-Hole Pin Clamp	for ø4, ø5, and ø6mm pins
	4920-2-080	Pelvic Clamp	for ø4, ø5, and ø6mm pins
	4920-1-010	Rod to Rod Coupling	for ø8mm rods or posts
	4920-1-020	Pin to Rod Coupling	for ø4-5mm pins/ø8mm rods or posts
	4920-1-030	Inverted Pin to Rod Coupling	for ø8mm rods or posts/ø4-5mm pins
	4920-1-100	Tube to Rod Coupling	for ø20mm tubes/ø8mm rods or posts
	4920-2-120	Straight Post	ø8mm
	4920-2-140	30° Angled Post	ø8mm
	4920-2-160	90° Angled Post	ø8mm

Ordering Information - Components

REF	Description	Length mm
Hoffmann II® ∅8mm Rods		
5029-8-805	Carbon Connecting Rod	65
5029-8-810	Carbon Connecting Rod	100
5029-8-815	Carbon Connecting Rod	150
5029-8-820	Carbon Connecting Rod	200
5029-8-825	Carbon Connecting Rod	250
5029-8-830	Carbon Connecting Rod	300
5029-8-835	Carbon Connecting Rod	350
5029-8-840	Carbon Connecting Rod	400
5029-8-845	Carbon Connecting Rod	450
5029-8-850	Carbon Connecting Rod	500
5029-8-605	Aluminium Connecting Rod	65
5029-8-610	Aluminium Connecting Rod	100
5029-8-615	Aluminium Connecting Rod	150
5029-8-620	Aluminium Connecting Rod	200
5029-8-625	Aluminium Connecting Rod	250
5029-8-630	Aluminium Connecting Rod	300
5029-8-635	Aluminium Connecting Rod	350
5029-8-640	Aluminium Connecting Rod	400
5029-8-645	Aluminium Connecting Rod	450
5029-8-650	Aluminium Connecting Rod	500
5029-8-065	Stainless Steel Connecting Rod	65
5029-8-100	Stainless Steel Connecting Rod	100
5029-8-150	Stainless Steel Connecting Rod	150
5029-8-200	Stainless Steel Connecting Rod	200
5029-8-250	Stainless Steel Connecting Rod	250
5029-8-300	Stainless Steel Connecting Rod	300
5029-8-350	Stainless Steel Connecting Rod	350
5029-8-400	Stainless Steel Connecting Rod	400
5029-8-450	Stainless Steel Connecting Rod	450
5029-8-500	Stainless Steel Connecting Rod	500

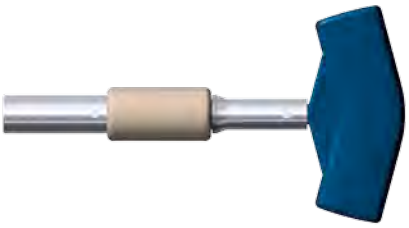
Ordering Information - Components

REF	Description	Length mm
Hoffmann II® ø8mm Curved Rods and ø20mm Tubes		
5029-7-028	Small Semi-Circular Curved Rod - Aluminium	134 (L)
5029-7-030	Medium Semi-Circular Curved Rod - Aluminium	174 (L)
5029-7-032	Large Semi-Circular Curved Rod - Aluminium	214 (L)

4920-0-000	Dynamization Tube	

4920-0-015	Compression/Distraction Tube	

Ordering Information - Instruments

	REF	Description
	Hoffmann II® Instruments	
	4920-9-010	Stabilization/Reduction Wrench
	4920-9-020	Thumbwheel
	4920-9-030	7mm T-Wrench/5, 6mm Pin Inserter
	5054-8-009	7mm Spanner Wrench
	4920-9-986	Storage Case Lid
	4920-9-985	Storage Case Upper Insert
	4920-9-984	Storage Case Lower Insert
	4920-9-983	Storage Case Base

Notes

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Joint Replacements

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Stryker Trauma AG
Bohnackerweg 1
CH-2545 Selzach
Switzerland

www.osteosynthesis.stryker.com

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