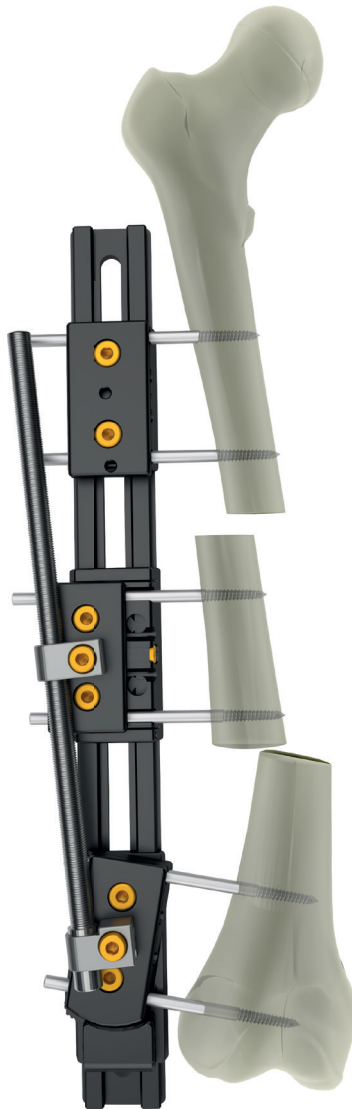


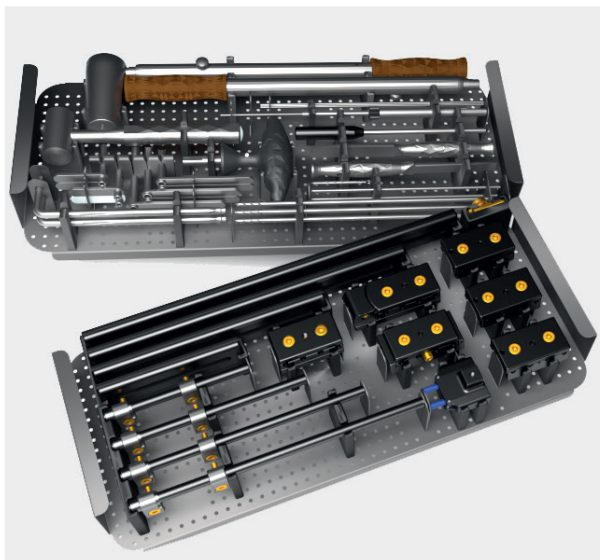


Rail Fixator System



Response Ortho is a global
orthopaedic trauma solutions manufacturer
offering premium products
created under its founding principles of
innovation, excellence by design
and functional superiority.





CONTENTS

- 3** Introduction
- 4** Product Features
- 7** Indications And Deformity Planning
- 8** Surgical Technique
- 11** Dynamization Component
- 13** System Modularity
- 14** Post-Operative Care
- 15** Ordering Information
- 19** Notes

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Introduction

The UniX Rail Fixator System is a modular unilateral external fixator designed for the gradual and acute correction of angular and translational deformities, limb length inequality, and bone transport. The system's modularity and flexibility is improved and supported with other components of the UniX Fixator Family and the Smart Correction Computer-Assisted Circular Hexapod External Fixator. The interchangeability of components from these systems provide one of the most comprehensive solutions available for unilateral applications.

Unix Rail Fixator System has two different versions for different size requirements of pediatric or adult patients. The aircraft grade aluminum low profile components increase patient comfort and light weight construct. These features allow least extension of the patient body and increase the flexibility of the patient.

The system includes 4 different lengths of rails, acute and gradual angular adjustment, translational, and double distractor clamps, and gradual compression/distractor units. The system can be used with a wide variety of bone screws and K-wires. The variety of bone screw clamps and rails allow individualized frame configurations to be developed in response to the requirements of complex indications and applications. The frame can be used in all Femoral and Tibial applications.

Product Features

System Components

Double Distractor Connection Clamp



- Allows to connect two Gradual Distractor for bifocal applications

Gradual Angular Correction Clamp



- Allows for incremental angular corrections up to 50° ($\pm 25^\circ$ from neutral)
- Clamp offers four equidistant bone screw slots
- 1° correction can be achieved by $\frac{1}{4}$ turn of the angular adjustment bolt
- Clamp can be utilized for acute or gradual correction
- The center of rotation is at the center of clamp

Rails



- Multiple rail lengths; 100mm, 150mm, 250mm and 350mm for pediatric patients and 150mm, 250mm, 350mm, 420mm for adult patients

Translation Clamp



- Offers up to 20mm of medial/lateral translation (± 10 mm from neutral)
- Allows extensive lengthening where translation is common during varus deformity correction
- Provides translation in the plane of the bone screws

Angular Adjustment Clamp



- Allows angular bone screw application
- Clamp can be utilized for acute correction
- Serrated surface provides stability

Gradual Distractors



- Available in 5cm, 10cm, 15cm, 20cm working lengths
- Durable rod structure for stronger resistance against shear forces
- Allow for gradual compression / distraction
- 1mm correction can be achieved by 1 turn of the rod
- Made of titanium for lightweight construction

Dynamization Component



- Variable Micro-motion
- Stimulates Bone Regeneration

Bone Screws



- Tapered Screws allow better bone purchase
- Trocar or Blunt Point Screws offer fast or drill first application
- HA Coated Screws are suggested for better bone integration in long term applications
- All type of screws are available in titanium or stainless steel

Hybrid Components

Ring Adapter



- Ring adapter allows for direct adaptation to circular and/or foot rings
- 1/3 Ring with Advanced Screw Clamp is utilized to achieve versatile screw placement in proximal femur applications
- 2/3 Ring can be utilized with Advanced Screw Clamp to provide stabilization in a more versatile manner
- Supports to connect C/D unit

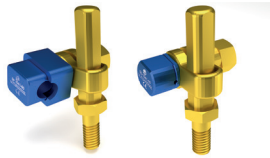
Rings



- Low profile design with aircraft grade aluminium material
- All ring holes are numbered
- Numbered holes to follow the frame
- 1/3 and 2/3 rings are for proximal femur and/or periarticular applications
- Ring connector for constructing full ring from with 1/3 and 2/3 rings

Product Features

Advanced Screw and Advanced Wire Clamps



- Allows desired positioning (0-3cm adjustable height, 2 planes of angulation over the ring)
- Advanced wire clamp secures 1.6mm, 1.8mm and/or 2.0mm diameter wires
- Advanced screw clamp secures 4.5 & 6mm screw shaft
- Titanium material
- Helps to follow screw first method

Easylock Screw Clamp



- 1 hole to 5 holes length options are available
- Secures a 6mm screw with a single bolt
- Stronger fixation over the bone
- Easier to use than a rancho cube
- Very low profile design

Wires



Customer choice:

- Bayonet or trocar point wires
- Straight or olive wires for regular or reduction applications
- 1.6mm, 1.8mm or 2.0mm diameter wires are for different extremity or patient requirements
- Titanium or stainless steel

Supplemental Rod and Connector



- Used to construct "Delta" or triangular frames for hybrid applications
- Available in Stainless steel and carbon fiber
- 6mm rods in short (110mm) and long (300mm) sizes

Indications

The UniX Rail Fixator System is a unilateral fixation device intended for use in;

- Orthopaedic reconstructive procedures including limb lengthening
- Corrective osteotomies
- Arthrodesis
- Fracture fixation
- Acute or gradual multiplanar correction
- Other bone conditions amenable to treatment with external fixation

Disclaimer

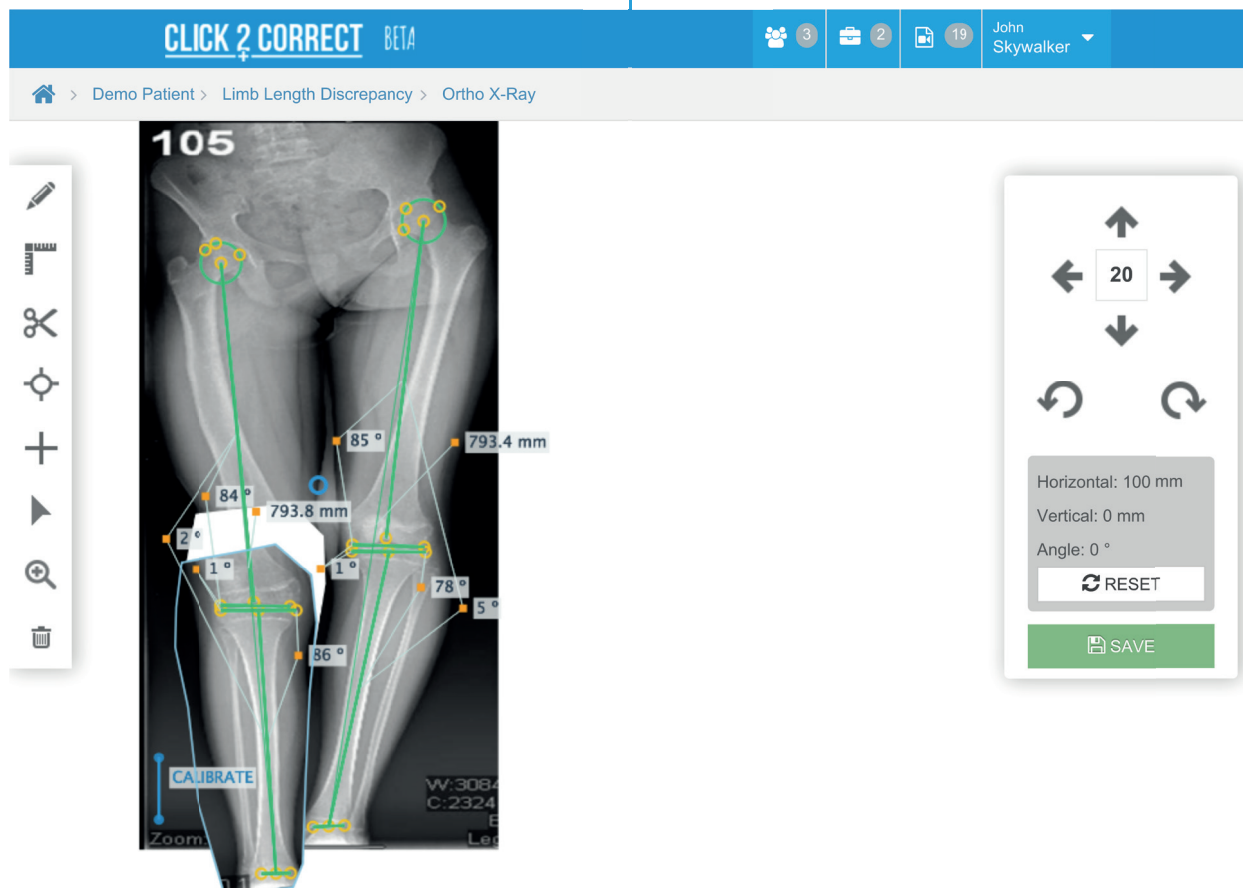
The UniX Rail Fixator should only be used by a suitably qualified and experienced physician.

Deformity Planning

All data obtained via clinical examination and radiographic images should be carefully evaluated as part of the surgical planning.

Deformity correction surgery is a complicated process requiring several coordinated steps; determination of the level(s) of osteotomy/osteotomies in the affected bone segments according to anatomic axis planning and CORA planning using joint orientation lines, planning of the appropriate rail components and their locations.

Click2Correct (www.click2correct.com), web-based pre-operative planning software, can be used to simulate the surgery and to determine the provisional and final position of the bone segment, osteotomy levels and external fixation/ bone screws applications.



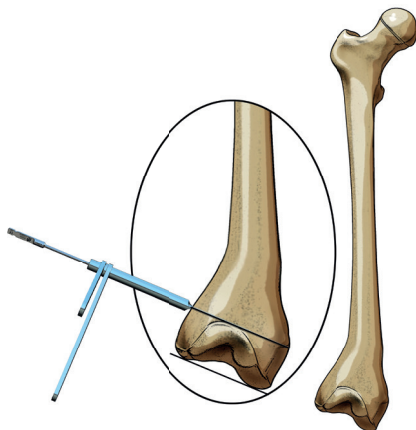
Surgical Technique

Surgical Technique

The following technique will describe the standard application of the UniX Rail Fixator System for a straight lengthening procedure of the femur. Single level lengthening can be achieved using the UniX Rail Fixator System with two bone screw clamps. Prior to the insertion of any bone screw the precise parallel relationship between the rail and the mechanical axis of the bone should be established. This can be accomplished by inserting k-wires into the bone through the designated hole on the bone screw clamps.

Rail positioning is confirmed and the bone screw positions are marked. The k-wires may then be removed to facilitate freehand placement of the first bone screw. For lengthening procedures, initial bone screw insertion should alternate between proximal and distal clusters to allow for accurate sagittal alignment of the rail with the axis of lengthening.

It is recommended that the first bone screw is the one that is placed in closest proximity to the joint (when operating on a femur, the distal most bone screw should be placed parallel to the joint, when operating on a tibia the first bone screw to be placed should be the most proximal bone screw).

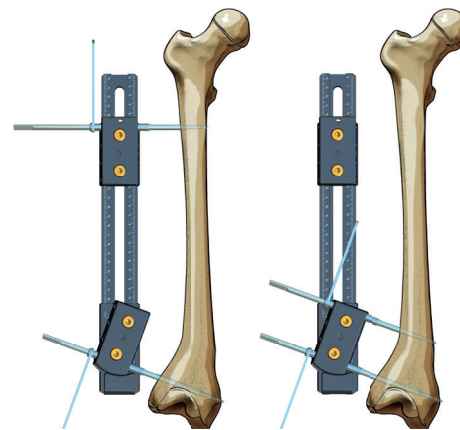


The second bone screw is recommended to be the furthest away from the position of the first

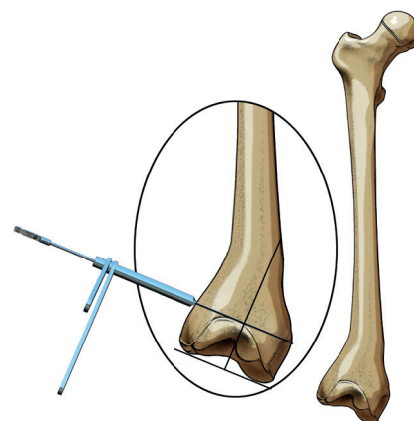
bone screw. This approach will help to ensure that all of the remaining bone screws are aligned correctly. In cases where a deformity exists, it is recommended that the first screw(s) is inserted perpendicular to the segment where the deformity exists and parallel to the adjacent joint.

This decision should be based on:

1. Anatomical considerations
2. Level of desired osteotomy
3. Presence of deformity



A 1cm incision is made and blunt dissection is continued down to bone. The trocar and appropriate length soft tissue guide are then utilized to identify the center of the bone and to establish the orientation of the screw tract to be predrilled. Bone screw insertion should be perpendicular to the mechanical axis.



Once the screw site is selected, hold the drill guide in the non-dominant hand and use gentle pressure to maintain contact between the soft tissue guide and the cortex of the bone while marking the bone with the trocar, prior to drilling. Insert the appropriate drill guide into the soft tissue guide.

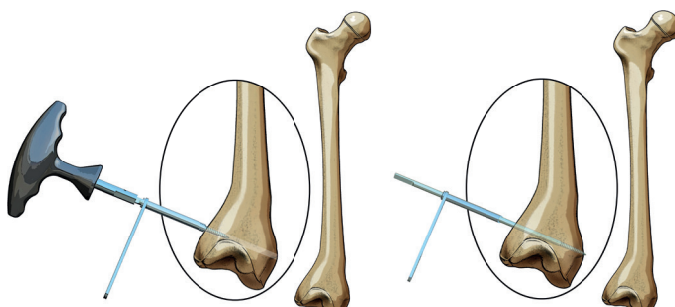
Note:

Drill Guide	Drill Bit	Bone Screw
4.8mm	4.8mm	6.0mm Cortical
3.2mm	3.2mm	6.0mm Cancellous
3.2mm	3.2mm	4.5 mm Cortical

Bone Screw diameter should not exceed 1/3 of the diameter of the bone.

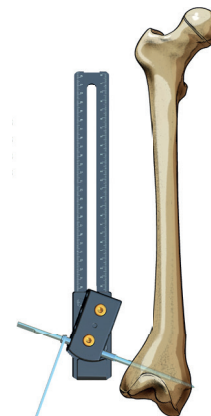
Insert the matching drill bit into the drill guide. After bi-cortical penetration of the bone, the drill bit and drill guide are withdrawn. Maintain contact and position of the soft tissue guide to prevent losing the predrilled hole. If the position of the screw hole is lost, a 2.0 k-wire can be inserted in the soft tissues to locate the hole. The soft tissue guide can then be placed over the k-wire and the position re-established.

The appropriate size and length bone screw is inserted through the soft tissue guide. The bone screw T-wrench is used to advance the screw. To obtain optimal purchase, all bone screws must be bi-cortical with no less than 2mm of thread protruding beyond the far cortex and 5mm remaining outside the near cortex. Image intensification is utilized to confirm depth of penetration. Care must be taken to avoid over penetration. Due to the tapered design, once a bone screw is inserted, it must not be backed out or it will lose purchase.



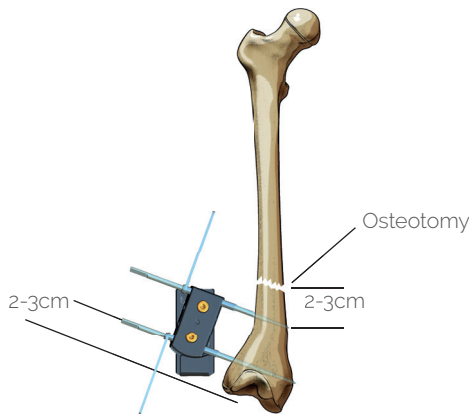
The bone screw wrench is now removed and the bone screw clamp can now be applied to the patient using the first bone screw in place as a reference point. The appropriate rail size and clamps should be applied to the rail taking into account the desired spacing between the bone screw clamps and the osteotomy.

The clamp covers on the selected rail clamps should be loosened to allow the necessary soft tissue guides to fit into the bone screw slots. Once the soft tissue guides are in place, the clamp covers should be tightened to prevent the soft tissue guides from falling out of the clamp during the remainder of the procedure. The fixator is now ready to serve as a template assuring the bone screws will be positioned according to the appropriate spacing and angle in relation to one another.



The UniX Rail Fixator System is then connected to the bone screw and soft tissue guide. Soft tissue guides must remain in all bone screw slots where bone screws will be used. Removal of a soft tissue guide before all bone screws are inserted into the bone will alter the predetermined spacing between the bone screws. This will result in the bone screws not fitting properly in the bone screw clamps. Always use soft tissue guides and never remove any prior to completion of inserting all bone screws.

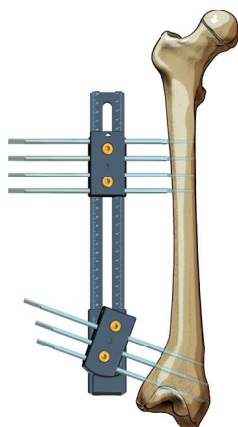
Surgical Technique



Drilling and bone screw insertion in the second clamp can proceed in the same manner as performed for the first bone screw, making sure bi-cortical penetration is achieved. Once appropriate alignment is secured, subsequent bone screws are inserted into both proximal and distal bone screw clamps, alternating screw insertions between screw clamps.

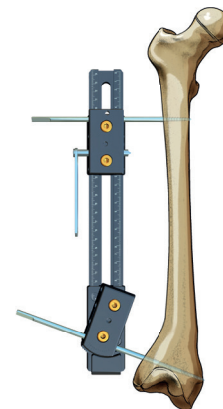
Stability is also improved by using three bone screws in each screw clamp and moving the frame as close to the skin as possible (while still maintaining a safe acceptable distance for bone screw hygiene).

After all bone screws have been inserted, the soft tissue guides should be removed from the bone screw clamps and definitively tightened to the bone screws allowing 2-3cm between the skin and the fixator for subsequent bone screw hygiene.



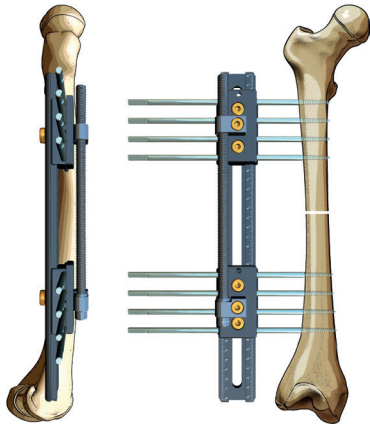
Once the bone screws have been inserted and the frame has been assembled, the corticotomy incision is made according to surgeon preference. This may be via pre-drilling with a 3.2mm drill bit and corticotomy with a small osteotome, or gigli saw. Care should be taken to avoid damaging neurovascular structures as well as breaking off any small fragments of bone.

The soft tissue guide and drill guide can be locked into the most distal seat of the proximal screw clamp. This will ensure proper positioning of the rail in the medial/lateral plane as it relates to the axis of lengthening. Failure to do so will predetermine the position of the rail and may affect the relationship of the rail to the desired lengthening access.

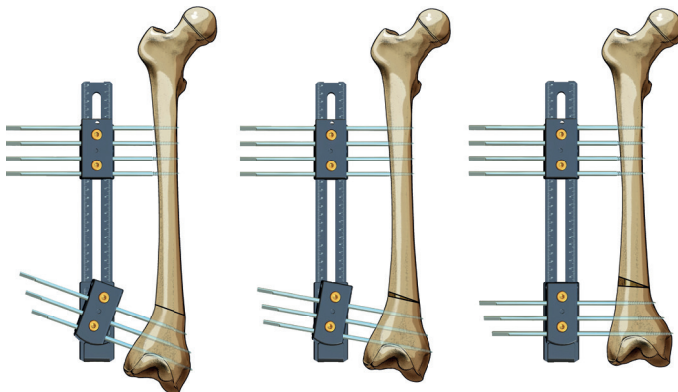


It is important to remember that increased stability of the frame can be achieved through increasing the distance between the bone screws within the same bone screw clamp (i.e. using the #1 and #4 position on the bone screw clamp). Using the fixator as a template, the rail may be slid along the bone screw clamp to obtain optimal positioning for bone screw insertion. To maximize stability, the bone screw clamps should be in close proximity to the level of the osteotomy, although never closer than 2-3cm to any bone screw.

The UniX Rail Gradual Distractor Unit is then attached to the bone screw clamps using the 5mm wrench. With one clamp definitively locked to the rail and the lengthening clamp loose, the frame is distracted to ensure completeness of the corticotomy.



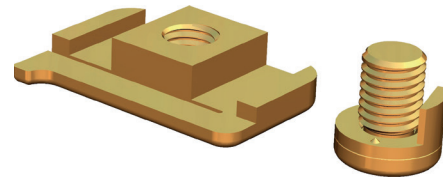
Completeness should also be verified fluoroscopically. Plain radiographs in the OR can be taken in order to ensure that the mechanical axis of the bone and fixator are parallel.



Application of the Rail Dynamization Component

1. Rail Dynamization Component

The rail dynamization component comes in two pieces, a rail locking bolt (identical to the rail locking bolt used for the rail bone screw clamps), and the dynamization component. The dynamization component is straight on one side and semicircular on the remaining three sides. The straight side has a raised 2mm lip which allows for the 2mm of dynamization the device will provide to the rail fixator. The straight side of the dynamization component is intended to sit flush against the bone screw clamp. The underside of the dynamization component is raised to serve as a key for the beam slot of the rail.



Please note: The adult rail dynamization component can NOT be used for the pediatric rail, and the pediatric rail dynamization component can NOT be used to dynamize the adult rail.

2. Dynamization

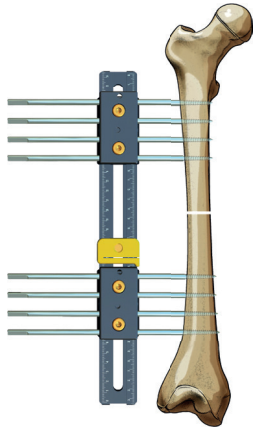
The rail dynamization component has been designed to allow up to 2mm of micro-motion in the axial plane. For the dynamization component to allow for a full 2mm of dynamization, 30Kg (15Kg for the Paediatric) of weight bearing pressure is required. Due to its design the component can be placed on the rail at any given point. In order to apply the dynamization component the locking bolt must be removed.

3. Placement

The dynamization component is placed on the rail above the loaded bone screw clamp assembly. In the illustrated case, the distal bone screw clamp will be loaded. The lip on the straight side of the

Dynamization Component

dynamization component must be flush against the proximal end of the distal bone screw clamp.



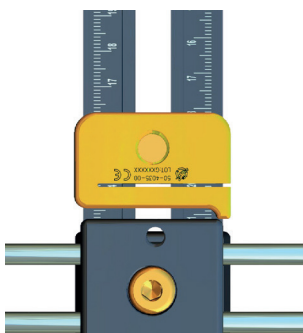
Correct placement of dynamization unit to prevent potential shortening or collapse

3.1. Rule #1

The determining factor in the placement of any dynamization component is prevention of undesired shortening or collapse. The dynamization component must be placed on the side where shortening could potentially take place. When attempting to dynamize a bifocal configuration, segmental, or any other complex rail configuration you must apply the principles of rule #1 stated in the first line of this paragraph.

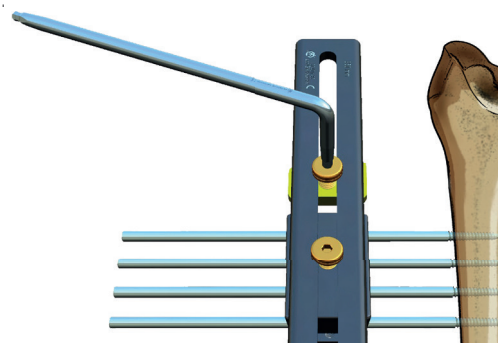
3.2. Rule #2

Any space between the dynamization component and the bone screw clamp must be removed to prevent instability of the fracture site. The rail dynamization component is positioned on the frame with its key recessed into the center beam of the rail. This will allow the dynamization component to sit flush against the rail.



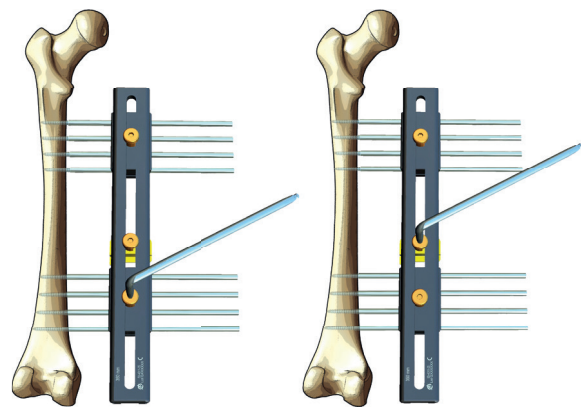
4. Securing The Dynamization Component

Upon reaching satisfactory placement, now replace the locking bolt into the back of the dynamization component, as you would for any bone screw clamp. Before tightening the locking bolt, check to make sure that the 2mm lip is flush against the appropriate side of the bone screw clamp.



5. Final Step In Application

After the dynamization component is locked in place, loosen the rail locking bolt on the distal bone screw clamp (see note). This will result in the bone screw clamp directly resting on the dynamization component. The bone screw clamp should not move at all until axial load is applied.



Suggestions;

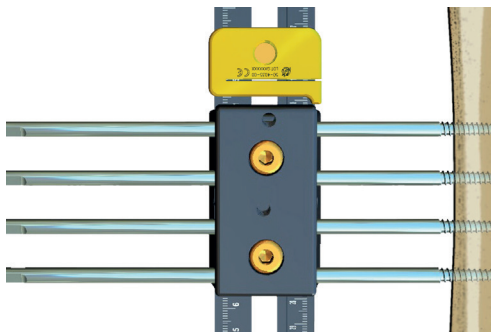
1. In order to prevent the loss of the locking screw from the bone screw clamp, tape should be applied over the bolt to prevent the locking screw unscrewing itself.
2. Alternatively the locking screw can be removed all together and stored in a safe place for future use.

6. Location

Location of the dynamization component (in the referenced example) is the same regardless of whether it is the small or adult rail system.

Please note that this application guide for the dynamization component is based on the following criteria:

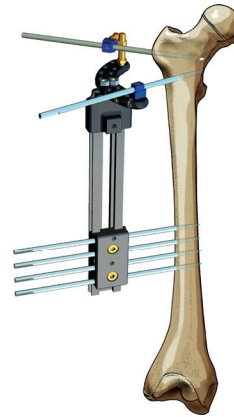
- Standard Lengthening Construct (One Rail, Two Bone Screw Clamps)
- The rail compression/distraction module has been removed



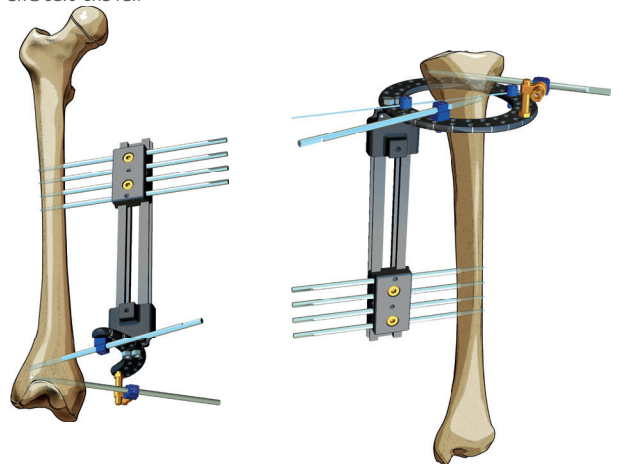
System Modularity

Providing Maximum Flexibility And Component Modularity In The Treatment Of Limb Lengthening, Angular Deformity And Bone Transport

1. 1/3 Ring with Advanced Screw Clamp is utilized allowing varied screw placement on proximal femur applications.



2. Rail Fixator frame can be utilized with 2/3 and full rings on distal femur, proximal tibia, and distal tibia.



Rail to Ring connector allows use of 1/3, 2/3 and full rings.

Post-Operative Care

Suggested Bone Screw Care

The fixator and corticotomy should be compressed for a latency period of 5-10 days as appropriate. Once the inflammatory process of bone healing has subsided, the lengthening process can be addressed on a daily basis. In order to employ the gradual lengthening feature of the device, the frame should be distracted at a rate of four 1/4 turns per day (totaling 1mm per day). This is achieved by loosening the fixator clamp locking bolt on the lengthening clamp, while maintaining a definitive and locked position on the opposite clamp. The gradual distractor features a measured stop at each 1/4 turn to ensure precise distraction. Depending on patient age and quality of regenerate bone, distraction or compression can be adjusted (increased or decreased) to accommodate the patient's bone regenerative capacity.

Typically the lengthening process proceeds at 1mm of length per day. In conservative estimates, it usually takes three times as long for the bone to consolidate as it does to distract. For example, if 5cm of distraction is the surgical goal, the approximate length of fixator duration should take:

1. 7-10 days for latency period.
2. 50 days for distraction.
3. Roughly 150 days for consolidation:

totaling approximately 210 days. Patients should be monitored routinely to evaluate the lengthening process, regenerate bone formation, and bone screw site hygiene.

Once length has been established, it is recommended that a dynamization unit is inserted in the rail construct. This component is placed proximal to the lengthening clamp to allow for elasticity and controlled micromotion of the clamp. Dynamization should lead to increased rates of consolidation.

Dry sterile gauze is wrapped around the shanks

of the bone screws to prevent pistoning of the soft tissues on the bone screws. A solution of 2% hydrogen peroxide and sterile water should be used on the screw sites until the wounds have healed and sutures are removed. The patients are then instructed to shower on a daily basis using an antibacterial soap and water as a means for routine bone screw hygiene.

Clinic Visits and Post-Op Monitoring

Screw sites should be monitored during subsequent clinic visits. All fixator fittings should be evaluated for tightness during subsequent clinic visits. Antero-posterior and lateral x-rays with the knee extended and the patella forward should be obtained weekly during the correction to assure patient compliance and proper usage of the distraction device.

Who ever performs any implant procedure is responsible for determining and utilizing the appropriate techniques for implanting the device in each individual patient.

Response Ortho, and their surgical consultants are not responsible for selection of the appropriate surgical technique to be utilized for an individual patient.

00-9069-02 UniX Rail Fixator Kit*

00-8109-02	UniX Rail Fixator Case	1
50-4021-05	UniX Rail Distractor, Gradual, 5cm	1
50-4021-10	UniX Rail Distractor, Gradual, 10 cm	1
50-4021-15	UniX Rail Distractor, Gradual, 15 cm	1
50-4021-20	UniX Rail Distractor, Gradual, 20 cm	1
50-4011-15	UniX Rail, 150mm	1
50-4011-25	UniX Rail, 250mm	1
50-4011-35	UniX Rail, 350mm	1
50-4011-42	UniX Rail, 420mm	1
50-4033-00	UniX Rail to Ring Connector	1
50-4035-00	UniX Rail, Dynamization Component	1
50-4041-00	UniX Rail, Angular Correction Clamp	1
50-4042-00	UniX Rail, Translation Correction Clamp	1
50-4044-00	UniX Rail, Double Distractor Clamp	3
50-4045-00	UniX Rail, Angular Adjustment Clamp	1

00-9069-00 UniX Pediatric Rail Fixator Kit*

00-8109-03	UniX Pediatric Rail Fixator Case	1
50-4021-05	UniX Rail Distractor, Gradual, 5 cm	1
50-4021-10	UniX Rail Distractor, Gradual, 10 cm	1
50-4021-15	UniX Rail Distractor, Gradual, 15 cm	1
50-7011-10	UniX Pediatric Rail, 100mm	1
50-7011-15	UniX Pediatric Rail, 150mm	1
50-7011-20	UniX Pediatric Rail, 200mm	1
50-7011-25	UniX Pediatric Rail, 250mm	1
50-7011-35	UniX Pediatric Rail, 350mm	1
50-7033-00	UniX Pediatric Rail to Ring Connector	1
50-7041-00	UniX Pediatric Rail, Angular Corr. Clamp	1
50-7042-00	UniX Pediatric Rail, Translation Corr. Clamp	1
50-7044-00	UniX Pediatric Rail, Double Dist. Clamp	3

*Trays need to be used with the General Instrument Tray (00-9069-00)

00-9063-11 SC & Hybrid Ring Set (2/3 - Full Ring)

00-8103-10	Smart Correction & Hybrid Ring Tray	1
50-1012-10A	Dual Hole Full Ring, 105mm ID, Aluminium	2
50-1012-12A	Dual Hole Full Ring, 120mm ID, Aluminium	2
50-1012-13A	Dual Hole Full Ring, 135mm ID, Aluminium	4
50-1012-15A	Dual Hole Full Ring, 150mm ID, Aluminium	4
50-1012-16A	Dual Hole Full Ring, 165mm ID, Aluminium	6
50-1012-18A	Dual Hole Full Ring, 180mm ID, Aluminium	6
50-1012-19A	Dual Hole Full Ring, 195mm ID, Aluminium	4
50-1012-21A	Dual Hole Full Ring, 210mm ID, Aluminium	2

00-9069-0Q General Instrument Tray

00-8109-00	External Fixator General Instrument Case	1
00-0013-90	Depth Gauge, 4.5/6.0mm Range 90mm Length	1
00-0022-00	Hammer (Light)	1
00-0037-60	Low Profile Rod Cutter, 6mm (modular handle)	1
00-0041-32	Drill Guide 3.2 mm	2
00-0041-48	Drill Guide 4.8 mm	2
00-0050-00	Trocar	1
00-0052-40	Soft Tissue Guide, 40mm	2
00-0052-60	Soft Tissue Guide, 60mm	2
00-0130-13	Osteotome, 13mm Blade	1
00-0130-19	Osteotome, 19mm Blade	1
00-2035-19	Allen Wrench, 5mm/190mm	2
00-2036-00	T-Wrench for Bone Screw	1
00-3321-20	Quick Release Drill, 3.2mm / 200mm	2
00-3323-20	Quick Release Drill, 3.2mm / 200mm, Cann.	2
00-3481-03	Quick Release Drill, 4.8mm / 280mm	2
00-3483-28	Quick Release Drill, 4.8mm / 200mm, Cann	2
00-7057-00	2.0mmx250mm Non- Threaded Guide Wire	4

00-9069-01 Smart Correction and Hybrid Set

00-8109-01	Smart Correction Case	1
50-1056-10	EasyLock Drill Guide	2
50-1056-11	EasyLock Screw Clamp, 1 hole	6
50-1056-12	EasyLock Screw Clamp, 2 hole	6
50-1056-13	EasyLock Screw Clamp, 3 hole	6
50-1056-14	EasyLock Screw Clamp, 4 hole	6
50-1056-15	EasyLock Screw Clamp, 5 hole	6
00-2050-10P	10mm Hex Bolt Wrench (ratchet), 90°	1
00-2050-10	10mm Hex Bolt Wrench (ratchet)	2
00-2050-13	13mm Hex Bolt Wrench	1
00-5020-00	Wire Plier	1
00-0034-40	Wire Cutter	1
00-0083-02	Wire Tensioner	2
00-2033-15T	T Allen Wrench, 3mm/150mm	2
50-1051-00	Washer	60
50-1042-30	Advanced Screw Clamp	10
50-1042-00	Standard Screw Clamp	15
50-1041-30	Advanced Wire Clamp	10
50-1041-00	Standard Wire Clamp	17
50-1053-12	Connection Bolt, Short, 12mm	20
50-1053-16	Connection Bolt, Medium, 16mm	40
50-1053-20	Connection Bolt, Long, 20mm	40
50-1052-01	Standard Nut	60

Ordering Information

Optional Ring Codes

50-1012-10A	Dual Hole Full Ring, 105mm ID, Aluminium
50-1012-12A	Dual Hole Full Ring, 120mm ID, Aluminium
50-1012-13A	Dual Hole Full Ring, 135mm ID, Aluminium
50-1012-15A	Dual Hole Full Ring, 150mm ID, Aluminium
50-1012-16A	Dual Hole Full Ring, 165mm ID, Aluminium
50-1012-18A	Dual Hole Full Ring, 180mm ID, Aluminium
50-1012-19A	Dual Hole Full Ring, 195mm ID, Aluminium
50-1012-21A	Dual Hole Full Ring, 210mm ID, Aluminium
50-1012-22A	Dual Hole Full Ring, 225mm ID, Aluminium
50-1012-24A	Dual Hole Full Ring, 240mm ID, Aluminium
50-1012-25A	Dual Hole Full Ring, 255mm ID, Aluminium
50-1012-27A	Dual Hole Full Ring, 270mm ID, Aluminium
50-1012-28A	Dual Hole Full Ring, 285mm ID, Aluminium
50-1012-30A	Dual Hole Full Ring, 300mm ID, Aluminium
50-1017-10A	Dual Hole 2/3 Ring, 105mm ID, Aluminium
50-1017-12A	Dual Hole 2/3 Ring, 120mm ID, Aluminium
50-1017-13A	Dual Hole 2/3 Ring, 135mm ID, Aluminium
50-1017-15A	Dual Hole 2/3 Ring, 150mm ID, Aluminium
50-1017-16A	Dual Hole 2/3 Ring, 165mm ID, Aluminium
50-1017-18A	Dual Hole 2/3 Ring, 180mm ID, Aluminium
50-1017-19A	Dual Hole 2/3 Ring, 195mm ID, Aluminium
50-1017-21A	Dual Hole 2/3 Ring, 210mm ID, Aluminium
50-1017-22A	Dual Hole 2/3 Ring, 225mm ID, Aluminium
50-1017-24A	Dual Hole 2/3 Ring, 240mm ID, Aluminium
50-1017-25A	Dual Hole 2/3 Ring, 255mm ID, Aluminium
50-1017-27A	Dual Hole 2/3 Ring, 270mm ID, Aluminium
50-1017-28A	Dual Hole 2/3 Ring, 285mm ID, Aluminium
50-1017-30A	Dual Hole 2/3 Ring, 300mm ID, Aluminium
50-1018-13A	Dual Hole 1/3 Ring, 135mm ID, Aluminium
50-1018-15A	Dual Hole 1/3 Ring, 150mm ID, Aluminium
50-1018-16A	Dual Hole 1/3 Ring, 165mm ID, Aluminium
50-1018-18A	Dual Hole 1/3 Ring, 180mm ID, Aluminium
50-1018-19A	Dual Hole 1/3 Ring, 195mm ID, Aluminium
50-1018-21A	Dual Hole 1/3 Ring, 210mm ID, Aluminium
50-1018-22A	Dual Hole 1/3 Ring, 225mm ID, Aluminium
50-1018-24A	Dual Hole 1/3 Ring, 240mm ID, Aluminium
50-1018-25A	Dual Hole 1/3 Ring, 255mm ID, Aluminium
50-1018-27A	Dual Hole 1/3 Ring, 270mm ID, Aluminium
50-1018-28A	Dual Hole 1/3 Ring, 285mm ID, Aluminium
50-1018-30A	Dual Hole 1/3 Ring, 300mm ID, Aluminium
50-1018-00A	Dual Hole 1/3 - 2/3 Ring connection part
50-1012-10C	Dual Hole Full Ring, 105mm ID, Carbon
50-1012-12C	Dual Hole Full Ring, 120mm ID, Carbon

50-1012-13C	Dual Hole Full Ring, 135mm ID, Carbon
50-1012-15C	Dual Hole Full Ring, 150mm ID, Carbon
50-1012-16C	Dual Hole Full Ring, 165mm ID, Carbon
50-1012-18C	Dual Hole Full Ring, 180mm ID, Carbon
50-1012-19C	Dual Hole Full Ring, 195mm ID, Carbon
50-1012-21C	Dual Hole Full Ring, 210mm ID, Carbon
50-1012-22C	Dual Hole Full Ring, 225mm ID, Carbon
50-1012-24C	Dual Hole Full Ring, 240mm ID, Carbon
50-1012-25C	Dual Hole Full Ring, 255mm ID, Carbon
50-1012-27C	Dual Hole Full Ring, 270mm ID, Carbon
50-1012-28C	Dual Hole Full Ring, 285mm ID, Carbon
50-1012-30C	Dual Hole Full Ring, 300mm ID, Carbon
50-1017-10C	Dual Hole 2/3 Ring, 105mm ID, Carbon
50-1017-12C	Dual Hole 2/3 Ring, 120mm ID, Carbon
50-1017-13C	Dual Hole 2/3 Ring, 135mm ID, Carbon
50-1017-15C	Dual Hole 2/3 Ring, 150mm ID, Carbon
50-1017-16C	Dual Hole 2/3 Ring, 165mm ID, Carbon
50-1017-18C	Dual Hole 2/3 Ring, 180mm ID, Carbon
50-1017-19C	Dual Hole 2/3 Ring, 195mm ID, Carbon
50-1017-21C	Dual Hole 2/3 Ring, 210mm ID, Carbon
50-1017-22C	Dual Hole 2/3 Ring, 225mm ID, Carbon
50-1017-24C	Dual Hole 2/3 Ring, 240mm ID, Carbon
50-1017-25C	Dual Hole 2/3 Ring, 255mm ID, Carbon
50-1017-27C	Dual Hole 2/3 Ring, 270mm ID, Carbon
50-1017-28C	Dual Hole 2/3 Ring, 285mm ID, Carbon
50-1017-30C	Dual Hole 2/3 Ring, 300mm ID, Carbon

Screw - Wire Covers

50-1070-06	Bone Screw Covers, 6mm/15mm length (6 per pack)
50-1070-02	Wire Cover, 1.8/2.0mm/15mm length (6 per pack)

Wire

50-1061-16	Wire - 1.6mm, Bayonet Tip, Ti
50-1061-18	Wire - 1.8mm, Bayonet Tip, Ti
50-1061-20	Wire - 2.0mm, Bayonet Tip, Ti
50-1061-16S	Wire - 1.6mm, Bayonet Tip, SS
50-1061-18S	Wire - 1.8mm, Bayonet Tip, SS
50-1061-20S	Wire - 2.0mm, Bayonet Tip, SS
50-1062-16	Olive Wire - 1.6mm, Bayonet Tip, Ti
50-1062-18	Olive Wire - 1.8mm, Bayonet Tip, Ti
50-1062-20	Olive Wire - 2.0mm, Bayonet Tip, Ti
50-1062-16S	Olive Wire - 1.6mm, Bayonet Tip, SS
50-1062-18S	Olive Wire - 1.8mm, Bayonet Tip, SS
50-1062-20S	Olive Wire - 2.0mm, Bayonet Tip, SS
50-1062-00S	Olive Wire Washer, SS
50-1064-16	Olive Wire - 1.6mm, Trocar tip, Ti
50-1064-18	Olive Wire - 1.8mm, Trocar tip, Ti
50-1064-20	Olive Wire - 2.0mm, Trocar tip, Ti
50-1064-16S	Olive Wire - 1.6mm, Trocar tip, SS
50-1064-18S	Olive Wire - 1.8mm, Trocar tip, SS
50-1064-20S	Olive Wire - 2.0mm, Trocar tip, SS

Ordering Information

Bone Screws

	Length		Blunt Tip				Trocar Tip			
			Stainless Steel		Titanium		Stainless Steel		Titanium	
	Shaft	Thread	HA Coated	Non-Coated	HA Coated	Non-Coated	HA Coated	Non-Coated	HA Coated	Non-Coated
4.5mm	100mm	20mm				50-1074-102B				
		40mm				50-1074-104B				
	120mm	20mm	50-1084-122HB	50-1084-122B		50-1074-122B		50-1084-122		50-1074-122
		30mm	50-1084-123HB	50-1084-123B	50-1074-123HB	50-1074-123B		50-1084-123	50-1074-123H	50-1074-123
		40mm	50-1084-124HB	50-1084-124B	50-1074-124HB	50-1074-124B	50-1084-124H	50-1084-124	50-1074-124H	50-1074-124
	150mm	50mm	50-1084-125HB		50-1074-125HB		50-1084-125H		50-1074-125H	
		30mm	50-1084-153HB	50-1084-153B	50-1074-153HB	50-1074-153B	50-1084-153H	50-1084-153	50-1074-153H	50-1074-153
		40mm	50-1084-154HB	50-1084-154B	50-1074-154HB	50-1074-154B	50-1084-154H	50-1084-154	50-1074-154H	50-1074-154
			50mm	50-1084-155HB		50-1074-155HB		50-1084-155H		50-1074-155H
	6.0mm	100mm	30mm				50-1076-103B		50-1086-103	
110mm		30mm				50-1076-113B				50-1076-113
		40mm				50-1076-114B				
120mm		20mm					50-1086-122H	50-1086-122		
		30mm	50-1085-123HB		50-1075-123HB		50-1085-123H	50-1086-123	50-1075-123H	
		40mm	50-1085-124HB		50-1075-124HB		50-1085-124H		50-1075-124H	
			50mm	50-1085-125HB		50-1075-125HB		50-1085-125H		50-1075-125H
130mm		30mm				50-1076-133B				
140mm		40mm				50-1076-144B				
150mm		30mm	50-1086-153HB	50-1086-153B	50-1076-153HB	50-1076-153B	50-1086-153H	50-1086-153	50-1076-153H	50-1076-153
		40mm	50-1086-154HB	50-1086-154B	50-1076-154HB	50-1076-154B	50-1086-154H	50-1086-154	50-1076-154H	50-1076-154
		50mm	50-1085-155HB		50-1075-155HB	50-1076-155B	50-1085-155H		50-1075-155H	
		60mm							50-1076-156H	
160mm		30mm				50-1076-163B				
		40mm				50-1076-164B			50-1076-164H	
180mm		20mm						50-1086-182		
		30mm	50-1086-183HB	50-1086-183B	50-1076-183HB	50-1076-183B	50-1086-183H	50-1086-183	50-1076-183H	50-1076-183
		40mm	50-1086-184HB	50-1086-184B	50-1076-184HB	50-1076-184B	50-1086-184H	50-1086-184	50-1076-184H	50-1076-184
		50mm				50-1076-185B				
		60mm				50-1076-186B			50-1076-186H	
200mm	30mm	50-1086-203HB	50-1086-203B		50-1076-203B	50-1086-203H	50-1086-203	50-1076-203H	50-1076-203	
	40mm	50-1086-204HB	50-1086-204B		50-1076-204B	50-1086-204H	50-1086-204		50-1076-204Z	
	50mm	50-1086-205HB	50-1086-205B		50-1076-205B	50-1086-205H	50-1086-205	50-1076-205H	50-1076-205	
	60mm				50-1076-206B					
220mm	30mm	50-1086-223HB	50-1086-223B	50-1076-223HB	50-1076-223B	50-1086-223H	50-1086-223	50-1076-223H	50-1076-223	
	40mm	50-1086-225HB	50-1086-224B	50-1076-225HB	50-1076-224B	50-1086-225H	50-1086-224	50-1076-225H	50-1076-224	
	50mm				50-1076-225B		50-1086-225		50-1076-225	
	60mm				50-1076-226B			50-1076-226H		
250mm	30mm	50-1086-253HB	50-1086-253B	50-1076-253HB	50-1076-253B	50-1086-253H	50-1086-253	50-1076-253H	50-1076-253	
	40mm	50-1086-255HB	50-1086-254B	50-1076-255HB	50-1076-254B	50-1086-255H	50-1086-254	50-1076-255H	50-1076-254	
	50mm						50-1086-255			
300mm	60mm		50-1086-306B				50-1086-306			

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