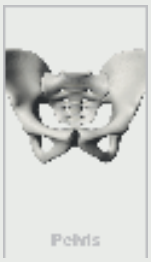
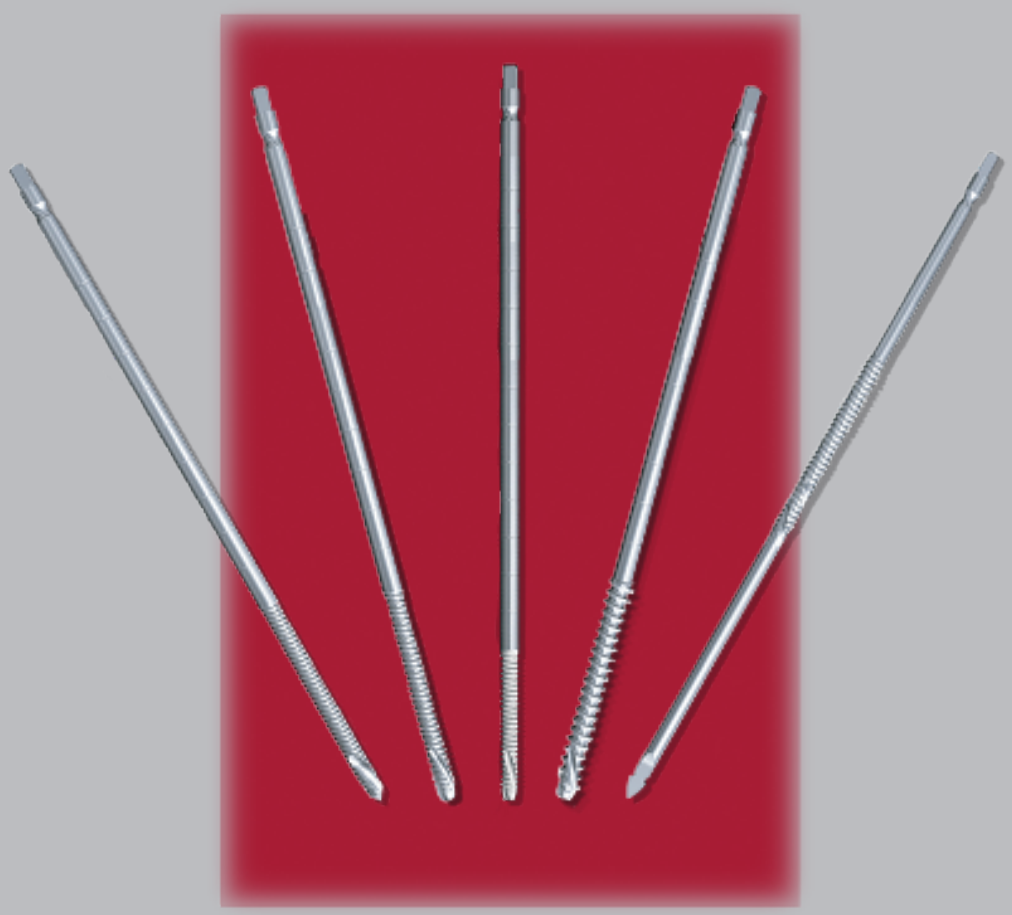


stryker®

Apex & HA Apex Pins

Pin Fixation System

- Half Pins, Transfixing Pins
- HA Coated Half Pins for long term fixation
- Instruments



Apex Pins

This publication sets forth detailed recommended procedures for using Stryker Osteosynthesis devices and instruments.

It offers guidance that you should heed, but, as with any such technical guide, each surgeon must consider the particular needs of each patient and make appropriate adjustments when and as required.

A workshop training is recommended prior to first surgery.

All non-sterile devices must be cleaned and sterilized before use. Follow the instructions provided in our Instructions for Cleaning, Sterilization, Inspection and Maintenance (L24002000). Multi-component instruments must be disassembled for cleaning. Please refer to the corresponding assembly/disassembly instructions.

See package insert (V15011, V15013, V15034) for a complete list of potential adverse effects, contraindications, warnings and precautions. The surgeon must discuss all relevant risks, including the finite lifetime of the device, with the patient, when necessary.

Stryker Osteosynthesis systems have not been evaluated for safety in MR environment and have not been tested for heating or migration in the MR environment, unless specified otherwise in the product labeling.

Warning:

Fixation Screws:
Stryker Osteosynthesis bone screws are not approved or intended for screw attachment or fixation to the posterior elements (pedicles) of the cervical, thoracic or lumbar spine.

Contents

		Page
1.	**Introduction**	**4**
2.	**Indications, Features and Benefits**	**5**
3.	**Implants**	**7**
4.	**Instruments**	**8**
5.	**Technical Details**	
	Instructions for Instrument Use	10
6.	**Technical Details**	
	Pin Insertion Guidelines	11
	HA Apex Coated Pin Insertion Guidelines	13
7.	**Ordering Information – Implants**	**14**
8.	**Ordering Information – Instruments**	**19**

Introduction

The Apex Pin line has been a success for more than 20 years.

The self-drilling pin technology was introduced in 1987, and Apex Pins continue to be widely used each day throughout the world[1].

Solid pin fixation and appropriate pin size is essential for effective external fixator frames.[2] A well designed pin can help to improve treatments and may reduce the risk of complications.[3]

The Apex Pin range offers a wide selection of pins in various lengths and diameters. The Stainless Steel and Titanium Self-Drilling/Self-Tapping Pins offer a one-step insertion where pre-drilling is not required. The self-tapping Stainless Steel Blunt Pins require pre-drilling. Stainless Steel Cancellous Pins include a cancellous thread, designed to provide grip in cancellous bone and require pre-drilling as well. Self-Drilling Stainless Steel Transfixing Pins are available threaded or smooth and are indicated for bilateral frame constructs.

Stryker also offers a range of Hydroxylapatite (HA) coated Apex Pins.

Hydroxylapatite has a long clinical history and is chemically similar to the mineral components of bone. HA is one of the few materials that supports bone ingrowth and osteointegration[4].

The HA coated Apex Pins are Stainless Steel and are available in Self Drilling/ Self Tapping and Blunt. They are offered in 5mm and 6mm diameters with numerous thread and shank lengths to meet the different needs of each application.

Due to Stryker's coating technology the Self Drilling/Self Tapping HA Apex Pins provide excellent cutting and drilling capabilities without compromising the HA coating.

This wide selection of options allows you to choose the most appropriate Apex Pin for your needs.

1. Encompass Sales Data
2. Eric Ledet, PhD., Director of the Orthopaedics Research Library, Albany Medical College; Biomechanical Factors in External Fixation and Hybrid External Fixation. Stryker® White Paper 2004. Literature# LSA48
3. Wikenheiser MA, Market MD, Lewallen DG, et al. Thermal response and torque resistance of five cortical half pins under simulated insertion technique. J.Orthop Res 1995; 13; 615-619
4. Moroni, Antonio; Orienti, Luca; Stea, Susanna; Visentin, Manuela. Improvement of the Bone-Pin Interface with Hydroxyapatite Coating: An In Vivo Long-Term Experimental Study. Journal of Orthopaedic Trauma. 10(4):236-242, May 1996

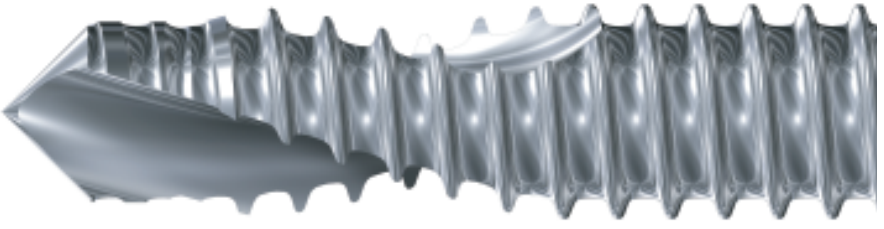
Indications

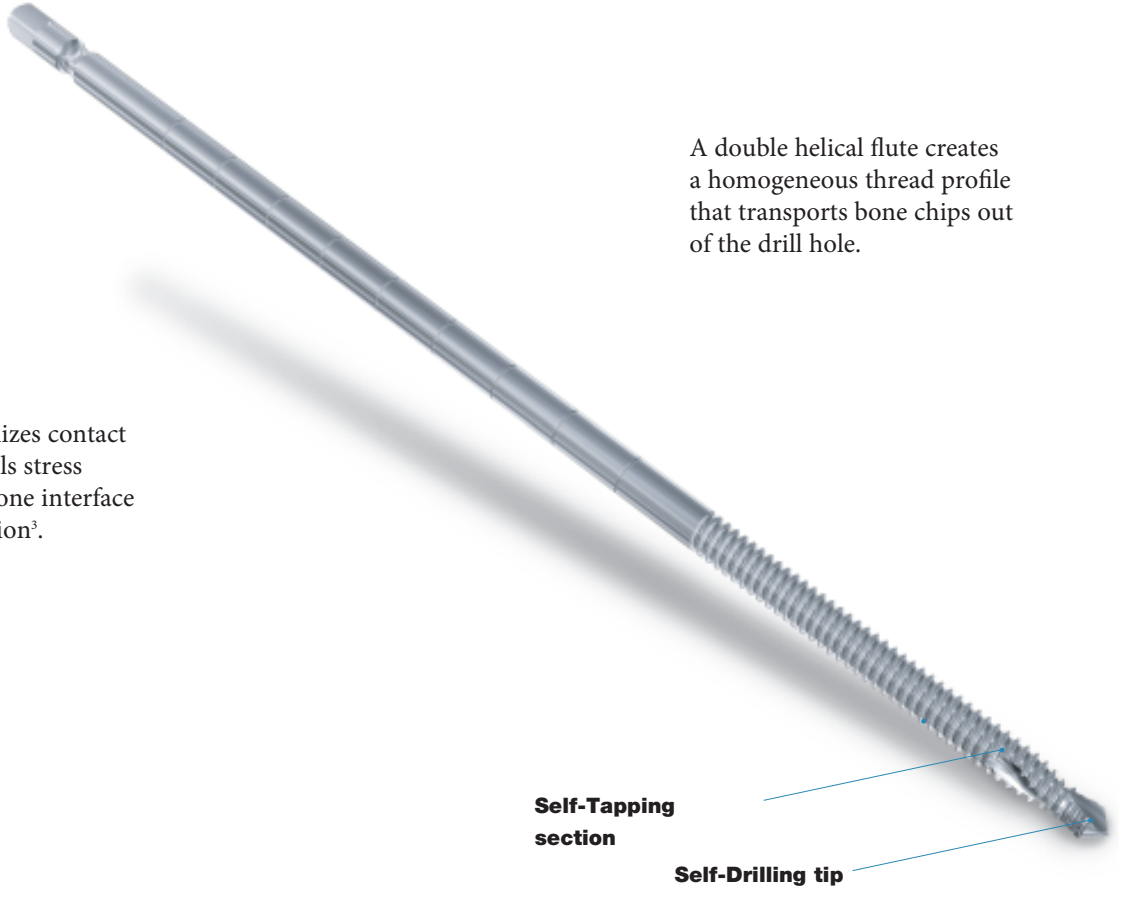
Apex Pins are used in conjunction with diverse Stryker External Fixation Systems including the Hoffmann product line, Triax or Tenxor. For Indications please refer to the specific Operative Technique of the External Fixation System. For Contraindications and Precautions always refer to the Instructions for Use in the Package Insert.

Self-Drilling / Self-Tapping Apex Pin

Pin Design

When using the self-drilling Apex Pin, pre-drilling is not necessary. The Self Drilling/Self Tapping pins' cutting geometry potentially allows for reduced insertion temperature[3].





A double helical flute creates a homogeneous thread profile that transports bone chips out of the drill hole.

The thread design maximizes contact with the bone and controls stress distribution on the pin/bone interface by optimizing radial tension[3].

3. Wikenheiser MA, Market MD, Lewallen DG, et al. Thermal response and torque resistance of five cortical half pins under simulated insertion technique. J.Orthop Res 1995; 13; 615-619

Implants

HA Coated Apex Pin

Hydroxylapatite coating is one of the few materials that supports bone ingrowth and osteointegration[4]. The HA coated Self Drilling/Self Tapping and Blunt Apex Pins come in a range of diameters, lengths and thread lengths to provide you with a broad range of options.

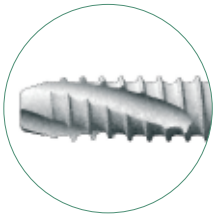
Blunt HA coated Apex Pins require pre-drilling.

Although HA coated, this Pin allows for a one step procedure due to its self-drilling and self-cutting design technology.

HA coating along the full length of the threads provides an excellent pin/bone interface in both cortices.

The double helical flute creates a homogeneous thread profile that transports bone chips out of the drill hole for additional improvement of the pin/bone interface[3].

Pre-drilling is required for this pin.



The cylindrical pin design helps increase bone purchase and pull out resistance. Since the threads don't taper, the HA Apex Pins can be backed out without compromising fixation.

3. Wikenheiser MA, Market MD, Lewallen DG, et al. Thermal response and torque resistance of five cortical half pins under simulated insertion technique. J. Orthop Res 1995; 13; 615-619

4. Moroni, Antonio; Orienti, Luca; Stea, Susanna; Visentin, Manuela. Improvement of the Bone-Pin Interface with Hydroxyapatite Coating: An In Vivo Long-Term Experimental Study. Journal of Orthopaedic Trauma. 10(4):236-242, May 1996

Implants

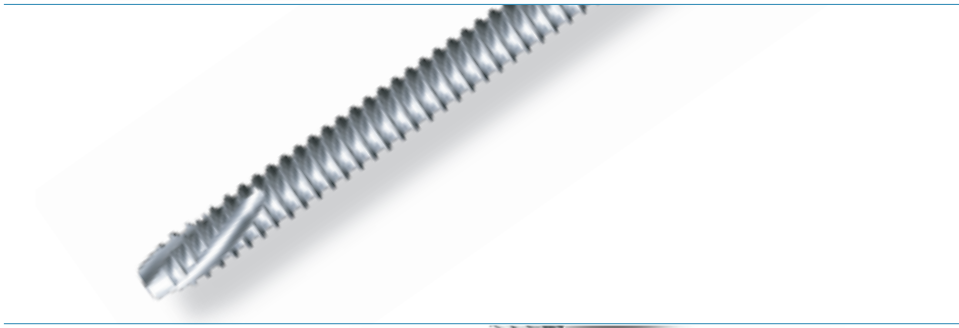
Apex Pin Range

Self-Drilling / Self-Tapping Pin

Stainless Steel and Titanium Self-Drilling/Self-Tapping Pins allow a one-step procedure due to their self-drilling and cutting design technology.

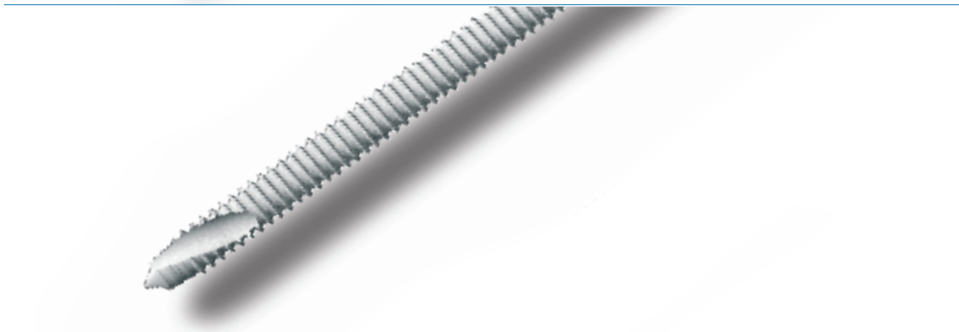
Blunt / Self-Tapping Pin

Stainless Steel Blunt Pins require pre-drilling.



HA Coated Pin

The range of HA coated Apex Pins offers a wide variety of Stainless Steel Self Drilling/Self Tapping and Blunt Pins in numerous lengths, thread lengths and diameters to meet the different needs of each application.

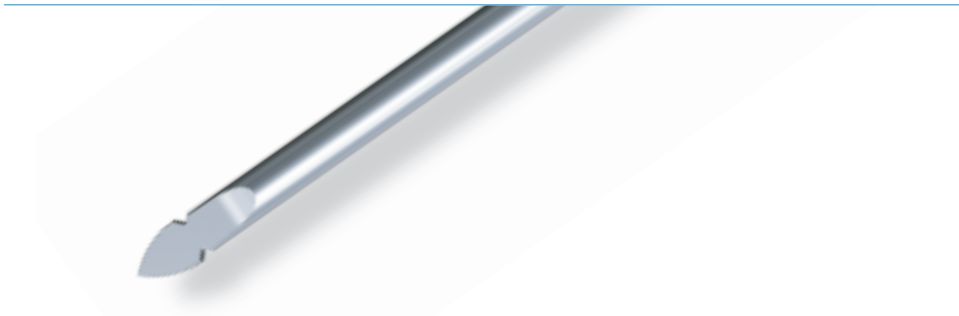


Cancellous Pin

Stainless Steel Cancellous Pins are designed for a strong grip in cancellous bone. The cancellous thread provides increased contact area between the cancellous bone and the pin. This pin is blunt and requires pre-drilling.

Transfixing Pin

Self-Drilling Transfixing Pins are available threaded or smooth and are indicated for bilateral frame constructs.



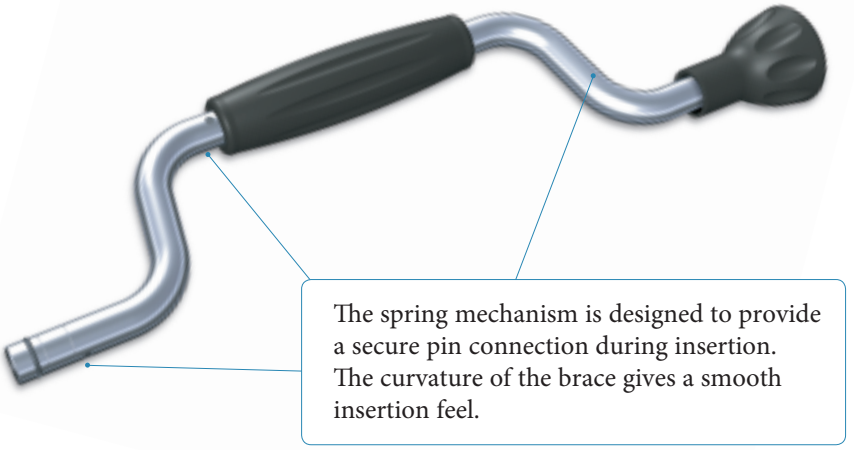
Instruments

Apex Instruments

Drill Brace

The Drill Brace is designed for manual pin insertion for better control and reduced insertion temperature.

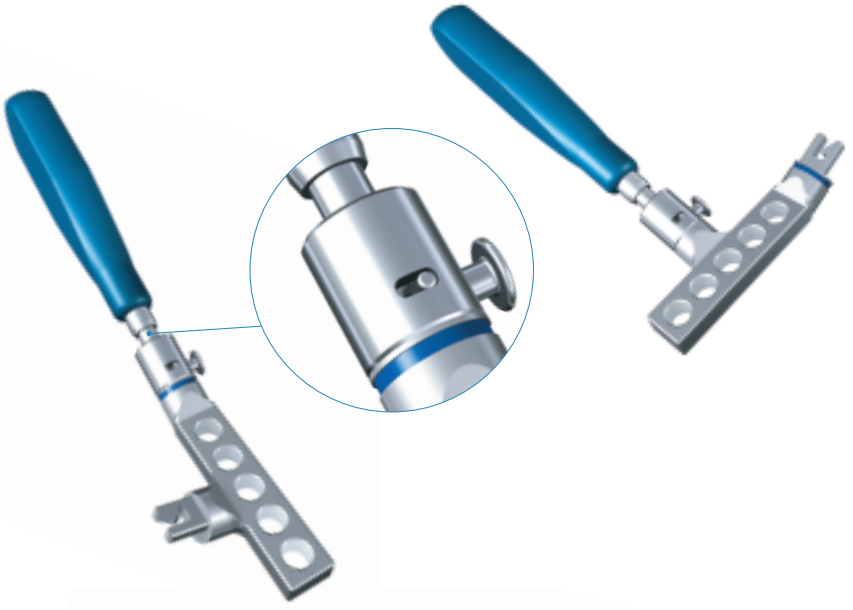
It provides integrated attachments for 3mm & 4mm and 5mm & 6mm pins. Simply by changing the Drill Handle from one end to the other you gain access to the different attachments.



Drill Guide

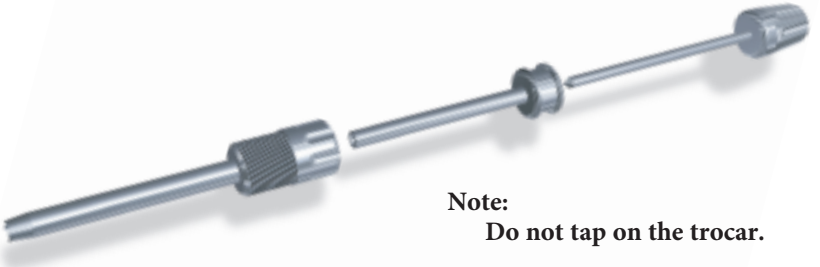
The Drill Guide is designed for simplified parallel pin insertion. The color coded Drill Guide Blocks provide the correct distance for the various pin clamps of the Stryker's External Fixation Systems (e.g. Hoffmann 3, Hoffmann II MRI, Hoffmann II Compact MRI, and Monotube Triax and Tenxor systems.) The color coding matches the colors of the various systems for easier selection.

The Drill Guide Block offers the possibility for parallel-straight and perpendicular attachment to the handle, adapting to anatomic requirements.



Pre-Drilling Assembly

The Pre-Drilling Assembly consists of a Trocar, a Drill Sleeve and a Soft Tissue Protector which allows for pre-drilling and pin insertion without causing additional damage to the soft tissues. Different lengths enable you to choose the correct device for the soft tissue envelope. Dedicated Assemblies are available for 3mm, 4mm, 5mm and 6mm diameter pins.



Note:
Do not tap on the trocar.

Instruments

Apex Instruments

Figure 1 illustrates manual Apex Pin Insertion using the Drill Brace, Drill Guide and Pre-Drilling Assemblies.

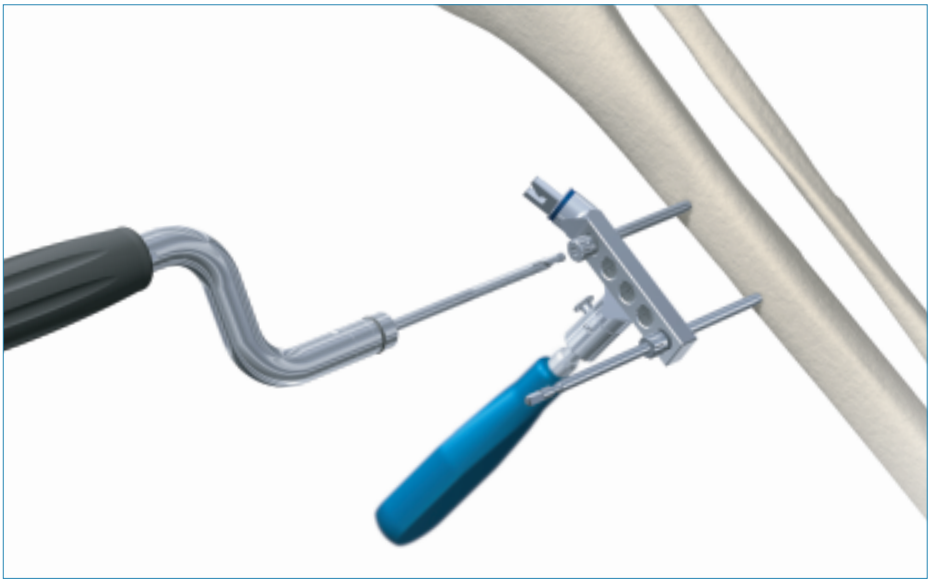


Fig .1

Quick Release Apex Chuck

The Quick Release Apex Chuck is designed for fast and easy engagement of the Apex Pins and has a standard AO and a tri-flange connector. It is designed for insertion of Apex Pins by power tool.

Combination Wrench/Pin Inserter

The Hoffmann II T-Wrench/Pin Inserter is used to insert 5mm & 6mm pins and tighten 7mm bolts. The Hoffmann II Compact Combination Wrench is used to insert 3mm & 4mm pins and tighten 5mm bolts.

Note:

For the final seating in the second cortex the T-Wrench/Pin Inserter or the Drill Brace should be used.

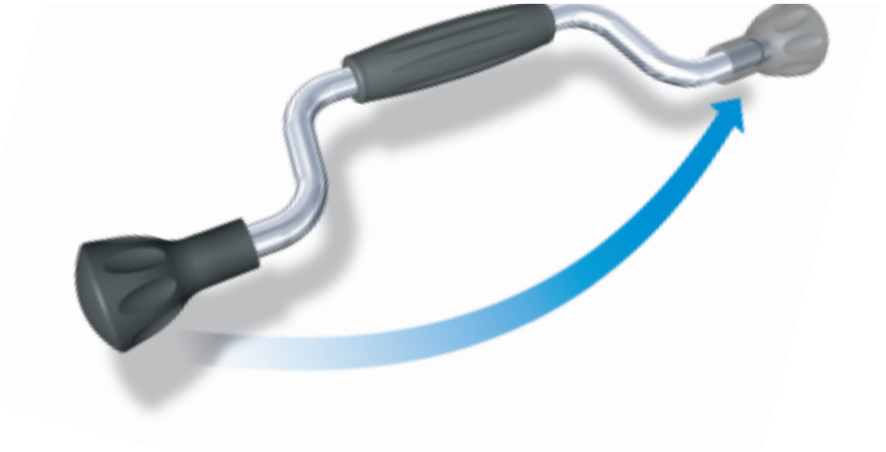
Technical Details

Instructions for Instrument Use

Drill Brace

The Drill Brace provides attachments for 3mm & 4mm pins on one end and 5mm & 6mm pins on the other end. For pin insertion, place the pin into the end correlating to the chosen pin diameter.

To access the different attachments for the pins, remove the handle and assemble it on the other end.



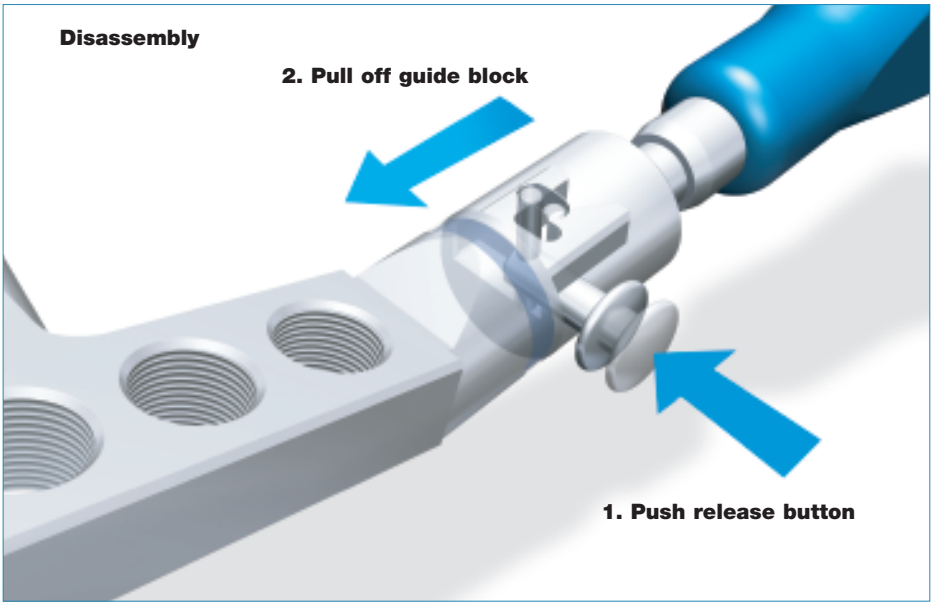
Drill Guide Block

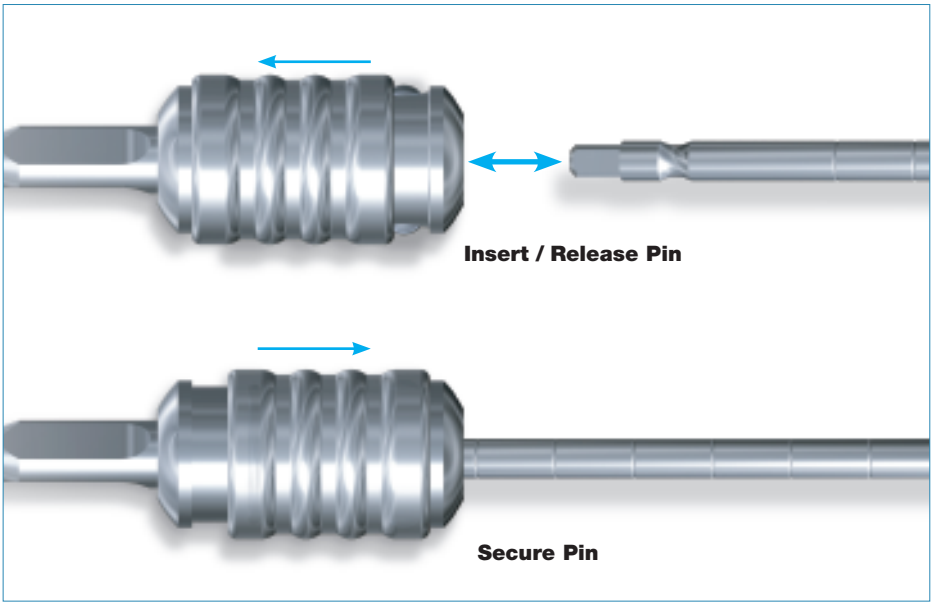
To assemble the Drill Guide Block, choose the correct block for your pin clamp. Set the Drill Guide Block in line or perpendicular and push it onto the handle aligning the laser-etched arrows. To release the block, push the button on the handle and pull it off.

Quick Release Apex Chuck

To assemble the pin to the chuck, pull the sleeve backwards, as shown in the accompanying diagram and place the pin in the adapter. To secure the pin, push the sleeve back.

To release the pin from the adapter pull the sleeve backwards and remove the adapter from the pin.





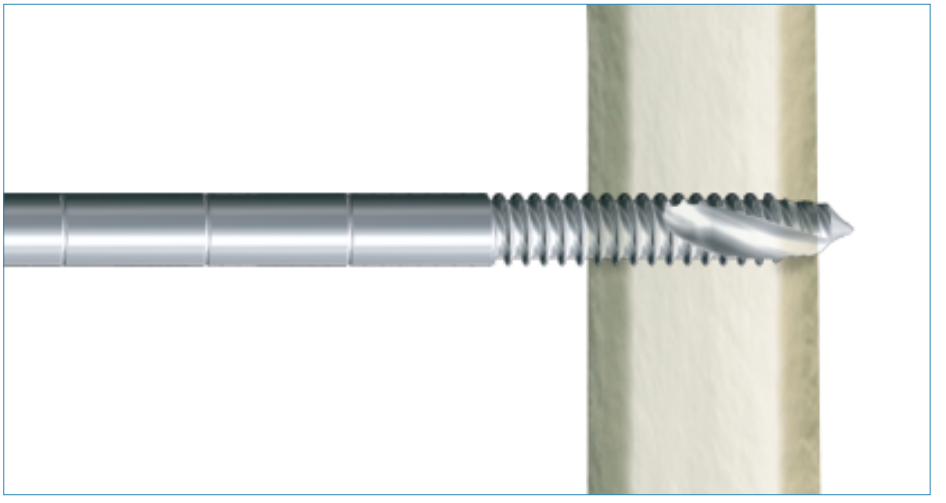
Technical Details

Pin Insertion Guidelines

Among others, the Pin diameter influences axial frame rigidity. This is because the stiffness of the pin is a function of the forth power of the diameter[5].

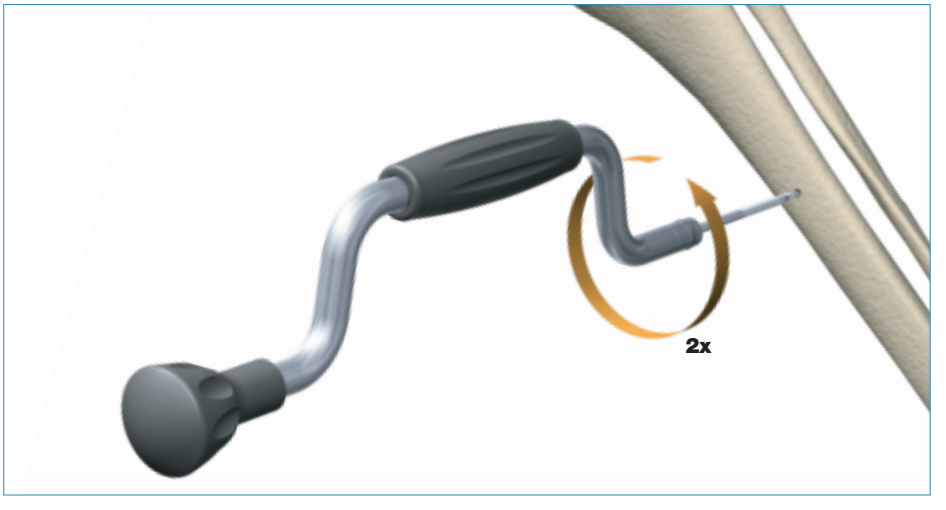
As a guideline one might use the following diameters:[6]

- **Forearm: 3mm (distal) and 4mm (proximal) Apex Pins**
- **Humerus: 5mm Apex Pins, 4mm in distal fragments**
- **Femur and Pelvis: 5mm Apex Pins throughout the entire bone**
- **Tibia: 5mm Apex Pins**
- **Ankle: 5mm or 5mm transverse Apex Pins**



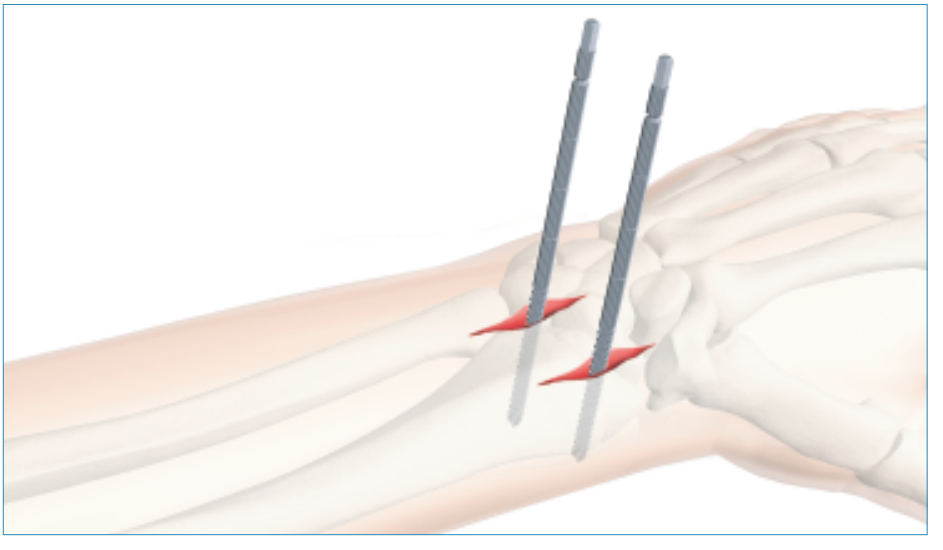
The number of pins used in a frame construct depends on the patient condition and the indication. Increasing the number of pins will increase the frame rigidity. If available, correct position of the Apex Pins should always be verified by X-Ray examination.

When using a Self-Drilling/Self-Tapping Pin, turn the Drill Brace twice counter-clockwise to create a small notch for the pin. This helps prevent the pin from slipping on the cortex.



Afterwards, turn the Drill Brace clockwise for pin insertion.

Make a skin incision long enough and in the direction the skin will move during mobilization to avoid tension around the pin. This helps to prevent irritation of the skin and may reduce the risk of infection.



5. Concepts in External Fixation, D. Seligson, 1982, Page 23 ff.
6. Bruce H. Ziran, Wade R. Smith, Jeff O. Anglen and Paul Tornetta, III; External Fixation: How to Make It Work; J Bone Joint Surg Am. 2007;89:1620-1632. Page 1627ff.

Technical Details

Pin Insertion Guidelines

When inserting the pin by power, using a low speed will limit the temperature increase, which can cause bone necrosis. Do not use excessive axial force. Figure 2 illustrates Apex Pin Insertion under power.

Insert the pins 90° to the long axis of the bone to reduce pull in and push out forces on the pins.

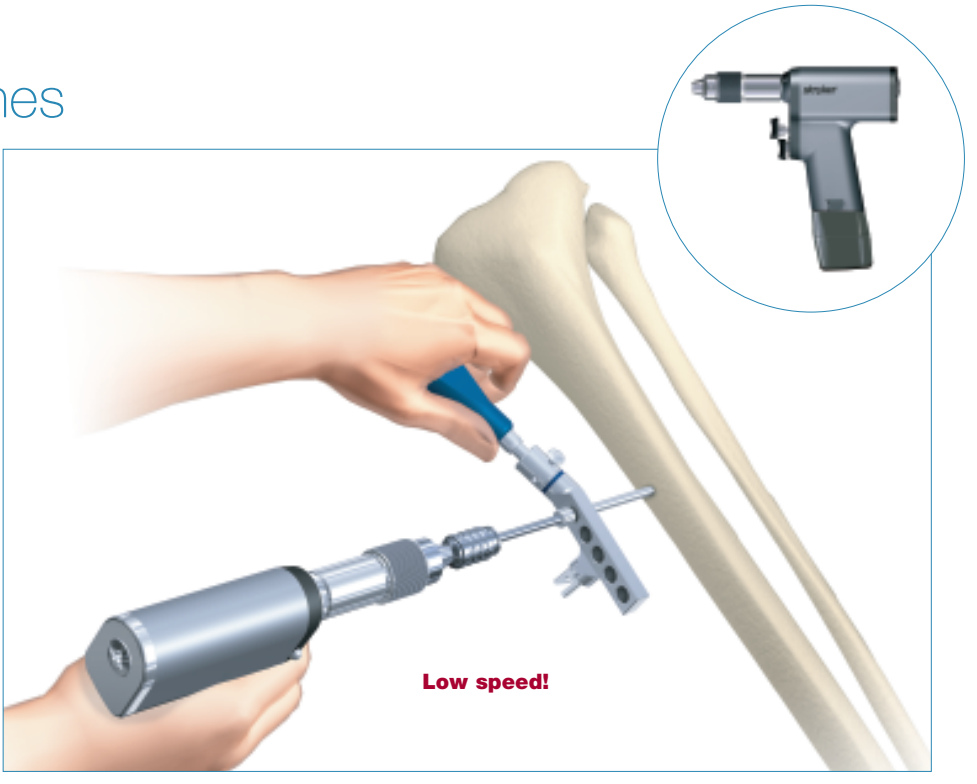
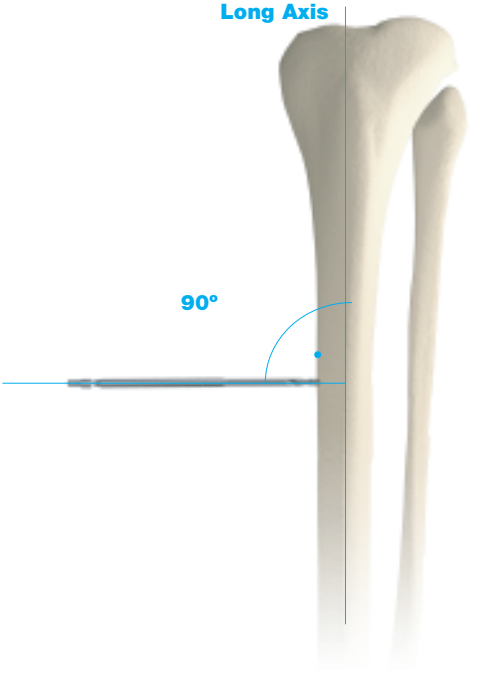


Fig. 2

However, there are additional factors such as fracture patterns and anatomical structures that need to be taken into consideration.

Caution:

Apex Pins are not intended for navigation procedure purposes.

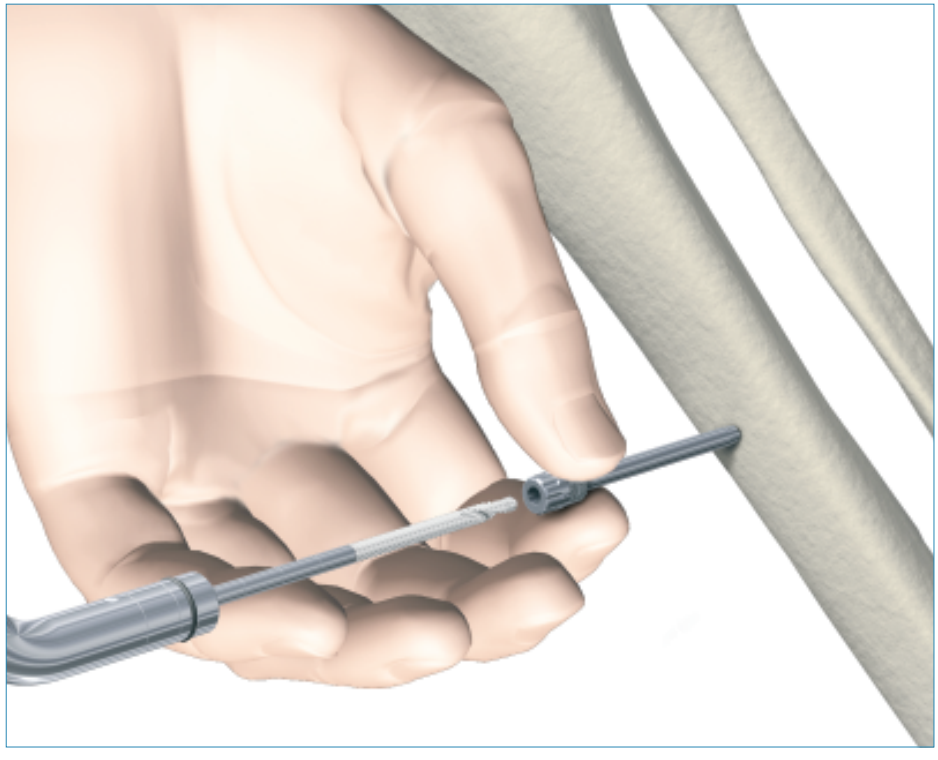


Technical Details

HA Apex Coated Pin Insertion Guidelines

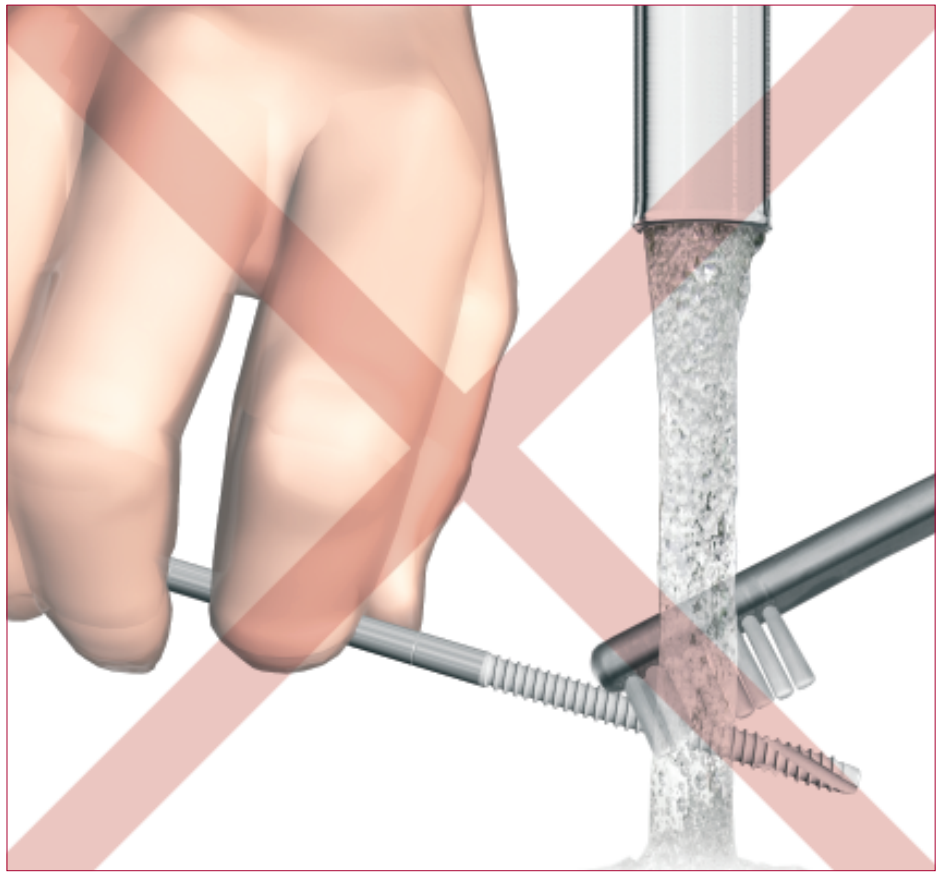
Always use the Stryker Apex Predrilling Assemblies for pin insertion to avoid damage to the HA coating.

If the HA coating is damaged due to incorrect instrument usage, fixation properties may be compromised.



Caution:

Do not wash or attempt to re-sterilize an unpacked HA coated Apex Pin. The coating may be damaged and the effect of the HA coating may be compromised.



Surgeons must always rely on their own clinical judgment when deciding which treatment and product to use with their patients.

Ordering Information – Apex Pins

Product Number	Diameter mm Thread/Shaft	Total Length mm	Thread Length mm
Self-Drilling/Self-Tapping			
5080-1-612	1.65/2.0	45	12
5080-1-620	1.65/2.0	45	20
5080-2-012	2.0	45	12
5080-2-020	2.0	45	20
5038-5-060	3.0	60	10
5038-1-080	3.0	80	10
5038-2-080	3.0	80	15
5038-5-080	3.0	80	20
5038-1-110	3.0	110	10
5038-2-110	3.0	110	25
5090-2-120*	3.0/4.0	120	20
5026-8-120	3.0/5.0	120	20
5023-1-090	4.0	90	10
5023-2-090	4.0	90	20
5023-3-090	4.0	90	30
5023-3-120	4.0	120	30
5023-5-120	4.0	120	35
5023-5-150	4.0	150	40
5023-6-150	4.0	150	50
5023-4-180	4.0	180	40
5023-6-180	4.0	180	50
5026-1-150	4.0/5.0	150	40
5018-3-120	5.0	120	30
5018-5-120	5.0	120	35
5018-5-150	5.0	150	40
5018-6-150	5.0	150	50
5018-3-180	5.0	180	35
5018-6-180	5.0	180	50
5018-8-180	5.0	180	60
5018-5-200	5.0	200	50
5018-6-200	5.0	200	60
5018-5-250	5.0	250	50
5018-7-250	5.0	250	70
5021-7-100	6.0	100	40
5021-7-150	6.0	150	50
5021-6-180	6.0	180	60
5021-8-200	6.0	200	70
5021-8-250	6.0	250	80

Self-Drilling/Self-Tapping Titanium			
5039-2-110**	3.0	110	15
5016-5-111	5.0	120	35
5016-5-117	5.0	150	40
5016-5-118	5.0	150	50
5016-5-122	5.0	180	50

* Available only NON-Sterile
** Special order; available only NON-Sterile

Note:
Apex Pins are not intended for navigation procedure purposes.

For Sterile Apex Pins, add 'S' to the end of the REF NO

Ordering Information – Apex Pins

Product Number	Diameter mm Thread/Shaft	Total Length mm	Thread Length mm
Blunt/Self-Tapping			
5065-3-312	2.0	33	12
5065-3-615	2.0	36	15
5065-3-918	2.0	39	18
5065-4-520	2.0	45	20
5065-5-020	2.0	50	20
5065-6-020	2.0	60	20
5065-9-015	2.0	90	15
5036-2-060	3.0	60	10
5036-1-080	3.0	80	10
5036-1-580	3.0	80	15
5036-2-080	3.0	80	20
5036-1-110	3.0	110	10
5036-2-110	3.0	110	25
5027-1-090	4.0	90	10
5027-2-090	4.0	90	20
5027-3-090	4.0	90	30
5027-3-120	4.0	120	30
5027-4-120	4.0	120	35
5027-4-150	4.0	150	40
5027-5-150	4.0	150	50
5027-4-180	4.0	180	40
5027-5-180	4.0	180	50
5020-3-120	5.0	120	30
5020-6-120	5.0	120	35
5020-2-150	5.0	150	20
5020-3-150	5.0	150	40
5020-7-150	5.0	150	50
5020-2-180	5.0	180	20
5020-7-180	5.0	180	50
5020-8-180	5.0	180	60
5020-2-200	5.0	200	20
5020-7-200	5.0	200	50
5020-6-200	5.0	200	60
5020-2-250	5.0	250	20
5020-7-250	5.0	250	50
5020-8-250	5.0	250	70
5019-7-150	6.0	150	50
5019-6-180	6.0	180	60
5019-8-200	6.0	200	70
5019-8-250	6.0	250	80

Note:
Apex Pins are not intended for navigation procedure purposes.

For Sterile Apex Pins, add 'S' to the end of the REF NO

Ordering Information – Apex Pins

Product Number	Diameter mm Thread/Shaft	Total Length mm	Thread Length mm
Cancellous			
5015-3-120	6.0/5.0	120	35
5015-4-150	6.0/5.0	150	40
5015-5-150	6.0/5.0	150	50
5015-6-180	6.0/5.0	180	60
5015-7-250	6.0/5.0	250	70
Transfixing Pins			
5070-3-310*	2.0/1.5	33	10
5070-3-810*	2.0/1.5	38	10
5070-4-312*	2.0/1.5	43	12
5070-4-812*	2.0/1.5	48	12
5070-5-312*	2.0/1.5	53	12
5070-5-815*	2.0/1.5	58	15
5070-6-315*	2.0/1.5	63	15
5070-7-820*	2.0/1.5	78	20
5045-5-200**	3.0	200	N/A
5030-3-200	5.0/4.0	200	35
5030-4-200	5.0/4.0	200	40
5030-5-200	5.0/4.0	200	50
5030-3-250	5.0/4.0	250	35
5030-4-250	5.0/4.0	250	40
5030-5-250	5.0/4.0	250	50
5030-6-250	5.0/4.0	250	60
5030-4-300	5.0/4.0	300	40
5030-5-300	5.0/4.0	300	50
5030-7-300	5.0/4.0	300	70
5050-5-250***	6.0/5.0	250	50
5050-4-300*	6.0/5.0	300	40
5050-5-300*	6.0/5.0	300	50

* Available only NON-Sterile
** Smooth Transfixing Pin Apex
*** Special order; available only NON-Sterile

Note:
Apex Pins are not intended for navigation procedure purposes.

For Sterile Apex Pins, add 'S' to the end of the REF NO

Ordering Information – HA Apex Pins

Stainless Steel REF	Diameter mm Thread/Shaft	Total Length mm	Thread Length mm
HA Coated Self-Drilling/Self-Tapping			
5013-3-090S*	4.0	90	30
5013-2-120S*	4.0	120	20
5013-8-120S*	4.0	120	25
5013-3-120S*	4.0	120	30
5013-9-120S*	4.0	120	35
5013-2-150S*	4.0	150	20
5013-8-150S*	4.0	150	25
5013-3-150S*	4.0	150	30
5013-4-150S*	4.0	150	40
5017-9-120S	5.0	120	35
5017-2-150S	5.0	150	20
5017-8-150S	5.0	150	25
5017-3-150S	5.0	150	30
5017-9-150S	5.0	150	35
5017-4-150S	5.0	150	40
5017-5-150S	5.0	150	50
5017-6-150S	5.0	150	60
5017-3-180S	5.0	180	30
5017-4-180S	5.0	180	40
5017-5-180S	5.0	180	50
5017-6-200S*	5.0	200	60
5017-7-200S*	5.0	200	70
5014-2-120S*	6.0	120	30
5014-8-150S*	6.0	150	25
5014-3-150S*	6.0	150	30
5014-4-150S	6.0	150	40
5014-5-150S	6.0	150	50
5014-6-150S*	6.0	150	60
5014-3-180S	6.0	180	30
5014-4-180S	6.0	180	40
5014-5-180S	6.0	180	50
5014-6-180S*	6.0	180	60
5014-3-200S*	6.0	200	30
5014-4-200S	6.0	200	40
5014-5-200S	6.0	200	50
5014-6-200S	6.0	200	60
5014-7-250S*	6.0	250	70
5014-8-250S	6.0	250	80
5014-9-250S*	6.0	250	90

* Special Order

Note:

Apex Pins are not intended for navigation procedure purposes.

All HA Apex Pins are single packed and sterile.

Ordering Information – HA Apex Pins

Stainless Steel REF	Diameter mm Thread/Shaft	Total Length mm	Thread Length mm
HA Coated Blunt			
5008-2-150S	4.0	150	20
5008-8-150S	4.0	150	25
5008-3-150S	4.0	150	30
5008-4-150S	4.0	150	40
5009-2-200S	5.0	200	20
5009-8-200S	5.0	200	25
5009-3-200S	5.0	200	30
5009-9-200S	5.0	200	35
5009-4-200S	5.0	200	40
5009-5-200S	5.0	200	50
5009-6-200S*	5.0	200	60
5009-7-250S*	5.0	250	70
5009-8-250S*	5.0	250	80
5009-9-250S*	5.0	250	90
5010-8-200S*	6.0	200	25
5010-3-200S*	6.0	200	30
5010-4-200S	6.0	200	40
5010-5-200S	6.0	200	50
5010-6-200S*	6.0	200	60
5010-7-250S*	6.0	250	70
5010-8-250S*	6.0	250	80
5010-9-250S*	6.0	250	90

Drill Bits for Apex Pins

5085-1-222	Drill Bit 2.2mm x 100mm for 3mm Pins
5085-2-032	Drill Bit 3.2mm x 200mm for 4mm Pins
5085-2-040	Drill Bit 4.0mm x 200mm for 5mm Pins
5085-2-045	Drill Bit 4.5mm x 200mm for 6mm Pins

* Special Order

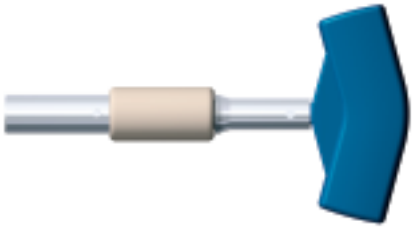
Note:
Apex Pins are not intended for navigation procedure purposes.

* Special Order

All HA Apex Pins are single packed and sterile.

Ordering Information – Instruments

Product Number	Description
5057-0-300	Drill Brace Assembly
5057-0-310	Handle for Drill Brace



4920-9-030	7mm Wrench/5-6mm Pin Inserter

4940-9-030	5mm Wrench/3-4mm Pin Inserter

5057-1-003	Quick Release Apex Chuck with AO fitting, 3mm
5057-1-004	Quick Release Apex Chuck with AO fitting, 4mm
5057-1-005	Quick Release Apex Chuck with AO fitting, 5mm
5057-1-006	Quick Release Apex Chuck with AO fitting, 6mm

4922-9-050	Universal Chuck for 4, 5 & 6mm dia. Apex Pins, AO Coupling

5057-1-110	Drill Guide Handle

5057-1-115	Drill Guide Block, 5 hole, Hoffmann II MRI; Hoffmann 3, blue

5057-1-116	Drill Guide Block, 10 hole, Hoffmann II MRI; Hoffmann 3, blue

5057-1-117	Drill Guide Block, 4 hole, Hoffmann II Compact MRI, yellow

5057-1-118	Drill Guide Block, Hoffmann II Compact Peri Articular Clamp, yellow

5057-1-119	Drill Guide Block, 4 hole, Monotube Triax, blue, red

5057-1-120	Drill Guide Block, 2 hole, Monotube Triax, yellow

Ordering Information – Instruments

Product Number	Description	Protection Length in MM
APEX Instruments Pre-Drilling Assembly		
5057-3-100	Pre-Drilling Assembly, 3.0mm, short	33mm
5057-3-200	Pre-Drilling Assembly, 3.0mm, long	43mm
5057-4-000	Pre-Drilling Assembly, 4.0mm, extra short	35mm
5057-4-100	Pre-Drilling Assembly, 4.0mm, short	70mm
5057-4-200	Pre-Drilling Assembly, 4.0mm, long	100mm
5057-5-000	Pre-Drilling Assembly, 5.0mm, extra short	50mm
5057-5-100	Pre-Drilling Assembly, 5.0mm, short	73mm
5057-5-200	Pre-Drilling Assembly, 5.0mm, long	113mm
5057-6-000	Pre-Drilling Assembly, 6.0mm, extra short	60mm
5057-6-100	Pre-Drilling Assembly, 6.0mm, short	90mm
5057-6-200	Pre-Drilling Assembly, 6.0mm, long	120mm

4922-9-140	Tissue Protection Sleeve	

4922-9-240	Trocar	

5057-6-300	Pin Cutter, 4mm, 5mm & 6mm, Extension Handles	

Disposable End Caps

5047-1-030	Disposable End Caps 3mm, brown (15 pieces/pack)
5027-1-040	Disposable End Caps 4mm, white (15 pieces/pack)
5027-1-050	Disposable End Caps 5mm, blue (15 pieces/pack)

APEX Storage Tray

5057-9-913	Storage Tray Lid
5057-9-912	Storage Tray Upper Insert
5057-9-911	Storage Tray Lower Insert
5057-9-910	Storage Tray Base

Notes

Notes

Notes

stryker®

Reconstructive

Hips
Knees
Trauma & Extremities
Joint Preservation
Orthobiologics

Medical & Surgical

Power Tools & Surgical Accessories
Image Guided Navigation
Endoscopy & Arthroscopy
Integrated Communications
Beds, Stretchers & EMS
Sustainability Solutions

Neurotechnology & Spine

Craniomaxillofacial
Interventional Spine
Neurosurgical, Spine & ENT
Neurovascular
Spinal Implants

CE 0123

Manufactured by:

Stryker GmbH
Bohnackerweg 1
CH - 2545 Selzach
Switzerland

www.stryker.com

Literature Number: 2012800

Content ID: APEX-ST-1, 08-2015