

# Spine

The Next Generation in Minimally Invasive Spine Treatment

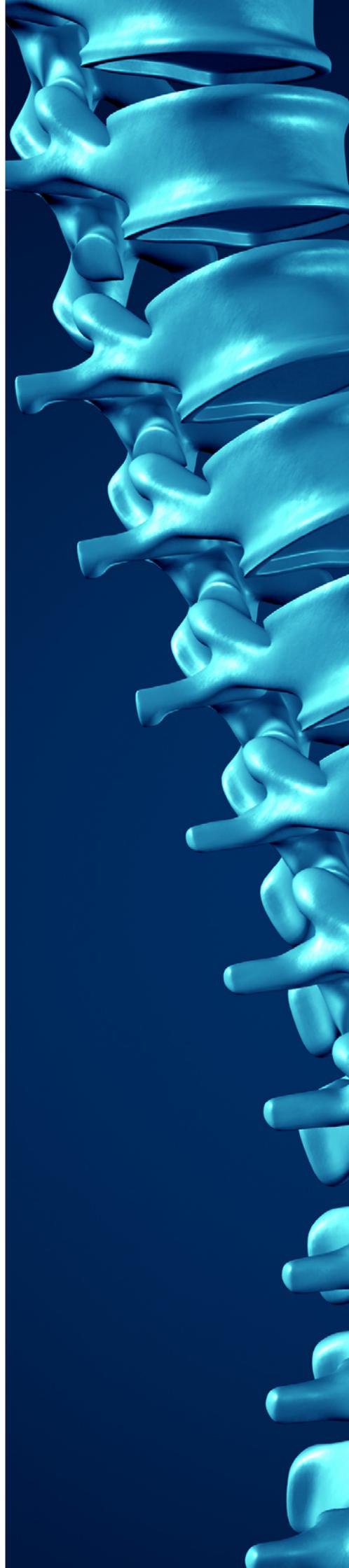


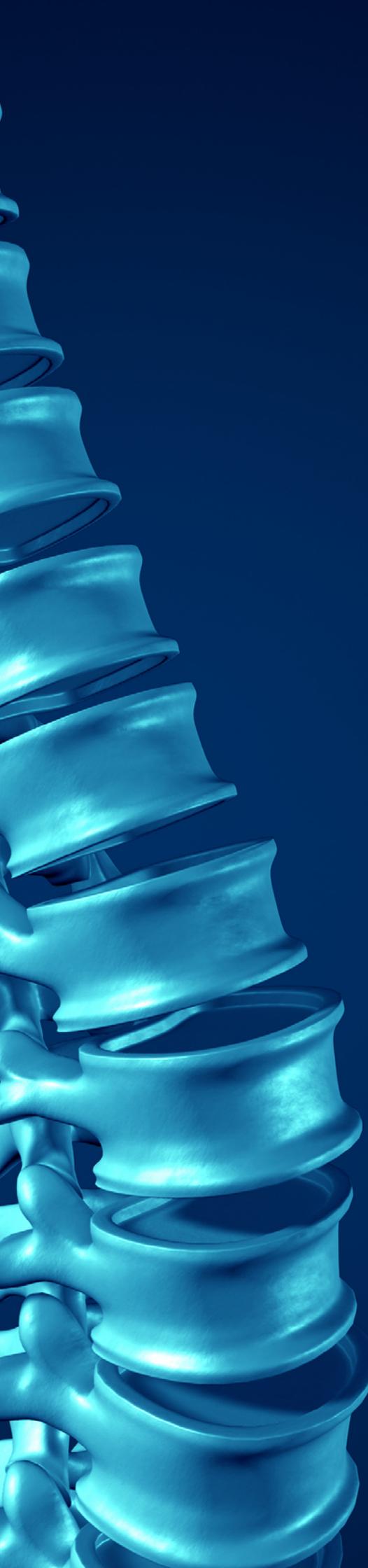
## Helping Surgeons Treat Their Patients Better®

Since its inception, Arthrex has been committed to one mission: Helping Surgeons Treat Their Patients Better. We are strategically focused on constant product innovation through scientific research, surgeon collaboration, and medical education to make less invasive surgical procedures simple, safer, and more reproducible. Each year, we develop more than 1,000 new innovative products and procedures to advance minimally invasive orthopedics worldwide.

Arthrex has always remained a privately held company, which allows for the rapid evaluation of new technologies and ideas and the freedom to develop products and techniques that truly make a difference. Our experienced team of dedicated professionals represents a shared passion and commitment to delivering uncompromising quality to the health care providers who use our products and the millions of patients whose lives we impact.

The medical significance of our contributions serves as our primary benchmark of success and will continue into the future as the legacy of Arthrex.





## Introduction to Endoscopic Approaches in Spine

As a global leader in sports medicine and surgical education, Arthrex continually strives to provide surgeons and patients with groundbreaking ultra-minimally invasive and motion-preserving procedures. Innovation in the medical device industry is largely driven by manufacturers. As a privately held company, we are uniquely positioned to rapidly develop new technologies and advance truly minimally invasive procedures that prioritize surgeon needs and patient outcomes.

Limited nonpermanent options for back pain mean patients must often undergo frequent treatments and invasive procedures that result in limited motion, damage to soft-tissue anatomies, and unsightly scars. Put simply, there is a gap in today's continuum of care between conservative treatment and maximally invasive surgical procedures. Arthrex seeks to bridge that gap by leveraging our more than 40 years of expertise in orthopedics in the spine space, with endoscopic surgical approaches and orthobiologic innovations designed to help spare soft tissue, preserve motion, and provide the best possible outcomes for patients.

World-class medical education offerings for health care professionals and administrators help make less-invasive surgery simpler, safer, and more reproducible. Our endoscopic spine-specific surgical curriculum pathway includes individualized and expert faculty instruction and immersive, hands-on training in our dedicated spine lab as well as practice support, all designed to set surgeons and facilities up for success in endoscopic approaches to the spine.

We develop our products and procedures with an unwavering dedication to constant innovation, unmatched provider education, and world-class scientific research. Together, we can expand your treatment offerings, maximize your practice efficiency, and help make active lifestyles a reality for millions of patients.



# Synergy<sup>Resection</sup> System

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## Synergy<sup>Resection</sup> Console



This versatile Synergy<sup>Resection</sup> system was designed for multiple orthopedic procedures and operates like 2 consoles in 1 chassis. It can simultaneously operate 2 accessory handpieces completely independent of each other. Operators can also use 1 or 2 foot pedals to control each of the accessory handpieces. Shaver handpieces offer 3 oscillating modes depending on the application or surgeon's preference: standard, efficient, or aggressive.

Integration of the Synergy<sup>Resection</sup> console with a Synergy video management system enables the heads-up display feature and allows for easy visibility of the shaver system settings on the monitor.

- › Multifunctional shaver system
- › Operation of 2 handpieces simultaneously
- › Automatic detection of handpiece
- › Control via 1 or 2 foot pedals
- › 3 different oscillating modes: standard, efficient, aggressive
- › OSC: 3000 rpm max
- › FWD/REV: 8000 rpm max

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Synergy<sup>Resection</sup> console

AR-8305

# Handpieces



The Arthrex double-sealed shaver handpieces are robust and reliable with a light ergonomic feel and come with or without button control options. These high-speed, high-torque handpieces feature a snap-lock collet that accepts standard, hip-length, and small joint blades and burs, making them some of the most versatile handpieces available.

## Hand-Control Shaver Handpieces

Featuring ergonomic multifunction buttons that place control of speed and direction at your fingertips, the hand-control shaver handpieces are available in standard and backhand models.

## Foot-Control Shaver Handpiece

With the same lightweight, high-performance features as our hand-operated handpieces, the footswitch shaver handpiece provides another option for control.

Shaver handpiece, hand control <b>(a)</b>	AR-8332H
Shaver handpiece, hand control, backhand <b>(b)</b>	AR-8332RH
Shaver handpiece, footswitch control <b>(c)</b>	AR-8330F
Replacement valve assembly for AR-8330F, AR-8330H, AR-8330RH, AR-8332H, and AR-8332RH handpieces <b>(d)</b>	AR-8330V
Replacement O-rings for AR-8330V valve assembly (pack of 10) <b>(e)</b>	AR-8330VO
Replacement O-rings for F-style soaker cap (pack of 5) <b>(f)</b>	AR-8330FO

## Footswitches



The Synergy<sup>Resection</sup> single-pedal footswitch features a direction button to change the direction of the handpiece with the active mode being displayed on the console. The footswitch can be toggled between gas pedal and standard modes.

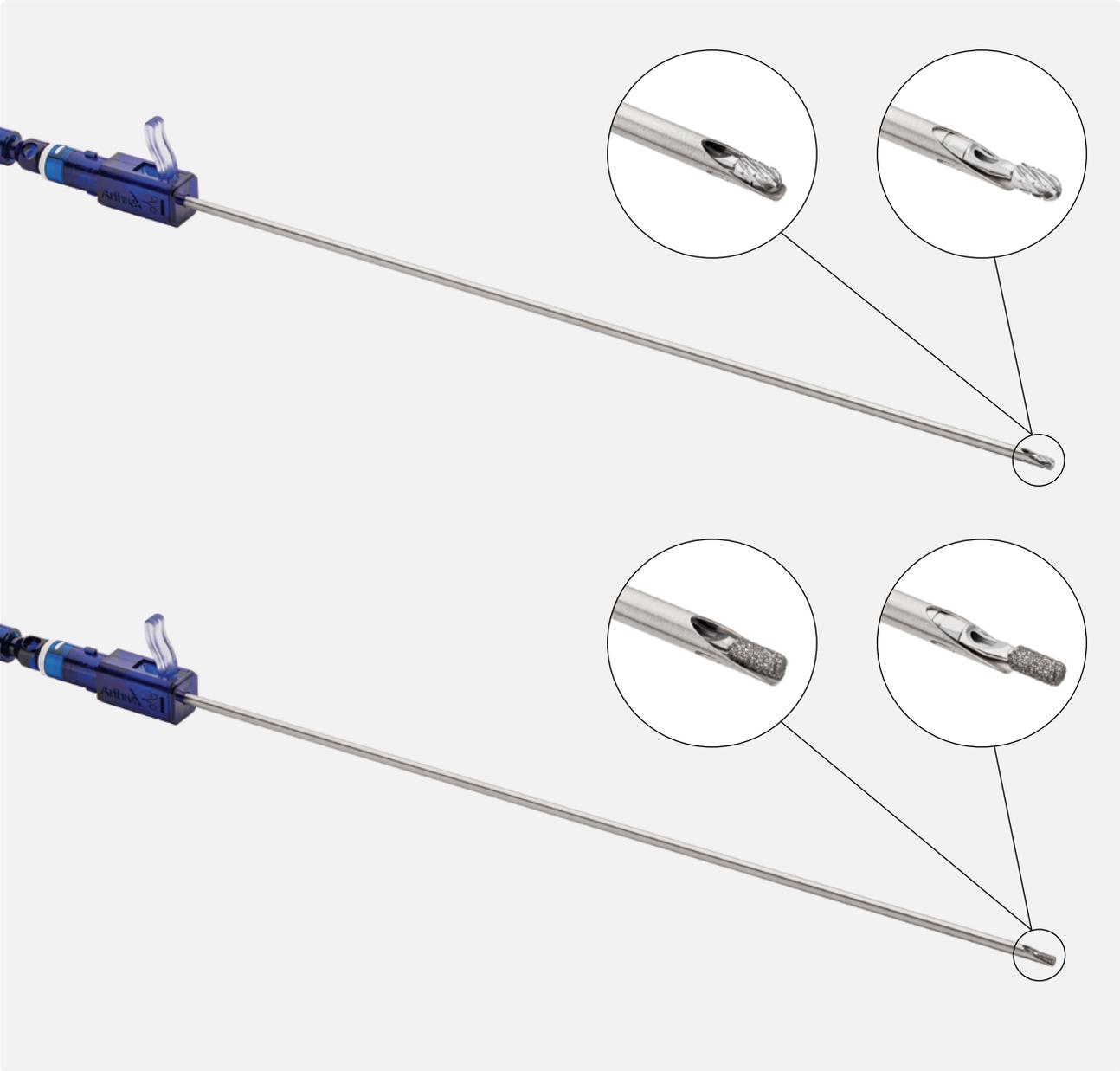
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Synergy<sup>Resection</sup>™ single-pedal footswitch

AR-S8311

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# Spine Shaver Burs



Oval bur, retractable, 3 mm x 330 mm ■ ■

AR-SOV-R30-330

Coarse diamond oval bur, retractable, 3 mm x 330 mm ■ ■

AR-SOV-R30-330CD

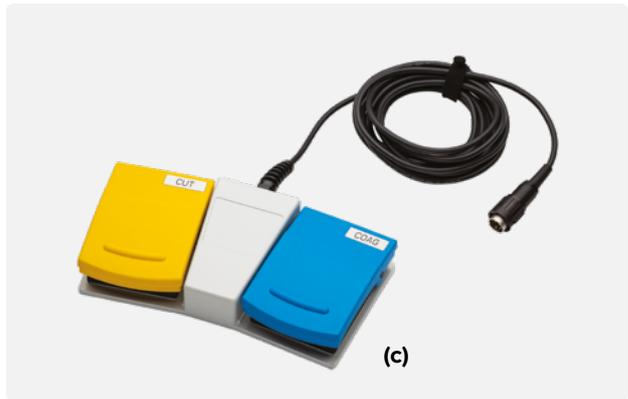
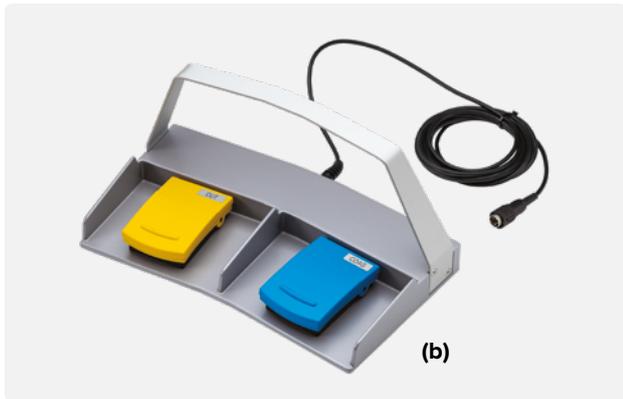
Scope compatibility guide: ■ 7 mm ■ 10 mm



# Synergy Electrosurgery System

- 12 | Synergy Electrosurgery Generator
- 13 | FlexTip RF Probes

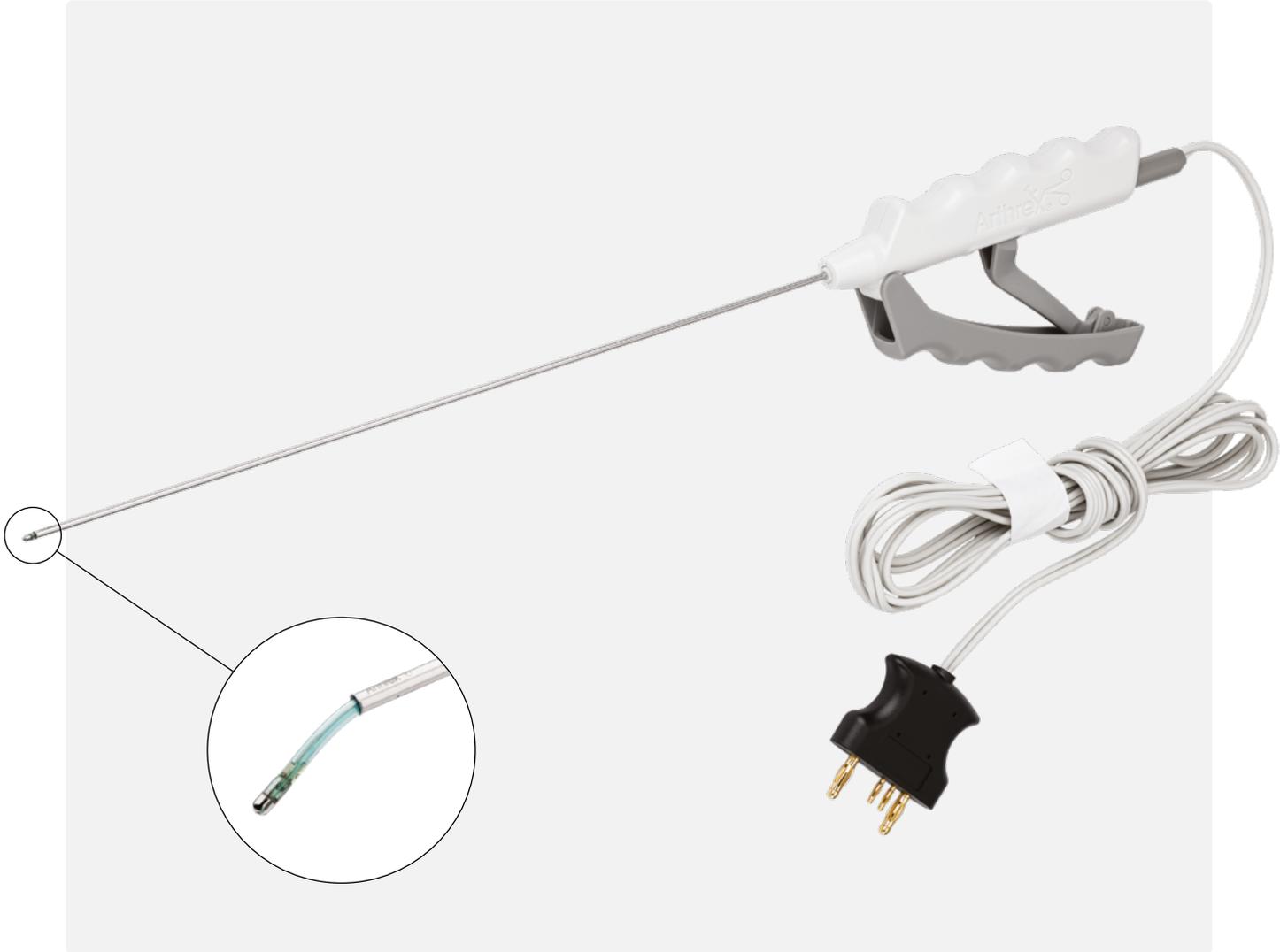
# Synergy Electrosurgery Generator



The Synergy electrosurgery system was developed specifically for endoscopic spine procedures. High-frequency currents (4 MHz) allow for precise tissue resection and ablation to help avoid critical neurological structures.

Synergy electrosurgery console <b>(a)</b>	AR-S9800
Synergy electrosurgery footswitch, with handle <b>(b)</b>	AR-S9800-F1
Synergy electrosurgery footswitch <b>(c)</b>	AR-S9800-F2

# FlexTip RF Probes\*



FlexTip RF probes feature an articulating tip and an ergonomic WishBone handle.

FlexTip RF probe, 28 cm	AR-S9805-0028
FlexTip RF probe, 35 cm	AR-S9805-0035

\* Available end of 2025



FlexTip Probe Adapter, Joimax	AR-S9805-010-J
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## Spine Endoscopy and Instruments

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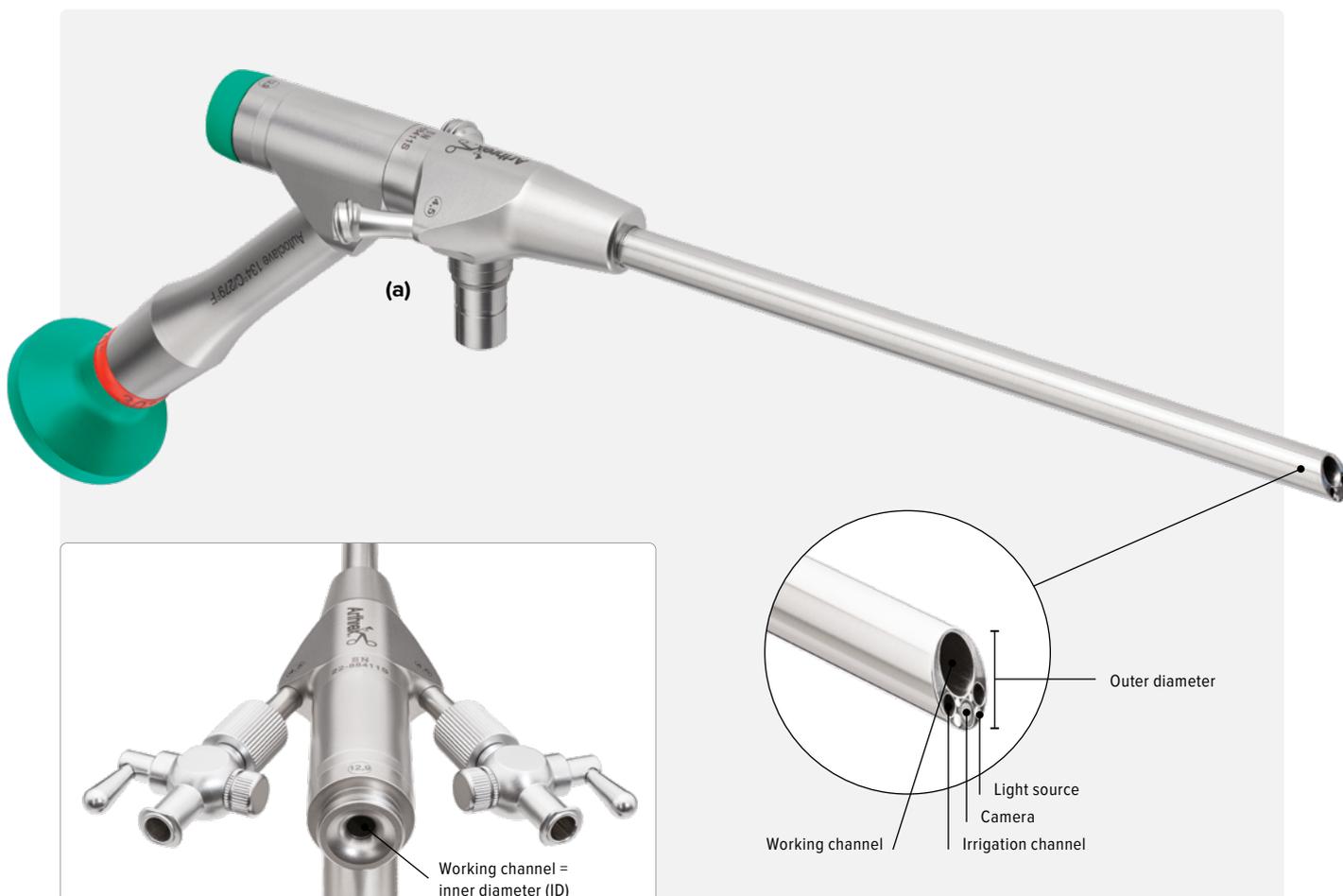
## Spine Endoscopes

Designed for a uniportal approach, these spine-specific working channel endoscopes can be used through an incision between 7.5 mm and 11 mm, minimizing soft-tissue disruption.

Unlike microscopes, loops, and exoscopes, which are placed outside the body, endoscopes provide tissue-level visualization.

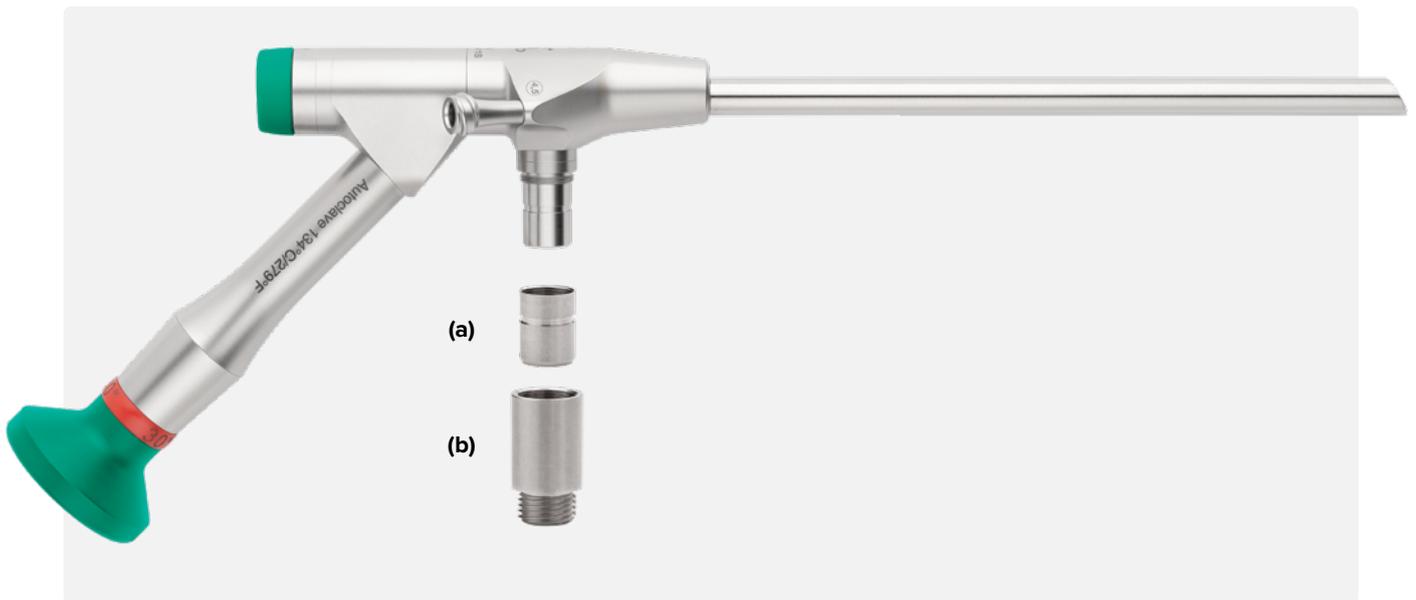
### Key Features and Benefits

- › Can be used in conjunction with depth stop and cannula holder (AR-S3420-CH), requiring fewer hands for the procedure and providing an ergonomic solution
- › Integrated irrigation for a clear surgical field
- › Camera tip reaches level of tissue for direct visualization
- › Flexible for use with multiple visualization platforms



Spine endoscope, 6.3 mm × 130 mm, 15° ■	AR-S3350-6315-130
Spine endoscope, 6.3 mm × 130 mm, 30° ■	AR-S3350-6330-130
Spine endoscope, 6.3 mm × 181 mm, 15° ■	AR-S3350-6315-181
Spine endoscope, 6.3 mm × 181 mm, 30° ■	AR-S3350-6330-181
Spine endoscope, 6.3 mm × 215 mm, 30° ■	AR-S3350-6330-215
Spine endoscope, 7 mm × 130 mm, 15° ■	AR-S3350-7015-130
Spine endoscope, 7 mm × 130 mm, 30° (a) ■	AR-S3350-7030-130
Spine endoscope, 7 mm × 181 mm, 15° ■	AR-S3350-7015-181
Spine endoscope, 7 mm × 181 mm, 30° ■	AR-S3350-7030-181
Spine endoscope, 7 mm × 215 mm, 30° ■	AR-S3350-7030-215
Spine endoscope, 10 mm × 139 mm, 15° ■	AR-S3350-1015-139

Scope compatibility guide: ■ 6.3 mm ■ 7 mm ■ 10 mm



Wolf adapter, for spine endoscope (a)

8300042617

Storz adapter, for spine endoscope (b)

89542801



Spare cap, endoscope, blue, 1 mm (c) ■

AR-S3375-100-BLU

Spare cap, endoscope, green, 1 mm ■

AR-S3375-100-GRE

Spare cap, endoscope, yellow, 1 mm ■

AR-S3375-100-YEL

Spare cap, endoscope, blue, sterile, 1 mm ■

AR-S3375-100-BLU-S

Spare cap, endoscope, green, sterile, 1 mm ■

AR-S3375-100-GRE-S

Spare cap, endoscope, yellow, sterile, 1 mm ■

AR-S3375-100-YEL-S

Spare cap, endoscope, blue, sterile, 2 mm ■

AR-S3375-200-BLU-S

Spare cap, endoscope, green, sterile, 2 mm ■

AR-S3375-200-GRE-S

Spare cap, endoscope, yellow, sterile, 2 mm ■

AR-S3375-200-YEL-S

Spare cap, endoscope, blue, sterile, 3 mm ■

AR-S3375-300-BLU-S

Spare cap, endoscope, green, sterile, 3 mm ■

AR-S3375-300-GRE-S

Spare cap, endoscope, yellow, sterile, 3 mm ■

AR-S3375-300-YEL-S

Spare cap, endoscope, green, sterile, 4 mm ■

AR-S3375-400-GRE-S

Spare cap, endoscope, yellow, sterile, 4 mm ■

AR-S3375-400-YEL-S

Spare cap, cannula, blue, sterile, 5 mm ■

AR-S3375-500-BLU-S

Spare cap, endoscope, yellow, sterile, 5 mm ■

AR-S3375-500-YEL-S

Spare cap, cannula, green, sterile, 5.5 mm ■

AR-S3375-550-GRE-S

Spare cap, endoscope, yellow, sterile, 6 mm ■

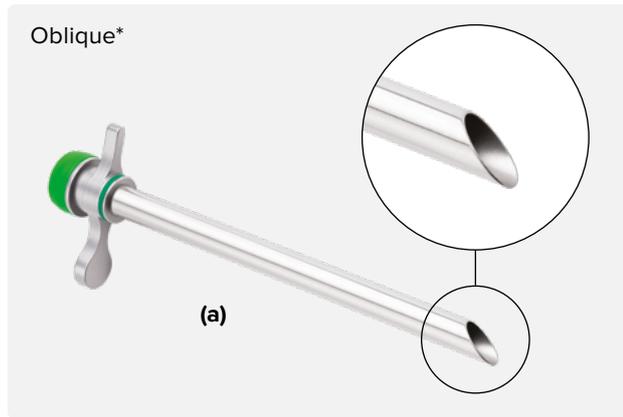
AR-S3375-600-YEL-S

Spare cap, cannula, yellow, sterile, 8.5 mm ■

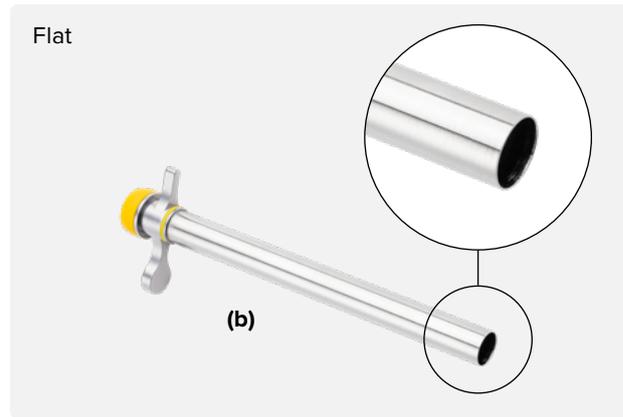
AR-S3375-850-YEL-S

Scope compatibility guide: ■ 6.3 mm ■ 7 mm ■ 10 mm

# Cannulas

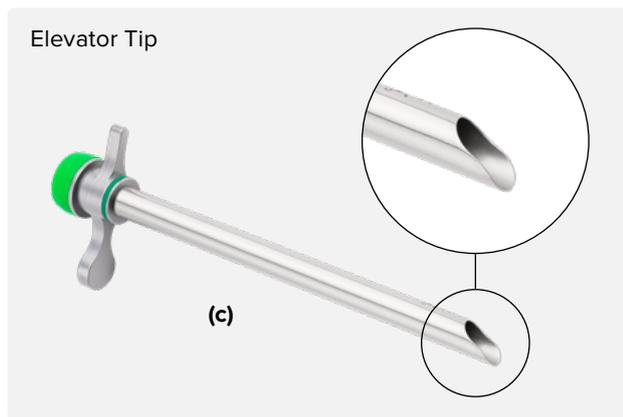


Cannula, with oblique window, 7.5 mm × 178 mm, 30° ■	AR-S3420-075-17830
Cannula, with oblique window, 7.5 mm × 212 mm, 30° ■	AR-S3420-075-21230
Cannula, with oblique window, 8 mm × 125 mm, 30° (a) ■	AR-S3420-080-12530
Cannula, with oblique window, 8 mm × 178 mm, 30° ■	AR-S3420-080-17830
Cannula, with oblique window, 8 mm × 212 mm, 30° ■	AR-S3420-080-21230
Cannula, with oblique window, 11 mm × 134 mm, 30° ■	AR-S3420-110-13430

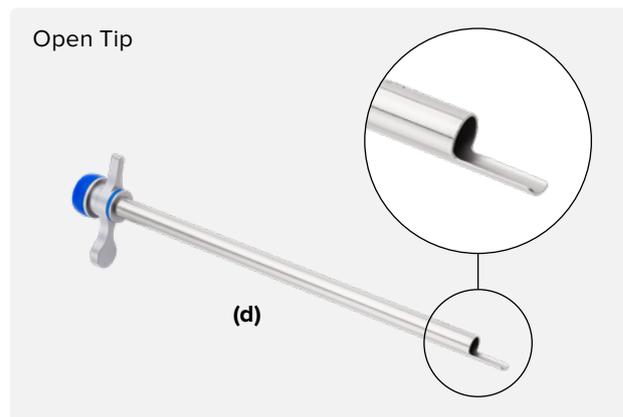


Cannula, with flat tip, 11 mm × 134 mm (b) ■	AR-S3420-110-134FT
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\*All oblique cannulas also come in 40° or 55° options



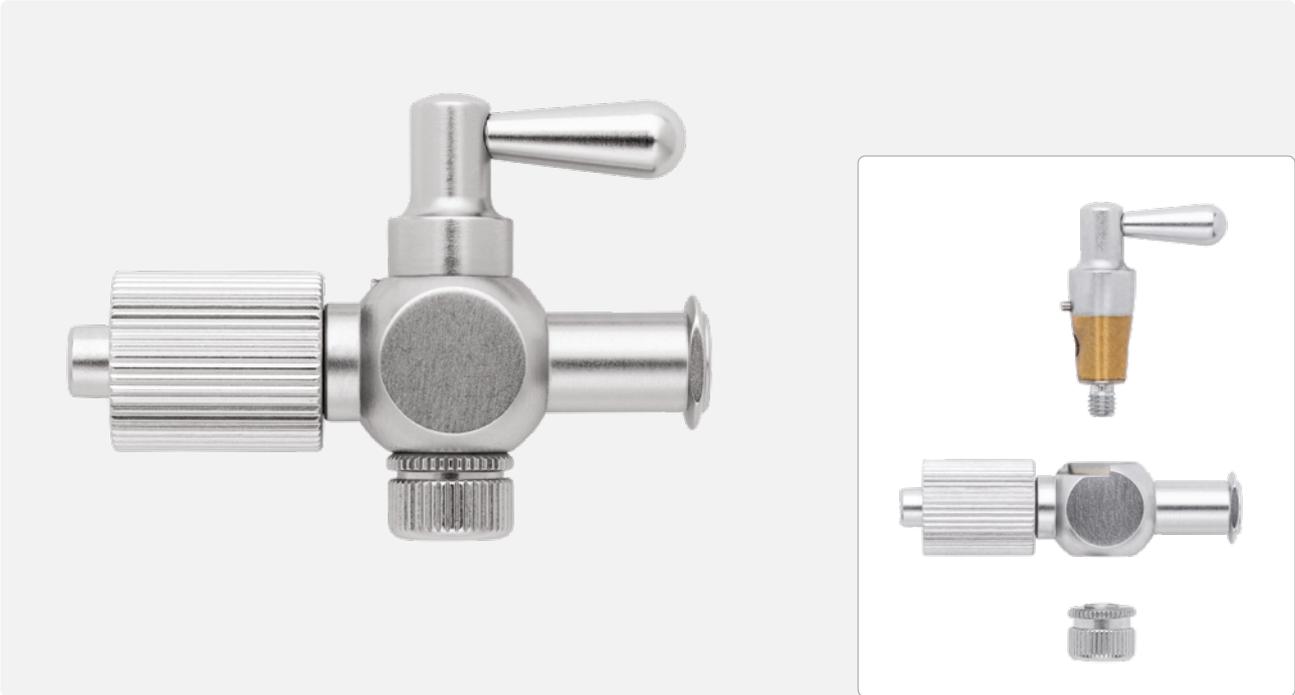
Cannula, with elevator tip, 7.5 mm × 125 mm ■	AR-S3420-075-125ET
Cannula, with elevator tip, 7.5 mm × 178 mm ■	AR-S3420-075-178ET
Cannula, with elevator tip, 7.5 mm × 212 mm ■	AR-S3420-075-212ET
Cannula, with elevator tip, 8 mm × 125 mm (c) ■	AR-S3420-080-125ET
Cannula, with elevator tip, 8 mm × 178 mm ■	AR-S3420-080-178ET
Cannula, with elevator tip, 8 mm × 212 mm ■	AR-S3420-080-212ET



Cannula, with open tip, 7.5 mm × 178 mm (d) ■	AR-S3420-075-178OT
Cannula, with open tip, 7.5 mm × 212 mm ■	AR-S3420-075-212OT
Cannula, with open tip, 8 mm × 178 mm ■	AR-S3420-080-178OT
Cannula, with open tip, 8 mm × 212 mm ■	AR-S3420-080-212OT

Scope compatibility guide: ■ 6.3 mm ■ 7 mm ■ 10 mm

# Endoscope Accessories



Stopcock

AR-S3350-000-001

**Depth Stops**

Spine endoscope depth stop, 6.3 mm ■

AR-S3350-063-DS

Spine endoscope depth stop, 7 mm\* ■

AR-S3350-070-DS

Spine endoscope depth stop, 10 mm ■

AR-S3350-100-DS

\* Available in January 2026 (tbc prior to final approval)

## Hand Instruments



### Pistol Grip

Tried and tested, these pistol grip instruments feature comfortable, ergonomic loop handles for simple and precise control in a wide range of different hand positions and tissue resection procedures.



### WishBone™ Grip

Pioneered by Arthrex nearly 3 decades ago to prioritize surgeon comfort and ergonomics, this series of endoscopic instruments features superior feel and improved ergonomics that facilitate inverted and retrograde usage with either hand. Designed specifically for endoscopic spine procedures, this product line includes a comprehensive variety of tip styles, angles, sizes, and shaft diameters. Ceramic coating increases durability and life span, while silicone coating on the handle allows for increased comfort and control.



### FlushPort

The unique FlushPort connection design allows for easy and efficient instrument cleaning, particularly of the inner lumen. The familiar Luer lock connector offers the possibility of a simple connection of the instruments to, for example, the rinsing port of a washer disinfector. The instruments come with an attached silicone cap; a metal cap is available to close the Luer lock during standard use, according to user preference.

### Luer Lock Cap (Sold Separately)

Closes the hand instrument's Luer lock FlushPort connection during use. It is recommended to purchase one cap per hand instrument.

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FlushPort Luer lock cap, for use with FlushPort hand instruments, reusable

AR-150301F

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## Endoscopic Spine Access Kit

Sterile disposable kit includes spinal needle and nitinol 0.8 mm guide wire conveniently contained in one package.

### Cannula Insertion Recommendations

1. Insert calibrated needle stylet
2. Remove stylet and insert guide wire through needle
3. Remove the needle, keeping guide wire in place
4. Insert serial dilator(s) / switching stick to the desired diameter
5. Insert cannula over serial dilator(s)
6. Remove guide wire and serial dilator(s)

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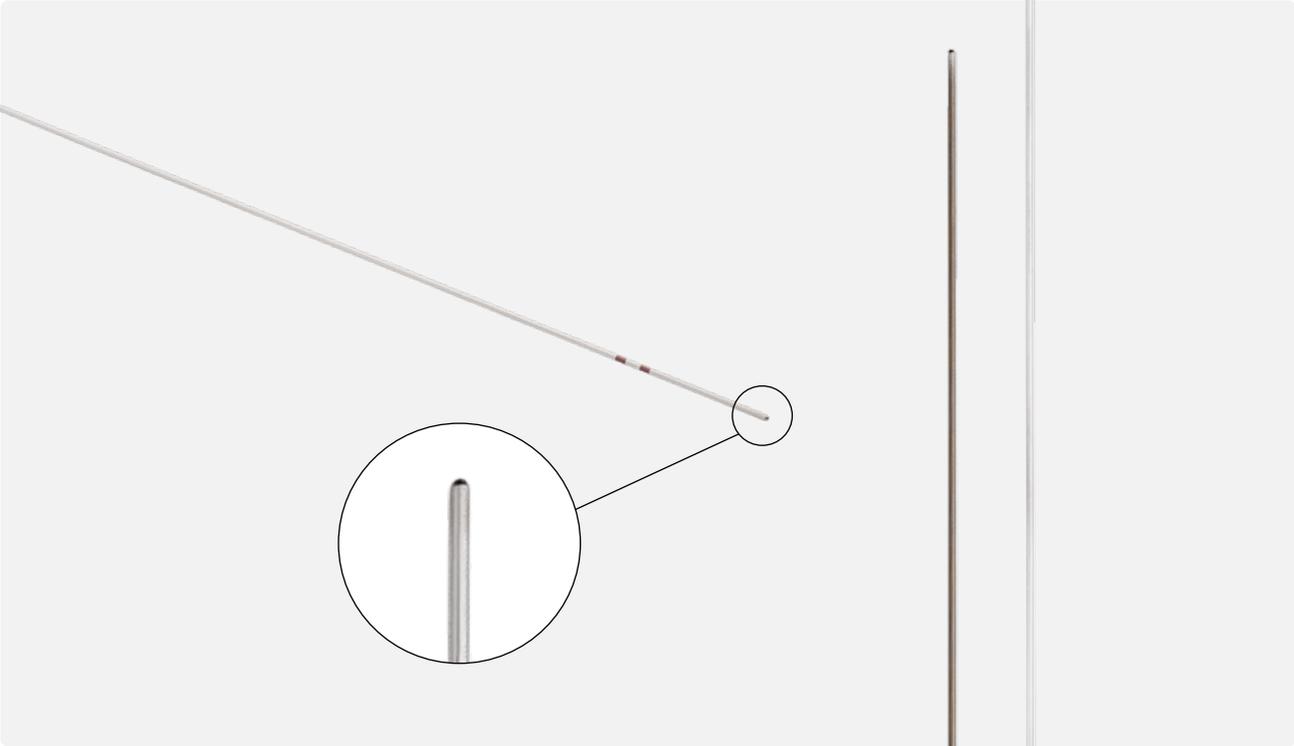
Spine access disposable kit

AR-S4000-K-S

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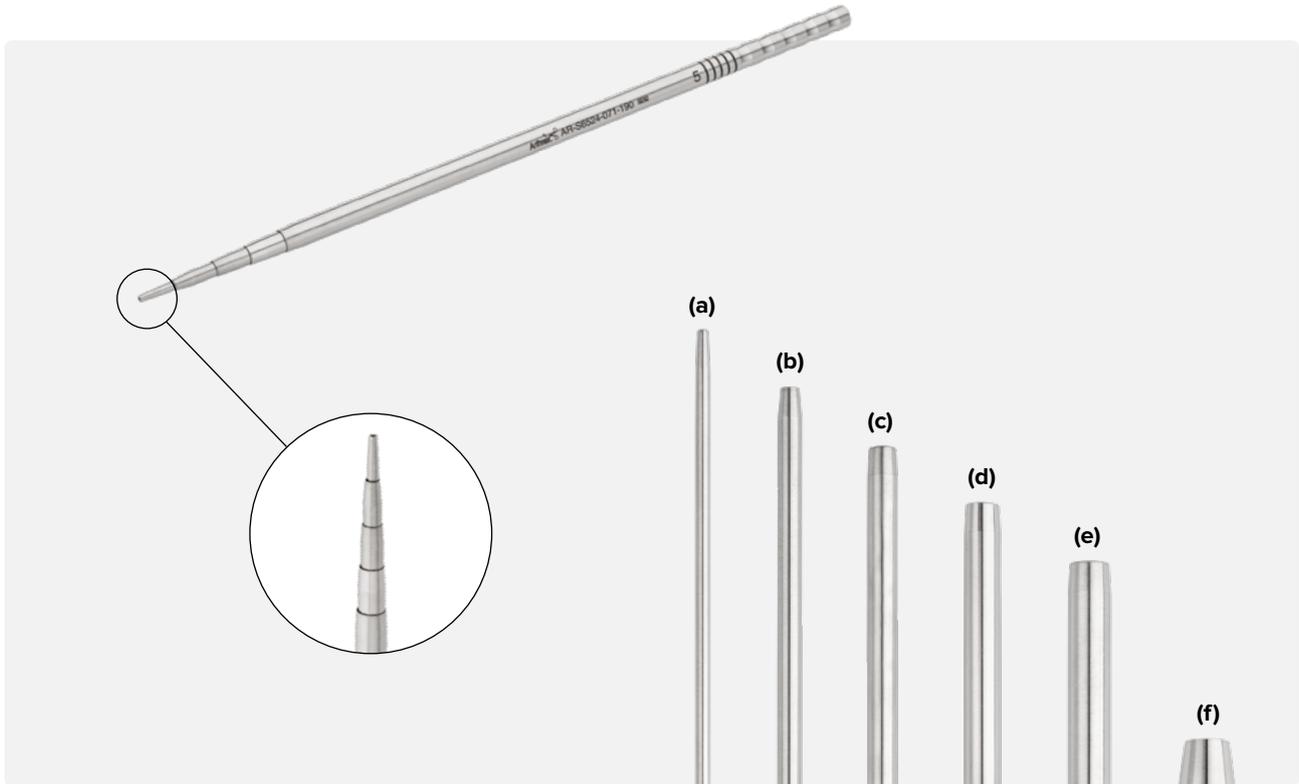


# Guide Wires



Guide wire, nitinol, 0.8 mm × 400 mm	AR-S4000-008-400
Guide wire, nitinol, 1.2 mm × 400 mm	AR-S4000-012-400
Guide wire, stainless steel 0.7 mm × 400 mm	AR-S4000-007-400

## Dilators



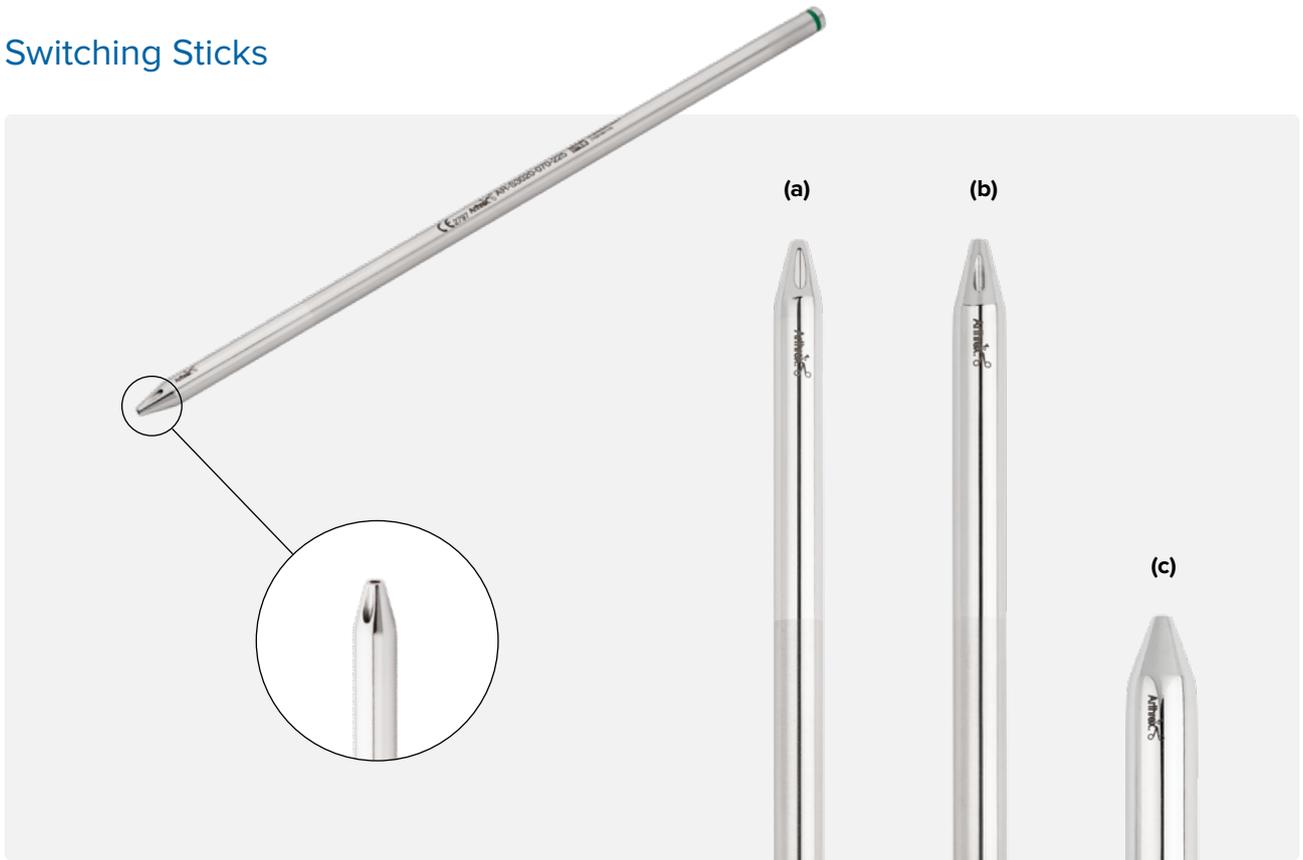
Conical dilators are ideal for step dilations during endoscopic and MIS procedures.

6-Step Series	
Dilator, 2.5 mm × 230 mm <b>(a)</b>	AR-S6524-025-230
Dilator, 4.1 mm × 220 mm <b>(b)</b>	AR-S6524-041-220
Dilator, 5.1 mm × 210 mm <b>(c)</b>	AR-S6524-051-210
Dilator, 6 mm × 200 mm <b>(d)</b>	AR-S6524-060-200
Dilator, 7.1 mm × 190 mm <b>(e)</b>	AR-S6524-071-190
Dilator, 10.1 mm × 160 mm <b>(f)</b>	AR-S6524-101-160
3-Step Series XL	
Dilator, 3 mm × 250 mm	AR-S6524-030-250
Dilator, 6 mm × 235 mm	AR-S6524-060-235
Dilator, 7 mm × 220 mm	AR-S6524-070-220



Scope compatibility guide: ■ 6.3 mm ■ 7 mm ■ 10 mm

## Switching Sticks



Switching sticks are 2-channel dilators that allow for single-step dilation.

Switching stick, 6.3 mm × 225 mm <b>(a)</b> ■	AR-S3020-063-225
Switching stick, 7 mm × 225 mm <b>(b)</b> ■	AR-S3020-070-225
Switching stick, 10 mm × 185 mm <b>(c)</b> ■	AR-S3020-100-185



Scope compatibility guide: ■ 6.3 mm ■ 7 mm ■ 10 mm

## Punches



Conical dilators are ideal for step dilations during endoscopic and MIS procedures.

Duckling punch, 2.5 mm × 330 mm ■■■	AR-S7111-025-330
Duckling punch, 2.5 mm × 330 mm, WishBone™ handle ■■■	AR-S7111-025-330W
Duckling punch, 3.5 mm × 330 mm (a) ■■■	AR-S7111-035-330
Duckling punch, 3.5 mm × 330 mm, WishBone™ handle ■■■	AR-S7111-035-330W



Scissor punch, 2 mm × 260 mm ■■■	AR-S7116-020-260
Scissor punch, 2 mm × 260 mm, WishBone™ handle ■■■	AR-S7116-020-260W
Scissor punch, 2.5 mm × 260 mm ■■■	AR-S7116-025-260
Scissor punch, 2.5 mm × 260 mm, WishBone™ handle ■■■	AR-S7116-025-260W
Scissor punch, 2.5 mm × 330 mm ■■■	AR-S7116-025-330
Scissor punch, 2.5 mm × 330 mm, WishBone™ handle ■■■	AR-S7116-025-330W
Scissor punch, 4 mm × 260 mm (b) ■■■	AR-S7116-040-260
Scissor punch, 4 mm × 260 mm, WishBone™ handle ■■■	AR-S7116-040-260W
Scissor punch, 4 mm × 330 mm ■■■	AR-S7116-040-330



Scissor punch, up angle, 2.5 mm × 330 mm ■■■	AR-S7116-025U-330
Scissor punch, up angle, 2.5 mm × 330 mm, WishBone™ handle ■■■	AR-S7116-025U-330W
Scissor punch, up angle, 3.5 mm × 260 mm (c) ■■■	AR-S7116-035U-260
Scissor punch, up angle, 3.5 mm × 260 mm, WishBone™ handle ■■■	AR-S7116-035U-260W

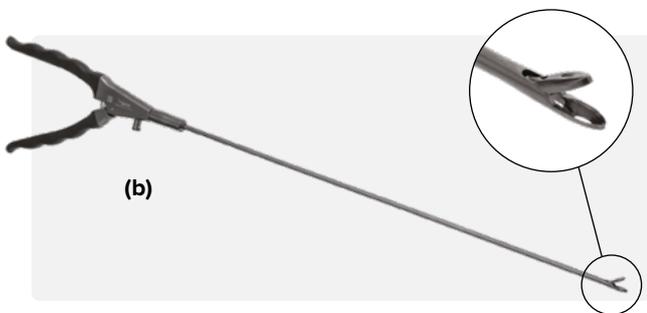
Scope compatibility guide: ■ 6.3 mm ■ 7 mm ■ 10 mm

# Forceps



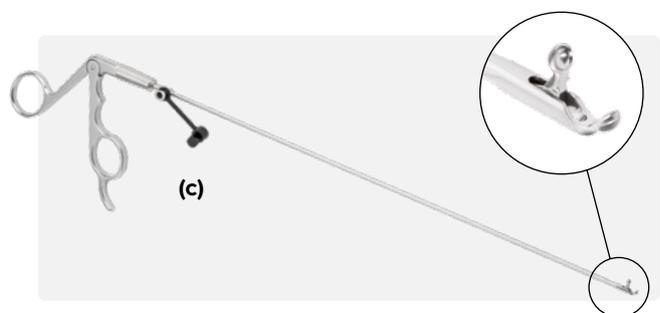
## Cup Forceps

Cup forceps, 2.5 mm × 260 mm	AR-S7110-025-260
Cup forceps, 2.5 mm × 260 mm, WishBone™ handle	AR-S7110-025-260W
Cup forceps, 2.5 mm × 330 mm	AR-S7110-025-330
Cup forceps, 2.5 mm × 330 mm, WishBone™ handle	AR-S7110-025-330W
Cup forceps, 3 mm × 330 mm	AR-S7110-030-330
Cup forceps, 3 mm × 330 mm, WishBone™ handle	AR-S7110-030-330W
Cup forceps, 3.5 mm × 260 mm	AR-S7110-035-260
Cup forceps, 3.5 mm × 260 mm, WishBone™ handle	AR-S7110-035-260W
Cup forceps, 3.5 mm × 330 mm (a)	AR-S7110-035-330
Cup forceps, 3.5 mm × 330 mm, WishBone™ handle	AR-S7110-035-330W
Cup forceps, 4 mm × 260 mm	AR-S7110-040-260
Cup forceps, 4 mm × 260 mm, WishBone™ handle	AR-S7110-040-260W
Cup forceps, 4 mm × 330 mm	AR-S7110-040-330
Cup forceps, 4 mm × 330 mm, WishBone™ handle	AR-S7110-040-330W



## Blakesley Forceps

Blakesley forceps, 3.5 mm × 330 mm	AR-S7118-035-330
Blakesley forceps, 3.5 mm × 330 mm, WishBone™ handle (b)	AR-S7118-035-330W

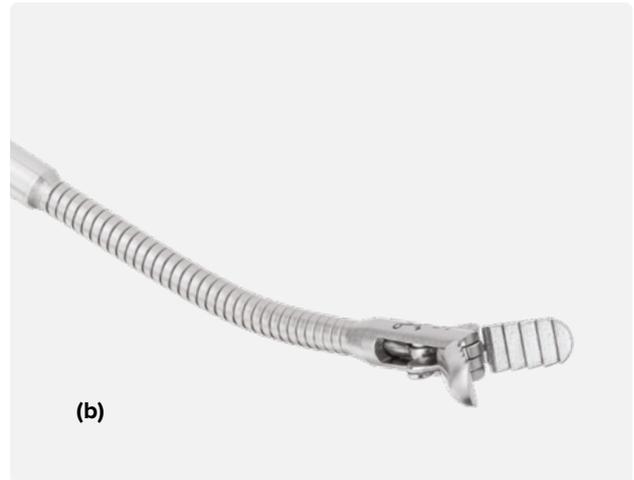


## Cup Forceps, Up Angle

Cup forceps, up angle, 2 mm × 330 mm	AR-S7110-020U-330
Cup forceps, up angle, 2 mm × 330 mm, WishBone™ handle	AR-S7110-020U-330W
Cup forceps, up angle, 2.5 mm × 330 mm (c)	AR-S7110-025U-330
Cup forceps, up angle, 2.5 mm × 330 mm, WishBone™ handle	AR-S7110-025U-330W

Scope compatibility guide: ■ 6.3 mm ■ 7 mm ■ 10 mm

## Graspers



Cup grasper, serrations, 2 mm × 330 mm cup	AR-S7121-020-330
Grasper, serrations, 2 mm × 330 mm, WishBone™ handle	AR-S7121-020-330W
Cup grasper, teeth, 2.5 mm × 330 mm	AR-S7120-025-330
Cup grasper, teeth, 2.5 mm × 330 mm, WishBone™ handle	AR-S7120-025-330W
Cup grasper, semi-flexible, teeth, 2.5 mm × 330 mm cup (a)	AR-S7125-025F-330
Grasper, semi-flexible, teeth, 2.5 mm × 330 mm, WishBone™ handle	AR-S7125-025F-330W
Cup grasper, semi-flexible, 3 mm × 260 mm	AR-S7125-030F-260
Cup grasper, semi-flexible, 3 mm × 260 mm, WishBone™ handle	AR-S7125-030F-260W
Cup grasper, semi-flexible, 3 mm × 330 mm (b)	AR-S7125-030F-330
Cup grasper, semi-flexible, 3 mm × 330 mm, WishBone™ handle	AR-S7125-030F-330W

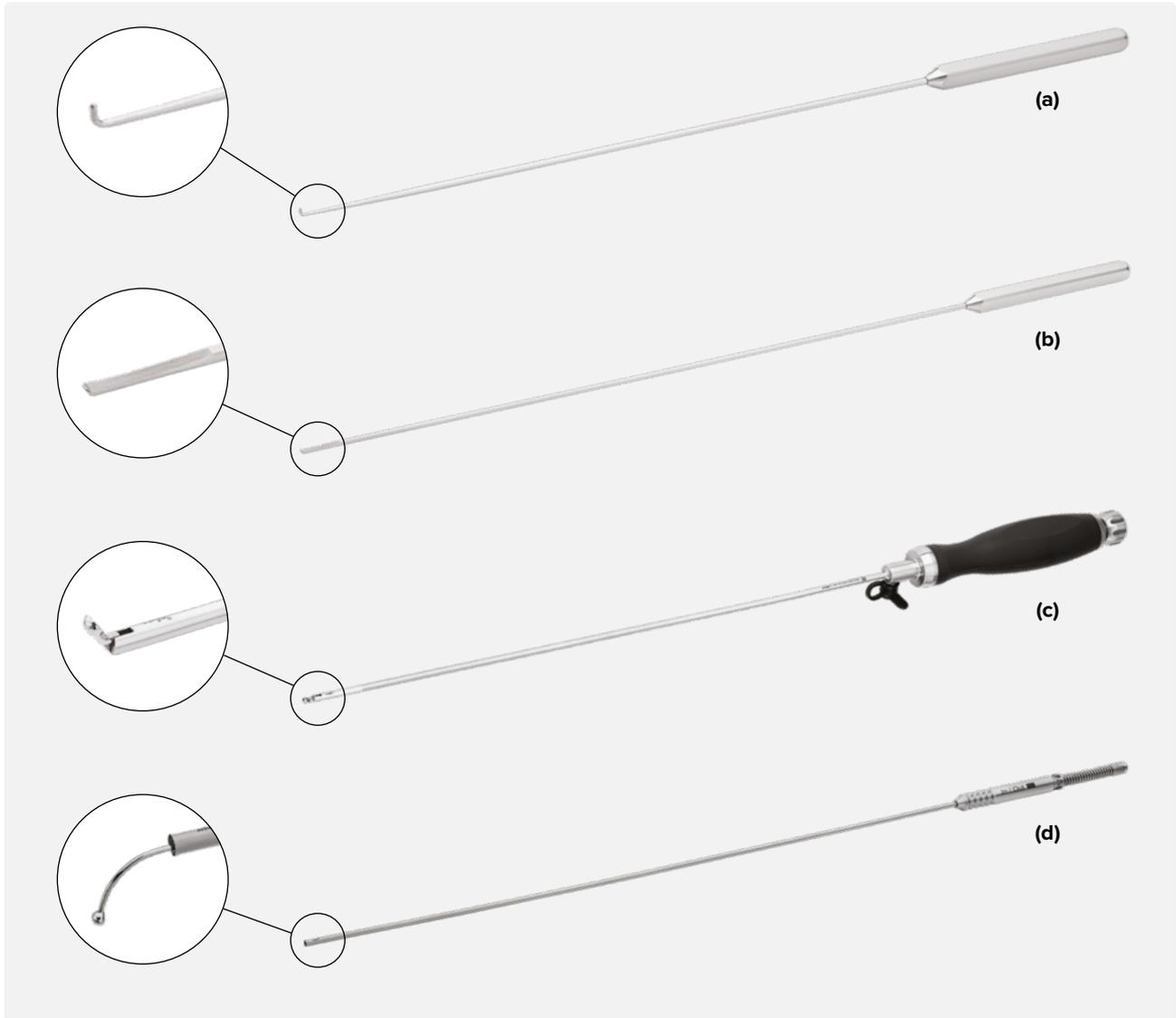
## Scissors



Hook scissors, 2.5 mm × 260 mm (c)	AR-S7115-025-260
Hook scissors, 2.5 mm × 260 mm, WishBone™ handle	AR-S7115-025-260W
Hook scissors, 2.5 mm × 330 mm	AR-S7115-025-330
Hook scissors, 2.5 mm × 330 mm, WishBone™ handle	AR-S7115-025-330W

Scope compatibility guide: ■ 6.3 mm ■ 7 mm ■ 10 mm

## Manual Instruments\*



Hook probe, 2.5 mm × 260 mm (a)	■ ■ ■	AR-S10030-025-260
Hook probe, 2.5 mm × 310 mm	■ ■ ■	AR-S10030-025-310
Bone awl, 3 mm × 310 mm	■ ■ ■	AR-S7324-030-310
Osteotome, v-cut, 3 mm × 310 mm	■ ■ ■	AR-S7323-030V-310
Blunt dissector, 2.5 mm × 310 mm (b)	■ ■ ■	AR-S1342-025-310
Osteotome, 3 mm × 260 mm	■ ■ ■	AR-S1342-030-260
Osteotome, 3 mm × 310 mm	■ ■ ■	AR-S7323-030-310
Bone curette, 2 mm × 260 mm	■ ■ ■	AR-S7305-020-260
Bone curette, 3.5 mm × 330 mm (c)	■ ■ ■	AR-S7305-035-330
Bone curette down biting, 3.5 × 330mm	■ ■ ■	AR-S7305-035D-330
Ball tip probe shaft, flexible, 1.8 mm × 330 mm (d)	■ ■ ■	AR-S7405-018-330
Ball tip probe shaft, flexible, 2.4 mm × 330 mm	■ ■ ■	AR-S7405-024-330
Probe, articulating, 3 mm × 330 mm	■ ■ ■	AR-S7310-030-330
Ball tip probe, flexible, assembly	■ ■ ■	AR-S7310-035-380

\* Available end of 2025

Scope compatibility guide: ■ 6.3 mm ■ 7 mm ■ 10 mm

# Kerrisons



Kerrison/ball-tip probe, handle	AR-S7400-000-000H
Kerrison/ball-tip probe, handle, WB	AR-S7400-000-000W
Kerrison, 2.5 mm × 260 mm, 40°	AR-S7440-025-260
Kerrison, 2.5 mm × 360 mm, 40°	AR-S7440-025-360
Kerrison, 3.0 mm × 260 mm, 90°	AR-S7490-030-260
Kerrison, 3.5 mm × 260 mm, 40°	AR-S7440-035-260
Kerrison, 3.5 mm × 360 mm, 40°	AR-S7440-035-360
Kerrison, 4 mm × 260 mm, 40° (a)	AR-S7440-040-260
Kerrison, 4 mm × 360 mm, 40°	AR-S7440-040-360
Kerrison, 5 mm × 260 mm, 40°	AR-S7440-050-260
Kerrison, 6 mm × 260 mm, 40°	AR-S7440-060-260
Kerrison, up angle, 4 mm × 260 mm, 40°	AR-S7440-040U-260
Kerrison, 3.5 mm × 360 mm, 90° (b)	AR-S7490-035-360
Kerrison, 4 mm × 260 mm, 90°	AR-S7490-040-260
Kerrison, 4 mm × 360 mm, 90°	AR-S7490-040-360
Kerrison, 5 mm × 260 mm, 90°	AR-S7490-050-260
Kerrison, 6 mm × 260 mm, 90°	AR-S7490-060-260



Scope compatibility guide: ■ 6.3 mm ■ 7 mm ■ 10 mm

## Rasps and Trephines\*



Trephine handle

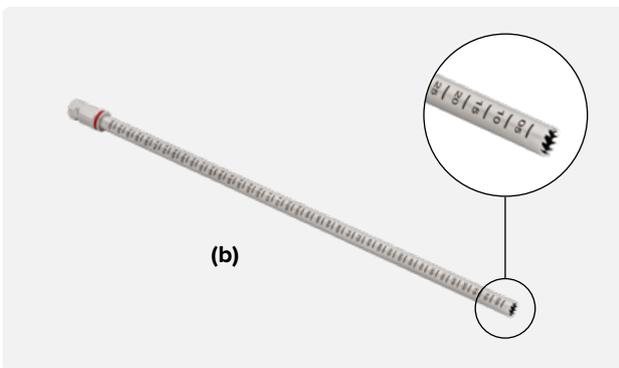
AR-S7700-000-000H



Trephine protection tube, 6 mm × 160 mm ■ AR-S7700-060-160

Trephine protection tube, 7.5 mm × 160 mm **(a)** ■ AR-S7700-075-160

Trephine protection tube, 8.5 mm × 160 mm □ AR-S7700-085-160



Trephine, 3.55 mm × 350 mm ■

AR-S7705-035-350

Trephine, 5.1 mm × 225 mm ■

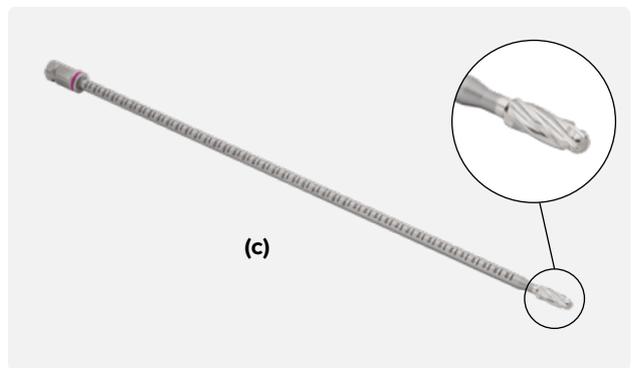
AR-S7705-051-225

Trephine, 6.6 mm × 225 mm **(b)** ■

AR-S7705-066-225

Trephine, 7.6 mm × 225 mm □

AR-S7705-076-225



Rasp, 5.1 mm × 260 mm **(c)** ■

AR-S7715-051-260

Rasp, 6.6 mm × 260 mm ■

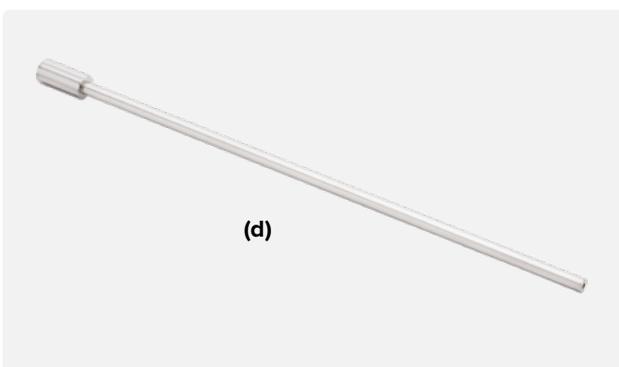
AR-S7715-066-260

Rasp, 7.6 mm × 260 mm □

AR-S7715-076-260

Rasp, 8.8 mm × 260 mm ■

AR-S7715-088-260



Rod pusher, 2.5 mm ■

AR-S6524-025-230P

Rod pusher, 4 mm ■

AR-S6524-040-230P

Rod pusher, 5 mm **(d)** □

AR-S6524-050-230P

\* Available beginning of 2026

Trephine/rasp compatibility: ■ 3.55 mm ■ 5.1 mm ■ 6.6 mm □ 7.6 mm ■ 8 mm

# Miscellaneous Instruments and Accessories



Mallet AR-S4100-100-000



Extracting forceps AR-S4100-200-100

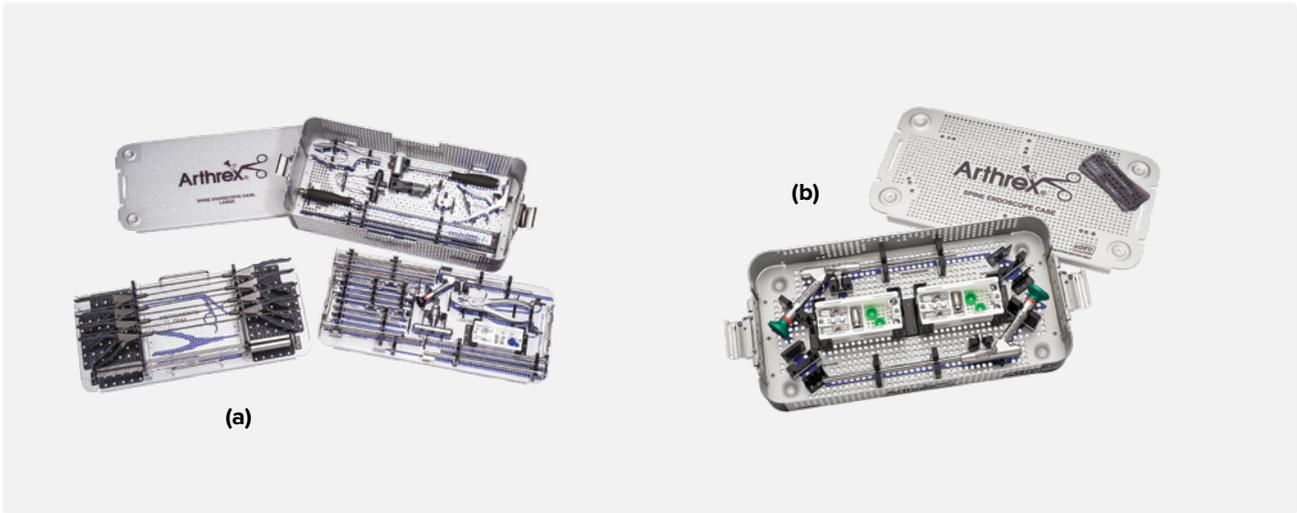


Rod removal forceps AR-S4100-200-200

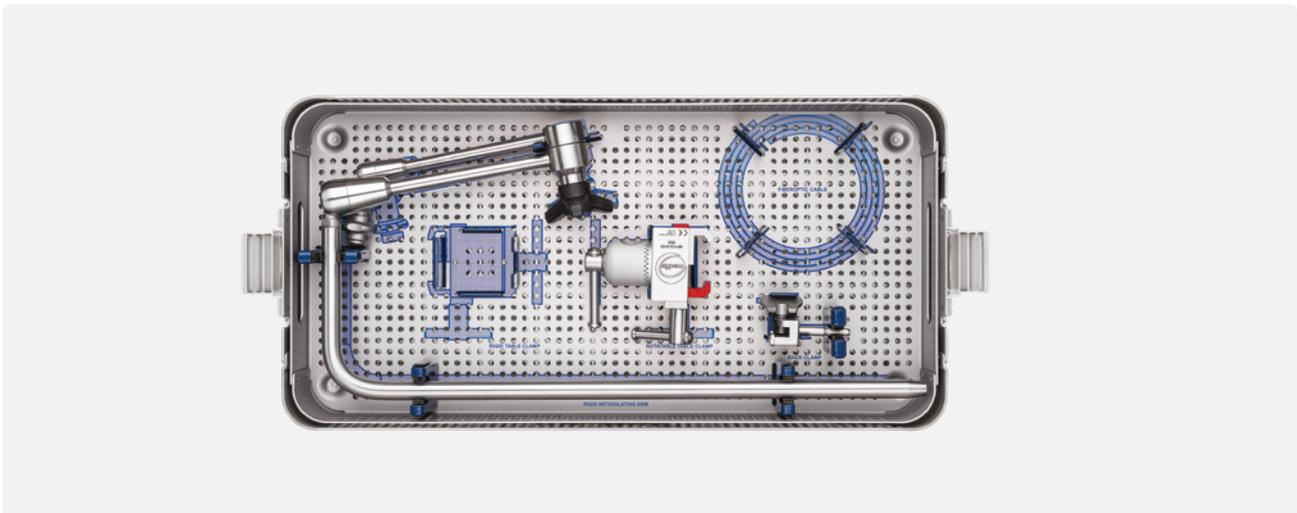


Cannula holder AR-S3420-CH

## Instrument Cases



Spine endoscopic case, large <b>(a)</b>	AR-S1000-C1
Spine endoscopic case, small	AR-S1000-C2
Spine endoscope case <b>(b)</b>	AR-S1000-C3
Spine endoscope accessory case	AR-S1000-C3-1
Spine endoscopic TRIMANO® arm case	AR-S1000-C4
Endoscopic spine case pin mat	AR-S1000-C4-PM



Medfix® rigid arm, 400 mm length arm, L-column, with square QC	MF112-0150
Medfix® table clamp for rigid arm, rotatable	MF112-0153
Medfix® rack clamp, square QC fitting for rigid arm	MF112-0152
Medfix® vision articulating arm set insert	MFV-1000-INSERT
Spine endoscopic TRIMANO® arm case	AR-S1000-C4

\* Includes all items listed below

## Aesculap Rigid Containers



Bottom for 1/2 container, height: 90 mm	JK340
Bottom for 1/2 container, height: 120 mm	JK341
Bottom for 1/2 container, height: 135 mm	JK342
Bottom for 1/2 container, height: 187 mm	JK344
1/2-size lid with retention plate blue	JK386
Bottom for 1/1 container, height: 90 mm	JK440
Bottom for 1/1 container, height: 120 mm	JK441
Bottom for 1/1 container, height: 135 mm	JK442
Bottom for 1/1 container, height: 247 mm <b>(b)</b>	JK446
Full-size lid with retention plate blue <b>(a)</b>	JK486
Bottom for 3/4 container, height: 90 mm	JK740
Bottom for 3/4 container, height: 120 mm <b>(d)</b>	JK741
3/4-size lid with retention plate blue <b>(c)</b>	JK786
Single-use paper filter with indicator	JK095



AURORA

AURORA

Arthrex  
Curved Scorpion  
Instrument Case  
AR-13998CFC

Curved Scorpion  
Instrument Case

Arthrex  
AR-13998CFC CE 2797

Arthrex

SPINE ENDOSCOPIC CASE  
SMALL

Arthrex

AR-S1000-C2 CE 2797

## Endoscopic Approaches to the Spine and Recommended Sets

<b>36</b>	Medial Branch Nerve Transection
<b>37</b>	Interlaminar Approach to Discectomy
<b>38</b>	Transforaminal Endoscopic Discectomy
<b>39</b>	Endoscopic Stenosis



## Medial Branch Nerve Transection

Provide patients with a truly minimally invasive option for facet joint pain. The medial branch nerve transection (MBT) procedure uses an endoscopic approach to achieve longer-lasting denervation of the medial nerves than radiofrequency ablation (RFA) procedures.<sup>1-3</sup>

Performed in an outpatient setting, MBT shows fewer postoperative complications, less pain, and faster recovery times than traditional procedures.<sup>4</sup>

- › Endoscopic approach is the least-invasive option on the market
- › May reduce OR time<sup>4</sup>
- › Small incision (<1 cm) for less tissue dissection
- › Ported cannulas provide working channels for instruments, including cameras and probes
- › Visualization of full surgical field with spine-specific endoscope
- › Ergonomic WishBone handle option available

Medial Branch Transection, WishBone™ Handle		Page Number
Spine endoscopic case, small	AR-S1000-C2	32
Cannula, with elevator tip, 7.5 mm × 125 mm ■	AR-S3420-075-125ET	18
Cup forceps, 2.5 mm × 260 mm, with WishBone™ handle ■ ■ ■	AR-S7110-025-260W	26
Osteotome, 3 mm × 260 mm ■ ■ ■	AR-S1342-030-260	28
Kerrison/ball-tip probe, handle, with WishBone™ handle	AR-S7400-000-000W	29
Ball-tip probe shaft, flexible, 1.8 mm × 330 mm	AR-S7405-018-330	28
Hook probe, 2.5 mm × 260 mm ■ ■ ■	AR-S10030-025-260	28
Spine endoscope, 6.3 mm × 130 mm, 30° ■	AR-S3350-6330-130	16
Switching stick, 6.3 mm × 225 mm ■	AR-S3020-063-225	24
Scissor punch, 2.5 mm × 260 mm, with WishBone™ handle ■ ■ ■	AR-S7116-025-260W	25
Hook scissors, 2.5 mm × 260 mm, with WishBone™ handle ■ ■ ■	AR-S7115-025-260W	27

### References

1. Du T, Lu G, Li J, et al. Pain-free survival after endoscopic rhizotomy versus radiofrequency for lumbar facet joint pain: a real-world comparison study. *Pain Physician*. 2022;25(1):E87-E94.
2. Streitberger K, Müller T, Eichenberger U, Trelle S, Curatolo M. Factors determining the success of radiofrequency denervation in lumbar facet joint pain: a prospective study. *Eur Spine J*. 2011;20(12):2160-5. doi:10.1007/s00586-011-1891-6
3. Hayes V. Five year long-term results of endoscopic dorsal ramus rhizotomy and anatomic variations of the painful lumbar facet joint. Paper presented at: 2013 Society for Minimally Invasive Spine Surgery Annual Conference. Las Vegas, NV; November 2013.
4. Birkenmaier C, Komp M, Leu HF, Wegener B, Ruetten S. The current state of endoscopic disc surgery: review of controlled studies comparing full-endoscopic procedures for disc herniations to standard procedures. *Pain Physician*. 2013;16(4):335-344.

Scope compatibility guide: ■ 6.3 mm ■ 7 mm ■ 10 mm



## Interlaminar Approach to Discectomy

An interlaminar discectomy, through an endoscopically assisted approach, provides a familiar anatomical landscape for treating disc herniation and has advantages including improved patient-reported outcomes, reduced surgical trauma, and faster rehabilitation.<sup>1</sup>

- › Uses paramedian incision to access lamina and interlaminar space for disc removal

- › High-definition visualization allows for targeted disc removal and repair while avoiding surrounding structures
- › Small incision (<1 cm) for less tissue dissection
- › Endoscopic decompression provides significant advantages, including improved patient outcomes and faster recovery<sup>2</sup>
- › Ergonomic WishBone handle option available

Interlaminar Dissection Set, WishBone™ Handle		Page Number
Spine endoscopic case, large	AR-S1000-C1	32
Cannula, with elevator tip, 8 mm × 125 mm ■	AR-S3420-080-125ET	18
Cup forceps, 2.5 mm × 260 mm, with WishBone™ handle ■■■	AR-S7110-025-260W	26
Cup forceps, 3.5 mm × 260 mm, with WishBone™ handle ■■■	AR-S7110-035-260W	26
Cup grasper, semi-flexible, 3 mm × 260 mm, with WishBone™ handle ■■■	AR-S7125-030F-260W	27
Blakesley forceps, 3.5 mm × 330 mm, with WishBone™ handle ■■■	AR-S7118-035-330W	26
Scissor punch, up angle, 2.5 mm × 330 mm, with WishBone™ handle ■■■	AR-S7116-025U-330W	25
Scissor punch, 2.5 mm × 260 mm, with WishBone™ handle	AR-S7116-025-260W	25
Blunt dissector, 2.5 mm × 310 mm ■■■	AR-S1342-025-310	28
Hook probe, 2.5 mm × 310 mm ■■■	AR-S10030-025-310	28
Kerrison/ball tip probe, handle, with WishBone™	AR-S7400-000-000W	29
Ball-tip probe shaft, flexible, 1.8 mm × 330 mm	AR-S7405-018-330	28
Kerrison, 3.5 mm × 260 mm, 40° ■■■	AR-S7440-035-260	29
Kerrison, 4 mm × 260 mm, 40° ■■■	AR-S7440-040-260	29
Spine endoscope, 7.3 mm × 130 mm, 15° ■	AR-S3350-7015-130	16
Switching stick, 7 mm × 225 mm ■	AR-S3020-070-225	24

### References

1. Ruetten S, Komp M, Merk H, Godolias G. Full-endoscopic interlaminar and transforaminal lumbar discectomy versus conventional microsurgical technique: a prospective, randomized, controlled study. *Spine (Phila Pa 1976)*. 2008;33(9):931-939. doi:10.1097/BRS.0b013e31816c8af7
2. Franco D, Mouchtouris N, Gonzalez GA, et al. A review of endoscopic spine surgery: decompression for radiculopathy. *Curr Pain Headache Rep*. 2022;26(3):183-191. doi:10.1007/s11916-022-01017-x

Scope compatibility guide: ■ 6.3 mm ■ 7 mm ■ 10 mm

## Transforaminal Endoscopic Discectomy

Transforaminal endoscopic discectomy is a minimally invasive technique used to treat disc herniations through an endoscopic-assisted surgical approach. This approach has advantages including improved patient-reported outcomes, reduced surgical trauma, and faster rehabilitation.<sup>1</sup>

› Transforaminal approach through Kambin's triangle aims to preserve surrounding structures

- › High-definition visualization allows for targeted disc removal and repair while avoiding important surrounding anatomic structures
- › Small incision (<1 cm) to minimize tissue dissection
- › Favorable long-term outcomes<sup>2</sup> and high patient-reported satisfaction levels<sup>3</sup>
- › Ergonomic WishBone handle option available

Transforaminal Dissection Set, WishBone™ Handle		Page Number
Spine endoscopic case, large	AR-S1000-C1	32
Blakesley forceps, 3.5 mm × 330 mm, with WishBone™ handle   	AR-S7118-035-330W	26
Cannula, with oblique window, 8 mm × 178 mm	AR-S3420-080-178	18
Cannula, with elevator tip, 8 mm × 178 mm	AR-S3420-080-178ET	18
Cup forceps, 2.5 mm × 330 mm, with WishBone™ handle   	AR-S7110-025-330W	26
Cup forceps, 3.5 mm × 330 mm, with WishBone™ handle   	AR-S7110-035-330W	26
Cup forceps, up angle, 2.5 mm × 330 mm, with WishBone™ handle   	AR-S7110-025U-330W	26
Scissor punch, 2.5 mm × 330 mm, with WishBone™ handle   	AR-S7116-025-330W	25
Cup grasper, semi-flexible, 3 mm × 330 mm, with WishBone™ handle   	AR-S7125-030F-330W	27
Dilator, 2.5 mm × 230 mm	AR-S6524-025-230	23
Dilator, 4.1 mm × 220 mm	AR-S6524-041-220	23
Dilator, 5.1 mm × 210 mm	AR-S6524-051-210	23
Dilator, 6 mm × 200 mm 	AR-S6524-060-200	23
Dilator, 7.1 mm × 190 mm 	AR-S6524-071-190	23
Switching stick, 7 mm × 225 mm 	AR-S3020-070-225	24
Kerrison/ball-tip probe, with WishBone™ handle	AR-S7400-000-000W	29
Ball-tip probe shaft, flexible, 1.8 mm × 330 mm	AR-S7405-018-330	28
Extracting forceps	AR-S4100-200-100	31
Rod removal forceps	AR-S4100-200-200	31
Mallet	AR-S4100-100-000	31
Hook probe, 2.5 mm × 310 mm   	AR-S10030-025-310	28
Kerrison, 2.5 mm × 360 mm, 40°   	AR-S7440-025-360	29
Kerrison, 3.5 mm × 360 mm, 40°   	AR-S7440-035-360	29
Kerrison, 4 mm × 360 mm, 40°  	AR-S7440-040-360	29
Rod pusher, 2.5 mm	AR-S6524-025-230P	30
Rod pusher, 4 mm	AR-S6524-040-230P	30
Rod pusher, 5 mm	AR-S6524-050-230P	30
Trephine handle	AR-S7700-000-000H	30
Trephine, 5.1 mm × 225 mm	AR-S7705-051-225	30
Trephine, 6.6 mm × 225 mm	AR-S7705-066-225	30
Trephine, 7.6 mm × 225 mm	AR-S7705-076-225	30

Trephines not available until 2026

### References

- Ruetten S, Komp M, Merk H, Godolias G. Full-endoscopic interlaminar and transforaminal lumbar discectomy versus conventional microsurgical technique: a prospective, randomized, controlled study. *Spine (Phila Pa 1976)*. 2008;33(9):931-939. doi:10.1097/BRS.0b013e31816c8af7
- Ahn Y, Lee U, Kim WK, Keum HJ. Five-year outcomes and predictive factors of transforaminal full-endoscopic lumbar discectomy. *Medicine (Baltimore)*. 2018;97(48):e13454. doi:10.1097/MD.00000000000013454
- Hoogland T, van den Brekel-Dijkstra K, Schubert M, Miklitz B. Endoscopic transforaminal discectomy for recurrent lumbar disc herniation: a prospective, cohort evaluation of 262 consecutive cases. *Spine (Phila Pa 1976)*. 2008;33(9):973-978. doi:10.1097/BRS.0b013e31816c8ade

Scope compatibility guide:  6.3 mm  7 mm  10 mm

## Endoscopic Stenosis

Endoscopic treatment of spinal stenosis is a safe and effective choice with advantages over open decompression, including minimal tissue damage,<sup>1</sup> less blood loss,<sup>1,2</sup> and faster recovery and return to activity.<sup>2</sup>

- › Requires less laminar and facet resection and dural sac retraction<sup>1</sup>
- › May be performed in an outpatient setting; if performed in a hospital setting, may shorten length of hospital stay<sup>1,2</sup>
- › Compared to conventional procedures, endoscopic decompression has been shown to have a quicker recovery, faster return to work, less postoperative medication use, and fewer wound complications<sup>1</sup>

Stenosis Set, WishBone™ Handle (AR-S1000-STN-4KWS)		Page Number
Spine endoscopic case, large	AR-S1000-C1	32
Blakesley forceps, 3.5 mm × 330 mm, with WishBone™ handle ■■■	AR-S7118-035-330W	26
Cannula, with oblique window, 11 mm × 134 mm ■	AR-S3420-110-134	18
Cannula, with flat tip, 11 mm × 134 mm ■	AR-S3420-110-134FT	18
Cup forceps, 3.5 mm × 260 mm, with WishBone™ handle ■■■	AR-S7110-035-260W	26
Cup forceps, 4 mm × 260 mm, with WishBone™ handle ■■	AR-S7110-040-260W	26
Dilator, 2.5 mm × 230 mm	AR-S6524-025-230	23
Dilator, 4.1 mm × 220 mm	AR-S6524-041-220	23
Dilator, 5.1 mm × 210 mm	AR-S6524-051-210	23
Dilator, 6 mm × 200 mm ■	AR-S6524-060-200	23
Dilator, 7.1 mm × 190 mm ■	AR-S6524-071-190	23
Dilator, 10.1 mm × 160 mm ■	AR-S6524-101-160	23
Osteotome, 3 mm × 260 mm ■■■	AR-S1342-030-260	28
Kerrison/ball-tip probe, with WishBone™ handle	AR-S7400-000-000W	29
Ball-tip probe shaft, flexible, 1.8mm × 330 mm	AR-S7405-018-330	28
Hook probe, 2.5 mm × 260 mm ■■■	AR-S10030-025-260	28
Kerrison, 3.5 mm × 260 mm, 40° ■■■	AR-S7440-035-260	29
Kerrison, 4 mm × 260 mm, 40° ■■	AR-S7440-040-260	29
Kerrison, 4 mm × 260 mm, 90° ■■	AR-S7490-040-260	29
Kerrison, 5 mm × 260 mm, 40° ■	AR-S7440-050-260	29
Kerrison, 5 mm × 260 mm, 90° ■	AR-S7490-050-260	29
Kerrison, 6 mm × 260 mm, 40° ■	AR-S7440-060-260	29
Kerrison, 6 mm × 260 mm, 90° ■	AR-S7490-060-260	29
Kerrison, up angle, 4 mm × 260 mm, 40° ■	AR-S7440-040U-260	29
Spine endoscope, 10 mm × 139 mm, 15°	AR-S3350-1015-139	16
Switching stick, 10 mm × 185 mm ■	AR-S3020-100-185	24

### References

1. Ahn Y. Current techniques of endoscopic decompression in spine surgery. *Ann Transl Med.* 2019;7(Suppl 5):S169. doi:10.21037/atm.2019.07.98
2. Perez-Roman RJ, Gaztanaga W, Lu VM, Wang MY. Endoscopic decompression for the treatment of lumbar spinal stenosis: an updated systematic review and meta-analysis. *J Neurosurg Spine.* 2021;36(4):549-557. doi:10.3171/2021.8.SPINE21890



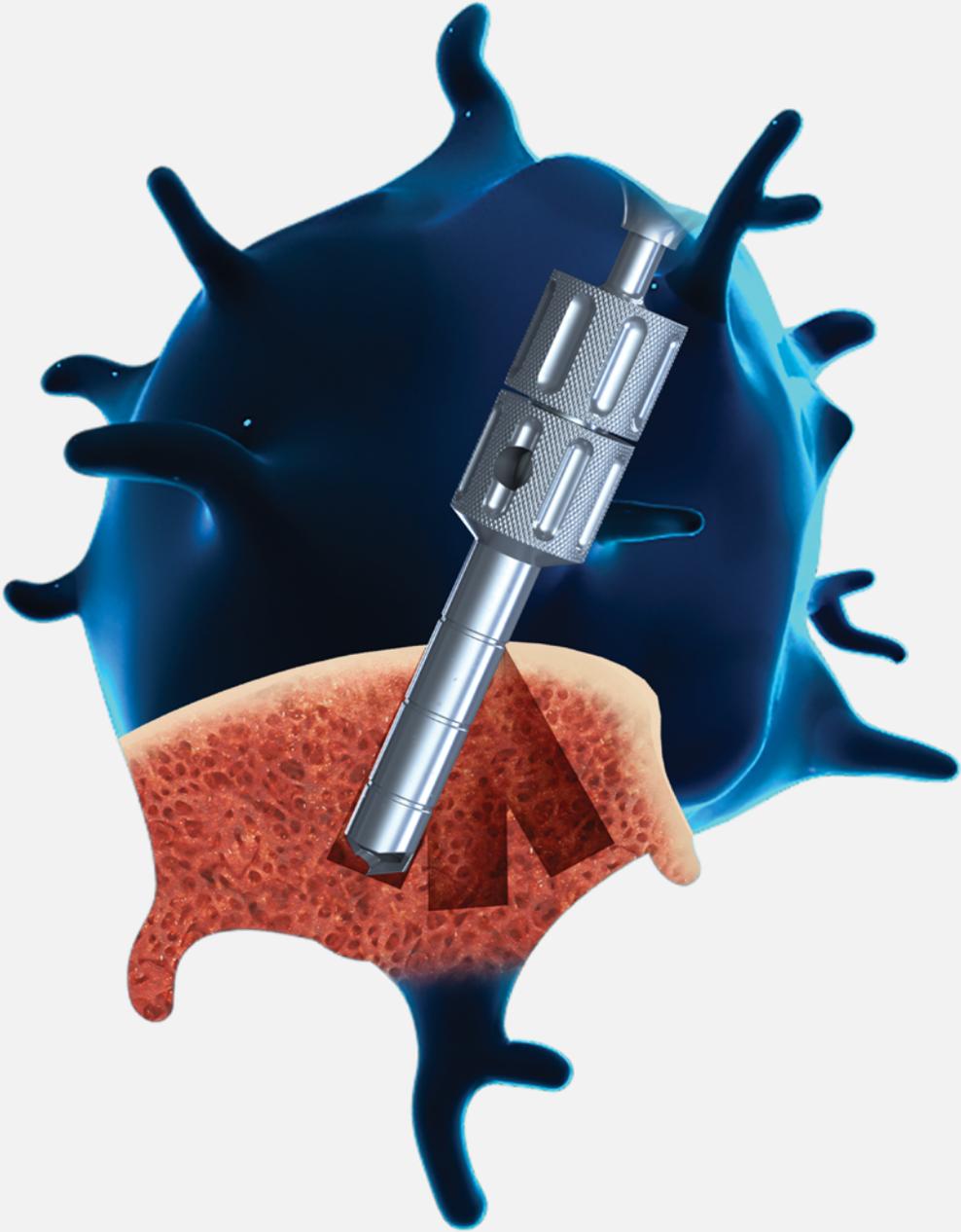
Arthrex  
GRAFT GUN AR-S1500-100  
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100 x 18 mm

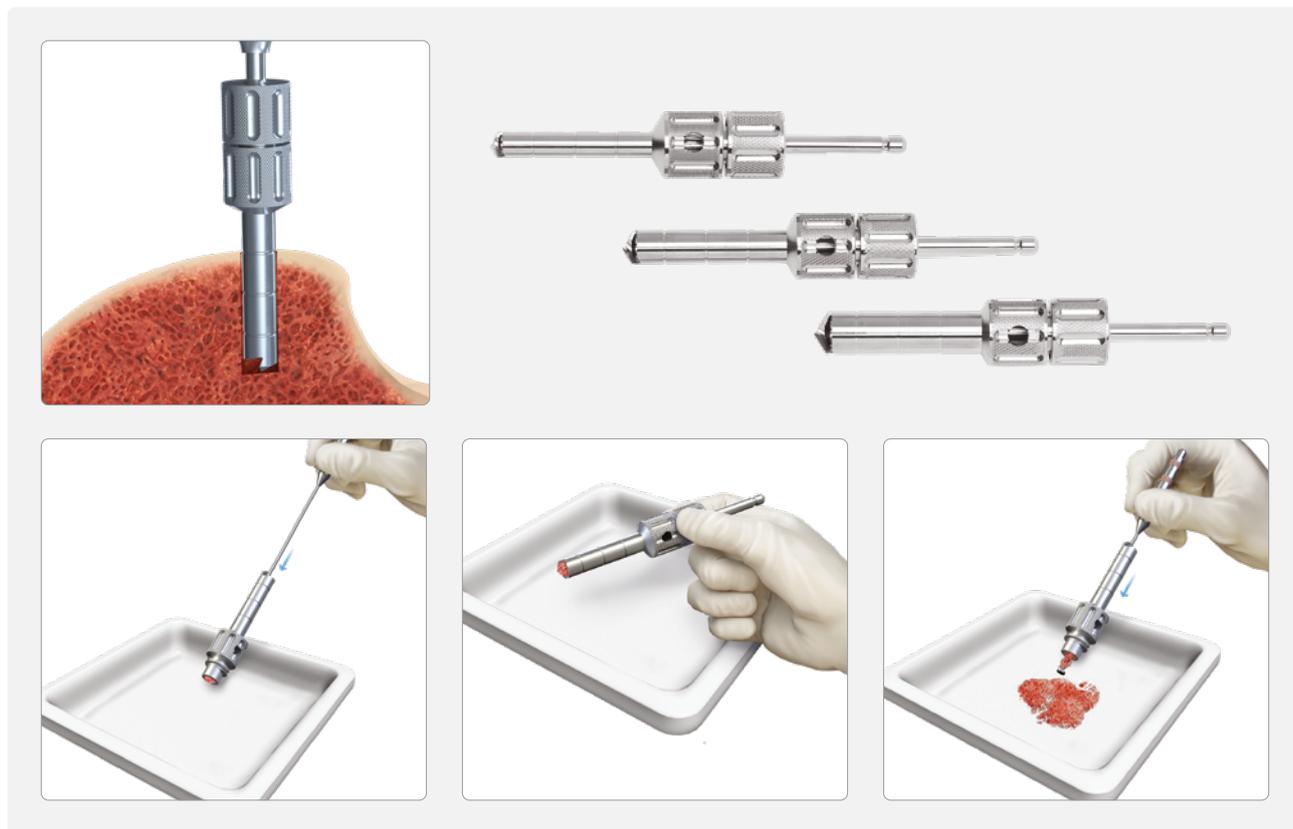
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CE 100 x 18 mm

## Bone Repair

<b>43</b>	OsteoAuger™ Bone Graft Harvesting System
<b>44</b>	GraftNet™ XL Bone Collection Device
<b>45</b>	GraftNet™ Bone Collection Device
<b>46</b>	Graft Gun Delivery System
<b>47</b>	BioXpress™ Graft Delivery Device



# OsteoAuger™ Bone Graft Harvesting System



The OsteoAuger bone graft harvesting system allows for the quick and efficient recovery of morselized autogenous bone graft. Its simple design uses 2 separate compartments for the drill and morselized bone. This user-friendly design makes harvesting and reimplantation faster and more convenient.

## Features and Benefits

- > **Effective:** Autograft bone has long been acknowledged as the gold standard graft for fusion
- > **Minimally invasive:** Small incision prevents patient discomfort and harvest site morbidity
- > **Precise:** 3 drill sizes allow predefined amounts of bone to be harvested
- > **Consistent:** Morselizing tip on the disposable trephine allows for consistent autograft bone output

OsteoAuger™ bone graft harvesting system, 6 mm	ABS-8000-06
OsteoAuger™ bone graft harvesting system, 8 mm	ABS-8000-08
OsteoAuger™ bone graft harvesting system, 10 mm	ABS-8000-10

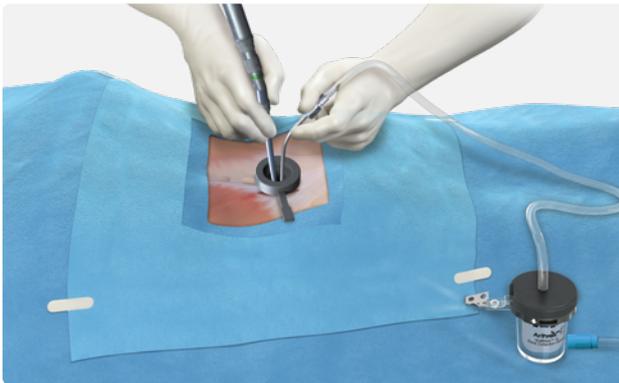


## GraftNet™ XL Bone Collection Device



The GraftNet XL bone collection device is designed to collect a large volume of autologous bone for a multitude of applications, such as spinal fusion and craniotomy. When connected to suction, the device may be used to collect autologous bone from the surgical site using a high-speed bur. The GraftNet XL bone collection device makes gaining access to autograft bone as simple as Resect and Collect.

- › Large-volume autologous bone graft collector
- › Suction-activated collection with universal adapter
- › Clip and tubing included for easy workflow use in sterile field
- › Quickly access recovered tissue with workflow-efficient design



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GraftNet™ XL bone collection device

ABS-1052

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**GraftNet<sup>XL</sup>**  
BONE COLLECTION DEVICE

## GraftNet™ Bone Collection Device



The suction-activated GraftNet device is designed to collect autologous bone from the surgical site and can be used for a multitude of applications, including spine, cranial, orthopedic, oral, and maxillofacial.

The small, inline device allows for maximum harvesting of autologous bone chips generated using a high-speed bur and collected through a connected suction tip, such as a Frazier suction tube. This recovered autologous bone is collected in an easily accessed, sterile filtered chamber. The GraftNet autologous tissue collector makes recovering and gaining access to autologous bone chips as simple as Resect and Collect.

- › Universal adapters make for easy attachment to common suction devices
- › Maximize autologous bone collection
- › Quickly access recovered tissue
- › Increase opportunity for arthrodesis success with maximum autograft volume

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GraftNet™ autologous tissue collector

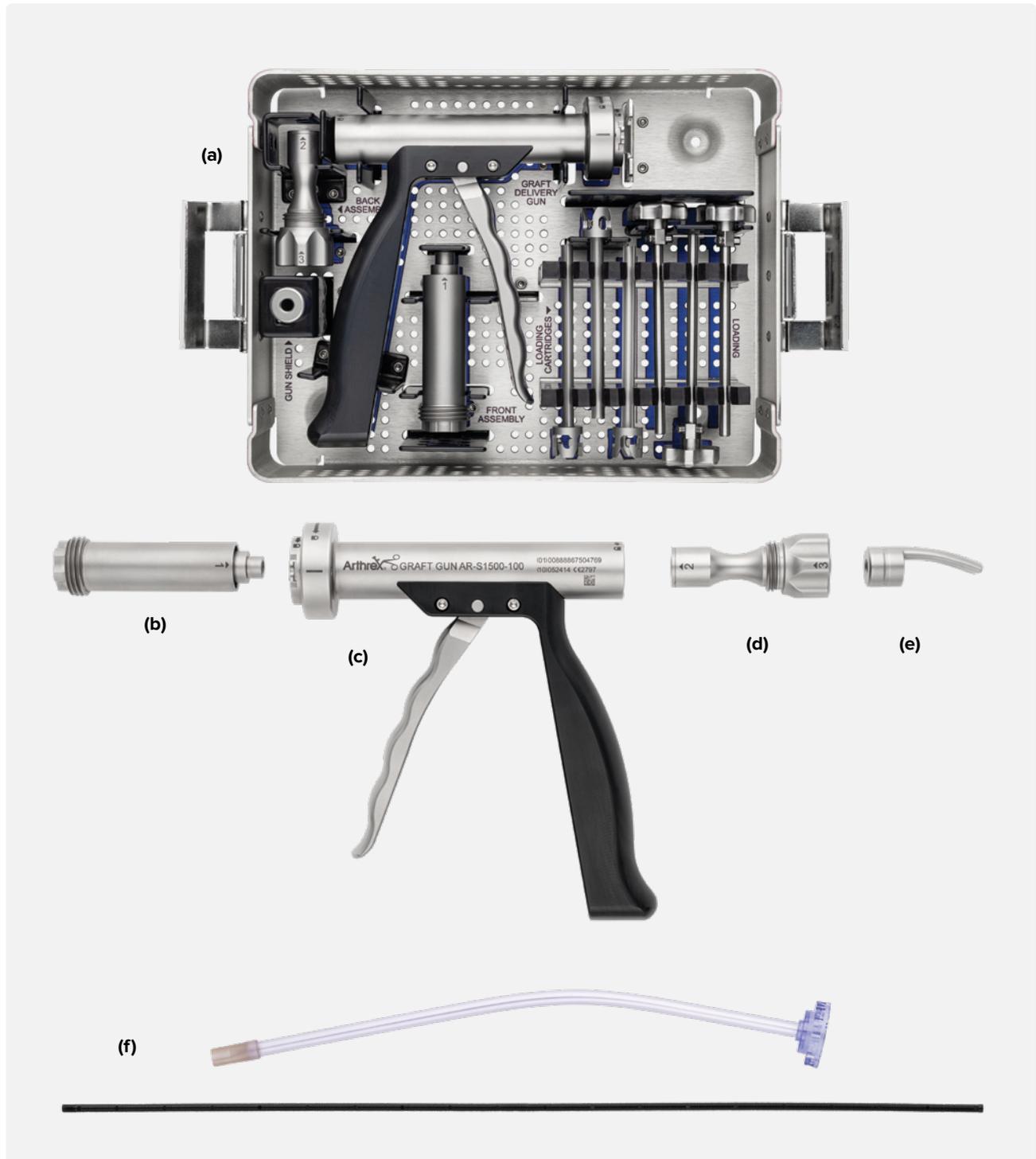
ABS-1050

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**GraftNet™**  
AUTOLOGOUS TISSUE COLLECTOR

## Graft Gun Delivery System

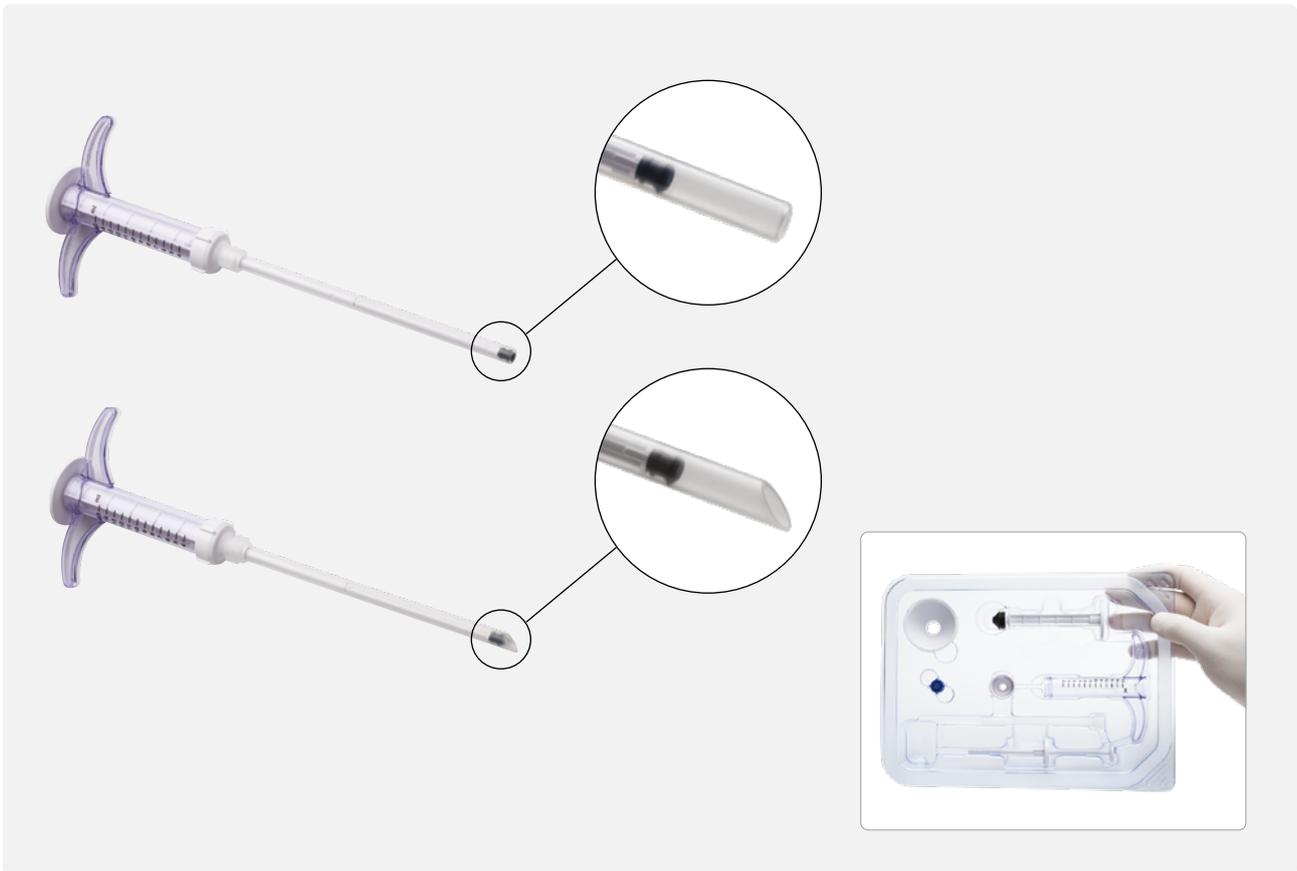


### Features and Benefits

- › Delivers bone graft into the disc space during fusion procedures
- › Easy delivery of any combination of autograft and allograft up to 100% autograft chips
- › Designed to provide direct visibility for delivering bone graft through a decompression tube

Graft gun case (a)	AR-S1000-C5
Graft gun (c)	AR-S1500-100
Graft gun front assembly (b)	AR-S1500-101
Graft gun Back assembly (d)	AR-S1500-102
Graft gun shield (e)	AR-S1500-103
Graft loading device	AR-S1500-200
Graft delivery kit, disposable (f)	AR-S1510-001K-S
Graft gun, set	AR-S1000-C5S

## BioXpress™ Graft Delivery Device

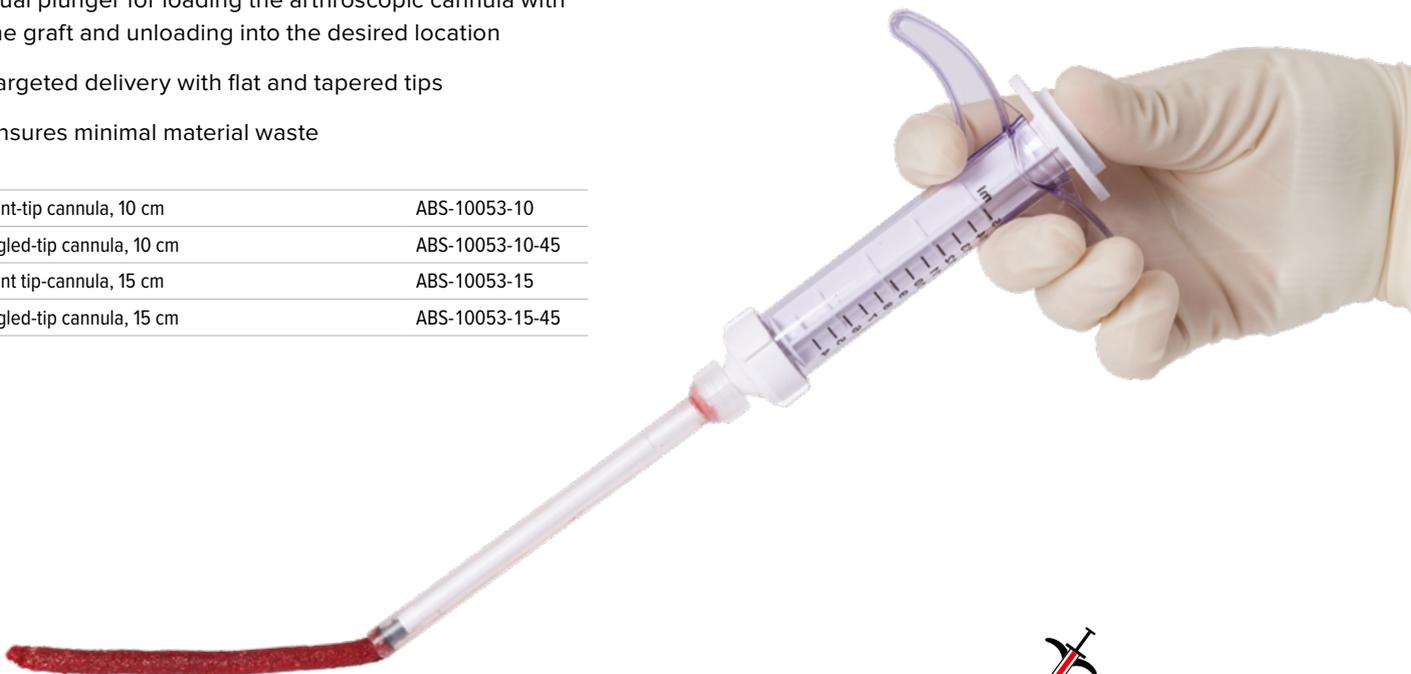


The BioXpress graft delivery device is designed for targeted delivery of hydrated allograft, autograft, and synthetic bone graft materials while maximizing material use.

### Features and Benefits

- > Dual plunger for loading the arthroscopic cannula with the graft and unloading into the desired location
- > Targeted delivery with flat and tapered tips
- > Ensures minimal material waste

Blunt-tip cannula, 10 cm	ABS-10053-10
Angled-tip cannula, 10 cm	ABS-10053-10-45
Blunt tip-cannula, 15 cm	ABS-10053-15
Angled-tip cannula, 15 cm	ABS-10053-15-45



**BioXpress™**



## Autologous Blood Products

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57	Thrombinator™ System Accessories and Applicators

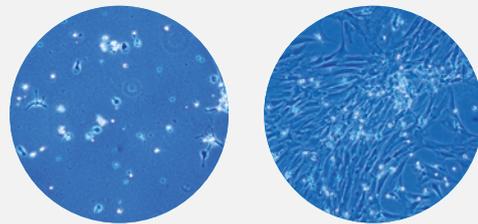
## Angel® PRP and Bone Marrow Processing System



Technology is what sets the Angel cPRP system apart from the competition. The Angel cPRP and bone marrow processing system uses proprietary sensor technology and one-button automation to deliver customized PRP concentrate. The Angel system is the only device that can provide PRP or cPRP from BMA with adjustable cellular levels. Bone marrow is a rich source of platelets, nucleated cells, and progenitor cells.

- › Proprietary platelet sensor system
- › Adjustable platelet concentrations
- › Adjustable white blood cell (WBC) concentrations
- › Programmable: can store up to 30 custom processing protocols
- › Each processing kit can process 3 cycles of up to 180 mL on the same patient
- › Flexible processing volume, 40 mL to 180 mL
- › Closed system; delivers PRP, platelet-poor plasma (PPP), and red blood cells (RBCs) into separate, sterile compartments

### In Vitro Culture Expansion of Progenitor Cells Over 96 Hours<sup>1</sup>



48 hours

96 hours

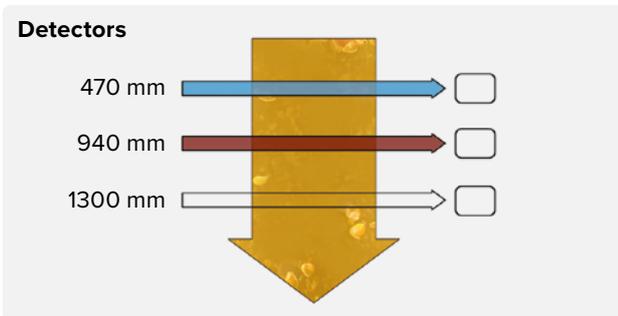


### Advantages of 3-Sensor Technology (3ST)

- › No syringe switching
- › No manual steps to prepare PRP
- › Delivers PRP, PPP, and RBCs into separate, sterile compartments
- › Ability to modulate platelet, leukocyte, and RBC content
- › Consistent PRP output

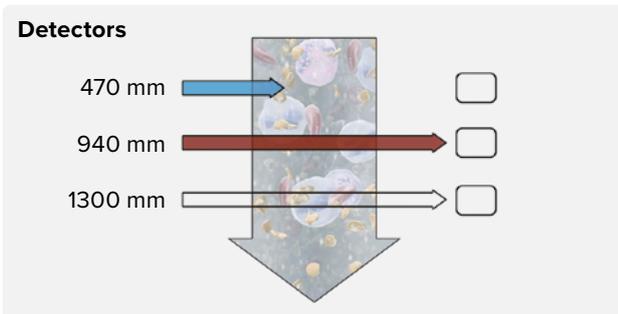
High-specificity 3ST light sensor technology and automated valve actuation are the foundation of the Angel cPRP system. The results of these features are the production of a high yield of PRP and PPP from whole blood.

Angel® system centrifuge	ABS-10066
Angel® system centrifuge, refurbished	ABS-10066R
Angel® processing set	ABS-10064
Angel® PRP kit	ABS-10071
Arthrex biologics cart	KU.5157.800
Anticoagulant, ACD-A, 20 mL	SAAV222.G00
Angel® BMC kit	ABS-10072



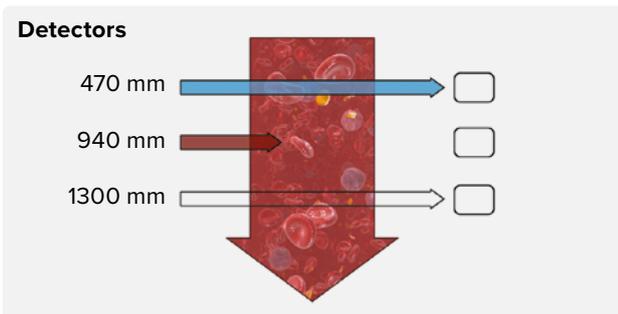
### Advantages of 3-Sensor Technology (3ST)

When plasma is present, all 3 light beams pass through and contact the detector. The Angel device recognizes the presence of plasma and turns the valve to collect PPP. The PPP is deposited in the PPP collection reservoir.



### Platelets and Nucleated Cells

When platelets and nucleated cells are present, the 470 nm wavelength of light is absorbed. The absence of the 470 nm beam on the detector alerts the Angel system to stop collecting PPP. The Angel system will then actuate the valve to collect PRP. The PRP is directed into the collection syringe on top of the unit.



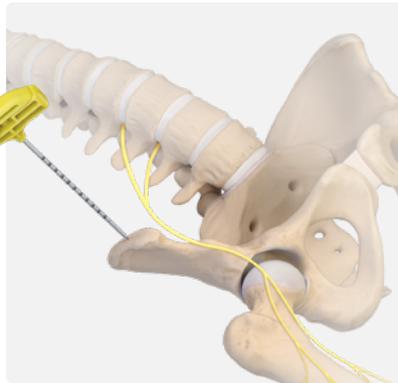
### RBCs

The 940 nm wavelength is absorbed by RBCs. When the detector no longer detects the 940 nm beam, the Angel system will allow a percentage of RBCs to pass through into the PRP collection syringe. The percentage of RBCs collected in the PRP syringe is determined by the hematocrit (HCT) setting selected by the operator.

## Vortex™ Needle Potential Bone Marrow Aspirate (BMA) Recovery Sites



Bilateral vertebral body harvest technique



Anterior superior iliac spine (ASIS) harvest technique



Posterior superior iliac spine (PSIS) harvest technique

## Vortex™ Threaded Bone Marrow Recovery Needle



The unique design of the Vortex threaded bone marrow recovery needle for BMA features a threaded tip and vent holes, allowing the user to easily and accurately reposition the tip of the needle within the bone for optimal aspiration volume.

Designed for precise depth and directional control while aspirating bone marrow, the Vortex needle allows the user to maximize the concentration of osteoprogenitor cells recovered from the patient.<sup>1</sup>

### Technical Pearls

- › To maximize the concentration of osteoprogenitor cells collected, it is recommended to change the depth of the needle after every aspiration of 2 cc of bone marrow. This is done by completing alternating ½ and 1½ turns of the needle.
- › The use of a C-arm is recommended to assist with proper targeting

Vortex™ threaded bone marrow recovery needle kit	AR-1101THK-8
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Vortex™ threaded bone marrow recovery needle, 8 ga, open tip  
Prep tray  
Syringe

Vortex™ threaded bone marrow recovery needle kit	AR-1101THK-13
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Vortex™ threaded bone marrow recovery needle, 13 ga, open tip  
Prep tray  
Syringe

Vortex™ needle power adapter	AR-1001-TH-PWR
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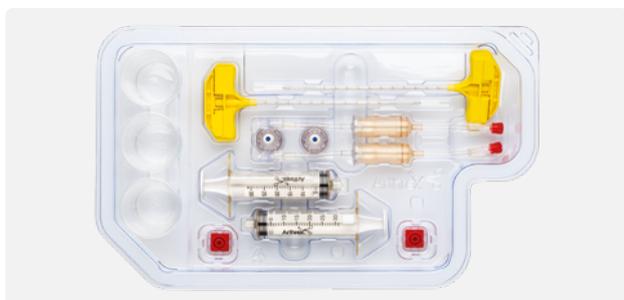
**VORTEX**  
Threaded Bone Marrow Recovery Needle

## Vortex™ Threaded Bone Marrow Recovery Needle With Angel® cPRP System

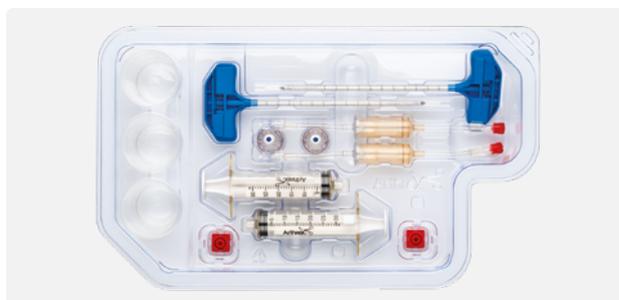


The Vortex needle can be ordered with the Angel cPRP processing kit for efficient aspiration from a wide array

of orthopedic and spine applications such as a vertebral body, ASIS, or PSIS.



Aspiration kit with Angel cPRP from BMA system, closed tip, 13 ga



Aspiration kit with Angel cPRP system, closed tip, 8 ga

<b>Vortex™ Threaded Bone Marrow Recovery Needle</b>	
Vortex™ threaded bone marrow recovery needle, 8 ga, closed tip	AR-1101TH-8CT
Vortex™ threaded bone marrow recovery needle, 8 ga, open tip	AR-1101TH-8OT
Vortex™ threaded bone marrow recovery needle, 13 ga, closed tip	AR-1101TH-13CT
Vortex™ threaded bone marrow recovery needle, 13 ga, open tip	AR-1101TH-13OT
<b>Vortex™ Threaded Bone Marrow Recovery Needle Kit</b>	
Vortex™ threaded bone marrow recovery needle, 8 ga, open tip Prep tray Syringe	AR-1101THK-8
Vortex™ needle power adapter	AR-1001-TH-PWR
<b>DrillSaw Sports 400™ Power System</b>	
Handpiece	AR-400
Lithium-ion battery housing, for AR-400	AR-400UBH-1
Aseptic transfer kit, for AR-400	AR-400ATK-1
Battery pack, for AR-400, nonsterile	AR-400UB
Reamer attachment, Hudson style	AR-400RZH
<b>Angel® System</b>	
Angel® BMA processing kit, with Vortex™ threaded bone marrow recovery needle, 8 ga closed tip, without ACD-A	ABS-10062K-TH8CT
Angel® BMA processing kit, with Vortex™ threaded bone marrow recovery needle, 8 ga open tip, without ACD-A	ABS-10062K-TH8OT
Angel® BMA processing kit, with Vortex™ threaded bone marrow recovery needle, 13 ga closed tip, without ACD-A	ABS-10062K-TH13CT
Angel® BMA processing kit, with Vortex™ threaded bone marrow recovery needle, 13 ga open tip, without ACD-A	ABS-10062K-TH13OT
Angel® system centrifuge	ABS-10066
Angel® system centrifuge, refurbished	ABS-10066R
Arthrex biologics cart	KU.5157.800

## Arthrex ACP® Double-Syringe System



Rotor set with buckets

- › The Arthrex ACP (autologous conditioned plasma) system allows for rapid and efficient concentration of platelets and growth factors from autologous blood for use at the treatment site
- › The unique double-syringe design allows for convenient and safe handling, as the whole preparation process takes place in a closed system
- › The Arthrex ACP system is affordable, easy to use, and has a quicker procedure time when compared to other PRP devices<sup>1</sup>
- › White blood cells, specifically neutrophils, are NOT concentrated within the ACP system; these cells can be detrimental to the healing process due to release of degradative proteins and reactive oxygen species<sup>2,3</sup>

Arthrex ACP® double syringe	ABS-10014
Arthrex ACP® kit, series I	ABS-10011



### References

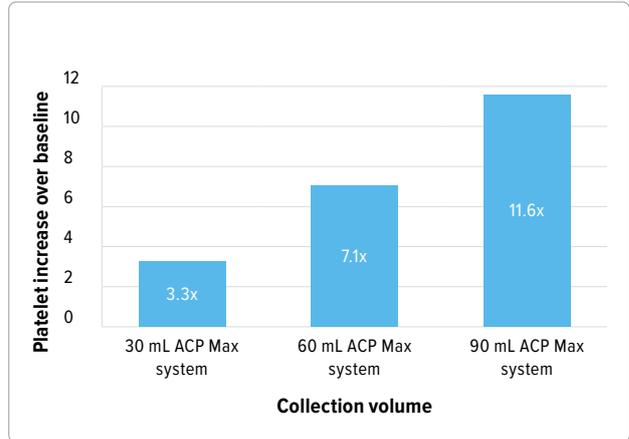
1. Arthrex, Inc. Data on file (APT-2470). Naples, FL; 2014.
2. Scott A, Khan KM, Roberts CR, Cook JL, Duronio V. What do we mean by the term "inflammation"? A contemporary basic science update for sports medicine. *Br J Sports Med.* 2004;38(3):372-380. doi:10.1136/bjsm.2004.011312
3. Jiang N, Tan NS, Ho B, Ding JL. Respiratory protein-generated reactive oxygen species as an antimicrobial strategy. *Nat Immunol.* 2007;8(10):1114-1122. doi:10.1038/ni1501

# ACP Max™ PRP System

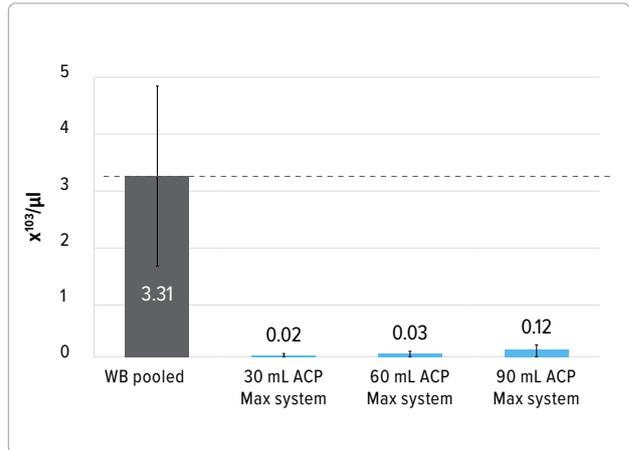


The ACP Max system allows for the efficient concentration of platelets from whole blood (WB) volumes of 30 mL, 60 mL, or 90 mL. The system's final output results in a neutrophil-poor PRP solution with up to 12x platelet concentration over baseline.<sup>1-3</sup>

## ACP Max™ Platelet Increase Over Baseline<sup>1-3</sup>



## Neutrophil Concentrations in PRP vs WB<sup>1-3</sup>



ACP Max™ PRP system

ABS-10013-B

ACP Max™ system, without ACD-A

ABS-10013

# ACP MAX™

# Thrombinator™ System



The Thrombinator system is designed to produce an autologous activation serum at the point of care. The serum produced by the Thrombinator system can be used to improve the handling of bone grafts. Autologous activation serum improves handling by activating platelets to produce a gel that serves as a binding agent for bone graft material. The Thrombinator process uses the principles of the clotting cascade to produce an activation serum without the use of harsh chemical reagents such as ethanol. The Thrombinator design eliminates the need for lengthy incubation times and heating requirements. Autologous activation serum can be produced in less than 20 minutes from peripheral whole blood (WB), PPP, and PRP.

- > Rapid preparation (less than 20 minutes)
- > Prepare from WB, PPP, or PRP
- > Produces clot in as little as 15 seconds
- > Centrifugation not required

Thrombinator™ system	ABS-10080
Accessories	
Dual cannula, semiflexible, endoscopic, 32 cm	SA-3650
Dual spray tip	SA-3660
Endoscopic applicator, with mixing tip, 30 cm, 1:1 ratio	SA-3662
Blending connector, with single flexible cannula	SA-3673
Blending connector, with single spray	SA-3674
Mixing applicator, low viscosity, with spray tip	SA-3675
Blending connector, with mixer	SA-3678



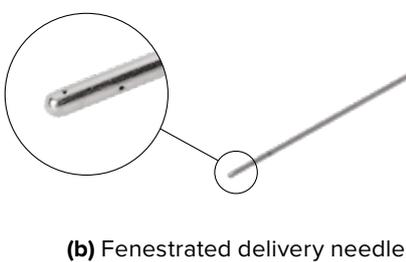
## Thrombinator™ System Accessories and Applicators



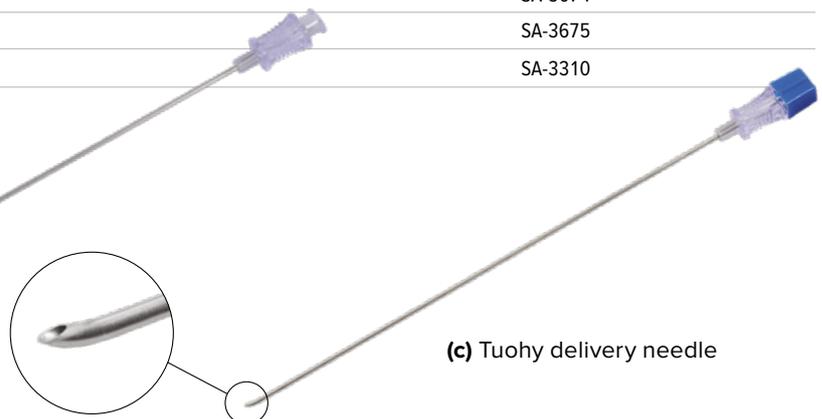
(a) Applicator assembly 10 cc, 1:1 ratio

- > Quick and simple to attach and detach
- > Easy to fill, no need to disassemble
- > 1:1 ratio allows homologous mixture of 2 fluids
- > Use to provide a low- or high-viscosity fluid
- > ACP or PRP can be mixed with allograft or autograft bone prior to application to an orthopedic surgical site as a spray, gel, or clot
- > Extra-long, blunt, fenestrated, and beveled delivery needles

Viscous-Gel™ applicator, high viscosity	ABS-10050
Viscous-Spray™ applicator, low viscosity	ABS-10051
Viscous-Spray™ II applicator, low viscosity	ABS-10052
Fenestrated delivery needle (b)	ABS-20000
Tuohy delivery needle (c)	ABS-21000
Cannula bending tool	AR-6650
Dual cannula, 6 ga × 10 cm (4 in)	SA-3600
Dual cannula, 20 ga × 5 cm (2 in)	SA-3615
Dual cannula, 20 ga × 10 cm (4 in)	SA-3618
Dual cannula, 20 ga × 18 cm (7 in)	SA-3619
Dual cannula, 20 ga × 26 cm (10.25 in)	SA-3620
Dual cannula, semiflexible, endoscopic, 32 cm	SA-3650
Dual spray tip	SA-3660
Endoscopic applicator, with mixing tip, 30 cm, 1:1 ratio	SA-3662
Blending connector, with single flexible cannula	SA-3673
Blending connector, with single spray	SA-3674
Mixing applicator, low viscosity, with spray tip	SA-3675
Applicator assembly, 10 cc, 1:1 ratio (a)	SA-3310



(b) Fenestrated delivery needle



(c) Tuohy delivery needle



## Soft-Tissue Repair

60 | Curved Scorpion™ Suture Passer

## Curved Scorpion™ Suture Passer



The Curved Scorpion suture passer draws on more than 20 years of experience in the minimally invasive suture market. Designed specifically for minimally invasive spine approaches, the Curved Scorpion suture passer removes the frustration associated with closing the fascia at the end of the case.

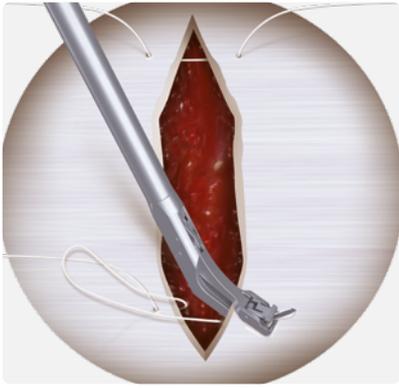
The Curved Scorpion suture passer is ideal for closing the fascia at the end of minimally invasive spine procedures. The low-profile design allows for easy access to the fascia, at all depths, for procedures done through either a tubular or mini-open approach. The Curved Scorpion suture passer automatically passes and retrieves multiple types of suture, including 0 and 2-0 sutures.

### Features and Benefits

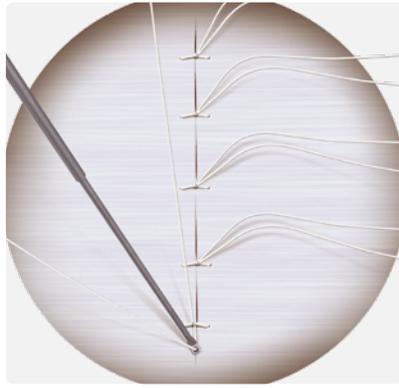
- › Can close fascia up to 75% faster<sup>1</sup>
- › Efficient, consistent fascial closure at any depth
- › Automatically and seamlessly passes and retrieves suture
- › Single-step suture loading
- › Low-profile design for easy access through tubular or mini-open approaches



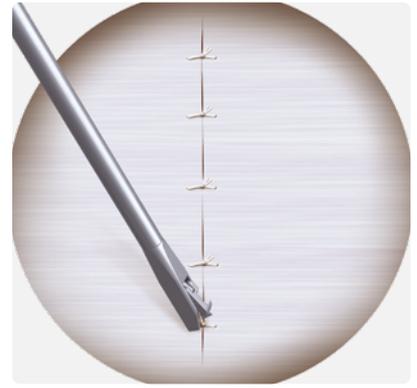
Curved  
**Scorpion**



Pass ...



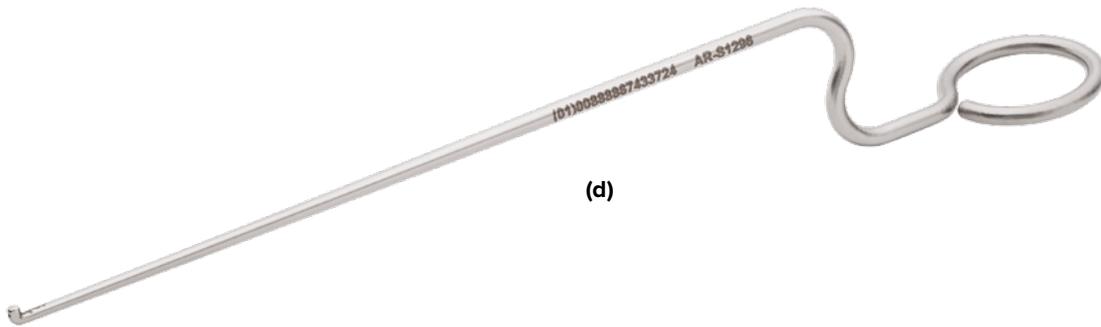
... tie ...



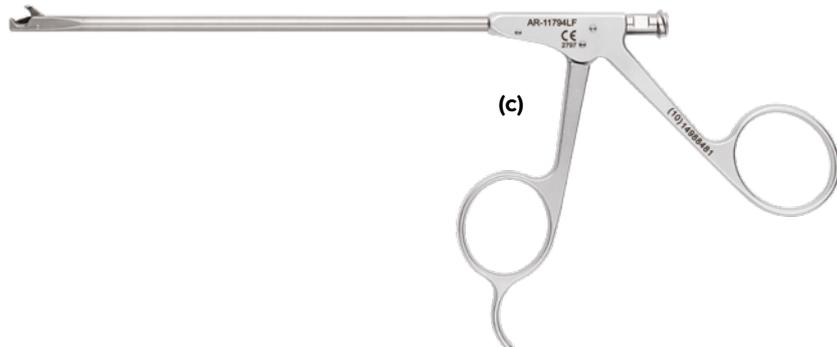
... cut.



Curved Scorpion™ with FlushPort <b>(a)</b>	AR-13998CF
SureFire® Scorpion™ needle <b>(b)</b>	AR-13991N
Suture cutter, 4.2 mm, open ended, left notch, with FlushPort <b>(c)</b>	AR-11794LF
Suture cutter, 4.2 mm × 220 mm, open ended, left notch, with FlushPort	AR-16794LF
Bayonetted knot pusher <b>(d)</b>	AR-S1296
Curved Scorpion™ instrument case	AR-13998CFC



**(d)**



**(c)**

This description of technique is provided as an educational tool and clinical aid to assist properly licensed medical professionals in the usage of specific Arthrex products. As part of this professional usage, the medical professional must use their professional judgment in making any final determinations in product usage and technique. In doing so, the medical professional should rely on their own training and experience, and should conduct a thorough review of pertinent medical literature and the product's directions for use. Postoperative management is patient-specific and dependent on the treating professional's assessment. Individual results will vary and not all patients will experience the same postoperative activity level or outcomes.



Arthrex manufacturer, authorized representative, and importer information (Arthrex eIFUs)



US patent information