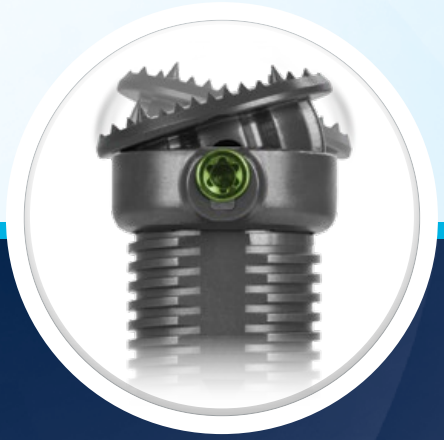

FORTIFY®

Corpectomy Spacer System

SURGICAL TECHNIQUE GUIDE

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GLOBUS MEDICAL

Our mission is to deliver cutting-edge technology, research, and innovative solutions to promote healing in patients with musculoskeletal disorders.

Life moves us

SURGICAL TECHNIQUE GUIDE

FORTIFY®

Note: FORTIFY®-I and FORTIFY®-IR Static surgical techniques are in separate technique guides. Download the FORTIFY®-Integrated Technique Guide (GMTGD98) or FORTIFY®-I-R Technique Guide (GMTGD93) for those procedures.

FORTIFY®

Corpectomy Spacer System

The FORTIFY® Corpectomy Spacer System streamlines vertebral body replacement through one of several approaches and provides a range of implants designed to restore height, alignment, and stability.

Radiolucent PEEK Option

Provides postoperative visualization and a modulus of elasticity closer to bone.

Optimized Fit

Maximized expansion range and a wide variety of sagittal profiles and footprints for an optimized fit.

Facilitates Multiple Approaches

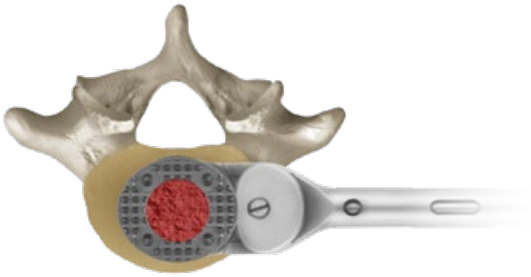
The system is designed to accommodate different thoracolumbar approaches, including lateral and posterior, as well as an anterior cervical approach.

One-Step Insertion

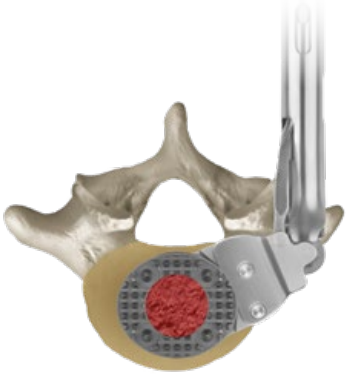
One holder for implant insertion and expansion with automatic locking simplifies the technique.

Anterior

Anterolateral



Lateral



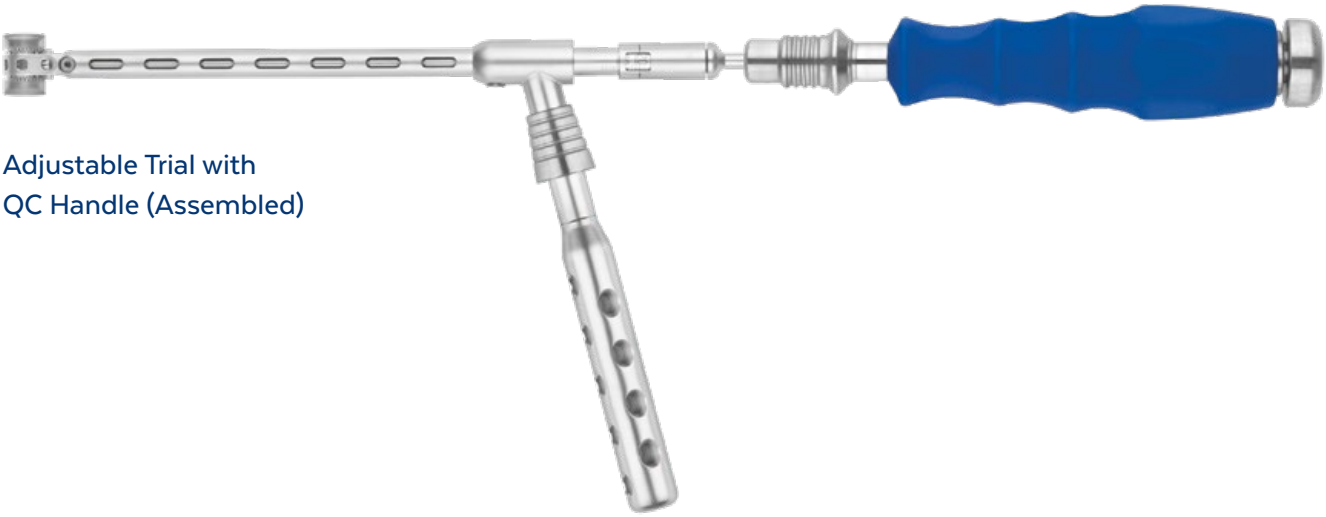
Posterior

INSTRUMENT OVERVIEW

ADJUSTABLE TRIALS

Adjustable Trial, Short, 18-36mm 651.030
Adjustable Trial, Short, 30-63mm 651.031
Adjustable Trial, Long, 18-36mm 651.130
Adjustable Trial, Long, 30-63mm 651.131

QC Handle, Small, with Cap 650.105



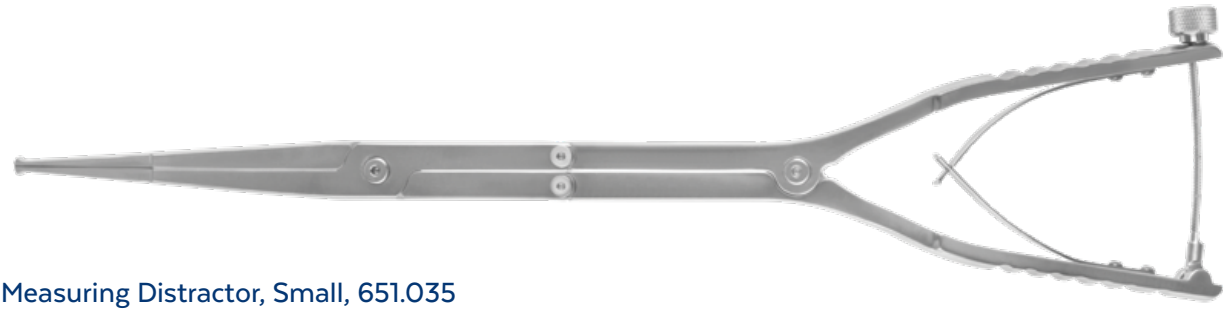
Adjustable Trial with
QC Handle (Assembled)

ENDPLATE TRIALS*

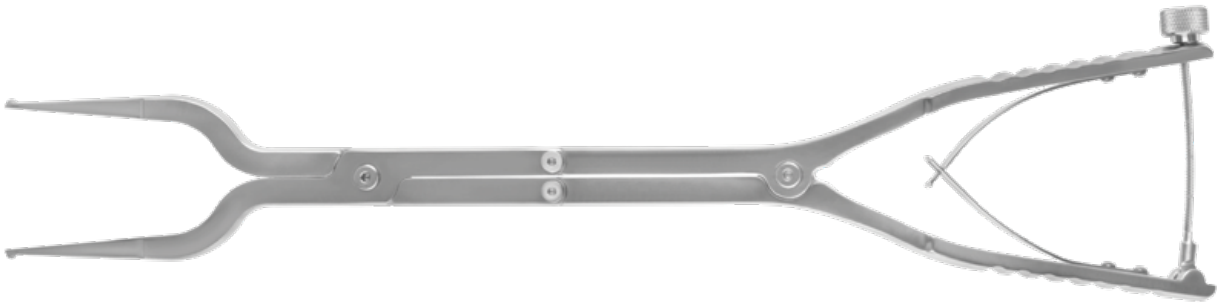
14mm, 0° 651.200
14mm, 3.5° 651.201
14mm, 7° 651.202
20mm, 0° 651.250
20mm, 4° 651.251
20mm, 8° 651.252
25x30mm, 12° 651.293

*Items in gray are additionally available.

DISTRACTORS



Measuring Distractor, Small, 651.035



Measuring Distractor, Large, 651.036

TRIAL HEADS

12x14mm 651.024
14mm Round 651.025
14x16mm 651.026
15x18mm 651.027
16mm Round 651.060
18mm Round 651.061
20mm Round 651.124
21x23mm 651.125
25x30mm 651.127

16mm Lateral 651.065
18mm Lateral 651.066
22mm Lateral 651.128

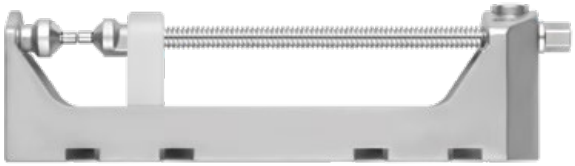
INSTRUMENT OVERVIEW (CONT'D)

TRIAL HOLDERS

Trial Holder, Short 651.023

Trial Holder, Long 651.123

ASSEMBLY TOOLS

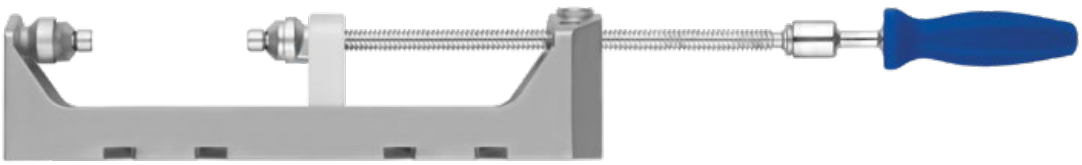


Implant Assembly Tool, 12/14mm Core 651.001
Implant Assembly Tool, 20mm Core 651.101

Adapter, 16mm 651.103

10mm Hex Driver 685.155

10mm Hex T-Handle 651.135

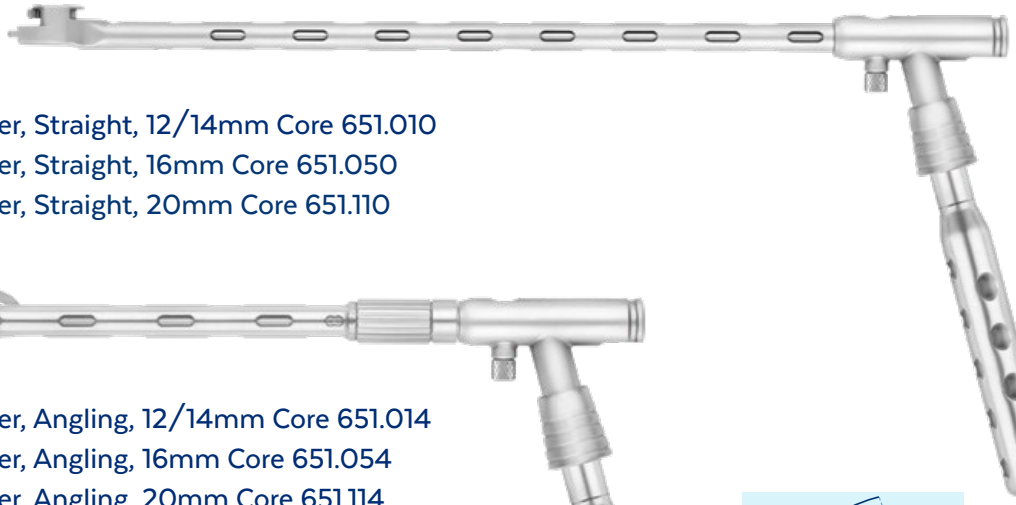


Implant Assembly Tool with 10mm Hex Driver (Assembled)

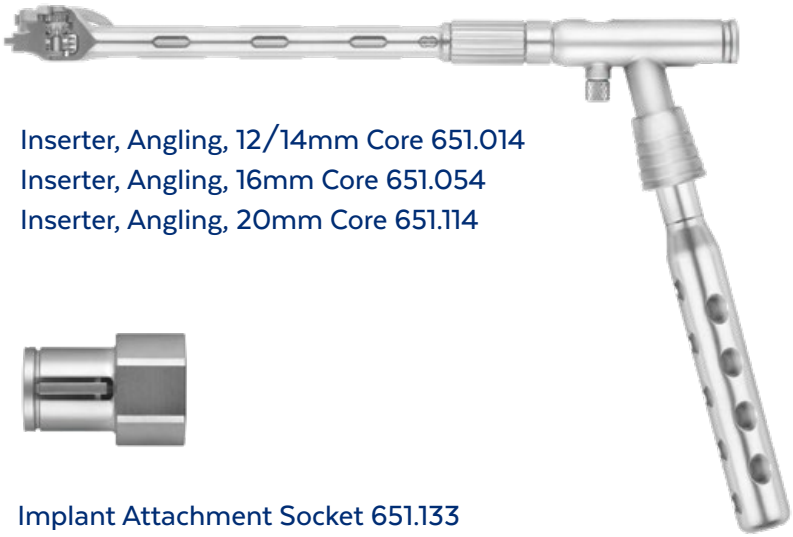
GRAFT PACKERS

Graft Packer, 12/14mm Core 651.022
Graft Packer, 20mm Core 651.122

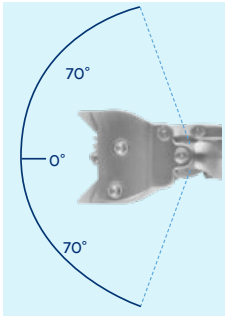
INSERTERS



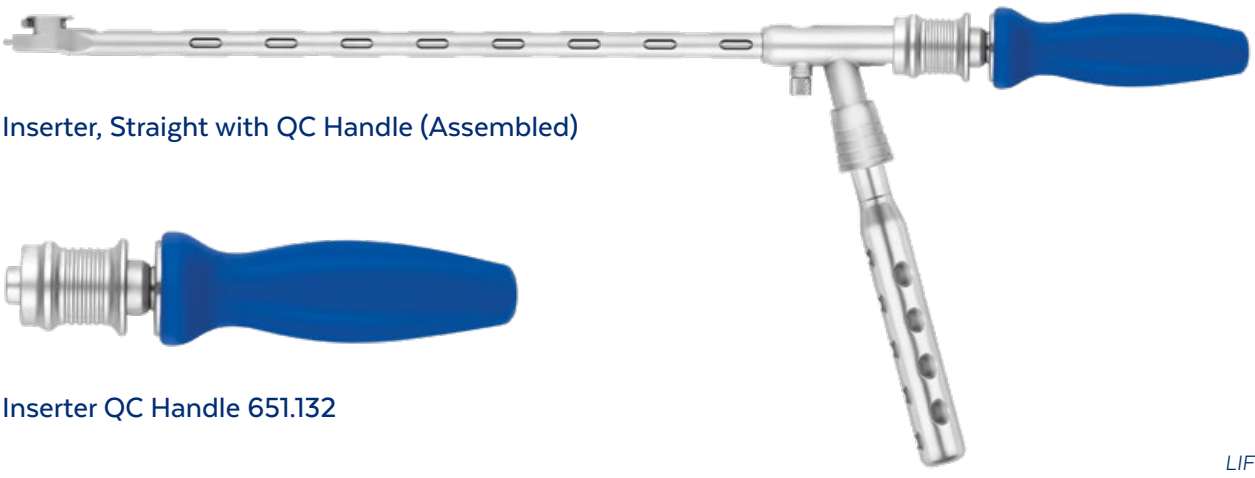
Inserter, Straight, 12/14mm Core 651.010
Inserter, Straight, 16mm Core 651.050
Inserter, Straight, 20mm Core 651.110



Inserter, Angling, 12/14mm Core 651.014
Inserter, Angling, 16mm Core 651.054
Inserter, Angling, 20mm Core 651.114



Implant Attachment Socket 651.133



Inserter, Straight with QC Handle (Assembled)

Inserter QC Handle 651.132

INSTRUMENT OVERVIEW (CONT'D)

POSITIONERS

Positioner, 12/14mm Core 651.011
Positioner, 16mm Core 651.051
Positioner, 20mm Core 651.111

GEAR DRIVERS

Gear Driver, Straight, 12/14mm Core 651.013
Gear Driver, Straight, 16mm Core 651.053
Gear Driver, Straight, 20mm Core 651.113

TAMPS

Tamp, Straight, 12/14mm Core 651.020
Tamp, Straight, 20mm Core 651.120

Tamp, Angled, 12/14mm Core 651.021
Tamp, Angled, 20mm Core 651.121

FORTIFY® VARIABLE ANGLE HANDLE AND DRIVER

T10 Screwdriver, QC, Short 651.075
T10 Screwdriver, QC, Long 651.175

QC, Torque-Limiting Handle 651.450 – Torque Limit 0.5Nm

QC, Torque-Limiting Handle and T10 Screwdriver (Assembled)

ANGLED INSTRUMENTS – FORTIFY® VARIABLE ANGLE

Angled Driver Tip, T10 651.070

Angled Sleeve 684.415

Counter-Torque, Angled Instruments 684.421

Angled Sleeve Backing Nut 684.416

Angled Driver Shaft 684.417

Angled Driver (Assembled)

SURGICAL TECHNIQUE

FORTIFY® Corpectomy Spacer System

Refer to the package insert printed on the back of this manual for information on the intended use/indications, device description, contraindications, precautions, warnings, and potential risks associated with this system.

FORTIFY® Corpectomy Spacers are intended to be used with supplemental fixation systems that have been labeled for use in the cervical, thoracic, and/or lumbar spine.

STEP 1 PREOPERATIVE PLANNING

The approximate height and size of the implant should be determined prior to surgery through the use of an MRI scan, CT scan, or X-ray. In general, the surgeon should select the implant/implants with the largest footprint to fill the void created by the resected or excised tissue. The device needs to fit firmly between the endplates of the cranial and caudal vertebral bodies. For cervical procedures, the use of neuromonitoring is suggested. The table below summarizes which implant options are indicated for use in the different levels of the spine.

Spine Levels	Cervical (C2-T1)		Thoracic (C7-L1)	Lumbar (T12-L5)
Devices	**FORTIFY®**	**FORTIFY® Variable Angle**	**FORTIFY®, FORTIFY®-R FORTIFY® Variable Angle**	**FORTIFY®, FORTIFY®-R FORTIFY® Variable Angle**
Footprints	Up to 15x18mm, 16mm round	Up to 15x18mm, 16mm round	All sizes	All sizes
Heights	Up to 74mm (core and endplates)	Up to 78mm (core and endplates)		
Lordosis	Up to 14° total	Up to 15° total		

STEP 2 CORPECTOMY OR VERTEBRECTOMY

Prior to surgery the best surgical approach should be determined by the surgeon. FORTIFY® implants can be inserted from the anterior, lateral, posterolateral, posterior, or anterolateral direction. When used in the cervical spine, an anterior approach is used.

Position the patient for the chosen surgical approach. Perform the vertebrectomy or corpectomy. Remove disc material using rongeurs, rasps, curettes, and other suitable preparation instruments. Carefully prepare the vertebral endplates to expose bleeding bone, taking care not to compromise subchondral bone.

STEP 3 FOOTPRINT TRIALING

Assemble the **Trial Head** to the **Trial Holder** in the proper orientation for the selected surgical approach. Insert the trial into the corpectomy space and determine the appropriate footprint for the superior and inferior endplates.

Standard Trial Head

Lateral Trial Head

Endplate measurement using Trial Holder

When using 16mm and 20mm rectangular lateral endplates, use the lateral trial head. The notches on the lateral trial head are in 5mm increments and are designed to assist in measuring the implant length on fluoroscopic imaging. Confirm with flouroscopy which size best fits the vertebral body.

Sweep the trial along the defect space to ensure that there is sufficient space for the implant. Use fluoroscopy and the **Endplate Trials** in Step 4 to help determine the desired sagittal angle of the endplates.

Use the 12x14mm trial to approximate a 13mm round trial. A round 13mm trial is not available.

Anterior

Anterolateral

Direct Lateral

Direct Lateral

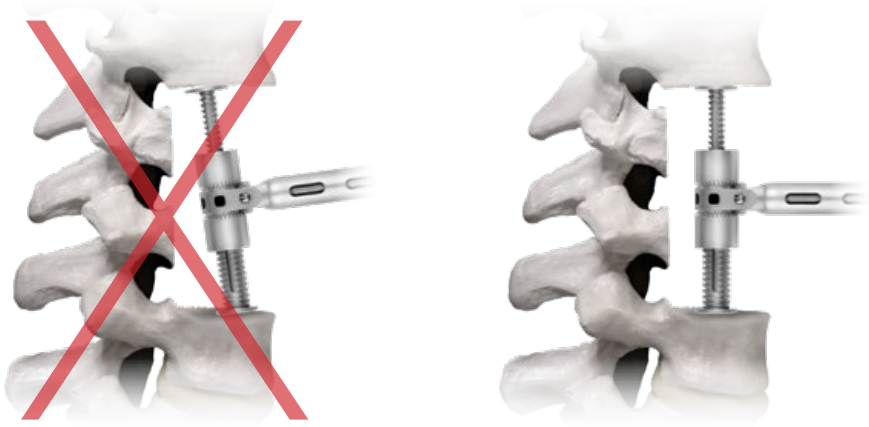
STEP 4 DISTRACTION AND HEIGHT TRIALING

Determine the approximate height of the corpectomy space using the **Adjustable Trial**. Use caution while expanding the Adjustable Trial to avoid excessive distraction and damage to the endplates.

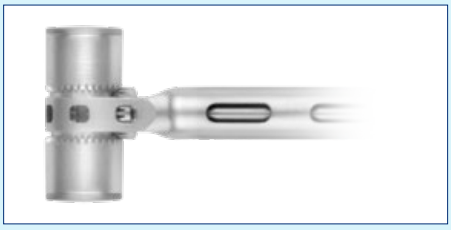
Insert the trial into the defect space at its contracted height. Expand the trial gradually to the desired height by rotating the **QC Handle, Small, with Cap** clockwise.

Measure at the center of the vertebral body, not at the peripheral edges of the vertebrae. If the numbers on the Adjustable Trial are blocked by the trial window, rotate the handle counterclockwise to the nearest number to help identify the height, then re-expand to the precise height. The trial notches are in 2mm increments through the trial window.

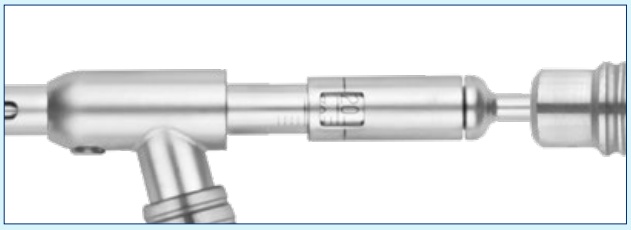
Adjustable Trial and QC Handle, Assembled



INCORRECT **CORRECT**



Adjustable Trial at its contracted height



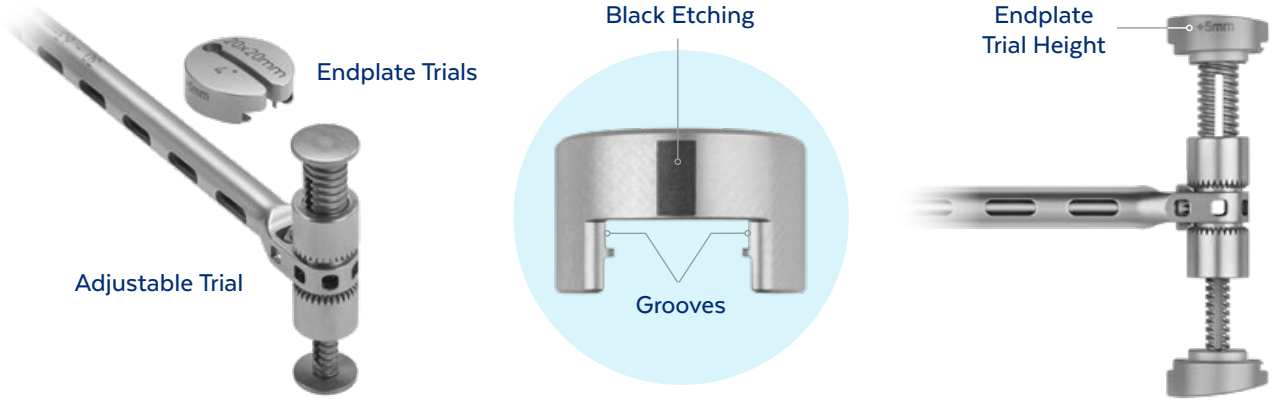
The measured height is shown through the window. This trial reads 18mm.

Note: All standard trial tips are 12mm round in diameter. Adjustable Trials, Short, are 130mm in length; Adjustable Trials, Long, are 242mm in length.

Endplate Trials

Endplate Trials are available to help determine the sagittal profile of the corpectomy space. The Endplate Trials are used with the Adjustable Trial and can be placed on the superior end, inferior end, or both ends of the trial. The black etching on the Endplate Trial indicates the direction of angulation. Ensure that the black etching is oriented anteriorly if building a lordotic implant and posteriorly for a kyphotic implant.

To assemble Endplate Trials to the Adjustable Trial, expand the trial 2-3mm. Align the grooves of the Endplate Trial with the underside of the Adjustable Trial endplate. Slide the Endplate Trial onto the end of the Adjustable Trial endplate until it snaps into position. The Endplate Trials can be rotated into the correct orientation to match the implant's angulation and the surgical approach.



ENDPLATE TRIALS – ADDING HEIGHT

The Endplate Trial height is indicated on the side of the endplate and is added to the measurement on the Adjustable Trial to determine total height.

Example: Calculating Height with Endplate Trials	
Adjustable Trial Window Reads	32mm
Superior Endplate Trial	+ 5mm
Inferior Endplate Trial	+ 5mm
Total Implant Height	**42mm**

Alternatively, the **Measuring Distractor** may be used to determine the approximate height under distraction.

Measuring Distractor

STEP 5 IMPLANT SELECTION

Select a titanium (FORTIFY® or FORTIFY® Variable Angle) or PEEK (FORTIFY®-R) implant based on surgeon preference. Select the appropriate size core and endplates based on the **Assembled Implant Height Guides** (see page 40).

Implant Selection Example:

- 20mm round endplates are chosen based on the fit of the Trial Head
- 4° upper and lower endplates are chosen to create the desired lordosis (8° total)
- The corpectomy space measures 32mm in height

To determine which FORTIFY® 20mm core to use, first find the **Assembled Implant Height Guide** for the 20mm round endplates. On this table locate the row that shows *4° upper* and *4° lower* endplates. Look up the most appropriate height range in this row, which is 28-36mm. The part number for the core that has this height range is at the top of the column (151.151).

FORTIFY® 20mm Core with 20mm Round Upper and Lower Endplate

Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)					
	Upper Endplate	Lower Endplate	Upper	Lower	151.150 [23-28]	151.151 [26-34]	3. Find the core to assemble with endplates			151.155 [90-120]
20mm Round	151.401	151.451	0°	0°	23-28	26-34	31-44	41-64	62-92	90-120
	151.401	151.453	0°	4°	24-29	27-35	32-45	42-65	63-93	91-121
	1. Find the sagittal profile		0°	8°	25.5-30	28.5-36	33.5-46	43.5-66	64.5-94	92.5-122
			4°	0°	24-29	27-35	32-45	42-65	63-93	91-121
	151.403	151.452	4°	4°	25-30	28-36	33-46	43-66	64-94	92-122
	151.403	151.454	4°	8°	26.5-31	29.5-37	2. Determine the proper height range			93.5-123
	151.404	151.451	8°	0°	25.5-30	28.5-36				92.5-122
	151.404	151.453	8°	4°	26.5-31	29.5-37	34.5-47	44.5-67	65.5-95	93.5-123
	151.404	151.454	8°	8°	28-32	31-38	36-48	46-68	67-96	95-124

STEP 6 VERIFYING STARTING HEIGHT FIT

Use the Adjustable Trial to ensure that the starting height of the implant can fit through the surgical corridor.

Expand the trial to the starting height of the implant (e.g., 28mm for the example shown above) and confirm that it fits through the surgical corridor.

STEP 7 IMPLANT ASSEMBLY

Choose the appropriate **Implant Assembly Tool**, based on the implant size, as shown in the table below.

For proper implant assembly, place the Implant Assembly Tool on a flat surface. ***The implant should always be assembled with the core and endplates on the Implant Assembly Tool***.

FORTIFY® and FORTIFY® Variable Angle 16mm implants use **Adapters provided in the 16mm Implant and Instrument Set. These Adapters are used with the 20mm Implant Assembly Tool.*

IMPLANT ASSEMBLY TOOL SELECTION			
Implant Size	12mm Titanium/ 14mm PEEK	16mm Titanium	20mm Titanium/ 20mm PEEK
Implant Assembly Tool	12/14mm	20mm with 16mm Adaptors*	20mm

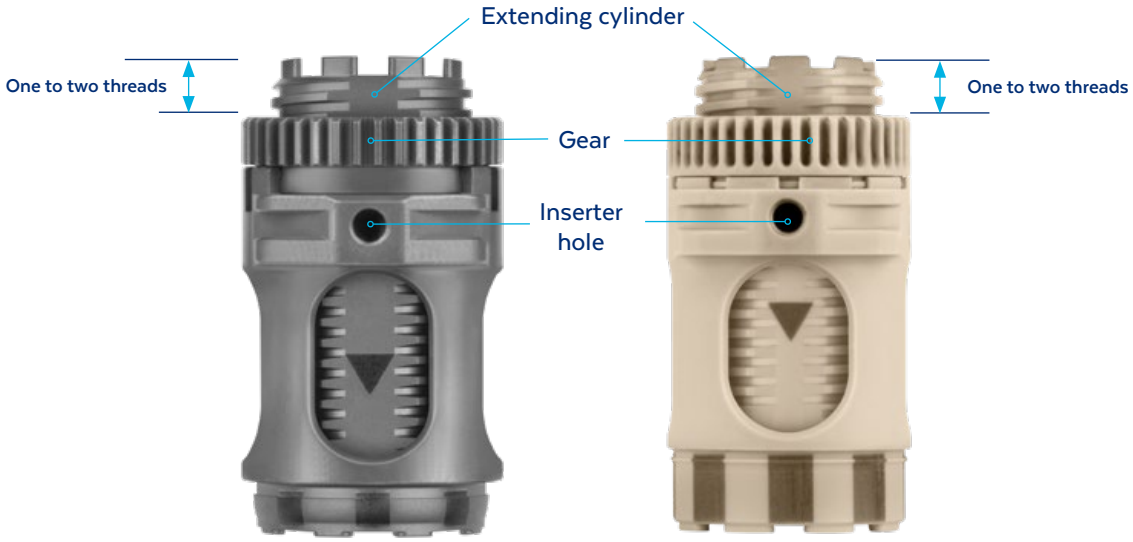
Core and Endplate Assembly

The FORTIFY® implant can be assembled for varying surgical approaches. Refer to the following pages to align the implant for the different approaches.

Visually inspect the extending cylinder to confirm that the first one to two threads are visible on the superior side of the gear before assembly.

Note: Failure to do so may prevent the endplates from attaching to the core properly.

Use the Trial Holder to unlock and expand the implant manually, if needed.

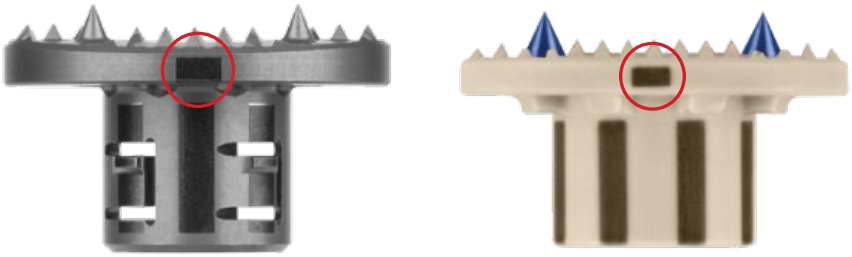


IMPLANT ASSEMBLY (CONT'D)

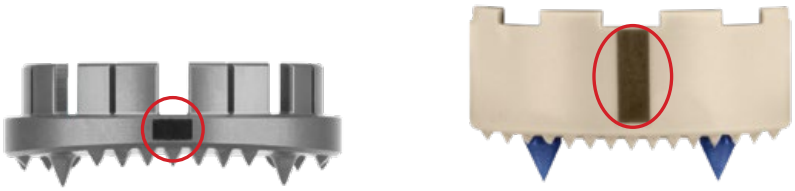
Endplate Alignment

The black alignment etching on each endplate's outer surface indicates the direction of angulation. The table below shows the required final placement of the black alignment etching on both upper and lower endplates for different implant angulations.

Implant Angulation	Alignment Etching
Lordosis	Patient's anterior side
Kyphosis	Patient's posterior side



Upper endplates



Lower endplates

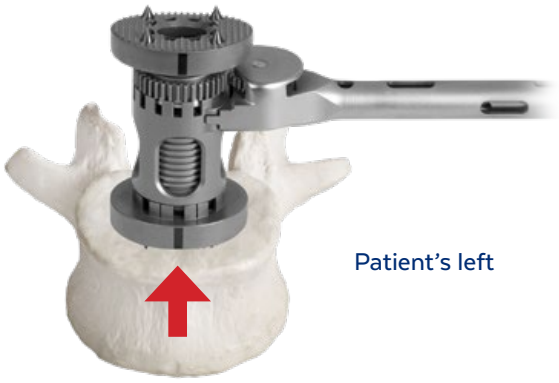
The orientation of the alignment etching on the endplates to the inserter hole on the core is specific to each surgical approach. See pages 19 and 20 for detailed instructions.

Anterior Approach Implants – Lordotic

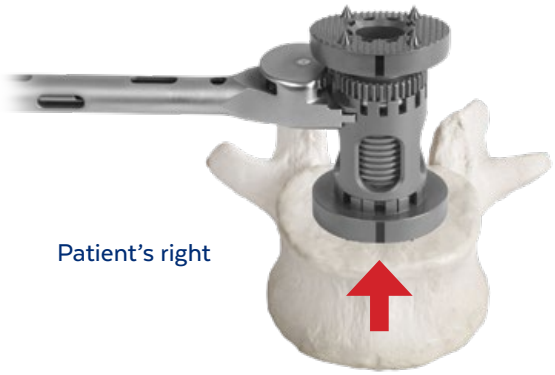
The alignment etching on both endplates should be aligned with the inserter hole as shown to the right.

Direct Lateral Approach Implants – Lordotic

Position the core so that the alignment etching on both endplates is 90° from the inserter hole as shown below. The red arrow indicates the position of the alignment etching on each endplate.



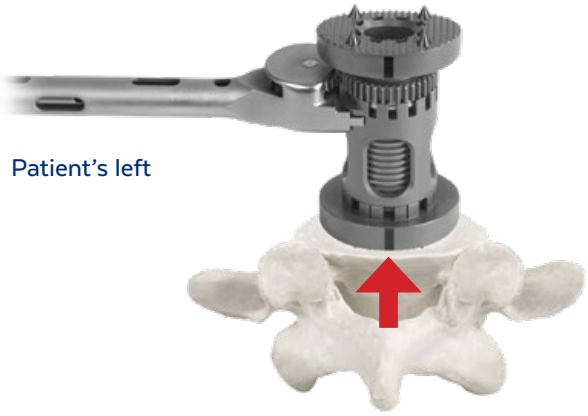
Patient's left



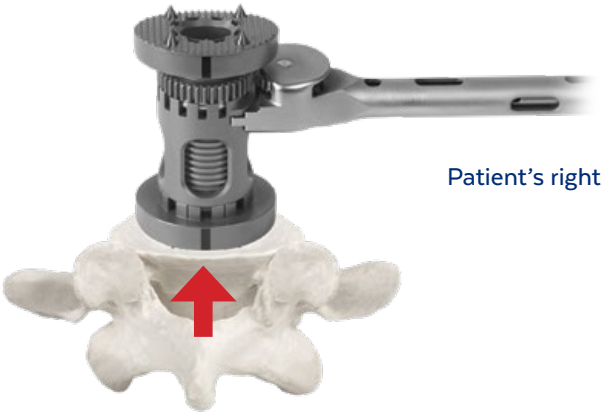
Patient's right

Direct Lateral Approach Implants – Kyphotic

Position the core so that the alignment etching on both endplates is 90° from the inserter hole as shown below. The red arrow indicates the position of the alignment etching on each endplate.



Patient's left

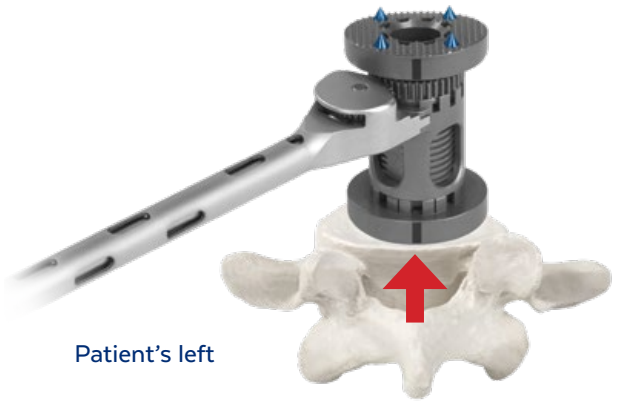


Patient's right

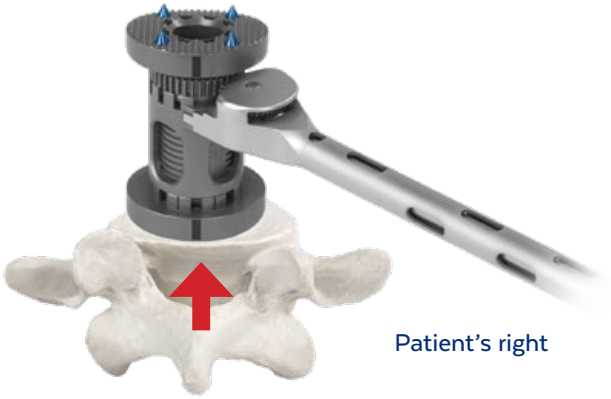
IMPLANT ASSEMBLY (CONT'D)

Posterolateral Approach Implants - Kyphotic

Position the core so that the alignment etching on both endplates is 45° from the inserter hole as shown below. The red arrow indicates the position of the alignment etching on each endplate.



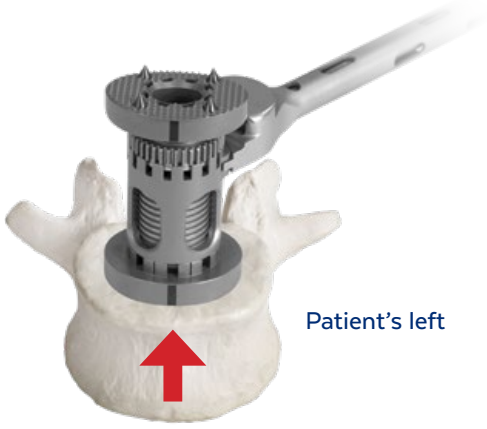
Patient's left



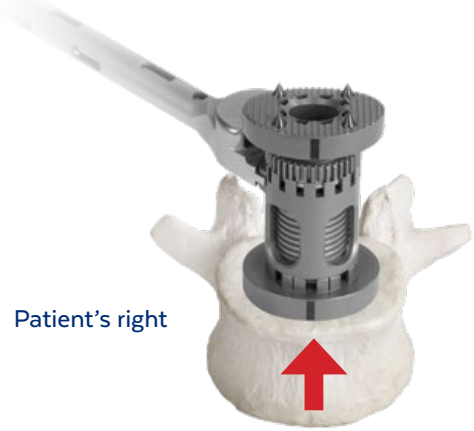
Patient's right

Posterolateral Approach Implants - Lordotic

Position the core so that the alignment etching on both endplates is 135° from the inserter hole as shown below. The red arrow indicates the position of the alignment etching on each endplate.



Patient's left



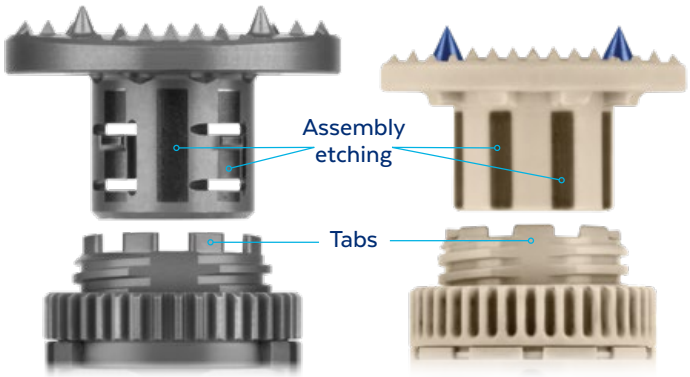
Patient's right

FORTIFY® Variable Angle Endplate Angulation and Locking

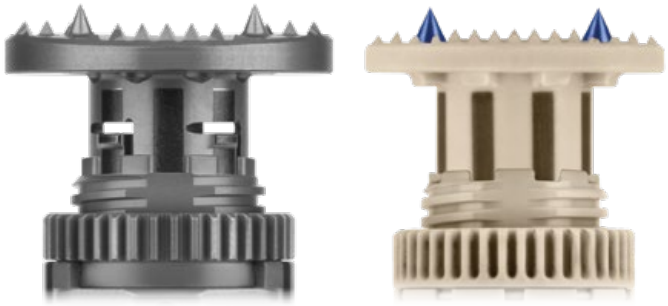
The FORTIFY® Variable Angle upper endplate must be locked at 0° before assembling. If the endplate is at a different angle, unlock the endplate by inserting the T10 Screwdriver and rotating one full turn counterclockwise. Reset the angle to 0° and re-lock to assemble. The variable angle endplate should be aligned to the inserter hole as shown to the right.

Endplate Assembly

Ensure that the upper endplate's alignment etching is correctly oriented to the inserter hole on the core for the desired surgical approach. Align the assembly etching on the upper endplate between the tabs on the core. While maintaining alignment, insert the upper endplate into the core. The upper endplate will not fully seat into the core, and should not be pressed into the core until the lower endplate is placed and aligned (see below).

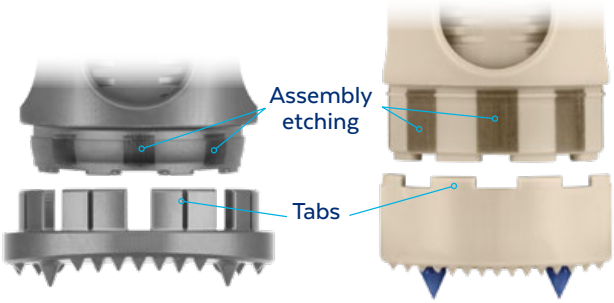


Upper endplate assembly etching aligned with gaps between core tabs

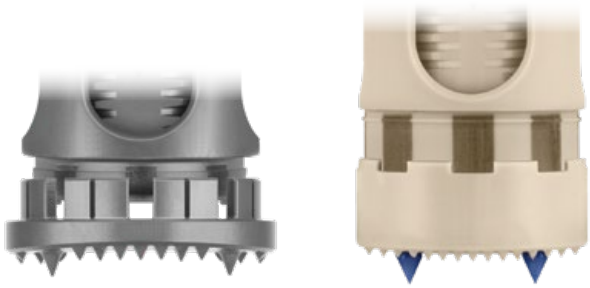


Upper endplate inserted into core while maintaining alignment

Ensure that the lower endplate's alignment etching is correctly oriented to the inserter hole on the core for the surgical approach. Align the assembly etching on the core between the tabs on the lower endplate. With alignment maintained, place the lower endplate onto the core. The lower endplate will not fully seat into the core until it is placed into the assembly tool (see below).



Assembly etching on core aligned with gaps between core



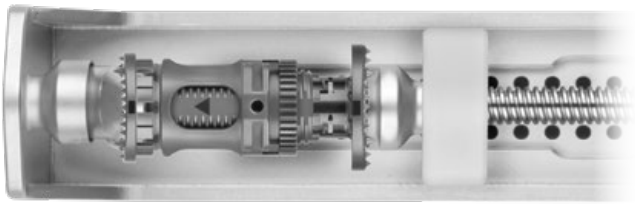
Lower endplate inserted into core while maintaining alignment

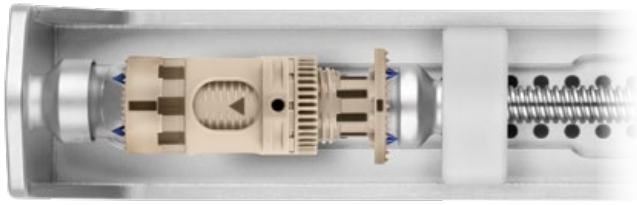
IMPLANT ASSEMBLY (CONT'D)

Attaching the Endplates

- Place the selected implant into the corresponding implant assembly tool, with endplates aligned and placed as detailed on previous pages.
- Visually confirm the proper orientation of the endplates by ensuring the following:
    1. The alignment etchings on both endplates are correctly oriented to the inserter hole for the desired surgical approach.
    2. The assembly etchings on the upper endplate are between the tabs on the core.
    3. The assembly etchings on the core are between the tabs on the lower endplate.
- Attach the 10mm Hex Driver to the implant assembly tool. Rotate the Hex Driver clockwise until the upper endplate, lower endplate, and core press together.
- Visually confirm that the core and endplates are fully assembled. See below for confirmation criteria.

Note: The endplates cannot be removed from the core after assembly. Confirming the selected components prior to final assembly is recommended.



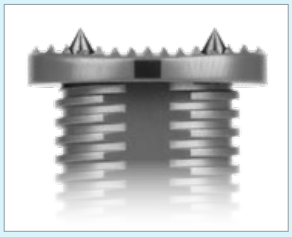


Note: The images above show lordotic implants built for an anterior approach.

ENDPLATE ATTACHMENT CONFIRMATION CRITERIA

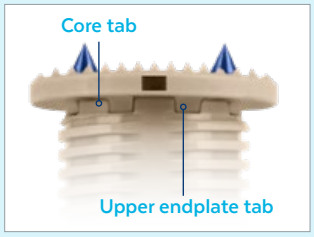
Titanium Upper Endplate

When the titanium upper endplate is fully assembled, the tabs are hidden within the upper endplate. None of the assembly etchings on the endplate are visible.



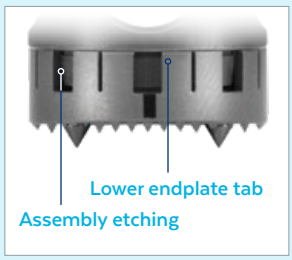
PEEK Upper Endplate

When the PEEK upper endplate is fully assembled, the tabs on the core sit flush with the bottom of the endplate and the tabs on the endplate sit flush with the core. There should be no gap between the core and the endplate.



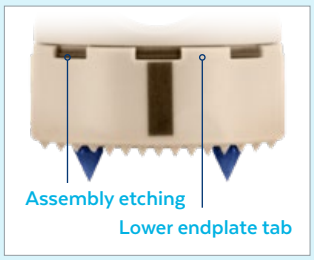
Titanium Lower Endplate

When the titanium lower endplate is fully assembled, the tabs are flush with the core and the assembly etchings are visible.



PEEK Lower Endplate

When the PEEK lower endplate is fully assembled, the tabs on the lower endplate sit flush with the core. The assembly etchings are slightly visible.



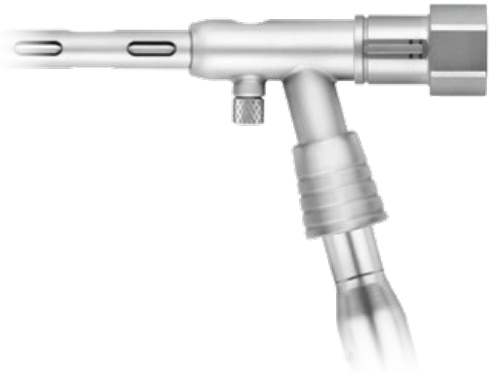
STEP 8 IMPLANT ATTACHMENT

Select the **Inserter, Straight** or **Inserter, Angling** for the assembled core size. Attach the **Implant Attachment Socket** to the proximal end of the selected inserter.

Prior to attaching the implant to the inserter, visually confirm that the implant inserter hole and inserter tip are free from bone graft and soft tissue debris.

Do not impact directly on the inserter as it may damage the inserter and/or implant.

Inserter and Implant Attachment Socket



Inserter and Implant Attachment Socket, attached

STEP 9 PACKING GRAFT

Use the **Graft Packer** to pack autograft or allograft bone into the implant.

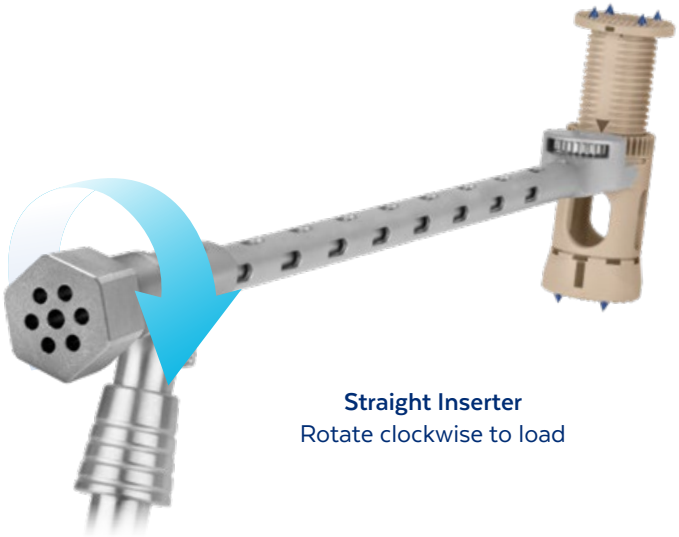
Graft Packer

Using Graft Packer

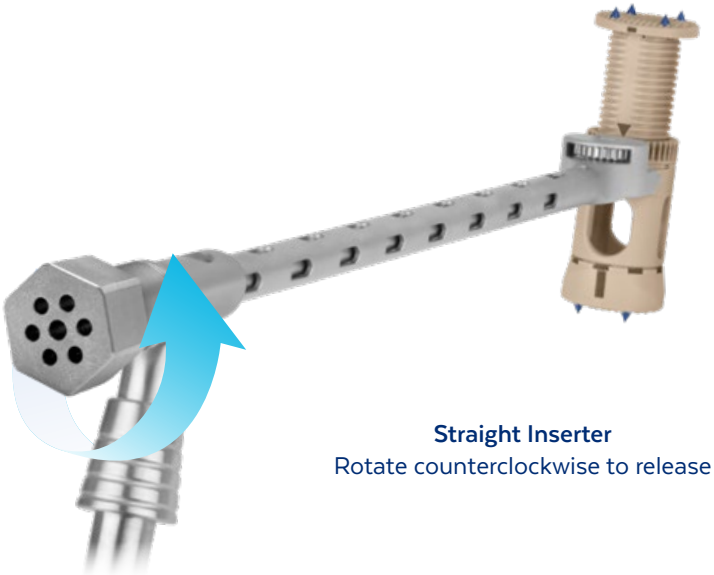
IMPLANT ATTACHMENT (CONT'D)

Implant Attachment to the Straight Inserter (12/14, 16, and 20mm)

When using the Inserter, Straight, rotate the Implant Attachment Socket *clockwise* to load the implant onto the inserter and *counterclockwise* to release. Two-finger tighten the socket to the inserter. Pull *straight back* on the socket to remove.



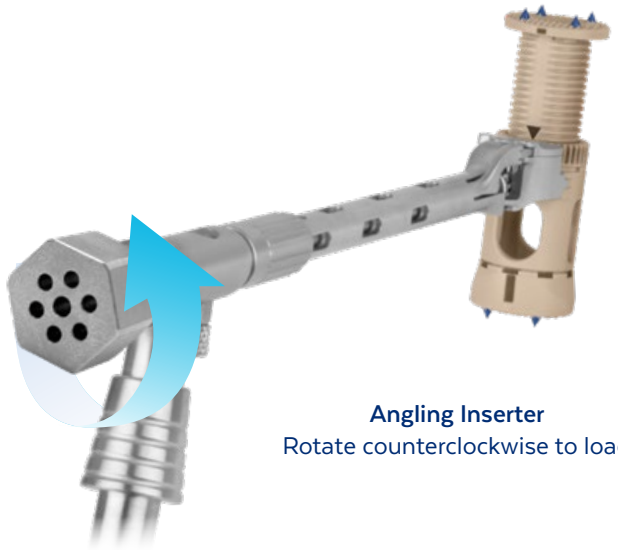
Straight Inserter
Rotate clockwise to load



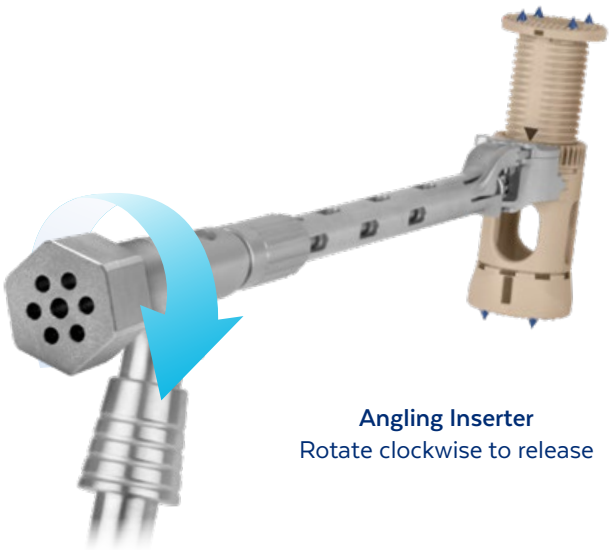
Straight Inserter
Rotate counterclockwise to release

Implant Attachment to the Angling Inserter (12/14, 16, and 20mm)

When using the Inserter, Angling, rotate the Implant Attachment Socket *counterclockwise* to load the implant and *clockwise* to release. Two-finger tighten the socket to the inserter. Pull *straight back* on the socket to remove.



Angling Inserter
Rotate counterclockwise to load



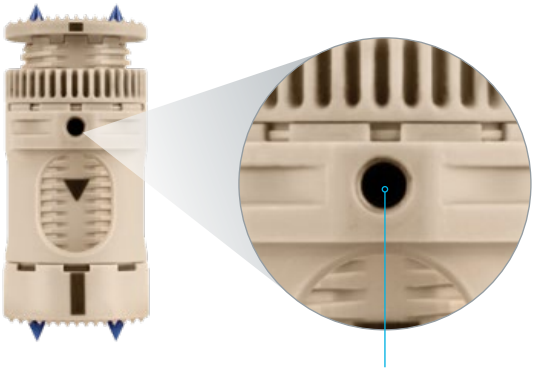
Angling Inserter
Rotate clockwise to release

ATTACHMENT TIPS

If the implant clicks when attempting to expand or contract, it is not properly attached to the inserter. Loosen the implant from the inserter using the Implant Attachment Socket. Re-attach the implant, ensuring that the gears are meshed.

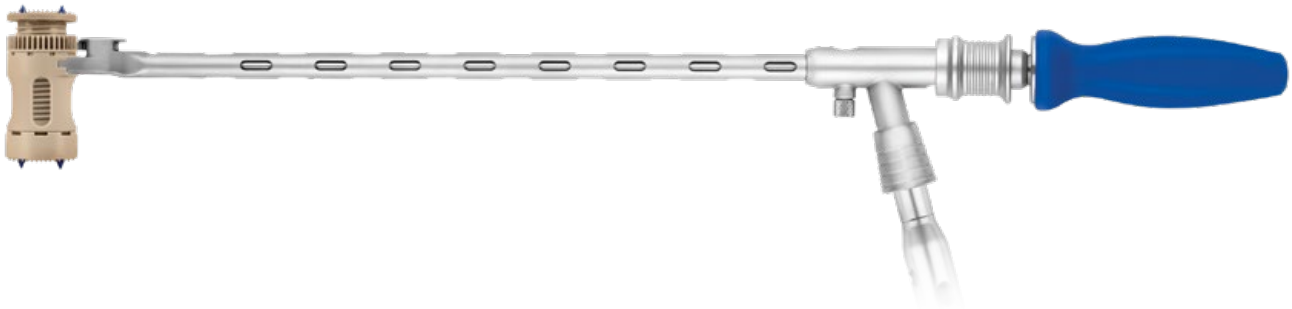
IMPLANT ATTACHMENT (CONT'D)

Connect the **Inserter QC Handle** by retracting the quick-connect shaft and seating it onto the proximal end of the inserter. Gently expand and contract the implant to ensure that it functions properly. After the implant is fully contracted, it is ready for insertion.



Implant insertion hole

Implant attached to inserter



STEP 10 IMPLANT INSERTION

FORTIFY®/FORTIFY®-R

Insert the implant into the corpectomy space. If needed, impact on the **Hex Implant Attachment Socket** or blue Inserter QC Handle.

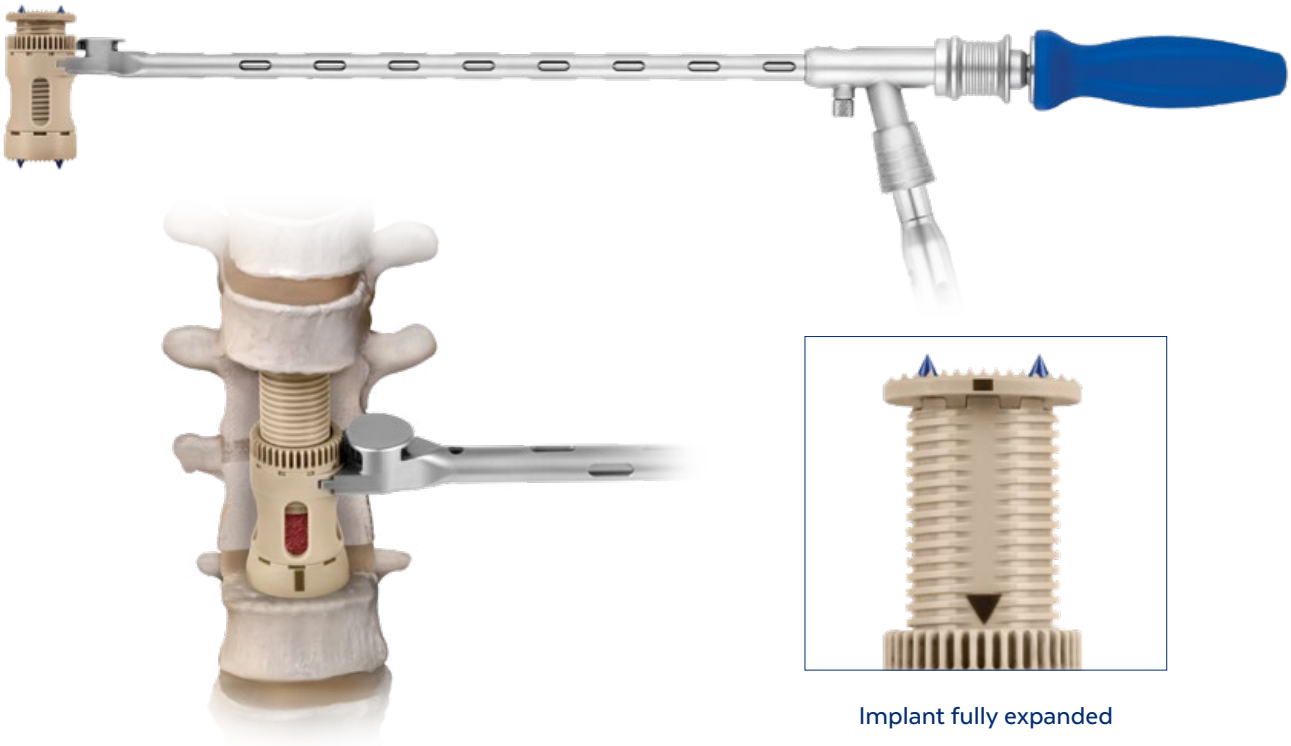
Do not impact directly on the inserter as it may damage the inserter and/or implant.

Expand the implant to the desired height by rotating the inserter handle clockwise. Use fluoroscopy to visualize the implant height during expansion. Avoid overdistraction, which can lead to neural injury. If necessary, contract the implant by rotating the inserter handle counterclockwise.

For final positioning, ensure that the spikes are embedded into the vertebral endplates. Use fluoroscopy to confirm final implant placement.

An etched triangle is visible when the implant is fully expanded. Full expansion of the implant is not required.

Inserter QC Handle rotating
clockwise to expand implant



Implant fully expanded

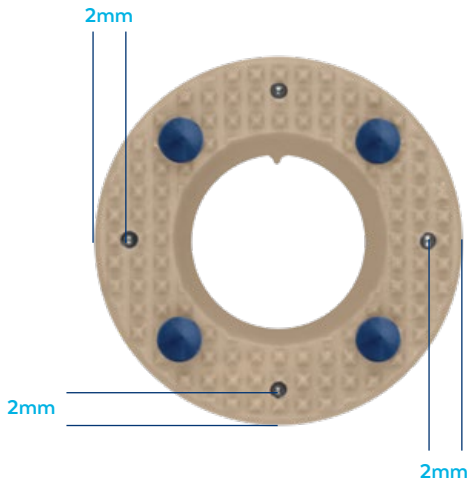
INSERTER QC HANDLE

The Inserter QC Handle is torque limiting (3Nm). Each 360° revolution of the Inserter QC Handle provides approximately 1mm of expansion for the Straight Inserters and 0.5mm for Angling Inserters. ***It is not required to torque out the Inserter QC Handle***.

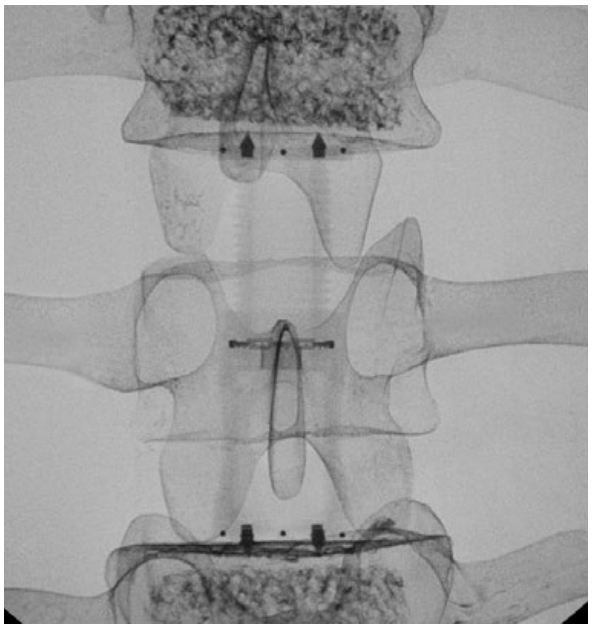
IMPLANT INSERTION (CONT'D)

Radiographic Markers

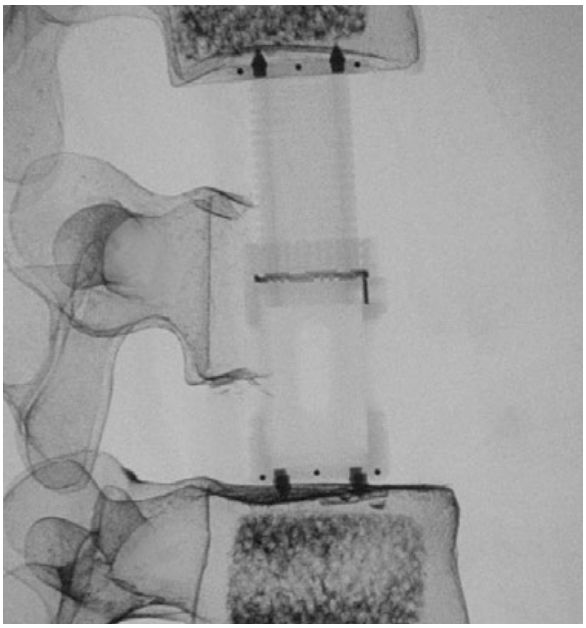
All FORTIFY®-R endplate radiopaque markers are placed 2mm from the edge of the implant in each view.



Axial view



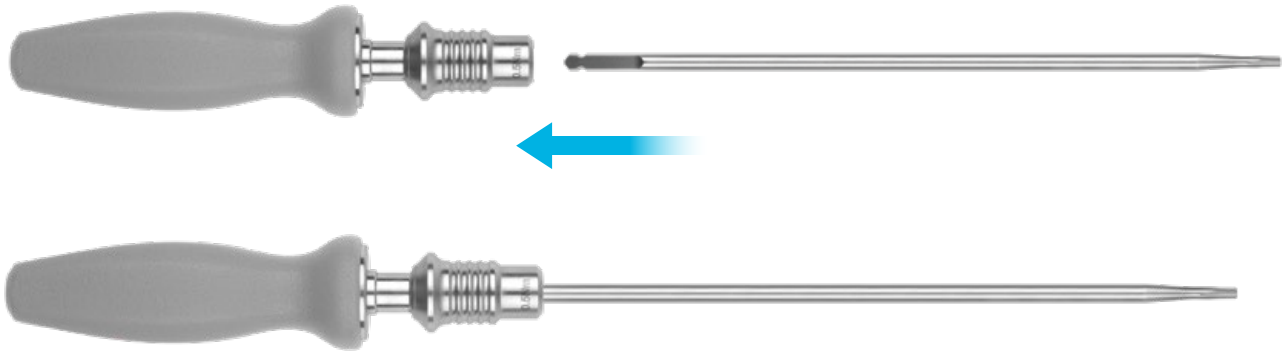
AP view



Lateral view

FORTIFY® Variable Angle

Connect the Quick-Connect, Torque-Limiting Handle to the T10 Screwdriver by retracting and seating it into the proximal end of the screwdriver.



Quick-Connect, Torque-Limiting Handle and T10 Screwdriver — Assembled

When using a FORTIFY® Variable Angle upper endplate, unlock endplate angulation with the T10 Screwdriver after insertion into the corpectomy space and before expanding the device.

Once unlocked, the upper endplate articulates up to 15° (13mm footprint) or 16° (16, 18, 20mm footprints) in the sagittal and coronal planes.

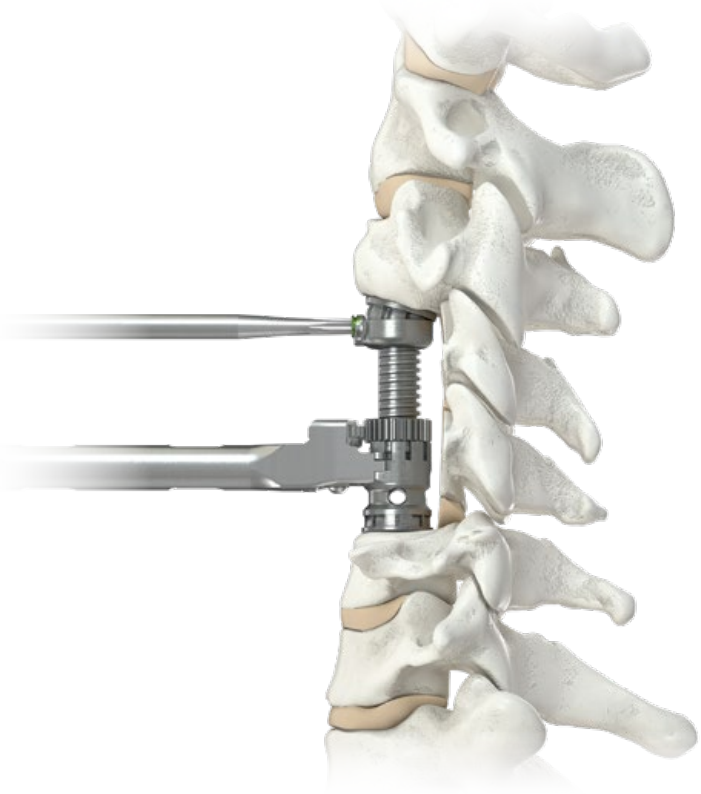
Insert the implant into the corpectomy space. After insertion, follow the standard steps for expansion and implant positioning described in Step 10.

An etched triangle is visible when the implant is fully expanded. Full expansion of the implant is not required.

IMPLANT INSERTION (CONT'D)

FORTIFY® Variable Angle (Cont'd)

Prior to locking the FORTIFY® Variable Angle endplate, remove the blue Inserter QC Handle. Use the T10 Screwdriver with the 0.5Nm Torque-Limiting Handle to secure the locking screw. Rotate the handle clockwise at least one full rotation until it clicks.



Implant Detachment

Prior to detaching the inserter from the implant, use fluoroscopy to confirm that the implant is the proper fit and height. Remove the inserter during fluoroscopic imaging for visualization as needed. Re-attach as necessary.

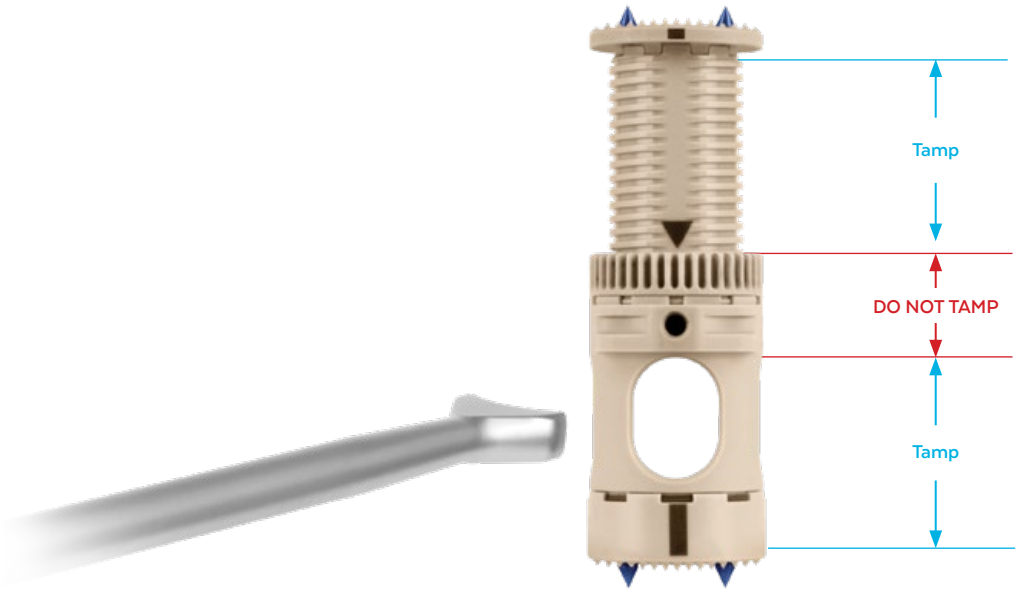
To release the implant from the inserter, disconnect the Inserter QC Handle by retracting the quick-connect shaft and pulling away from the proximal end of the inserter. Connect the Implant Attachment Socket and rotate counterclockwise (Inserter, Straight) or clockwise (Inserter, Angling) to unthread the inserter from the implant.

Once the implant is removed from the inserter, the implant is *automatically locked.* Internal locking provides height stability and engages when the inserter is disengaged from the implant.

STEP 11 IMPLANT ADJUSTMENT

Tamp

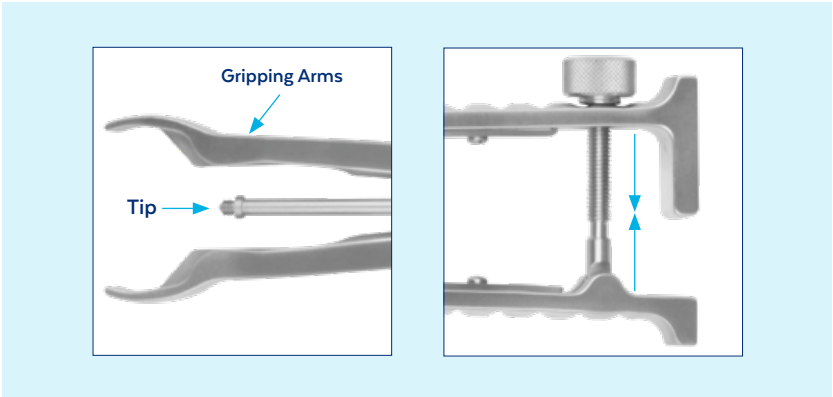
Tamps may be used to adjust implant position. When using the Tamp, carefully impact as close as possible to the endplates. ***Do not tamp on the implant gear***.



Gear Driver and Positioner

After removing the inserter, the **Gear Driver** and **Positioner** may be used to adjust the implant height or position.

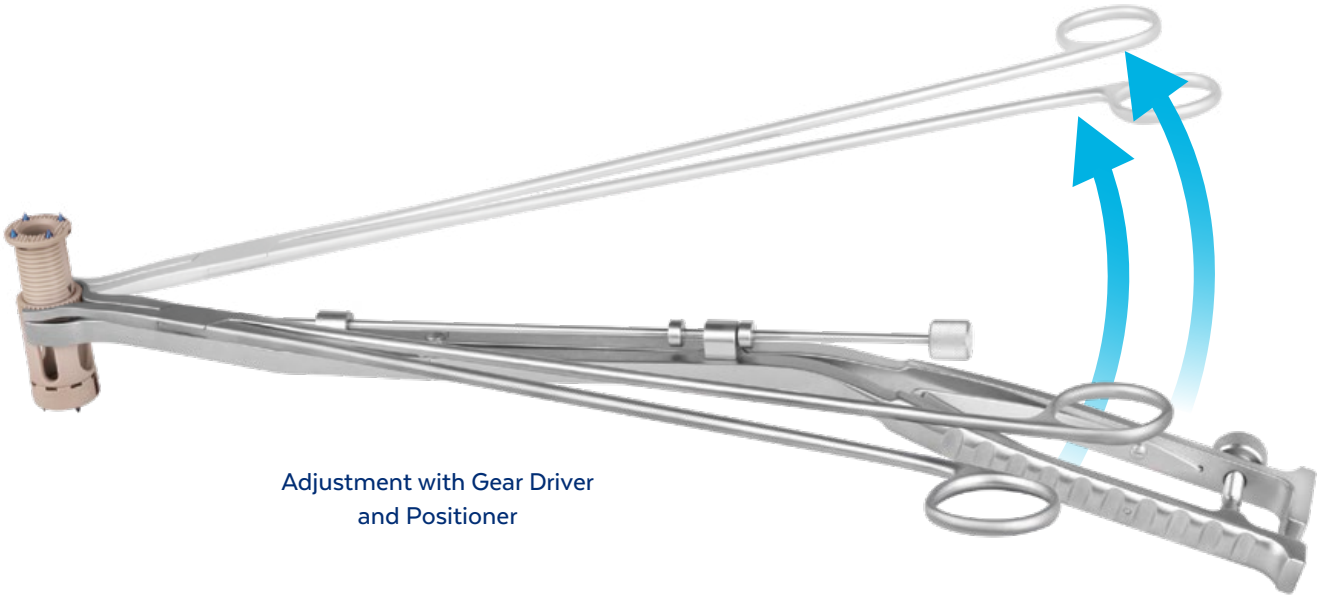
Grasp the implant on the sides of the insertion hole with the **Positioner**. Ensure that the threaded rod is aligned with the insertion hole on the implant. Slightly grip the **Positioner** and rotate the speed nut to secure the implant.



Thread the Positioner into the implant to unlock. Attach the Gear Driver to the implant gear below the upper threads. Rotate clockwise to expand the implant. Rotate the Gear Driver counterclockwise to contract the implant.

***CAUTION**: Do not attempt to expand the implant beyond the maximum height. This may cause damage to the gears and may affect implant function.*

IMPLANT ADJUSTMENT (CONT'D)



Adjustment with Gear Driver
and Positioner

FINAL CONSTRUCT

FORTIFY® Corpectomy Spacers are intended to be used with supplemental fixation systems that have been labeled for use in the cervical, thoracic, and/or lumbar spine.

OPTIONAL: IMPLANT REMOVAL

If removal is necessary, re-attach the inserter. Using the Implant Attachment Socket, attach the inserter to the implant and rotate the Inserter QC Handle counterclockwise to contract the implant height and remove.

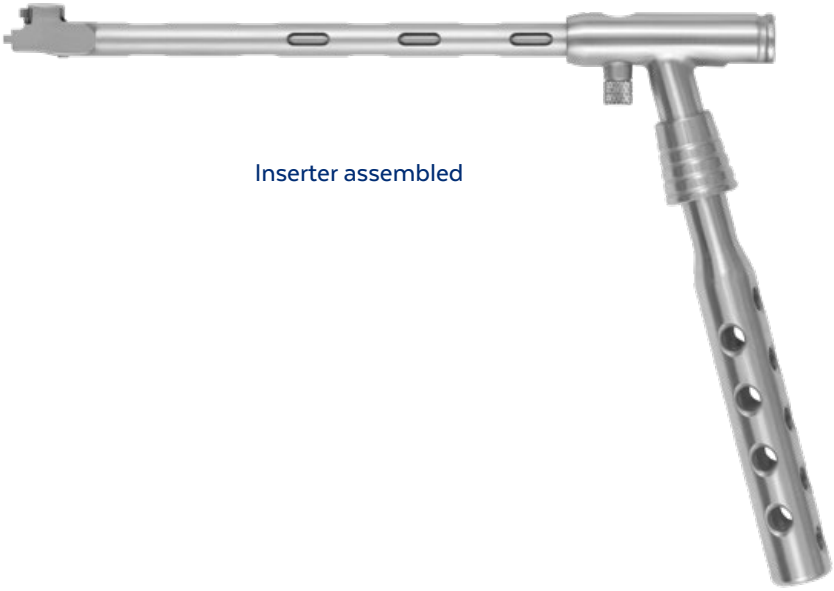
The Gear Driver and Positioner may also be used to remove the implant.

STRAIGHT INSERTER ASSEMBLY AND DISASSEMBLY

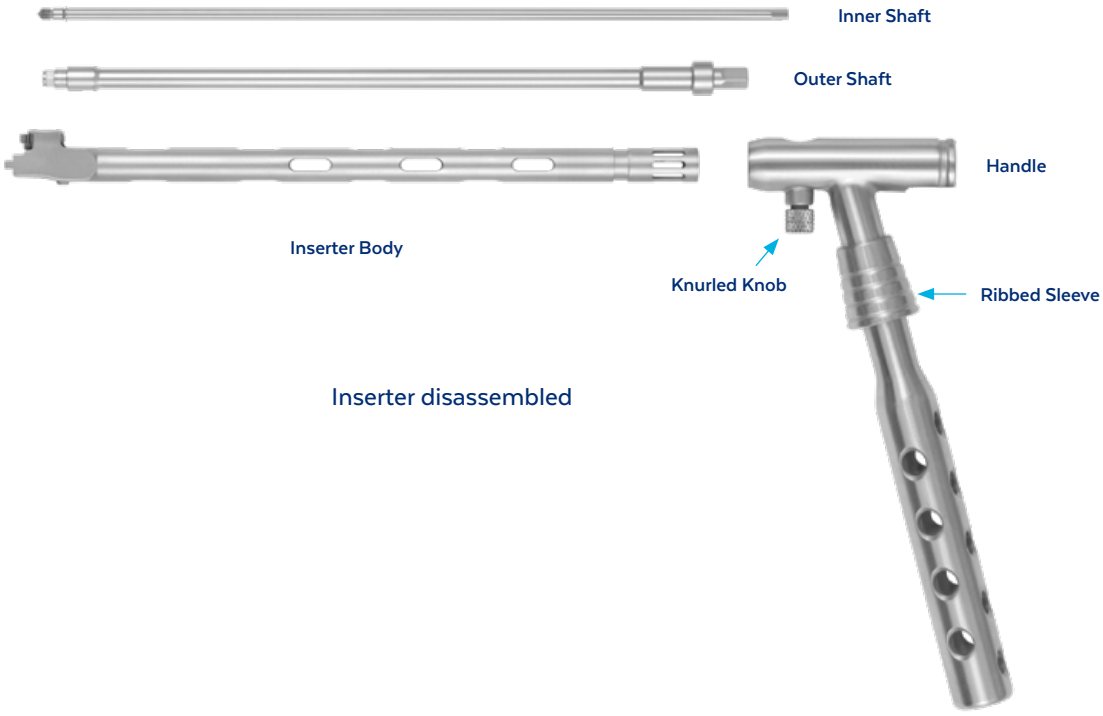
When disassembling the inserters for cleaning, keep all of the subcomponents together for that specific instrument. The subcomponents are customized for each inserter and should not be interchanged with other parts.

Inserter, Straight

The inserters are provided assembled and can be disassembled for cleaning purposes.



Inserter assembled

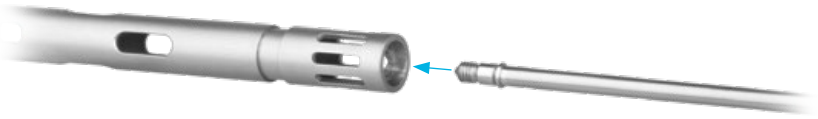


Inserter disassembled

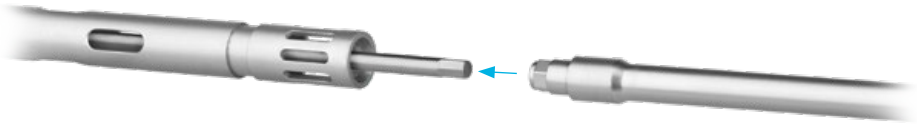
STRAIGHT INSERTER ASSEMBLY AND DISASSEMBLY (CONT'D)

Inserter, Straight: Assembly

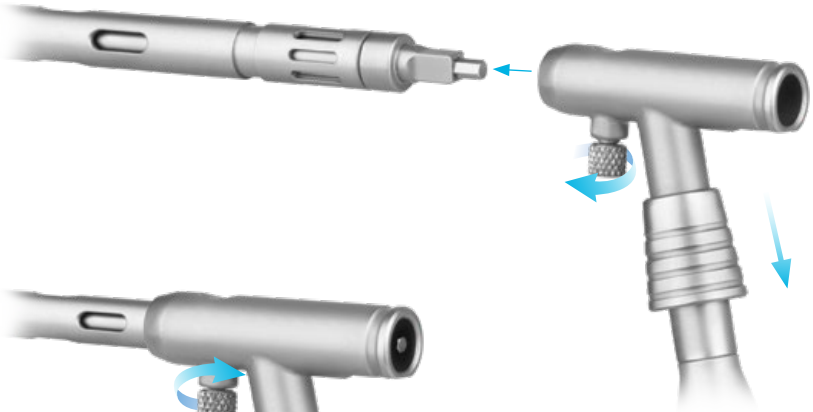
Slide the threaded end of the Inner Shaft into the back of the Inserter Body.



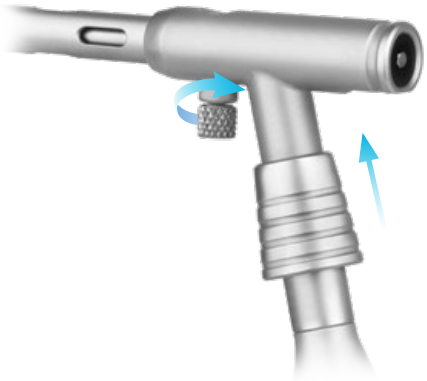
Slide the hex end of the Outer Shaft into the Inserter Body.



Loosen the knurled knob and retract the ribbed sleeve, then slide the handle over the back of the Inserter Body.

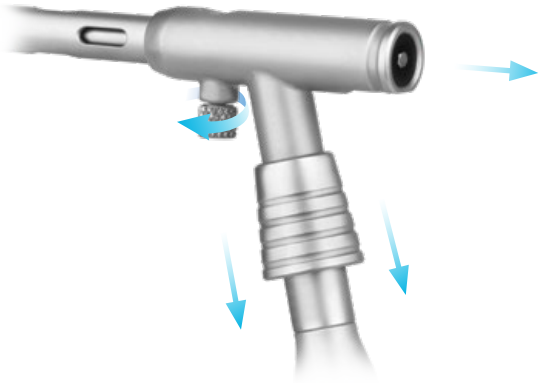


Release the ribbed sleeve and ensure that the handle cannot rotate on the Inserter Body before fully tightening the knurled knob.



Inserter, Straight: Disassembly

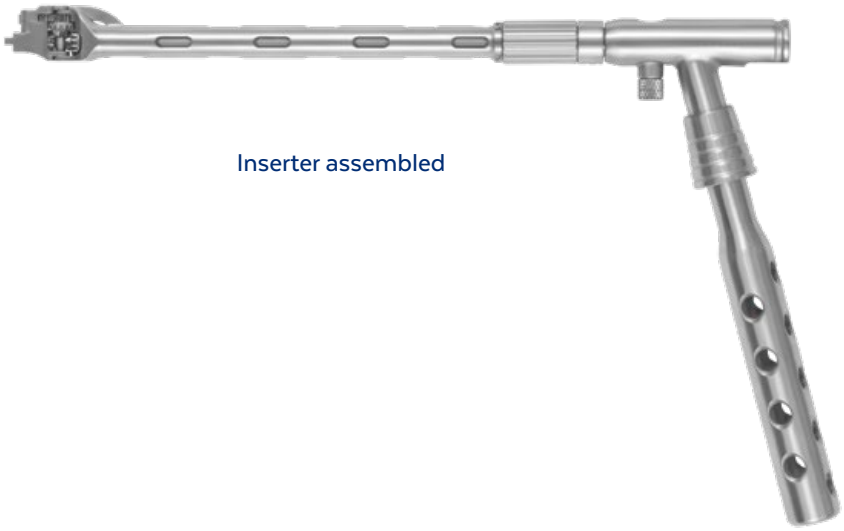
To disassemble, unthread the knurled knob, retract the ribbed sleeve, and pull the handle off of the inserter. Slide the outer and inner shaft out of the inserter.



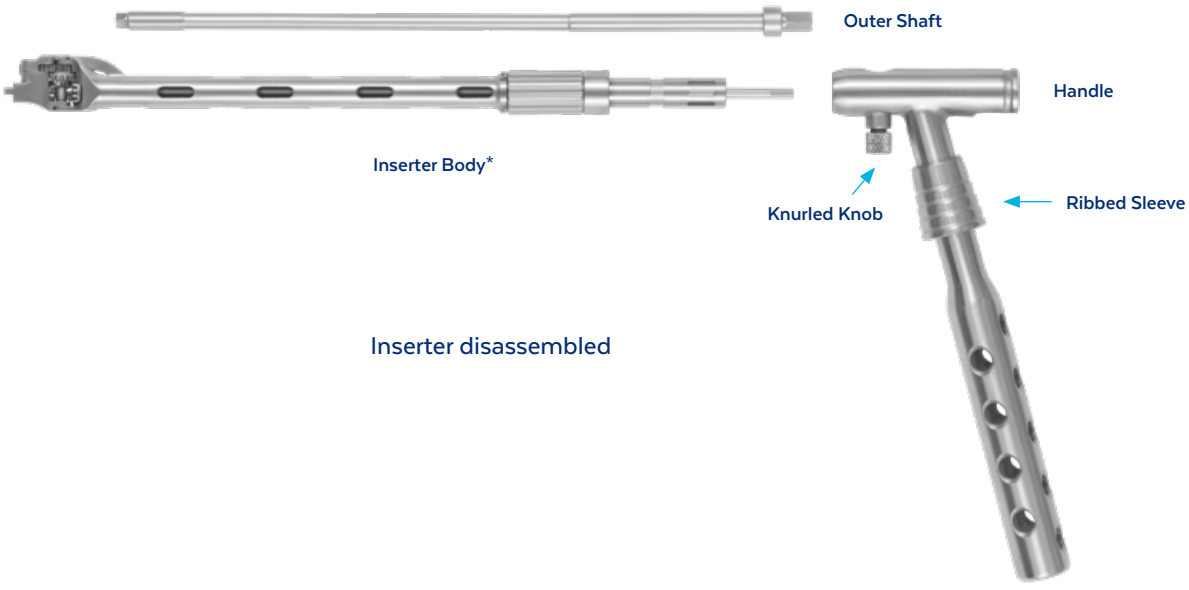
ANGLING INSERTER ASSEMBLY AND DISASSEMBLY

Inserter, Angling

The inserters are provided assembled and can be disassembled for cleaning purposes.



Inserter assembled



Inserter disassembled

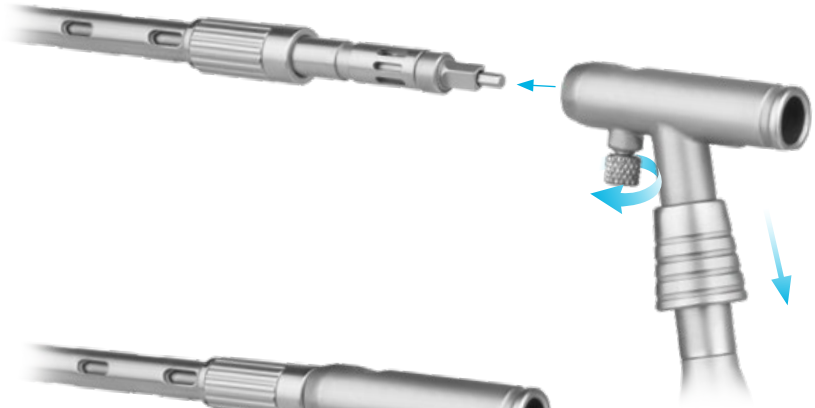
*The Inner Shaft attached to the Inserter Body cannot be disassembled.

ANGLING INSERTER ASSEMBLY AND DISASSEMBLY (CONT'D)

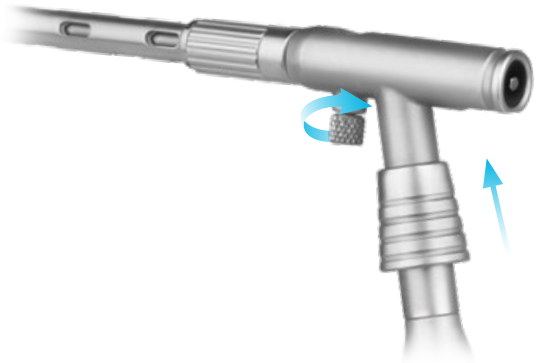
Inserter, Angling: Assembly

Slide the hex end of the Outer Shaft into the Inserter Body.

Loosen the knurled knob and retract the ribbed sleeve, then slide the handle over the back of the Inserter Body.

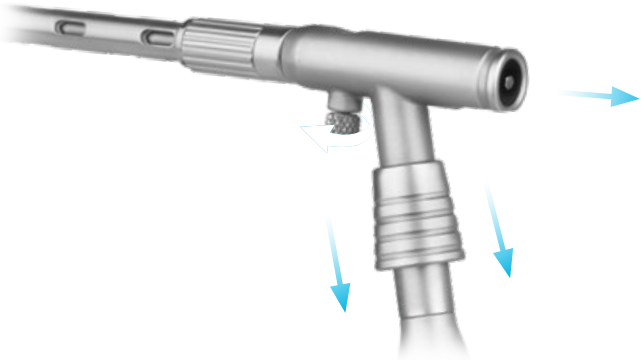


Release the ribbed sleeve and ensure that the handle cannot rotate on the Inserter Body before fully tightening the knurled knob. The handle is fully attached when the ribbed sleeve is pulled down and the handle cannot be removed from the Inserter Body.



Inserter, Angling: Disassembly

To disassemble, loosen the knurled knob, retract the ribbed sleeve, and remove the handle. Slide the outer shaft out of the Inserter Body.



FORTIFY® VARIABLE ANGLE – ANGLED INSTRUMENT ASSEMBLY

Select the **T10 Angled Driver Tip** from the FORTIFY® Posterior Instrument Set.

Hold the Angled Sleeve pointed downward with the cutout facing upward. Insert the T10 Driver Tip into the cutout on the distal end of the driver sleeve.

Insert the **Angled Driver Shaft** into the driver body until the gears on the shaft engage with the gears on the screwdriver.

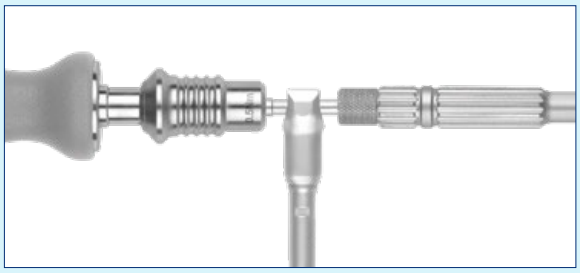
Place the **Angled Sleeve with Backing Nut** over the shaft. Rotate the threads clockwise until the nut sits flush with the driver sleeve.

Attach the **Quick-Connect Handle, Swivel**. The driver is ready for use.

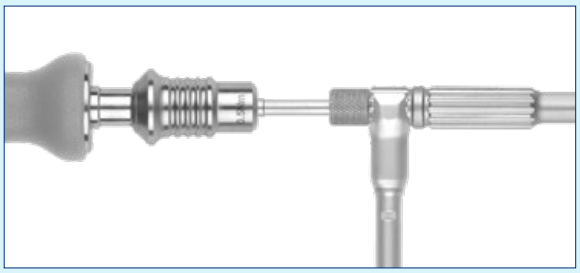
For additional control of the distal tip, the **Counter-Torque, Angled** may be attached.

FORTIFY® VARIABLE ANGLE – ANGLED INSTRUMENT ASSEMBLY (CONT'D)

Slide the Counter-Torque from the smooth portion of the driver sleeve to the knurled position until fully seated.



Attaching Counter-Torque



Counter-Torque in final position

IMPLANT OPTIONS

System	Core Size	Heights	Footprints	Angles
FORTIFY®-R (PEEK)	14mm	15-88mm	14mm Round 14x16mm Oval 15x18mm Oval	0°, 3.5°, 7°, 10°*
	20mm	26-120mm	20mm Round 21x23mm Oval 25x30mm Oval	0°, 4°, 8°, 12°***, 16°***
FORTIFY® (Titanium)	12mm	15-88mm	12x14mm Oval 14x16mm Oval 15x18mm Oval	0°, 3.5°, 7°, 10*
	16mm	20-78mm	16mm Round 18mm Round	0°, 4°, 8°**
			Lateral Endplates: 16x30 18x30 16x35 18x35 16x40 18x40 16x45 18x45	0°, 4°, 8°**
	20mm	23-120mm	20mm Round 21x23mm Oval 25x30mm Oval	0°, 4°, 8°, 12°***, 16°***
			Lateral Endplates: 22x40 22x45 22x50	0°, 4°, 8°, 12°
FORTIFY® Variable Angle (Titanium)	12mm	23-97.5mm	13mm Round	Variable Angle Upper Endplate: 0°-15°
				FORTIFY® Lower Endplate: 0°
	16mm	28.5-89.5mm	16mm Round 18mm Round	Variable Angle Upper Endplate: 0°-16°
				FORTIFY® Lower Endplate: 0°, 4°, 8°**
	20mm	32-132.5mm	20mm Round	Variable Angle Upper Endplate: 0°-16°
				FORTIFY® Lower Endplate: 0°, 4°, 8°, 12°***, 16°***

** FORTIFY® 12mm/FORTIFY®-R 14mm 10° lower endplates are additionally available for the 14x16mm and 15x18mm footprints.*

*** FORTIFY® 16mm 8° is available in the lower endplate only.*

**** FORTIFY® 20mm / FORTIFY-R 20mm 12° and 16° lower endplates are available in the 25x30mm footprint.*

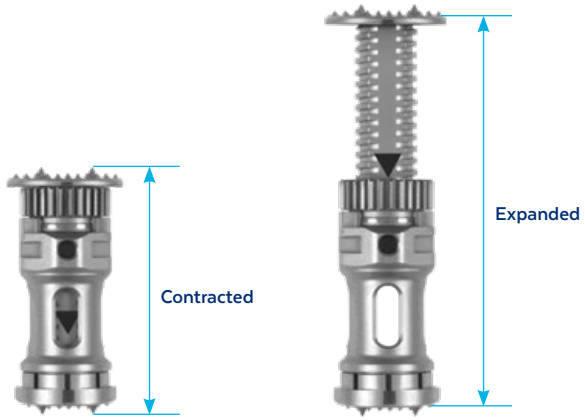
ASSEMBLED IMPLANT HEIGHT GUIDES

The following charts show the assembled implant height (mm) for various core and endplate combinations.

The core height range with endplates changes based on what sagittal profile and footprint are selected and whether the endplate has spikes. The charts below provide the precalculated height measurements for these combinations.

The starting or contracted implant height includes spikes and is measured spike to spike. The expanded height is measured tooth to tooth and accounts for spikes embedded in the vertebral body.

EXAMPLE



FORTIFY® 12mm Fixed Lower Endplates, Assembled Implant Heights

FORTIFY® 12mm Core with Fixed Lower Endplate and 12mm Endplates						
Footprint	Part No.	Sagittal Profile	Core Range with Endplates (mm)			
	Upper Endplate	Upper	151.001 [15-19]	151.002 [16-19]	151.003 [16-20]	151.004 [17-20]
12x14mm	151.320	0°, no spikes	15-19	15.5-19	15.5-19.5	16-19.5
	151.321	0°	15.5-19	16-19	16-19.5	16.5-19.5
	151.322	3.5°, no spikes	15.5-19.5	16-19.5	16-20	16.5-20
	151.323	3.5°	16-19.5	16.5-19.5	16.5-20	17-20
	151.324	7°	17-20	17.5-20	17.5-20.5	18-20.5
15x18mm	151.331	0°	16-19	16.5-19	16.5-19.5	17-19.5
	151.333	3.5°	16.5-20	17-20	17-20.5	17.5-20.5
	151.334	7°	17-20.5	17.5-20.5	17.5-21	18-21
14x16mm	151.701	0°	16-19	16.5-19	16.5-19.5	17-19.5
	151.703	3.5°	16.5-19.5	17-19.5	17-20	17.5-20
	151.704	7°	17-20.5	17.5-20.5	17.5-21	18-21

FORTIFY® 12mm Assembled Implant Heights

FORTIFY® 12mm Core with 12x14mm Upper and Lower Endplates											
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)						
	Upper Endplate	Lower Endplate	Upper	Lower	151.050 [18-23]	151.051 [19-25]	151.052 [21-29]	151.053 [25-37]	151.054 [33-53]	151.055 [48-71]	151.056 [67-88]
12x14mm	151.320	151.370	0°, no spikes	0°, no spikes	17.5-23	18.5-25	20.5-29	24.5-37	32.5-53	47.5-71	66.5-88
	151.320	151.372	0°, no spikes	3.5°, no spikes	18-23.5	19-25.5	21-29.5	25-37.5	33-53.5	48-71.5	67-88.5
	151.320	151.374	0°, no spikes	7°	18.5-24	19.5-26	21.5-30	25.5-38	33.5-54	48.5-72	67.5-89
	151.321	151.371	0°	0°	18-23	19-25	21-29	25-37	33-53	48-71	67-88
	151.321	151.373	0°	3.5°	18.5-23.5	19.5-25.5	21.5-29.5	25.5-37.5	33.5-53.5	48.5-71.5	67.5-88.5
	151.321	151.374	0°	7°	19-24	20-26	22-30	26-38	34-54	49-72	68-89
	151.322	151.371	3.5°, no spikes	0°, no spikes	17.5-23.5	18.5-25.5	20.5-29.5	24.5-37.5	32.5-53.5	47.5-71.5	66.5-88.5
	151.322	151.372	3.5°, no spikes	3.5°, no spikes	18-24	19-26	21-30	25-38	33-54	48-72	67-89
	151.322	151.374	3.5°, no spikes	7°, no spikes	18.5-24.5	19.5-26.5	21.5-30.5	25.5-38.5	33.5-54.5	48.5-72.5	67.5-89.5
	151.323	151.371	3.5°	0°	18.5-23.5	19.5-25.5	21.5-29.5	25.5-37.5	33.5-53.5	48.5-71.5	67.5-88.5
	151.323	151.373	3.5°	3.5°	19-24	20-26	22-30	26-38	34-54	49-72	68-89
	151.323	151.374	3.5°	7°	19.5-24.5	20.5-26.5	22.5-30.5	26.5-38.5	34.5-54.5	49.5-72.5	68.5-89.5
	151.324	151.371	7°	0°	19-24	20-26	22-30	26-38	34-54	49-72	68-89
	151.324	151.373	7°	3.5°	19.5-24.5	20.5-26.5	22.5-30.5	26.5-38.5	34.5-54.5	49.5-72.5	68.5-89.5
	151.324	151.374	7°	7°	20-25	21-27	23-31	27-39	35-55	50-73	69-90

FORTIFY® 12mm Core with 14x16mm Upper and Lower Endplates											
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)						
	Upper Endplate	Lower Endplate	Upper	Lower	151.050 [18-23]	151.051 [19-25]	151.052 [21-29]	151.053 [25-37]	151.054 [33-53]	151.055 [48-71]	151.056 [67-88]
14x16mm	151.701	151.751	0°	0°	18-23	19-25	21-29	25-37	33-53	48-71	67-88
	151.701	151.753	0°	3.5°	18.5-23.5	19.5-25.5	21.5-29.5	25.5-37.5	33.5-53.5	48.5-71.5	67.5-88.5
	151.701	151.754	0°	7°	19.5-24.5	20.5-26.5	22.5-30.5	26.5-38.5	34.5-54.5	49.5-72.5	68.5-89.5
	151.701	151.755	0°	10°	20.5-25	21-27	23-31	27-39	35-55	50-73	69-90
	151.703	151.751	3.5°	0°	18.5-23.5	19.5-25.5	21.5-29.5	25.5-37.5	33.5-53.5	48.5-71.5	67.5-88.5
	151.703	151.753	3.5°	3.5°	19-24	20-26	22-30	26-38	34-54	49-72	68-89
	151.703	151.754	3.5°	7°	20-25	21-27	23-31	27-39	35-55	50-73	69-90
	151.703	151.755	3.5°	10°	20-25.5	21-27.5	23-31.5	27-39.5	35-55.5	50-73.5	69-90.5
	151.704	151.751	7°	0°	19.5-24.5	20.5-26.5	22.5-30.5	26.5-38.5	34.5-54.5	49.5-72.5	68.5-89.5
	151.704	151.753	7°	3.5°	20-25	21-27	23-31	27-39	35-55	50-73	69-90
	151.704	151.754	7°	7°	21-26	22-28	24-32	28-40	36-56	51-74	70-91
	151.704	151.755	7°	10°	21-26.5	22-28.5	24-32.5	28-40.5	36-56.5	51-74.5	70-91.5

ASSEMBLED IMPLANT HEIGHT GUIDES (CONT'D)

FORTIFY® 12mm Assembled Implant Heights

FORTIFY® 12mm Core with 15x18mm Upper and Lower Endplates											
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)						
	Upper Endplate	Lower Endplate	Upper	Lower	151.050 [18-23]	151.051 [19-25]	151.052 [21-29]	151.053 [25-37]	151.054 [33-53]	151.055 [48-71]	151.056 [67-88]
15x18mm	151.331	151.381	0°	0°	18-23	19-25	21-29	25-37	33-53	48-71	67-88
	151.331	151.383	0°	3.5°	19-24	20-26	22-30	26-38	34-54	49-72	68-89
	151.331	151.384	0°	7°	19.5-24.5	20.5-26.5	22.5-30.5	26.5-38.5	34.5-54.5	49.5-72.5	68.5-89.5
	151.331	151.385	0°	10°	20.5-25	21.5-27	23.5-31	27.5-39	35.5-55	50.5-73	69.5-90
	151.333	151.381	3.5	0°	19-24	20-26	22-30	26-38	34-54	49-72	68-89
	151.333	151.383	3.5°	3.5°	20-25	21-27	23-31	27-39	35-55	50-73	69-90
	151.333	151.384	3.5°	7°	20.5-25.5	21.5-27.5	23.5-31.5	27.5-39.5	35.5-55.5	50.5-73.5	69.5-90.5
	151.333	151.385	3.5°	10°	21-26	22-28	24-32	28-40	36-56	51-74	70-91
	151.334	151.381	7°	0°	19.5-24.5	20.5-26.5	22.5-30.5	26.5-38.5	34.5-54.5	49.5-72.5	68.5-89.5
	151.334	151.383	7°	3.5°	20.5-25.5	21.5-27.5	23.5-31.5	27.5-39.5	35.5-55.5	50.5-73.5	69.5-90.5
	151.334	151.384	7°	7°	21-26	22-28	24-32	28-40	36-56	51-74	70-91
	151.334	151.385	7°	10°	21.5-26.5	22.5-28.5	24.5-32.5	28.5-40.5	36.5-56.5	51.5-74.5	70.5-91.5

FORTIFY®-R 14mm Fixed Lower Endplates, Assembled Implant Heights

FORTIFY®-R 14mm Core with Fixed Lower Endplate and 14mm Upper Endplates														
Footprint	Part No.	Sagittal Profile	Core Range with Endplates (mm)											
	Upper Endplate	Upper	351.001 [15-18]	351.002 [17-18]	351.003 [17-20]	351.004 [19-20]	351.005 [16-20]	351.006 [18-20]	351.007 [18-22]	351.008 [20-22]	351.009 [18-24]	351.010 [20-24]	351.011 [20-26]	351.012 [22-26]
14mm Round	351.300	0°, no spikes	15-18	16-18	16.5-19.5	17.5-19.5	16-20	17-20	17.5-21.5	18.5-21.5	18-24	19-24	19.5-25.5	20.5-25.5
	351.301	0°	16-18	17-18	17.5-19.5	18.5-19.5	17-20	18-20	18.5-21.5	19.5-21.5	19-24	20-24	20.5-25.5	21.5-25.5
	351.302	3.5°, no spikes	15.5-18.5	16.5-18.5	17-20	18-20	16.5-20.5	17.5-20.5	18-22	19-22	18.5-24.5	19.5-24.5	20-26	21-26
	351.303	3.5°	16.5-18.5	17.5-18.5	18-20	19-20	17.5-20.5	18.5-20.5	19-22	20-22	19.5-24.5	20.5-24.5	21-26	22-26
	351.304	7°	17.5-19.5	18.5-19.5	19-21	20-21	18.5-21.5	19.5-21.5	20-23	21-23	20.5-25.5	21.5-25.5	22-27	23-27
14x16mm	351.311	0°	16-18	17-18	17.5-19.5	18.5-19.5	17-20	18-20	18.5-21.5	19.5-21.5	19-24	20-24	20.5-25.5	21.5-25.5
	351.313	3.5°	16.5-18.5	17.5-18.5	18-20	19-20	17.5-20.5	18.5-20.5	19-22	20-22	19.5-24.5	20.5-24.5	21-26	22-26
	351.314	7°	17.5-19.5	18.5-19.5	19-21	20-21	18.5-21.5	19.5-21.5	20-23	21-23	20.5-25.5	21.5-25.5	22-27	23-27
15x18mm	351.321	0°	16-18	17-18	17.5-19.5	18.5-19.5	17-20	18-20	18.5-21.5	19.5-21.5	19-24	20-24	20.5-25.5	21.5-25.5
	351.323	3.5°	16.5-19	17.5-19	18-20.5	19-20.5	17.5-21	18.5-21	19-22.5	20-22.5	19.5-25	20.5-25	21-26.5	22-26.5
	351.324	7°	17.5-19.5	18.5-19.5	19-21	20-21	18.5-21.5	19.5-21.5	20-23	21-23	20.5-25.5	21.5-25.5	22-27	23-27

FORTIFY®-R 14mm Assembled Implant Heights

FORTIFY®-R 14mm Core with 14x14mm Upper and Lower Endplates									
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)				
	Upper Endplate	Lower Endplate	Upper	Lower	351.050 [24-32]	351.051 [28-40]	351.052 [35-54]	351.053 [49-71]	351.054 [66-88]
14mm Round	351.300	351.351	0°, no spikes	0°	23-32	27-40	34-54	48-71	65-88
	351.300	351.353	0°, no spikes	3.5°	23.5-32.5	27.5-40.5	34.5-54.5	48.5-71.5	65.5-88.5
	351.300	351.354	0°, no spikes	7°	24.5-33.5	28.5-41.5	35.5-55.5	49.5-72.5	66.5-89.5
	351.301	351.351	0°	0°	24-32	28-40	35-54	49-71	66-88
	351.301	351.353	0°	3.5°	24.5-32.5	28.5-40.5	35.5-54.5	49.5-71.5	66.5-88.5
	351.301	351.354	0°	7°	25.5-33.5	29.5-41.5	36.5-55.5	50.5-72.5	67.5-89.5
	351.302	351.351	3.5°, no spikes	0°	23-32.5	27-40.5	34-54.5	48-71.5	65-88.5
	351.302	351.353	3.5°, no spikes	3.5°	23.5-33	27.5-41	34.5-55	48.5-72	65.5-89
	351.302	351.354	3.5°, no spikes	7°	24.5-34	28.5-42	35.5-56	49.5-73	66.5-90
	351.303	351.351	3.5°	0°	24.5-32.5	28.5-40.5	35.5-54.5	49.5-71.5	66.5-88.5
	351.303	351.353	3.5°	3.5°	25-33	29-41	36-55	50-72	67-89
	351.303	351.354	3.5°	7°	26-34	30-42	37-56	51-73	68-90
	351.304	351.351	7°	0°	25.5-33.5	29.5-41.5	36.5-55.5	50.5-72.5	67.5-89.5
	351.304	351.353	7°	3.5°	26-34	30-42	37-56	51-73	68-90
	351.304	351.354	7°	7°	27-35	31-43	38-57	52-74	69-91

ASSEMBLED IMPLANT HEIGHT GUIDES (CONT'D)

FORTIFY®-R 14mm Assembled Implant Heights

FORTIFY®-R 14mm Cores with 14x16mm Upper and Lower Endplates									
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)				
	Upper Endplate	Lower Endplate	Upper	Lower	351.050 [24-32]	351.051 [28-40]	351.052 [35-54]	351.053 [49-71]	351.054 [66-88]
14x16mm	351.311	351.361	0°	0°	24-32	28-40	35-54	49-71	66-88
	351.311	351.363	0°	3.5°	25-32.5	29-40.5	36-54.5	50-71.5	67-88.5
	351.311	351.364	0°	7°	25.5-33.5	29.5-41.5	36.5-55.5	50.5-72.5	67.5-89.5
	351.311	351.365	0°	10°	27-35	31-43	38-57	52-74	69-91
	351.313	351.361	3.5°	0°	24.5-32.5	28.5-40.5	35.5-54.5	49.5-71.5	66.5-88.5
	351.313	351.363	3.5°	3.5°	25.5-33	29.5-41	36.5-55	50.5-72	67.5-89
	351.313	351.364	3.5°	7°	26-34	30-42	37-56	51-73	68-90
	351.313	351.365	3.5°	10°	27.5-35.5	31.5-43.5	38.5-57.5	52.5-74.5	69.5-91.5
	351.314	351.361	7°	0°	25.5-33.5	29.5-41.5	36.5-55.5	50.5-72.5	67.5-89.5
	351.314	351.363	7°	3.5°	26.5-34	30.5-42	37.5-56	51.5-73	68.5-90
	351.314	351.364	7°	7°	27-35	31-43	38-57	52-74	69-91
	351.314	351.365	7°	10°	28-36.5	32-44.5	39-58.5	53-75.5	70-92.5

FORTIFY®-R 14mm Core with 15x18mm Upper and Lower Endplates									
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)				
	Upper Endplate	Lower Endplate	Upper	Lower	351.050 [24-32]	351.051 [28-40]	351.052 [35-54]	351.053 [49-71]	351.054 [66-88]
15x18mm	351.321	351.371	0°	0°	24-32	28-40	35-54	49-71	66-88
	351.321	351.373	0°	3.5°	25-33	29-41	36-55	50-72	67-89
	351.321	351.374	0°	7°	25.5-33.5	29.5-41.5	36.5-55.5	50.5-72.5	67.5-89.5
	351.321	351.375	0°	10°	27-35.5	31-43.5	38-57.5	52-74.5	69-91.5
	351.323	351.371	3.5°	0°	25-33	29-41	36-55	50-72	67-89
	351.323	351.373	3.5°	3.5°	26-34	30-42	37-56	51-73	68-90
	351.323	351.374	3.5°	7°	26.5-34.5	30.5-42.5	37.5-56.5	51.5-73.5	68.5-90.5
	351.323	351.375	3.5°	10°	27.5-36	31.5-44	38.5-58	52.5-75	69.5-92
	351.324	351.371	7°	0°	25.5-33.5	29.5-41.5	36.5-55.5	50.5-72.5	67.5-89.5
	351.324	351.373	7°	3.5°	26.5-34.5	30.5-42.5	37.5-56.5	51.5-73.5	68.5-90.5
	351.324	351.374	7°	7°	27-35	31-43	38-57	52-74	69-91
	351.324	351.375	7°	10°	28.5-36.5	32.5-44.5	39.5-58.5	53.5-75.5	70.5-92.5

FORTIFY® 16mm Assembled Implant Heights

FORTIFY® 16mm Core with 16mm Round Upper and Lower Endplates										
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)					
	Upper Endplate	Lower Endplate	Upper	Lower	151.100 [20-25]	151.101 [22-29]	151.102 [24-33]	151.103 [28-41]	151.104 [36-57]	151.105 [52-78]
16mm Round	151.501	151.551	0°	0°	20-25	22-29	24-33	28-41	36-57	52-78
	151.501	151.553	0°	4°	21-26	23-30	25-34	29-42	37-58	53-79
	151.501	151.554	0°	8°	22-27	24-31	26-35	30-43	38-59	54-80
	151.503	151.551	4°	0°	21-26	23-30	25-34	29-42	37-58	53-79
	151.503	151.553	4°	4°	22-27	24-31	26-35	30-43	38-59	54-80
	151.503	151.554	4°	8°	23-28	25-32	27-36	31-44	39-60	55-81

FORTIFY® 16mm Core with 18mm Round Upper and Lower Endplates										
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)					
	Upper Endplate	Lower Endplate	Upper	Lower	151.100 [20-25]	151.101 [22-29]	151.102 [24-33]	151.103 [28-41]	151.104 [36-57]	151.105 [52-78]
18mm Round	151.511	151.561	0°	0°	20-25	22-29	24-33	28-41	36-57	52-78
	151.511	151.563	0°	4°	21-26	23-30	25-34	29-42	37-58	53-79
	151.511	151.564	0°	8°	22-27	24-31	26-35	30-43	38-59	54-80
	151.513	151.561	4°	0°	21-26	23-30	25-34	29-42	37-58	53-79
	151.513	151.563	4°	4°	22-27	24-31	26-35	30-43	38-59	54-80
	151.513	151.564	4°	8°	23-28	25-32	27-36	31-44	39-60	55-81

FORTIFY® 16mm Core with 16x30mm Upper and Lower Endplates										
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)					
	Upper Endplate	Lower Endplate	Upper	Lower	151.100 [20-25]	151.101 [22-29]	151.102 [24-33]	151.103 [28-41]	151.104 [36-57]	151.105 [52-78]
16x30mm	151.801	151.851	0°	0°	20-27	22-31	24-35	28-43	36-59	52-80
	151.801	151.853	0°	4°	21-28	23-32	25-36	29-44	37-60	53-81
	151.801	151.854	0°	8°	22-29	24-33	26-37	30-45	38-61	54-82
	151.803	151.851	4°	0°	21-28	23-32	25-36	29-44	37-60	53-81
	151.803	151.853	4°	4°	22-29	24-33	26-37	30-45	38-61	54-82
	151.803	151.854	4°	8°	23-30	25-34	27-38	31-46	39-62	55-83

FORTIFY® 16mm Core with 16x35mm Upper and Lower Endplates										
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)					
	Upper Endplate	Lower Endplate	Upper	Lower	151.100 [20-25]	151.101 [22-29]	151.102 [24-33]	151.103 [28-41]	151.104 [36-57]	151.105 [52-78]
16x35mm	151.811	151.861	0°	0°	20-27	22-31	24-35	28-43	36-59	52-80
	151.811	151.863	0°	4°	21-28	23-32	25-36	29-44	37-60	53-81
	151.811	151.864	0°	8°	22-29	24-33	26-37	30-45	38-61	54-82
	151.813	151.861	4°	0°	21-28	23-32	25-36	29-44	37-60	53-81
	151.813	151.863	4°	4°	22-29	24-33	26-37	30-45	38-61	54-82
	151.813	151.864	4°	8°	23-30	25-34	27-38	31-46	39-62	55-83

ASSEMBLED IMPLANT HEIGHT GUIDES (CONT'D)

FORTIFY® 16mm Assembled Implant Heights

FORTIFY® 16mm Core with 16x40mm Upper and Lower Endplates										
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)					
	Upper Endplate	Lower Endplate	Upper	Lower	151.100 [20-25]	151.101 [22-29]	151.102 [24-33]	151.103 [28-41]	151.104 [36-57]	151.105 [52-78]
16x40mm	151.821	151.871	0°	0°	20-27	22-31	24-35	28-43	36-59	52-80
	151.821	151.873	0°	4°	21-28	23-32	25-36	29-44	37-60	53-81
	151.821	151.874	0°	8°	22-29	24-33	26-37	30-45	38-61	54-82
	151.823	151.871	4°	0°	21-28	23-32	25-36	29-44	37-60	53-81
	151.823	151.873	4°	4°	22-29	24-33	26-37	30-45	38-61	54-82
	151.823	151.874	4°	8°	23-30	25-34	27-38	31-46	39-62	55-83

FORTIFY® 16mm Core with 16x45mm Upper and Lower Endplates										
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)					
	Upper Endplate	Lower Endplate	Upper	Lower	151.100 [20-25]	151.101 [22-29]	151.102 [24-33]	151.103 [28-41]	151.104 [36-57]	151.105 [52-78]
16x45mm	151.831	151.881	0°	0°	21-27	23-31	25-35	29-43	37-59	53-80
	151.831	151.883	0°	4°	21-29	23-33	25-37	29-45	37-61	53-82
	151.831	151.884	0°	8°	22-30	24-34	26-38	30-46	38-62	54-83
	151.833	151.881	4°	0°	22-28	24-32	26-36	30-44	38-60	54-81
	151.833	151.883	4°	4°	22-30	24-34	26-38	30-46	38-62	54-83
	151.833	151.884	4°	8°	23-31	25-35	27-39	31-47	39-63	55-84

FORTIFY® 16mm Core with 18x30mm Upper and Lower Endplates										
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)					
	Upper Endplate	Lower Endplate	Upper	Lower	151.100 [20-25]	151.101 [22-29]	151.102 [24-33]	151.103 [28-41]	151.104 [36-57]	151.105 [52-78]
18x30mm	151.901	151.951	0°	0°	20-27	22-31	24-35	28-43	36-59	52-80
	151.901	151.953	0°	4°	21-28	23-32	25-36	29-44	37-60	53-81
	151.901	151.954	0°	8°	22-29	24-33	26-37	30-45	38-61	54-82
	151.903	151.951	4°	0°	21-28	23-32	25-36	29-44	37-60	53-81
	151.903	151.953	4°	4°	22-29	24-33	26-37	30-45	38-61	54-82
	151.903	151.954	4°	8°	23-30	25-34	27-38	31-46	39-62	55-83

FORTIFY® 16mm Core with 18x35mm Upper and Lower Endplates										
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)					
	Upper Endplate	Lower Endplate	Upper	Lower	151.100 [20-25]	151.101 [22-29]	151.102 [24-33]	151.103 [28-41]	151.104 [36-57]	151.105 [52-78]
18x35mm	151.911	151.961	0°	0°	20-27	22-31	24-35	28-43	36-59	52-80
	151.911	151.963	0°	4°	21-28	23-32	25-36	29-44	37-60	53-81
	151.911	151.964	0°	8°	22-30	24-34	26-38	30-46	38-62	54-83
	151.913	151.961	4°	0°	21-28	23-32	25-36	29-44	37-60	53-81
	151.913	151.963	4°	4°	22-30	24-34	26-38	30-46	38-62	54-83
	151.913	151.964	4°	8°	23-31	25-35	27-39	31-47	39-63	55-84

FORTIFY® 20mm Assembled Implant Heights

FORTIFY® 20mm Core with 20mm Round Upper and Lower Endplates										
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)					
	Upper Endplate	Lower Endplate	Upper	Lower	151.150 [23-28]	151.151 [26-34]	151.152 [31-44]	151.153 [41-64]	151.154 [62-92]	151.155 [90-120]
20mm Round	151.401	151.451	0°	0°	23-28	26-34	31-44	41-64	62-92	90-120
	151.401	151.453	0°	4°	24-29	27-35	32-45	42-65	63-93	91-121
	151.401	151.454	0°	8°	25.5-30	28.5-36	33.5-46	43.5-66	64.5-94	92.5-122
	151.403	151.451	4°	0°	24-29	27-35	32-45	42-65	63-93	91-121
	151.403	151.453	4°	4°	25-30	28-36	33-46	43-66	64-94	92-122
	151.403	151.454	4°	8°	26.5-31	29.5-37	34.5-47	44.5-67	65.5-95	93.5-123
	151.404	151.451	8°	0°	25.5-30	28.5-36	33.5-46	43.5-66	64.5-94	92.5-122
	151.404	151.453	8°	4°	26.5-31	29.5-37	34.5-47	44.5-67	65.5-95	93.5-123
	151.404	151.454	8°	8°	28-32	31-38	36-48	46-68	67-96	95-124

FORTIFY® 20mm Core with 21x23mm Upper and Lower Endplates										
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)					
	Upper Endplate	Lower Endplate	Upper	Lower	151.150 [23-28]	151.151 [26-34]	151.152 [31-44]	151.153 [41-64]	151.154 [62-92]	151.155 [90-120]
21x23mm	151.411	151.461	0°	0°	23-28	26-34	31-44	41-64	62-92	90-120
	151.411	151.463	0°	4°	24-29	27-35	32-45	42-65	63-93	91-121
	151.411	151.464	0°	8°	25.5-30.5	28.5-36.5	33.5-46.5	43.5-66.5	64.5-94.5	92.5-122.5
	151.413	151.461	4°	0°	24-29	27-35	32-45	42-65	63-93	91-121
	151.413	151.463	4°	4°	25-30	28-36	33-46	43-66	64-94	92-122
	151.413	151.464	4°	8°	26.5-31.5	29.5-37.5	34.5-47.5	44.5-67.5	65.5-95.5	93.5-123.5
	151.414	151.461	8°	0°	25.5-30.5	28.5-36.5	33.5-46.5	43.5-66.5	64.5-94.5	92.5-122.5
	151.414	151.463	8°	4°	26.5-31.5	29.5-37.5	34.5-47.5	44.5-67.5	65.5-95.5	93.5-123.5
	151.414	151.464	8°	8°	28-33	31-39	36-49	46-69	67-97	95-125

ASSEMBLED IMPLANT HEIGHT GUIDES (CONT'D)

FORTIFY® 20mm Assembled Implant Heights

FORTIFY® 20mm Core with 25x30mm Upper and Lower Endplates										
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)					
	Upper Endplate	Lower Endplate	Upper	Lower	151.150 [23-28]	151.151 [26-34]	151.152 [31-44]	151.153 [41-64]	151.154 [62-92]	151.155 [90-120]
25x30mm	151.431	151.481	0°	0°	25.5-29	28.5-35	33.5-45	43.5-65	64.5-93	92.5-121
	151.431	151.483	0°	4°	26.5-30	29.5-36	34.5-46	44.5-66	65.5-94	93.5-122
	151.431	151.484	0°	8°	28-31.5	31-37.5	36-47.5	46-67.5	67-95.5	95-123.5
	151.431	151.485	0°	12°	29.5-33	32.5-39	37.5-49	47.5-69	68.5-97	96.5-125
	151.431	151.486	0°	16°	31-35	34-41	39-51	49-71	70-99	98-127
	151.433	151.481	4°	0°	27-30	30-36	35-46	45-66	66-94	94-122
	151.433	151.483	4°	4°	28-31	31-37	36-47	46-67	67-95	95-123
	151.433	151.484	4°	8°	29.5-32.5	32.5-38.5	37.5-48.5	47.5-68.5	68.5-96.5	96.5-124.5
	151.433	151.485	4°	12°	31-34	34-40	39-50	49-70	70-98	98-126
	151.433	151.486	4°	16°	32.5-36	35.5-42	40.5-52	50.5-72	71.5-100	99.5-128
	151.434	151.481	8°	0°	28.5-31.5	31.5-37.5	36.5-47.5	46.5-67.5	67.5-95.5	95.5-123.5
	151.434	151.483	8°	4°	29.5-32.5	32.5-38.5	37.5-48.5	47.5-68.5	68.5-96.5	96.5-124.5
	151.434	151.484	8°	8°	31-34	34-40	39-50	49-70	70-98	98-126
	151.434	151.485	8°	12°	32.5-35.5	35.5-41.5	40.5-51.5	50.5-71.5	71.5-99.5	99.5-127.5
	151.434	151.486	8°	16°	34-37.5	37-43.5	42-53.5	52-73.5	73-101.5	101-129.5

FORTIFY® 20mm Cores with 22x40mm Lateral Upper and Lower Endplates										
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)					
	Upper Endplate	Lower Endplate	Upper	Lower	151.150 [23-28]	151.151 [26-34]	151.152 [31-44]	151.153 [41-64]	151.154 [62-92]	151.155 [90-120]
22x40mm	151.601	151.651	0°	0°	23-28	26-34	31-44	41-64	62-92	90 - 120
	151.601	151.653	0°	4°	24.5-29	27.5-35	32.5-45	42.5-65	63.5-93	91.5-121
	151.601	151.654	0°	8°	26-30.5	29-36.5	34-46.5	44-66.5	65-94.5	93-122.5
	151.601	151.655	0°	12°	27-32	30-38	35-48	45-68	66-96	94-124
	151.603	151.651	4°	0°	24.5-29	27.5-35	32.5-45	42.5-65	63.5-93	91.5-121
	151.603	151.653	4°	4°	26-30	29-36	34-46	44-66	65-94	93-122
	151.603	151.654	4°	8°	27.5-31.5	30.5-37.5	35.5-47.5	45.5-67.5	66.5-95.5	94.5-123.5
	151.603	151.655	4°	12°	28.5-33	31.5-39	36.5-49	46.5-69	67.5-97	95.5-125
	151.604	151.651	8°	0°	26-30.5	29-36.5	34-46.5	44-66.5	65-94.5	93-122.5
	151.604	151.653	8°	4°	27.5-31.5	30.5-37.5	35.5-47.5	45.5-67.5	66.5-95.5	94.5-123.5
	151.604	151.654	8°	8°	29-33	32-39	37-49	47-69	68-97	96-125
	151.604	151.655	8°	12°	30-34.5	33-40.5	38-50.5	48-70.5	69-98.5	97-126.5
	151.605	151.651	12°	0°	27-32	30-38	35-48	45-68	66-96	94-124
	151.605	151.653	12°	4°	28.5-33	31.5-39	36.5-49	46.5-69	67.5-97	95.5-125
	151.605	151.654	12°	8°	30-34.5	33-40.5	38-50.5	48-70.5	69-98.5	97-126.5
	151.605	151.655	12°	12°	31-36	34-42	39-52	49-72	70-100	98-128

FORTIFY® 20mm Cores with 22x45mm Lateral Upper and Lower Endplates										
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)					
	Upper Endplate	Lower Endplate	Upper	Lower	151.150 [23-28]	151.151 [26-34]	151.152 [31-44]	151.153 [41-64]	151.154 [62-92]	151.155 [90-120]
22x45mm	151.611	151.661	0°	0°	23-29	26-35	31-45	41-65	62-93	90-121
	151.611	151.663	0°	4°	24.5-30	27.5-36	32.5-46	42.5-66	63.5-94	91.5-122
	151.611	151.664	0°	8°	26-31	29-37	34-47	44-67	65-95	93-123
	151.611	151.665	0°	12°	27.5-32.5	30.5-38.5	35.5-48.5	45.5-68.5	66.5-96.5	94.5-124.5
	151.613	151.661	4°	0°	24.5-30	27.5-36	32.5-46	42.5-66	63.5-94	91.5-122
	151.613	151.663	4°	4°	26-31	29-37	34-47	44-67	65-95	93-123
	151.613	151.664	4°	8°	27.5-32	30.5-38	35.5-48	45.5-68	66.5-96	94.5-124
	151.613	151.665	4°	12°	29-33.5	32-39.5	37-49.5	47-69.5	68-97.5	96-125.5
	151.614	151.661	8°	0°	26-31	29-37	34-47	44-67	65-95	93-123
	151.614	151.663	8°	4°	27.5-32	30.5-38	35.5-48	45.5-68	66.5-96	94.5-124
	151.614	151.664	8°	8°	29-33	32-39	37-49	47-69	68-97	96-125
	151.614	151.665	8°	12°	30.5-34.5	33.5-40.5	38.5-50.5	48.5-70.5	69.5-98.5	97.5-126.5
	151.615	151.661	12°	0°	27.5-32.5	30.5-38.5	35.5-48.5	45.5-68.5	66.5-96.5	94.5-124.5
	151.615	151.663	12°	4°	29-33.5	32-39.5	37-49.5	47-69.5	68-97.5	96-125.5
	151.615	151.664	12°	8°	30.5-34.5	33.5-40.5	38.5-50.5	48.5-70.5	69.5-98.5	97.5-126.5
	151.615	151.665	12°	12°	32-36	35-42	40-52	50-72	71-100	99-128

FORTIFY® 20mm Cores with 22x50mm Lateral Upper and Lower Endplates										
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)					
	Upper Endplate	Lower Endplate	Upper	Lower	151.150 [23-28]	151.151 [26-34]	151.152 [31-44]	151.153 [41-64]	151.154 [62-92]	151.155 [90-120]
22x50mm	151.621	151.671	0°	0°	23-29	26-35	31-45	41-65	62-93	90-121
	151.621	151.673	0°	4°	24.5-30	27.5-36	32.5-46	42.5-66	63.5-94	91.5-122
	151.621	151.674	0°	8°	26-31.5	29-37.5	34-47.5	44-67.5	65-95.5	93-123.5
	151.621	151.675	0°	12°	27.5-33	30.5-39	35.5-49	45.5-69	66.5-97	94.5-125
	151.623	151.671	4°	0°	24.5-30	27.5-36	32.5-46	42.5-66	63.5-94	91.5-122
	151.623	151.673	4°	4°	26-31	29-37	34-47	44-67	65-95	93-123
	151.623	151.674	4°	8°	27.5-32.5	30.5-38.5	35.5-48.5	45.5-68.5	66.5-96.5	94.5-124.5
	151.623	151.675	4°	12°	29-34	32-40	37-50	47-70	68-98	96-126
	151.624	151.671	8°	0°	26-31.5	29-37.5	34-47.5	44-67.5	65-95.5	93-123.5
	151.624	151.673	8°	4°	27.5-32.5	30.5-38.5	35.5-48.5	45.5-68.5	66.5-96.5	94.5-124.5
	151.624	151.674	8°	8°	29-34	32-40	37-50	47-70	68-98	96-126
	151.624	151.675	8°	12°	30.5-35.5	33.5-41.5	38.5-51.5	48.5-71.5	69.5-99.5	97.5-127.5
	151.625	151.671	12°	0°	27.5-33	30.5-39	35.5-49	45.5-69	66.5-97	94.5-125
	151.625	151.673	12°	4°	29-34	32-40	37-50	47-70	68-98	96-126
	151.625	151.674	12°	8°	30.5-35.5	33.5-41.5	38.5-51.5	48.5-71.5	69.5-99.5	97.5-127.5
	151.625	151.675	12°	12°	32-37	35-43	40-53	50-73	71-101	99-129

ASSEMBLED IMPLANT HEIGHT GUIDES (CONT'D)

FORTIFY®-R 20mm Assembled Implant Heights

FORTIFY®-R 20mm Core with 20mm Round Upper and Lower Endplates											
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)						
	Upper Endplate	Lower Endplate	Upper	Lower	351.150 [26-32]	351.151 [28-36]	351.152 [33-46]	351.153 [43-64]	351.154 [61-82]	351.155 [80-101]	351.156 [99-120]
20mm Round	351.401	351.451	0°	0°	26-32	28-36	33-46	43-64	61-82	80-101	99-120
	351.401	351.453	0°	4°	27-33	29-37	34-47	44-65	62-83	81-102	100-121
	351.401	351.454	0°	8°	28-34.5	30-38.5	35-48.5	45-66.5	63-84.5	82-103.5	101-122.5
	351.403	351.451	4°	0°	27-33	29-37	34-47	44-65	62-83	81-102	100-121
	351.403	351.453	4°	4°	28-34	30-38	35-48	45-66	63-84	82-103	101-122
	351.403	351.454	4°	8°	29-35.5	31-39.5	36-49.5	46-67.5	64-85.5	83-104.5	102-123.5
	351.404	351.451	8°	0°	28.5-34.5	30.5-38.5	35.5-48.5	45.5-66.5	63.5-84.5	82.5-103.5	101.5-122.5
	351.404	351.453	8°	4°	29.5-35.5	31.5-39.5	36.5-49.5	46.5-67.5	64.5-85.5	83.5-104.5	102.5-123.5
	351.404	351.454	8°	8°	30.5-37	32.5-41	37.5-51	47.5-69	65.5-87	84.5-106	103.5-125

FORTIFY®-R 20mm Core with 21x23mm Upper and Lower Endplates											
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)						
	Upper Endplate	Lower Endplate	Upper	Lower	351.150 [26-32]	351.151 [28-36]	351.152 [33-46]	351.153 [43-64]	351.154 [61-82]	351.155 [80-101]	351.156 [99-120]
21x23mm	351.411	351.461	0°	0°	26-32.5	28-36.5	33-46.5	43-64.5	61-82.5	80-101.5	99-120.5
	351.411	351.463	0°	4°	27-33.5	29-37.5	34-47.5	44-65.5	62-83.5	81-102.5	100-121.5
	351.411	351.464	0°	8°	28.5-35	30.5-39	35.5-49	45.5-67	63.5-85	82.5-104	101.5-123
	351.413	351.461	4°	0°	27.5-33.5	29.5-37.5	34.5-47.5	44.5-65.5	62.5-83.5	81.5-102.5	100.5-121.5
	351.413	351.463	4°	4°	28.5-34.5	30.5-38.5	35.5-48.5	45.5-66.5	63.5-84.5	82.5-103.5	101.5-122.5
	351.413	351.464	4°	8°	30-36	32-40	37-50	47-68	65-86	84-105	103-124
	351.414	351.461	8°	0°	28.5-34.5	30.5-38.5	35.5-48.5	45.5-66.5	63.5-84.5	82.5-103.5	101.5-122.5
	351.414	351.463	8°	4°	29.5-35.5	31.5-39.5	36.5-49.5	46.5-67.5	64.5-85.5	83.5-104.5	102.5-123.5
	351.414	351.464	8°	8°	31-37	33-41	38-51	48-69	66-87	85-106	104-125

FORTIFY®-R 20mm Core with 25x30mm Upper and Lower Endplates											
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)						
	Upper Endplate	Lower Endplate	Upper	Lower	351.150 [26-32]	351.151 [28-36]	351.152 [33-46]	351.153 [43-64]	351.154 [61-82]	351.155 [80-101]	351.156 [99-120]
25x30mm	351.431	351.481	0°	0°	27-33	29-37	34-47	44-65	62-83	81-102	100-121
	351.431	351.483	0°	4°	28-34	30-38	35-48	45-66	63-84	82-103	101-122
	351.431	351.484	0°	8°	29.5-35.5	31.5-39.5	36.5-49.5	46.5-67.5	64.5-85.5	83.5-104.5	102.5-123.5
	351.431	351.485	0°	12°	31-37.5	33-41.5	38-51.5	48-69.5	66-87.5	85-106.5	104-125.5
	351.431	351.486	0°	16°	32.5-39	34.5-43	39.5-53	49.5-71	67.5-89	86.5-108	105.5-127
	351.433	351.481	4°	0°	28.5-34.5	30.5-38.5	35.5-48.5	45.5-66.5	63.5-84.5	82.5-103.5	101.5-122.5
	351.433	351.483	4°	4°	29.5-35.5	31.5-39.5	36.5-49.5	46.5-67.5	64.5-85.5	83.5-104.5	102.5-123.5
	351.433	351.484	4°	8°	31-37	33-41	38-51	48-69	66-87	85-106	104-125
	351.433	351.485	4°	12°	32.5-39	34.5-43	39.5-53	49.5-71	67.5-89	86.5-108	105.5-127
	351.433	351.486	4°	16°	34-40.5	36-44.5	41-54.5	51-72.5	69-90.5	88-109.5	107-128.5
	351.434	351.481	8°	0°	29.5-35.5	31.5-39.5	36.5-49.5	46.5-67.5	64.5-85.5	83.5-104.5	102.5-123.5
	351.434	351.483	8°	4°	30.5-36.5	32.5-40.5	37.5-50.5	47.5-68.5	65.5-86.5	84.5-105.5	103.5-124.5
	351.434	351.484	8°	8°	32-38	34-42	39-52	49-70	67-88	86-107	105-126
	351.434	351.485	8°	12°	33.5-40	35.5-44	40.5-54	50.5-72	68.5-90	87.5-109	106.5-128
	351.434	351.486	8°	16°	35-41.5	37-45.5	42-55.5	52-73.5	70-91.5	89-110.5	108-129.5

ASSEMBLED IMPLANT HEIGHT GUIDES (CONT'D)

FORTIFY® Variable Angle Assembled Implant Heights

FORTIFY® 12mm with Fixed Lower Endplate and Variable Angle 13mm Upper Endplates					
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)
	Upper Endplate (Variable Angle)	Fixed Lower Endplate Core	Upper	Lower	
13mm Round	151.200	151.001 (15-19mm)	0°-15°	0°, no spikes	23-26
	151.200	151.002 (16-19mm)	0°-15°	0°	23.5-26
	151.200	151.003 (16-20mm)	0°-15°	3.5°, no spikes	23-26.5
	151.200	151.004 (17-20mm)	0°-15°	3.5°	24-26.5

FORTIFY® 12mm with FORTIFY® Variable Angle 13mm Upper Endplates											
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)						
	Upper Endplate (Variable Angle)	Lower Endplate	Upper	Lower	151.050 (18-23)	151.051 (19-25)	151.052 (21-29)	151.053 (25-37)	151.054 (33-53)	151.055 (48-71)	151.056 (67-88)
13mm Round	151.200	151.357	0°-15°	0°	26-30.5	27-32.5	29-36.5	33-44.5	41-60.5	56-78.5	75-95.5
12x14mm	151.200	151.371	0°-15°	0°	26-30.5	27-32.5	29-36.5	33-44.5	41-60.5	56-78.5	75-95.5
	151.200	151.373	0°-15°	3.5°	26.5-31	27.5-33	29.5-37	33.5-45	41.5-61	56.5-79	75.5-96
	151.200	151.374	0°-15°	7°	27-31.5	28-33.5	30-37.5	34-45.5	42-61.5	57-79.5	76-96.5
14x16mm	151.200	151.751	0°-15°	0°	26-30.5	27-32.5	29-36.5	33-44.5	41-60.5	56-78.5	75-95.5
	151.200	151.753	0°-15°	3.5°	26.5-31	27.5-33	29.5-37	33.5-45	41.5-61	56.5-79	75.5-96
	151.200	151.754	0°-15°	7°	27.5-32	28.5-34	30.5-38	34.5-46	42.5-62	57.5-80	76.5-97
	151.200	151.755	0°-15°	10°	28.5-32.5	29.5-34.5	31.5-38.5	35.5-46.5	43.5-62.5	58.5-80.5	77.5-97.5
15x18mm	151.200	151.381	0°-15°	0°	26-30.5	27-32.5	29-36.5	33-44.5	41-60.5	56-78.5	75-95.5
	151.200	151.383	0°-15°	3.5°	27-31.5	28-33.5	30-37.5	34-45.5	42-61.5	57-79.5	76-96.5
	151.200	151.384	0°-15°	7°	27.5-32	28.5-34	30.5-38	34.5-46	42.5-62	57.5-80	76.5-97
	151.200	151.385	0°-15°	10°	28.5-32.5	29.5-34.5	31.5-38.5	35.5-46.5	43.5-62.5	58.5-80.5	77.5-97.5

FORTIFY® 16mm with FORTIFY® Variable Angle 16mm or 18mm Upper Endplates										
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)					
	Upper Endplate (Variable Angle)	Lower Endplate	Upper	Lower	151.100 (20-25)	151.101 (22-29)	151.102 (24-33)	151.103 (28-41)	151.104 (36-57)	151.105 (52-78)
16mm Round	151.240	151.551	0°-16°	0°	28.5-32.5	30.5-36.5	32.5-40.5	36.5-48.5	44.5-64.5	60.5-85.5
	151.240	151.553	0°-16°	4°	29.5-33.5	31.5-37.5	33.5-41.5	37.5-49.5	45.5-65.5	61.5-86.5
	151.240	151.554	0°-16°	8°	30.5-34.5	32.5-38.5	34.5-42.5	38.5-50.5	46.5-66.5	62.5-87.5
16x30mm	151.240	151.851	0°-16°	0°	28.5-33.5	30.5-37.5	32.5-41.5	36.5-49.5	44.5-65.5	60.5-86.5
	151.240	151.853	0°-16°	4°	29.5-34.5	31.5-38.5	33.5-42.5	37.5-50.5	45.5-66.5	61.5-87.5
	151.240	151.854	0°-16°	8°	30.5-35.5	32.5-39.5	34.5-43.5	38.5-51.5	46.5-67.5	62.5-88.5
16x35mm	151.240	151.861	0°-16°	0°	28.5-33.5	30.5-37.5	32.5-41.5	36.5-49.5	44.5-65.5	60.5-86.5
	151.240	151.863	0°-16°	4°	29.5-34.5	31.5-38.5	33.5-42.5	37.5-50.5	45.5-66.5	61.5-87.5
	151.240	151.864	0°-16°	8°	30.5-35.5	32.5-39.5	34.5-43.5	38.5-51.5	46.5-67.5	62.5-88.5
16x40mm	151.240	151.871	0°-16°	0°	28.5-33.5	30.5-37.5	32.5-41.5	36.5-49.5	44.5-65.5	60.5-86.5
	151.240	151.873	0°-16°	4°	29.5-34.5	31.5-38.5	33.5-42.5	37.5-50.5	45.5-66.5	61.5-87.5
	151.240	151.874	0°-16°	8°	30.5-35.5	32.5-39.5	34.5-43.5	38.5-51.5	46.5-67.5	62.5-88.5
16x45mm	151.240	151.881	0°-16°	0°	29.5-33.5	31.5-37.5	33.5-41.5	37.5-49.5	45.5-65.5	61.5-86.5
	151.240	151.883	0°-16°	4°	29.5-35.5	31.5-39.5	33.5-43.5	37.5-51.5	45.5-67.5	61.5-88.5
	151.240	151.884	0°-16°	8°	30.5-36.5	32.5-40.5	34.5-44.5	38.5-52.5	46.5-68.5	62.5-89.5
18mm Round	151.241	151.561	0°-16°	0°	28.5-32.5	30.5-36.5	32.5-40.5	36.5-48.5	44.5-64.5	60.5-85.5
	151.241	151.563	0°-16°	4°	29.5-33.5	31.5-37.5	33.5-41.5	37.5-49.5	45.5-65.5	61.5-86.5
	151.241	151.564	0°-16°	8°	30.5-34.5	32.5-38.5	34.5-42.5	38.5-50.5	46.5-66.5	62.5-87.5
18x30mm	151.241	151.951	0°-16°	0°	28.5-33.5	30.5-37.5	32.5-41.5	36.5-49.5	44.5-65.5	60.5-86.5
	151.241	151.953	0°-16°	4°	29.5-34.5	31.5-38.5	33.5-42.5	37.5-50.5	45.5-66.5	61.5-87.5
	151.241	151.954	0°-16°	8°	30.5-35.5	32.5-39.5	34.5-43.5	38.5-51.5	46.5-67.5	62.5-88.5
18x35mm	151.241	151.961	0°-16°	0°	28.5-33.5	30.5-37.5	32.5-41.5	36.5-49.5	44.5-65.5	60.5-86.5
	151.241	151.963	0°-16°	4°	29.5-34.5	31.5-38.5	33.5-42.5	37.5-50.5	45.5-66.5	61.5-87.5
	151.241	151.964	0°-16°	8°	30.5-36.5	32.5-40.5	34.5-44.5	38.5-52.5	46.5-68.5	62.5-89.5
18x40mm	151.241	151.971	0°-16°	0°	28.5-33.5	30.5-37.5	32.5-41.5	36.5-49.5	44.5-65.5	60.5-86.5
	151.241	151.973	0°-16°	4°	29.5-35.5	31.5-39.5	33.5-43.5	37.5-51.5	45.5-67.5	61.5-88.5
	151.241	151.974	0°-16°	8°	30.5-36.5	32.5-40.5	34.5-44.5	38.5-52.5	46.5-68.5	62.5-89.5
18x45mm	151.241	151.981	0°-16°	0°	29.5-34.5	31.5-38.5	33.5-42.5	37.5-50.5	45.5-66.5	61.5-87.5
	151.241	151.983	0°-16°	4°	30.5-35.5	32.5-39.5	34.5-43.5	38.5-51.5	46.5-67.5	62.5-88.5
	151.241	151.984	0°-16°	8°	31.5-36.5	33.5-40.5	35.5-44.5	39.5-52.5	47.5-68.5	63.5-89.5

ASSEMBLED IMPLANT HEIGHT GUIDES (CONT'D)

FORTIFY® 20mm with FORTIFY® Variable Angle 20mm Upper Endplates										
Footprint	Part No.		Sagittal Profile		Core Range with Endplates (mm)					
	Upper Endplate (Variable Angle)	Lower Endplate	Upper	Lower	151.150 (23-28)	151.151 (26-34)	151.152 (31-44)	151.153 (41-64)	151.154 (62-92)	151.155 (90-120)
20mm Round	151.220	151.451	0°-16°	0°	32-36	35-42	40-52	50-72	71-100	99-128
	151.220	151.453	0°-16°	4°	33-37	36-43	41-53	51-73	72-101	100-129
	151.220	151.454	0°-16°	8°	34.5-38	37.5-44	42.5-54	52.5-74	73.5-102	101.5-130
21x23mm	151.220	151.461	0°-16°	0°	32-36	35-42	40-52	50-72	71-100	99-128
	151.220	151.463	0°-16°	4°	33-37	36-43	41-53	51-73	72-101	100-129
	151.220	151.464	0°-16°	8°	34.5-38.5	37.5-44.5	42.5-54.5	52.5-74.5	73.5-102.5	101.5-130.5
25x30mm	151.220	151.481	0°-16°	0°	33.5-36.5	36.5-42.5	41.5-52.5	51.5-72.5	72.5-100.5	100.5-128.5
	151.220	151.483	0°-16°	4°	34.5-37.5	37.5-43.5	42.5-53.5	52.5-73.5	73.5-101.5	101.5-129.5
	151.220	151.484	0°-16°	8°	36-39	39-45	44-55	54-75	75-103	103-131
	151.220	151.485	0°-16°	12°	37.5-40.5	40.5-46.5	45.5-56.5	55.5-76.5	76.5-104.5	104.5-132.5
	151.220	151.486	0°-16°	16°	39-42.5	42-48.5	47-58.5	57-78.5	78-106.5	106-134.5
22x40mm	151.220	151.651	0°-16°	0°	32-36	35-42	40-52	50-72	71-100	99-128
	151.220	151.653	0°-16°	4°	33.5-37	36.5-43	41.5-53	51.5-73	72.5-101	100.5-129
	151.220	151.654	0°-16°	8°	35-38.5	38-44.5	43-54.5	53-74.5	74-102.5	102-130.5
	151.220	151.655	0°-16°	12°	36-40	39-46	44-56	54-76	75-104	103-132
22x45mm	151.220	151.661	0°-16°	0°	32-36.5	35-42.5	40-52.5	50-72.5	71-100.5	99-128.5
	151.220	151.663	0°-16°	4°	33.5-37.5	36.5-43.5	41.5-53.5	51.5-73.5	72.5-101.5	100.5-129.5
	151.220	151.664	0°-16°	8°	35-38.5	38-44.5	43-54.5	53-74.5	74-102.5	102-130.5
	151.220	151.665	0°-16°	12°	36.5-40	39.5-46	44.5-56	54.5-76	75.5-104	103.5-132
22x50mm	151.220	151.671	0°-16°	0°	32-36.5	35-42.5	40-52.5	50-72.5	71-100.5	99-128.5
	151.220	151.673	0°-16°	4°	33.5-37.5	36.5-43.5	41.5-53.5	51.5-73.5	72.5-101.5	100.5-129.5
	151.220	151.674	0°-16°	8°	35-39	38-45	43-55	53-75	74-103	102-131
	151.220	151.675	0°-16°	12°	36.5-40.5	39.5-46.5	44.5-56.5	54.5-76.5	75.5-104.5	103.5-132.5

ADDITIONAL HEIGHT INFORMATION

The charts below provide the height added for an individual endplate for every footprint option. These tables can be used when building a construct with different footprints for the upper and lower endplate.

The starting or contracted height of the implant includes spikes and is measured spike to spike. The expanded height is measured tooth to tooth and accounts for spikes embedded in the vertebral body.

Below is an example of how to calculate the height using these tables.

Example — Calculating Height Range, 12mm Titanium Implant			
Part No.	**Description**	**Contracted Height (Spike to Spike)**	**Expanded Height (Tooth to Tooth)**
151.054	FORTIFY® 12mm Core, Height 33-53mm	33mm	53mm
151.701	FORTIFY® 12mm Upper Endplate, 14x16mm Footprint, 0°	0mm	0mm
151.373	FORTIFY® 12mm Lower Endplate, 12x14mm Footprint, 3.5°	0.5mm	0.5mm
		Total Contracted Height 33.5mm	**Total Expanded Height 53.5mm**

Contracted

Expanded

ADDITIONAL HEIGHT INFORMATION (CONT'D)

FORTIFY® 12mm Endplates

Upper 12mm Titanium Endplates			
Part No.	**Description**	**Height (Spike to Spike)**	**Height (Tooth to Tooth)**
151.320	FORTIFY® 12mm Upper Endplate, 12x14mm Footprint, 0°, no spikes	N/A	0mm
151.321	FORTIFY® 12mm Upper Endplate, 12x14mm Footprint, 0°	0mm	0mm
151.322	FORTIFY® 12mm Upper Endplate, 12x14mm Footprint, 3.5°, no spikes	N/A	0.5mm
151.323	FORTIFY® 12mm Upper Endplate, 12x14mm Footprint, 3.5°	0.5mm	0.5mm
151.324	FORTIFY® 12mm Upper Endplate, 12x14mm Footprint, 7°	1mm	1mm
151.331	FORTIFY® 12mm Upper Endplate, 15x18mm Footprint, 0°	0mm	0mm
151.333	FORTIFY® 12mm Upper Endplate, 15x18mm Footprint, 3.5°	1mm	1mm
151.334	FORTIFY® 12mm Upper Endplate, 15x18mm Footprint, 7°	1.5mm	1.5mm
151.701	FORTIFY® 12mm Upper Endplate, 14x16mm Footprint, 0°	0mm	0mm
151.703	FORTIFY® 12mm Upper Endplate, 14x16mm Footprint, 3.5°	0.5mm	0.5mm
151.704	FORTIFY® 12mm Upper Endplate, 14x16mm Footprint, 7°	1.5mm	1.5mm

Lower 12mm Titanium Endplates			
Part No.	**Description**	**Height (Spike to Spike)**	**Height (Tooth to Tooth)**
151.371	FORTIFY® 12mm Lower Endplate, 12x14mm Footprint, 0°	0mm	0mm
151.373	FORTIFY® 12mm Lower Endplate, 12x14mm Footprint, 3.5°	0.5mm	0.5mm
151.374	FORTIFY® 12mm Lower Endplate, 12x14mm Footprint, 7°	1mm	1mm
151.381	FORTIFY® 12mm Lower Endplate, 15x18mm Footprint, 0°	0mm	0mm
151.383	FORTIFY® 12mm Lower Endplate, 15x18mm Footprint, 3.5°	1mm	1mm
151.384	FORTIFY® 12mm Lower Endplate, 15x18mm Footprint, 7°	1.5mm	1.5mm
151.751	FORTIFY® 12mm Lower Endplate, 14x16mm Footprint, 0°	0mm	0mm
151.753	FORTIFY® 12mm Lower Endplate, 14x16mm Footprint, 3.5°	0.5mm	0.5mm
151.754	FORTIFY® 12mm Lower Endplate, 14x16mm Footprint, 7°	1.5mm	1.5mm

FORTIFY®-R 14mm Endplates

Upper 14mm PEEK Endplates			
Part No.	**Description**	**Height (Spike to Spike)**	**Height (Tooth to Tooth)**
351.300	FORTIFY®-R 14mm Upper Endplate, 14mm Round Footprint, 0°, no spikes	N/A	0mm
351.301	FORTIFY®-R 14mm Upper Endplate, 14mm Round Footprint, 0°	0mm	0mm
351.302	FORTIFY®-R 14mm Upper Endplate, 14mm Round Footprint, 3.5°, no spikes	N/A	0.5mm
351.303	FORTIFY®-R 14mm Upper Endplate, 14mm Round Footprint, 3.5°	0.5mm	0.5mm
351.304	FORTIFY®-R 14mm Upper Endplate, 14mm Round Footprint, 7°	1.5mm	1.5mm
351.311	FORTIFY®-R 14mm Upper Endplate, 14x16mm Footprint, 0°	0mm	0mm
351.313	FORTIFY®-R 14mm Upper Endplate, 14x16mm Footprint, 3.5°	0.5mm	0.5mm
351.314	FORTIFY®-R 14mm Upper Endplate, 14x16mm Footprint, 7°	1.5mm	1.5mm
351.321	FORTIFY®-R 14mm Upper Endplate, 15x18mm Footprint, 0°	0mm	0mm
351.323	FORTIFY®-R 14mm Upper Endplate, 15x18mm Footprint, 3.5°	1mm	1mm
351.324	FORTIFY®-R 14mm Upper Endplate, 15x18mm Footprint, 7°	1.5mm	1.5mm

Lower 14mm PEEK Endplates			
Part No.	**Description**	**Height (Spike to Spike)**	**Height (Tooth to Tooth)**
351.351	FORTIFY®-R 14mm Lower Endplate, 14mm Round Footprint, 0°	0mm	0mm
351.353	FORTIFY®-R 14mm Lower Endplate, 14mm Round Footprint, 3.5°	0.5mm	0.5mm
351.354	FORTIFY®-R 14mm Lower Endplate, 14mm Round Footprint, 7°	1.5mm	1.5mm
351.361	FORTIFY®-R 14mm Lower Endplate, 14x16mm Footprint, 0°	0mm	0mm
351.363	FORTIFY®-R 14mm Lower Endplate, 14x16mm Footprint, 3.5°	1mm	0.5mm
351.364	FORTIFY®-R 14mm Lower Endplate, 14x16mm Footprint, 7°	1.5mm	1.5mm
351.371	FORTIFY®-R 14mm Lower Endplate, 15x18mm Footprint, 0°	0mm	0mm
351.373	FORTIFY®-R 14mm Lower Endplate, 15x18mm Footprint, 3.5°	1mm	1mm
351.374	FORTIFY®-R 14mm Lower Endplate, 15x18mm Footprint, 7°	1.5mm	1.5mm

ADDITIONAL HEIGHT INFORMATION (CONT'D)

FORTIFY® 16mm Endplates

Upper 16mm Titanium Endplates			
Part No.	**Description**	**Height (Spike to Spike)**	**Height (Tooth to Tooth)**
151.501	FORTIFY® 16mm Upper Endplate, 16mm Footprint, 0°	0mm	0mm
151.503	FORTIFY® 16mm Upper Endplate, 16mm Footprint, 4°	1mm	1mm
151.511	FORTIFY® 16mm Upper Endplate, 18mm Footprint, 0°	0mm	0mm
151.513	FORTIFY® 16mm Upper Endplate, 18mm Footprint, 4°	1mm	1mm

Lower 16mm Titanium Endplates			
Part No.	**Description**	**Height (Spike to Spike)**	**Height (Tooth to Tooth)**
151.551	FORTIFY® 16mm Lower Endplate, 16mm Footprint, 0°	0mm	0mm
151.553	FORTIFY® 16mm Lower Endplate, 16mm Footprint, 4°	1mm	1mm
151.554	FORTIFY® 16mm Lower Endplate, 16mm Footprint, 8°	2mm	2mm
151.561	FORTIFY® 16mm Lower Endplate, 18mm Footprint, 0°	0mm	0mm
151.563	FORTIFY® 16mm Lower Endplate, 18mm Footprint, 4°	1mm	1mm
151.564	FORTIFY® 16mm Lower Endplate, 18mm Footprint, 8°	2mm	2mm

FORTIFY® 16mm Lateral Endplates 16mm Wide

Upper Lateral Endplates 16mm Wide			
Part No.	**Description**	**Height (Spike to Spike)**	**Height (Tooth to Tooth)**
151.801	FORTIFY® 16mm Upper Endplate, 16x30mm Footprint, 0°	0mm	1mm
151.803	FORTIFY® 16mm Upper Endplate, 16x30mm Footprint, 4°	1mm	2mm
151.811	FORTIFY® 16mm Upper Endplate, 16x35mm Footprint, 0°	0mm	1mm
151.813	FORTIFY® 16mm Upper Endplate, 16x35mm Footprint, 4°	1mm	2mm
151.821	FORTIFY® 16mm Upper Endplate, 16x40mm Footprint, 0°	0mm	1mm
151.823	FORTIFY® 16mm Upper Endplate, 16x40mm Footprint, 4°	1mm	2mm
151.831	FORTIFY® 16mm Upper Endplate, 16x45mm Footprint, 0°	0mm	1mm
151.833	FORTIFY® 16mm Upper Endplate, 16x45mm Footprint, 4°	1mm	2mm

Lower Lateral Endplates 16mm Wide			
Part No.	**Description**	**Height (Spike to Spike)**	**Height (Tooth to Tooth)**
151.851	FORTIFY® 16mm Lower Endplate, 16x30mm Footprint, 0°	0mm	1mm
151.853	FORTIFY® 16mm Lower Endplate, 16x30mm Footprint, 4°	1mm	2mm
151.854	FORTIFY® 16mm Lower Endplate, 16x30mm Footprint, 8°	2mm	3mm
151.861	FORTIFY® 16mm Lower Endplate, 16x35mm Footprint, 0°	0mm	1mm
151.863	FORTIFY® 16mm Lower Endplate, 16x35mm Footprint, 4°	1mm	2mm
151.864	FORTIFY® 16mm Lower Endplate, 16x35mm Footprint, 8°	2mm	3mm
151.871	FORTIFY® 16mm Lower Endplate, 16x40mm Footprint, 0°	0mm	1mm
151.873	FORTIFY® 16mm Lower Endplate, 16x40mm Footprint, 4°	1mm	2mm
151.874	FORTIFY® 16mm Lower Endplate, 16x40mm Footprint, 8°	2mm	3mm
151.881	FORTIFY® 16mm Lower Endplate, 16x45mm Footprint, 0°	1mm	1mm
151.883	FORTIFY® 16mm Lower Endplate, 16x45mm Footprint, 4°	1mm	3mm
151.884	FORTIFY® 16mm Lower Endplate, 16x45mm Footprint, 8°	2mm	4mm

ADDITIONAL HEIGHT INFORMATION (CONT'D)

FORTIFY® 16mm Lateral Endplates 18mm Wide

Upper Lateral Endplates 18mm Wide			
Part No.	**Description**	**Height (Spike to Spike)**	**Height (Tooth to Tooth)**
151.901	FORTIFY® 16mm Upper Endplate, 18x30mm Footprint, 0°	0mm	1mm
151.903	FORTIFY® 16mm Upper Endplate, 18x30mm Footprint, 4°	1mm	2mm
151.911	FORTIFY® 16mm Upper Endplate, 18x35mm Footprint, 0°	0mm	1mm
151.913	FORTIFY® 16mm Upper Endplate, 18x35mm Footprint, 4°	1mm	2mm
151.921	FORTIFY® 16mm Upper Endplate, 18x40mm Footprint, 0°	0mm	1mm
151.923	FORTIFY® 16mm Upper Endplate, 18x40mm Footprint, 4°	1mm	2mm
151.931	FORTIFY® 16mm Upper Endplate, 18x45mm Footprint, 0°	1mm	2mm
151.933	FORTIFY® 16mm Upper Endplate, 18x45mm Footprint, 4°	1mm	3mm

Lower Lateral Endplates 18mm Wide			
Part No.	**Description**	**Height (Spike to Spike)**	**Height (Tooth to Tooth)**
151.951	FORTIFY® 16mm Lower Endplate, 18x30mm Footprint, 0°	0mm	1mm
151.953	FORTIFY® 16mm Lower Endplate, 18x30mm Footprint, 4°	1mm	2mm
151.954	FORTIFY® 16mm Lower Endplate, 18x30mm Footprint, 8°	2mm	3mm
151.961	FORTIFY® 16mm Lower Endplate, 18x35mm Footprint, 0°	0mm	1mm
151.963	FORTIFY® 16mm Lower Endplate, 18x35mm Footprint, 4°	1mm	2mm
151.964	FORTIFY® 16mm Lower Endplate, 18x35mm Footprint, 8°	2mm	4mm
151.971	FORTIFY® 16mm Lower Endplate, 18x40mm Footprint, 0°	0mm	1mm
151.973	FORTIFY® 16mm Lower Endplate, 18x40mm Footprint, 4°	1mm	3mm
151.974	FORTIFY® 16mm Lower Endplate, 18x40mm Footprint, 8°	2mm	4mm
151.981	FORTIFY® 16mm Lower Endplate, 18x45mm Footprint, 0°	1mm	2mm
151.983	FORTIFY® 16mm Lower Endplate, 18x45mm Footprint, 4°	2mm	3mm
151.984	FORTIFY® 16mm Lower Endplate, 18x45mm Footprint, 8°	3mm	4mm

FORTIFY® 20mm Titanium Endplates

Upper 20mm Titanium Endplates			
Part No.	**Description**	**Height (Spike to Spike)**	**Height (Tooth to Tooth)**
151.401	FORTIFY® 20mm Upper Endplate, 20mm Round Footprint, 0°	0mm	0mm
151.403	FORTIFY® 20mm Upper Endplate, 20mm Round Footprint, 4°	1mm	1mm
151.404	FORTIFY® 20mm Upper Endplate, 20mm Round Footprint, 8°	2.5mm	2mm
151.411	FORTIFY® 20mm Upper Endplate, 21x23mm Footprint, 0°	0mm	0mm
151.413	FORTIFY® 20mm Upper Endplate, 21x23mm Footprint, 4°	1mm	1mm
151.414	FORTIFY® 20mm Upper Endplate, 21x23mm Footprint, 8°	2.5mm	2.5mm
151.431	FORTIFY® 20mm Upper Endplate, 25x30mm Footprint, 0°	1mm	0.5mm
151.433	FORTIFY® 20mm Upper Endplate, 25x30mm Footprint, 4°	2.5mm	1.5mm
151.434	FORTIFY® 20mm Upper Endplate, 25x30mm Footprint, 8°	4mm	3mm

Lower 20mm Titanium Endplates			
Part No.	**Description**	**Height (Spike to Spike)**	**Height (Tooth to Tooth)**
151.451	FORTIFY® 20mm Lower Endplate, 20mm Round Footprint, 0°	0mm	0mm
151.453	FORTIFY® 20mm Lower Endplate, 20mm Round Footprint, 4°	1mm	1mm
151.454	FORTIFY® 20mm Lower Endplate, 20mm Round Footprint, 8°	2.5mm	2mm
151.461	FORTIFY® 20mm Lower Endplate, 21x23mm Footprint, 0°	0mm	0mm
151.463	FORTIFY® 20mm Lower Endplate, 21x23mm Footprint, 4°	1mm	1mm
151.464	FORTIFY® 20mm Lower Endplate, 21x23mm Footprint, 8°	2.5mm	2.5mm
151.481	FORTIFY® 20mm Lower Endplate, 25x30mm Footprint, 0°	1.5mm	0.5mm
151.483	FORTIFY® 20mm Lower Endplate, 25x30mm Footprint, 4°	2.5mm	1.5mm
151.484	FORTIFY® 20mm Lower Endplate, 25x30mm Footprint, 8°	4mm	3mm
151.485	FORTIFY® 20mm Lower Endplate, 25x30mm Footprint, 12°	5.5mm	4.5mm
151.486	FORTIFY® 20mm Lower Endplate, 25x30mm Footprint, 16°	7mm	6.5mm

ADDITIONAL HEIGHT INFORMATION (CONT'D)

FORTIFY® 20mm Lateral Endplates

Upper Lateral Endplates			
Part No.	**Description**	**Height (Spike to Spike)**	**Height (Tooth to Tooth)**
151.601	FORTIFY® 20mm Upper Endplate, 22x40mm Footprint, 0°	0mm	0mm
151.603	FORTIFY® 20mm Upper Endplate, 22x40mm Footprint, 4°	1.5mm	1mm
151.604	FORTIFY® 20mm Upper Endplate, 22x40mm Footprint, 8°	3mm	2.5mm
151.605	FORTIFY® 20mm Upper Endplate, 22x40mm Footprint, 12°	4mm	4mm
151.611	FORTIFY® 20mm Upper Endplate, 22x45mm Footprint, 0°	0mm	0.5mm
151.613	FORTIFY® 20mm Upper Endplate, 22x45mm Footprint, 4°	1.5mm	1.5mm
151.614	FORTIFY® 20mm Upper Endplate, 22x45mm Footprint, 8°	3mm	2.5mm
151.615	FORTIFY® 20mm Upper Endplate, 22x45mm Footprint, 12°	4.5mm	4mm
151.621	FORTIFY® 20mm Upper Endplate, 22x50mm Footprint, 0°	0mm	0.5mm
151.623	FORTIFY® 20mm Upper Endplate, 22x50mm Footprint, 4°	1.5mm	1.5mm
151.624	FORTIFY® 20mm Upper Endplate, 22x50mm Footprint, 8°	3mm	3mm
151.625	FORTIFY® 20mm Upper Endplate, 22x50mm Footprint, 12°	4.5mm	4.5mm

Lower Lateral Endplates			
Part No.	**Description**	**Height (Spike to Spike)**	**Height (Tooth to Tooth)**
151.651	FORTIFY® 20mm Lower Endplate, 22x40mm Footprint, 0°	0mm	0mm
151.653	FORTIFY® 20mm Lower Endplate, 22x40mm Footprint, 4°	1.5mm	1mm
151.654	FORTIFY® 20mm Lower Endplate, 22x40mm Footprint, 8°	3mm	2.5mm
151.655	FORTIFY® 20mm Lower Endplate, 22x40mm Footprint, 12°	4mm	4mm
151.661	FORTIFY® 20mm Lower Endplate, 22x45mm Footprint, 0°	0mm	0.5mm
151.663	FORTIFY® 20mm Lower Endplate, 22x45mm Footprint, 4°	1.5mm	1.5mm
151.664	FORTIFY® 20mm Lower Endplate, 22x45mm Footprint, 8°	3mm	2.5mm
151.665	FORTIFY® 20mm Lower Endplate, 22x45mm Footprint, 12°	4.5mm	4mm
151.671	FORTIFY® 20mm Lower Endplate, 22x50mm Footprint, 0°	0mm	0.5mm
151.673	FORTIFY® 20mm Lower Endplate, 22x50mm Footprint, 4°	1.5mm	1.5mm
151.674	FORTIFY® 20mm Lower Endplate, 22x50mm Footprint, 8°	3mm	3mm
151.675	FORTIFY® 20mm Lower Endplate, 22x50mm Footprint, 12°	4.5mm	4.5mm

FORTIFY®-R 20mm PEEK Endplates

Upper 20mm PEEK Endplates			
Part No.	**Description**	**Height (Spike to Spike)**	**Height (Tooth to Tooth)**
351.401	FORTIFY®-R 20mm Upper Endplate, 20mm Round Footprint, 0°	0mm	0mm
351.403	FORTIFY®-R 20mm Upper Endplate, 20mm Round Footprint, 4°	1mm	1mm
351.404	FORTIFY®-R 20mm Upper Endplate, 20mm Round Footprint, 8°	2.5mm	2.5mm
351.411	FORTIFY®-R 20mm Upper Endplate, 21x23mm Footprint, 0°	0mm	0.5mm
351.413	FORTIFY®-R 20mm Upper Endplate, 21x23mm Footprint, 4°	1.5mm	1.5mm
351.414	FORTIFY®-R 20mm Upper Endplate, 21x23mm Footprint, 8°	2.5mm	2.5mm
351.431	FORTIFY®-R 20mm Upper Endplate, 25x30mm Footprint, 0°	0.5mm	0.5mm
351.433	FORTIFY®-R 20mm Upper Endplate, 25x30mm Footprint, 4°	2mm	2mm
351.434	FORTIFY®-R 20mm Upper Endplate, 25x30mm Footprint, 8°	3mm	3mm

Lower 20mm PEEK Endplates			
Part No.	**Description**	**Height (Spike to Spike)**	**Height (Tooth to Tooth)**
351.451	FORTIFY®-R 20mm Lower Endplate, 20mm Round Footprint, 0°	0mm	0mm
351.453	FORTIFY®-R 20mm Lower Endplate, 20mm Round Footprint, 4°	1mm	1mm
351.454	FORTIFY®-R 20mm Lower Endplate, 20mm Round Footprint, 8°	2mm	2.5mm
351.461	FORTIFY®-R 20mm Lower Endplate, 21x23mm Footprint, 0°	0mm	0mm
351.463	FORTIFY®-R 20mm Lower Endplate, 21x23mm Footprint, 4°	1mm	1mm
351.464	FORTIFY®-R 20mm Lower Endplate, 21x23mm Footprint, 8°	2.5mm	2.5mm
351.481	FORTIFY®-R 20mm Lower Endplate, 25x30mm Footprint, 0°	0.5mm	0.5mm
351.483	FORTIFY®-R 20mm Lower Endplate, 25x30mm Footprint, 4°	1.5mm	1.5mm
351.484	FORTIFY®-R 20mm Lower Endplate, 25x30mm Footprint, 8°	3mm	3mm
351.485	FORTIFY®-R 20mm Lower Endplate, 25x30mm Footprint, 12°	4.5mm	5mm
351.486	FORTIFY®-R 20mm Lower Endplate, 25x30mm Footprint, 16°	6mm	6.5mm

FORTIFY® Variable Angle Endplates			
Part No.	**Description**	**Height (Spike to Spike)**	**Height (Tooth to Tooth)**
151.200	FORTIFY® 12mm Variable Angle Upper Endplate, 13mm Footprint	8mm	7.5mm
151.240	FORTIFY® 16mm Variable Angle Upper Endplate, 16mm Footprint	8.5mm	7.5mm
151.241	FORTIFY® 16mm Variable Angle Upper Endplate, 18mm Footprint	8.5mm	7.5mm
151.220	FORTIFY® 20mm Variable Angle Upper Endplate, 20mm Footprint	9mm	8mm

IMPLANT BONE GRAFT VOLUMES

FORTIFY®/FORTIFY®-R Bone Graft Volumes

FORTIFY® 12mm (Titanium)											
Height	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**
15mm	0.37	30mm	0.74	45mm	1.11	60mm	1.48	75mm	1.85	90mm	2.22
16mm	0.39	31mm	0.76	46mm	1.13	61mm	1.50	76mm	1.87	91mm	2.24
17mm	0.42	32mm	0.79	47mm	1.16	62mm	1.53	77mm	1.90	92mm	2.27
18mm	0.44	33mm	0.81	48mm	1.18	63mm	1.55	78mm	1.92	93mm	2.29
19mm	0.47	34mm	0.84	49mm	1.21	64mm	1.58	79mm	1.95		
20mm	0.49	35mm	0.86	50mm	1.23	65mm	1.60	80mm	1.97		
21mm	0.52	36mm	0.89	51mm	1.26	66mm	1.63	81mm	2.00		
22mm	0.54	37mm	0.91	52mm	1.28	67mm	1.65	82mm	2.02		
23mm	0.57	38mm	0.94	53mm	1.31	68mm	1.67	83mm	2.04		
24mm	0.59	39mm	0.96	54mm	1.33	69mm	1.70	84mm	2.07		
25mm	0.62	40mm	0.99	55mm	1.35	70mm	1.72	85mm	2.09		
26mm	0.64	41mm	1.01	56mm	1.38	71mm	1.75	86mm	2.12		
27mm	0.67	42mm	1.03	57mm	1.40	72mm	1.77	87mm	2.14		
28mm	0.69	43mm	1.06	58mm	1.43	73mm	1.80	88mm	2.17		
29mm	0.71	44mm	1.08	59mm	1.45	74mm	1.82	89mm	2.19		

FORTIFY®-R 14mm (PEEK)											
Height	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**
15mm	0.29	30mm	0.59	45mm	0.88	60mm	1.18	75mm	1.47	90mm	1.77
16mm	0.31	31mm	0.61	46mm	0.90	61mm	1.20	76mm	1.49	91mm	1.79
17mm	0.33	32mm	0.63	47mm	0.92	62mm	1.22	77mm	1.51	92mm	1.81
18mm	0.35	33mm	0.65	48mm	0.94	63mm	1.24	78mm	1.53	93mm	1.83
19mm	0.37	34mm	0.67	49mm	0.96	64mm	1.26	79mm	1.55		
20mm	0.39	35mm	0.69	50mm	0.98	65mm	1.28	80mm	1.57		
21mm	0.41	36mm	0.71	51mm	1.00	66mm	1.30	81mm	1.59		
22mm	0.43	37mm	0.73	52mm	1.02	67mm	1.32	82mm	1.61		
23mm	0.45	38mm	0.75	53mm	1.04	68mm	1.34	83mm	1.63		
24mm	0.47	39mm	0.77	54mm	1.06	69mm	1.35	84mm	1.65		
25mm	0.49	40mm	0.79	55mm	1.08	70mm	1.37	85mm	1.67		
26mm	0.51	41mm	0.81	56mm	1.10	71mm	1.39	86mm	1.69		
27mm	0.53	42mm	0.82	57mm	1.12	72mm	1.41	87mm	1.71		
28mm	0.55	43mm	0.84	58mm	1.14	73mm	1.43	88mm	1.73		
29mm	0.57	44mm	0.86	59mm	1.16	74mm	1.45	89mm	1.75		

FORTIFY® 16mm (Titanium)											
Height	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**
20mm	1.22	35mm	2.13	50mm	3.04	65mm	3.95	80mm	4.87	95mm	5.78
21mm	1.28	36mm	2.19	51mm	3.10	66mm	4.01	81mm	4.93	96mm	5.84
22mm	1.34	37mm	2.25	52mm	3.16	67mm	4.08	82mm	4.99	97mm	5.90
23mm	1.40	38mm	2.31	53mm	3.22	68mm	4.14	83mm	5.05	98mm	5.96
24mm	1.46	39mm	2.37	54mm	3.28	69mm	4.20	84mm	5.11	99mm	6.02
25mm	1.52	40mm	2.43	55mm	3.35	70mm	4.26	85mm	5.17	100mm	6.08
26mm	1.58	41mm	2.49	56mm	3.41	71mm	4.32	86mm	5.23	101mm	6.14
27mm	1.64	42mm	2.55	57mm	3.47	72mm	4.38	87mm	5.29	102mm	6.20
28mm	1.70	43mm	2.62	58mm	3.53	73mm	4.44	88mm	5.35	103mm	6.26
29mm	1.76	44mm	2.68	59mm	3.59	74mm	4.50	89mm	5.41	104mm	6.33
30mm	1.82	45mm	2.74	60mm	3.65	75mm	4.56	90mm	5.47	105mm	6.39
31mm	1.89	46mm	2.80	61mm	3.71	76mm	4.62	91mm	5.53	106mm	6.45
32mm	1.95	47mm	2.86	62mm	3.77	77mm	4.68	92mm	5.60	107mm	6.51
33mm	2.01	48mm	2.92	63mm	3.83	78mm	4.74	93mm	5.66	108mm	6.57
34mm	2.07	49mm	2.98	64mm	3.89	79mm	4.80	94mm	5.72		

FORTIFY® 20mm (Titanium)															
Height	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**
23mm	2.60	38mm	4.30	53mm	5.99	68mm	7.69	83mm	9.39	98mm	11.08	113mm	12.78	128mm	14.48
24mm	2.71	39mm	4.41	54mm	6.11	69mm	7.80	84mm	9.50	99mm	11.20	114mm	12.89	129mm	14.59
25mm	2.83	40mm	4.52	55mm	6.22	70mm	7.92	85mm	9.61	100mm	11.31	115mm	13.01	130mm	14.70
26mm	2.94	41mm	4.64	56mm	6.33	71mm	8.03	86mm	9.73	101mm	11.42	116mm	13.12	131mm	14.82
27mm	3.05	42mm	4.75	57mm	6.45	72mm	8.14	87mm	9.84	102mm	11.54	117mm	13.23	132mm	14.93
28mm	3.17	43mm	4.86	58mm	6.56	73mm	8.26	88mm	9.95	103mm	11.65	118mm	13.35	133mm	15.04
29mm	3.28	44mm	4.98	59mm	6.67	74mm	8.37	89mm	10.07	104mm	11.76	119mm	13.46	134mm	15.16
30mm	3.39	45mm	5.09	60mm	6.79	75mm	8.48	90mm	10.18	105mm	11.88	120mm	13.57	135mm	15.27
31mm	3.51	46mm	5.20	61mm	6.90	76mm	8.60	91mm	10.29	106mm	11.99	121mm	13.68		
32mm	3.62	47mm	5.32	62mm	7.01	77mm	8.71	92mm	10.40	107mm	12.10	122mm	13.80		
33mm	3.73	48mm	5.43	63mm	7.13	78mm	8.82	93mm	10.52	108mm	12.21	123mm	13.91		
34mm	3.85	49mm	5.54	64mm	7.24	79mm	8.93	94mm	10.63	109mm	12.33	124mm	14.02		
35mm	3.96	50mm	5.65	65mm	7.35	80mm	9.05	95mm	10.74	110mm	12.44	125mm	14.14		
36mm	4.07	51mm	5.77	66mm	7.46	81mm	9.16	96mm	10.86	111mm	12.55	126mm	14.25		
37mm	4.18	52mm	5.88	67mm	7.58	82mm	9.27	97mm	10.97	112mm	12.67	127mm	14.36		

IMPLANT BONE GRAFT VOLUMES (CONT'D)

FORTIFY®-R 20mm (PEEK)															
Height	Graft Volume (cc)	Height	Graft Volume (cc)	Height	Graft Volume (cc)	Height	Graft Volume (cc)	Height	Graft Volume (cc)	Height	Graft Volume (cc)	Height	Graft Volume (cc)	Height	Graft Volume (cc)
23mm	1.81	38mm	2.98	53mm	4.16	68mm	5.34	83mm	6.52	98mm	7.70	113mm	8.87	128mm	10.05
24mm	1.88	39mm	3.06	54mm	4.24	69mm	5.42	84mm	6.60	99mm	7.78	114mm	8.95	129mm	10.13
25mm	1.96	40mm	3.14	55mm	4.32	70mm	5.50	85mm	6.68	100mm	7.85	115mm	9.03	130mm	10.21
26mm	2.04	41mm	3.22	56mm	4.40	71mm	5.58	86mm	6.75	101mm	7.93	116mm	9.11	131mm	10.29
27mm	2.12	42mm	3.30	57mm	4.48	72mm	5.65	87mm	6.83	102mm	8.01	117mm	9.19	132mm	10.37
28mm	2.20	43mm	3.38	58mm	4.56	73mm	5.73	88mm	6.91	103mm	8.09	118mm	9.27	133mm	10.45
29mm	2.28	44mm	3.46	59mm	4.63	74mm	5.81	89mm	6.99	104mm	8.17	119mm	9.35	134mm	10.52
30mm	2.36	45mm	3.53	60mm	4.71	75mm	5.89	90mm	7.07	105mm	8.25	120mm	9.42	135mm	10.60
31mm	2.43	46mm	3.61	61mm	4.79	76mm	5.97	91mm	7.15	106mm	8.33	121mm	9.50		
32mm	2.51	47mm	3.69	62mm	4.87	77mm	6.05	92mm	7.23	107mm	8.40	122mm	9.58		
33mm	2.59	48mm	3.77	63mm	4.95	78mm	6.13	93mm	7.30	108mm	8.48	123mm	9.66		
34mm	2.67	49mm	3.85	64mm	5.03	79mm	6.20	94mm	7.38	109mm	8.56	124mm	9.74		
35mm	2.75	50mm	3.93	65mm	5.11	80mm	6.28	95mm	7.46	110mm	8.64	125mm	9.82		
36mm	2.83	51mm	4.01	66mm	5.18	81mm	6.36	96mm	7.54	111mm	8.72	126mm	9.90		
37mm	2.91	52mm	4.08	67mm	5.26	82mm	6.44	97mm	7.62	112mm	8.80	127mm	9.97		

FORTIFY® Variable Angle Bone Graft Volumes

FORTIFY® Variable Angle - 12mm									
Height	Graft Volume (cc)	Height	Graft Volume (cc)	Height	Graft Volume (cc)	Height	Graft Volume (cc)	Height	Graft Volume (cc)
23mm	0.72	38mm	1.09	53mm	1.46	68mm	1.83	83mm	2.20
24mm	0.74	39mm	1.11	54mm	1.48	69mm	1.85	84mm	2.22
25mm	0.77	40mm	1.14	55mm	1.51	70mm	1.88	85mm	2.25
26mm	0.79	41mm	1.16	56mm	1.53	71mm	1.90	86mm	2.27
27mm	0.82	42mm	1.19	57mm	1.56	72mm	1.93	87mm	2.30
28mm	0.84	43mm	1.21	58mm	1.58	73mm	1.95	88mm	2.32
29mm	0.87	44mm	1.24	59mm	1.61	74mm	1.98	89mm	2.35
30mm	0.89	45mm	1.26	60mm	1.63	75mm	2.00	90mm	2.37
31mm	0.92	46mm	1.29	61mm	1.66	76mm	2.03	91mm	2.39
32mm	0.94	47mm	1.31	62mm	1.68	77mm	2.05	92mm	2.42
33mm	0.97	48mm	1.34	63mm	1.70	78mm	2.07	93mm	2.44
34mm	0.99	49mm	1.36	64mm	1.73	79mm	2.10	94mm	2.47
35mm	1.02	50mm	1.38	65mm	1.75	80mm	2.12	95mm	2.49
36mm	1.04	51mm	1.41	66mm	1.78	81mm	2.15	96mm	2.52
37mm	1.06	52mm	1.43	67mm	1.80	82mm	2.17	97mm	2.54

FORTIFY® Variable Angle – 16mm											
Height	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**
28mm	1.66	43mm	2.57	58mm	3.48	73mm	4.40	88mm	5.31	103mm	6.22
29mm	1.72	44mm	2.63	59mm	3.54	74mm	4.46	89mm	5.37	104mm	6.28
30mm	1.78	45mm	2.69	60mm	3.61	75mm	4.52	90mm	5.43	105mm	6.34
31mm	1.84	46mm	2.75	61mm	3.67	76mm	4.58	91mm	5.49	106mm	6.40
32mm	1.90	47mm	2.82	62mm	3.73	77mm	4.64	92mm	5.55	107mm	6.46
33mm	1.96	48mm	2.88	63mm	3.79	78mm	4.70	93mm	5.61	108mm	6.53
34mm	2.02	49mm	2.94	64mm	3.85	79mm	4.76	94mm	5.67	109mm	6.59
35mm	2.09	50mm	3.00	65mm	3.91	80mm	4.82	95mm	5.73	110mm	6.65
36mm	2.15	51mm	3.06	66mm	3.97	81mm	4.88	96mm	5.80	111mm	6.71
37mm	2.21	52mm	3.12	67mm	4.03	82mm	4.94	97mm	5.86	112mm	6.77
38mm	2.27	53mm	3.18	68mm	4.09	83mm	5.00	98mm	5.92	113mm	6.83
39mm	2.33	54mm	3.24	69mm	4.15	84mm	5.07	99mm	5.98	114mm	6.89
40mm	2.39	55mm	3.30	70mm	4.21	85mm	5.13	100mm	6.04		
41mm	2.45	56mm	3.36	71mm	4.27	86mm	5.19	101mm	6.10		
42mm	2.51	57mm	3.42	72mm	4.34	87mm	5.25	102mm	6.16		

FORTIFY® Variable Angle – 20mm													
Height	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**	**Height**	**Graft Volume (cc)**
32mm	3.26	47mm	4.95	62mm	6.65	77mm	8.35	92mm	10.04	107mm	11.74	122mm	13.44
33mm	3.37	48mm	5.07	63mm	6.76	78mm	8.46	93mm	10.16	108mm	11.85	123mm	13.55
34mm	3.48	49mm	5.18	64mm	6.88	79mm	8.57	94mm	10.27	109mm	11.97	124mm	13.66
35mm	3.60	50mm	5.29	65mm	6.99	80mm	8.69	95mm	10.38	110mm	12.08	125mm	13.78
36mm	3.71	51mm	5.41	66mm	7.10	81mm	8.80	96mm	10.50	111mm	12.19	126mm	13.89
37mm	3.82	52mm	5.52	67mm	7.22	82mm	8.91	97mm	10.61	112mm	12.31	127mm	14.00
38mm	3.94	53mm	5.63	68mm	7.33	83mm	9.03	98mm	10.72	113mm	12.42	128mm	14.12
39mm	4.05	54mm	5.75	69mm	7.44	84mm	9.14	99mm	10.84	114mm	12.53	129mm	14.23
40mm	4.16	55mm	5.86	70mm	7.56	85mm	9.25	100mm	10.95	115mm	12.65	130mm	14.34
41mm	4.28	56mm	5.97	71mm	7.67	86mm	9.37	101mm	11.06	116mm	12.76	131mm	14.45
42mm	4.39	57mm	6.09	72mm	7.78	87mm	9.48	102mm	11.17	117mm	12.87	132mm	14.57
43mm	4.50	58mm	6.20	73mm	7.89	88mm	9.59	103mm	11.29	118mm	12.98	133mm	14.68
44mm	4.62	59mm	6.31	74mm	8.01	89mm	9.70	104mm	11.40	119mm	13.10	134mm	14.79
45mm	4.73	60mm	6.42	75mm	8.12	90mm	9.82	105mm	11.51	120mm	13.21	135mm	14.91
46mm	4.84	61mm	6.54	76mm	8.23	91mm	9.93	106mm	11.63	121mm	13.32		

IMPORTANT INFORMATION ON FORTIFY® CORPECTOMY SPACERS

DESCRIPTION

FORTIFY® and FORTIFY® Integrated Corpectomy Spacers are vertebral body replacement devices used to provide structural stability in skeletally mature individuals following corpectomy or vertebrectomy. The components include a central core and endplates, which are available in a range of sizes and options to accommodate the anatomical needs of a wide variety of patients. The core and endplates can be preoperatively or intraoperatively assembled to best fit individual requirements. Each spacer has an axial hole to allow autograft or allograft to be packed inside the spacer. Protrusions (teeth) on the superior and inferior surfaces grip the endplates of the adjacent vertebrae to resist expulsion. Additional spikes are available on some implants. FORTIFY® Integrated (FORTIFY® I) endplates have an integrated plate to accommodate screws for additional fixation and are assembled to the core. FORTIFY® Variable Angle endplates provide adjustable lordosis/kyphosis.

FORTIFY® and FORTIFY® I Corpectomy Spacers are manufactured from titanium alloy per ASTM F136 and F1295. FORTIFY®-R and FORTIFY® I-R Corpectomy Spacers are manufactured from radiolucent PEEK polymer, with titanium alloy and tantalum components, per ASTM F2026, F136, F1295, and F560. Screws are manufactured from titanium alloy per ASTM F136 and F1295, with or without hydroxyapatite coating per ASTM F1185. FORTIFY® R TPS and FORTIFY® I-R TPS Corpectomy Spacers also have a commercially pure titanium plasma spray coating, as specified in ASTM F67 and F1580.

INDICATIONS

FORTIFY® and FORTIFY® Integrated Corpectomy Spacers are vertebral body replacement devices intended for use in the thoracolumbar spine (T1-L5). FORTIFY® Spacers (titanium) are also intended for use in the cervical spine (C2-T1). All FORTIFY® TPS coated spacers are indicated for the same use as non-coated PEEK versions.

When used in the cervical spine (C2-T1), FORTIFY® devices (titanium) are intended for use in skeletally mature patients to replace a diseased or damaged vertebral body caused by tumor fracture or osteomyelitis, or for reconstruction following corpectomy performed to achieve decompression of the spinal cord and neural tissues in cervical degenerative disorders. These spacers are intended to restore the integrity of the spinal column even in the absence of fusion for a limited time period in patients with advanced stage tumors involving the cervical spine in whom life expectancy is of insufficient duration to permit achievement of fusion, with bone graft used at the surgeon's discretion.

When used in the thoracolumbar spine (T1-L5), FORTIFY® and FORTIFY® Integrated devices are intended for use to replace a collapsed, damaged, or unstable vertebral body due to tumor or trauma (i.e., fracture). These spacers are designed to provide anterior spinal column support even in the absence of fusion for a prolonged period.

The interior of the spacers can be packed with autograft or allogenic bone graft comprising cancellous and/or corticocancellous bone graft as an adjunct to fusion.

These devices are intended to be used with FDA-cleared supplemental spinal fixation systems that have been labeled for use in the cervical, thoracic, and/or lumbar spine (i.e., posterior screw and rod systems, anterior plate systems, and anterior screw and rod systems). When used at more than two levels, supplemental fixation should include posterior fixation.

WARNINGS

One of the potential risks identified with this system is death. Other potential risks which may require additional surgery, include:
- device component fracture,
- loss of fixation,
- non-union,
- fracture of the vertebrae,
- neurological injury, and
- vascular or visceral injury.

Certain degenerative diseases or underlying physiological conditions such as diabetes, rheumatoid arthritis, or osteoporosis may alter the healing process, thereby increasing the risk of implant breakage or spinal fracture.

Patients with previous spinal surgery at the level(s) to be treated may have different clinical outcomes compared to those without previous surgery.

Components of this system should not be used with components of any other system or manufacturer.

The components of this system are manufactured from PEEK radiolucent polymer, commercially pure titanium, titanium alloy, and tantalum. Mixing of stainless steel implant components with different materials is not recommended for metallurgical, mechanical and functional reasons.

These warnings do not include all adverse effects which could occur with surgery in general, but are important considerations particular to orthopedic implants. General surgical risks should be explained to the patient prior to surgery.

Use this device as supplied and in accordance with the handling and use information provided below.

PRECAUTIONS

The implantation of vertebral body replacement devices should be performed only by experienced spinal surgeons with specific training in the use of this system because this is a technically demanding procedure presenting a risk of serious injury to the patient. Preoperative planning and patient anatomy should be considered when selecting implant size.

Surgical implants must never be reused. An explanted implant must never be reimplanted. Even though the device appears undamaged, it may have small defects and internal stress patterns which could lead to breakage.

Adequately instruct the patient. Mental or physical impairment which compromises or prevents a patient's ability to comply with necessary limitations or precautions may place that patient at a particular risk during postoperative rehabilitation.

For optimal implant performance, the surgeon should consider the levels of implantation, patient weight, patient activity level, other patient conditions, etc. which may impact the performance of the system.

MRI SAFETY INFORMATION

Non-clinical testing has demonstrated the FORTIFY® and FORTIFY® Integrated Corpectomy Spacers are MR Conditional. A patient with this device can be safely scanned in an MR system meeting the following conditions:
- Static magnetic field of 1.5 Tesla and 3.0 Tesla only
- Maximum spatial field gradient of 3,000 gauss/cm (30 T/m) or less
- Maximum MR system reported, whole body averaged specific absorption rate (SAR) of 1 W/kg

Under the scan conditions defined above, the FORTIFY® and FORTIFY® Integrated Corpectomy Spacers are expected to produce a maximum temperature rise of less than or equal to 3.9°C after 15 minutes of continuous scanning.

In non-clinical testing, the image artifact caused by the device extends approximately 35mm from the FORTIFY® and FORTIFY® Integrated Corpectomy Spacers when imaged with a gradient echo pulse sequence and a 3.0 Tesla MRI system.

CONTRAINDICATIONS

Use of these devices is contraindicated in patients with the following conditions:
1. Active systemic infection, infection localized to the site of the proposed implantation, or when the patient has a suspected or documented allergy, foreign body sensitivity, or known intolerance to any of the implant materials.
2. Signs of local inflammation.
3. Prior fusion at the level(s) to be treated.
4. Severe osteoporosis, which may prevent adequate fixation
5. Conditions that may place excessive stresses on bone and implants, such as severe obesity or degenerative diseases, are relative contraindications. The decision whether to use these devices in such conditions must be made by the physician taking into account the risks versus the benefits to the patient.
6. Patients whose activity, mental capacity, mental illness, alcoholism, drug abuse, occupation, or lifestyle may interfere with their ability to follow postoperative restrictions and who may place undue stresses on the implant during bony healing and may be at a higher risk of implant failure.
7. Any patient not willing to cooperate with postoperative instructions.
8. Any condition not described in the indications for use.
9. Fever or leukocytosis.
10. Pregnancy.
11. Any other condition that would preclude the potential benefit of spinal implant surgery, such as the presence of tumors or congenital abnormalities, fracture local to the operating site, elevation of sedimentation rate unexplained by other diseases, elevations of the white blood count (WBC), or a marked left shift in the WBC differential count.
12. Any case not needing a fusion.
13. Patients with a known hereditary or acquired bone friability or calcification problem should not be considered for this type of surgery.
14. These devices must not be used for pediatric cases or where the patient still has general skeletal growth.
15. Spondylolisthesis unable to be reduced to Grade 1.
16. Any case where the implant components selected for used would be too large or too small to achieve a successful result.
17. Any case that requires the mixing of metals from two different components or systems.
18. Any patient having inadequate tissue coverage at the operative site or inadequate bone stock or quality.
19. Any patient in which implant utilization would interfere with anatomical structures or expected physiological performance.

COMPLICATIONS AND POSSIBLE ADVERSE EVENTS

Prior to surgery, patients should be made aware of the following possible adverse effects in addition to the potential need for additional surgery to correct these effects:
- Loosening, bending or breakage of components
- Displacement/migration of device components
- Tissue sensitivity to implant material

IMPORTANT INFORMATION ON FORTIFY® CORPECTOMY SPACERS

- Potential for skin breakdown and/or wound complications
- Non-union or delayed union or mal-union
- Infection
- Nerve damage, including loss of neurological function (sensory and/or motor), paralysis, dysesthesia, hyperesthesia, paresthesia, radiculopathy, reflex deficit, cauda equina syndrome
- Dural tears, cerebral spinal fluid leakage
- Fracture of vertebrae
- Foreign body reaction (allergic) to components or debris
- Vascular or visceral injury
- Change in spinal curvature, loss of correction, height and/or reduction
- Urinary retention or loss of bladder control or other types of disorders of the urogenital system
- Ileus, gastritis, bowel obstruction or other types of gastrointestinal system compromise
- Reproductive system compromise including impotence, sterility, loss of consortium and sexual dysfunction.
- Pain or discomfort
- Bursitis
- Decrease in bone density due to stress shielding
- Loss of bone or fracture of bone above or below the level of surgery
- Bone graft donor site pain, fracture, and/or delayed wound healing
- Restriction of activities
- Lack of effective treatment of symptoms for which surgery was intended
- Need for additional surgical intervention
- Death

PACKAGING

These implants and instruments may be supplied pre-packaged and sterile, using gamma irradiation. The integrity of the sterile packaging should be checked to ensure that sterility of the contents is not compromised. Packaging should be carefully checked for completeness and all components should be carefully checked to ensure that there is no damage prior to use. Damaged packages or products should not be used, and should be returned to Globus Medical. During surgery, after the correct size has been determined, remove the products from the packaging using aseptic technique.

The instrument sets are provided nonsterile and are steam sterilized prior to use, as described in the STERILIZATION section below. Following use or exposure to soil, instruments must be cleaned, as described in the CLEANING section below.

HANDLING AND USE

All instruments and implants should be treated with care. Improper use or handling may lead to damage and/or possible malfunction. Products should be checked to ensure that they are in working order prior to surgery. All products should be inspected prior to use to ensure that there is no unacceptable deterioration such as corrosion (i.e. rust, pitting), discoloration, excessive scratches, notches, debris, residue, flaking, wear, cracks, cracked seals, etc. Non-working or damaged instruments should not be used, and should be returned to Globus Medical.

Implants are single use devices and should not be cleaned. Re-cleaning of single use implants might lead to mechanical failure and/or material degradation. Discard any implants that may have been accidently contaminated.

CLEANING

All instruments that can be disassembled must be disassembled for cleaning. All handles must be detached. Instruments may be reassembled following sterilization. The instruments should be cleaned using neutral cleaners before sterilization and introduction into a sterile surgical field or (if applicable) return of the product to Globus Medical.

Cleaning and disinfecting of instruments can be performed with aldehyde-free solvents at higher temperatures. Cleaning and decontamination must include the use of neutral cleaners followed by a deionized water rinse. Note: certain cleaning solutions such as those containing formalin, glutaraldehyde, bleach and/or other alkaline cleaners may damage some devices, particularly instruments; these solutions should not be used.

The following cleaning methods should be observed when cleaning instruments after use or exposure to soil, and prior to sterilization:

1. Immediately following use, ensure that the instruments are wiped down to remove all visible soil and kept from drying by submerging or covering with a wet towel.
2. Disassemble all instruments that can be disassembled.
3. Rinse the instruments under running tap water to remove all visible soil. Flush the lumens a minimum of 3 times, until the lumens flush clean.
4. Prepare Enzol® (or a similar enzymatic detergent) per manufacturer's recommendations.
5. Immerse the instruments in the detergent and allow them to soak for a minimum of 2 minutes.
6. Use a soft bristled brush to thoroughly clean the instruments. Use a pipe cleaner for any lumens. Pay close attention to hard to reach areas.
7. Using a sterile syringe, draw up the enzymatic detergent solution. Flush any lumens and hard to reach areas until no soil is seen exiting the area.
8. Remove the instruments from the detergent and rinse them in running warm tap water.
9. Prepare Enzol® (or a similar enzymatic detergent) per manufacturer's recommendations in an ultrasonic cleaner.
10. Completely immerse the instruments in the ultrasonic cleaner and ensure detergent is in lumens by flushing the lumens. Sonicate for a minimum of 3 minutes.
11. Remove the instruments from the detergent and rinse them in running deionized water or reverse osmosis water for a minimum of 2 minutes.
12. Dry instruments using a clean soft cloth and filtered pressurized air.
13. Visually inspect each instrument for visible soil. If visible soil is present, then repeat cleaning process starting with Step 3.

CONTACT INFORMATION

Globus Medical may be contacted at 1-866-GLOBUS1 (456-2871). A surgical technique manual may be obtained by contacting Globus Medical.

STERILIZATION

These implants and instruments may be available sterile or nonsterile. HA-coated implants are only available sterile.

Sterile implants and instruments are sterilized by gamma radiation, validated to ensure a Sterility Assurance Level (SAL) of 10^{-6}. Sterile products are packaged in a heat sealed, double pouch or container/pouch. The expiration date is provided on the package label. These products are considered sterile unless the packaging has been opened or damaged. Sterile implants and instruments that become nonsterile or have expired packaging are considered nonsterile and may be sterilized according to instructions for nonsterile implants and instruments below, with the exception of HA-coated implants, which cannot be resterilized and should be disposed of according to hospital protocol. Sterile implants meet pyrogen limit specifications.

Nonsterile implants and instruments have been validated to ensure an SAL of 10^{-6}. The use of an FDA-cleared wrap is recommended, per the Association for the Advancement of Medical Instrumentation (AAMI) ST79, *Comprehensive Guide to Steam Sterilization and Sterility Assurance in Health Care Facilities*. It is the end user's responsibility to use only sterilizers and accessories (such as sterilization wraps, sterilization pouches, chemical indicators, biological indicators, and sterilization cassettes) that have been cleared by the FDA for the selected sterilization cycle specifications (time and temperature).

When using a rigid sterilization container, the following must be taken into consideration for proper sterilization of Globus devices and loaded graphic cases:

- Recommended sterilization parameters are listed in the table below.
- Only FDA-cleared rigid sterilization containers for use with pre-vacuum steam sterilization may be used.
- When selecting a rigid sterilization container, it must have a minimum filter area of 176 in^2 total, or a minimum of four (4) 7.5in diameter filters.
- No more than one (1) loaded graphic case or its contents can be placed directly into a rigid sterilization container.
- Stand-alone modules/racks or single devices must be placed, without stacking, in a container basket to ensure optimal ventilation.
- The rigid sterilization container manufacturer's instructions for use are to be followed; if questions arise, contact the manufacturer of the specific container for guidance.
- Refer to AAMI ST79 for additional information concerning the use of rigid sterilization containers.

For implants and instruments provided NONSTERILE, sterilization is recommended (wrapped or containerized) as follows:

Method	Cycle Type	Temperature	Exposure Time	Drying Time
Steam	Pre-vacuum	132°C (270°F)	4 Minutes	30 Minutes
Steam	Pre-vacuum	134°C (273°F)	3 Minutes	30 Minutes

These parameters are validated to sterilize only this device. If other products are added to the sterilizer, the recommended parameters are not valid and new cycle parameters must be established by the user. The sterilizer must be properly installed, maintained, and calibrated. Ongoing testing must be performed to confirm inactivation of all forms of viable microorganisms.

CAUTION: Federal (U.S.A.) Law restricts this Device to Sale by or on the Order of a Physician.

REF	CATALOGUE NUMBER	STERILE R	STERILIZED BY IRRADIATION
LOT	LOT NUMBER	EC REP	AUTHORISED REPRESENTATIVE IN THE EUROPEAN COMMUNITY
⚠	CAUTION		MANUFACTURER
	SINGLE USER ONLY		USE BY (YYYY-MM-DD)
QTY	QUANTITY		

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