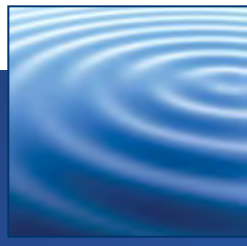
Life moves us



SURGICAL TECHNIQUE



REVERE®

Stabilization System

GLOBUS MEDICAL

Outside the US Only



Life moves us

At Globus, we move with a sense of urgency to deliver innovations that improve the quality of life for patients with spinal disorders. We are inspired by the needs of these patients and also the needs of the surgeons and health care providers who treat them.

This passion combined with Globus' world class engineering transforms clinical insights into tangible spine care solutions. We are driven to provide the highest quality products to improve the techniques and outcomes of spine surgery so patients can resume their lives as quickly as possible. We extend our reach beyond our world class implants, instrumentation, and service by partnering with researchers and educators to advance the science and knowledge of spine care.

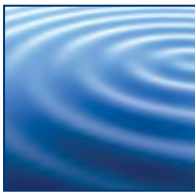
The energy and enthusiasm each of us bring everyday to Globus is palpable. We are constantly in the pursuit of better patient care and understand that speed is critical because life cannot wait.

GLOBUS
MEDICAL

www.globusmedical.com

REVERE®

Stabilization System



REVERE® is a comprehensive thoracolumbar stabilization system providing surgeons with a full range of polyaxial screws, rods and connectors. The system centers on the robust non-threaded, low-torque locking mechanism, which captures the rod with a 90° rotation. The system includes refined instrumentation and multiple reduction choices, as well as a variety of implant options, and four material choices to meet the challenges of the complete range of posterior thoracolumbar procedures.

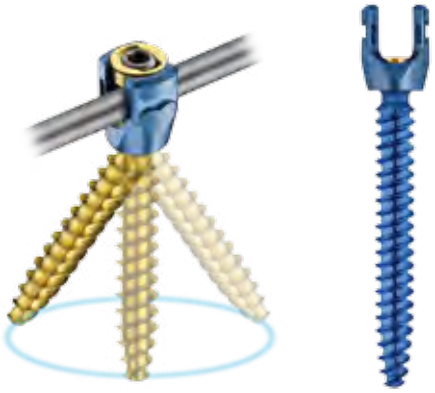
REVERE® provides convenience and ease of use in surgery to treat a variety of posterior lumbar conditions with versatility and simplicity.



REVERE®
STABILIZATION SYSTEM

Screw Options

- **Polyaxial** – provides intraoperative flexibility, with double lead threads for rapid insertion, available in titanium alloy and stainless steel
- **Dual Outer Diameter** – designed to optimize purchase in both cancellous and cortical bone in the sacrum
- **Also available** – monoaxial, reduction, uniplanar and uniplanar reduction



Material Options

Titanium Alloy (TAV)
- Strong titanium alloy
- More rigid than commercially pure titanium
- Allows for defined imaging



Commercially Pure Titanium
- Better metal memory – less springback when contouring
- Industry standard for imaging
- Longer deformity rods



Stainless Steel
- Offers more rigid construct
- Stiffer than TAV or CP Titanium



Cobalt Chrome
- More rigid than TAV without sacrificing image quality or profile
- Stiffer than TAV or CP Titanium



Rod Reduction Options

- **Reduction Tower** – Recommended when more reduction is required. Offers up to 20mm of smooth, controlled reduction.
- **5.5mm Ratcheting Reducer** – Reduces the rod up to 10mm with simple scissor action (1mm per click)
- **Rod Lever** – Simple yet powerful rod reduction over shorter distances
- **Locking Cap Guide** – Used to aid in final adjustments of the rod into the screw head
- **Rod Pusher** – Aids in small manipulations of the rod into the screw head



CONTENTS

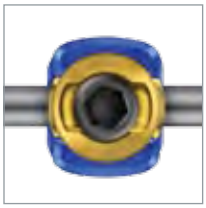
Implant Overview 4
Instrument Overview 8
Surgical Technique
1. Approach 28
2. Screw Insertion 28
Using the Screw Head Positioner 31
3. Rod Insertion and Locking Cap Delivery 31
Loading the Cap Driver 32
Using the Locking Cap Guide 33
Rod Reduction
Option 1: Locking Cap Guide 34
Option 2: Rod Pusher 34
Option 3: Rod Lever 35
Option 4: 5.5mm Ratcheting Reducer 35
Option 5: Reduction Tower 36
4. Compression or Distraction 37
Free/Locked Angulation 37
5. Final Tightening 38
Final Construct 38
Optional Technique: T-Connector Insertion 39
Using Cross Connector Caliper 39
Final Construct with T-Connector 40
Instructions for REVERE® Closed Head Screws 41
Closed Head Polyaxial Screws 41
Closed Head Monoaxial Screws 45
Optional: Implant Removal 52
REVERE® Sets 53

The Surgical Technique shown is for illustrative purposes only. The technique(s) actually employed in each case always depends on the medical judgment of the surgeon exercised before and during surgery as to the best mode of treatment for each patient. Additionally, as instruments may occasionally be updated, the instruments depicted in this Surgical Technique may not be exactly the same as the instruments currently available. Please consult with your sales representative or contact Globus directly for more information.

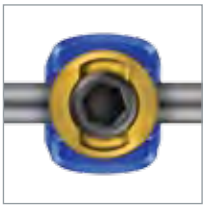
IMPLANT OVERVIEW

Non-Threaded Locking Cap

- Non-threaded design eliminates cross-threading
- Low-torque locking mechanism
- 90° rotation to capture the rod
- Optimal design decreases need for rod reduction
- Set screw pre-torqued in place to prevent any unintentional movement in shipping or handling
- Allows direct placement with the hex driver for easier assembly



Unlocked



Locked

Screw Thread

- Self-tapping design
- Blunt tip for bicortical purchase
- Constant outer diameter for maximum bone purchase
- Double lead thread for rapid insertion (up to 7.5mm diameter)
- Taps are available, color-coded to screw size





Polyaxial Screws

- ±30° angulation (60° total) provides intraoperative versatility
- Low-torque locking mechanism
- Double lead threads aid in faster insertion (up to 7.5mm diameter)
- Allow for compression and distraction while screw angle is locked
- Screw diameters 4.0, 4.5, 5.0, 5.5, 6.5, 7.5, 8.5, 9.0 and 10.0mm; color-coded (TAV)
- Screw lengths 20–90mm (up to 120mm in 9.0mm and 10.0mm)
- Available in titanium alloy and stainless steel



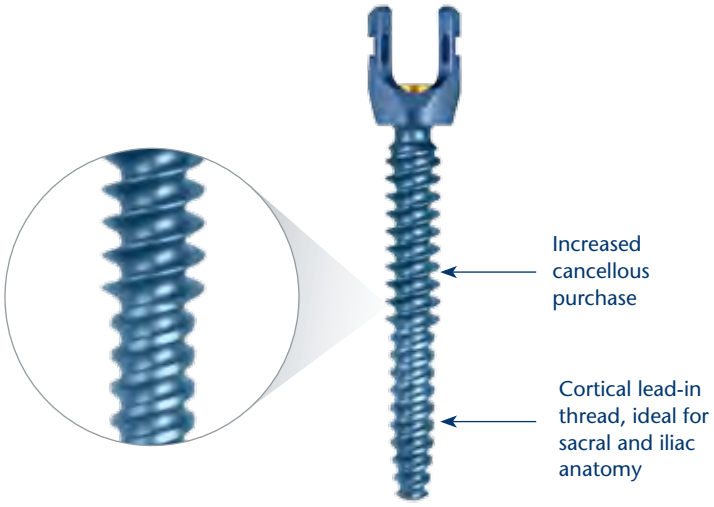




IMPLANT OVERVIEW

Dual Outer Diameter Screws

- Designed to optimize purchase in both cancellous and cortical bone
- Nominal diameter at distal end allows for deeper insertion into sacrum without perforation
- Designed for enhanced fixation for the sacrum and ilium, or for osteoporotic bone
- ±30° angulation (60° total) provides intraoperative versatility
- Available in distal/proximal outer diameters of 5.5/7.0, 6.0/7.5, 6.5/8.0, and 7.0/8.5mm
- Screw lengths 30–100mm
- Longer lengths designed for iliac placement
- Available in titanium alloy



DOD screws designated by **distal** diameter

Closed Head Dual Outer Diameter Screws

- Designed to optimize purchase in cancellous bone
- Ideal for use in the ilium
- Distal diameter step down (1.5mm) for redirection and piloting between cortical walls
- Closed head provides security and reduced profile
- Constant core diameter maintains strength
- Integrated set screw
- Accepts round, faceted and D-shaped offsets
- Available in titanium alloy (TAV) for a 5.5mm rod



Closed Head Polyaxial DOD Screw



Closed Head Monoaxial DOD Screw

Closed Head Polyaxial DOD Screws

- Variable head design provides up to 30° of angulation in all directions

Closed Head Monoaxial DOD Screws

- Provide a low-profile, rigid structure for longer constructs



Closed Head Angled Monoaxial Screw

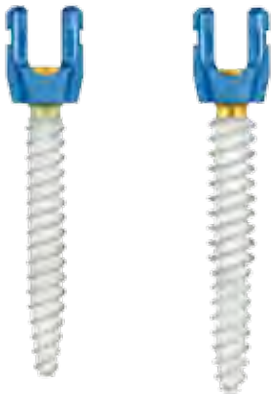
Closed Head Angled Monoaxial Screws

- 15° tilt may allow easier placement of the offset connector

IMPLANT OVERVIEW

HA-Coated Screws

- Polyaxial screws featuring HA-coating to help promote bone ongrowth onto the HA-coating for fixation
- Dual lead threads for rapid insertion
- ± 30° angulation (60° total) provides intraoperative flexibility
- Both standard REVERE® screws and DOD screws available



Adjustable T-Connectors

- Enhances construct stability
- Unique design with fewer tightening steps
- Guided locking mechanism
- Angular and medial-lateral adjustments provide optimal fit
- 9.5mm profile above rod
- Available in seven sizes with overlapping lengths
- Available in titanium alloy and stainless steel



Variable Cross Connectors

- Optimized for profile and strength
- Unique design with fewer tightening steps
- Angular and medial-lateral adjustments provide secure fit
- 9.5mm profile above rod
- Available in seven sizes with overlapping lengths
- Available in titanium alloy



IMPLANT OVERVIEW

5.5mm Rods

- Comprehensive selection of straight and curved rods available in a range of sizes
- Hex-ended straight rods available up to 500mm
- Manufactured in titanium alloy and stainless steel for versatility in choice

Titanium Alloy (TAV)

- More rigid than commercially pure titanium
- Allows for defined imaging



Stainless Steel

- Offers a more rigid construct



Commercially Pure Titanium*

- Better metal memory, less spring back when contouring



Cobalt Chrome*

- Stiffest material option



** Longer rods (up to 500mm) are available in commercially pure titanium or cobalt chrome material.*

H-LINK®

- Integrated pre-lordosed rod and T-Connector
- Overcomes T-Connector space limitations in L5-S1 fusion cases by reducing run-on-rod dimensions 50%
- Provides three times the torsional stiffness of a construct without a cross connector**
- Available in 35, 40, 45 and 100mm length rods with overlapping T-Connector lengths



***Testing on file at Globus Medical*

INSTRUMENT OVERVIEW

Pedicle Preparation Instruments



Pedicle Awl 602.104



Pedicle Probe, Straight 602.101



Pedicle Probe, Curved 602.102



Pedicle Probe, Thoracic 602.109



Ball Tip Probe 602.105



Ball Tip Probe, Curved 602.106



Ball Tip Probe, Double Ended 624.110

Pedicle Preparation Instruments (cont'd)



4.5mm Tap 624.214



5.5mm Tap 624.215



6.5mm Tap 624.216



7.5mm Tap 624.217

Screw Insertion Instruments



3.5mm Hex Driver Rigid Shaft 624.703



Holding Sleeve Assembly 624.704



Quick Release Ratchet Handle, Straight 602.407



Rigid Screw Driver Assembly – 3.5mm Hex Driver Rigid Shaft 624.703, Holding Sleeve Assembly 624.704 and Quick Release Ratchet Handle, Straight 602.407 (Assembled)

Screw Insertion Instruments (cont'd)



3.5mm Hex Driver Shaft, Self-Retaining 602.408



3.5mm Hex Driver, Self-Retaining 624.406



Screw Head Positioner 624.402

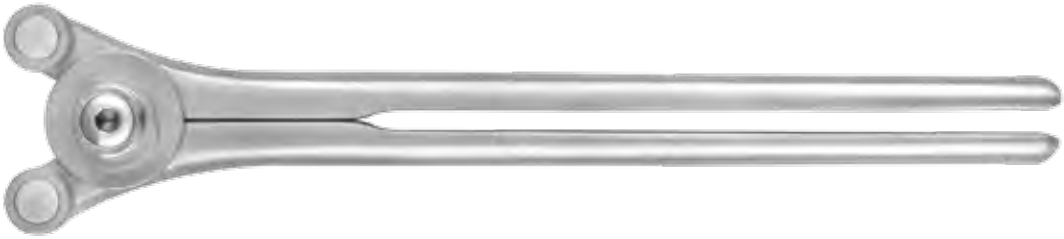


Ball End Hex Driver 602.420

Rod Manipulation Instruments



Rod Template, 150mm 602.501

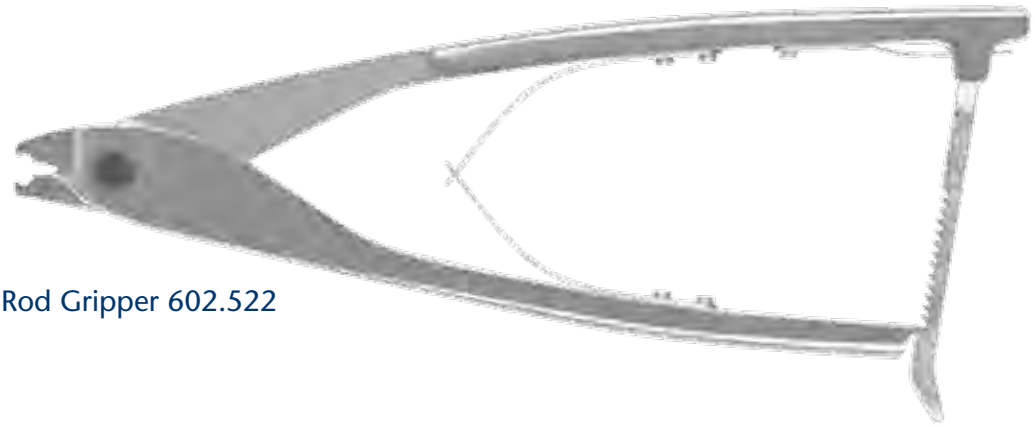


Rod Bender, 5.5 Rod 624.607



Rod Holder 624.510

Rod Manipulation Instruments (cont'd)



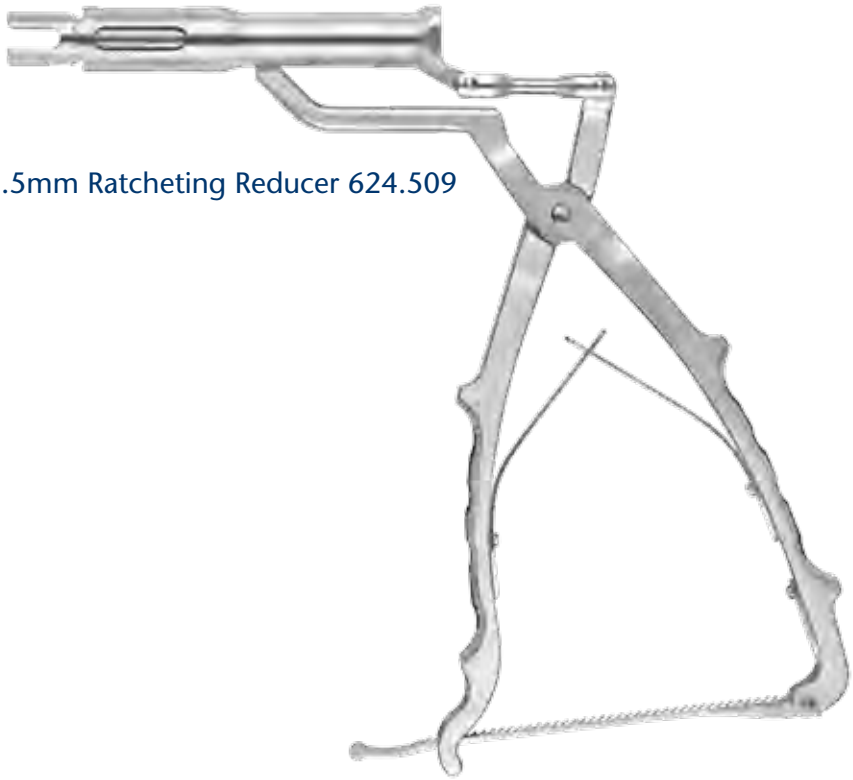
Rod Gripper 602.522



Rod Lever 624.511



Rod Pusher 624.513

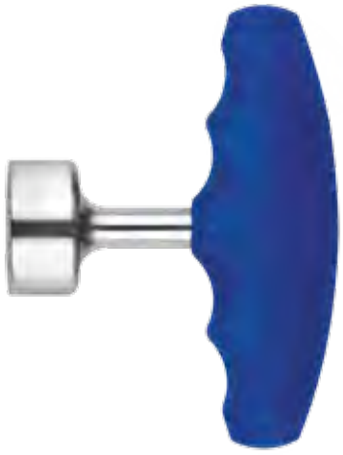


5.5mm Ratcheting Reducer 624.509

Rod Manipulation Instruments (cont'd)



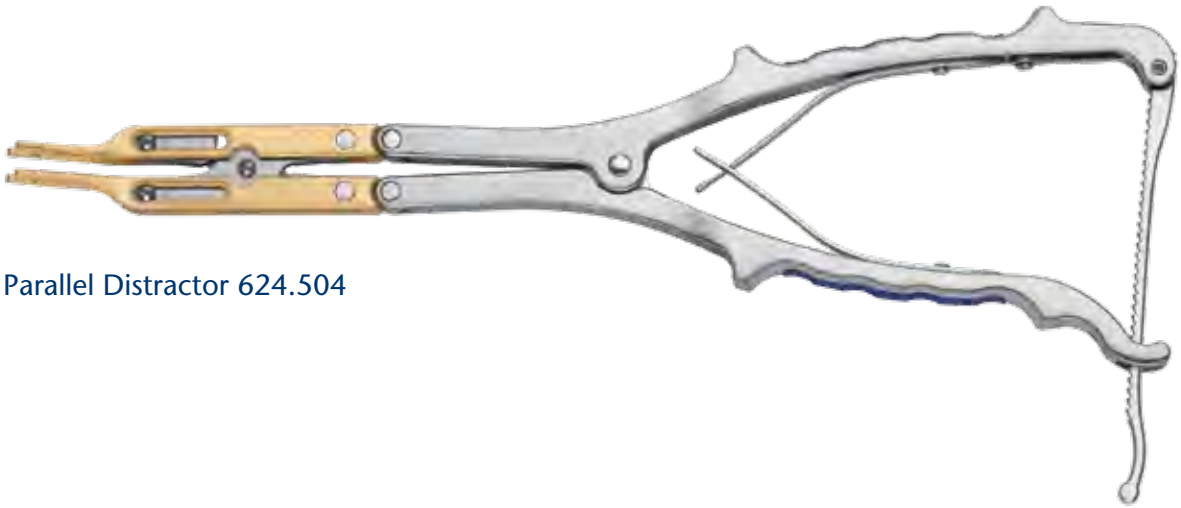
Reduction Tower 624.800



T-Handle, Reduction Tower 624.801



Parallel Compressor 624.503



Parallel Distractor 624.504

Screw Locking Instruments



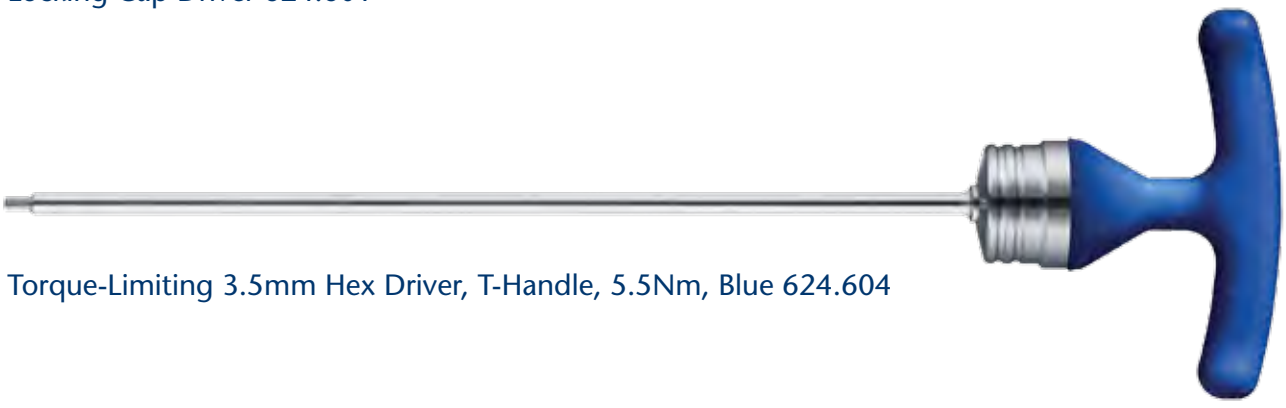
Final Tightening Counter Torque 624.603



Locking Cap Guide 624.602



Locking Cap Driver 624.601



Torque-Limiting 3.5mm Hex Driver, T-Handle, 5.5Nm, Blue 624.604

Cross Connector Instruments



Cross Connector Caliper 6067.1060



T-Connector Inserter 624.606



Screwdriver Shaft, 2.5mm Hex 682.210



Torque-Limiting Quick Connect Handle 1.5Nm 682.212

Other Instruments



Screw Removal Tool 602.701



Soft Tissue Retractor 624.514

Additionally Available Instruments



T-Handle
(Non-Ratcheting)
601.800



Pedicle Marker – Notched 602.107



Pedicle Marker – Beaded 602.108



Quick Release Ratchet
Handle 602.401



Torque-Limiting 2.5mm Hex Driver TD, 2.5Nm, Blue 602.430
Additionally Available for Variable Cross Connector

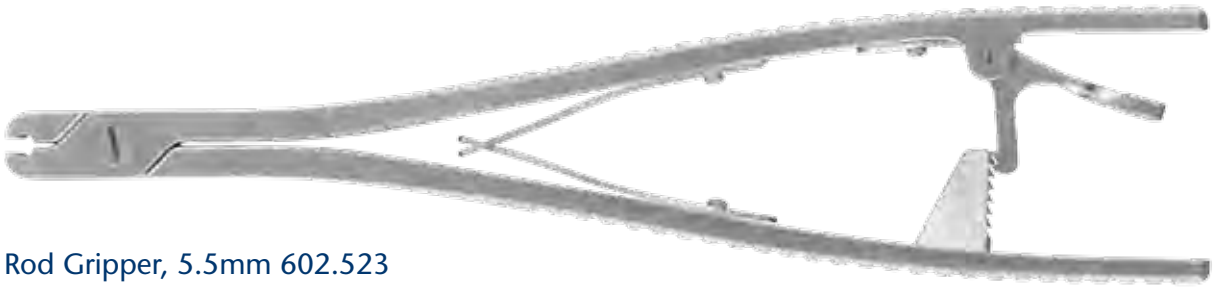


Rod Cutter 602.508

Additionally Available Instruments (cont'd)



Hinged Distractor 602.509



Rod Gripper, 5.5mm 602.523



Torque Indicating 3.5mm Hex Driver 602.604

Additionally Available Instruments (cont'd)

Pedicle Access Kit 624.027S



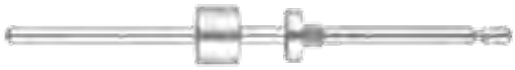
Insulated Probe, 8" 675.706S



Spring Clip 675.705S



REVERE® Pedicle Marker, Sphere 624.107



REVERE® Pedicle Marker, Cylinder 624.108



REVERE® Pedicle Marker Holder 624.109

Additionally Available Instruments (cont'd)



Pedicle Probe, Small, Straight 624.111



Pedicle Probe, Small, Curved 624.112



Pedicle Probe, Thoracic, Curved 624.113



Pedicle Probe, Thoracic, Straight 624.114



5.0mm Tap 624.212



4.0mm Tap 624.213



8.5mm Tap 624.218

Additionally Available Instruments (cont'd)



Sacral Awl Shaft 624.220



Sacral Awl Depth Adjuster 624.221



In Situ Bender, Left 624.303



In Situ Bender, Right 624.304

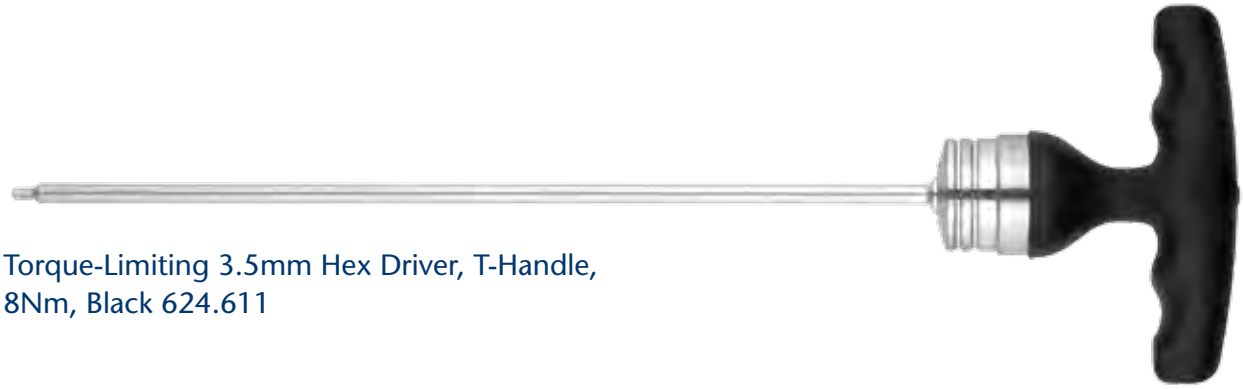


3.5mm Hex Screwdriver 624.400

Additionally Available Instruments (cont'd)



3.5mm Screwdriver, Spring-loaded 624.411



Torque-Limiting 3.5mm Hex Driver, T-Handle,
8Nm, Black 624.611



REVERE® Power Bender 624.613

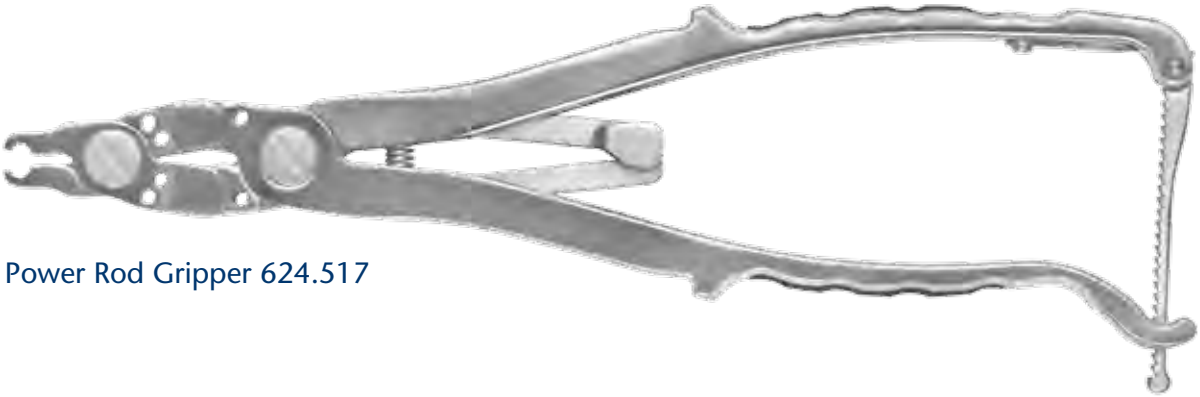


Torque-Limiting T-Handle, Ratcheting,
5.5Nm, Quick Release, Blue 624.614

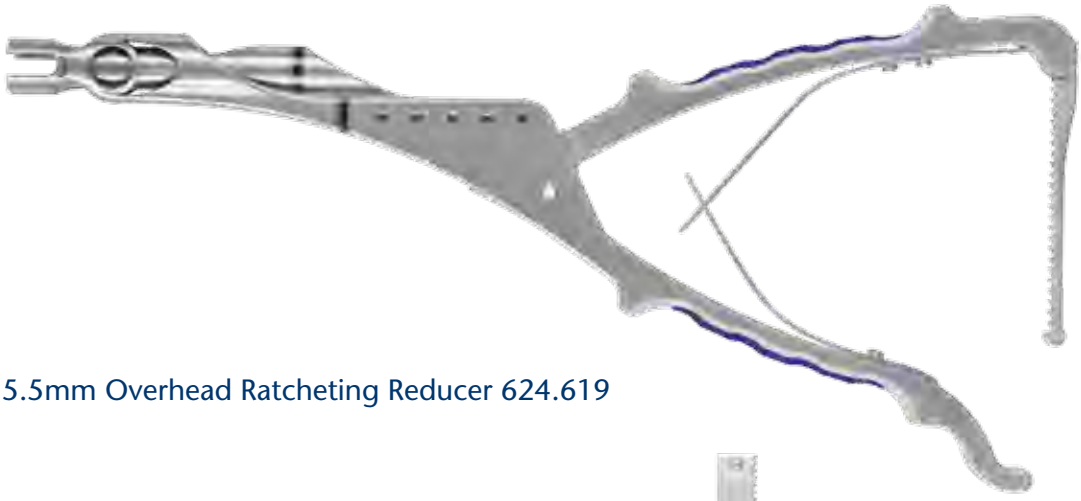
Additionally Available Instruments (cont'd)



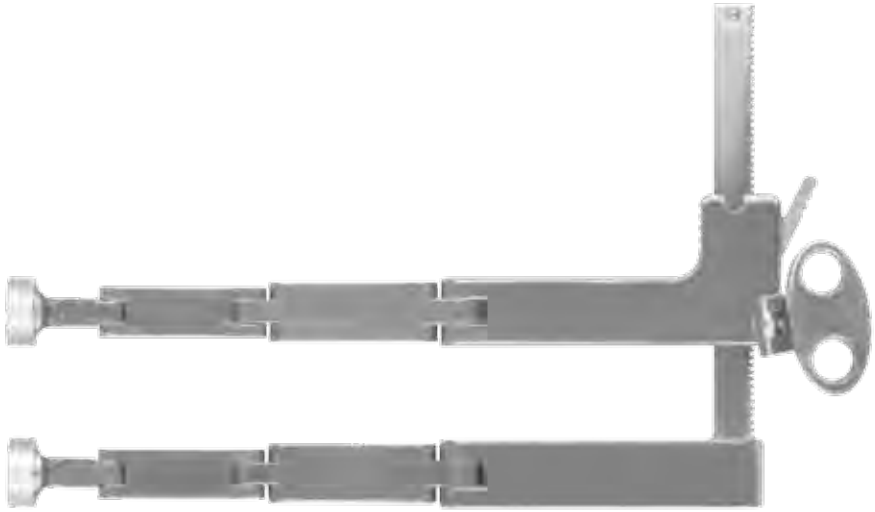
3.5mm Hex Driver, Quick Release 624.615



Power Rod Gripper 624.517



5.5mm Overhead Ratcheting Reducer 624.619



Screw Head Distractor 624.702

Additionally Available Instruments (cont'd)



3.5mm Hex Driver, Shaft Cannulated 624.705
(For use with Holding Sleeve Assembly 624.704)



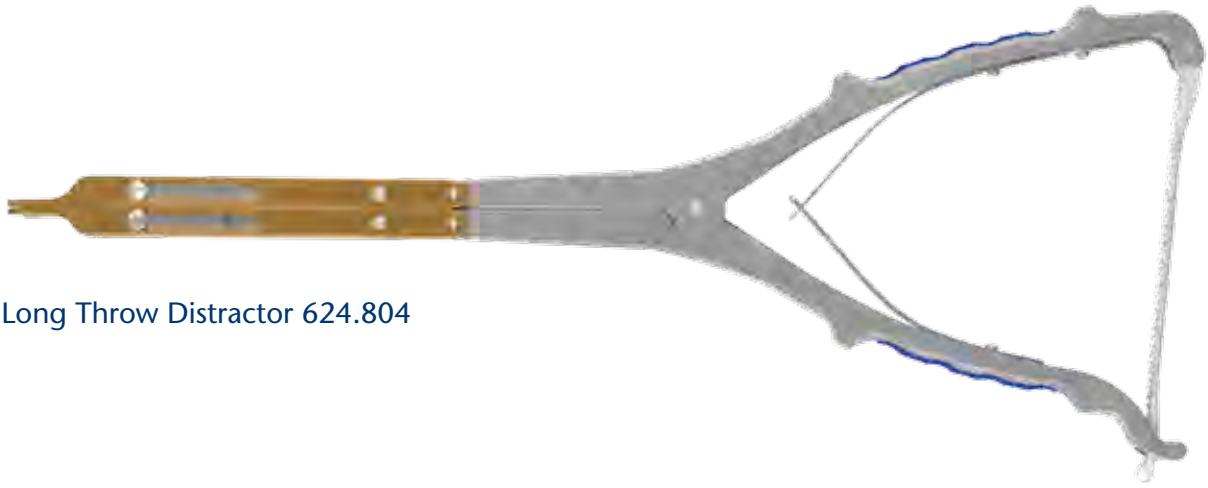
3.5mm Head Positioner Hex Driver 624.707



3.5mm Hex Driver, Short 624.708
(For use with Holding Sleeve, Short 624.709)



Holding Sleeve, Short 624.709



Long Throw Distractor 624.804



Locking Cap Driver, Long 629.157

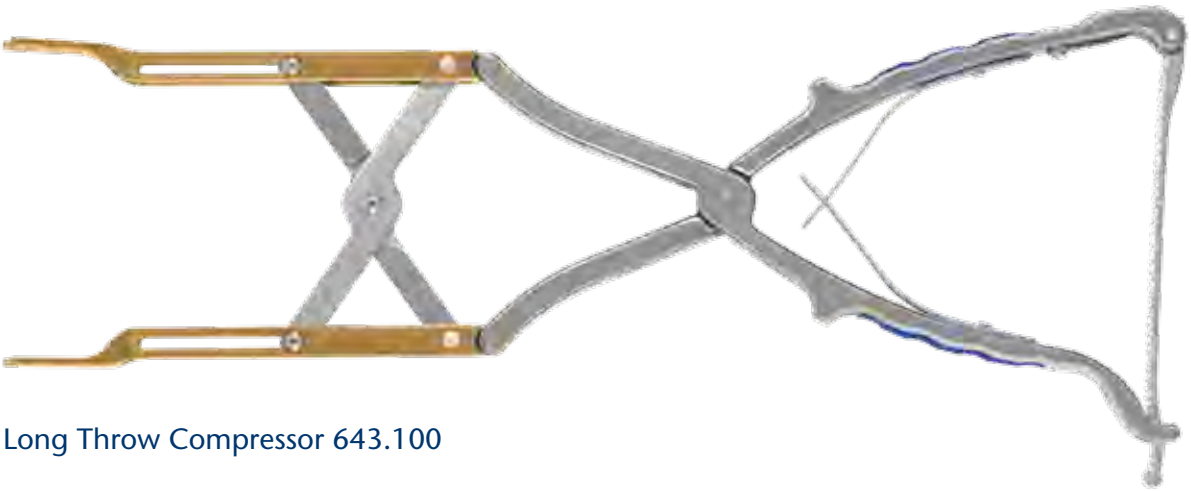
Additionally Available Instruments (cont'd)



Ratcheting 6.5Nm,
1/4" Connect, Red 634.604



Quick Coupling Handle, Large
(Straight Non-Ratcheting) 646.960



Long Throw Compressor 643.100



3.5mm Torque-Limiting Hex Driver 654.415

REVERE® Closed Head DOD Screws Instruments



Counter Torque, Transverse 602.608



7.5mm Tap 624.275



8.5mm Tap 624.285



9.5mm Tap 624.295



10.5mm Tap 624.105
(Needs 630.407 Quick Release 1/4" Ratchet Handle, Straight)

REVERE® Closed Head DOD Screws Instruments (cont'd)



Monoaxial Self-Retaining Drive 624.450



3.5mm Hex Driver-Shaft, Self-Retaining Iliac Poly Driver 624.460



Screw Head Sleeve, Iliac Poly Driver 624.461



Torque-Limiting, 3.5mm Hex Driver T-Handle, 6.5Nm, Green 624.465



Final Tightening Counter Torque, Short 624.616

REVERE® Closed Head DOD Screws Instruments (cont'd)



1/4" Quick Release T-Handle 630.401



1/4" Quick Release Straight Handle 630.407



Sacral Probe 654.401

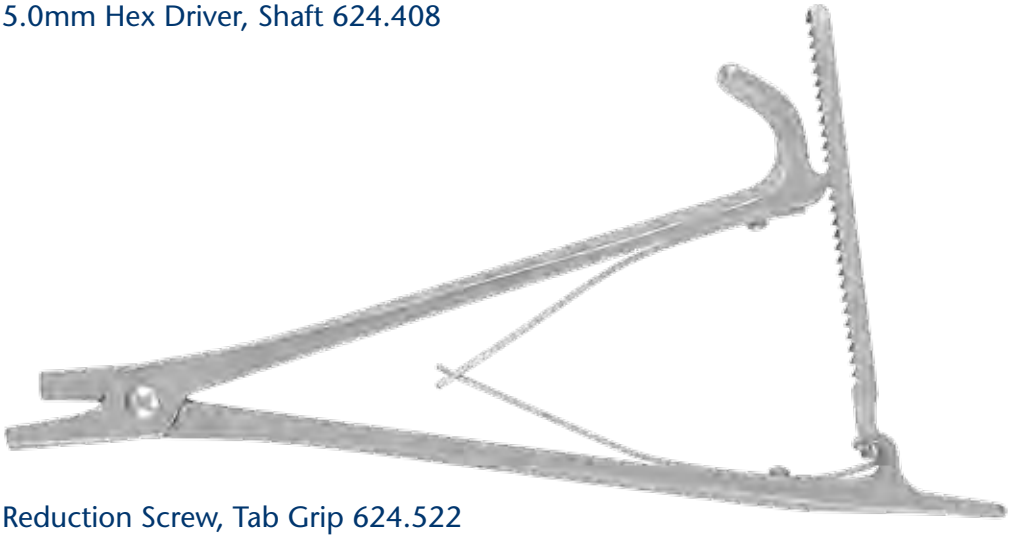
REVERE® Uniplanar Fracture Instruments



3.5mm Hex Driver, Reduction Shaft 624.407



5.0mm Hex Driver, Shaft 624.408



Reduction Screw, Tab Grip 624.522



3.5mm Screwdriver, Reduction Screw 624.523



Reduction Screw Cap Driver, Handle 624.524



Uniplanar Reduction Screw Cap Driver 624.530

REVERE® SURGICAL TECHNIQUE

Step 1 Approach

The patient is placed under anesthesia and positioned prone. The operative area is carefully cleaned and an incision is made at the appropriate level(s). Lateral C-arm fluoroscopy or other radiographic methods can be utilized throughout surgery to ensure correct screw placement.

There are various techniques for pedicle screw and rod insertion. For the purposes of this technique guide, a Wiltse paramedial approach and building of an L4-L5-S1 construct is shown.

Please refer to the specific product insert for additional information.

Step 2 Screw Insertion

Pedicle Preparation

Locate pedicles and remove bone and/or soft tissue as needed using standard instruments.

Use the **Pedicle Awl** to perforate the pedicle cortex.

Use a **Pedicle Probe** to open the pedicle pathway. Demarcations every 10mm on the probe indicate the depth of the pathway and help determine proper screw length.

Use a **Ball Tip Probe** to verify that the walls of the prepared pedicle pathway are not violated. Demarcations every 10mm on the probe indicate the depth of the pathway and can also help determine proper screw length.

Pedicle access may be monitored for neurophysiological response* by attaching the **Spring Clip** on the selected taps.

REVERE® pedicle screws are self-tapping, however pedicles may be tapped if desired. Insert the **Tap** of the desired diameter into the **Quick Release Ratchet Handle**. Tap the pedicle to the determined depth.

**Globus Medical does not provide intraoperative neurophysiological monitoring services.*



Preparing pedicle pathway



Using the Spring Clip

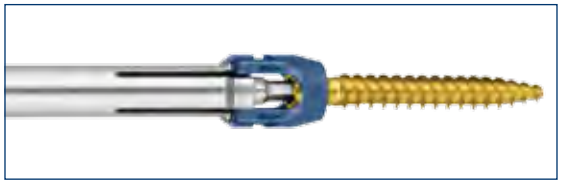
Screwdriver Assembly

Select the appropriate pedicle screw diameter and length. Assemble the **3.5mm Hex Screwdriver Rigid Shaft** to the Quick Release Ratchet Handle. Slide the **Holding Sleeve Assembly** over the shaft, rotating the knurled knob counterclockwise (ratcheting mechanism in neutral or forward). Ensure that the indication line (groove) on the shaft remains visible. Insert the screwdriver into the screw body. Once engaged, rotate the knurled knob counterclockwise (LOCK) until the screw is firmly in place, holding the threaded portion of the screw straight to engage the hex. The thread on the screw shaft should not be visible when the hex is fully engaged.

To disengage, rotate the ratcheting mechanism on the handle to neutral or reverse. Rotate the knurled knob clockwise (UNLOCK) until the line on the shaft is visible. Disengage the screwdriver from the screw.



Indication line (groove) on shaft



Screw engaged



REVERE® polyaxial screw loaded onto screwdriver

Load the screw onto the screwdriver, as shown above. Verify the screw size by checking the length and diameter markings on the screw head, in addition to using the gauge provided in the implant tray.

Alternatively, the **Self-Retaining 3.5mm Hex Screwdriver Shaft** attached to the **Quick Release 1/4" Straight Ratcheting Handle** may be used for screw insertion.



Self-Retaining 3.5mm Hex Screwdriver Shaft attached to the Quick Release Ratchet Handle

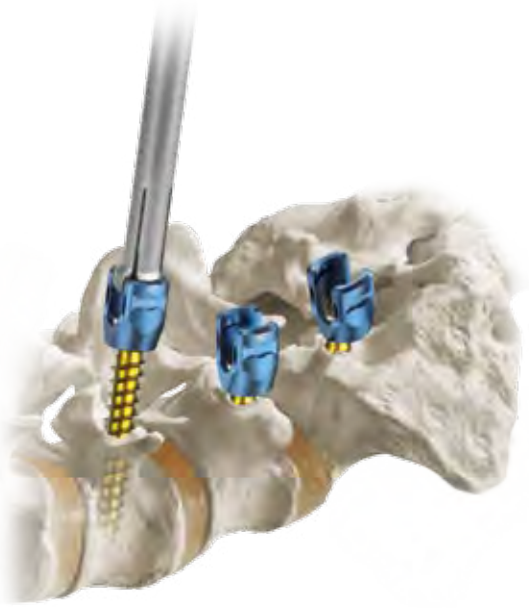
Screw Insertion (cont'd)

Inserting Screws

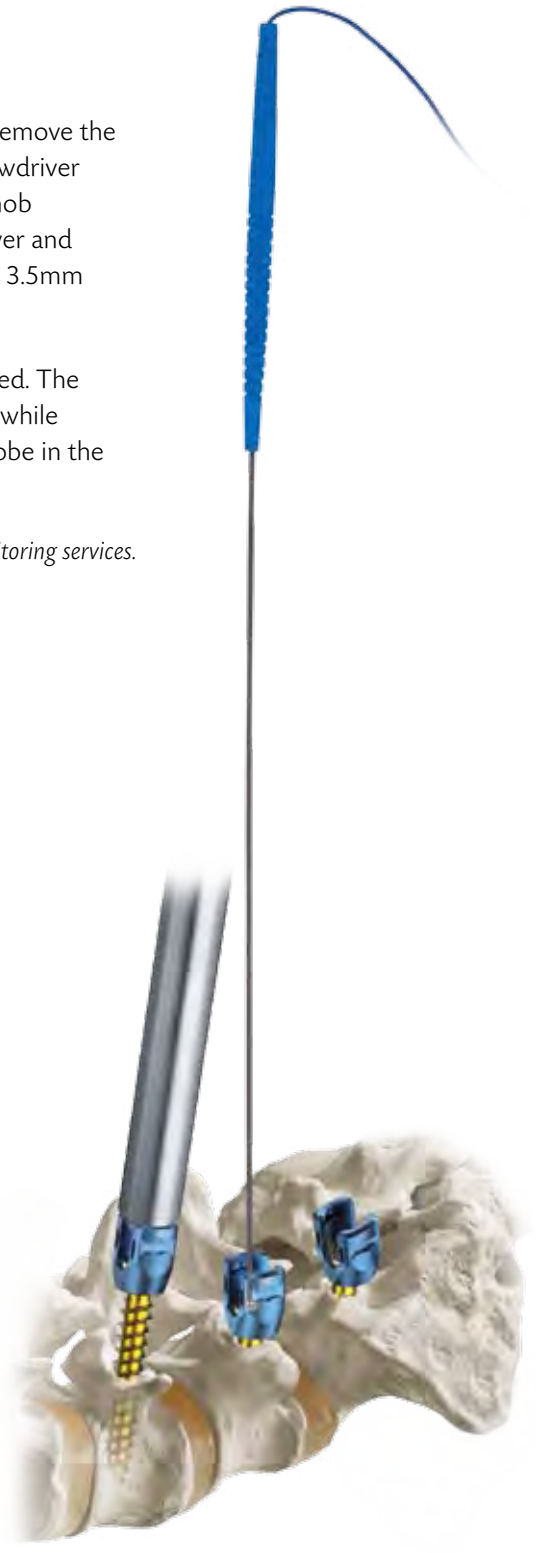
Drive the screws into the prepared pedicles. When complete, remove the Screwdriver from the screw head. If using the 3.5mm Hex Screwdriver Rigid Shaft and Holding Sleeve Assembly, rotate the knurled knob clockwise in the UNLOCK direction to disengage the screwdriver and remove. If the screws need to be removed or repositioned, the 3.5mm Self-Retaining Screwdriver may be used.

Screw insertion into the prepared pedicle may also be monitored. The **Insulated Probe** may be used for triggered EMG monitoring* while introducing the screw into the pedicle. Locate the Insulated Probe in the screw head as shown below to monitor access.

**Globus Medical does not provide intraoperative neurophysiological monitoring services.*



Screw insertion



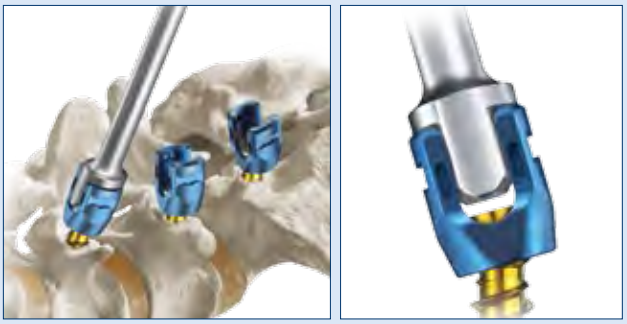
Using the Insulated Probe



Screws inserted

Using the Screw Head Positioner

Once the screws are fully inserted, the screw heads can be oriented to better receive the rod using the **Screw Head Positioner**, as shown below. Insert positioner into the screw head and rotate to the desired position.



Positioning screw heads using Screw Head Positioner

Step 3 Rod Insertion and Locking Cap Delivery

Rod Preparation

Determine the appropriate length and contour of the rod using the **Rod Template**. Straight and curved rods are available in a variety of lengths. Alternatively, rods may be cut to length using the **Rod Cutter**. Rods may also be contoured using the **Rod Bender**.

Rod Insertion

Using the **Rod Holder**, grasp the rod and insert into the pedicle screws. Alternatively, the **Rod Gripper** may be used.



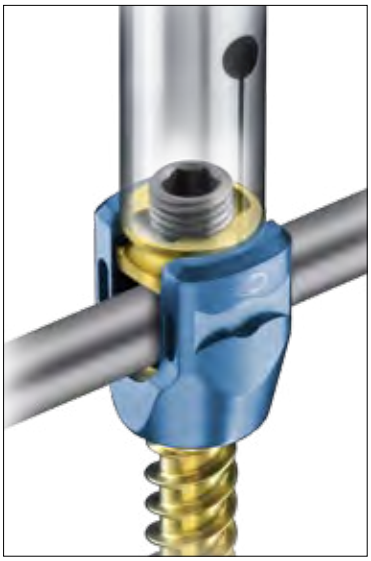
Rod insertion

Rod Insertion and Locking Cap Delivery (cont'd)

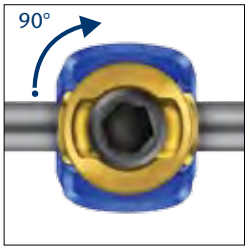
Locking Cap Insertion

With a loaded **Locking Cap Driver** (loading shown at right), insert the locking cap into the screw head and rotate the driver clockwise 90° to capture the rod. Locking cap insertion requires minimal torque. If the locking cap is difficult to rotate, the rod may not be seated properly and further rod reduction or rod contouring may be required.

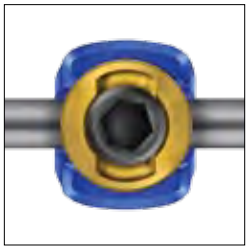
The construct is not completely locked until final tightening (see Step 5, page 34).



Rod captured by screw and cap



Locking cap INSERTED



Locking cap LOCKED

Loading the Cap Driver

Align the cutout slots on the Locking Cap Driver with the lines on the implant module. Push the Locking Cap Driver down over the locking cap until fully seated.



Load Locking Cap Driver



Aligning cap driver with the locking cap



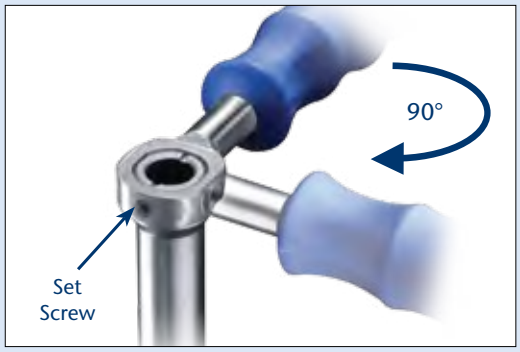
Cap driver loaded

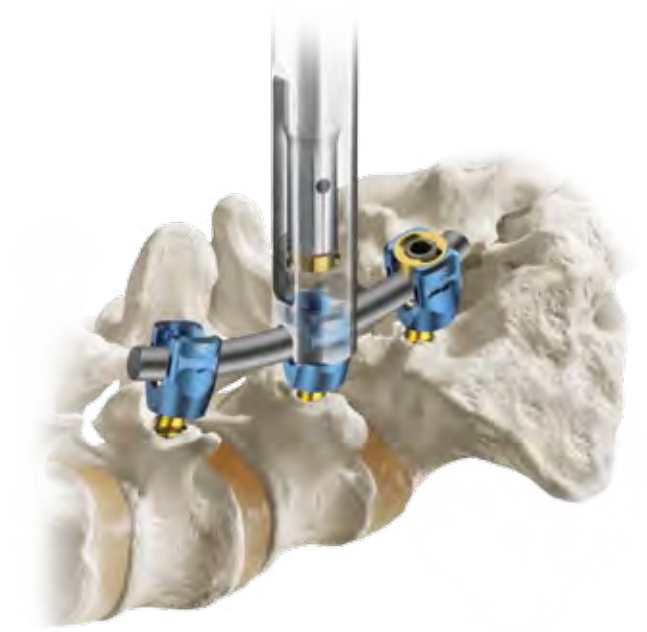
Locking Cap Guide

The **Locking Cap Guide** is used to aid in small adjustments of the rod into the screw head and acts as a guide for the Locking Cap Driver. Place the Locking Cap Guide over the rod and screw head, and apply downward pressure. The Locking Cap Guide handle can be adjusted to a parallel position, as shown below.

Using the Locking Cap Guide

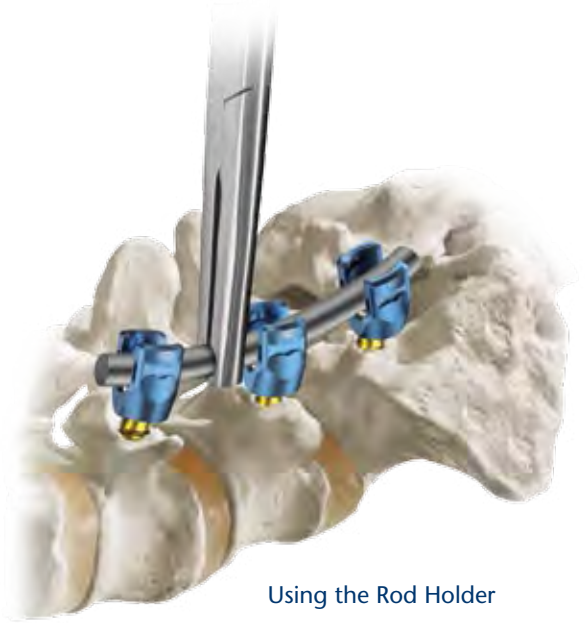
To adjust the Locking Cap Guide to a parallel position, loosen the set screw using the **Torque Limiting 2.5mm Hex Driver** and rotate the handle on the Locking Cap Guide 90°. Secure the handle by tightening the set screw.



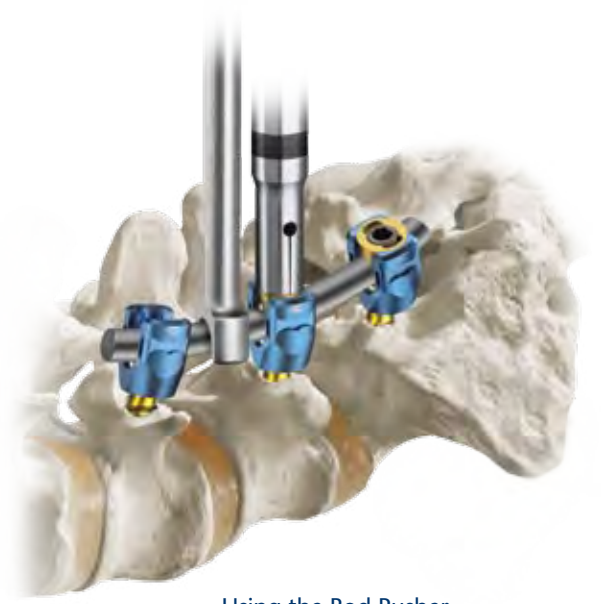


Locking cap insertion through Locking Cap Guide

If greater visualization is desired, the Rod Holder, Rod Gripper or **Rod Pusher** may be used. The Rod Pusher aids in small adjustments of the rod into the screw head. Place the Rod Pusher over the rod and apply downward pressure. Once the rod is seated within the screw head, load the Locking Cap Driver and install the locking cap, as shown.



Using the Rod Holder



Using the Rod Pusher

Rod Insertion and Locking Cap Delivery (cont'd)

Rod Reduction

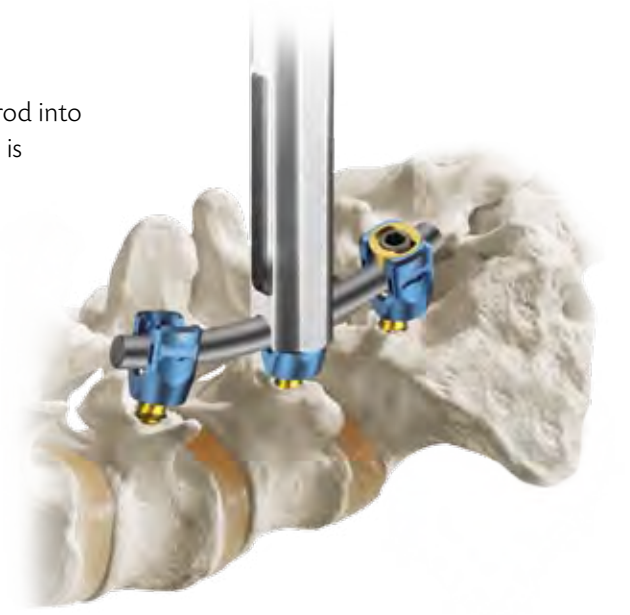
The REVERE® system has five options for rod reduction:

- Locking Cap Guide
- Rod Pusher
- Rod Lever
- 5.5mm Ratcheting Reducer
- Reduction Tower

The rod reduction instruments are designed to seat the rod into the screw head, not to bend the rod. Ensure that the rod is properly contoured prior to reduction.

Option 1: Locking Cap Guide

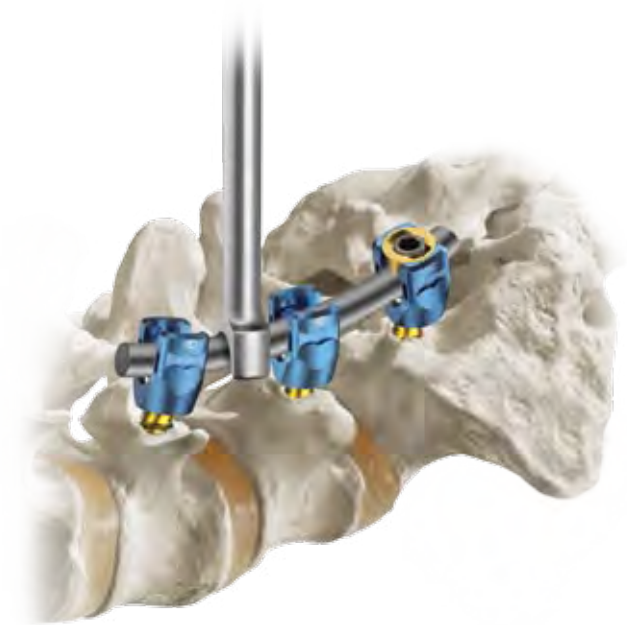
The Locking Cap Guide may be employed for small adjustments to the rod.



Rod reduction using the Locking Cap Guide

Option 2: Rod Pusher

The Rod Pusher aids in direct manual reduction of the rod. This instrument is used for small adjustments of the rod into the screw head.

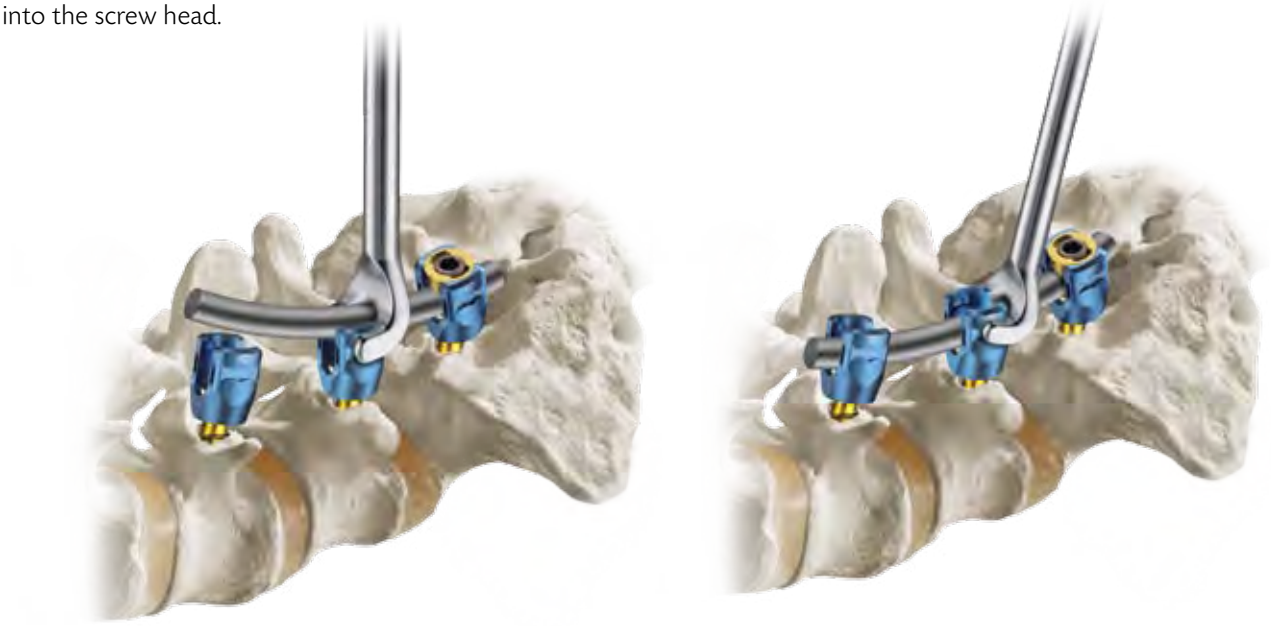


Rod reduction using the Rod Pusher

Rod Reduction (cont'd)

Option 3: Rod Lever

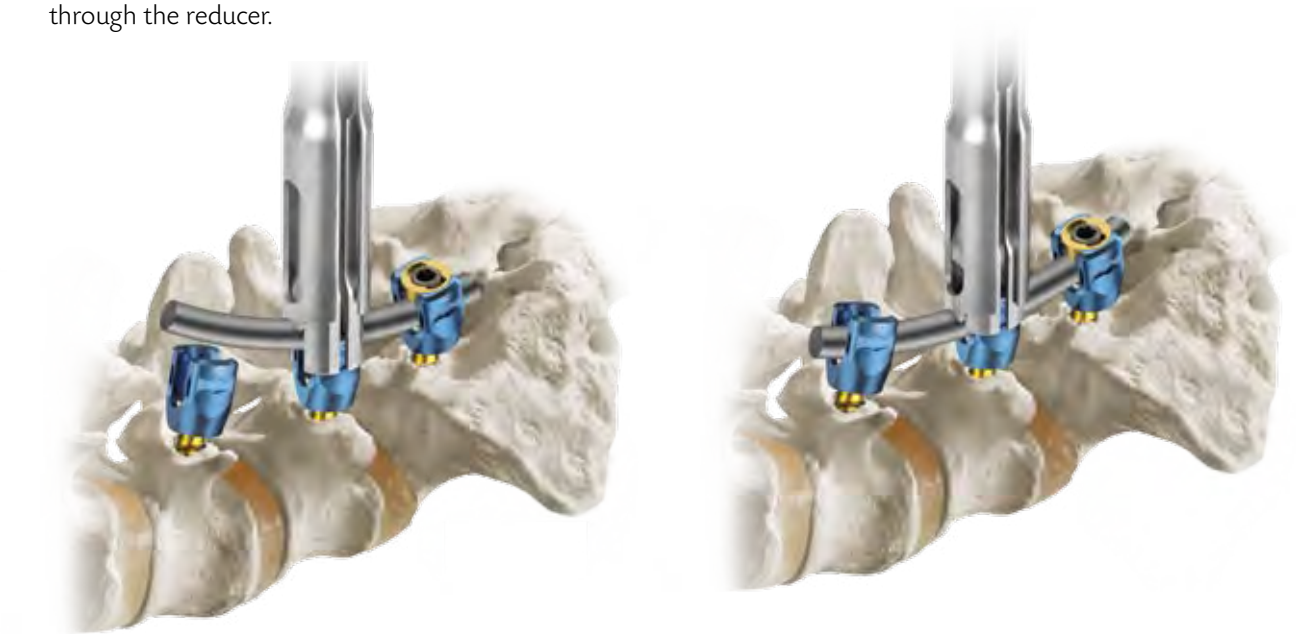
The Rod Lever can be used to maneuver the rod into position. This instrument is useful when the rod is slightly above the screw. Slide the Rod Lever into the reduction slots on the screw head. Lever the rod down, engaging it into the screw head.



Rod reduction using the Rod Lever

Option 4: 5.5mm Ratcheting Reducer

The **5.5mm Ratcheting Reducer** provides up to 10mm of reduction (1mm per click) and can be used to reduce the rod into position. Ensure that the reducer is fully open, then place it squarely over the screw head and press down until it is fully seated. Compress the handles to engage the screw and reduce the rod. The groove on the proximal end of the internal shaft is exposed when the rod is fully reduced. The Locking Cap Driver is inserted through the reducer.



Rod reduction using the 5.5mm Ratcheting Reducer

Rod Insertion and Locking Cap Delivery (cont'd)

Rod Reduction (cont'd)

Option 5: Reduction Tower

The **Reduction Tower** provides up to 20mm of continuous rod reduction.

Ensure the Reduction Tower is in the starting position by fully rotating counterclockwise until the stop. Do not over-tighten. Place the tower squarely over the screw head and press down until it is completely flush with the screw head. Rotate the tower clockwise and continue until the horizontal etchings align, as shown at right.

Utilize the **T-Handle, Reduction Tower** to reduce, if preferred.

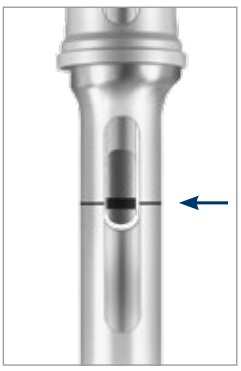
Insert the loaded Locking Cap Driver into the Reduction Tower.

Rotate the cap driver 90° clockwise to engage the locking cap.

Provisionally tighten the locking cap set screw.

Remove the cap driver and tower by rotating counterclockwise until it stops and releases from the screw.

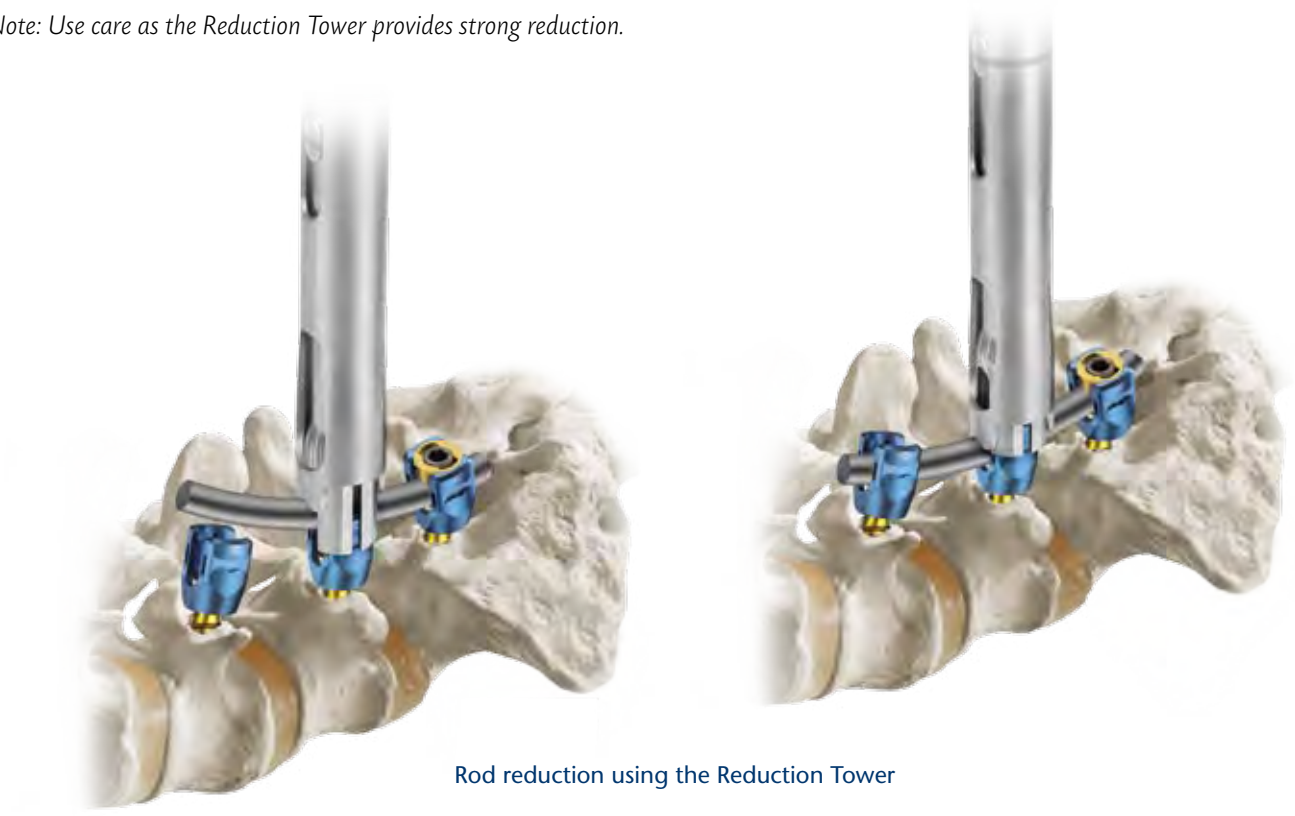
Note: Use care as the Reduction Tower provides strong reduction.



Etch line indicating rod is fully reduced



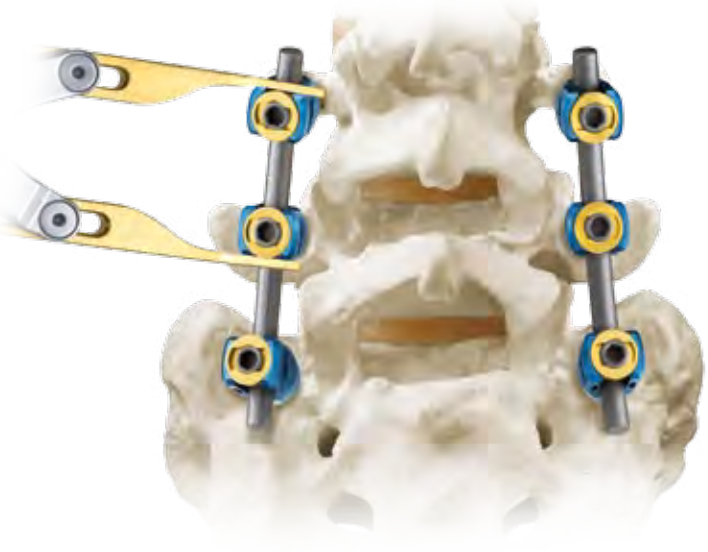
Reduction Tower and T-Handle



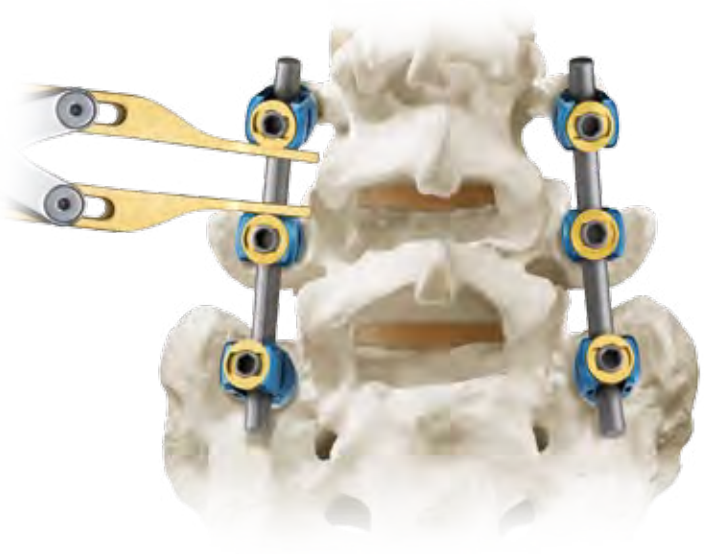
Rod reduction using the Reduction Tower

Step 4 Compression or Distraction

REVERE® pedicle screws can be compressed or distracted along the rod as necessary using the **Parallel Compressor** or **Parallel Distractor** respectively. REVERE® screws allow for screw angulation to be free or locked under compression or distraction, as shown below. Tighten one of the set screws to establish a rigid point for compression or distraction. Once compression or distraction is completed, provisionally tighten the set screws using the **Torque-Limiting 3.5mm Hex Driver, T-Handle, 5.5Nm, Blue**.

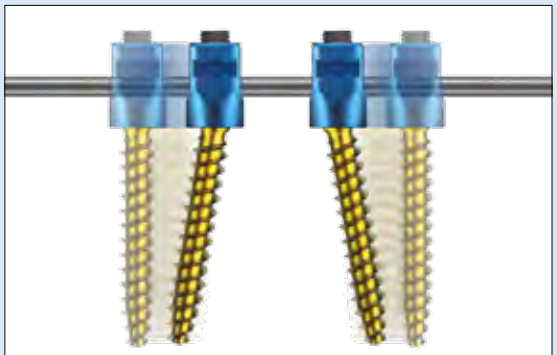


Compression



Distraction

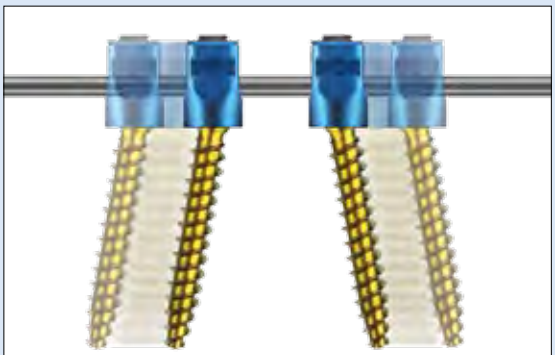
Free Angulation



Compression with free angulation

For free angulation, compress or distract screws after locking cap insertion.

Locked Angulation



Compression with locked angulation

To lock the angulation of the screw and obtain parallel distraction, provisionally tighten the set screw(s) using the 3.5mm Hex Driver. Loosen at least one set screw by approximately one full rotation to allow the screw to slide along the rod without changing the polyaxial feature. Compress or distract the screws. Proceed to final tightening.

Step 5 Final Tightening

Final tightening of the set screws is necessary to secure the construct and is accomplished using the Torque-Limiting 3.5mm Hex Driver, T-Handle, 5.5Nm, Blue and **Final Tightening Counter Torque**.

Insert the hex driver, into the Final Tightening Counter Torque and visually confirm the hex is fully engaged in the set screw. Then slide the counter torque over the screw head, ensuring the instrument is fully seated. Rotate the hex driver until it reaches the torque limit (5.5Nm) and then rotate to two clicks. Repeat for all locking caps.

Caution: Do not use the Torque-Limiting 3.5mm Hex Driver, T-Handle, 5.5Nm, Blue as a derotator or screw manipulation device.



Final Tightening

Final Construct



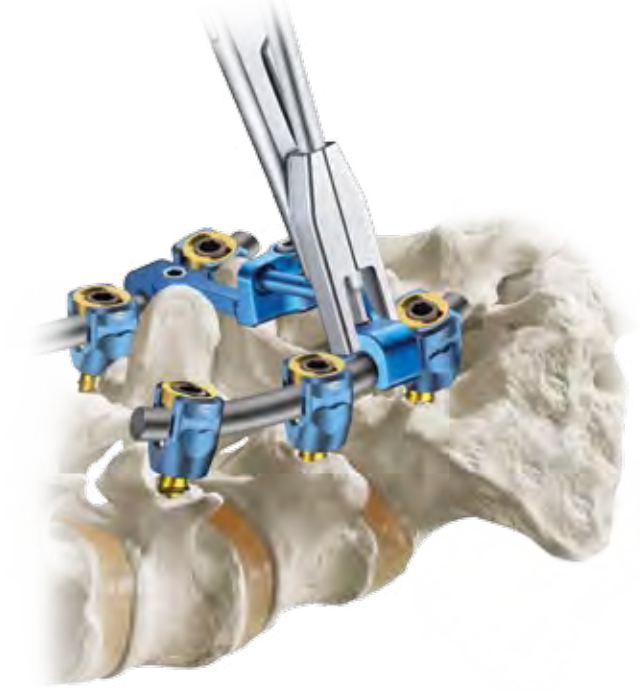
Final REVERE® Construct

Optional Technique: T-Connector Insertion

To enhance construct stability, the REVERE® Adjustable T-Connector may be used as a transverse connector between the two rods. The **Cross Connector Caliper** can be used to estimate the length between the two rods, as shown at right.

Use the **T-Connector Inserter** to grasp the desired cross connector on the stationary end. Position the connector between the rods and provisionally tighten the set screws on each side of the cross connector using the **Torque-Limiting, Quick Connect Handle, 1.5Nm** and **Screwdriver Shaft, 2.5mm Hex**, starting with the stationary end first and then the swivel end. Adjust the connector position and final tighten the set screws bearing on the rods, starting with the set screw on the stationary end and then the opposite end until it reaches its torque limit of 1.5Nm. Final tighten the center set screw.

Note: The Variable Cross Connector uses the Torque-Limiting 2.5mm Hex Driver TD, 2.5Nm, Blue (602.430).



Inserting the Adjustable T-Connector

Using Cross Connector Caliper

The Cross Connector Caliper may be used to estimate the length between the two rods, as shown below.

Place the caliper between the two rods at the desired level. Read the estimated cross connector length on the caliper handle.



Using the Cross Connector Caliper



Reading the length measurement

Final Construct with T-Connector



Final REVERE® Construct with T-Connector

Instructions for REVERE® Closed Head Screws:

The REVERE® Closed Head DOD Screw Set includes the following 3 types of screws:



Closed Head Polyaxial	Closed Head Monoaxial	Closed Head Angled Monoaxial
Polyaxial head ±30° angulation	Offset perpendicular to screw	Offset at 15° Etched line indicates angle

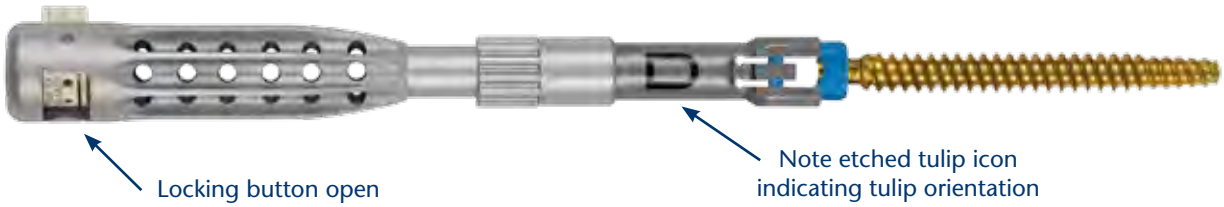
Choose the appropriate screw style and size based on anatomy and preference.

Closed Head Polyaxial Screws

Parts required:

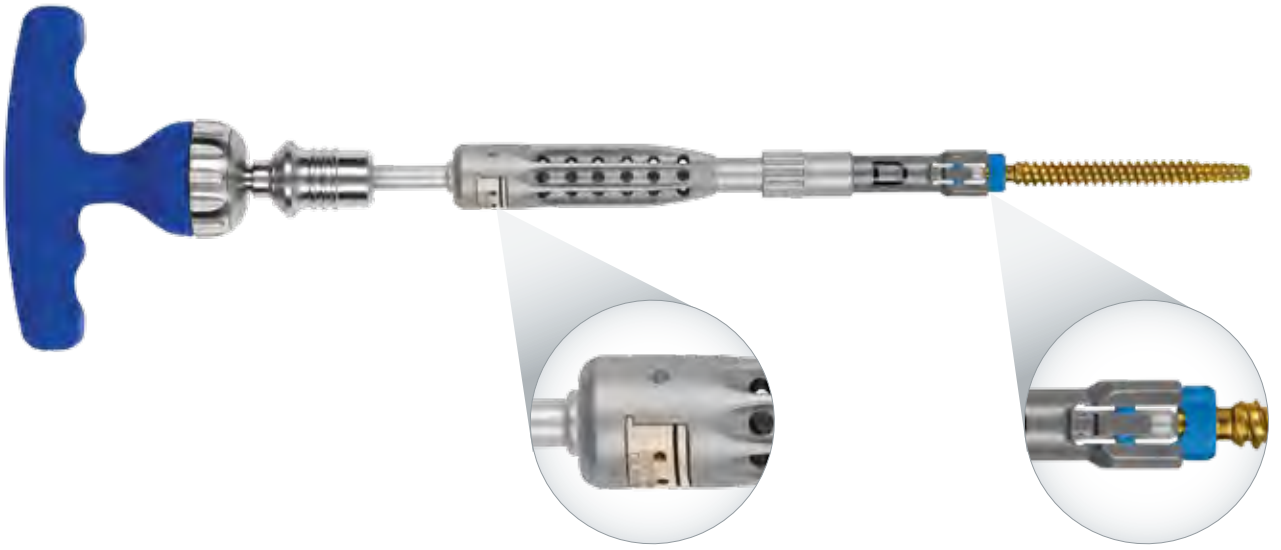
- 624.460 3.5mm Hex Driver Shaft, Self-Retaining, Iliac Poly Driver
- 624.461 Screw Head Sleeve, Iliac Poly Driver
- 624.465 Hex Driver, Torque Limiting, Closed Head Iliac Screw
- 624.616 Final Tightening Counter Torque, Short
- 630.401 Quick Release 1/4" Ratchet, T-Handle
- 630.407 Quick Release 1/4" Ratchet, Straight Handle

1. Attach the **Screw Head Sleeve, Iliac Poly Driver** over the polyaxial screw head. Note etched **tulip icon** indicating tulip orientation. Confirm that it is engaged with a tactile and audible snap. Ensure the plastic locking button is in the "Open" position.



2. Insert the **3.5mm Hex Driver Shaft, Self-Retaining, Iliac Poly Driver** into the Quick Release 1/4" Ratchet, T-Handle or the Quick Release 1/4" Ratchet, Straight Handle.

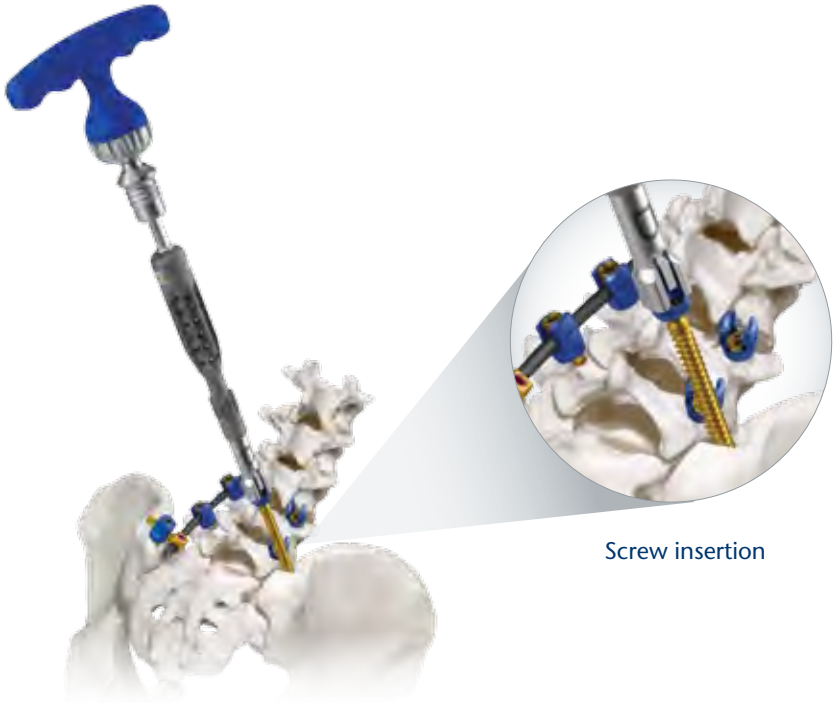
3. Insert the 3.5mm Hex Driver Shaft, Self-Retaining, Iliac Poly Driver down the Screw Head Sleeve with the locking button in the open position until it is engaged with the 3.5mm hex in the screw shaft. Close the locking button as shown.



Locking button closed

3.5mm Hex Driver Shaft engaged in screw

4. Drive the screw into the prepared ilium. Open the locking button. Remove the 3.5mm hex driver shaft.
*Note: Do **NOT** remove the screw head sleeve at this time.*



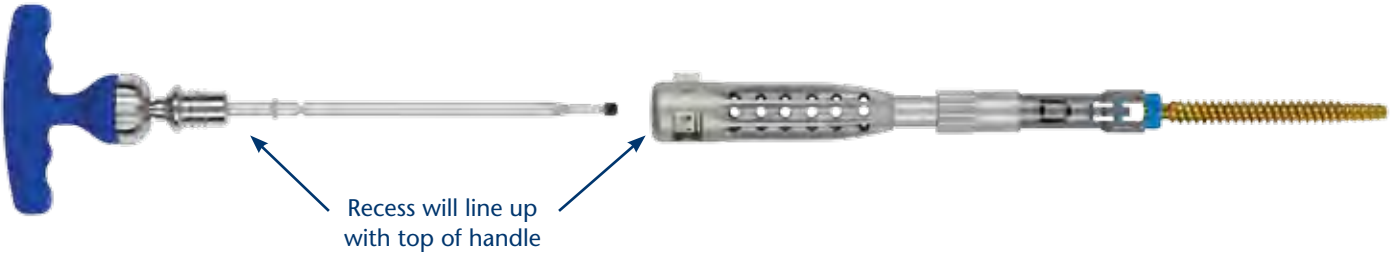
Screw insertion

5. Load the set screw onto the 3.5mm Hex Driver Shaft, Self-Retaining, Iliac Poly Driver.



Set screw loaded onto 3.5mm Hex driver shaft

6. Insert into the screw head sleeve and thread the set screw into the top of the polyaxial screw two to three turns.



Recess will line up with top of handle



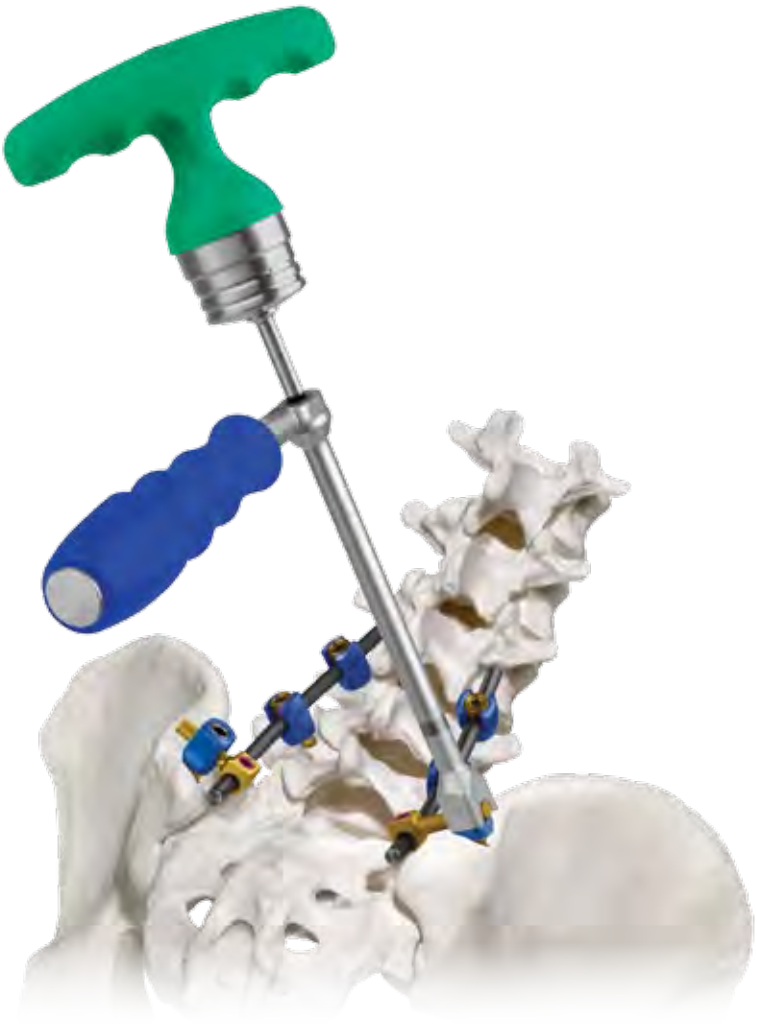
Set screw insertion

The construct can be completed with either a rod or an offset connector. Final tightening of the set screw is necessary to secure the construct.

Final Tightening

With the set screw in place, remove the driver shaft and screw head sleeve. Insert the desired offset or rod into the screw head. Provisionally tighten with a 3.5mm driver. To final tighten, insert the Hex Driver, Torque-Limiting, Closed Head Iliac Screws through the standard **REVERE® Final Tightening Counter Torque, Short**. Visually confirm that the 3.5mm hex of the torque-limiting driver is seated in the hex.

Slide the counter torque over the screw head. Rotate the hex driver until it reaches the torque limit (6.5 Nm) noted by two audible/tactile clicks.



Final Tightening

Final REVERE® Closed Head Polyaxial Screw Construct



Closed Head Monoaxial Screws

Parts required:

- 624.450 Monoaxial Self-Retaining Driver
- 624.465 Hex Driver, Torque-Limiting, Closed Head Iliac Screws
- 624.616 Final Tightening Counter Torque, Short
- 602.608 Counter Torque, Transverse
- 630.401 Quick Release 1/4" Ratchet, T-Handle
- 630.407 Quick Release 1/4" Ratchet, Straight Handle

Using the Monoaxial Self-Retaining Screwdriver (624.450) – for REVERE® Closed Head Monoaxial DOD Screws and REVERE® Closed Head Angled Monoaxial DOD Screws

1. Assemble the **Monoaxial Self-Retaining Driver** into the Quick Release 1/4" Ratchet, T-Handle or the Quick Release 1/4" Ratchet, Straight Handle, making sure it is fully seated to the etched line.



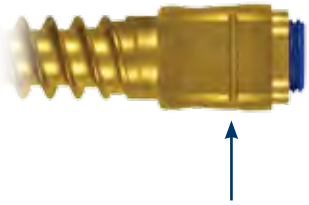
Monoaxial Self-Retaining Screwdriver
assembled to ratchet handle

2. Unlock the outer sleeve by depressing the "Lock/Unlock" button to the Unlock position. Slide the outer sleeve into the open position (towards handle), exposing the distal attachment tabs.

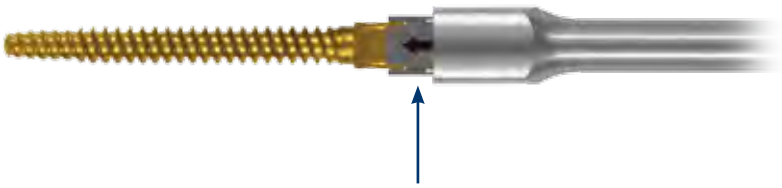


UNLOCK button on
Monoaxial Self-Retaining Screwdriver

3. Rotate the selected screw so that the side notch is on the same side as the etched arrow on the instrument tabs, and firmly snap into place.



Screw notch



Arrow aligned with tabs on the screw

4. Slide the outer shaft distally (forward, away from handle) until the retaining tabs are secured onto the screw. Engage the LOCK button. Insert the screw.



Tabs secured on the screw, locked position



LOCK button on
Monoaxial Self-Retaining Screwdriver



Mono screw insertion

5. After inserting the screw, to remove, depress the UNLOCK button on the outer shaft, freeing the shaft to slide proximally (towards handle), exposing the screw head. Pull the instrument backwards to disengage.



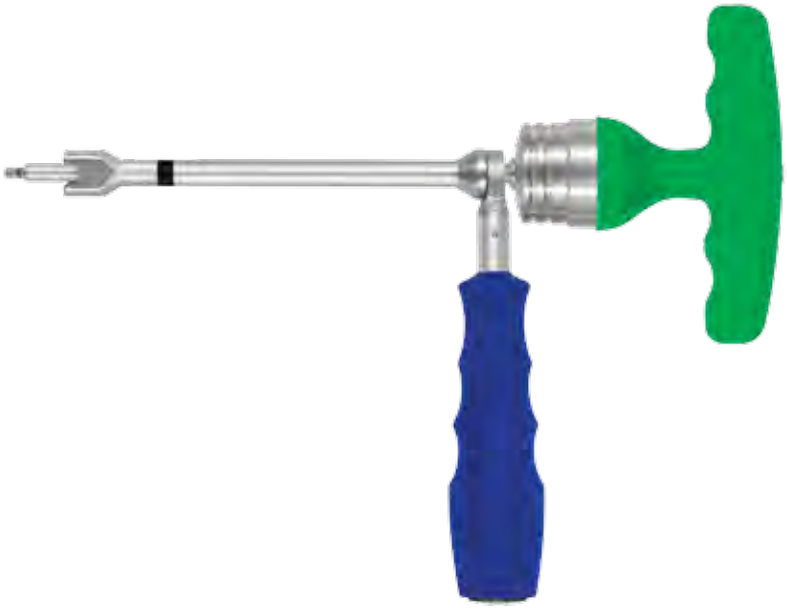
UNLOCK button on
Monoaxial Self-Retaining Screwdriver

Final Tightening – Monoaxial Screws

Screw Type	Instruments	Part Number
Monoaxial	Hex Driver, Torque-Limiting, Closed Head Iliac Screws	624.465
	Final Tightening Counter Torque, Short	624.616
Angled Monoaxial	Hex Driver, Torque-Limiting, Closed Head Iliac Screws	624.465
	Transverse Counter Torque	602.608

Two instruments are needed for final tightening the monoaxial screws: the **Hex Driver, Torque-Limiting, Closed Head Iliac Screws** and the **Final Tightening Counter Torque, Short**.

1. Engage the Final Tightening Counter Torque, Short onto the Hex Driver, Torque-Limiting, Closed Head Iliac Screws.



Hex Driver and Final Tightening Counter Torque, Short

2. Insert the hex driver into the set screw; visually confirm that it is fully engaged.



Hex driver engaged in set screw

3. Slide the counter torque down over the screw and rotate the hex driver until it reaches the torque limit (6.5Nm) and two audible and tactile clicks are heard.



Final Tightening

Final REVERE® Closed Head Monoaxial Screw Construct



Final Tightening – Angled Monoaxial Screws

Two instruments are needed for final tightening the angled monoaxial screws – the **Hex Driver, Torque-Limiting, Closed Head Iliac Screws** and the **Transverse Counter Torque**.

1. Insert the hex driver into the Transverse Counter Torque.

2. Insert the hex driver into the angled monoaxial screw, which is etched to indicate the 15° angle. Ensure that the screw is fully engaged. Note that the set screw is at an angle perpendicular to the **rod or offset connector**.



3. Slide the counter torque down over the screw and rotate the hex driver until it reaches the torque limit (6.5Nm) and two audible and tactile clicks are heard.



Final Tightening Angled Monoaxial Screw

Final REVERE® Closed Head Angled Monoaxial Screw Construct



Optional: Implant Removal

Adjustable T-Connector Removal

To remove the Adjustable T-Connector, insert the **Torque-Limiting 2.5mm Hex Driver** in the center set screw and rotate counterclockwise. Repeat for the set screws bearing on the rods. Remove the T-Connector with the T-Connector Inserter.

Screw Removal

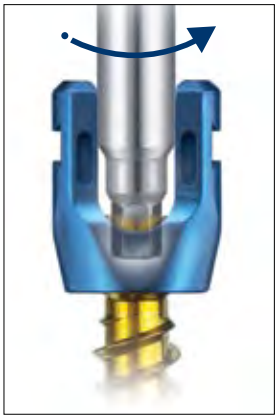
To remove a screw, begin by removing the locking cap. Insert the Self-Retaining 3.5mm Hex Screwdriver into the set screw of the locking cap. Rotate the hex driver counterclockwise until the set screw no longer is in contact with the rod and the locking cap becomes disengaged from the screw head (90° rotation). Repeat for all desired screws. Remove the rod using the Rod Holder. Remove each screw using the Self-Retaining 3.5mm Hex Screwdriver or **Ball End Hex Driver** if required. If the set screw strips, the locking cap can be released using the Locking Cap Driver (rotating 90° counterclockwise).



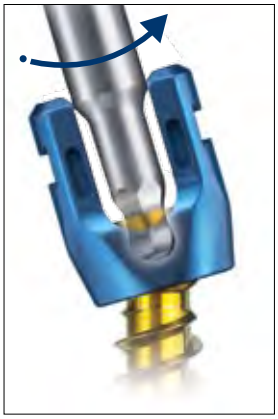
Removing locking cap



Pulling out rod



Removing screw using Self-Retaining Hex Screwdriver



Removing screw using Ball End Hex Driver

Stripped Screw Removal

If a screw strips in the pedicle, use the **Screw Removal Tool**. If this tool has insufficient grip to remove the screw, insert the smallest rod possible and insert a locking cap. Fully tighten the locking cap, which effectively locks the polyaxial feature. Rotate the screw and rod together using the Locking Cap Guide, until the screw is removed.

REVERE® SETS

*Please refer to the **REVERE® Set List Supplement** for complete description of each instrument or implant set.*

924.931	REVERE® Expanded Implant Set
924.902	REVERE® Instrument I Set
924.903	REVERE® Instrument II Set
924.912	REVERE® Dual Outer Diameter Screw Implant Set
924.937	REVERE® Large Diameter Screw Set
924.951	REVERE® 7.5mm Closed Head Polyaxial DOD Screws Set
924.952	REVERE® 8.5mm Closed Head Polyaxial DOD Screws Set
924.953	REVERE® 7.5mm Closed Head Monoaxial DOD Screws Set
924.954	REVERE® 8.5mm Closed Head Monoaxial DOD Screws Set
924.955	REVERE® 7.5mm Closed Head Angled Monoaxial DOD Screws Set
924.956	REVERE® 8.5mm Closed Head Angled Monoaxial DOD Screws Set
924.936	REVERE® Closed Head DOD Screws Instrument Set
9024.9001	REVERE® HA-Coated Polyaxial Screw Set
924.906	REVERE® Small Diameter Screw Implant Set
924.926	REVERE® 5.5mm Variable Cross Connector Set
972.901	H-LINK® 5.5mm Implant Set
970.903	REVERE® Uniplanar Fracture System Set
924.920	REVERE® Cannulated Screw Set
924.909	Stainless Steel REVERE® Implant Set
924.911	Stainless Steel REVERE® Small Diameter Screw Implant Set

REVERE® implants have not been evaluated for safety and compatibility in the MR environment. They have not been tested for heating or migration in the MR environment. REVERE® implants are made from titanium alloy or commercially pure titanium, and are also available in stainless steel and cobalt chrome. Implants made from titanium alloy or commercially pure titanium have been shown to produce less artifact on CT or MRI than stainless steel implants.

Instructions for Use: When intended to promote fusion of the lumbar spine, the REVERE® Stabilization System is indicated for: degenerative disc disease, spondylolisthesis and spinal stenosis. REVERE® will support: Anterior Lumbar Interbody Fusion and a contralateral support for a Posterior Lumbar Interbody Fusion. Please refer to product insert for complete description, indications and warnings.

GLOBUS MEDICAL

Globus Medical
Valley Forge Business Center
2560 General Armistead Avenue
Audubon, PA 19403
www.globusmedical.com

Customer Service:
Phone 1-866-GLOBUS1 (or 1-866-456-2871)
Fax 1-866-GLOBUS3 (or 1-866-456-2873)

©2014 Globus Medical. All rights reserved. Patent www.globusmedical.com/patents. Life moves us is a registered trademark of Globus Medical. H-LINK and REVERE are registered trademarks of Globus Medical. Please refer to package insert for description, indications, contraindications, warnings, precautions and other important information.

EC REP: RMS – UK Limited
28 Trinity Road, Nailsea, Somerset, BS48 4NU England
CE 0297

GMTGD170U
12.14