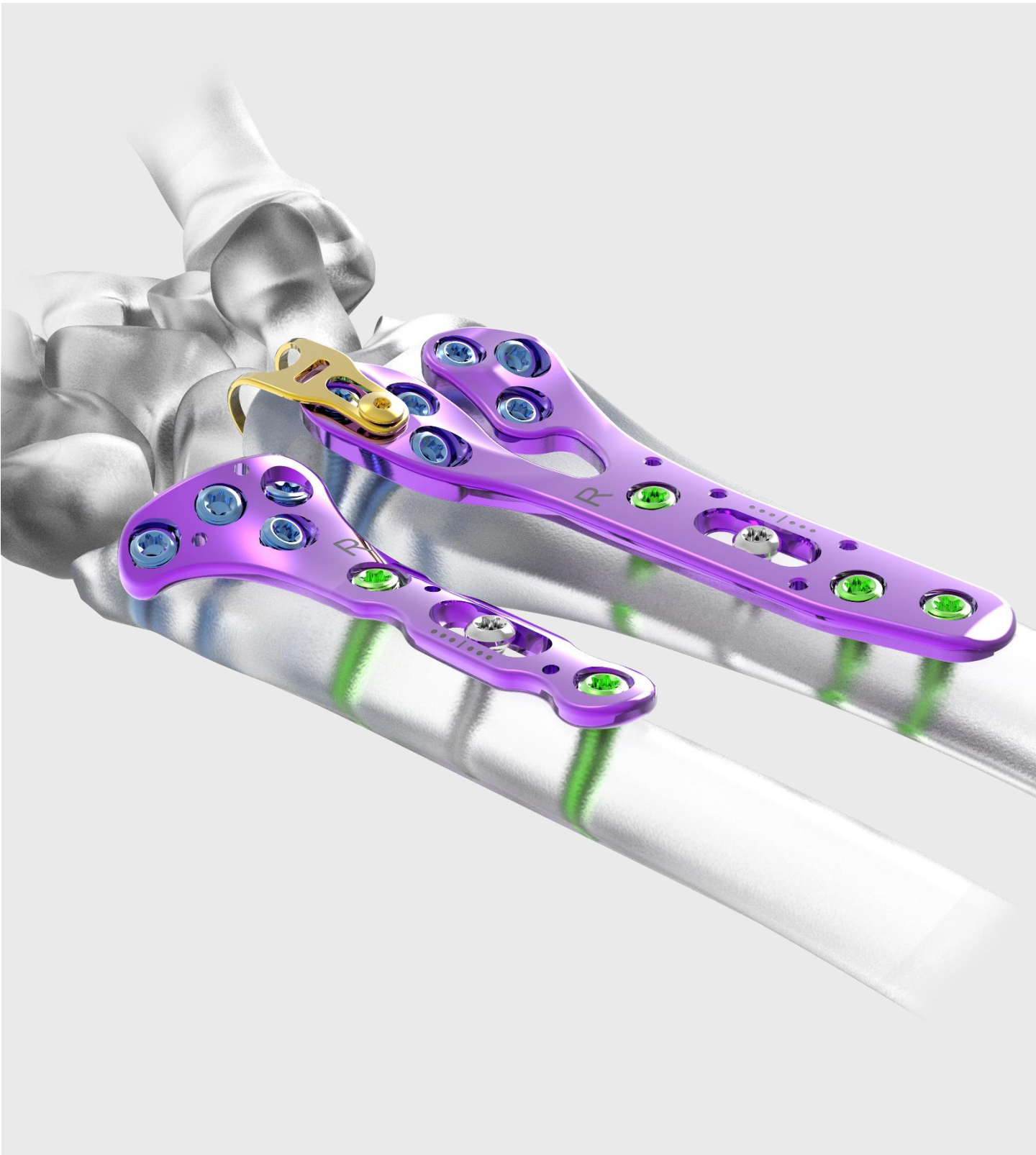
Surgical Technique

2,4 / 2,7 mm Volar-e

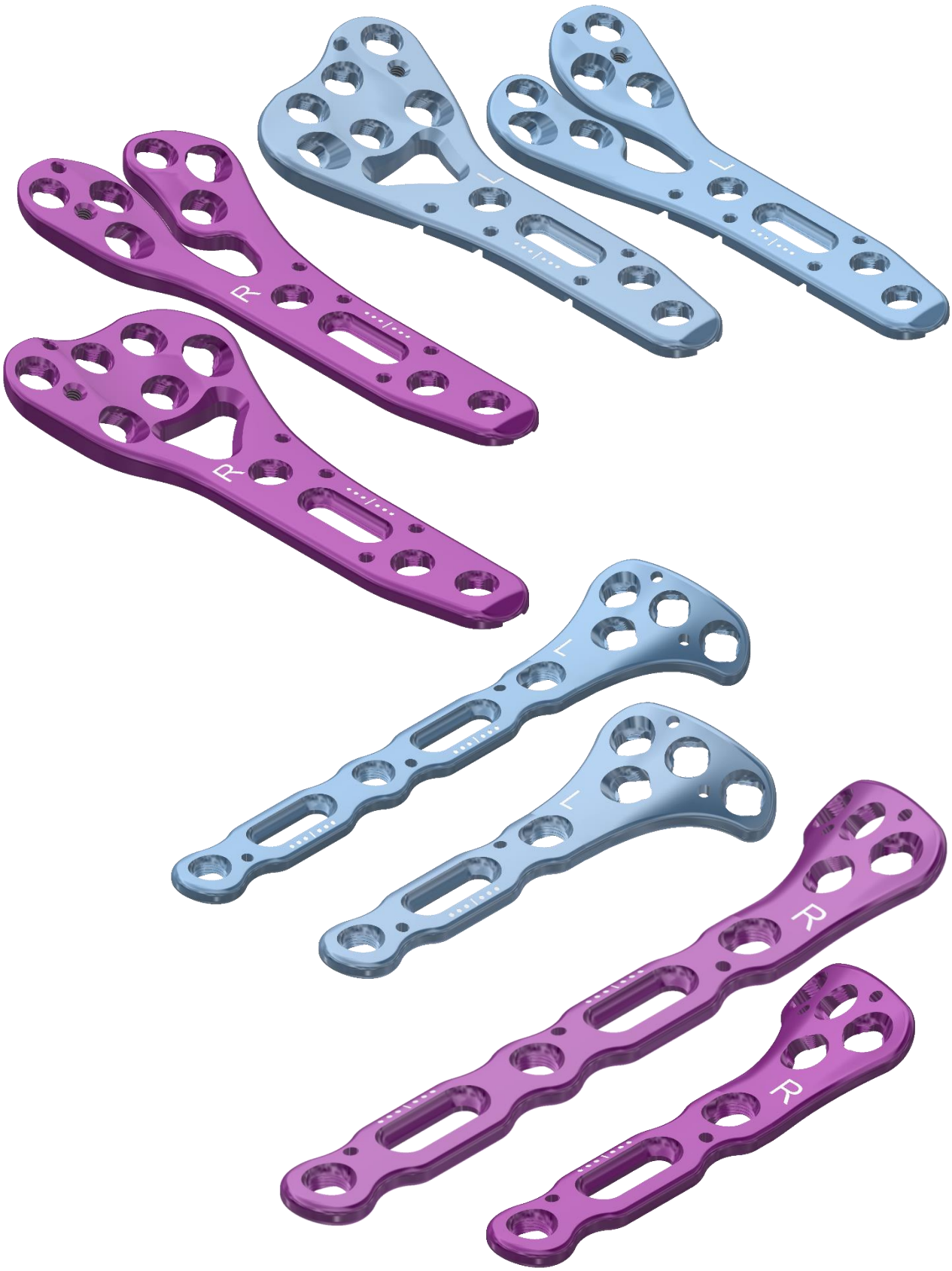


Astrolabe
LIFE AND MOBILITY

SmartFix
Variable angle locking system

Table of Content

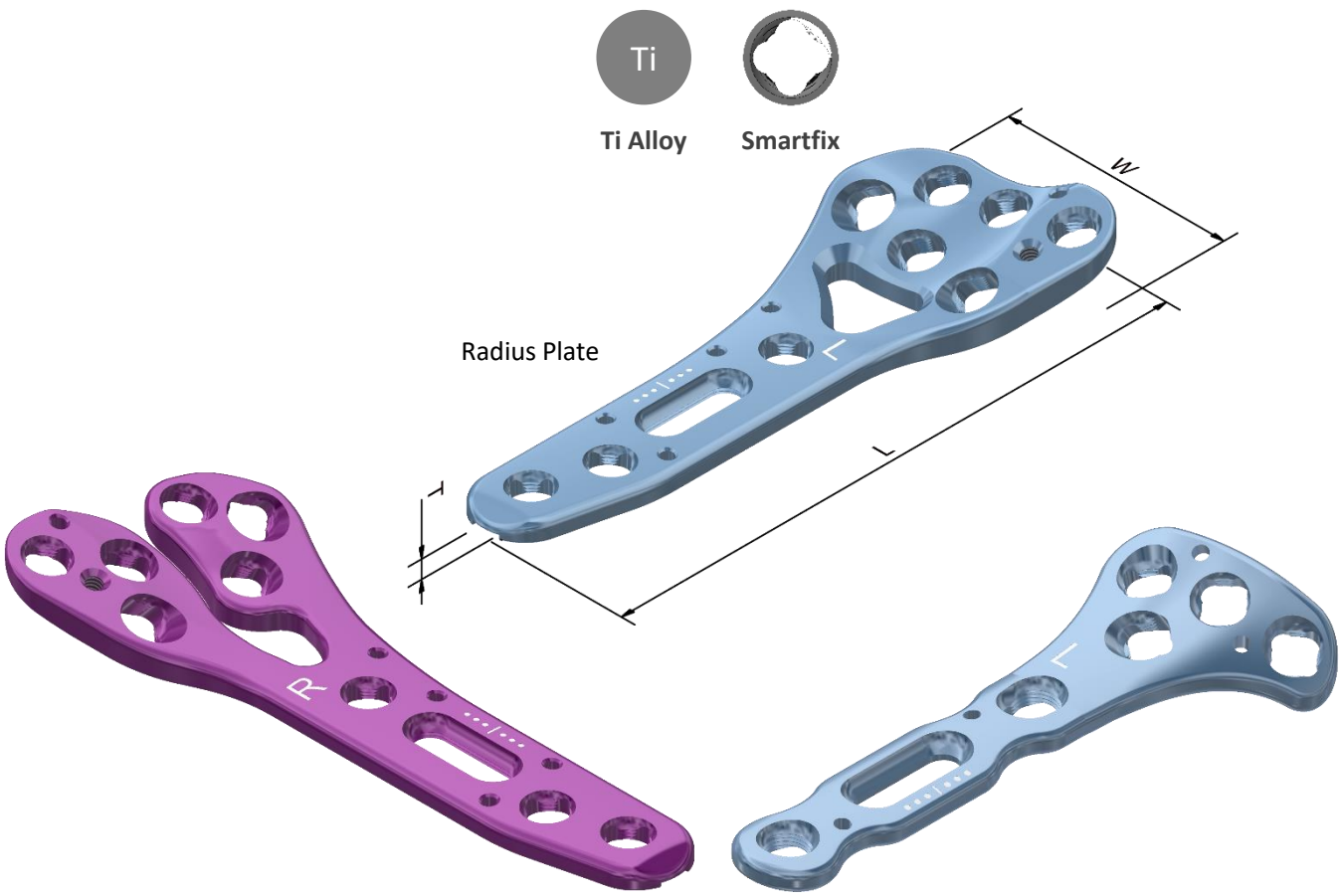
Astrolabe recognizes that proper surgical procedures and techniques are responsibilities of medical professionals.
The following guidelines are provided for information purposes only. Each surgeon must evaluate the appropriateness of the procedures based on their medical training, experience and condition of the patient. Before using the system the surgeon must consult the operating instructions for addition warning, precautions, indications, contraindications, and adverse effects.



Before the intervention, a Pre-Operative evaluation is recommended were the Surgeon can study the patient data. A Radiographic assessment is required to confirm the presence of enough bone stock on the local of the intervention.

Plates	Holes	Total Holes	L (mm)	W (mm)	T (mm)
Radius Standard	3	9	55	24,5	2
Radius Standard	4	10	62	24,5	2
Radius Standard	7	13	87	24,5	2
Radius Standard	12	18	132	24,5	2
Radius Standard	14	20	159	24,5	2
Radius Standard Dual Head	3	9	58	24,5	2
Radius Standard Dual Head	4	10	65	24,5	2
Radius Standard Dual Head	7	13	90	24,5	2
Radius Standard Dual Head	12	18	135	24,5	2
Radius Standard Dual Head	14	20	162	24,5	2
Radius Wide	4	12	64	27,5	2
Radius Wide Dual Head	4	11	68	27,5	2
Radius Narrow	3	9	53	21,5	2
Radius Narrow	4	10	60	21,5	2
Radius Narrow Dual Head	3	9	55	21,5	2
Radius Narrow Dual Head	4	10	62	21,5	2
Ulna	3	7	50	17,5	2
Ulna	5	9	74	17,5	2

Note: Every plate has a Left and Right side and there are one of each plate on the kit, making it 24 plates in total.



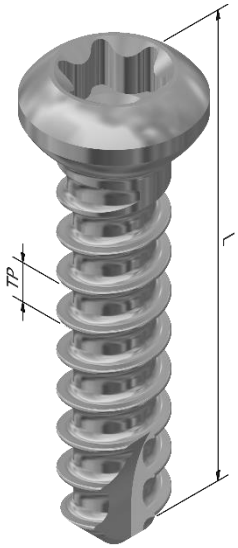
Radius Plate Dual Head

Ulna Plate

Torx Drive

Ti Alloy

Smartfix



L	TP
6	1
8	1
10	1
12	1
14	1
16	1
18	1
20	1
22	1
24	1
26	1
28	1
30	1

Cortical Screw
2.4mm

L	TP
8	0,6
10	0,6
12	0,6
14	0,6
16	0,6
17	0,6
18	0,6
19	0,6
20	0,6
21	0,6
22	0,6
23	0,6
24	0,6
26	0,6
28	0,6
30	0,6

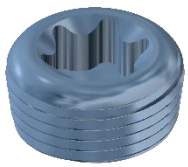
Locking Screw
VA 2.4mm

L	TP
8	0,6
10	0,6
12	0,6
14	0,6
16	0,6
17	0,6
18	0,6
19	0,6
20	0,6
21	0,6
22	0,6
23	0,6
24	0,6
26	0,6
28	0,6
30	0,6

Locking Screw
VA 2.7mm

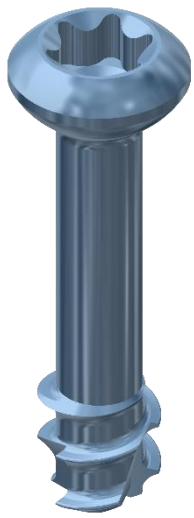
L	TP
8	0,6
10	0,6
12	0,6
14	0,6
16	0,6
17	0,6
18	0,6
19	0,6
20	0,6
21	0,6
22	0,6
23	0,6
24	0,6
26	0,6
28	0,6
30	0,6

Locking Pin
VA 1.8mm



L	TP
2	0,3

Plug Screw
2.4mm



L	TP
10	1,25
12	1,25
14	1,25
16	1,25
18	1,25
20	1,25
22	1,25
24	1,25
26	1,25
28	1,25
30	1,25

Cannulated Screw
Partly Treated 2.7mm

Note: Every screw, excluding the cannulated one, has 5 of each size in the kit, the cannulated screw has 2 of each size.

Torx Drive

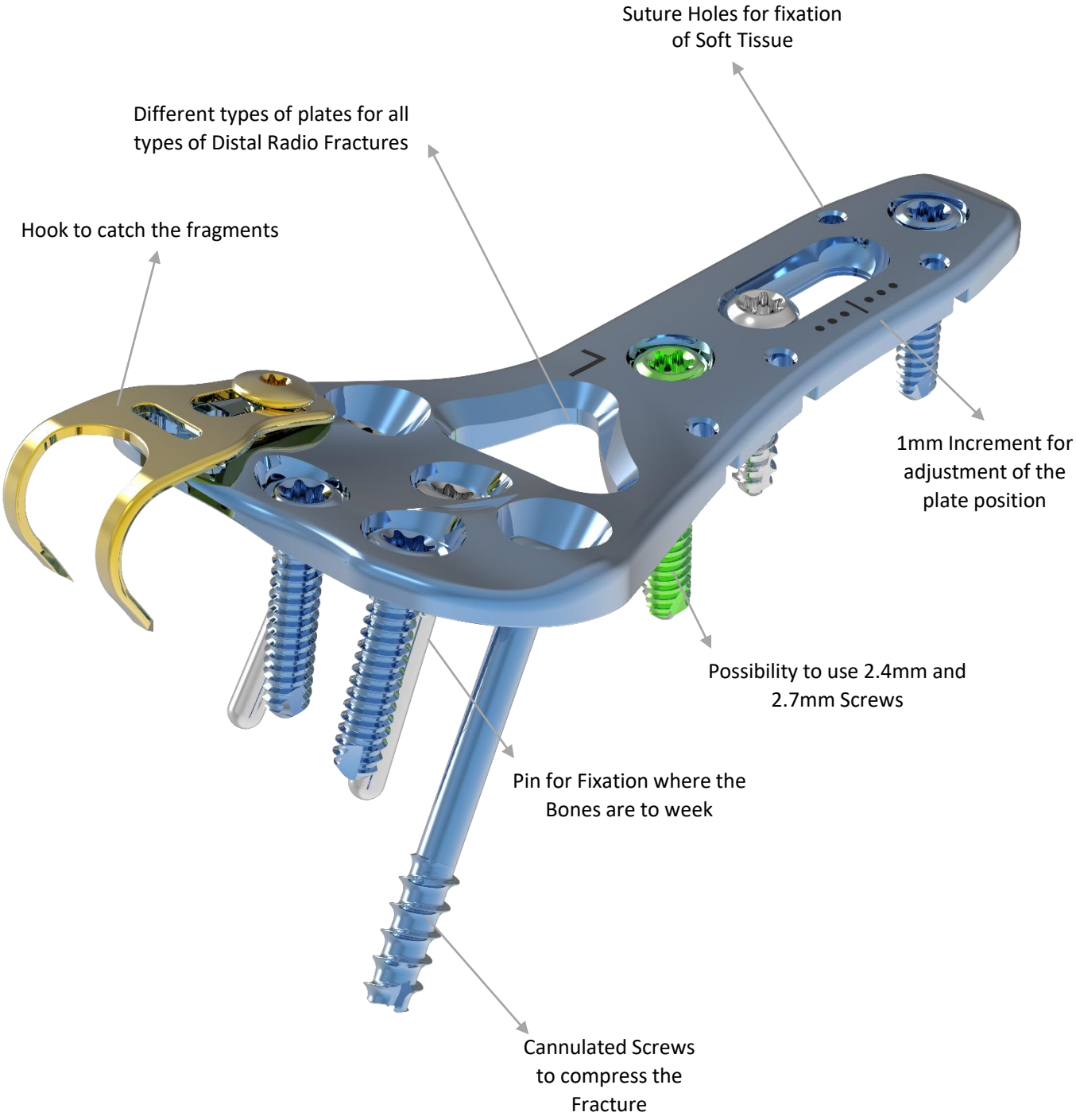
Ti Alloy

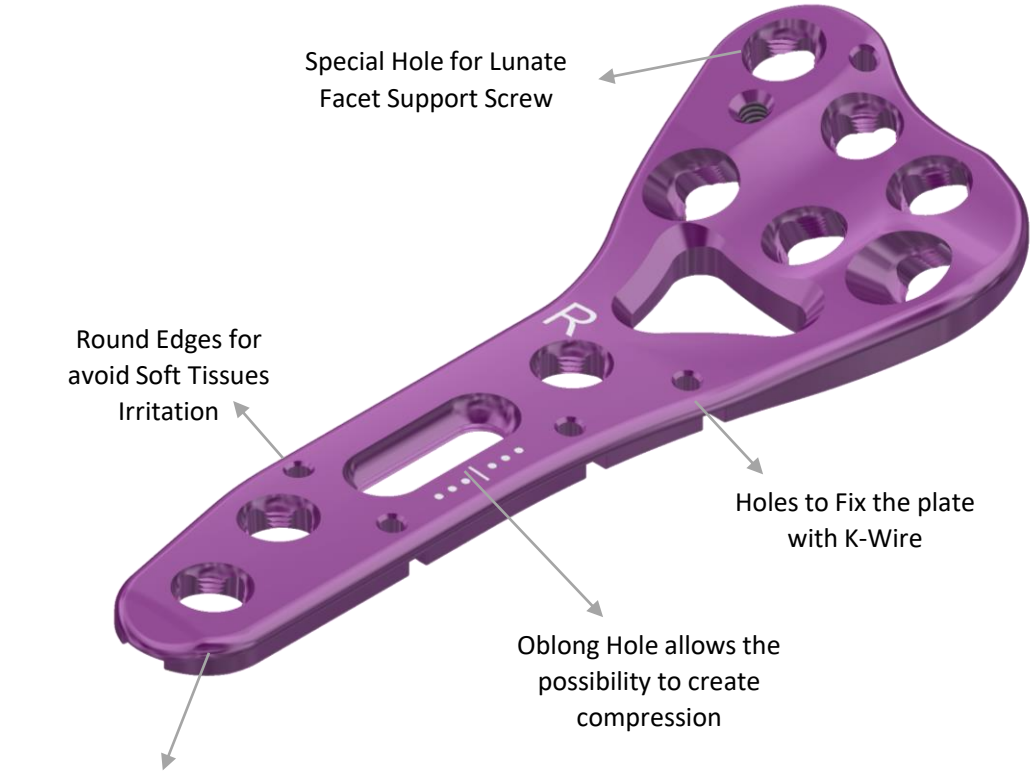
Smartfix

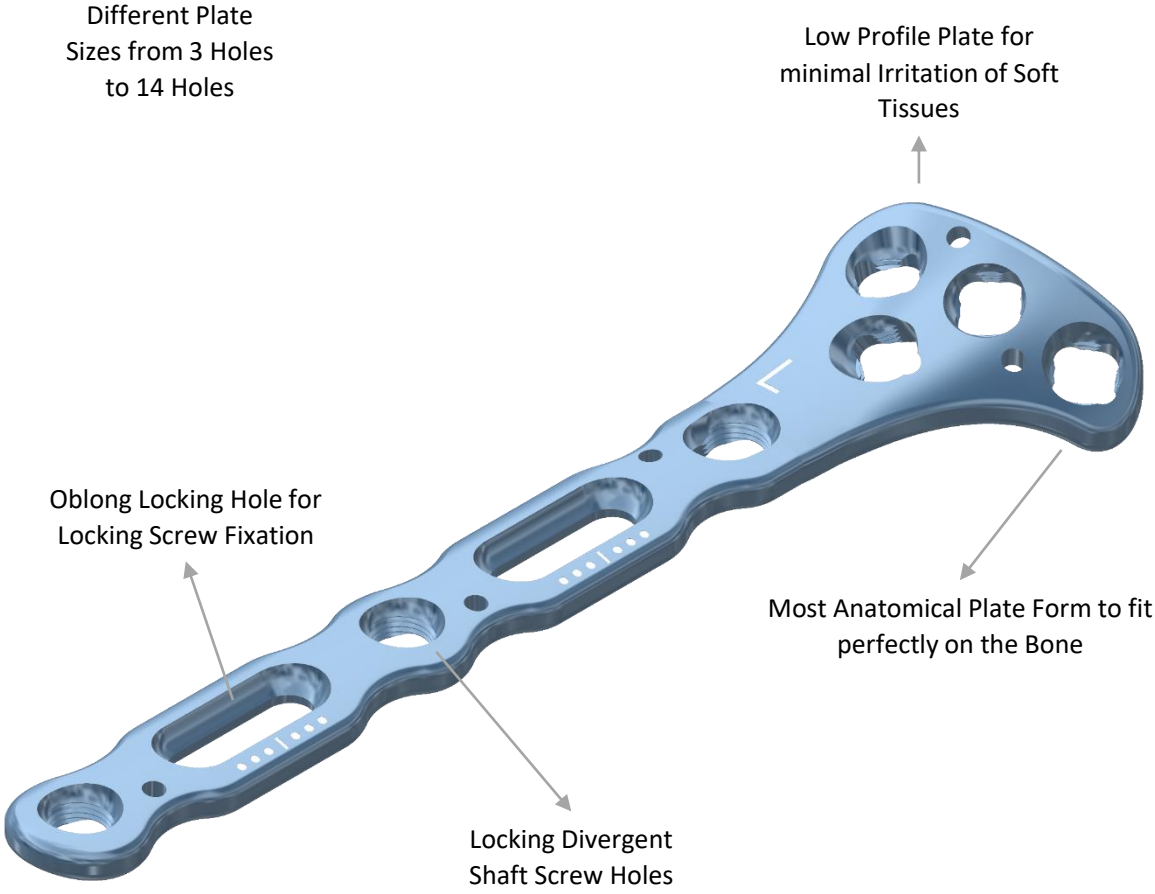
VolarE Hook Plate, Standard
/
VolarE Hook Plate, Narrow

VolarE Hook Plate, Screw

Note: There are in kit 2 of each size of Hook Plate and 2 of each Hook Plate Screw

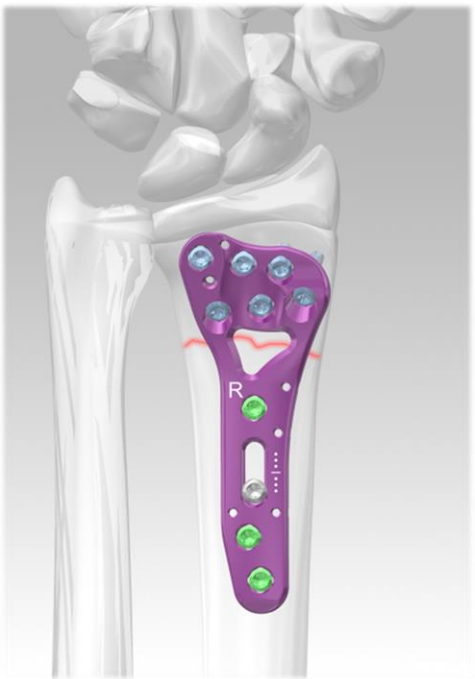

Suture Holes for fixation of Soft Tissue
Different types of plates for all types of Distal Radio Fractures
Hook to catch the fragments
1mm Increment for adjustment of the plate position
Possibility to use 2.4mm and 2.7mm Screws
Pin for Fixation where the Bones are to week
Cannulated Screws to compress the Fracture


Special Hole for Lunate Facet Support Screw
Round Edges for avoid Soft Tissues Irritation
Holes to Fix the plate with K-Wire
Oblong Hole allows the possibility to create compression
Different Plate Sizes from 3 Holes to 14 Holes
R

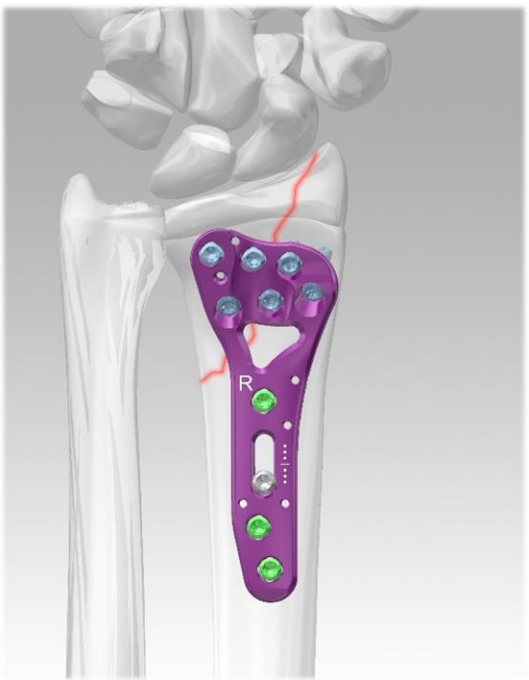

Low Profile Plate for minimal Irritation of Soft Tissues
Oblong Locking Hole for Locking Screw Fixation
Most Anatomical Plate Form to fit perfectly on the Bone
Locking Divergent Shaft Screw Holes
L

The new Volar-E system was designed having in mind restoring proper wrist and hand function by realigning normal osseous anatomy and promoting bony healing.
A distal radius fracture can be isolated, which means no other fractures are involved. It can also occur along with a fracture of the distal ulna.
It is indicated on the most common types of injuries and a combination of them:

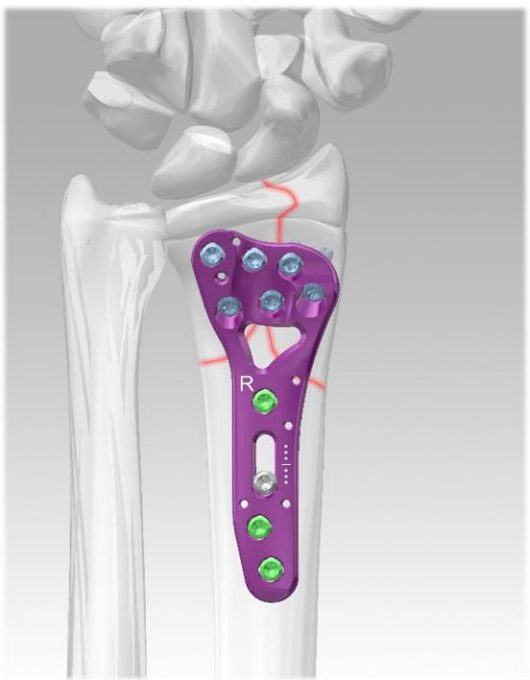
I
Bending-metaphysis fails under tensile stress (Colles, Smith)



II
Shearing-fractures of joint surface (Barton, radial styloid)

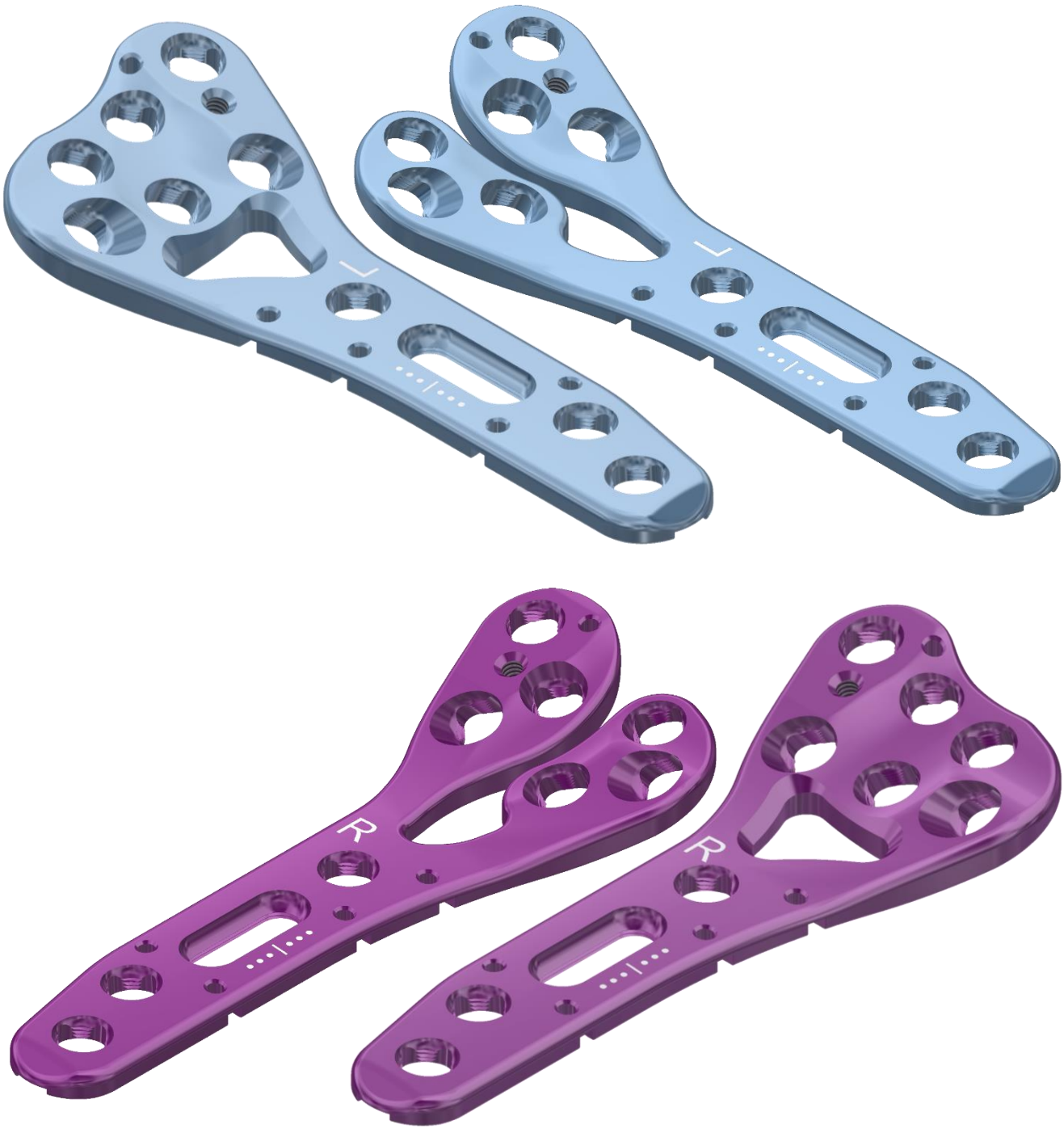


III
Compression - intraarticular fracture with impaction of subchondral and metaphyseal bone (diepunch)



Fernandez (1997)

Volar-E Distal Radius



Before the intervention, a Pre-Operative evaluation is recommended were the Surgeon can study the patient data. A Radiographic assessment is required to confirm the presence of enough bone stock on the local of the intervention.

Assess the fracture radiographically to determine the plate length needed.

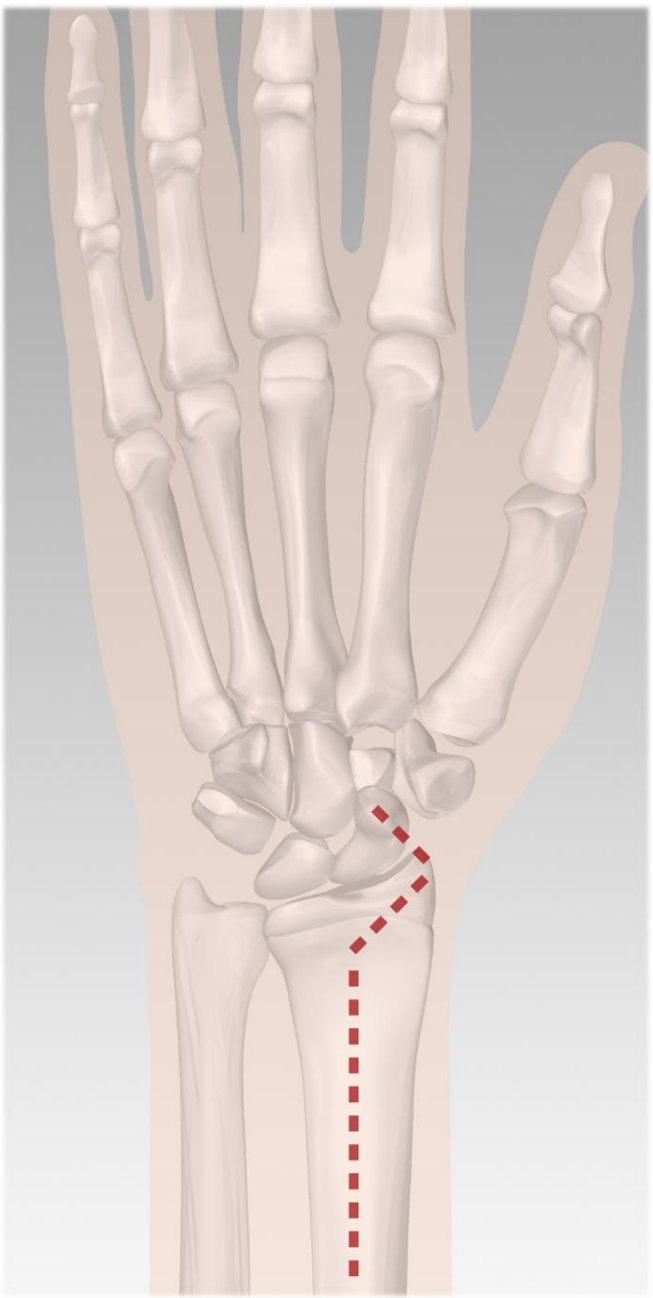
Start the incision distally at the level of the trapezial ridge, then cross the wrist flexion creases in a zig zag fashion. Extend the incision over the course of the Flexor Carpi Radialis (FCR) tendon to the proximal most fracture line.

Open the sheath and retract the FCR tendon radially to protect the radial artery.

Identify the flexor pollicis longus (FPL) muscle by passive flexion/extension of the thumb interphalangeal joint and retract ulnarly to protect the median nerve.

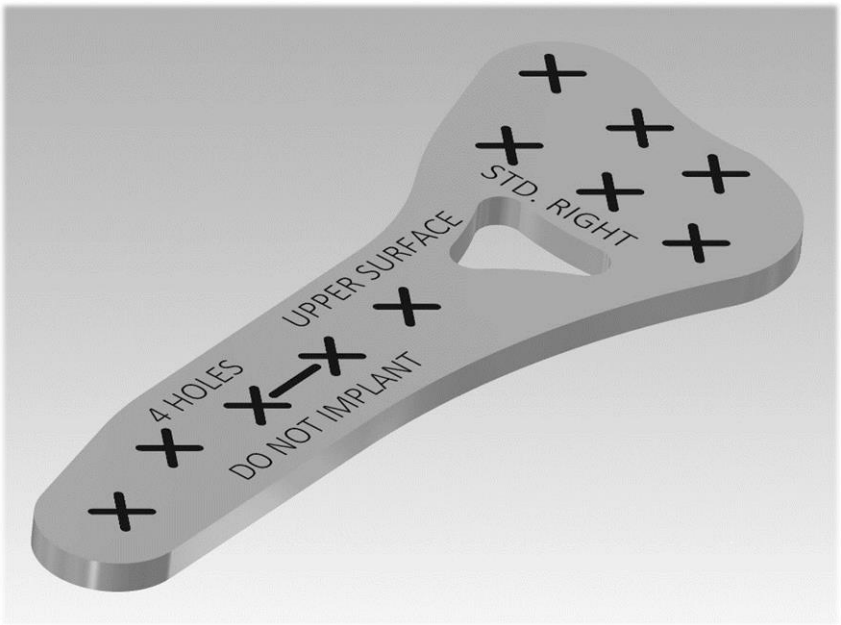
Next, identify the pronator quadratus by its transverse fibers and release radially to ulnarly to expose the fracture site.

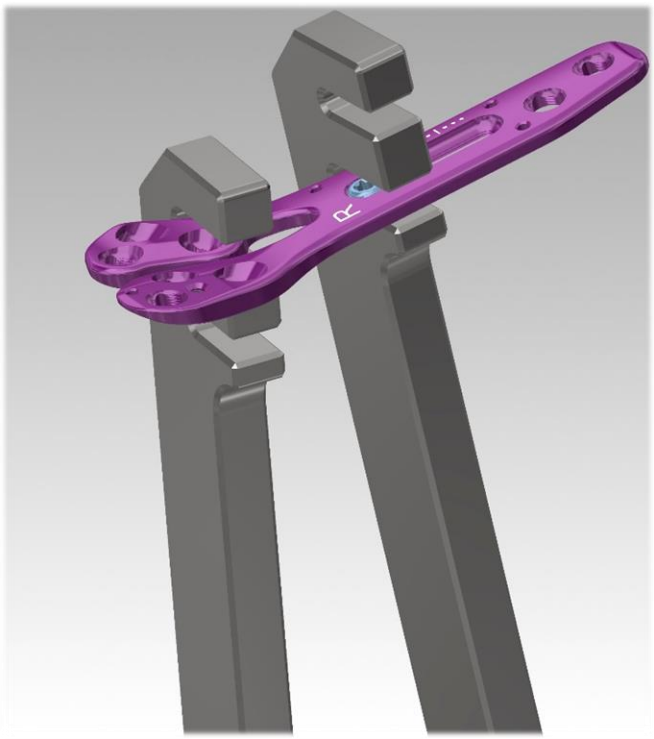
The brachioradialis may need to be released from its insertion on the radial styloid to facilitate reduction and visualization of the fracture. Reduce the fracture using manual techniques. Provisional stability can be achieved with K-wires and evaluated under fluoroscopy.

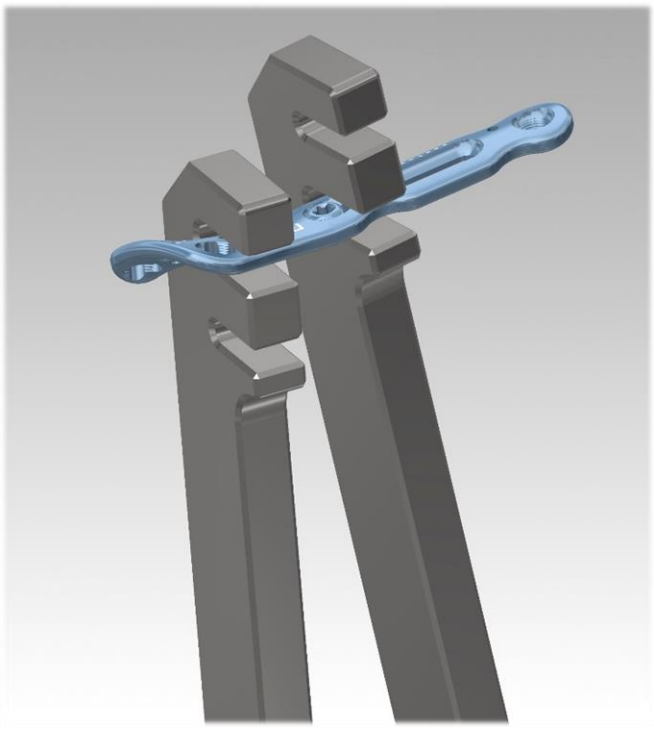


After the incision is made and the bone exposed a bending template, corresponding to the desired plate, may be prepositioned before the plate in order to evaluate if any additional contouring is needed to the plate (09.13.00.12735 / 09.13.00.22735). For this its important to use Plug Screws (15.18.01.24000) so that the coils of the screw hole don't get damaged during the contouring.

The plate must be positioned with its lunate side of the head approximately 2mm proximal to the volar rim of the lunate fossa (watershed line).







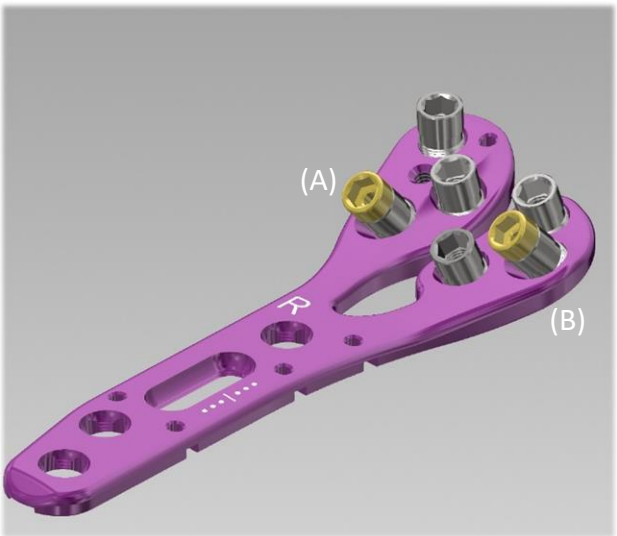
The VolarE System has two different options for hole guiding on the head of the plate. The individual guides system and the insertion guide system, both with specific advantages for their approach.

These must be prepared before the positioning of the plate.

Individual Guides System

Two Individual Guides assembled (09.05.05.20015/ 09.06.02.12008) using the screwdriver (09.07.03.02590)

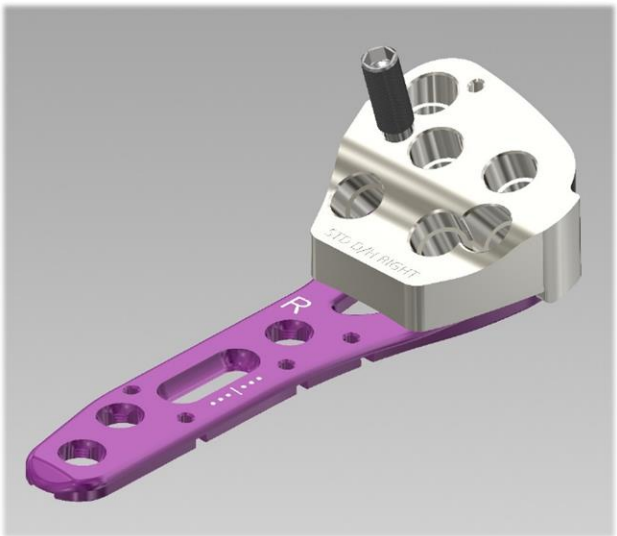
Being then screwed into the proximal ulnar hole (A) of the lunate head, and at the most radial hole (B) of the scaphoid head.



Insertion Guide System

Select the appropriate Insertion Guide (09.05.06._____) for the plate being used (Standard/Narrow/Wide | Left/Right).

Align the Insertion Guide flush to the head of the plate, then secure it by tightening the attachment screw using the screwdriver (09.07.03.02590).



In both cases of guiding systems a k-wire is passed through the lunate most end of the plate head in order to fixate the distal fragment of the radius.

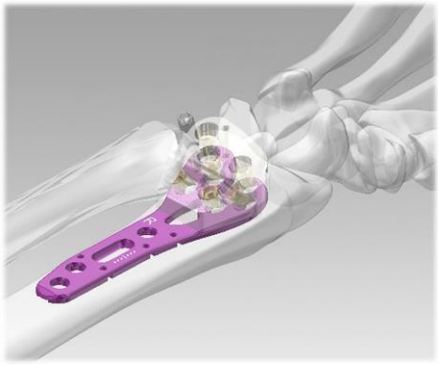
Align the proximal portion of the plate to the radial shaft, then drill through the center of the gliding hole using the drill bit (09.01.02.20100) and the drill guide (09.05.00.24000).

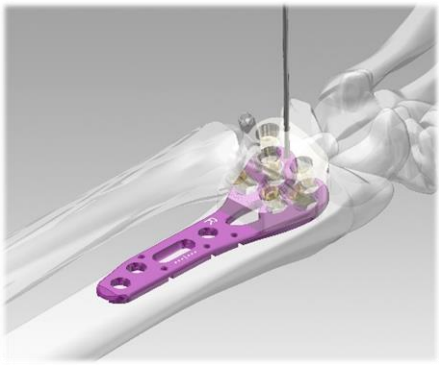
Using the depth gauge (09.08.01.00040) measure and then insert a 2.4mm cortical screw with the help of the screw bit (09.07.08.08090).

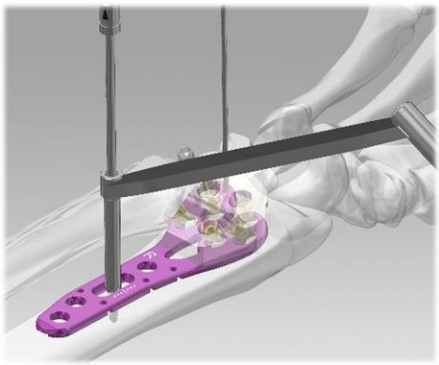
Use Fluoroscopy to verify if the Screw is in correct position.

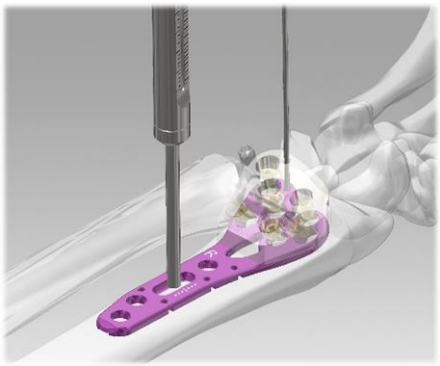
Using the Volar-E plate as a template, apply longitudinal traction and direct pressure over the dorsal aspect of the radius to reduce the fracture.

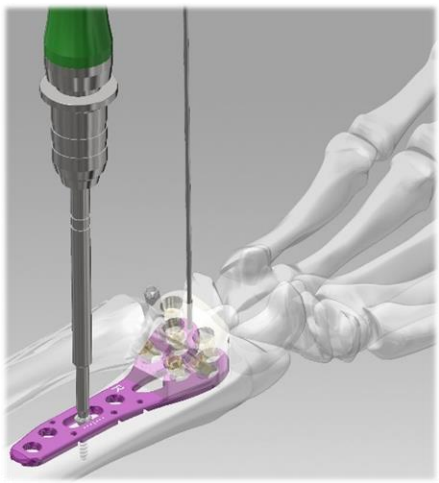
It is important that the distal edge of the plate is flush to the surface of the radius.

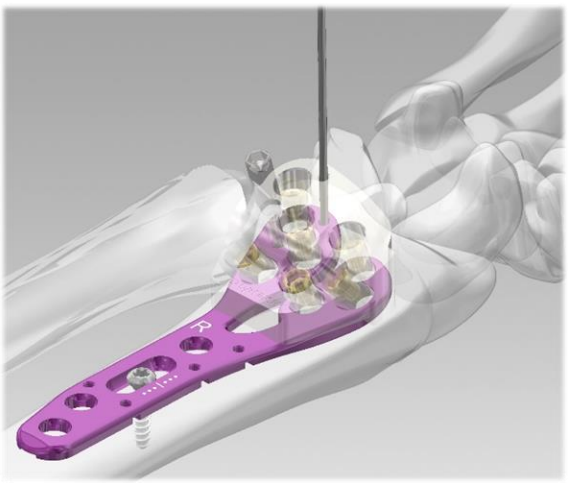






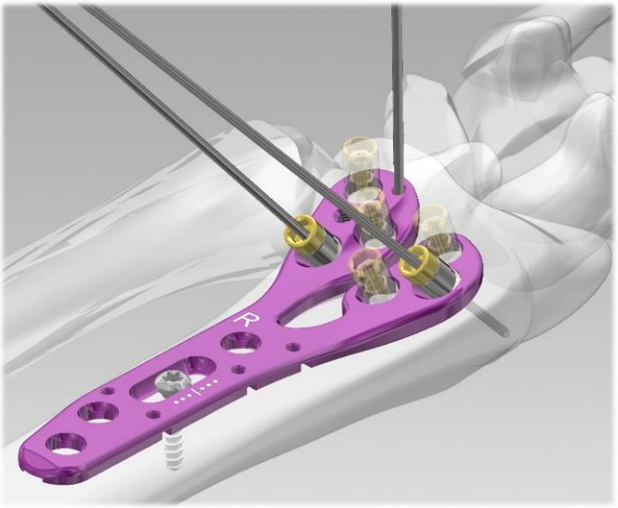


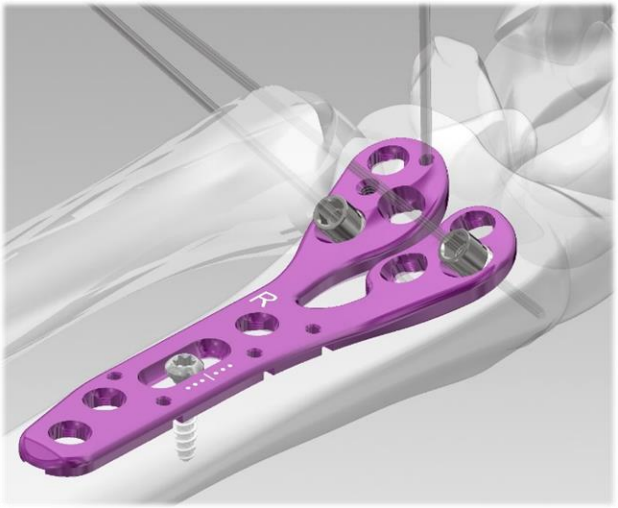




Reduce and fix the lunate fossa fragment(s) to the lunate head of the Volar-E plate using a 1.2mm K-wire through the Individual Drill Guide. If present, reduce and fix the scaphoid fossa fragment to the previously reduced lunate fossa fragment(s). Once proper placement is confirmed, bend the K-wires out of the way to facilitate drill insertion.

Use Fluoroscopy to verify if the K-Wires are located on correct position.





NOTE: Each hole should be prepared sequentially.

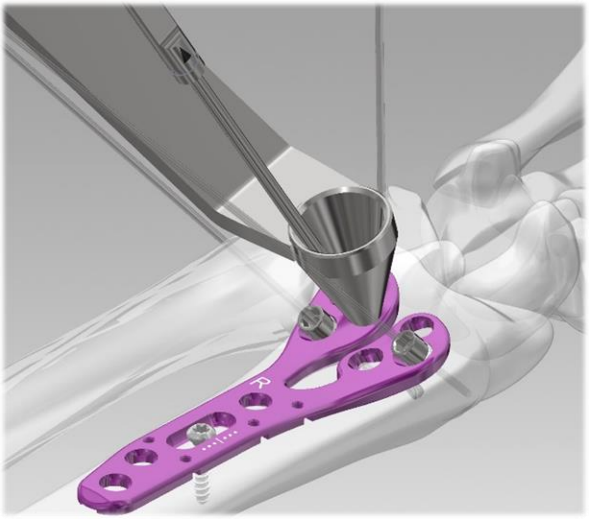
Remove the desired Drill Guide (09.05.05.20015) from the plate.

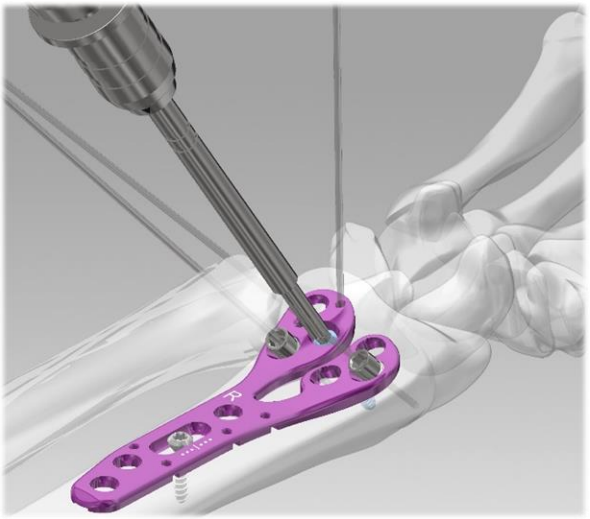
<u>To achieve an angled insertion of the variable angle screw use the Screw Angled Drill Guide and drill through in the desired trajectory until the far cortex is reached.</u>

Confirm the desired placement using fluoroscopy.

Apply direct pressure over the dorsal aspect of the radius prior to locking the screw to the plate to achieve full compression.

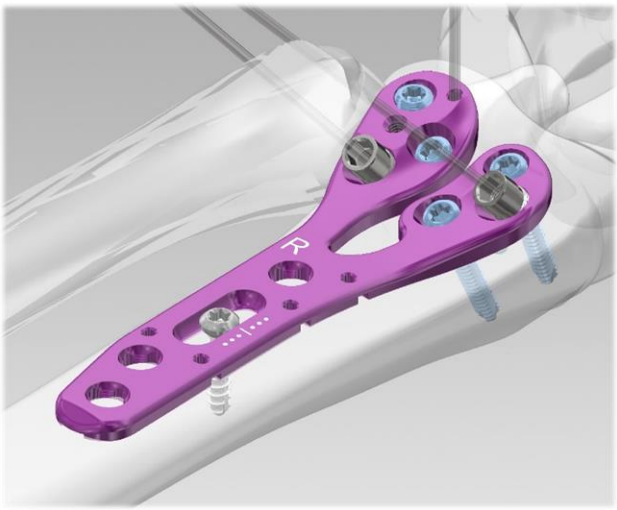
Confirm reduction, proper screw length and placement under fluoroscopy





Prepare all remaining available Screw or Pin holes and insert Locking Screws or Locking Pins.

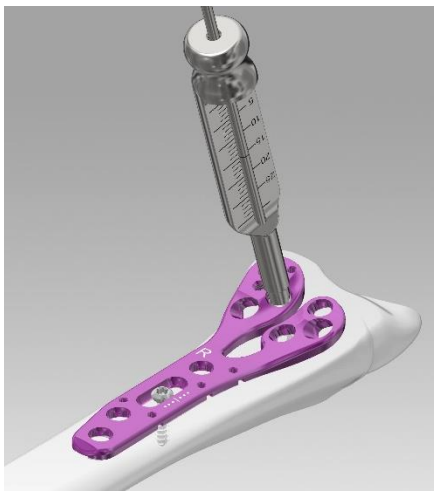
Now remove the K-wires and Drill Guides and complete the holes.



Of all the guiding systems the fixed angle ones, Individual Guides System and Insertion Guide System, work along side with the Quick Graduated Drill Guide (09.05.13.03020), this being positioned flush with the respective guiding systems, Drill Guide (09.05.05.20015) or PEEK Guide (09.05.06.XXXXX).

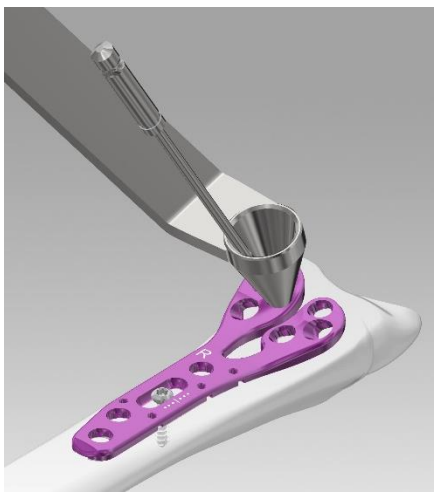
All screw holes of the plate are compatible with all the screws that come with the kit, and can be placed as desired by the surgeon, although for guiding purposes for the Ø2,7 Variable Angle Locking Screw only the Variable Angle Guide System works with the 2.4/2.7mm Screw Angle Drill Guide (09.05.03.02427). In this system the use of the Depth Gauge (09.08.01.00040) after drilling is advised to confirm proper sizing of screws.

NOTE: Each hole should be prepared sequentially.



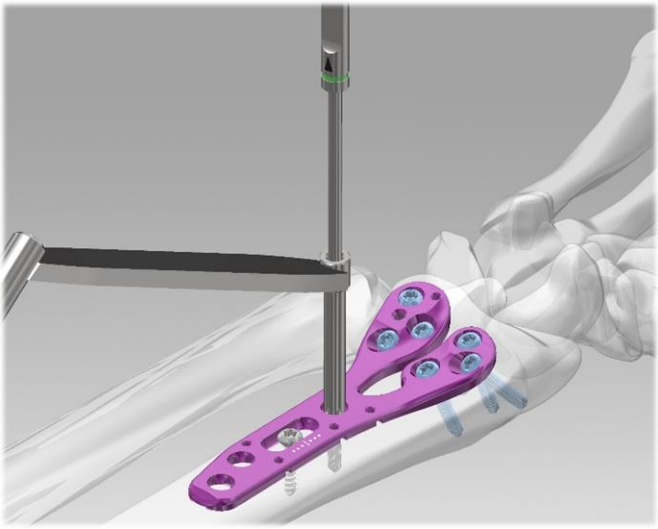
Individual Guides System

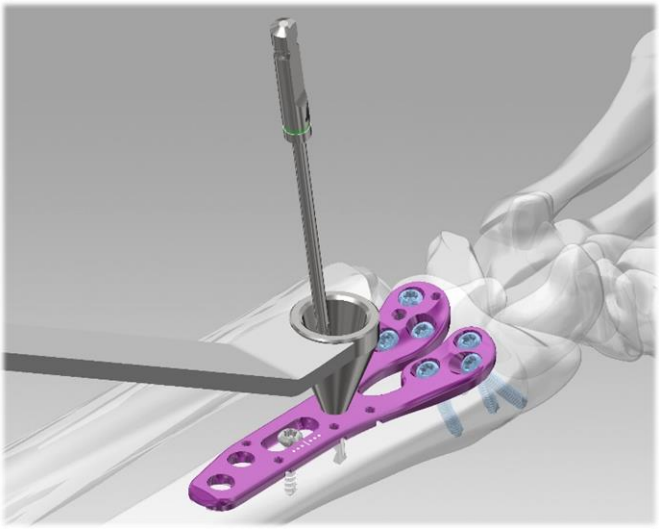
Insertion Guide System



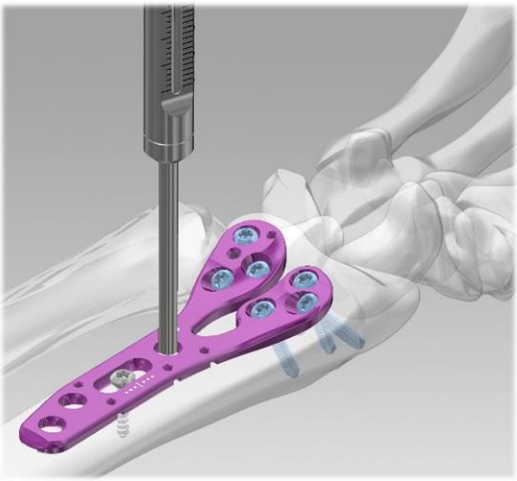
Variable Angle Guide System

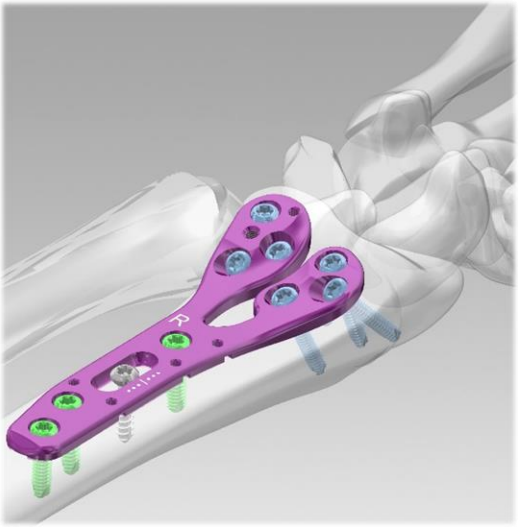
Once the distal screws are placed to stabilize the fracture fragments, 2,7mm locking screws are advised for the shaft of the plate. The hole is drilled with help of either the Screw Angle Drill Guide (09.05.03.02427) or with Drill Guide, Ø2.4/Ø1.8mm, Universal (09.05.00.24000) with a Ø2,2 Drill Bit (09.01.02.22100).

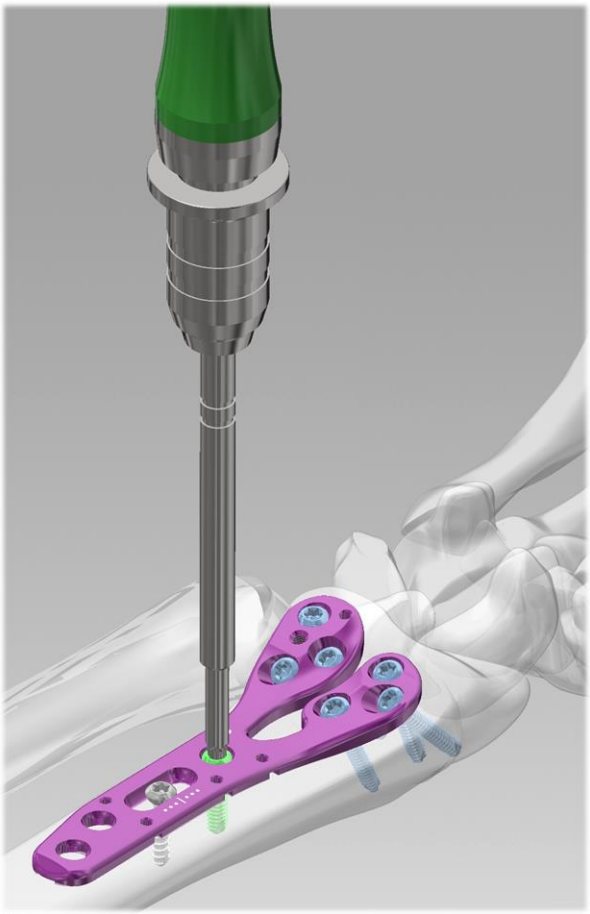




To obtain appropriate screw length, drill bicortically and measure the proper screw length using the Depth Gauge (09.08.01.00040) and then fixating the screw using the Handle and . Repeat this procedure to all the remaining holes.







Optionally if any fragments are out of reach or an additional source of fixation is needed on the lunate side of the head of the radius a fragment Hook can be used as an attachment for the Volar-E plate.

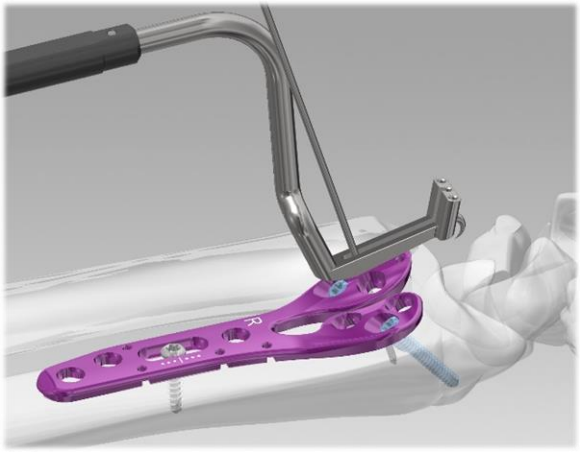
For this a K-Wire is advanced through the proper hole located on the lunate head of the Volar-E plate. This K-wire helps to position the Hook Plate Reduction Tool when reducing the volar fragment.

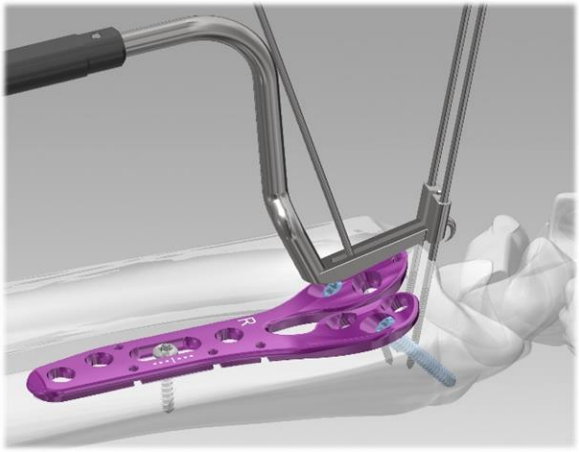
Slide the slot of the Hook Plate Reduction Tool (09.10.08.12132) over the K-wire. Use the hooked tip of the Reduction Tool to reduce the fragment to the plate.

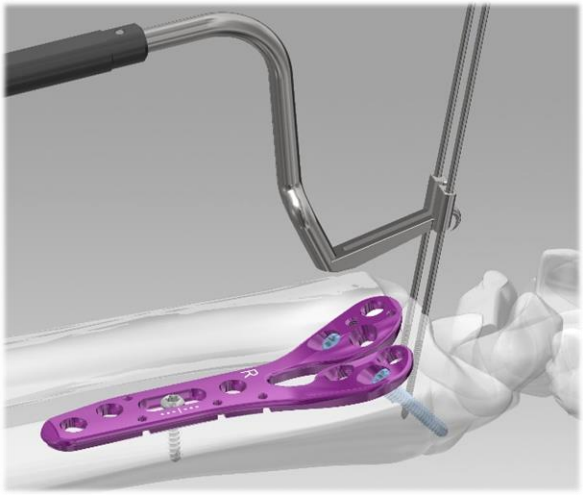
NOTE: When properly positioned, the base of the Reduction Tool should be flush to the plate with the handle parallel to the radial shaft.
While maintaining the reduction, drill two K-wires through both holes of the Reduction Tool.

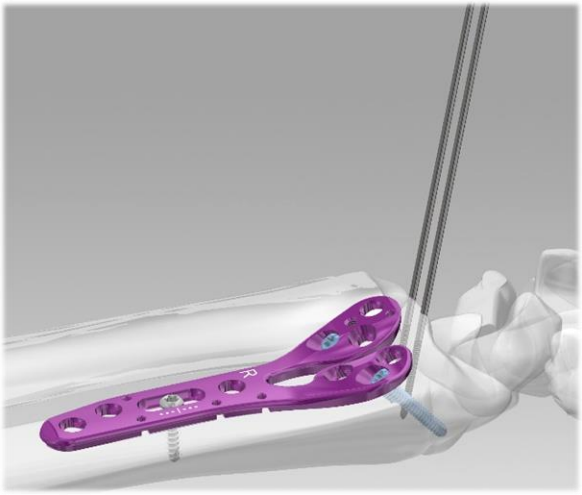
NOTE: Using fluoroscopy, confirm the reduction, and proper placement of the K-wire.
Remove the K-Wire from the central Hook Plate screw hole on the plate.
While maintaining the position of the reduced fragment, remove the Reduction Tool by sliding it from the K-wire.

NOTE: Take care not to remove the K-Wires to prevent displacement.









Remove the remaining K-wires.

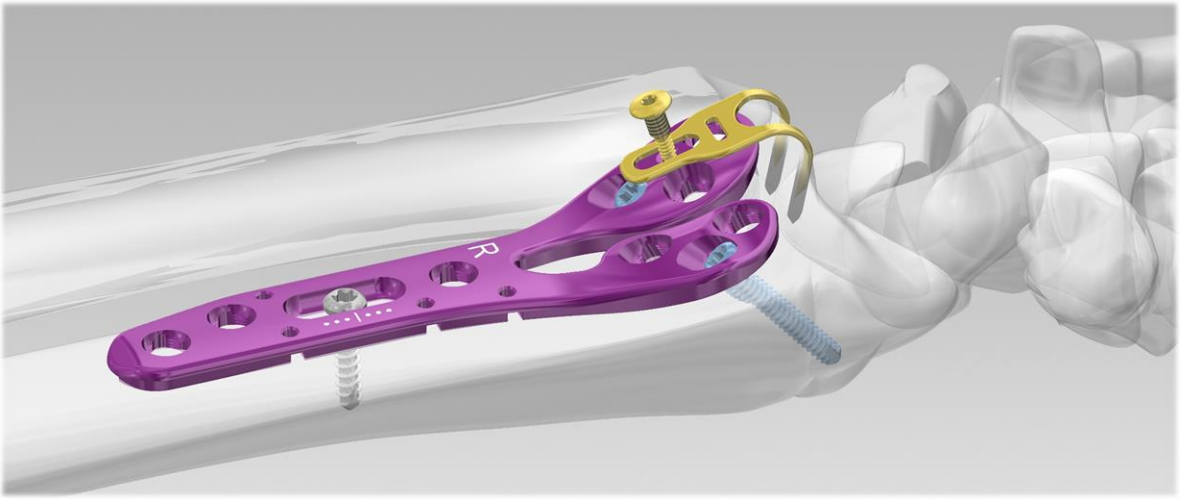
Insert the Hook Plate (99.06.00.0000X) into the fragment.

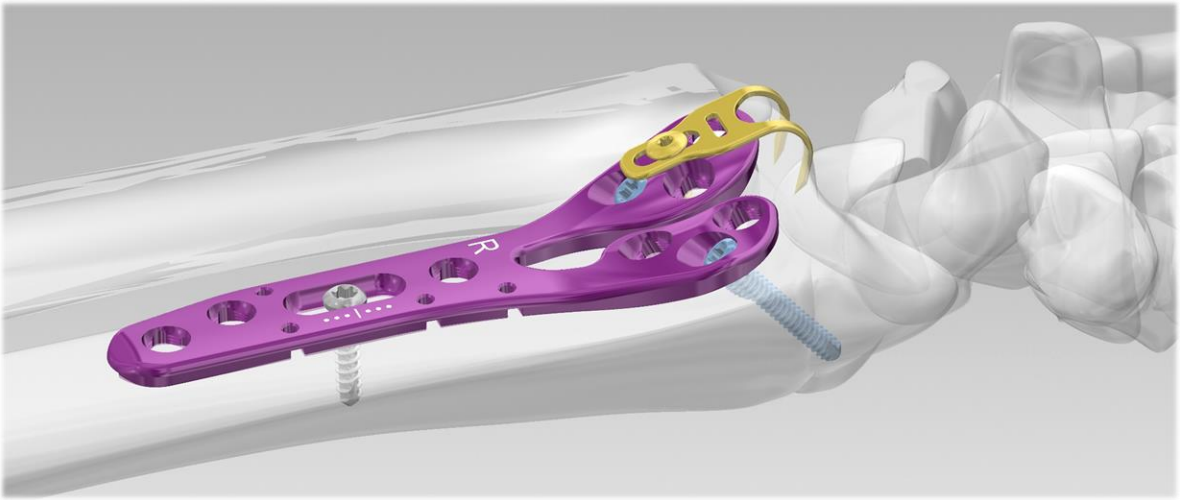
Lock the Hook Plate to the Volar-E plate using the Shaft ScrewDriver (09.07.03.02590) and the Hook Plate Screw (99.06.02.02075).

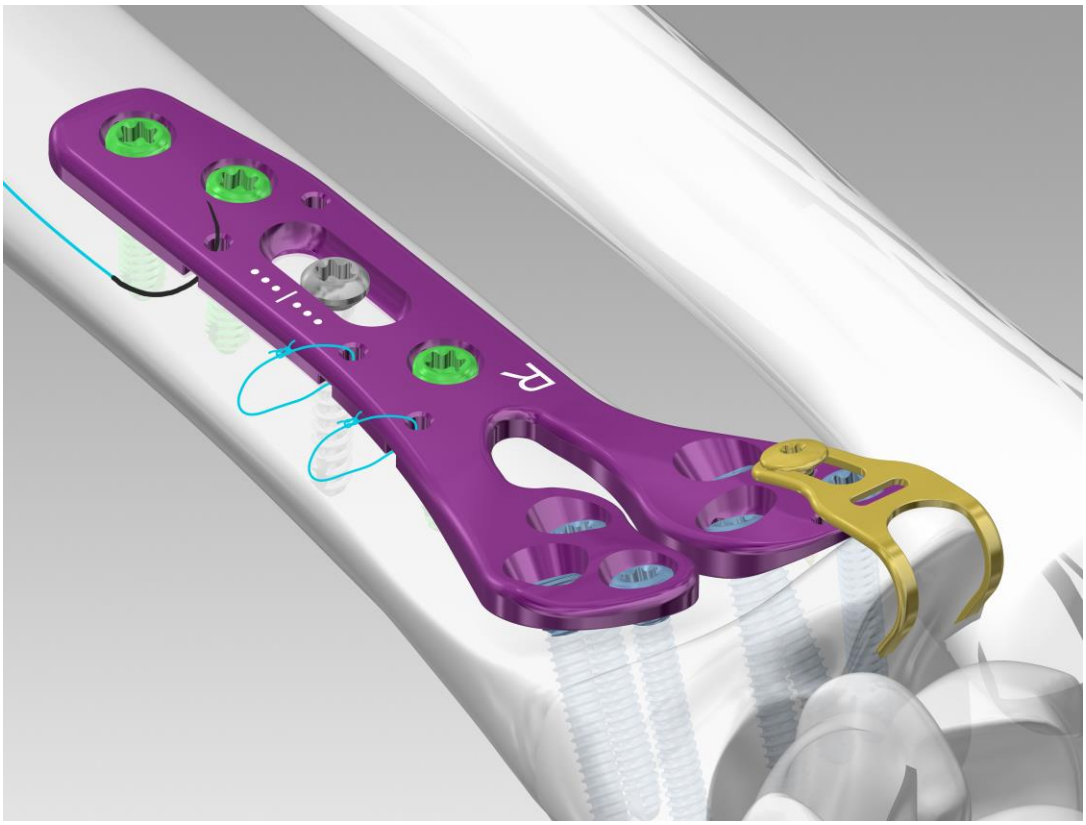
NOTE: Confirm that the Hook Plate Screw is fully secured to the Volar-E plate.

Confirm proper placement of the Hook Plate using fluoroscopy.

It should capture the fragment with its legs positioned just beneath the subchondral bone into the predrilled holes of the removed K wires.







Confirm that ALL Screws and/or Pins have been fully tightened prior to wound closure.

After finishing the intervention, the surgeon must close the incision by his preferred technique. According to surgeon's instruction, immobilizations can be applied. Stable Osteosynthesis allows immediate weightbearing. Periodic X-Rays should be taken to verify if correction and stabilization of the bones is occurring.

Volar-E Distal Ulna

Before the intervention, a Pre-Operative evaluation is recommended were the Surgeon can study the patient data. A Radiographic assessment is required to confirm the presence of enough bone stock on the local of the intervention.

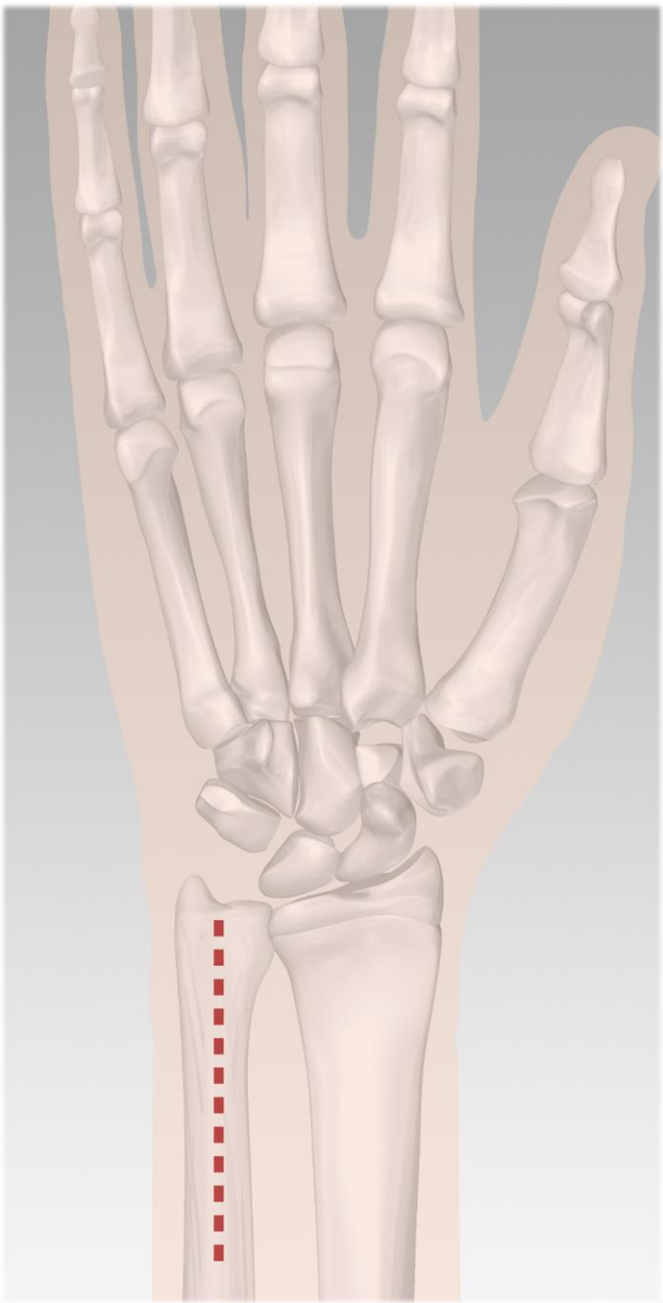
The Volar-E Distal Ulna Plate was designed for fractures involving the ulnar head, the ulnar neck, and fractures of the distal ulna.

Usually, these injuries are associated with fractures of the distal radius.

Make the incision along the distal ulnar border of the forearm between the flexor carpi ulnaris and the extensor carpi ulnaris.

Carry down blunt dissection to protect the dorsal sensory branch of the ulnar nerve, which may be seen on the volar distal portion of the incision. Retract the flexor carpi ulnaris radially and dissect the pronator quadratus off the anterior distal surface of the ulna.

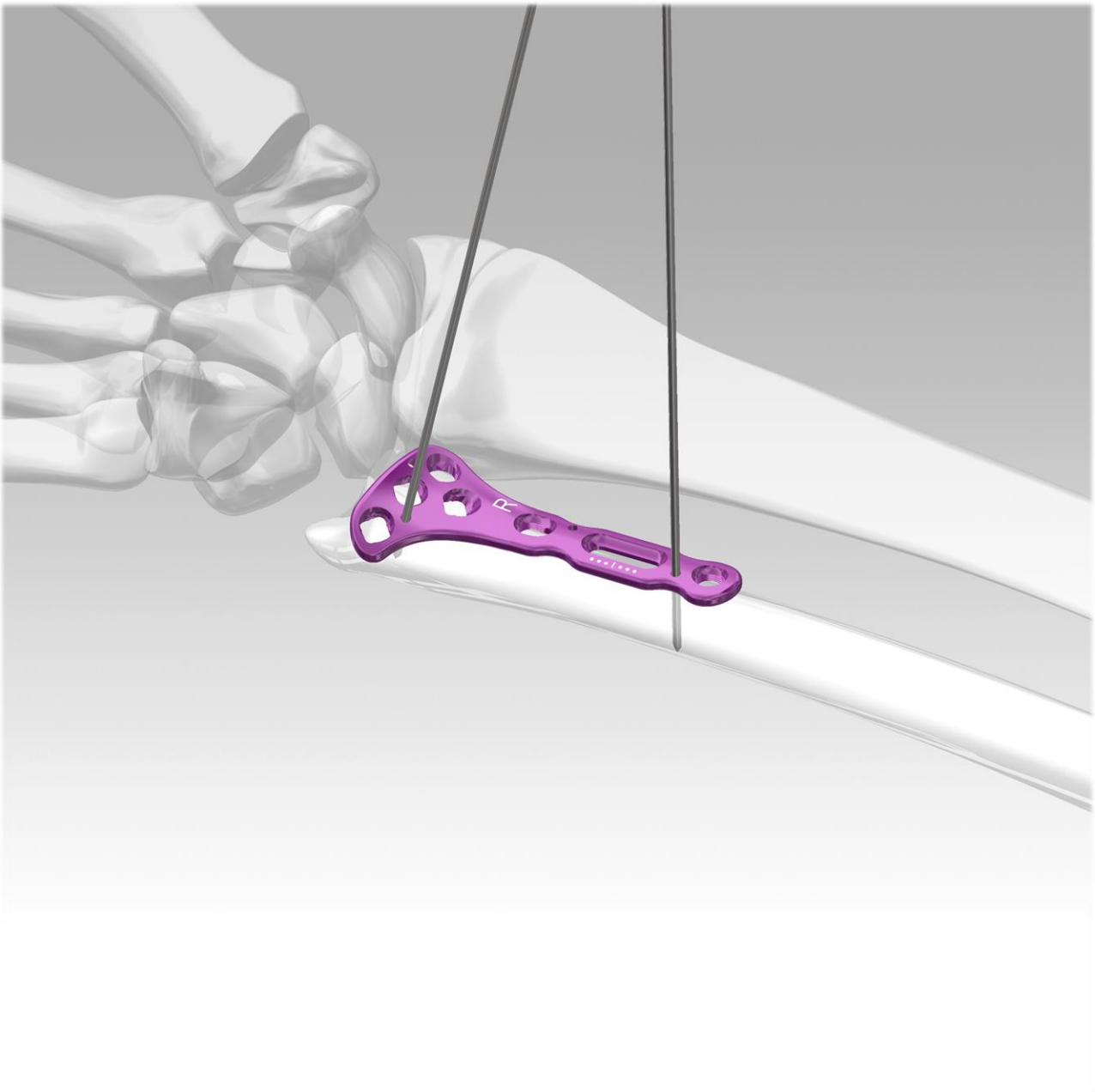
Identify the fracture and reduce provisionally.



Place the Volar-E Ulna Plate on the distal most end of the ulna so that the four distal locking screws will be positioned to go into the ulnar head.

It is vital that the plate is placed just proximal to the lesser sigmoid notch of the distal radial ulnar joint.

Place a K-wire (17.02.01.10150) in the proximal portion of the plate. Place a second K-wire in the distal portion of the plate to provisionally hold the plate to the bone.

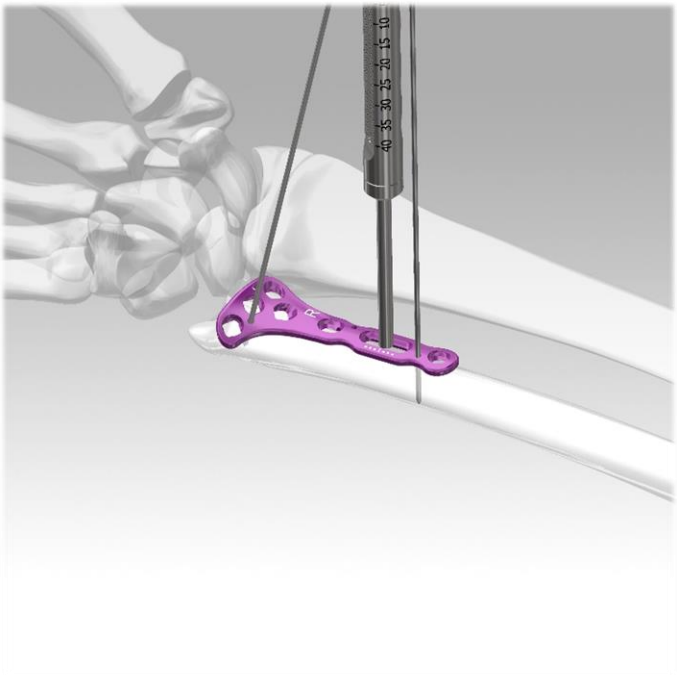


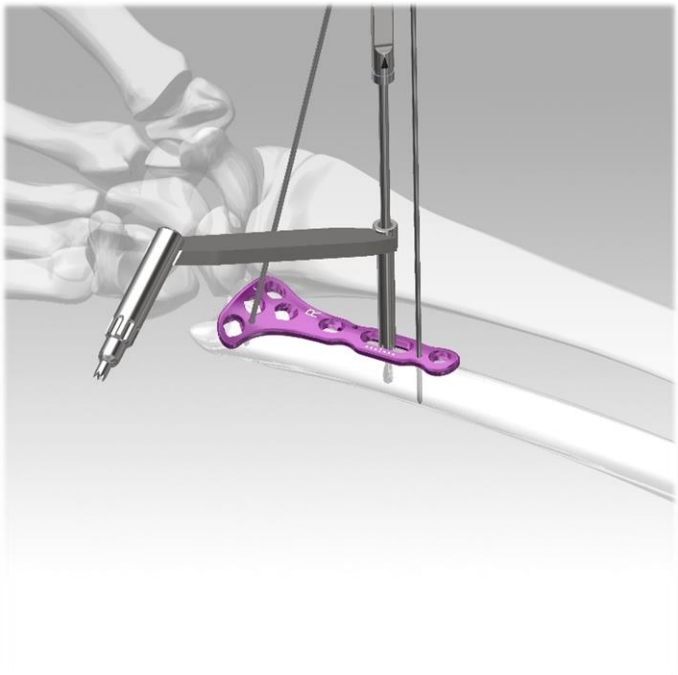
The first nonlocking 2.4 mm cortical screw (15.04.01.24012) is placed through the Oblong Hole.

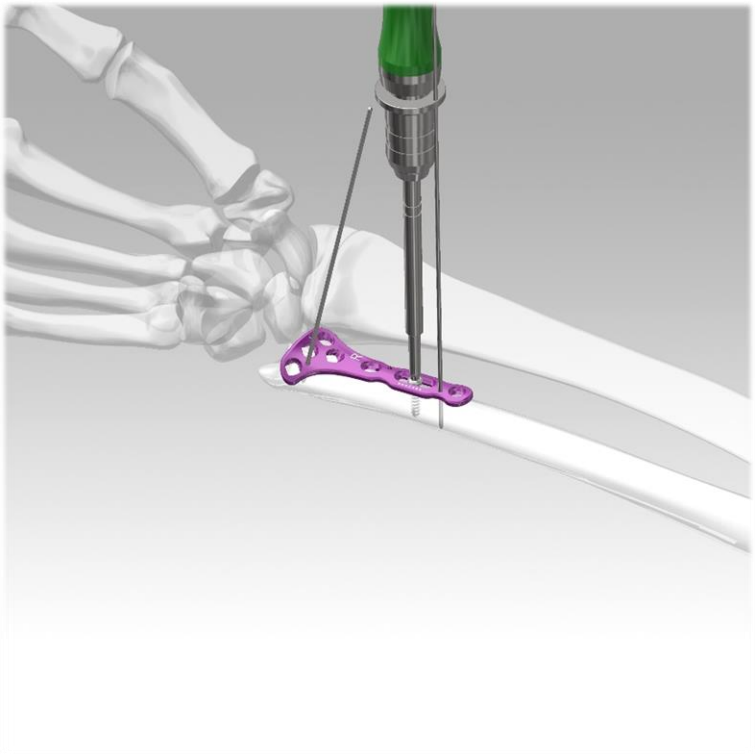
Drill through the center of the gliding hole with the help of the drill guide (09.05.00.24000).

Using the depth gauge (09.08.01.00040) to measure the screw and then insert a 2.4mm Cortical screw.

Note: Small adjustments to the position of the plate can now be done by sliding the plate proximally or distally under fluoroscopy.





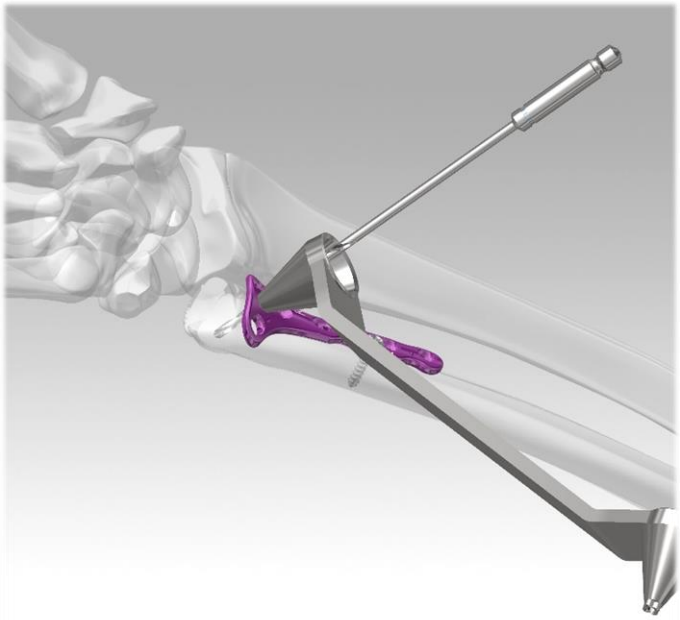


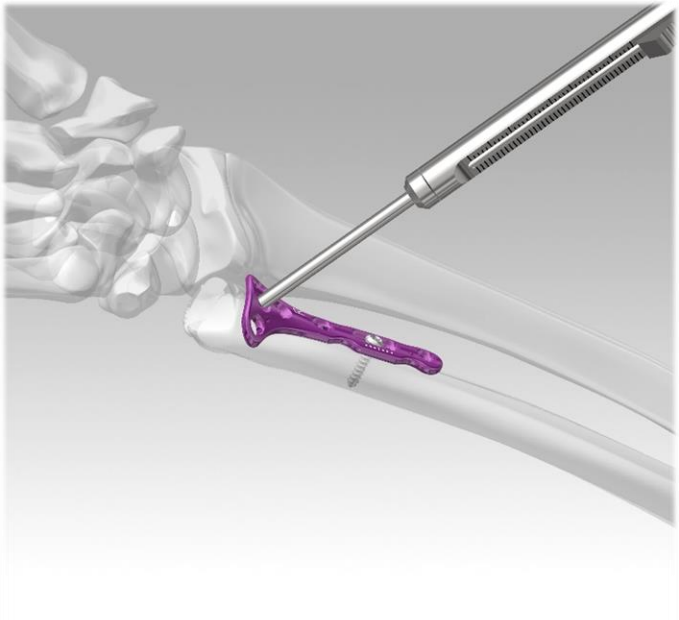
Place the screw angle drill guide (09.05.03.02427) for distal screws in the most distal ulnar hole in the plate.

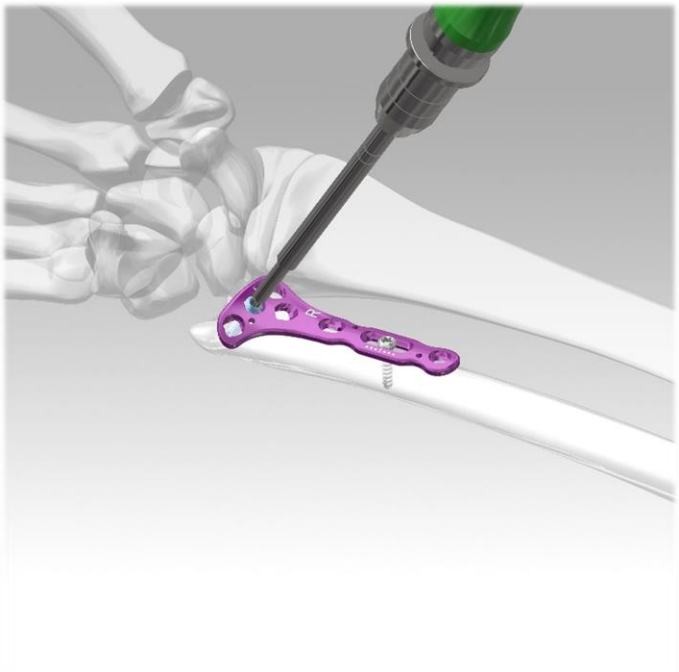
Drill using the 2.0 mm drill bit (09.01.02.20100) and measure the length of the screw with the depth gauge (09.08.01.00040).

Insert the Locking Screw 2.4mm variable angle (15.14.02.240__). Repeat for the remaining Holes.

Confirm reduction, proper screw length and placement under fluoroscopy

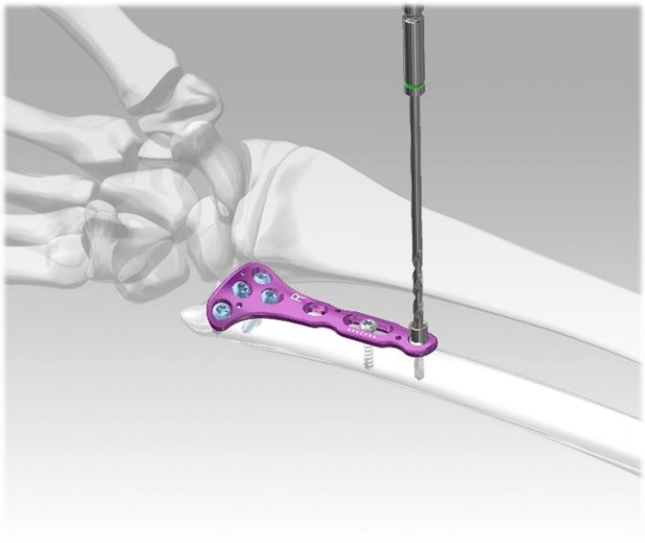


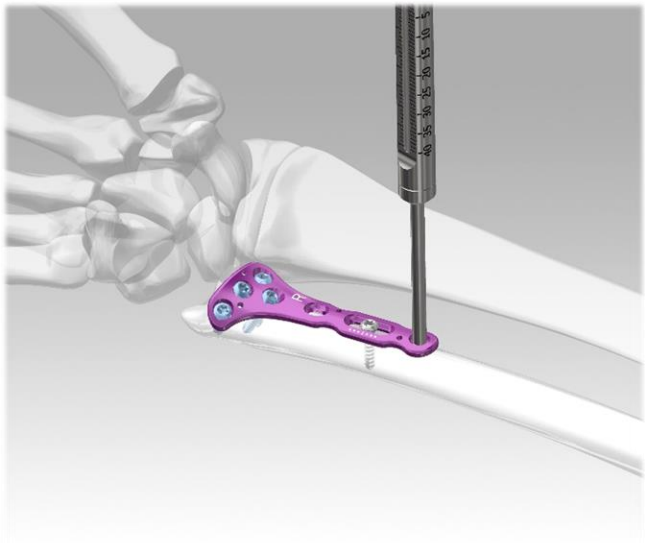


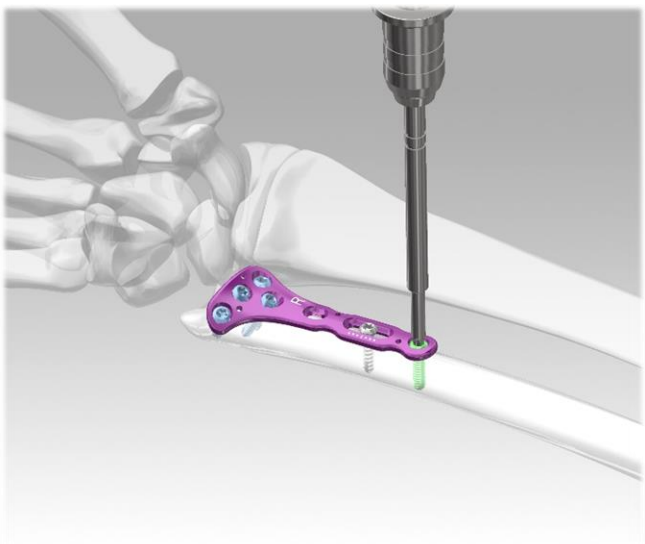


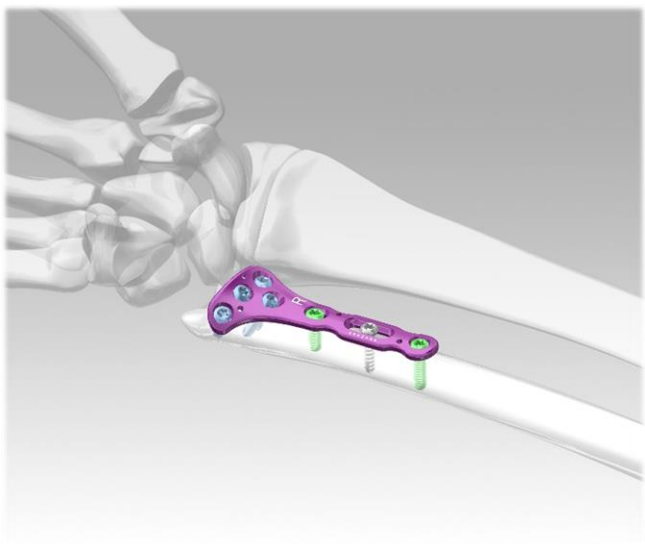
Drill through the Drill Guide (09.05.05.20015) using the Drill Bit (09.01.02.22100).
Measure the screw length using the Depth Gauge (09.08.01.00040) and take care to note see the correct scale.

Remove the Drill Guide using the Shaft Screwdriver (09.07.03.02590) and insert the appropriate length 2.7mm Locking Screw with the Shaft Screwdriver T8 (09.07.08.08090).
Repeat for all remaining proximal screw holes.









After finishing the intervention, the surgeon must close the incision by his preferred technique. According to surgeon's instruction, immobilizations can be applied. Stable Osteosynthesis allows immediate weightbearing. Periodic X-Rays should be taken to verify if correction and stabilization of the bones is occurring.

All products and ordering information are available on Astrolabe Upper Extremities Catalogue or on the website: www.astrolabe-medical.com

26.24.21.00103	Special Locking Plate, Ti,Ulna Distal, Left, 03 Holes
26.24.21.00105	Special Locking Plate, Ti,Ulna Distal, Left, 05 Holes
26.24.21.00203	Special Locking Plate, Ti, Ulna Distal, Right, 03 Holes
26.24.21.00205	Special Locking Plate, Ti, Ulna Distal, Right, 05 Holes
26.24.22.10103	Special Locking Plate, Ti, Radius Standard, Volar-E, Left, 03 Holes
26.24.22.10104	Special Locking Plate, Ti, Radius Standard, Volar-E, Left, 04 Holes
26.24.22.20103	Special Locking Plate, Ti, Radius Standard, Volar-E Dual Head, Left, 03 Holes
26.24.22.20104	Special Locking Plate, Ti, Radius Standard, Volar-E Dual Head, Left, 04 Holes
26.24.22.10203	Special Locking Plate, Ti, Radius Standard, Volar-E, Right, 03 Holes
26.24.22.10104	Special Locking Plate, Ti, Radius Standard, Volar-E, Right, 04 Holes
26.24.22.20203	Special Locking Plate, Ti, Radius Standard, Volar-E Dual Head, Right, 03 Holes
26.24.22.20204	Special Locking Plate, Ti, Radius Standard, Volar-E Dual Head, Right, 04 Holes
26.24.23.10104	Special Locking Plate, Ti, Radius Wide, Volar-E, Left, 04 Holes
26.24.23.10204	Special Locking Plate, Ti, Radius Wide, Volar-E, Right, 04 Holes
26.24.23.20104	Special Locking Plate, Ti, Radius Wide, Volar-E Dual Head, Left, 04 Holes
26.24.23.20204	Special Locking Plate, Ti, Radius Wide, Volar-E Dual Head, Right, 04 Holes
26.24.24.10103	Special Locking Plate, Ti, Radius Narrow, Volar-E, Left, 03 Holes
26.24.24.10104	Special Locking Plate, Ti, Radius Narrow, Volar-E, Left, 04 Holes
26.24.24.10203	Special Locking Plate, Ti, Radius Narrow, Volar-E, Right, 03 Holes
26.24.24.10204	Special Locking Plate, Ti, Radius Narrow, Volar-E, Right, 04 Holes
26.24.24.20103	Special Locking Plate, Ti, Radius Narrow, Volar-E Dual Head, Left, 03 Holes
26.24.24.20104	Special Locking Plate, Ti, Radius Narrow, Volar-E Dual Head, Left, 04 Holes
26.24.24.20203	Special Locking Plate, Ti, Radius Narrow, Volar-E Dual Head, Right, 03 Holes
26.24.24.20204	Special Locking Plate, Ti, Radius Narrow, Volar-E Dual Head, Right, 04 Holes

15.04.01.24006	Cortical Screw, Ti, Ø2,4 x 6mm Torx
15.04.01.24008	Cortical Screw, Ti, Ø2,4 x 8mm Torx
15.04.01.24010	Cortical Screw, Ti, Ø2,4 x 10mm Torx
15.04.01.24012	Cortical Screw, Ti, Ø2,4 x 12mm Torx
15.04.01.24014	Cortical Screw, Ti, Ø2,4 x 14mm Torx
15.04.01.24016	Cortical Screw, Ti, Ø2,4 x 16mm Torx
15.04.01.24018	Cortical Screw, Ti, Ø2,4 x 18mm Torx
15.04.01.24020	Cortical Screw, Ti, Ø2,4 x 20mm Torx
15.04.01.24022	Cortical Screw, Ti, Ø2,4 x 22mm Torx
15.04.01.24024	Cortical Screw, Ti, Ø2,4 x 24mm Torx
15.04.01.24026	Cortical Screw, Ti, Ø2,4 x 26mm Torx
15.04.01.24028	Cortical Screw, Ti, Ø2,4 x 28mm Torx
15.04.01.24030	Cortical Screw, Ti, Ø2,4 x 30mm Torx

15.14.02.24008	Locking Screw with Variable Angle, Ti, Ø2.4 x 08mm, Torx
15.14.02.24010	Locking Screw with Variable Angle, Ti, Ø2.4 x 10mm, Torx
15.14.02.24012	Locking Screw with Variable Angle, Ti, Ø2.4 x 12mm, Torx
15.14.02.24014	Locking Screw with Variable Angle, Ti, Ø2.4 x 14mm, Torx
15.14.02.24016	Locking Screw with Variable Angle, Ti, Ø2.4 x 16mm, Torx
15.14.02.24017	Locking Screw with Variable Angle, Ti, Ø2.4 x 17mm, Torx
15.14.02.24018	Locking Screw with Variable Angle, Ti, Ø2.4 x 18mm, Torx
15.14.02.24019	Locking Screw with Variable Angle, Ti, Ø2.4 x 19mm, Torx
15.14.02.24020	Locking Screw with Variable Angle, Ti, Ø2.4 x 20mm, Torx
15.14.02.24021	Locking Screw with Variable Angle, Ti, Ø2.4 x 21mm, Torx
15.14.02.24022	Locking Screw with Variable Angle, Ti, Ø2.4 x 22mm, Torx
15.14.02.24023	Locking Screw with Variable Angle, Ti, Ø2.4 x 23mm, Torx
15.14.02.24024	Locking Screw with Variable Angle, Ti, Ø2.4 x 24mm, Torx
15.14.02.24026	Locking Screw with Variable Angle, Ti, Ø2.4 x 26mm, Torx
15.14.02.24028	Locking Screw with Variable Angle, Ti, Ø2.4 x 28mm, Torx
15.14.02.24030	Locking Screw with Variable Angle, Ti, Ø2.4 x 30mm, Torx
15.14.02.27008	Locking Screw with Variable Angle, Ti, Ø2.7 x 08mm, Torx
15.14.02.27010	Locking Screw with Variable Angle, Ti, Ø2.7 x 10mm, Torx
15.14.02.27012	Locking Screw with Variable Angle, Ti, Ø2.7 x 12mm, Torx
15.14.02.27014	Locking Screw with Variable Angle, Ti, Ø2.7 x 14mm, Torx
15.14.02.27016	Locking Screw with Variable Angle, Ti, Ø2.7 x 16mm, Torx
15.14.02.27017	Locking Screw with Variable Angle, Ti, Ø2.7 x 17mm, Torx
15.14.02.27018	Locking Screw with Variable Angle, Ti, Ø2.7 x 18mm, Torx
15.14.02.27019	Locking Screw with Variable Angle, Ti, Ø2.7 x 19mm, Torx
15.14.02.27020	Locking Screw with Variable Angle, Ti, Ø2.7 x 20mm, Torx
15.14.02.27021	Locking Screw with Variable Angle, Ti, Ø2.7 x 21mm, Torx
15.14.02.27022	Locking Screw with Variable Angle, Ti, Ø2.7 x 22mm, Torx
15.14.02.27023	Locking Screw with Variable Angle, Ti, Ø2.7 x 23mm, Torx
15.14.02.27024	Locking Screw with Variable Angle, Ti, Ø2.7 x 24mm, Torx
15.14.02.27026	Locking Screw with Variable Angle, Ti, Ø2.7 x 26mm, Torx
15.14.02.27028	Locking Screw with Variable Angle, Ti, Ø2.7 x 28mm, Torx
15.14.02.27030	Locking Screw with Variable Angle, Ti, Ø2.7 x 30mm, Torx

15.17.02.18008	Locking Pin Variable Angle, Ti, Ø1.8 x 08mm, Torx
15.17.02.18010	Locking Pin Variable Angle, Ti, Ø1.8 x 10mm, Torx
15.17.02.18012	Locking Pin Variable Angle, Ti, Ø1.8 x 12mm, Torx
15.17.02.18014	Locking Pin Variable Angle, Ti, Ø1.8 x 14mm, Torx
15.17.02.18016	Locking Pin Variable Angle, Ti, Ø1.8 x 16mm, Torx
15.17.02.18017	Locking Pin Variable Angle, Ti, Ø1.8 x 17mm, Torx
15.17.02.18018	Locking Pin Variable Angle, Ti, Ø1.8 x 18mm, Torx
15.17.02.18019	Locking Pin Variable Angle, Ti, Ø1.8 x 19mm, Torx
15.17.02.18020	Locking Pin Variable Angle, Ti, Ø1.8 x 20mm, Torx
15.17.02.18021	Locking Pin Variable Angle, Ti, Ø1.8 x 21mm, Torx
15.17.02.18022	Locking Pin Variable Angle, Ti, Ø1.8 x 22mm, Torx
15.17.02.18023	Locking Pin Variable Angle, Ti, Ø1.8 x 23mm, Torx
15.17.02.18024	Locking Pin Variable Angle, Ti, Ø1.8 x 24mm, Torx
15.17.02.18026	Locking Pin Variable Angle, Ti, Ø1.8 x 26mm, Torx
15.17.02.18028	Locking Pin Variable Angle, Ti, Ø1.8 x 28mm, Torx
15.17.02.18030	Locking Pin Variable Angle, Ti, Ø1.8 x 30mm, Torx

15.18.02.24000	Cannulated Plug Screw, Locking Plate, Ti, Ø2,4mm Torx
15.18.01.24000	Plug Screw, Locking Plate, Ti, Ø2,4mm Torx
15.28.03.27010	Cannulated Screw, Partly Threaded Ti, Ø2,7 x 10mm Torx - S/I Extremities
15.28.03.27012	Cannulated Screw, Partly Threaded Ti, Ø2,7 x 12mm Torx - S/I Extremities
15.28.03.27014	Cannulated Screw, Partly Threaded Ti, Ø2,7 x 14mm Torx - S/I Extremities
15.28.03.27016	Cannulated Screw, Partly Threaded Ti, Ø2,7 x 16mm Torx - S/I Extremities
15.28.03.27018	Cannulated Screw, Partly Threaded Ti, Ø2,7 x 18mm Torx - S/I Extremities
15.28.03.27020	Cannulated Screw, Partly Threaded Ti, Ø2,7 x 20mm Torx - S/I Extremities
15.28.03.27022	Cannulated Screw, Partly Threaded Ti, Ø2,7 x 22mm Torx - S/I Extremities
15.28.03.27024	Cannulated Screw, Partly Threaded Ti, Ø2,7 x 24mm Torx - S/I Extremities
15.28.03.27026	Cannulated Screw, Partly Threaded Ti, Ø2,7 x 26mm Torx - S/I Extremities
15.28.03.27028	Cannulated Screw, Partly Threaded Ti, Ø2,7 x 28mm Torx - S/I Extremities
15.28.03.27030	Cannulated Screw, Partly Threaded Ti, Ø2,7 x 30mm Torx - S/I Extremities

99.06.00.00001	Volar-E Hook Plate, Standard
99.06.00.00002	Volar-E Hook Plate, Narrow
99.06.02.02075	Volar-E Hook Plate, Screw

09.01.01.18100	Drill Bit, Ø1.8 x 100mm, twist length 30mm, AO Coupling
09.01.02.20100	Drill Bit, Ø2.0 x 100mm, twist length 30mm, AO Coupling, Blue Code
09.01.02.22100	Drill Bit, Ø2.2 x 100mm, twist length 30mm, AO Coupling, Green Code
09.01.17.18130	Graduated Drill Bit Cannulated, Ø1,8 x 130 mm, AO Coupling
09.01.18.20130	Graduated Drill Bit Cannulated, Ø2,0 x 130 mm, AO Coupling, Blue Code
09.01.18.22130	Graduated Drill Bit Cannulated, Ø2,2 x 130 mm, AO Coupling, Green Code
09.02.02.27000	Countersink, Cannulated, Ø2.7mm, AO Coupling
09.04.04.12030	Handle, Cannulated, AO Coupling, 120mm, Green
09.05.00.24000	Drill Guide, Ø2.4/Ø1.8mm, Universal
09.05.03.02427	2.4/2.7mm Screw Angle Drill Guide
09.05.05.20015	Drill Guide, Ø2.0mm, Threaded, Volar-E
09.05.06.11215	Insertion Guide, for Radius Narrow Volar-E, Left
09.05.06.11245	Insertion Guide, for Radius STD Volar-E, Left
09.05.06.11275	Insertion Guide, for Radius Wide Volar-E, Left
09.05.06.12215	Insertion Guide, for Radius Narrow Volar-E Dual Head, Left
09.05.06.12245	Insertion Guide, for Radius STD Volar-E Dual Head, Left
09.05.06.12275	Insertion Guide, for Radius Wide Volar-E Dual Head, Left
09.05.06.21215	Insertion Guide, for Radius Narrow Volar-E, Right
09.05.06.21245	Insertion Guide, for Radius STD Volar-E, Right
09.05.06.21275	Insertion Guide, for Radius Wide Volar-E, Right
09.05.06.22215	Insertion Guide, for Radius Narrow Volar-E Dual Head, Right
09.05.06.22245	Insertion Guide, for Radius STD Volar-E Dual Head, Right
09.05.06.22275	Insertion Guide, for Radius Wide Volar-E Dual Head, Right
09.05.13.03020	Quick Graduated Drill Guide, Ø2.0 x 30mm
09.06.02.12008	Wire Sleeve, Ø1.2 X 8mm
09.06.04.24000	Holding Sleeve, Ø2.4mm
09.07.03.02590	Shaft Screwdriver, Cannulated, Hexagonal 2.5, 90mm, AO Coupling
09.07.08.05090	Shaft Screwdriver, Cannulated, Torx-5, 90mm, AO Coupling
09.07.08.08090	Shaft Screwdriver, Cannulated, Torx-8, 90mm, AO Coupling

09.08.00.00020	Depth Stick, Ø2.0mm
09.08.01.00040	Depth Gauge, 40mm
09.09.01.00000	Sharp Hook, Small
09.10.02.02135	Reposition Forceps, Ratchet, Broad, 135mm
09.10.04.01145	Redution Forceps, Serrated Jaw, Ratchet, 145mm
09.10.06.10150	Plate and Screw Holding Forceps, Angled-Serrated Jaw, 150mm
09.10.08.12132	Hook Plate, Reduction Fragment Tool
09.13.00.12735	Bender, for 2.7_3.5mm System Plates, Left
09.13.00.22735	Bender, for 2.7_3.5 System Plates, Right
09.14.02.30260	Bending Pliers 2,7/3,5 Reconstruction Plates, 260mm
09.14.03.00180	Cutting Pliers, 180mm
09.15.06.24003	Bending Template, for Radius STD Volar-E, Right, 03 Holes
09.15.06.24004	Bending Template, for Radius STD Volar-E, Right, 04 Holes
09.15.06.24007	Bending Template, for Radius STD Volar-E, Right, 07 Holes
09.15.06.24012	Bending Template, for Radius STD Volar-E, Right, 12 Holes
09.15.06.24014	Bending Template, for Radius STD Volar-E, Right, 14 Holes
09.15.07.24003	Bending Template, for Radius STD Volar-E, Left, 03 Holes
09.15.07.24004	Bending Template, for Radius STD Volar-E, Left, 04 Holes
09.15.07.24007	Bending Template, for Radius STD Volar-E, Left,07 Holes
09.15.07.24012	Bending Template, for Radius STD Volar-E, Left, 12 Holes
09.15.07.24014	Bending Template, for Radius STD Volar-E, Left, 14 Holes
09.15.08.24004	Bending Template, for Radius Wide Volar-E, Right, 04 Holes
09.15.09.24004	Bending Template, for Radius Wide Volar-E, Left, 04 Holes
09.15.10.24003	Bending Template, for Radius Narrow Volar-E, Right, 03 Holes
09.15.10.24004	Bending Template, for Radius Narrow Volar-E, Right, 04 Holes
09.15.11.24003	Bending Template, for Radius Narrow Volar-E, Left, 03 Holes
09.15.11.24004	Bending Template, for Radius Narrow Volar-E, Left, 04 Holes
09.16.01.08160	Hohmann Retractor, 8mm width, Small, Short Narrow Tip, 160mm
09.17.01.06000	Periosteal Elevator, 6mm width, Curved Blade, Round Edges
09.18.01.00008	Torque Limiting Attachment, 0.8 Nm, AO Coupling
09.50.03.00210	Box w/ Brackets, 250 x 435 x 110mm, Volar-E
09.50.04.00220	Implant Case, Volar Hooks
09.50.06.00184	Instrument Tray, Volar-E
09.50.06.00185	Implant Tray, Volar
09.50.08.00100	Screw Rack
09.50.10.00150	Dispenser for K-Wire 150mm
17.02.01.10150	Kirschner Wire, SS, Trocar/Round, Ø1,0 x 150mm
17.02.03.12150	Kirschner Wire, SS, Threaded Tip, Ø1,2 x 150mm

Astrolabe Fabricação de Implantes Médicos Lda.
Rua Dos Caniços, Nº34
2625-253 Vialonga, Vila Franca de Xira, Portugal
Tlf.: (+351) 219 672 298 | info@astrolabe-medical.com
www.astrolabe-medical.com

AST.ST.030 - REV.02 - 02/2026