



# **Surgical Technique**

3.5mm Wise-Lock Small Fragment System

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# about us

Auxein Medical is an integrated, research based, orthopaedic Implants & instruments manufacturing company, producing a wide range of quality, affordable generic implants, trusted by healthcare professionals and patients across geographies. It is the Company's constant endeavor to provide a wide basket of generic and our innovator products that exceed the highest expectations of customers in term of quality and safety. The company has world-class manufacturing unit established in india and serves customers in over 75 countries worldwide.

# **Our Achievements**



# **Guidelines**

This publication sets forth detailed recommended procedures for using Auxein Medical devices and instruments.

It offers guidance that needs to be heeded. However, with any such technical guide, each surgeon must consider the unique needs of each patient and make appropriate adjustments when and as required.

A workshop training under DAIS Academy by Auxein will provide assistance prior to first surgery. It is vital to know that all non-sterile devices must be cleaned and sterilized before use.

Moreover, multi-component instruments must be disassembled for cleaning. The surgeon must discuss all relevant risks, including the finite lifetime of the device, with the patient, when necessary.

**Please NOTE** that all the bone screws referenced in this document here are not approved for screw attachment or fixation in the areas not mentioned in this publication.

#### Warning:

This description is not sufficient for immediate application of the instrumentation. Instruction by a surgeon experienced in handling this instrumentation is highly recommended.



Organised by: Auxein

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## **General Indications**

Auxein Wise-Lock Small Fragment are intended for fixation of fractures, osteotomies and nonunions of the clavicle, scapula, olecranon, humerus, radius, ulna, pelvis, distal tibia, and fibula, particularly in osteopenic bone.

## **Specific Indications**

#### 3.5mm Extra Articular Distal Humerus Plate

- Extra-articular fractures of the distal humerus
- Malunions of the distal humerus
- Non-unions of the distal humerus

# 3.5mm Wise-Lock Metaphyseal plate for distal medial humerus

The Wise-Lock Metaphyseal Plate is an anatomically precontoured plate that permits an optimal treatment of juxta-articular distal humerus fractures. It takes into account the following peculiarities of the distal humerus:

- Thin soft-tissue envelope
- Complex shape of the bone

#### 3.5mm Wise-Lock Dorsolateral Distal Humerus Plate with Support

The 3.5 mm Wise-Lock Dorsolateral Distal Humerus Plates are indicated for intra-articular fractures of the distal humerus, comminuted supracondylar fractures, osteotomies, and nonunions of the distal humerus.

#### 3.5mm Wise-Lock Olecranon plate

- · Complex extra- and intra-articular olecranon fractures
- Pseudoarthroses of the proximal ulna
- Osteotomies
- Simple olecranon fractures





## 3.5mm Wise-Lock Small Fragment System

#### 3.5mm Wise-Lock Medial Distal Tibia Plate

The 3.5mm Wise-Lock Medial Distal Tibia Plate is intended for fixation of complex intra and extra-articular fractures with osteotomies of the distal tibia.

#### 3.5mm Wise-Lock Anterolateral Distal Tibia Plate

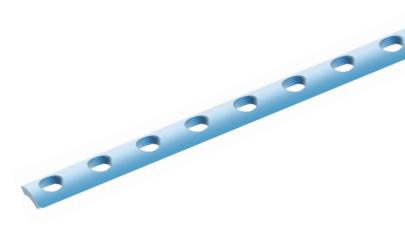
The 3.5mm Wise-Lock Anterolateral Distal Tibia Plate is indicated for fractures, osteotomies and non-unions of Distal Tibia.

#### 3.5mm Wise-Lock One Third Tubular Plate

The 3.5mm Wise-Lock One Third Tubular Plate is indicated for fractures of long and small bones. The plate should only be used for load bearing purposes, e.g. buttressing, tension banding, neutralization and compression.



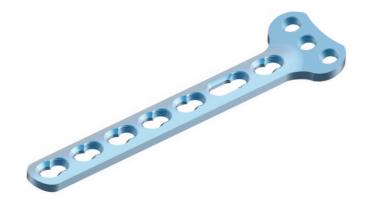






#### 3.5mm Wise-Lock Small "T" Plate, Right Angled

This plate is used for fixation of small bone fragments using the five standard AO plating principles (buttress plate, neutralization plate, tension band plate, bridge plate, compression plate) fracture fixation and fixation after mal-unions, non-unions; e.g. including but not limited to distal radius , proximal and distal tibia, proximal Humerus, clavicular.





complete articular fractures of Distal Radius.

#### 3.5mm Wise-Lock Small "T" Plate, Oblique Angled

These plates are indicated for extra-articular, partial articular &

### 3.5mm Wise-Lock Small Dynamic **Compression Plate with LC under cut**

This plate is indicated for fractures and osteotomies of small bones such as radius, ulna, clavicula and fibula.





## **Fixation Principles**

The following points distinguish treatment using locking screw technology from conventional plating techniques:

- It enables fracture treatment using compression plating with conventional cortical or cancellous bone screws
- Wise-Lock plate can also be used as an internal fixator and permits stable bridging over shattered zones
- The Wise-Lock system permits the combination of conventional and locking screws
- Unicortical locking screw permits better vascularity

**Note:** The Wise-Lock system applies to many diffrent plate types and is therefore suitable for a large number of fracture types. For that reason, this technique guide does not deal with any specific fracture type.

#### **Bicortical screw fixation**

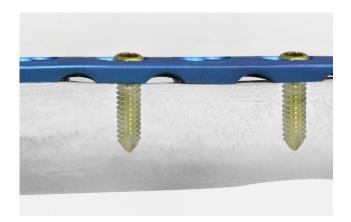
Bicortical screw fixation has long been the traditional method of compressing a plate to the bone where friction between the plate and the bone maintains stability. Screw stability and load transfer are accomplished at two points along the screw: the near and far cortices.



#### **Unicortical screw fixation**

Unicortical locking screws provide stability and load transfer only at the near cortex due to the threaded connection between the plate and the screw. Screw stability and load transfer are accomplished at two points along the screw: the screwhead and near cortex. Because the screw is locked to the plate, fixation does not rely solely on the pullout strength of the screw or on maintaining friction between the plate and the bone.

- a. Bicortical screws require two (2) cortices to achieve stability.
- b. Unicortical screws utilize the Wise-Lock screw and the near cortex to achieve stability.



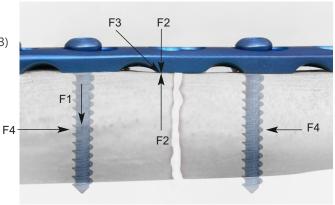


The following examples show the biomechanical features of conventional plating techniques, locked or bridge plating techniques, and a combination of both.

#### **Conventional plating**

#### **Absolute stability**

The tensile force (F1) originating from tightening the screws presses the plate onto the bone (F2). The developing friction (F3) between the plate and the bone leads to stable plate fixation. To ensure absolute stability, the friction resistance must be higher than the axial forces (F4) arising during rehabilitation.

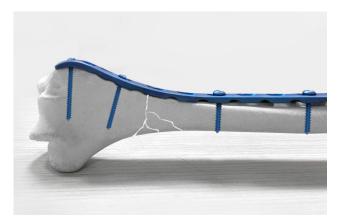


#### Anatomic contouring of the plate

The aim of internal fixation is anatomic reduction, particularly in articular fractures. Therefore, the plate must be contoured to the shape of the bone.

#### Lag screw

Interfragmentary compression is accomplished by using a lag screw. This is particularly important in intra-articular fractures which require a precise reduction of the joint surfaces. Lag screws can be angled in the plate hole, allowing placement of the screw perpendicular to the fracture line.



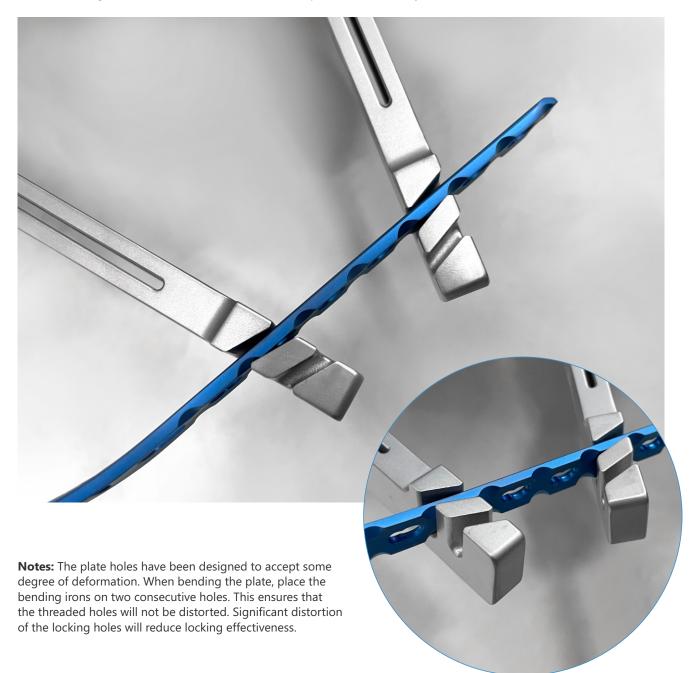


## **Plate selection**

The plates are available in various lengths. If necessary, use a bending template to determine plate length.

# Contouring

Use the bending instruments to contour the Wise-Lock plate to the anatomy.





### **Screw Insertion**

Determine whether standard 3.5 mm cortical screws, 4.0 mm cancellous screws or 3.5 mm Wise-Lock screws will be used for fixation. A combination of all may be used.

**Note:** If a combination of cortical, cancellous and Wise-Lock screws is used, a standard screw should be used first to pull the plate to the bone.

**Warning:** If a Wise-Lock screw is used first, care should be taken to ensure that the plate is held securely to the bone to avoid spinning of the plate about the bone.

#### Insertion of a cortical or cancellous bone screw

Use the 3.5 mm universal drill guide for an eccentric (compression) or neutral (buttress) insertion of cortical screws.

#### Neutral insertion of a standard screw

When pressing the universal drill guide into the DCU portion of the Wise-Lock plate, it will center itself and allow neutral predrilling.



Neutral position

# Dynamic compression, eccentric insertion of a cortical screw

To drill a hole for dynamic compression, place the universal drill guide eccentrically at the edge of the DCU portion of the Wise-Lock plate hole, without applying pressure. Tightening of the cortical screws will result in dynamic compression.



Dynamic compression



Drill a hole through the drill guide using a 2.5mm Drill bit.







Use a depth gauge to measure the required screw length.

Select the Screw of appropriate length as per measurement and insert it using the Screwdriver.



#### Insertion of 3.5 mm Wise-Lock screws

**Reminder:** The Wise-Lock screw is not a lag screw. Use standard screws when requiring a precise anatomical reduction (e.g., joint surfaces) or interfragmentary compression. Before inserting the first Wise-Lock screw, perform anatomical reduction and fix the fracture with lag screws, if necessary. After the insertion of Wise-Lock screws, an anatomical reduction will no longer be possible without loosening the Wise-Lock screw.

Screw the 2.8 mm threaded drill guide into an Wise-Lock plate hole until fully seated.



**Note:** Since the direction of a Wise-Lock screw is determined by plate design, final screw position may be verified with a K-wire prior to insertion. This becomes especially important when the plate has been contoured or applied in metaphyseal regions around joint surfaces.

**Warning:** Do not try to bend the plate using the threaded drill guide because damage may occur to the plate hole threads.







Use the 2.8 mm drill bit to drill the desired depth.

Remove the threaded drill guide and use the depth gauge to determine screw length.

Insert the Wise-Lock screw under power using a 1.5Nm torque limiting attachment and screwdriver shaft.

**Note:** Recheck each Wise-Lock screw before closing to verify that the screws are securely locked to the plate. Screwheads must be flush with the plate in the locked position before they can be considered fully seated.

**Warning:** Always use a torque limiting attachment (TLA) when using power to insert Wise-Lock screws.





#### Insertion of 2.7 mm Wise-Lock screws

Few Wise-lock plates are designed to accommodate 2.7mm Wise-Lock screws in the head portion of the plate. Refer to the following technique for 2.7mm Wise-lock screw insertion.

For 2.7mm Wise-lock screw Insertion, the same steps as mentioned above for 3.5mm Wise-lock screw will be used with only change in instruments as described below:

 The Ø2.7mm Threaded drill guide is used in combination with 2.0mm Drill bit to drill bone for screw insertion.
The marking on drill bit indicates the required screw length.





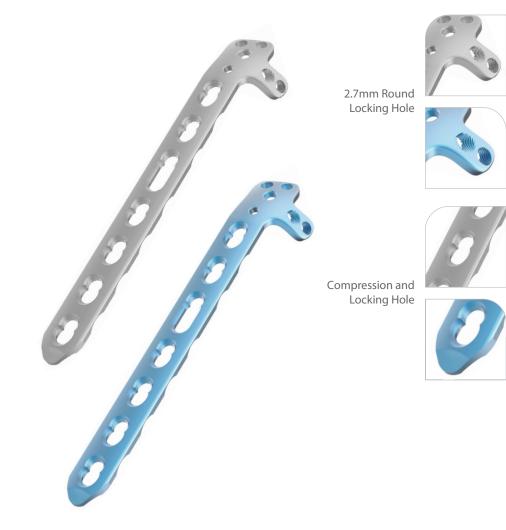
- The depth gauge can also be used for determining screw length.



- Finally the screw is inserted using the screwdriver in attachment in combination with 0.8Nm torque limiting attachment.



## 2.7/3.5mm Wise-Lock Dorsolateral Distal Humerus Plate with Lateral Support

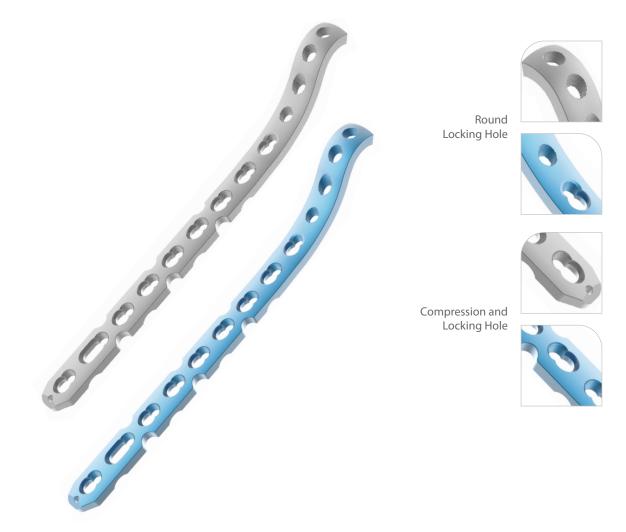


	Left Direction		Right Direction	
Holes	Stainless Steel	Titanium	Stainless Steel	Titanium
3	743.103L	TI-743.103L	743.103R	TI-743.103R
5	743.105L	TI-743.105L	743.105R	TI-743.105R
7	743.107L	TI-743.107L	743.107R	TI-743.107R
9	743.109L	TI-743.109L	743.109R	TI-743.109R
14	743.114L	TI-743.114L	743.114R	TI-743.114R





## 3.5mm Wise-Lock Metaphyseal Plate for Distal Medial Humerus



Holes	Stainless Steel	Titanium
7	738.107	TI-738.107
9	738.109	TI-738.109
11	738.111	TI-738.111
13	738.113	TI-738.113
15	738.115	TI-738.115



#### 3.5mm Wise-Lock Olecranon Plate



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Compression and Locking Hole

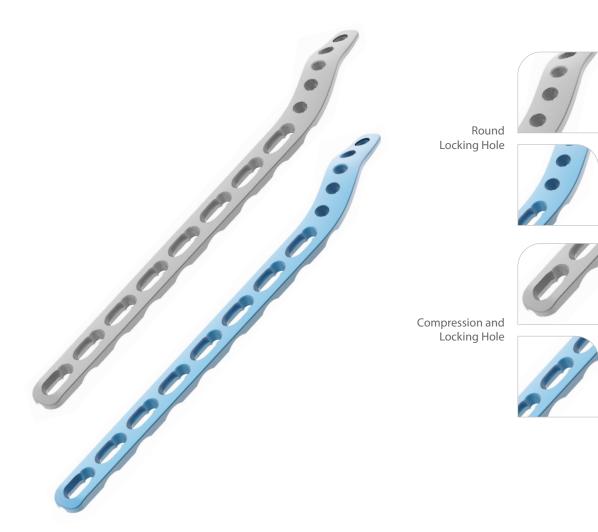
Round Locking Hole



	Left Direction		<b>Right Direction</b>	
Holes	Stainless Steel	Titanium	Stainless Steel	Titanium
2	758.102L	TI-758.102L	758.102R	TI-758.102R
4	758.104L	TI-758.104L	758.104R	TI-758.104R
6	758.106L	TI-758.106L	758.106R	TI-758.106R
8	758.108L	TI-758.108L	758.108R	TI-758.108R
10	758.110L	TI-758.110L	758.110R	TI-758.110R
12	758.112L	TI-758.112L	758.112R	TI-758.112R



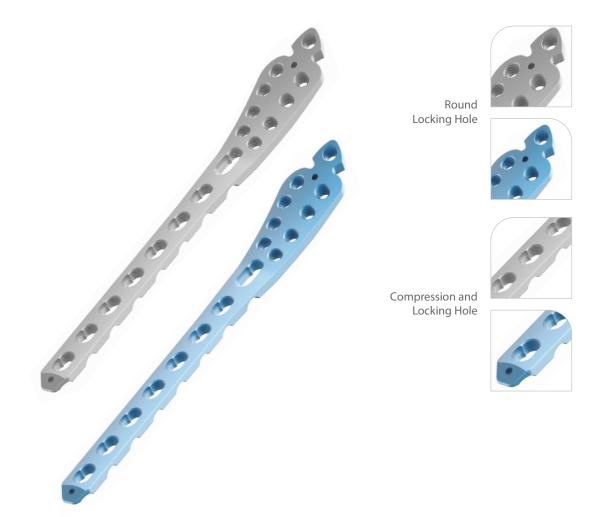
## 3.5mm Wise-Lock Extra-Articular Distal Humerus Plate



	Left Direction		<b>Right Direction</b>	
Holes	Stainless Steel	Titanium	Stainless Steel	Titanium
4	583.004L	TI-583.004L	583.004R	TI-583.004R
6	583.006L	TI-583.006L	583.006R	TI-583.006R
8	583.008L	TI-583.008L	583.008R	TI-583.008R
10	583.010L	TI-583.010L	583.010R	TI-583.010R
12	583.012L	TI-583.012L	583.012R	TI-583.012R
14	583.014L	TI-583.014L	583.014R	TI-583.014R



## 3.5mm Wise-Lock Medial Distal Tibia Plate



	Left Direction		<b>Right Direction</b>	
Holes	Stainless Steel	Titanium	Stainless Steel	Titanium
4	746.104L	TI-746.104L	746.104R	TI-746.104R
6	746.106L	TI-746.106L	746.106R	TI-746.106R
8	746.108L	TI-746.108L	746.108R	TI-746.108R
10	746.110L	TI-746.110L	746.110R	TI-746.110R
12	746.112L	TI-746.112L	746.112R	TI-746.112R
14	746.114L	TI-746.114L	746.114R	TI-746.114R



#### 3.5mm Wise-Lock Anterolateral Distal Tibia Plate



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Compression and Locking Hole

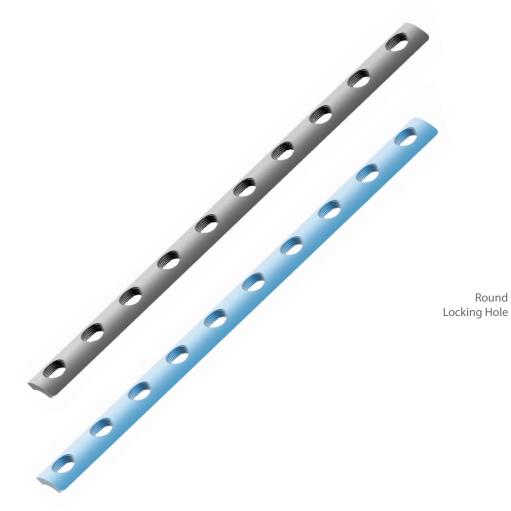
Round Locking Hole



	Left Direction		Right Direction	
Holes	Stainless Steel	Titanium	Stainless Steel	Titanium
5	WS1.05	TI-WS1.05	WS2.05	TI-WS2.05
7	WS1.07	TI-WS1.07	WS2.07	TI-WS2.07
9	WS1.09	TI-WS1.09	WS2.09	TI-WS2.09
11	WS1.11	TI-WS1.11	WS2.11	TI-WS2.11
13	WS1.13	TI-WS1.13	WS2.13	TI-WS2.13
15	WS1.15	TI-WS1.15	WS2.15	TI-WS2.15
17	WS1.17	TI-WS1.17	WS2.17	TI-WS2.17
19	WS1.19	TI-WS1.19	WS2.19	TI-WS2.19
21	WS1.21	TI-WS1.21	WS2.21	TI-WS2.21



#### 3.5mm Wise-Lock One Third Tubular Plate



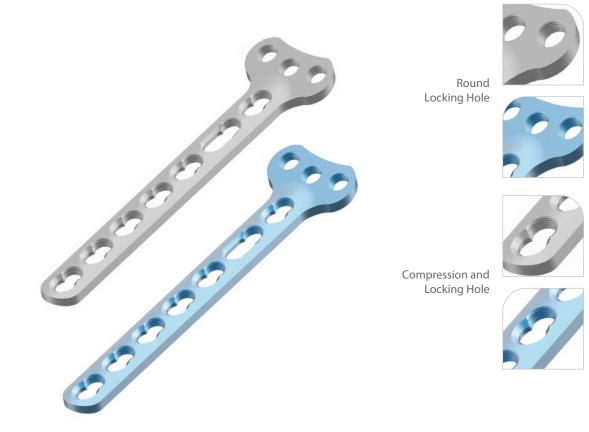
Holes	Stainless Steel	Titanium
4	702.304	TI-702.304
5	702.305	TI-702.305
6	702.306	TI-702.306
7	702.307	TI-702.307
8	702.308	TI-702.308
9	702.309	TI-702.309
10	702.310	TI-702.310
11	702.311	TI-702.311
12	702.312	TI-702.312







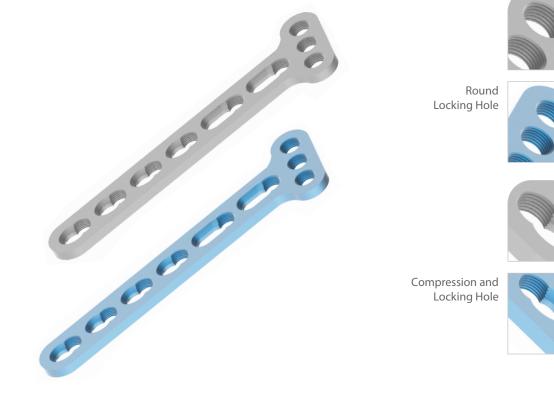
# 3.5mm Wise-Lock Small "T" Plate, Right Angled (3 Head Holes)



Holes	Stainless Steel	Titanium
3	709.103	TI-709.103
4	709.104	TI-709.104
5	709.105	TI-709.105
6	709.106	TI-709.106



# 3.5mm Wise-Lock Small "T" Plate, Oblique Angled



	Left Direction		Right Direction	
Holes	Stainless Steel	Titanium	Stainless Steel	Titanium
3	712.103L	TI-712.103L	712.103R	TI-712.103R
4	712.104L	TI-712.104L	712.104R	TI-712.104R
5	712.105L	TI-712.105L	712.105R	TI-712.105R
6	712.106L	TI-712.106L	712.106R	TI-712.106R

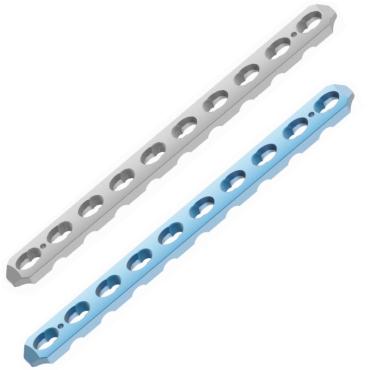








### 3.5mm Wise-Lock Small Dynamic Compression Plate with LC under cuts





Compression and Locking Hole



Holes	Stainless Steel	Titanium
5	721.205	TI-721.205
6	721.206	TI-721.206
7	721.207	TI-721.207
8	721.208	TI-721.208
9	721.209	TI-721.209
10	721.210	TI-721.210
11	721.211	TI-721.211
12	721.212	TI-721.212



## 2.7mm Wise-Lock Screw, Self-Tapping (Hex Head)

Length (mm)	Stainless Steel	Titanium
10	118.010	TI-118.010
12	118.012	TI-118.012
14	118.014	TI-118.014
16	118.016	TI-118.016
18	118.018	TI-118.018
20	118.020	TI-118.020
22	118.022	TI-118.022
24	118.024	TI-118.024
26	118.026	TI-118.026
28	118.028	TI-118.028
30	118.030	TI-118.030
32	118.032	TI-118.032
34	118.034	TI-118.034
36	118.036	TI-118.036
38	118.038	TI-118.038
40	118.040	TI-118.040
42	118.042	TI-118.042
44	118.044	TI-118.044
46	118.046	TI-118.046
48	118.048	TI-118.048
50	118.050	TI-118.050
52	118.052	TI-118.052
54	118.054	TI-118.054
56	118.056	TI-118.056
58	118.058	TI-118.058
60	118.060	TI-118.060



### 3.5mm Wise-Lock Screw, Self-Tapping (Hex Head)

10     117.010     TI-117.010       12     117.012     TI-117.012       14     117.014     TI-117.016       16     117.016     TI-117.016       18     117.016     TI-117.016       20     117.020     TI-117.020       21     117.022     TI-117.022       22     117.022     TI-117.022       24     117.026     TI-117.026       28     117.026     TI-117.028       30     117.030     TI-117.032       * 32     117.032     TI-117.032       * 34     117.035     TI-117.035       * 34     117.036     TI-117.036       * 34     117.036     TI-117.037       * 34     117.036     TI-117.038       40     117.040     TI-117.038       41     117.042     TI-117.042       * 42     117.042     TI-117.042       * 44     117.046     TI-117.042       * 45     117.045     TI-117.046       * 46     117.046     TI-117.045	Length (mm)	Stainless Steel	Titanium
14     117.014     TI-117.014       16     117.016     TI-117.016       18     117.016     TI-117.018       20     117.020     TI-117.020       22     117.022     TI-117.021       24     117.024     TI-117.024       26     117.026     TI-117.026       28     117.026     TI-117.028       30     117.030     TI-117.031       * 32     117.032     TI-117.032       * 34     117.035     TI-117.033       * 35     117.035     TI-117.036       * 36     117.036     TI-117.035       * 38     117.038     TI-117.036       * 40     117.040     TI-117.041       * 42     117.042     TI-117.042       * 44     117.044     TI-117.042       * 44     117.045     TI-117.045       * 48     117.045     TI-117.045       * 48     117.045     TI-117.045       * 52     117.052     TI-117.045       * 52     117.053     TI-117.045	10	117.010	TI-117.010
16     117.016     TI-117.016       18     117.018     TI-117.018       20     117.020     TI-117.020       22     117.022     TI-117.022       24     117.024     TI-117.024       26     117.026     TI-117.028       30     117.028     TI-117.028       30     117.030     TI-117.030       * 32     117.032     TI-117.032       * 34     117.035     TI-117.034       35     117.035     TI-117.035       * 36     117.036     TI-117.038       * 38     117.038     TI-117.036       * 40     117.040     TI-117.040       * 42     117.042     TI-117.041       * 44     117.040     TI-117.041       * 45     117.042     TI-117.042       * 46     117.046     TI-117.045       * 48     117.045     TI-117.045       * 50     117.050     TI-117.052       * 54     117.054     TI-117.055       * 55     117.055     TI-117.055	12	117.012	TI-117.012
18     117.018     TI-117.018       20     117.020     TI-117.020       22     117.022     TI-117.022       24     117.024     TI-117.024       26     117.026     TI-117.026       28     117.028     TI-117.026       30     117.030     TI-117.030       * 32     117.032     TI-117.031       * 34     117.035     TI-117.035       * 34     117.036     TI-117.035       * 36     117.036     TI-117.036       * 38     117.036     TI-117.037       * 42     117.040     TI-117.041       * 42     117.042     TI-117.042       * 44     117.042     TI-117.042       * 44     117.042     TI-117.042       * 44     117.045     TI-117.045       * 44     117.046     TI-117.045       * 45     117.045     TI-117.045       * 46     117.046     TI-117.045       * 52     117.055     TI-117.056       * 54     117.056     TI-117.056	14	117.014	TI-117.014
20     117.020     TI-117.020       22     117.022     TI-117.022       24     117.024     TI-117.024       26     117.026     TI-117.028       28     117.028     TI-117.028       30     117.030     TI-117.028       30     117.030     TI-117.030       * 32     117.032     TI-117.032       * 34     117.035     TI-117.031       * 35     117.035     TI-117.036       * 36     117.036     TI-117.036       * 38     117.038     TI-117.036       * 40     117.042     TI-117.042       * 42     117.042     TI-117.042       * 44     117.042     TI-117.042       * 45     117.045     TI-117.042       * 46     117.045     TI-117.045       * 46     117.046     TI-117.046       * 52     117.050     TI-117.051       * 54     117.055     TI-117.054       55     117.055     TI-117.055       * 56     117.056     TI-117.058	16	117.016	TI-117.016
11     117.022     117.021     11.117.022       22     117.024     11.117.024     11.117.024       26     117.026     11.117.026       28     117.028     11.117.026       30     117.030     11.117.030       * 32     117.032     11.117.032       * 34     117.032     11.117.032       * 34     117.035     11.117.034       35     117.035     11.117.035       * 36     117.036     11.117.036       * 38     117.038     11.117.036       * 40     117.040     11.117.040       * 42     117.040     11.117.040       * 42     117.041     11.117.040       * 44     117.045     11.117.045       * 44     117.045     11.117.045       * 45     117.045     11.117.045       * 46     117.045     11.117.045       * 46     117.045     11.117.045       * 52     117.055     11.117.055       * 54     117.055     11.117.055       * 54 <td>18</td> <td>117.018</td> <td>TI-117.018</td>	18	117.018	TI-117.018
24     117.024     TI-117.024       26     117.026     TI-117.026       28     117.028     TI-117.028       30     117.030     TI-117.030       * 32     117.032     TI-117.032       * 34     117.034     TI-117.034       35     117.035     TI-117.036       * 36     117.036     TI-117.036       * 38     117.036     TI-117.036       * 40     117.040     TI-117.041       * 42     117.042     TI-117.042       * 44     117.042     TI-117.042       * 44     117.045     TI-117.042       * 44     117.045     TI-117.042       * 44     117.045     TI-117.045       * 44     117.045     TI-117.045       * 45     117.050     TI-117.046       * 48     117.046     TI-117.046       * 52     117.052     TI-117.050       * 54     117.054     TI-117.055       * 54     117.055     TI-117.055       * 54     117.056     TI-117.056 </td <td>20</td> <td>117.020</td> <td>TI-117.020</td>	20	117.020	TI-117.020
26     117.026     TI-117.026       28     117.030     TI-117.030       30     117.030     TI-117.030       * 32     117.032     TI-117.032       * 34     117.034     TI-117.034       35     117.035     TI-117.035       * 36     117.036     TI-117.038       * 38     117.036     TI-117.038       * 40     117.040     TI-117.041       * 42     117.042     TI-117.042       * 44     117.044     TI-117.045       * 44     117.045     TI-117.046       * 44     117.046     TI-117.045       * 44     117.045     TI-117.046       * 44     117.046     TI-117.046       * 45     117.045     TI-117.046       * 46     117.046     TI-117.046       * 50     117.050     TI-117.051       * 51     117.055     TI-117.052       * 52     117.055     TI-117.055       * 54     117.056     TI-117.056       * 55     117.056     TI-117.058	22	117.022	TI-117.022
28     117.028     TI-117.028       30     117.030     TI-117.030       * 32     117.032     TI-117.032       * 34     117.034     TI-117.032       * 34     117.035     TI-117.034       35     117.035     TI-117.035       * 36     117.036     TI-117.038       * 38     117.038     TI-117.040       * 40     117.042     TI-117.042       * 42     117.042     TI-117.042       * 42     117.042     TI-117.042       * 44     117.043     TI-117.042       * 44     117.045     TI-117.042       * 44     117.045     TI-117.045       * 44     117.045     TI-117.045       * 45     117.045     TI-117.045       * 46     117.046     TI-117.046       * 52     117.052     TI-117.054       * 54     117.054     TI-117.054       * 55     117.055     TI-117.056       * 58     117.056     TI-117.056       * 58     117.056     TI-117.0	24	117.024	TI-117.024
30     117.030     TI-117.030       * 32     117.032     TI-117.032       * 34     117.034     TI-117.034       35     117.035     TI-117.036       * 36     117.036     TI-117.036       * 38     117.036     TI-117.036       * 40     117.038     TI-117.036       * 42     117.042     TI-117.040       * 42     117.042     TI-117.041       * 42     117.045     TI-117.042       * 44     117.046     TI-117.042       * 44     117.045     TI-117.045       * 45     117.045     TI-117.046       * 48     117.046     TI-117.045       * 48     117.050     TI-117.050       * 52     117.050     TI-117.050       * 54     117.054     TI-117.054       55     117.055     TI-117.056       * 56     117.056     TI-117.058       * 56     117.056     TI-117.058       * 58     117.058     TI-117.058       60     117.060     TI-117.060	26	117.026	TI-117.026
* 32   117.032   TI-117.032     * 34   117.034   TI-117.034     35   117.035   TI-117.035     * 36   117.036   TI-117.036     * 38   117.036   TI-117.036     * 40   117.036   TI-117.038     40   117.040   TI-117.040     * 42   117.042   TI-117.042     * 44   117.044   TI-117.044     45   117.045   TI-117.045     * 46   117.046   TI-117.046     * 48   117.045   TI-117.046     * 50   117.050   TI-117.050     * 52   117.052   TI-117.052     * 54   117.055   TI-117.052     * 54   117.055   TI-117.055     * 56   117.055   TI-117.056     * 58   117.058   TI-117.058     60   117.058   TI-117.058     60   117.065   TI-117.065     * 58   117.058   TI-117.058     60   117.065   TI-117.065     70   117.070   TI-117.065     70 <td>28</td> <td>117.028</td> <td>TI-117.028</td>	28	117.028	TI-117.028
*     34     117.034     TI-117.034       35     117.035     TI-117.035       *     36     117.036     TI-117.036       *     38     117.038     TI-117.038       40     117.040     TI-117.040       *     42     117.042     TI-117.042       *     42     117.042     TI-117.042       *     42     117.043     TI-117.044       45     117.045     TI-117.045       *     46     117.046     TI-117.046       *     48     117.050     TI-117.046       *     48     117.050     TI-117.046       *     48     117.050     TI-117.050       *     52     117.052     TI-117.052       *     54     117.055     TI-117.054       *     55     117.056     TI-117.056       *     58     117.056     TI-117.056       *     58     117.056     TI-117.065       60     117.065     TI-117.065     TI-117.06	30	117.030	TI-117.030
35     117.035     TI-117.035       * 36     117.036     TI-117.036       * 38     117.038     TI-117.036       40     117.040     TI-117.040       * 42     117.042     TI-117.042       * 44     117.042     TI-117.042       * 44     117.044     TI-117.044       45     117.045     TI-117.045       * 46     117.046     TI-117.045       * 48     117.046     TI-117.048       50     117.050     TI-117.050       * 52     117.052     TI-117.052       * 54     117.055     TI-117.054       55     117.055     TI-117.054       * 56     117.055     TI-117.056       * 58     117.056     TI-117.056       * 58     117.056     TI-117.058       60     117.060     TI-117.060       65     117.065     TI-117.065       70     117.070     TI-117.070       75     117.075     TI-117.075	* 32	117.032	TI-117.032
*   36   117.036   TI-117.036     *   38   117.038   TI-117.038     40   117.040   TI-117.040     *   42   117.042   TI-117.042     *   44   117.044   TI-117.042     *   44   117.045   TI-117.044     45   117.045   TI-117.045     *   46   117.046   TI-117.045     *   48   117.048   TI-117.046     *   48   117.050   TI-117.050     *   50   117.050   TI-117.050     *   52   117.052   TI-117.054     55   117.055   TI-117.054   55     *   56   117.056   TI-117.056     *   58   117.056   TI-117.058     60   117.060   TI-117.060   TI-117.060     65   117.065   TI-117.065   TI-117.060     65   117.065   TI-117.070   TI-117.070     75   117.075   TI-117.075   TI-117.075	* 34	117.034	TI-117.034
*   38   117.038   TI-117.038     40   117.040   TI-117.040     *   42   117.042   TI-117.042     *   44   117.044   TI-117.042     *   44   117.045   TI-117.044     45   117.045   TI-117.045     *   46   117.046   TI-117.046     *   48   117.046   TI-117.048     50   117.050   TI-117.050     *   52   117.052   TI-117.052     *   54   117.054   TI-117.054     55   117.055   TI-117.055   TI-117.055     *   56   117.056   TI-117.056     *   58   117.056   TI-117.056     *   58   117.058   TI-117.058     60   117.060   TI-117.060   TI-117.060     65   117.065   TI-117.065   TI-117.060     65   117.065   TI-117.070   TI-117.070     75   117.075   TI-117.075   TI-117.070	35	117.035	TI-117.035
40117.040TI-117.040* 42117.042TI-117.042* 44117.044TI-117.04445117.045TI-117.045* 46117.046TI-117.046* 48117.046TI-117.04850117.050TI-117.050* 52117.052TI-117.052* 54117.054TI-117.05455117.055TI-117.056* 56117.056TI-117.056* 58117.058TI-117.05860117.060TI-117.06065117.065TI-117.06065117.070TI-117.07070117.070TI-117.070	* 36	117.036	TI-117.036
*   42   117.042   TI-117.042     *   44   117.044   TI-117.044     45   117.045   TI-117.045     *   46   117.046   TI-117.046     *   46   117.046   TI-117.046     *   48   117.046   TI-117.046     *   50   117.050   TI-117.048     50   117.050   TI-117.050     *   52   117.052   TI-117.052     *   54   117.054   TI-117.054     55   117.055   TI-117.055     *   56   117.056   TI-117.056     *   58   117.056   TI-117.058     60   117.060   TI-117.058   TI-117.058     60   117.065   TI-117.060   TI-117.060     65   117.065   TI-117.065   TI-117.065     70   117.070   TI-117.070   TI-117.070     75   117.075   TI-117.075   TI-117.075	* 38	117.038	TI-117.038
*   44   117.044   TI-117.044     45   117.045   TI-117.045     *   46   117.046   TI-117.046     *   48   117.046   TI-117.046     *   48   117.046   TI-117.046     50   117.050   TI-117.050     *   52   117.052   TI-117.052     *   54   117.054   TI-117.054     55   117.055   TI-117.055     *   56   117.056   TI-117.056     *   56   117.056   TI-117.058     60   117.060   TI-117.058     60   117.060   TI-117.060     65   117.065   TI-117.065     70   117.070   TI-117.070     75   117.075   TI-117.075	40	117.040	TI-117.040
45   117.045   TI-117.045     * 46   117.046   TI-117.046     * 48   117.048   TI-117.048     50   117.050   TI-117.050     * 52   117.052   TI-117.052     * 54   117.054   TI-117.054     55   117.055   TI-117.054     * 54   117.056   TI-117.056     * 56   117.056   TI-117.056     * 58   117.058   TI-117.058     60   117.060   TI-117.056     * 58   117.058   TI-117.056     60   117.060   TI-117.060     65   117.065   TI-117.065     70   117.070   TI-117.070     75   117.075   TI-117.075	* 42	117.042	TI-117.042
*     46     117.046     TI-117.046       *     48     117.048     TI-117.048       50     117.050     TI-117.050       50     117.052     TI-117.052       *     52     117.052     TI-117.052       *     54     117.054     TI-117.054       55     117.055     TI-117.055       *     56     117.056     TI-117.056       *     56     117.056     TI-117.056       *     58     117.058     TI-117.058       60     117.060     TI-117.060     TI-117.058       60     117.065     TI-117.060     TI-117.060       65     117.065     TI-117.070     TI-117.070       70     117.070     TI-117.070     TI-117.070       75     117.075     TI-117.075     TI-117.075	* 44	117.044	TI-117.044
*   48   117.048   TI-117.048     50   117.050   TI-117.050     *   52   117.052   TI-117.052     *   54   117.054   TI-117.054     55   117.055   TI-117.055     *   56   117.056   TI-117.056     *   56   117.056   TI-117.058     60   117.060   TI-117.058     60   117.060   TI-117.060     65   117.065   TI-117.065     70   117.070   TI-117.070     75   117.075   TI-117.075	45	117.045	TI-117.045
50     117.050     TI-117.050       *     52     117.052     TI-117.052       *     54     117.054     TI-117.054       55     117.055     TI-117.055       *     56     117.056     TI-117.056       *     56     117.056     TI-117.058       *     58     117.058     TI-117.058       60     117.060     TI-117.060     TI-117.060       65     117.065     TI-117.065     TI-117.065       70     117.070     TI-117.070     TI-117.070       75     117.075     TI-117.075     TI-117.075	* 46	117.046	TI-117.046
*     52     117.052     TI-117.052       *     54     117.054     TI-117.054       55     117.055     TI-117.055       *     56     117.056     TI-117.056       *     58     117.058     TI-117.058       60     117.060     TI-117.060       65     117.065     TI-117.065       70     117.070     TI-117.070       75     117.075     TI-117.075	* 48	117.048	TI-117.048
*   54   117.054   TI-117.054     55   117.055   TI-117.055     *   56   117.056   TI-117.056     *   58   117.058   TI-117.058     60   117.060   TI-117.060     65   117.065   TI-117.065     70   117.070   TI-117.070     75   117.075   TI-117.075	50	117.050	TI-117.050
55     117.055     TI-117.055       * 56     117.056     TI-117.056       * 58     117.058     TI-117.058       60     117.060     TI-117.060       65     117.065     TI-117.065       70     117.070     TI-117.070       75     117.075     TI-117.075	* 52	117.052	TI-117.052
*     56     117.056     TI-117.056       *     58     117.058     TI-117.058       60     117.060     TI-117.060       65     117.065     TI-117.065       70     117.070     TI-117.070       75     117.075     TI-117.075	* 54	117.054	TI-117.054
*     58     117.058     TI-117.058       60     117.060     TI-117.060       65     117.065     TI-117.065       70     117.070     TI-117.070       75     117.075     TI-117.075	55	117.055	TI-117.055
60     117.060     TI-117.060       65     117.065     TI-117.065       70     117.070     TI-117.070       75     117.075     TI-117.075	* 56	117.056	TI-117.056
65     117.065     TI-117.065       70     117.070     TI-117.070       75     117.075     TI-117.075	* 58	117.058	TI-117.058
70     117.070     TI-117.070       75     117.075     TI-117.075	60	117.060	TI-117.060
75 <b>117.075 TI-117.075</b>	65	117.065	TI-117.065
	70	117.070	TI-117.070
80 <b>117.080 TI-117.080</b>	75	117.075	TI-117.075
	80	117.080	TI-117.080

\* Sizes not available in Screw Caddy



### 3.5mm Wise-Lock Screw, Self-Drilling (Hex Head)

Length (mn	n) Stainless Steel	Titanium
10	117.210	TI-117.210
12	117.212	TI-117.212
14	117.214	TI-117.214
16	117.216	TI-117.216
18	117.218	TI-117.218
20	117.220	TI-117.220
22	117.222	TI-117.222
24	117.224	TI-117.224
26	117.226	TI-117.226
28	117.228	TI-117.228
30	117.230	TI-117.230
* 32	117.232	TI-117.232
* 34	117.234	TI-117.234
* 36	117.236	TI-117.236
* 38	117.238	TI-117.238
40	117.240	TI-117.240
* 42	117.242	TI-117.242
* 44	117.244	TI-117.244
* 46	117.246	TI-117.246
* 48	117.248	TI-117.248
50	117.250	TI-117.250
* 52	117.252	TI-117.252
* 54	117.254	TI-117.254
* 56	117.256	TI-117.256
* 58	117.258	TI-117.258
60	117.260	TI-117.260



\* Sizes not available in Screw Caddy



## 3.5mm Cortical Screw, Self-Tapping, (Hex Head)

Length (mm)	Stainless Steel	Titanium
10	104.210	TI-104.210
12	104.212	TI-104.212
14	104.214	TI-104.214
16	104.216	TI-104.216
18	104.218	TI-104.218
20	104.220	TI-104.220
22	104.222	TI-104.222
24	104.224	TI-104.224
26	104.226	TI-104.226
28	104.228	TI-104.228
30	104.230	TI-104.230
32	104.232	TI-104.232
34	104.234	TI-104.234
36	104.236	TI-104.236
38	104.238	TI-104.238
40	104.240	TI-104.240
42	104.242	TI-104.242
44	104.244	TI-104.244
46	104.246	TI-104.246
48	104.248	TI-104.248
50	104.250	TI-104.250
* 55	104.255	TI-104.255
* 60	104.260	TI-104.260
* 65	104.265	TI-104.265
* 70	104.270	TI-104.270
* 75	104.275	TI-104.275
* 80	104.280	TI-104.280
* 85	104.285	TI-104.285
* 90	104.290	TI-104.290



\* Sizes not available in Screw Caddy



## 4.0mmm Cancellous Screw, Short Thread

Length (mm)	Stainless Steel	Titanium
12	109.012	TI-109.012
14	109.014	TI-109.014
16	109.016	TI-109.016
18	109.018	TI-109.018
20	109.020	TI-109.020
22	109.022	TI-109.022
24	109.024	TI-109.024
26	109.026	TI-109.026
28	109.028	TI-109.028
30	109.030	TI-109.030
32	109.032	TI-109.032
34	109.034	TI-109.034
36	109.036	TI-109.036
38	109.038	TI-109.038
40	109.040	TI-109.040
45	109.045	TI-109.045
50	109.050	TI-109.050
55	109.055	TI-109.055
60	109.060	TI-109.060

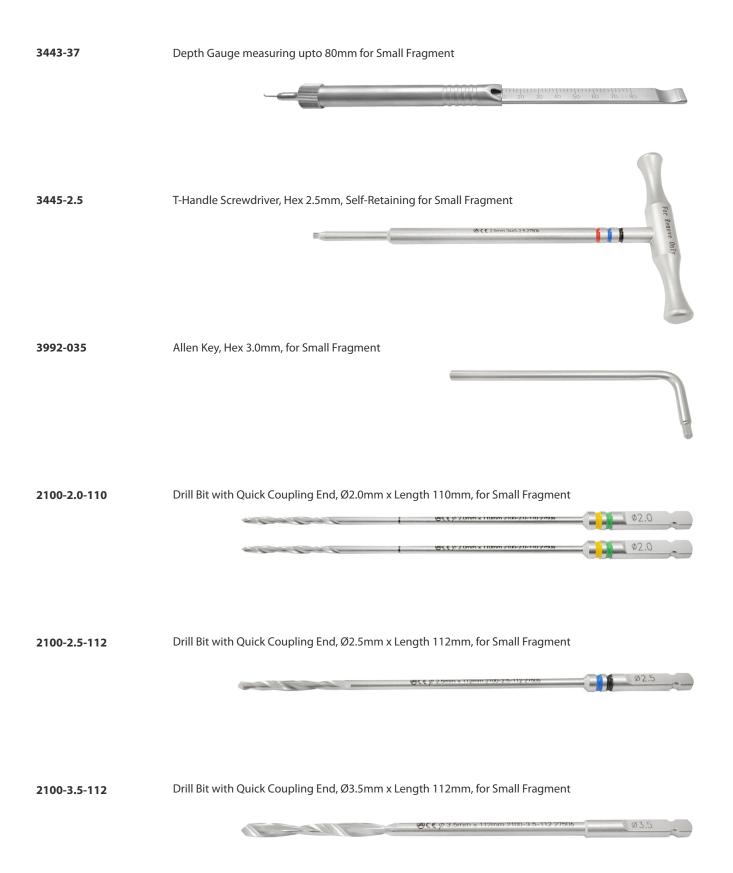


## 4.0mm Cancellous Screw, Full Thread

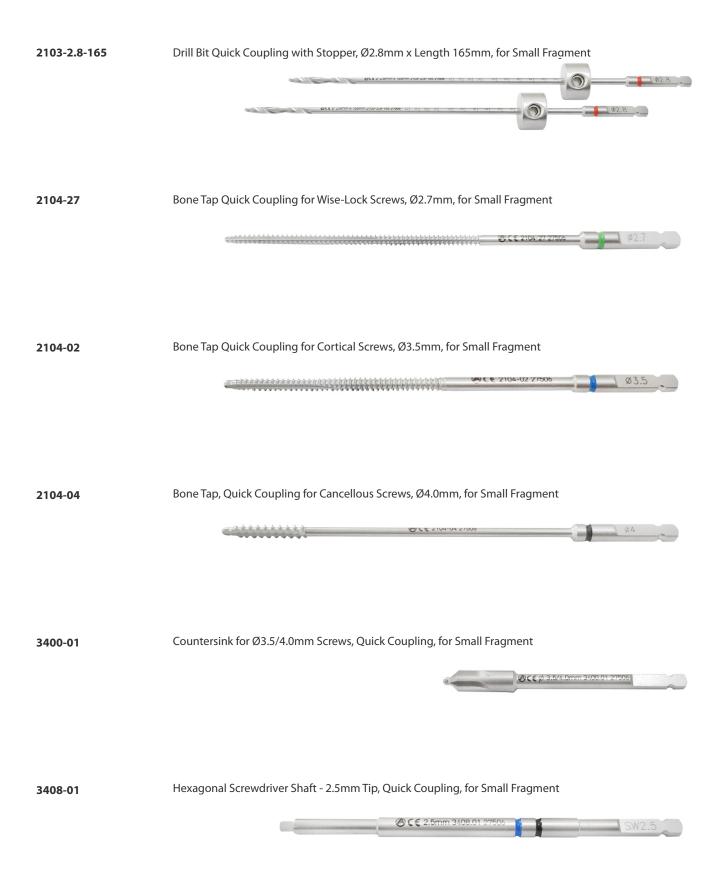
Length (mm)	Stainless Steel	Titanium
12	110.012	TI-110.012
14	110.014	TI-110.014
16	110.016	TI-110.016
18	110.018	TI-110.018
20	110.020	TI-110.020
22	110.022	TI-110.022
24	110.024	TI-110.024
26	110.026	TI-110.026
28	110.028	TI-110.028
30	110.030	TI-110.030
32	110.032	TI-110.032
34	110.034	TI-110.034
36	110.036	TI-110.036
38	110.038	TI-110.038
40	110.040	TI-110.040
45	110.045	TI-110.045
50	110.050	TI-110.050
55	110.055	TI-110.055
60	110.060	TI-110.060













3408-03	Hexagonal Screwdriver Shaft - 2.0mm Tip, Quick Coupling, for Small Fragment
2186-2.5	HSS Drill Bit, Ø2.5mm , for Small Fragment
2106-1.2	Guide Sleeve for Ø1.2mm K. Wires, for Small Fragment @C€ Ø 1.2mm 210e 1.2 270e
3443-05	Depth Gauge with Protector measuring upto 50mm for Small Fragment
3443-39	Trephine for Small Fragment
BT-SF-06	Bending Template, Small, for Small Fragment



BT-SF-08	Bending Template, Medium, for Small Fragment
BT-SF-10	Bending Template, Large, for Small Fragment
3402-000	T-Handle with Quick Coupling for Small Fragment
1472-054	Quick Coupling Shaft
TDG-2.7	Threaded Drill Sleeve for Drill Bit Ø2.0mm - Small Fragment
3441-18	Threaded Drill Sleeve, for Drill Bit Ø2.8mm - Small Fragmer @CE Ø 3.5mm 3441.18 27000 @CE Ø 3.5mm 3441.18 27000 @CE Ø 3.5mm 3441.18 27000 @CE Ø 3.5mm 3441.18 27000

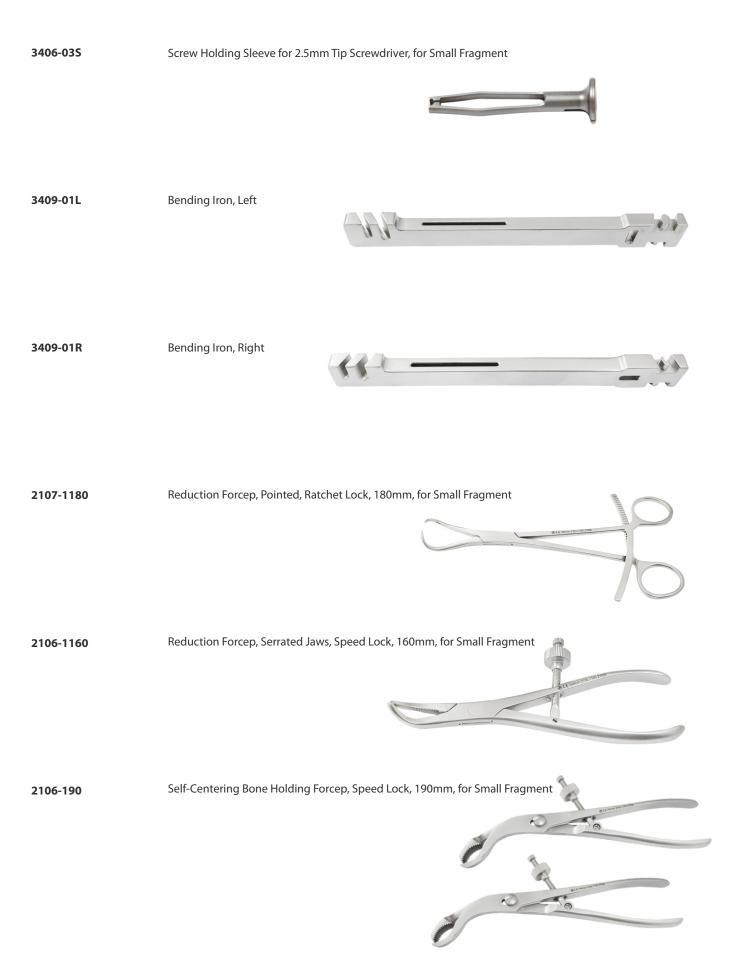




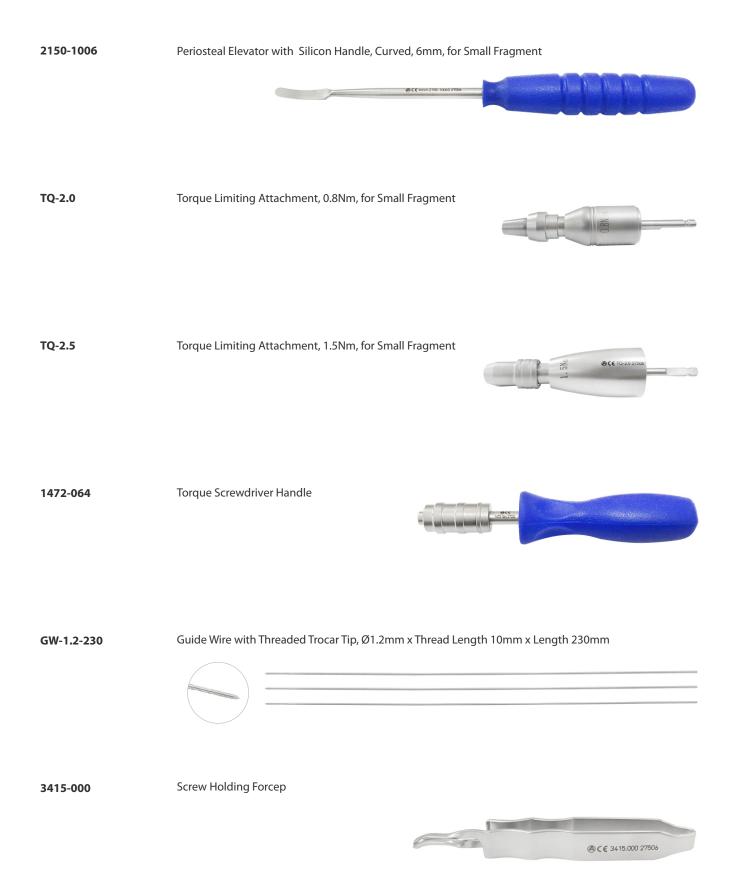














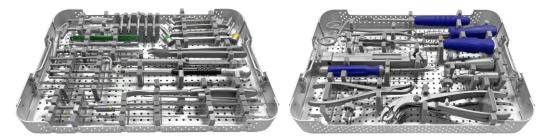
ST-007NW

Screw Caddy for 3.5mm Wise-Lock Small Fragment System



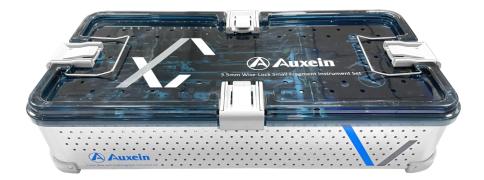


Instrument Trays for 3.5mm Wise-Lock Small Fragment Instrument Set



IC-2310-WL

Container for 3.5mm Wise-Lock Small Fragment Instrument Set







2302-000 Small Fragment Wise-Lock Instrument Set



## 2302-000 Small Fragment Wise-Lock Instrument Set

Codes	Set Consisting of:	Units
3443-37	Depth Gauge measuring upto 80mm for Small Fragment	1
3445-2.5	T-Handle Screwdriver, Hex 2.5mm, Self-Retaining for Small Fragment	1
3992-035	Allen Key, Hex 3.0mm, for Small Fragment	1
2100-2.0-110	Drill Bit with Quick Coupling End, Ø2.0mm x Length 110mm, for Small Fragment	2
2100-2.5-112	Drill Bit with Quick Coupling End, Ø2.5mm x Length 112mm, for Small Fragment	1
2100-3.5-112	Drill Bit with Quick Coupling End, Ø3.5mm x Length 112mm, for Small Fragment	1
2103-2.8-165	Drill Bit Quick Coupling with Stopper, Ø2.8mm x Length 165mm, for Small Fragment	2
2104-27	Bone Tap Quick Coupling for Wise-Lock Screws, Ø2.7mm, for Small Fragment	1
2104-02	Bone Tap Quick Coupling for Cortical Screws, Ø3.5mm, for Small Fragment	1
2104-04	Bone Tap, Quick Coupling for Cancellous Screws, Ø4.0mm, for Small Fragment	1
3400-01	Countersink for Ø3.5/4.0mm Screws, Quick Coupling, for Small Fragment	1
3408-01	Hexagonal Screwdriver Shaft - 2.5mm Tip, Quick Coupling, for Small Fragment	1
3408-03	Hexagonal Screwdriver Shaft - 2.0mm Tip, Quick Coupling, for Small Fragment	1
2186-2.5	HSS Drill Bit, Ø2.5mm , for Small Fragment	1
2106-1.2	Guide Sleeve for Ø1.2mm K. Wires, , for Small Fragment	1
3443-05	Depth Gauge with Protector measuring upto 50mm for Small Fragment	1
3443-39	Trephine for Small Fragment	1
BT-SF-06	Bending Template, Small, for Small Fragment	1
BT-SF-08	Bending Template, Medium, for Small Fragment	1
BT-SF-10	Bending Template, Large, for Small Fragment	1
3402-000	T-Handle with Quick Coupling for Small Fragment	1
1472-054	Quick Coupling Shaft	1
TDG-2.7	Threaded Drill Sleeve for Drill Bit Ø2.0mm - Small Fragment	2
3441-18	Threaded Drill Sleeve, for Drill Bit Ø2.8mm - Small Fragment	3
3420-01	Drill Sleeve Insert Ø3.5/2.5mm for Small Fragment	1
1472-036	Drill Guide 2.0mm for Small Fragment	1
1472-044	Double Drill Guide Ø2.0/2.7mm for Small Fragment	1
1472-046	Self-Centering Double Drill Guide, Ø2.5/3.5mm, for Small Fragment	1
3441-16	Drill Guide for Neutral and Loaded Position Ø3.5mm, for Small Fragment	1
1472-066	Hohmann Retractor, 6.5mm, for Small Fragment	1
1472-068	Hohmann Retractor, 8.5mm, for Small Fragment	1
2146-018	Hohmann Retractor, 15.5mm, for Small Fragment	2
2149-1012	Periosteal Elevator, Straight, 12mm, for Small Fragment	1
3406-02	Hexagonal Screwdriver - 2.0mm Tip for Small Fragment	1
3406-02S	Screw Holding Sleeve for 2.0mm Tip Screwdriver, for Small Fragment	1
3406-03	Hexagonal Screwdriver - 2.5mm Tip, for Small Fragment	1
3406-03S	Screw Holding Sleeve for 2.5mm Tip Screwdriver, for Small Fragment	1
3409-01L	Bending Iron, Left	1
3409-01R	Bending Iron, Right	1
2107-1180	Reduction Forcep, Pointed, Ratchet Lock, 180mm, for Small Fragment	1
2106-1160	Reduction Forcep, Serrated Jaws, Speed Lock, 160mm, for Small Fragment	1



Codes	Set Consisting of:	Units
2106-190	Self-Centering Bone Holding Forcep, Speed Lock, 190mm, for Small Fragment	2
2150-1006	Periosteal Elevator with Silicon Handle, Curved, 6mm, for Small Fragment	1
TQ-2.0	Torque Limiting Attachment, 0.8Nm, for Small Fragment	1
TQ-2.5	Torque Limiting Attachment, 1.5Nm, for Small Fragment	1
1472-064	Torque Screwdriver Handle	1
GW-1.2-230	Guide Wire with Threaded Trocar Tip, Ø1.2mm x Thread Length 10mm x Length 230mm	3
3415-000	Screw Holding Forcep	1
ST-007NW	Screw Caddy for 3.5mm Wise-Lock Small Fragment System	1
7-050-03	Instrument Trays for 3.5mm Wise-Lock Small Fragment Instrument Set	2
IC-2310-WL	Container for 3.5mm Wise-Lock Small Fragment Instrument Set	1



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