DePuy Synthes Cannulated Compression Headless Screws (CCHS)

2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.5, 6.5, 7.5 mm

For Fixation of Various Bones and Bone Fragments

Surgical Technique

AO approved by AO Technical Commission

The AO Foundation is a 3rd party medically guided, not-for-profit organization led by an international group of surgeons specialized in the treatment of trauma and disorders of the musculoskeletal system.

DePuy Synthes

THE ORTHOPAEDICS COMPANY OF Johnson&Johnson

Image intensifier control

This description alone does not provide sufficient background for direct use of DePuy Synthes products. Instruction by a surgeon experienced in handling these products is highly recommended.

Processing, Reprocessing, Care and Maintenance
For reprocessing guidelines for implants and instruments, please contact your local sales representative or refer to: cchs.info

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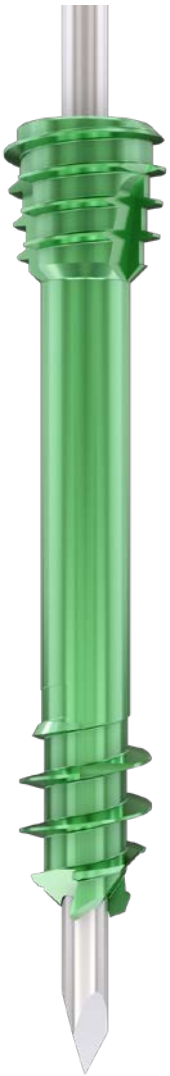
■ **Notes**
▲ **Precautions**
▲ **WARNINGS**

Cannulated Compression Headless Screws (CCHS)

System Overview

- Titanium alloy (Ti-6Al-4V ELI)
- Self-drilling/self-tapping, headless design
- Portfolio: 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.5, 6.5, 7.5 mm
- Cannulated for using a guide wire
- Differential pitch in head and tip thread
- Short and long thread lengths
- Sterile and non-sterile implants and instruments packaging options
- Color-coded instrumentation
- Modular sets



StarDrive Recess

Head with cutting flutes

Facilitates countersinking of screwhead

Reverse-cutting flutes

Facilitate screw removal

Self-drilling and self-tapping flutes

CCHS Implant Size and Length Overview

	2.0	2.5	3.0	3.5	4.0	4.5	5.5	6.5	7.5
Guide Wire (Ø/mm/L mm/tip type)	0.8/L 100 trocar	1.1/L 150 trocar/threaded		1.4/L 150 trocar/threaded		1.6/L 220 trocar/threaded		2.8/L 220, 300, 450 trocar/threaded/fluted	
Cann Drill Bit (Ø/L)	1.6/L 100	2.0/L 150		2.7/L 150		3.0/L 220		5.0/L 220,295	
Cann Countersink (Headless /Headed)	✓	✓		✓		✓		✓	
Drill Guide (Ø)	0.8/1.6	1.1/2.0		1.4/2.7		1.6/3.0		2.8/5.0	
Tissue Protector/ Wire Sleeve (Ø)						✓		✓	
Direct Measuring Device (L)	L100	L150				L220		5.0/L220, 300	
Cann Screwdriver Shaft (Stardrive)*	T6	T8		T15				T30/T30 long	
Cann Handle	Small Handle with Jeweler Cap (Standard AO)			Large Ratcheting Handle (Standard AO)				Large Ratcheting Handle (Large QC)	
Adjustable Parallel Wire Guide								✓	
Multi-Wire Guide (Ø/L)								✓	
Drive Adapter								Large Quick Coupling (QC for Small Air Drill)	

All Guide Wires, Drill Bits and Countersink are also availabe sterile packaged.

* Solid Screwdrivers are also available.

Diameter	Color	Short Thread	Long Thread
2.0 mm		10–40 mm (2 mm increments)	20–40 mm (2 mm increments)
2.5 mm		10–54 mm (2 mm increments)	20–54 mm (2 mm increments)
3.0 mm		10–54 mm (2 mm increments)	20–54 mm (2 mm increments)
3.5 mm		14–75 mm (2 mm increments)	24–75 mm (2 mm increments)
4.0 mm		14–75 mm (2 mm increments)	24–75 mm (2 mm increments)
4.5 mm		20–50 mm (2 mm increments) 55–110 mm (5 mm increments)	30–50 mm (2 mm increments) 55–110 mm (5 mm increments)
5.5 mm		20–50 mm (2 mm increments) 55–125 mm (5 mm increments)	30–50 mm (2 mm increments) 55–125 mm (5 mm increments)
6.5 mm		30–150 mm (5 mm increments)	45–150 mm (5 mm increments)
7.5 mm		30–150 mm (5 mm increments)	45–150 mm (5 mm increments)

All implants are available sterile packed.

Sterile Packaging

The sterile packed Cannulated Compression Headless Screws are available in ready-to-use sterile tubes and double peel-pouch boxes. Availability of sterile packaging variant is dependent on the market.
For usage instructions on how to open the sterile tube packaging, refer to Sterile Tube Usage Guide.

Sterilization

All sterile products and sterile instruments are clearly marked “STERILE”. The sterile part is gamma radiation sterilized. The package should be inspected prior to use to ensure the sterile barrier has not been compromised. Do not re-sterilize. Where specified, do not use the device after expiration date.

DePuy Synthes non-sterile instruments should be stored in the original packaging until cleaned and sterilized.

Consult the CCHS system eIFU at cchs.info for cleaning and sterilization instructions.

Indications and Contraindications

Indications

The DePuy Synthes Cannulated Compression Headless Screws are indicated for use in bone reconstruction, osteotomy, arthrodesis, joint fusion, fracture repair, and fracture fixation of bones appropriate for the size of the device. Screws are intended for single use only.

Contraindications

The implant should not be used in a patient who has current, or who has a history of:

- Local or systemic acute or chronic inflammation;
- Active infection or inflammation;
- Suspected or documented metal allergy or intolerance

Intended Use, Indications and Contraindications can be found in the corresponding system Instructions for Use. Consult the Cannulated Compression Headless Screw eIFU at cchs.info for more information.

▲ Caution:

Federal Law (USA) restricts this device to sale by or on the order of a physician.

Warnings and Potential Risks

The CCHS implants are designed for single patient use only and must never be reused. As with all other orthopedic implants, the components should never be re-implanted under any circumstances.

The CCHS implants can become loose or break if subjected to increased loading. Factors such as the patient's weight, activity level, and adherence to weight-bearing or load-bearing instructions can affect the implant's longevity. Damage to the weight-bearing bone structures caused by infection can give rise to loosening of the components and/or fracture of the bone.

Serious postoperative complications may occur from the implant in a patient who: lacks good general physical conditions; has severe osteoporosis; demonstrates physiological or anatomical anomalies; has immunological responses, sensitization, or hypersensitivity to foreign materials; has systemic or metabolic disorders.

These warnings do not include all adverse effects which could occur with surgery but are important considerations specific to metallic devices. The risks associated with orthopedic surgery, general surgery, and the use of general anesthesia should be explained to the patient prior to surgery. See the **Precautions** section for additional warnings.

This device is not approved for screw attachment or fixation to the posterior elements (pedicles) of the cervical, thoracic or lumbar spine.

Precautions

Under no circumstances should damaged components or surgically excised components be used. Implants that have already been in contact with body fluids or body tissues must not be re-sterilized.

The CCHS System should never be used with dissimilar materials. Preoperative assessment of the suitability of the patient's anatomy for accepting implants is made on the basis of X-rays, CT scans, and other radiological studies.

Only patients that meet the criteria described in the **Indications and Contraindications** section should be selected. Correct selection of the implant is extremely important. The morbidity as well as patient weight, height, occupation, and/or degree of physical activity should be considered.

Proper implant handling before and during the operation is crucial. Handle the implant components properly. Ensure packaging integrity. Do not allow the implants surfaces to be damaged.

Adequately instruct the patient. The physician should inform the patient about orthopedic implant advantages and disadvantages, postoperative limitations, weight/load bearing stresses which could affect bone healing, implant limitations, and the fact that premature physical activity and full weight/load-bearing stresses have been implicated in premature loosening, damage, and/or fracture of orthopedic prostheses.

▲ Important:

The guide wires included in the Cannulated Compression Headless Screw System are not intended as implants. The guide wires are only intended for use as instruments to facilitate screw insertion.

The implantation of screws should be performed only by experienced surgeons with specific training in the use of this screw system because this is a technically demanding procedure presenting a risk of serious injury to the patient.

Preparation and Insertion of Guide Wire

Table 1 – Guide Wire and Drill Guide Sizes

Screw Diameter	Guide Wires		Double Drill Guide	
Ø 2.0 mm ●	03.333.000 03.333.000S	0.8 mm Guide Wire/Trocar Tip/ 100 mm Length	03.333.400	1.6 mm/0.8 mm Double Drill Guide
Ø 2.5 mm ● Ø 3.0 mm ●	03.333.001 03.333.001S	1.1 mm Guide Wire/Trocar Tip/ 150 mm Length	03.333.401	2.0 mm/1.1 mm Double Drill Guide
Ø 3.5 mm ● Ø 4.0 mm ●	03.333.002 03.333.002S	1.4 mm Guide Wire/Trocar Tip/ 150 mm Length	03.333.402	2.7 mm/1.4 mm Double Drill Guide
Ø 4.5 mm ● Ø 5.5 mm ●	03.333.003 03.333.003S	1.6 mm Guide Wire/Trocar Tip/ 220 mm Length	03.333.403	3.0 mm/1.6 mm Double Drill Guide
Ø 6.5 mm ● Ø 7.5 mm ●	03.333.004 03.333.004S	2.8 mm Guide Wire/Fluted Tip/ 220 mm Length	03.333.404	5.0 mm/2.8 mm Double Drill Guide

Select the correct guide wire and drill guide for the chosen screw diameter. (Table 1)

Make a stab incision and dissect a clean approach to the desired region of the bone where the compression screw will be inserted.

Reduce the bones intended to be repaired by the screw.

Align the guide wire end of the drill guide in the direction of screw insertion. Feed the guide wire through the drill guide and advance it into the bone to the desired depth and position. (Figure 1)

Fluoroscopy should be used to ensure correct guide wire position, alignment, and depth.

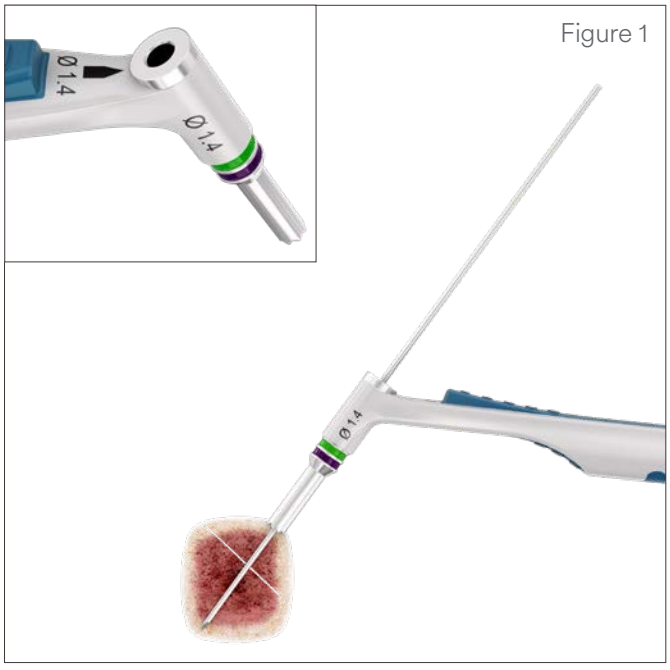


Figure 1

Figure 1. The Double Drill Guide drill and guide wire ends are distinguished by the diameter size callout, along with respective symbols.

■ Notes:

- If using the Tissue Protector, the Guide Wire Sleeve is inserted into the Tissue Protector to guide the guide wire. The Guide Wire Sleeve has press-fit tabs for sleeve retention during use. See **4.5/5.5/6.5/7.5 Instruments Section** for additional instructions.
- Cleaning the cannulation in each instrument is imperative for proper function. Instruments should be cleaned intraoperatively with a cleaning stylet to prevent accumulation of debris in the cannulation and potential binding of the instruments about the guide wire. Postoperatively, they should be cleaned with both a cleaning stylet and a cleaning brush.

Screw Length Determination

Table 2 – Guide Wire and Direct Measuring Device (DMD) Sizes

Screw Diameter	Guide Wires		Direct Measuring Device (DMD)	
Ø 2.0 mm ●	03.333.000 03.333.000S	0.8 mm Guide Wire/Trocar Tip/ 100 mm Length	03.333.500	Direct Measuring Device for 100 mm Wire
Ø 2.5 mm ● Ø 3.0 mm ●	03.333.001 03.333.001S	1.1 mm Guide Wire/Trocar Tip/ 150 mm Length	03.333.501	Direct Measuring Device for 150 mm Wire
Ø 3.5 mm ● Ø 4.0 mm ●	03.333.002 03.333.002S	1.4 mm Guide Wire/Trocar Tip/ 150 mm Length		
Ø 4.5 mm ● Ø 5.5 mm ●	03.333.003 03.333.003S	1.6 mm Guide Wire/Trocar Tip/ 220 mm Length	03.333.502	Direct Measuring Device for 220 mm Wire
Ø 6.5 mm ● Ø 7.5 mm ●	03.333.004 03.333.004S	2.8 mm Guide Wire/Fluted Tip/ 220 mm Length		

Select the correct direct measuring device (DMD) for the chosen screw diameter. (Table 2)

Slide the narrow end of the DMD over the guide wire and place it flush against the bone.

Record the measurement at the end of the guide wire to determine the depth of the guide wire in the bone. This depth should be used to determine the length of the corresponding screw. (Figure 2)

Selection of a shorter length screw may be appropriate if screw is being countersunk below the bone surface or a large fracture gap needs to be closed.

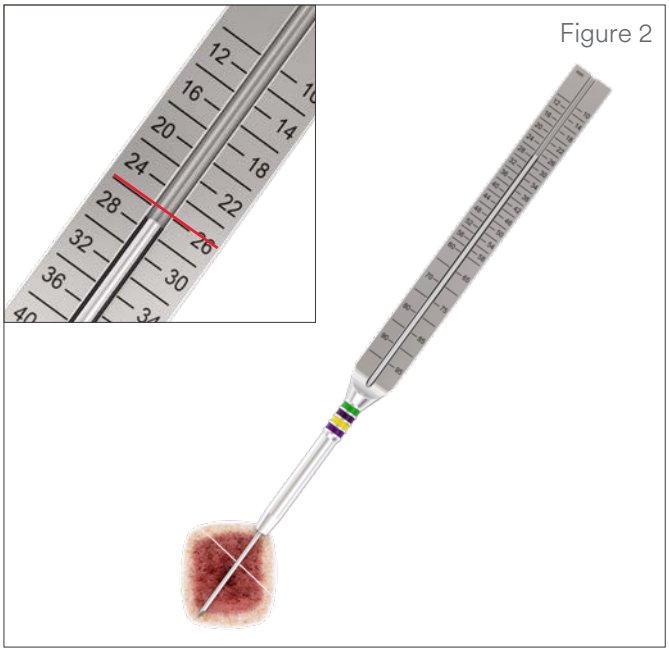


Figure 2

■ Notes:

- Subtract appropriately for any anticipated fracture reduction or interfragmentary compression resulting from screw insertion.
- The DMD can be directly inserted through the Tissue Protector, without the Tissue Protector Guide Wire Sleeve, to measure the guide wire depth. See **4.5/5.5/6.5/7.5 Instruments Section** for additional instructions.

Predrilling (Optional)

Table 3 – Guide Wire and Drill Guide Sizes

Screw Diameter	Guide Wires		Cannulated Drill Bit	
Ø 2.0 mm ●	03.333.000 03.333.000S	0.8 mm Guide Wire/Trocar Tip/ 100 mm Length	03.333.100 03.333.100S	Cannulated Drill Bit Ø 1.6 mm, for Quick Coupling
Ø 2.5 mm ● Ø 3.0 mm ●	03.333.001 03.333.001S	1.1 mm Guide Wire/Trocar Tip/ 150 mm Length	03.333.101 03.333.101S	Cannulated Drill Bit Ø 2.0 mm, for Quick Coupling
Ø 3.5 mm ● Ø 4.0 mm ●	03.333.002 03.333.002S	1.4 mm Guide Wire/Trocar Tip/ 150 mm Length	03.333.102 03.333.102S	Cannulated Drill Bit Ø 2.7 mm, for Quick Coupling
Ø 4.5 mm ● Ø 5.5 mm ●	03.333.003 03.333.003S	1.6 mm Guide Wire/Trocar Tip/ 220 mm Length	03.333.103 03.333.103S	Cannulated Drill Bit Ø 3.0 mm, for Quick Coupling
Ø 6.5 mm ● Ø 7.5 mm ●	03.333.004 03.333.004S	2.8 mm Guide Wire/Fluted Tip/ 220 mm Length	03.333.104 03.333.104S	Cannulated Drill Bit Ø 5.0 mm, for Large Quick Coupling

Choose the appropriate cannulated drill bit (Table 3).

Align the drill guide over the guide wire. Place the drill through the drill guide and over the wire, and drill to the desired depth. (Figure 3)

Utilize image intensification to ensure correct drill alignment and depth.. Back the drill out of the bone once the desired depth has been reached without removing the guide wire.

■ Notes:

- Drilling is optional due to the self-drilling, self-tapping features of the screws. For dense bone, pre-drilling may be required.
- Do not drill beyond the tip of the guide wire.

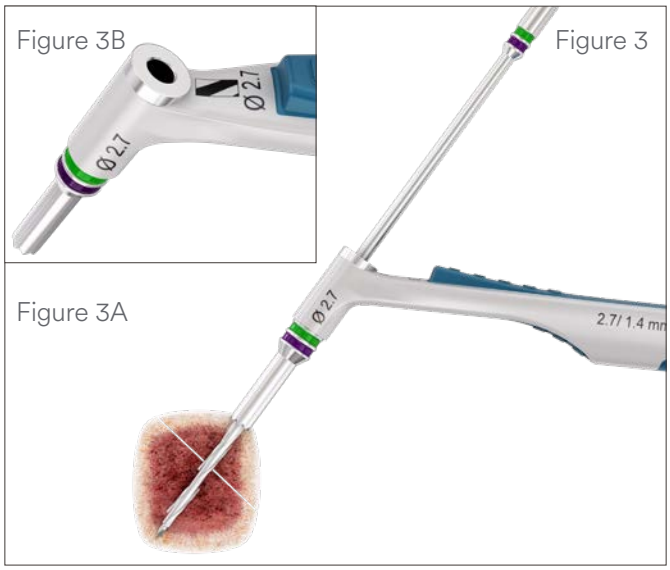


Figure 3. The Double Drill Guide drill bit side (Figure 3B) is distinguished by the diameter size callout, along with respective symbols.

Countersink (Optional)

Table 4 – Guide Wire and Countersink Sizes

Screw Diameter	Guide Wires		Countersink	
Ø 2.0 mm	03.333.000 03.333.000S	0.8 mm Guide Wire/Trocar Tip/ 100 mm Length	03.333.200 03.333.200S	Countersink for Ø 2.0 mm Screw, for Quick Coupling
Ø 2.5 mm Ø 3.0 mm	03.333.001 03.333.001S	1.1 mm Guide Wire/Trocar Tip/ 150 mm Length	03.333.201 03.333.201S	Countersink for Ø 2.5 mm and 3.0 mm Screw, for Quick Coupling
Ø 3.5 mm Ø 4.0 mm	03.333.002 03.333.002S	1.4 mm Guide Wire/Trocar Tip/ 150 mm Length	03.333.202 03.333.202S	Countersink for Ø 3.5 mm and 4.0 mm Screw, for Quick Coupling
Ø 4.5 mm Ø 5.5 mm	03.333.003 03.333.003S	1.6 mm Guide Wire/Trocar Tip/ 220 mm Length	03.333.203 03.333.203S	Countersink for Ø 4.5 mm and 5.5 mm Screw, for Quick Coupling
Ø 6.5 mm Ø 7.5 mm	03.333.004 03.333.004S	2.8 mm Guide Wire/Fluted Tip/ 220 mm Length	03.333.204 03.333.204S	Countersink for Ø 6.5 mm and 7.5 mm Screw, for Large Quick Coupling

Select the correct countersink for the chosen screw diameter. (Table 4)

Pass the countersink over the guide wire.

Advance the countersink tip into the bone by applying pressure and rotating the countersink construct clockwise to the desired depth.

The black line/laser etch (groove under fluoroscopy) on the countersink represents the height of the screw head. (Figure 4)

■ Note:

Countersinking is optional due to the self-drilling, self-tapping cutting flutes on the head of the screws and can be performed through the tissue protector. See **4.5/5.5/6.5/7.5 Instruments Section** for additional instructions.

Figure 4

Screw Insertion

Table 5 – Guide Wire, Driver, and Handle Sizes

Screw Diameter	Guide Wires		Cannulated Driver		Handle	
Ø 2.0 mm	03.333.000 03.333.000S	0.8 mm Guide Wire/Trocar Tip/ 100 mm Length	03.333.300	T6 Screwdriver Shaft/ Self-Retain/Cann	03.333.600	Small Screwdriver Handle/Cann/ Quick Coupling/ with Jeweler Cap
Ø 2.5 mm Ø 3.0 mm	03.333.001 03.333.001S	1.1 mm Guide Wire/Trocar Tip/ 150 mm Length	03.333.302	T8 Screwdriver Shaft/ Self-Retain/Cann		
Ø 3.5 mm Ø 4.0 mm	03.333.002 03.333.002S	1.4 mm Guide Wire/Trocar Tip/ 150 mm Length	03.333.304	T15 Screwdriver Shaft/ Self-Retain/Cann	03.333.601	Large Ratcheting Screwdriver Handle/Cann/ Quick Coupling
Ø 4.5 mm Ø 5.5 mm	03.333.003 03.333.003S	1.6 mm Guide Wire/Trocar Tip/ 220 mm Length				
Ø 6.5 mm Ø 7.5 mm	03.333.004 03.333.004S	2.8 mm Guide Wire/Fluted Tip/ 220 mm Length	03.333.305	T30 Screwdriver Shaft/ Self-Retain/Cann	03.333.602	Large Ratcheting Screwdriver Handle/Cann/ Large Quick Coupling

Select the correct cannulated driver and handle with appropriate coupling for the chosen screw diameter. (Table 5)

Pass the screw over the guide wire and advance the screw to the desired depth by rotating the driver clockwise. (Figure 5A and 5B)
The CCHS screw has a headless design that is intended to sit below the surface of the bone.

Compression is applied by rotating the driver clockwise until all distal threads have passed into the distal fragment. Compression cannot be achieved if screw threads do not fully cross the fracture gap.

Utilize image intensification to ensure correct positioning of the screw.

Remove the guide wire.

■ Note:

If screw insertion is performed using power, it is recommended that final seating be completed by hand.
A ¼ turn counterclockwise will aid in removal of screws from the screw rack.

Figure 5A

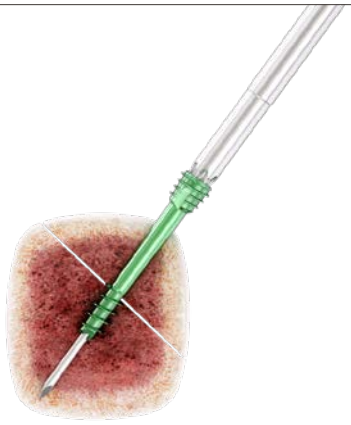
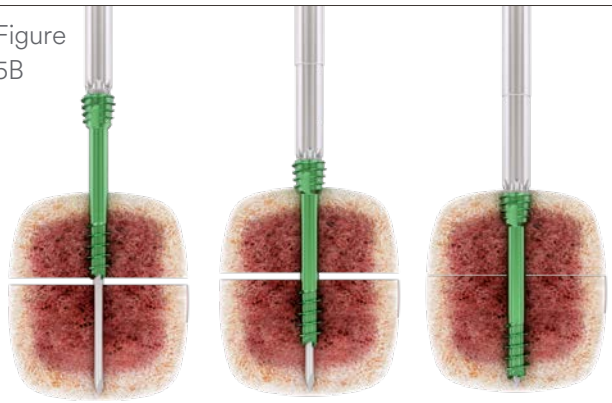


Figure 5B



Screw Removal

Table 6

Screw Diameter	Guide Wires		Screwdriver		Handle	
Ø 2.0 mm	03.333.000 03.333.000S	0.8 mm Guide Wire/Trocar Tip/ 100 mm Length	03.333.300	T6 Screwdriver Shaft/ Self-Retain/Cann	03.333.600	Small Screwdriver Handle/Cann/ Quick Coupling/ with Jeweler Cap
		1.1 mm Guide Wire/Trocar Tip/ 150 mm Length	03.333.301	T6 Screwdriver Shaft/ Self-Retain/Solid		
Ø 2.5 mm Ø 3.0 mm	03.333.001 03.333.001S	1.4 mm Guide Wire/Trocar Tip/ 150 mm Length	03.333.302	T8 Screwdriver Shaft/ Self-Retain/Cann		
		1.6 mm Guide Wire/Trocar Tip/ 220 mm Length	03.333.303	T8 Screwdriver Shaft/ Self-Retain/Solid		
Ø 3.5 mm Ø 4.0 mm	03.333.002 03.333.002S	2.8 mm Guide Wire/Fluted Tip/ 220 mm Length	03.333.304	T15 Screwdriver Shaft/ Self-Retain/Cann	03.333.601	Large Ratcheting Screwdriver Handle/Cann/ Quick Coupling
Ø 4.5 mm Ø 5.5 mm	03.333.003 03.333.003S	1.6 mm Guide Wire/ 220 mm Length				
Ø 6.5 mm Ø 7.5 mm	03.333.004 03.333.004S	2.8 mm Guide Wire/ 220 mm Length	03.333.305	T30 Screwdriver Shaft/ Self-Retain/Cann	03.333.602	Large Ratcheting Screwdriver Handle/Cann/ Large Quick Coupling

The screw may be removed by using the drivers indicated in Table 6.

Clear any tissue overgrowth from the screw head recess. Insert the driver and turn counterclockwise.

If alignment is difficult, a guide wire may be inserted through the screw cannula to facilitate driver alignment. In this case the cannulated driver must be used.

■ Note:

In case of difficult removal circumstances, a Screw Extraction Set (036.000.917) is available with corresponding instructions.

Large Quick Coupling

■ Note:

The Large Quick Coupling Male Coupling contains a feature compatible with a Jacob's Chuck. (Figure 6A)

Figure 6A

Tissue Protectors

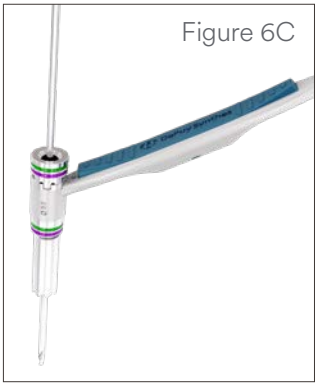
The 4.5/5.5/6.5/7.5 sets may contain a tissue protector and corresponding guide wire sleeve. The guide wire sleeve fits inside the large sleeve of the tissue protector. (Figure 6B)

The guide wire sleeve has press-fit tabs for sleeve retention during use. Once the guide wire is inserted through the guide wire sleeve, the sleeve should be removed from the tissue protector. (Figure 6C)

All subsequent steps can be performed through the sleeve of the tissue protector (measuring guide wire length, drilling, countersinking, and screw insertion).

Figure 6B

Figure 6C

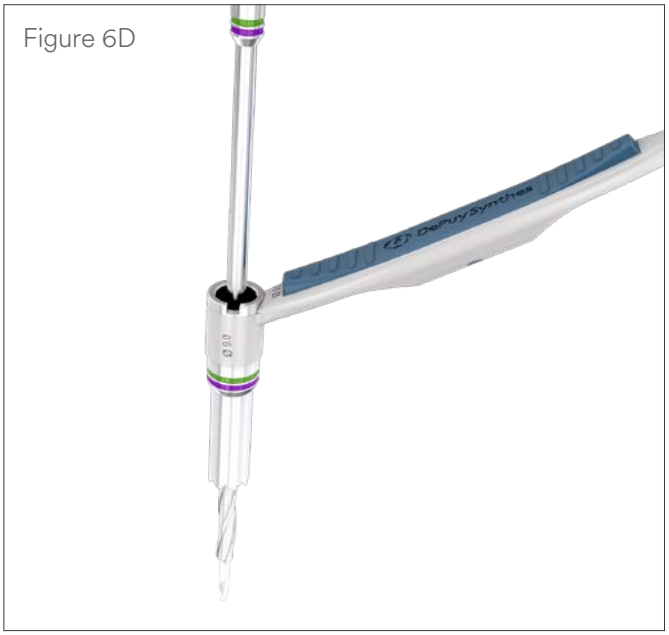


Drills through Tissue Protectors

■ Notes:

- Prior to drilling, leave the guide wire in place and remove the tissue protector guide wire sleeve. (Figure 6D)
- For the 5.0 mm drill (03.333.104), to achieve a drill depth of 105 mm or longer, the Jacob's chuck must be utilized when drilling through the tissue protector.
- The 5.0 drill can drill up to 134 mm through the tissue protector.

Figure 6D



Countersinks

■ Note:

When countersinking through the tissue protector, the laser etch band in relationship with the top of the tissue protector indicates the height of the screw head. (Figure 7A)

Figure 7A

Handles

■ Note:

The Large Quick Connect Handle has a laser mark for alignment to the groove flat on the instrument. (Figure 7B)

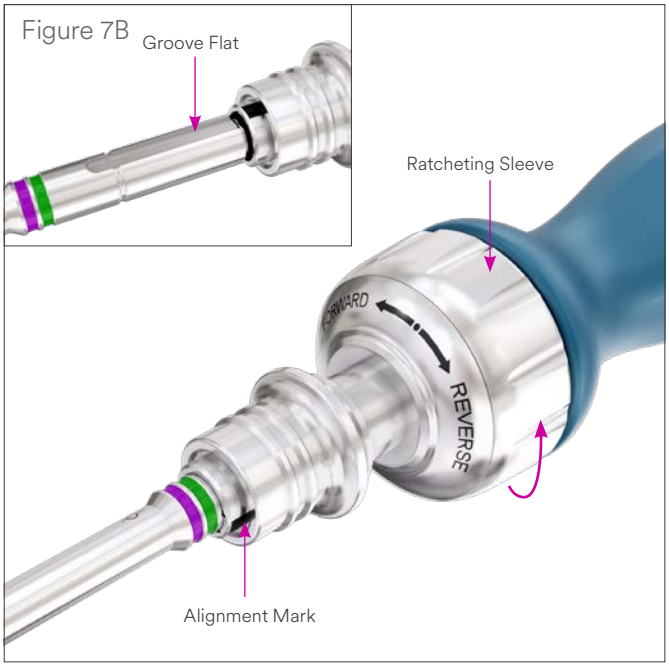


Figure 7B

Adapter/Quick Coupling for Small Air Drill (338.49/338.490)

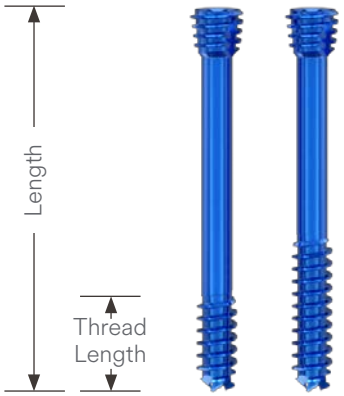
■ Note:

The Large Quick Coupling is a solid instrument and only compatible for use with screws 70 mm in length or longer. (Figure 8)

Figure 8

Implants

Screw – Ø 2.0 mm



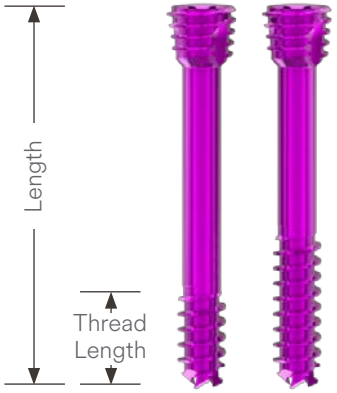
Length (mm)	Short Thread Part Number	Thread Length (mm)	Long Thread Part Number	Thread Length (mm)
10	04.333.010	4	N/A	
12	04.333.012	4		
14	04.333.014	4		
16	04.333.016	4		
18	04.333.018	5		
20	04.333.020	5	04.334.020	8
22	04.333.022	6	04.334.022	9
24	04.333.024	6	04.334.024	10
26	04.333.026	7	04.334.026	10
28	04.333.028	7	04.334.028	11
30	04.333.030	8	04.334.030	12
32	04.333.032TS	8	04.334.032TS	13
34	04.333.034TS	9	04.334.034TS	14
36	04.333.036TS	9	04.334.036TS	14
38	04.333.038TS	10	04.334.038TS	15
40	04.333.040TS	10	04.334.040TS	16

Sterile Packed Only

Thread Length
Short Thread: approx. 25% Total Length or 4 mm
Long Thread: approx. 40% Total Length

Implants are also available packed in sterile tubes. Add suffix “TS” to part number.
Sterile part availability might be different depending on the country or region.

Screw – Ø 2.5 mm



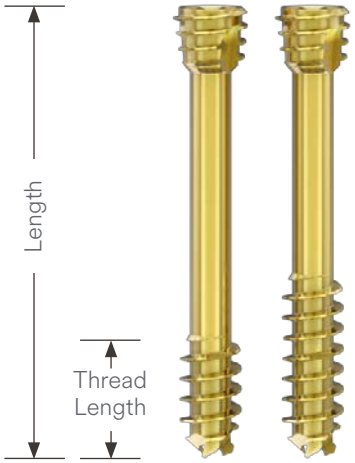
Length (mm)	Short Thread Part Number	Thread Length (mm)	Long Thread Part Number	Thread Length (mm)
10	04.333.110	4	N/A	
12	04.333.112	4		
14	04.333.114	4		
16	04.333.116	4		
18	04.333.118	5		
20	04.333.120	5	04.334.120	8
22	04.333.122	6	04.334.122	9
24	04.333.124	6	04.334.124	10
26	04.333.126	7	04.334.126	10
28	04.333.128	7	04.334.128	11
30	04.333.130	8	04.334.130	12
32	04.333.132	8	04.334.132	13
34	04.333.134	9	04.334.134	14
36	04.333.136	9	04.334.136	14
38	04.333.138	10	04.334.138	15
40	04.333.140	10	04.334.140	16
42	N/A		04.334.142TS	17
44			04.334.144TS	18
46			04.334.146TS	18
48			04.334.148TS	19
50			04.334.150TS	20
52			04.334.152TS	21
54			04.334.154TS	22

Sterile Packed Only

Thread Length
Short Thread: approx. 25% Total Length or 4 mm
Long Thread: approx. 40% Total Length

Implants are also available packed in sterile tubes. Add suffix “TS” to part number.
Sterile part availability might be different depending on the country or region.

Screw – Ø 3.0 mm



Length (mm)	Short Thread Part Number	Thread Length (mm)	Long Thread Part Number	Thread Length (mm)
10	04.333.210	4	N/A	
12	04.333.212	4		
14	04.333.214	4		
16	04.333.216	4		
18	04.333.218	5		
20	04.333.220	5	04.334.220	8
22	04.333.222	6	04.334.222	9
24	04.333.224	6	04.334.224	10
26	04.333.226	7	04.334.226	10
28	04.333.228	7	04.334.228	11
30	04.333.230	8	04.334.230	12
32	04.333.232	8	04.334.232	13
34	04.333.234	9	04.334.234	14
36	04.333.236	9	04.334.236	14
38	04.333.238	10	04.334.238	15
40	04.333.240	10	04.334.240	16
42	04.333.242TS	11	04.334.242TS	17
44	04.333.244TS	11	04.334.244TS	18
46	04.333.246TS	12	04.334.246TS	18
48	04.333.248TS	12	04.334.248TS	19
50	04.333.250TS	13	04.334.250TS	20
52	04.333.252TS	13	04.334.252TS	21
54	04.333.254TS	14	04.334.254TS	22

Sterile Packed Only

Thread Length
Short Thread: approx. 25% Total Length or 4 mm
Long Thread: approx. 40% Total Length

Implants are also available packed in sterile tubes. Add suffix “TS” to part number.
Sterile part availability might be different depending on the country or region.

Screw – Ø 3.5 mm

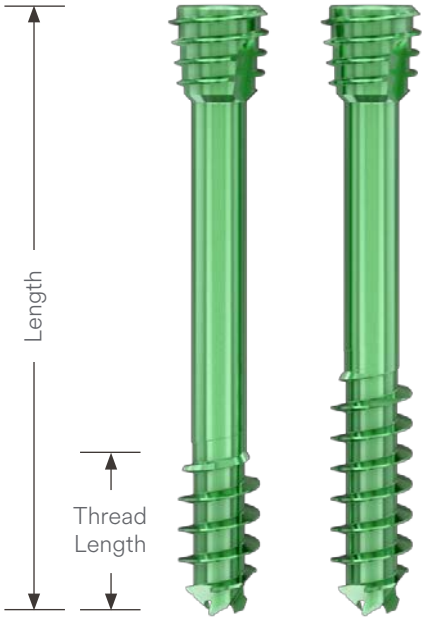
Length (mm)	Short Thread Part Number	Thread Length (mm)	Long Thread Part Number	Thread Length (mm)
14	04.333.314	4	N/A	
16	04.333.316	4		
18	04.333.318	5		
20	04.333.320	5		
22	04.333.322	6		
24	04.333.324	6	04.334.324	10
26	04.333.326	7	04.334.326	10
28	04.333.328	7	04.334.328	11
30	04.333.330	8	04.334.330	12
32	04.333.332	8	04.334.332	13
34	04.333.334	9	04.334.334	14
36	04.333.336	9	04.334.336	14
38	04.333.338	10	04.334.338	15
40	04.333.340	10	04.334.340	16
42	04.333.342	11	04.334.342	17
44	04.333.344	11	04.334.344	18
46	04.333.346	12	04.334.346	18
48	04.333.348	12	04.334.348	19
50	04.333.350	13	04.334.350	20
52	04.333.352	13	04.334.352	21
54	04.333.354	14	04.334.354	22
56	04.333.356	14	04.334.356	22
58	04.333.358	15	04.334.358	23
60	04.333.360	15	04.334.360	24
65	04.333.365S	16	04.334.365S	26
70	04.333.370S	18	04.334.370S	28
75	04.333.375S	19	04.334.375S	30

Sterile Packed Only

Implants are also available sterile packaged.
Add suffix “TS” to part number for length up to 56 mm for packaging in sterile tube and suffix “S” to part number with length longer than 56mm for packaging in peel pouches.
Sterile part availability might be different depending on the country or region.

Thread Length
Short Thread: approx. 25% Total Length or 4 mm
Long Thread: approx. 40% Total Length

Screw – Ø 4.0 mm



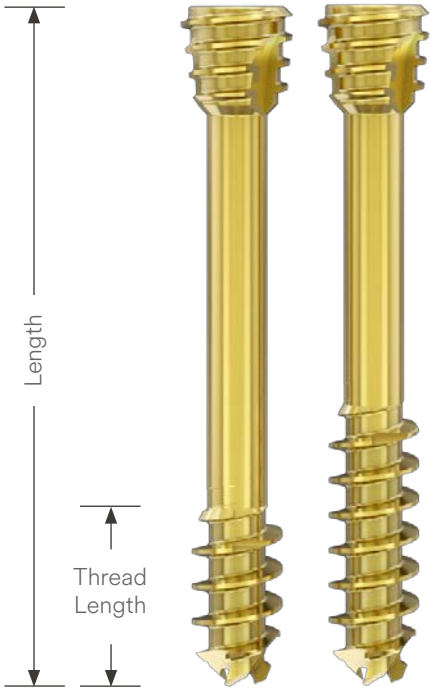
Length (mm)	Short Thread Part Number	Thread Length (mm)	Long Thread Part Number	Thread Length (mm)
14	04.333.414	5	N/A	
16	04.333.416	5		
18	04.333.418	5		
20	04.333.420	5		
22	04.333.422	6		
24	04.333.424	6	04.334.424	10
26	04.333.426	7	04.334.426	10
28	04.333.428	7	04.334.428	11
30	04.333.430	8	04.334.430	12
32	04.333.432	8	04.334.432	13
34	04.333.434	9	04.334.434	14
36	04.333.436	9	04.334.436	14
38	04.333.438	10	04.334.438	15
40	04.333.440	10	04.334.440	16
42	04.333.442	11	04.334.442	17
44	04.333.444	11	04.334.444	18
46	04.333.446	12	04.334.446	18
48	04.333.448	12	04.334.448	19
50	04.333.450	13	04.334.450	20
52	04.333.452	13	04.334.452	21
54	04.333.454	14	04.334.454	22
56	04.333.456	14	04.334.456	22
58	04.333.458	15	04.334.458	23
60	04.333.460	15	04.334.460	24
65	04.333.465S	16	04.334.465S	26
70	04.333.470S	18	04.334.470S	28
75	04.333.475S	19	04.334.475S	30

Sterile Packed Only

Implants are also available sterile packaged. Add suffix “TS” to part number for length up to 56 mm for packaging in sterile tube and suffix “S” to part number with length longer than 56mm for packaging in peel pouches.
Sterile part availability might be different depending on the country or region.

Thread Length
Short Thread: approx. 25% Total Length or 5 mm
Long Thread: approx. 40% Total Length

Screw – Ø 4.5 mm



Length (mm)	Short Thread Part Number	Thread Length (mm)	Long Thread Part Number	Thread Length (mm)
20	04.333.520	8	N/A	
22	04.333.522	8		
24	04.333.524	8		
26	04.333.526	8		
28	04.333.528	8		
30	04.333.530	8	04.334.530	12
32	04.333.532	8	04.334.532	13
34	04.333.534	9	04.334.534	14
36	04.333.536	9	04.334.536	14
38	04.333.538	10	04.334.538	15
40	04.333.540	10	04.334.540	16
42	04.333.542	11	04.334.542	17
44	04.333.544	11	04.334.544	18
46	04.333.546	12	04.334.546	18
48	04.333.548	12	04.334.548	19
50	04.333.550	13	04.334.550	20
55	04.333.555	14	04.334.555	22
60	04.333.560	15	04.334.560	24
65	04.333.565	16	04.334.565	26
70	04.333.570	18	04.334.570	28
75	04.333.575	19	04.334.575	30
80	04.333.580	20	04.334.580	32
85	04.333.585	21	04.334.585	34
90	04.333.590	23	04.334.590	36
95	04.333.595	24	04.334.595	38
100	04.333.500	25	04.334.500	40
105	04.333.501	26	04.334.501	42
110	04.333.502	28	04.334.502	44

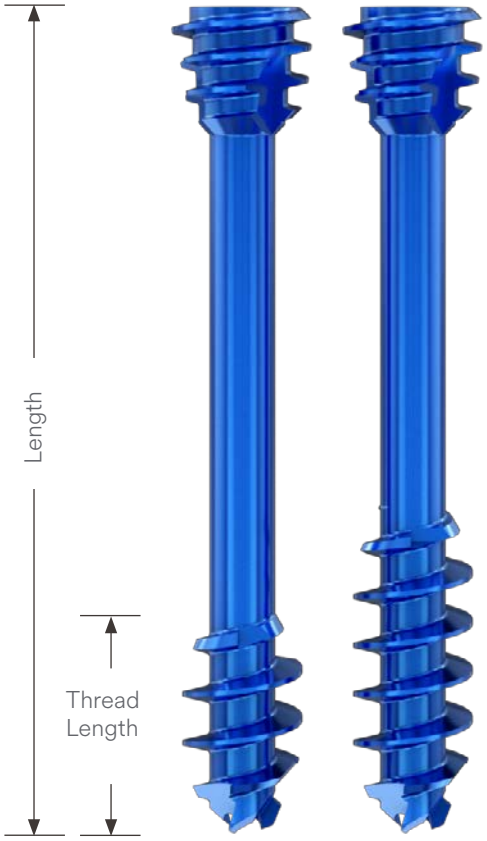
Thread Length

Short Thread: approx. 25% Total Length or 8 mm

Long Thread: approx. 40% Total Length

Implants are also available sterile packaged. Add suffix “S” to part number for packaging in peel pouch. Sterile part availability might be different depending on the country or region.

Screw – Ø 5.5 mm



Length (mm)	Short Thread Part Number	Thread Length (mm)	Long Thread Part Number	Thread Length (mm)
20	04.333.620	8	N/A	
22	04.333.622	8		
24	04.333.624	8		
26	04.333.626	8		
28	04.333.628	8		
30	04.333.630	8	04.334.630	12
32	04.333.632	8	04.334.632	13
34	04.333.634	9	04.334.634	14
36	04.333.636	9	04.334.636	14
38	04.333.638	10	04.334.638	15
40	04.333.640	10	04.334.640	16
42	04.333.642	11	04.334.642	17
44	04.333.644	11	04.334.644	18
46	04.333.646	12	04.334.646	18
48	04.333.648	12	04.334.648	19
50	04.333.650	13	04.334.650	20
55	04.333.655	14	04.334.655	22
60	04.333.660	15	04.334.660	24
65	04.333.665	16	04.334.665	26
70	04.333.670	18	04.334.670	28
75	04.333.675	19	04.334.675	30
80	04.333.680	20	04.334.680	32
85	04.333.685	21	04.334.685	34
90	04.333.690	23	04.334.690	36
95	04.333.695	24	04.334.695	38
100	04.333.600	25	04.334.600	40
105	04.333.601	26	04.334.601	42
110	04.333.602	28	04.334.602	44
115	04.333.603S	29	04.334.603S	46
120	04.333.604S	30	04.334.604S	48
125	04.333.605S	31	04.334.605S	50

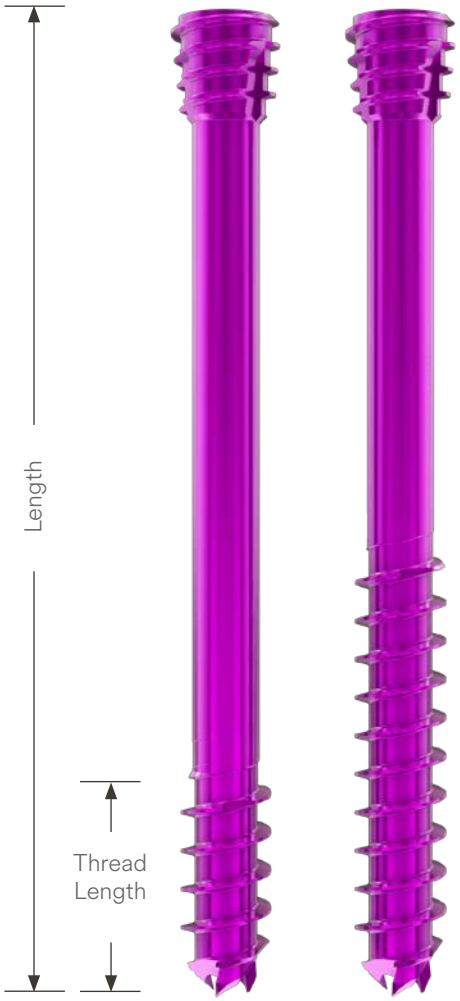
Sterile Packed Only

Thread Length

Short Thread: approx. 25% Total Length or 8 mm
Long Thread: approx. 40% Total Length

Implants are also available sterile packaged. Add suffix "S" to part number for packaging in peel pouch. Sterile part availability might be different depending on the country or region.

Screw – Ø 6.5 mm

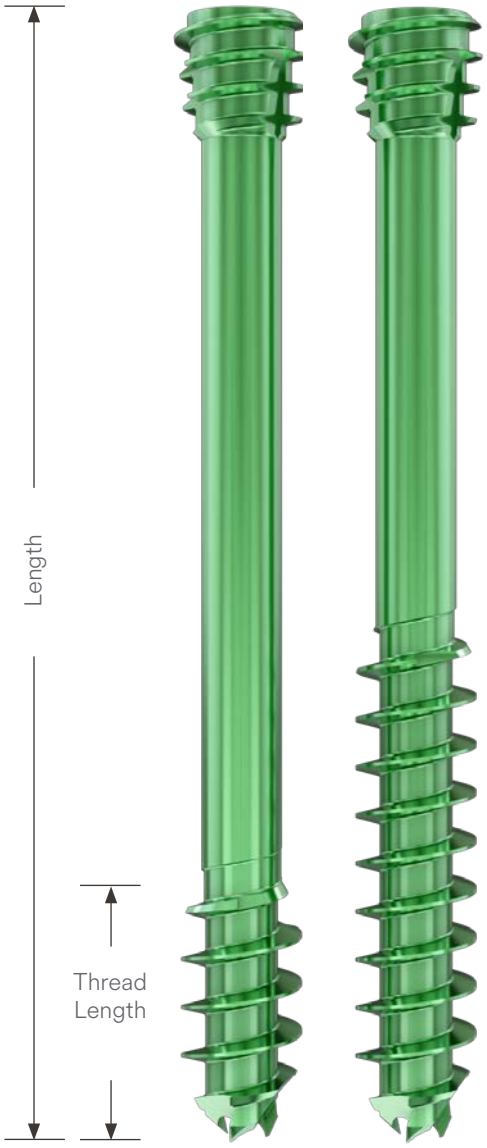


Length (mm)	Short Thread Part Number	Thread Length (mm)	Long Thread Part Number	Thread Length (mm)
30	04.333.730	16	N/A	
35	04.333.735	16		
40	04.333.740	16		
45	04.333.745	16	04.334.745	32
50	04.333.750	16	04.334.750	32
55	04.333.755	16	04.334.755	32
60	04.333.760	16	04.334.760	32
65	04.333.765	16	04.334.765	32
70	04.333.770	16	04.334.770	32
75	04.333.775	16	04.334.775	32
80	04.333.780	16	04.334.780	32
85	04.333.785	16	04.334.785	32
90	04.333.790	16	04.334.790	32
95	04.333.795	16	04.334.795	32
100	04.333.700	16	04.334.700	32
105	04.333.701	16	04.334.701	32
110	04.333.702	16	04.334.702	32
115	04.333.703	16	04.334.703	32
120	04.333.704	16	04.334.704	32
125	04.333.705	16	04.334.705	32
130	04.333.706	16	04.334.706	32
135	04.333.707S	16	04.334.707S	32
140	04.333.708S	16	04.334.708S	32
145	04.333.709S	16	04.334.709S	32
150	04.333.710S	16	04.334.710S	32

Sterile Packed Only

Implants are also available sterile packaged. Add suffix “S” to part number for packaging in peel pouch. Sterile part availability might be different depending on the country or region.

Screw – Ø 7.5 mm



Length (mm)	Short Thread Part Number	Thread Length (mm)	Long Thread Part Number	Thread Length (mm)
30	04.333.830	16	N/A	
35	04.333.835	16		
40	04.333.840	16		
45	04.333.845	16	04.334.845	32
50	04.333.850	16	04.334.850	32
55	04.333.855	16	04.334.855	32
60	04.333.860	16	04.334.860	32
65	04.333.865	16	04.334.865	32
70	04.333.870	16	04.334.870	32
75	04.333.875	16	04.334.875	32
80	04.333.880	16	04.334.880	32
85	04.333.885	16	04.334.885	32
90	04.333.890	16	04.334.890	32
95	04.333.895	16	04.334.895	32
100	04.333.800	16	04.334.800	32
105	04.333.801	16	04.334.801	32
110	04.333.802	16	04.334.802	32
115	04.333.803	16	04.334.803	32
120	04.333.804	16	04.334.804	32
125	04.333.805	16	04.334.805	32
130	04.333.806	16	04.334.806	32
135	04.333.807	16	04.334.807	32
140	04.333.808	16	04.334.808	32
145	04.333.809S	16	04.334.809S	32
150	04.333.810S	16	04.334.810S	32

Sterile Packed Only

Implants are also available sterile packaged. Add suffix “S” to part number for packaging in peel pouch. Sterile part availability might be different depending on the country or region.

Instruments

Instruments for 2.0 mm Screws

03.333.000 Guide Wire Ø 0.8 mm, Length 100 mm,
03.333.000.01S* Trocar Tip

03.333.500 Direct Measuring Device,
for 100 mm Wire

03.333.400 Double Drill Guide, for Ø 1.6 mm Drill Bit
and Ø 0.8 mm Guide Wire

03.333.100 Cannulated Drill Bit Ø 1.6 mm,
03.333.100S* Length 95 mm, for Quick Coupling

03.333.200 Cannulated Countersink for Ø 2.0 mm
03.333.200S* Cannulated Headless Screw, for
Quick Coupling

03.333.300 T6 Cannulated Stardrive Screwdriver
Shaft, Self-Retaining

03.333.600 Cannulated Screwdriver Handle with
Jewelers Cap/Quick Coupling

*Part numbers with a trailing 'S' designate the sterile part number.
Sterile part availability might be different depending on the country or region.

Optional Instruments for 2.0 mm Screws

03.333.301	T6 Stardrive Screwdriver Shaft, Self-Retaining, Solid	
319.97 319.970	Screw Forceps, Self-Holding, Length 85 mm	
319.289	1.0 mm Cleaning Brush	
319.293	0.8 mm Cleaning Stylet	
319.39 319.390	Sharp Hook, Length 155 mm	

Instruments for 2.5/3.0 mm Screws

03.333.001 03.333.001.01S*	Guide Wire Ø 1.1 mm, Length 150 mm, Trocar Tip	
03.333.501	Direct Measuring Device, for 150 mm Wire	
03.333.401	Double Drill Guide, for Ø 2.0 mm Drill Bit and Ø 1.1 mm Guide Wire	
03.333.101 03.333.101S*	Cannulated Drill Bit Ø 2.0 mm, Length 145 mm, for Quick Coupling	
03.333.201 03.333.201S*	Cannulated Countersink for Ø 2.5 mm and 3.5 mm Cannulated Headless Screw, for Quick Coupling	
03.333.302	T8 Cannulated Stardrive Screwdriver Shaft, Self-Retaining	
03.333.600	Cannulated Screwdriver Handle with Jewelers Cap/Quick Coupling	

*Part numbers with a trailing 'S' designate the sterile part number.
Sterile part availability might be different depending on the country or region.

Optional Instruments for 2.5/3.0 mm Screws

03.333.303	T8 Stardrive Screwdriver Shaft, Self-Retaining, Solid	
319.97 319.970	Screw Forceps, Self-Holding, Length 85 mm	
319.291	1.25 mm Cleaning Brush	
319.292	1.1 mm Cleaning Stylet	
319.39 319.390	Sharp Hook, Length 155 mm	

Instruments for 3.5/4.0 mm Screws

03.333.002 03.333.002.01S*	Guide Wire Ø 1.4 mm, Length 150 mm, Trocar Tip	
03.333.501	Direct Measuring Device, for 150 mm Wire	
03.333.402	Double Drill Guide, for Ø 2.7 mm Drill Bit and Ø 1.4 mm Guide Wire	
03.333.102 03.333.102S*	Cannulated Drill Bit Ø 2.7 mm, Length 145 mm, for Quick Coupling	
03.333.202 03.333.202S*	Cannulated Countersink for Ø 3.5 mm and 4.0 mm Cannulated Headless Screw, for Quick Coupling	
03.333.304	T15 Cannulated Stardrive Screwdriver Shaft, Self-Retaining	
03.333.601	Cannulated Screwdriver Handle with Ratchet Quick Coupling	

*Part numbers with a trailing 'S' designate the sterile part number.
Sterile part availability might be different depending on the country or region.

Optional Instruments for 3.5/4.0 mm Screws

319.97 319.970	Screw Forceps, Self-Holding, Length 85 mm	
319.25 319.250	1.35 mm Cleaning Brush	
319.38 318.380	1.25 mm Cleaning Stylet	
319.39 319.390	Sharp Hook, Length 155 mm	

Instruments for 4.5/5.5 mm Screws

03.333.003 03.333.003.01S*	Guide Wire Ø 1.6 mm, Length 220 mm, Trocar Tip	
03.333.502	Direct Measuring Device, for 220 mm Wire	
03.333.403	Double Drill Guide, for Ø 3.0 mm Drill Bit and Ø 1.6 mm Guide Wire	
03.333.103 03.333.103S*	Cannulated Drill Bit Ø 3.0 mm, Length 215 mm, for Quick Coupling	
03.333.203 03.333.203S*	Cannulated Countersink for Ø 4.5 mm and 5.5 mm Cannulated Headless Screw, for Quick Coupling	
03.333.304	T15 Cannulated Stardrive Screwdriver Shaft, Self-Retaining	
03.333.601	Cannulated Screwdriver Handle with Ratchet Quick Coupling	

*Part numbers with a trailing 'S' designate the sterile part number.
Sterile part availability might be different depending on the country or region.

Instruments for 4.5/5.5 mm Screws

03.333.700	9.5 mm/7.5 mm Tissue Protector	
03.333.701	7.5 mm/1.6 mm Guide Wire Sleeve	

Optional Instruments for 4.5/5.5 mm Screws

319.97 319.970	Screw Forceps, Self-Holding, Length 85 mm	
319.26 319.260	1.75 mm Cleaning Brush	
319.35 319.350	1.6 mm Cleaning Stylet	
319.39 319.390	Sharp Hook, Length 155 mm	

Instruments for 6.5/7.5 mm Screws

03.333.004 03.333.004.01S*	Guide Wire Ø 2.8 mm, Length 220 mm, Fluted Tip	
03.333.502	Direct Measuring Device, for 220 mm Wire	
03.333.404	Double Drill Guide, for Ø 5.0 mm Drill Bit and Ø 2.8 mm Guide Wire	
03.333.104 03.333.104S*	Cannulated Drill Bit Ø 5.0 mm, Length 215 mm, for Large Quick Coupling	
03.333.204 03.333.204S*	Cannulated Countersink for Ø 6.5 mm and 7.5 mm Cannulated Headless Screw, for Large Quick Coupling	
03.333.305	T30 Cannulated Stardrive Screwdriver Shaft, Self-Retaining	
03.333.602	Cannulated Screwdriver Handle with Ratchet Large Quick Coupling	

*Part numbers with a trailing 'S' designate the sterile part number.
Sterile part availability might be different depending on the country or region.

Instruments for 6.5/7.5 mm Screws

03.333.702	11.0 mm/9.0 mm Tissue Protector	
03.333.703	9.0 mm/2.8 mm Guide Wire Sleeve	
338.49 338.490	Large Quick Coupling	

Optional Instruments for 6.5/7.5 mm Screws

319.97 319.970	Screw Forceps, Self-Holding, Length 85 mm	
319.24 319.240	2.9 mm Cleaning Brush	
319.46 319.460	2.8 mm Cleaning Stylet	
319.39 319.390	Sharp Hook, Length 155 mm	

Set Lists – Non-Sterile Implants

Instrument and Implant Set – CCHS Small, with QIS (01.333.001)

Instruments, Implants and Storage solution for:
2.0 CCHS/QIS
2.5/3.0 CCHS
3.5/4.0 CCHS

Implant Set – CCHS Small Upgrade Screws (01.333.002)

Additional Implant Lengths for 2.0/2.5/3.0/3.5/4.0 Screws

Instrument and Implant Set – CCHS Small Upper Extremity (01.333.101)

Instruments, Implants and Storage solution for:
2.0 CCHS
2.5/3.0 CCHS
3.5/4.0 CCHS

Instrument and Implant Set – CCHS Large (01.333.003)

Instruments, Implants and Storage solution for:
4.5/5.5 CCHS
6.5/7.5 CCHS

Implant Set – Large Upgrade (01.333.004)

Additional Implant Lengths for 4.5/5.5/6.5/7.5 Screws

MRI Information

Non-clinical testing has demonstrated the DePuy Synthes Screws are MR Conditional. A patient with these devices can be safely scanned in an MRI system meeting the following conditions:

- Static magnetic field of 3.0 T or 1.5 T
- Maximum spatial field gradient of 1900 gauss/cm (19 T/m)
- Maximum MRI system reported, whole body averaged specific absorption rate (SAR) of 1.0 W/kg

Under the scan conditions defined above, non-clinical testing results indicate the DePuy Synthes Screws are expected to produce a maximum temperature rise of 8 °C after 10 minutes of continuous scanning.

In non-clinical testing, the image artifact caused by the device extends approximately 20 mm from the DePuy Synthes Screw when imaged with a gradient echo pulse sequence and a 3.0 T MRI system.

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Some devices listed in this technique guide may not have been licensed in accordance with Canadian law and may not be for sale in Canada. Please contact your sales consultant for items approved for sale in Canada.

Not all products may currently available in all markets. Data available on request. Please contact your DePuy Synthes Representative for more information.
Please refer to the instruction for use for a complete list of indications, contraindications, warnings and precautions.
The Cannulated Compression Headless Screw (CCHS) Instruction for Use is available at cchs.info.
All surgical techniques are available as PDF files at www.depuysynthes.com

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