

Winloc® Anterior Cervical Plate System

Surgical Technique Guide





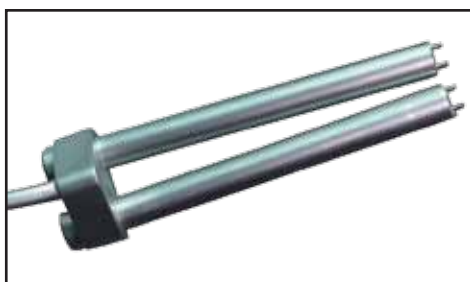
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WinLoc® is a cervical plate system for the anterior surgical stabilization of the cervical spine, with the exception of C0-C2. The implant enables the immobilization of the fusion mass until consolidation of the implant or bone transplantation.

It consists of single- or multisegmental plates as well as expandable screws and small fragment bone screws of varying sizes.

The special feature of the system is its outstanding flexibility. The instrumentation can be adjusted depending in the situation on through the elective use of bicortical bone screws and self drilling, monocortical bone screws. Bone screws with a larger diameter are also available, as are expandable screws which enable optimized stabilization and maximum hold during revision procedures or in the case of reduced bone quality.

The material is biocompatible, corrosion-resistant, non-toxic under biological conditions and does not interfere with imaging procedures such as X-ray imaging, computerized tomography and MRI (Magnetic Resonance Imaging).

The present description of the surgical technique contains the work steps for the use of the WinLoc® System. The implants and the system instruments needed for implementation are presented.

The use of this manual is not sufficient as sole basis for the successful application of the WinLoc® system. It is recommended to master the surgical technique with and experienced surgeon.

Please refer to the instructions for use and the instrument processing instructions.

Indications & Contraindications

Indications

WinLoc® is used in case of instabilities of different genesis such as

- ◆ States after removal of the disc
- ◆ Fracture
- ◆ Tumor
- ◆ Pseudoarthrosis
- ◆ After unsuccessful cervical spine surgeries

Contraindications

- ◆ Patients with acute infection, whether superficial or deep
- ◆ Patients with a history of material allergy or who tend to react to foreign bodies
- ◆ The physician must consider carefully before treating patients who are in a generally unfavorable medical or psychological state and who could be made worse by the procedure.
- ◆ Pregnancy

Please note the instructions for use for WinLoc® implants and the instrument processing instructions.



Design Features



Variable self drilling screw



Variable self tapping screw



Expandable screw

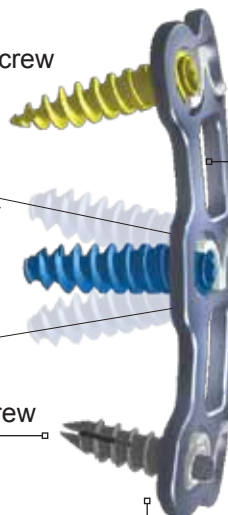


Conical shape and self drilling screw
Can be implanted directly

15° for variable screw



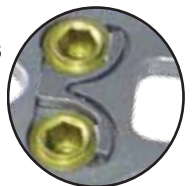
Expandable screw



Large graft window for central visualization

Latching arm for secure screws inserted

Prevent back-out mechanism



Microstep serrated for interface contact

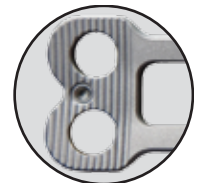
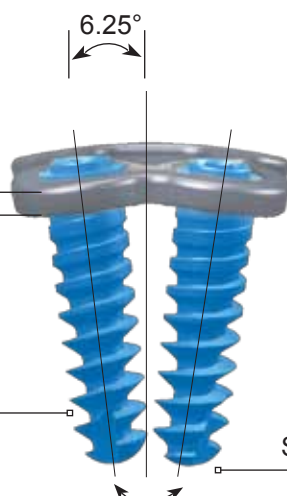


Plate thick : 1.8 mm
Low-profile fixation

Sagittally-fixed screws



Self tapping screw



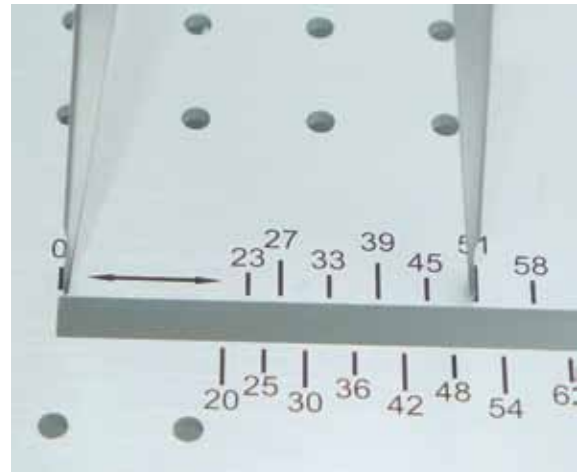
Safety convergent angle design



Measure the Length of Cervical Plate



Use the instrument (217-2901 Measuring Caliper) for in-situ measurements. Choose the most appropriate length for the WinLoc® cervical plate.



Use the measuring scale in the instrument tray after measurement to obtain the needed length of the cervical plate.
(The measuring scale is located next to the bone screw tray)



Bending:



plate bender(217-1201)
it can be perform
lordosing and kyphosing bend

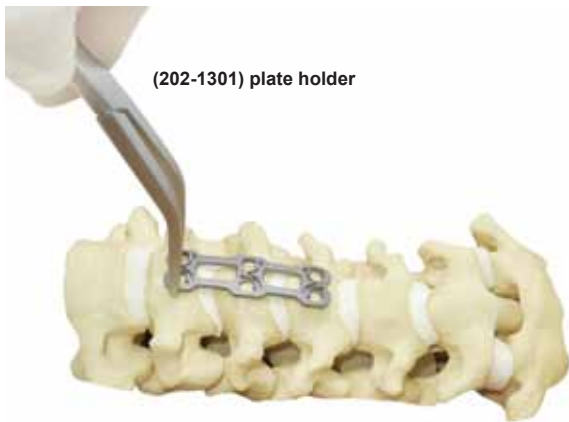
The WinLoc® cervical plate is lordotically pre-bent. But when further bending is needed clinically, the instrument (217-1201 plate bender) can be used to increase bending.

Caution: Since there is a bone screw latching mechanism on the plate, the zone where the plate bender may be used for further bending is limited and repeated bending back and forth will damage the whole structure.

Please use it with caution.



Instrumentation: Hold the plate



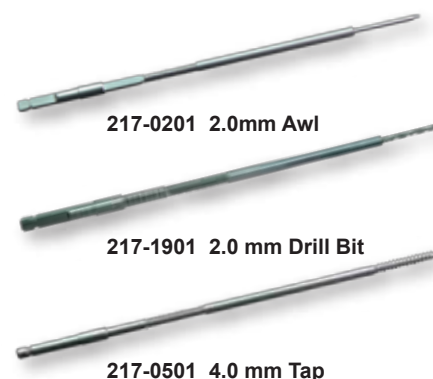
Confirm the cervical spine level for the surgical procedure and then place the plate. The plate holder (202-1301) can be performed as an assisting tool.



A temporary fixation of the plate to the vertebral body can be achieved by using the fixation screw driver (217-3403) to facilitate fixation screw (217-3401) on plate.



Initial screwing prepare



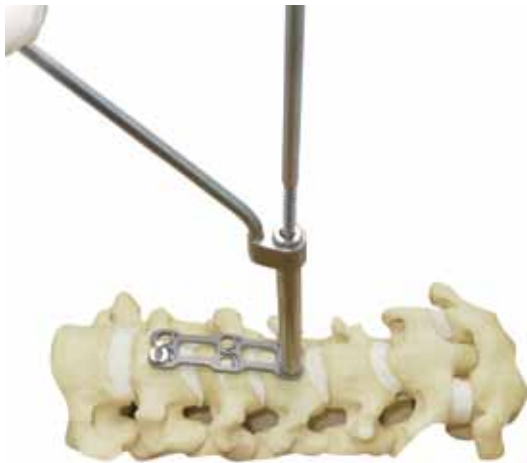
Approaching, drilling, and tapping are preparatory steps before screw implantation. There are length scales etched on 3 instruments (Awl, Drill Bit, Tap). Spacing (217-7101) can be used to restrict their access depth when using these instruments.

There are a variety of screws in the WinLoc® cervical plate system. Refer to the specification table for the available types.

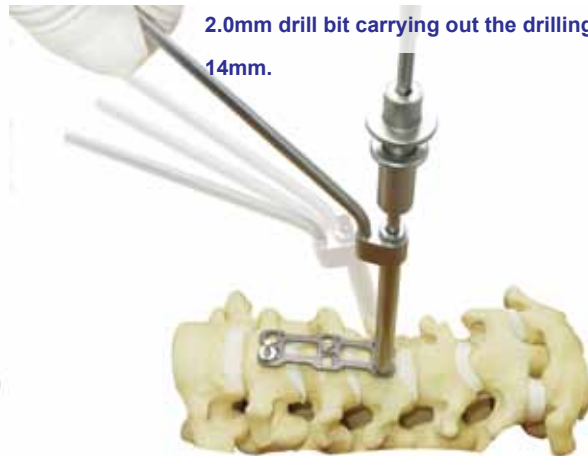
Surgical Technique



Tapping : using the guide



The variable drill guide (217-1102) is designed to be guided by a single barrel. The needed angle hence is adjustable around $\pm 7.5^\circ$ off the vertical plane. The angle of lateral shift shall not exceed in order to avoid the risk of inserting the screw.



The figure shows the variable drill guide is used with a 2.0mm drill bit carrying out the drilling task. The depth is 14mm.

When inserting the self tapping screw or the expandable screw, it is advised to use the 4.0mm bone tap (217-0501) first in order to have smooth screw implantation.



Screw Placement :



202-1302 Screw holder



202-3301 Hex 2.5mm
Screw driver

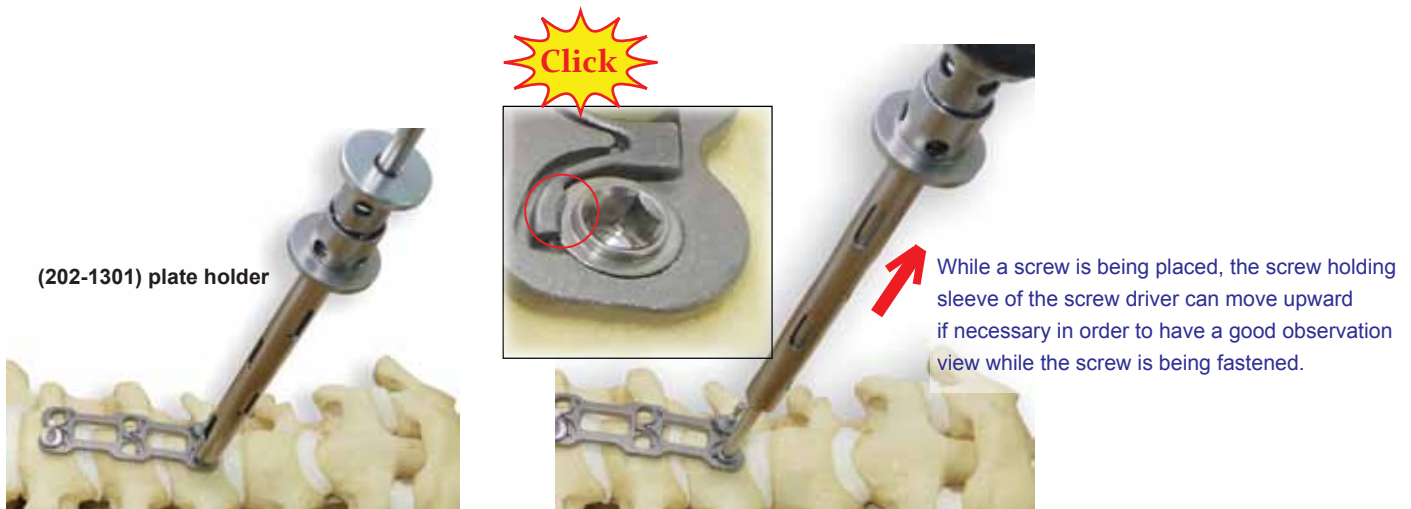


Take a screw holder (202-1302) to carry the required screws. Operating the screw holder by single hand. When the handle is pressed, the claws open up. Release it and then the screw will be securely grabbed.

After the screw is grabbed, insert a hex 2.5mm screw driver (202-3301) into the screw holder to place the screw.



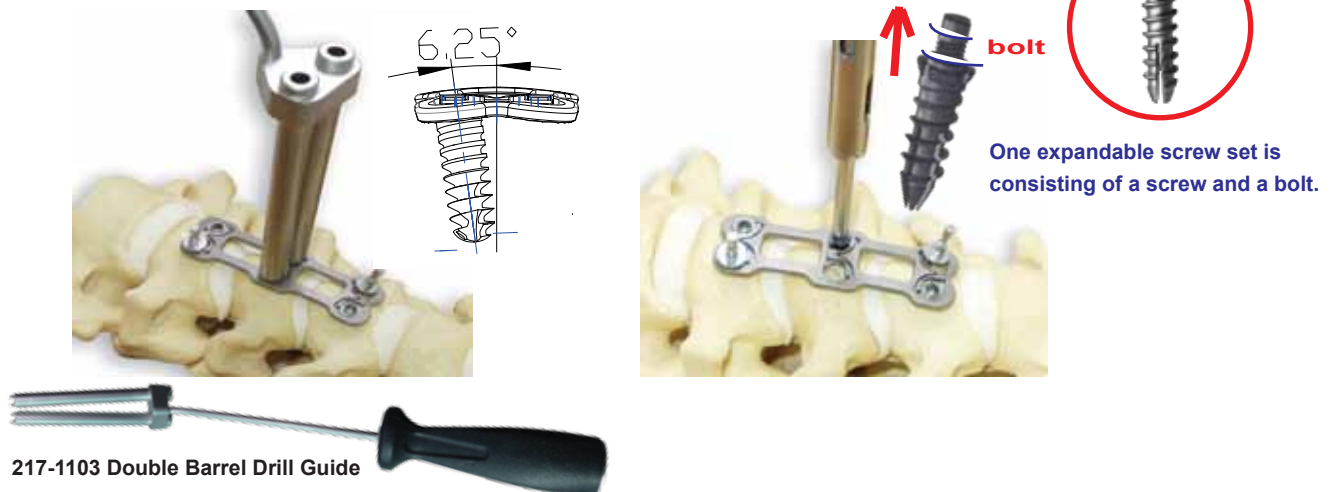
Screws Locking :



Please note that when a screw is fastened all the way in, the latching mechanism of the plate will make a clicking sound to indicate that it is fastened and the head of the screw should be embedded into the latching arm and restricted by the latter. This is the standard procedure to place a screw.



Expandable screw - 1



The double-barrel drill guide (217-1103) offers a convenient option. The double-barrel design has a fixed convergent angle of 6.25°.

The upper and lower vertical shift is around $\pm 7.5^\circ$.

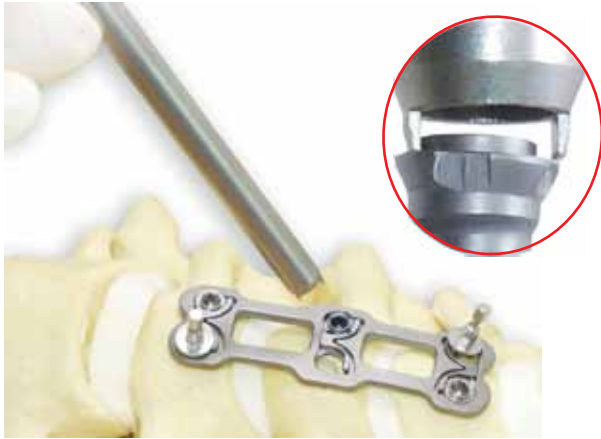
Caution: The over large vertical inclination angle will destroy the plate and screw latching mechanism and it should be avoided.

The expandable screw is meant to accomplish a better fixation effect for patients with osteoporotic or requiring reinforced fixation.

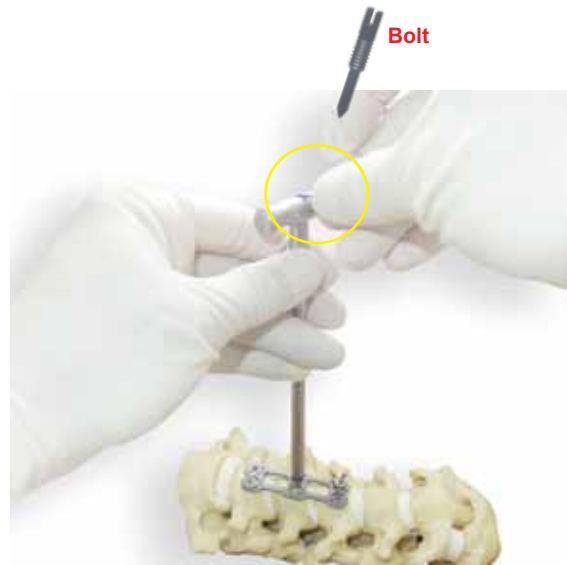
Caution: Before use, the bolt must be retracted and held by the screw holder. Then, the hex 2.5mm screw driver is inserted and the screw fastening operation begins.



Expandable screw - 2



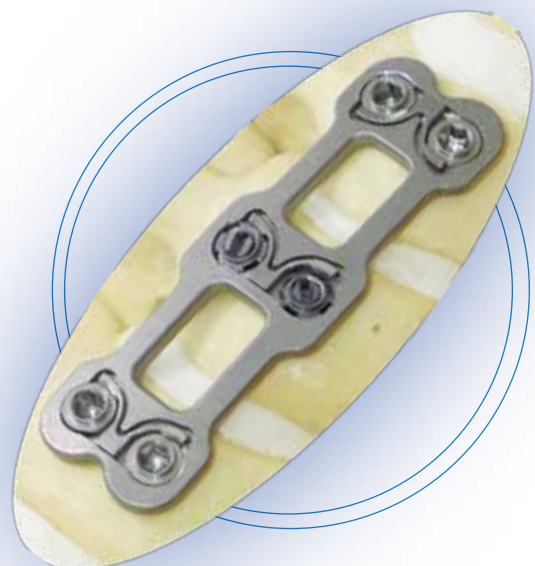
According to the previously introduced screw implantation procedure, a clicking sound means that it is fastened. After the screwdriver is retracted, insert the counter-holder for expandable screw (217-0902) into the edge of the expandable screw in order to introduce the bolt and expand the screw shaft.



After the external sleeve is fixated, place the bolt into the opening in the middle of the instrument handle.



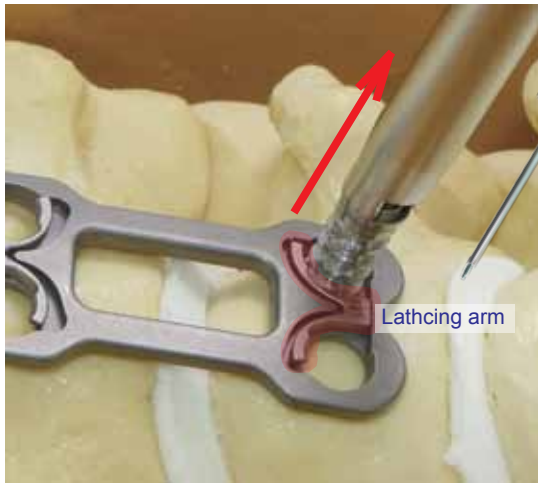
Insert the bolt for expanding



Insert the screw driver for bolt (217-3302). Fasten the bolt. The external sleeve is capable of resisting screw rotation. After the bolt is fastened, retract the whole set of instruments.



Remove screws tool :



217-2201 Screw Removal tool

202-3301 Hex 2.5mm screwdriver



Remove Screw :



When it is necessary to remove the screw, use the following methods:

Insert a hex 2.5mm screwdriver into the screw removal tool (217-2201). The half-round opening of the clamp is aligned with the latching arm of the plate. Rotating clockwise or counterclockwise will retract the latching arm. Then use the hex screwdriver to removed the screw.

Instruments



202-1301
Plate Holder
持板鉗



202-1302
Screw Holder
持釘鉗



202-3301
Hex 2.5mm Screw Driver
2.5mm 六角螺釘起子



217-0101
Handle
持柄器



217-0201
2.0mm Awl
2.0mm 鑿孔椎



217-0501
4.0 mm Tap
4.0mm 攻牙錐



217-0902
Counter-holder for expandable screw
撐開釘外套管



217-1102
Variable Drill Guide
萬向導規器



217-1103
Double Barrel Drill Guide
雙管導規器



217-1201
Plate Bender
彎板鉗



217-1901
2.0 mm Drill Bit
2.0mm 鑽頭



217-2201
Screw Removal Tool
螺釘拔除器



217-2901
Measuring Caliper
量測卡尺



217-3302
Screw Driver for bolt
內螺釘起子



217-3401
Fixation Screw
固定釘



217-3403
Fixation Screw Driver
固定釘起子



217-7101
Spacing
限位器



99900-040
WinLoc® implant/instrument tray with 3 layers
WinLoc® Plate 產品/器械盒



08030-999
A-SPINE Lid
塑膠上蓋



06030-999 (Optional)
A-SPINE Lid
鋁上蓋 (小)

Sterilization :

All implants and instruments should be sterilized by steam autoclave following the instructions of the sterilizer manufacturer according to the type of sterilizer used and the method in accordance with the internal hospital guidelines to achieve the degree of sterility of 10^{-6} . The suggested parameters are as follow:

1. Steam Wrapped Gravity Cycle at 121°C / 250°F for 30 minutes.
2. Steam Wrapped Gravity Cycle at 134°C / 273°F for 20 minutes.

Implants



Anterior Cervical Screws & Plates

Variable Self Tapping Screw

Cat.No	Dia(mm)	L(mm)
1451-128N	4	12
1451-148N	4	14
1451-168N	4	16
1451-188N	4	18



Variable Oversized Screw

1452-128N	4.5	12
1452-148N	4.5	14
1452-168N	4.5	16
1452-188N	4.5	18



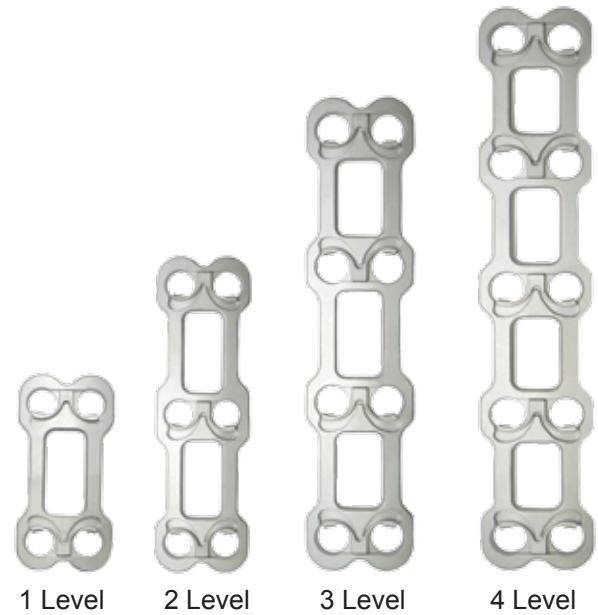
Variable Self Drilling Screw

1450-128N	4	12
1450-148N	4	14
1450-168N	4	16
1450-188N	4	18



Expandable Screw

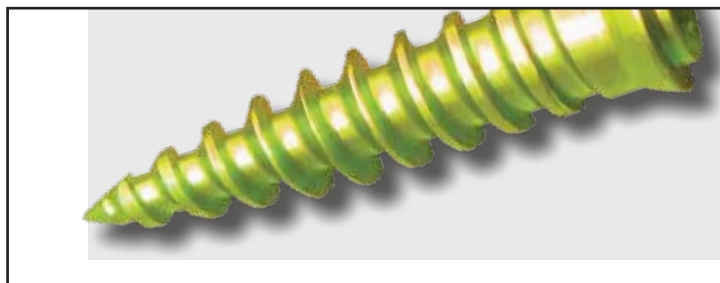
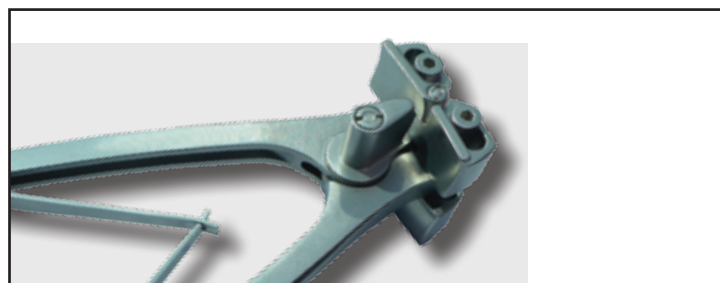
1456-128	4	12
1456-148	4	14
1456-168	4	16
1456-188	4	18



WinLoc® Plate

Cat.No	W(mm)	L(mm)	Level
1468-258N	16	25	1
1468-278N	16	27	
1468-308N	16	30	
1468-338N	16	33	
1468-368N	16	36	
1468-398N	16	39	2
1468-428N	16	42	
1468-458N	16	45	
1468-488N	16	48	
1468-518N	16	51	
1468-548N	16	54	3
1468-588N	16	58	
1468-628N	16	62	
1468-668N	16	66	
1468-708N	16	70	
1468-748N	16	74	4
1468-788N	16	78	
1468-828N	16	82	
1468-868N	16	86	
1468-908N	16	90	

★ Other sizes upon request





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