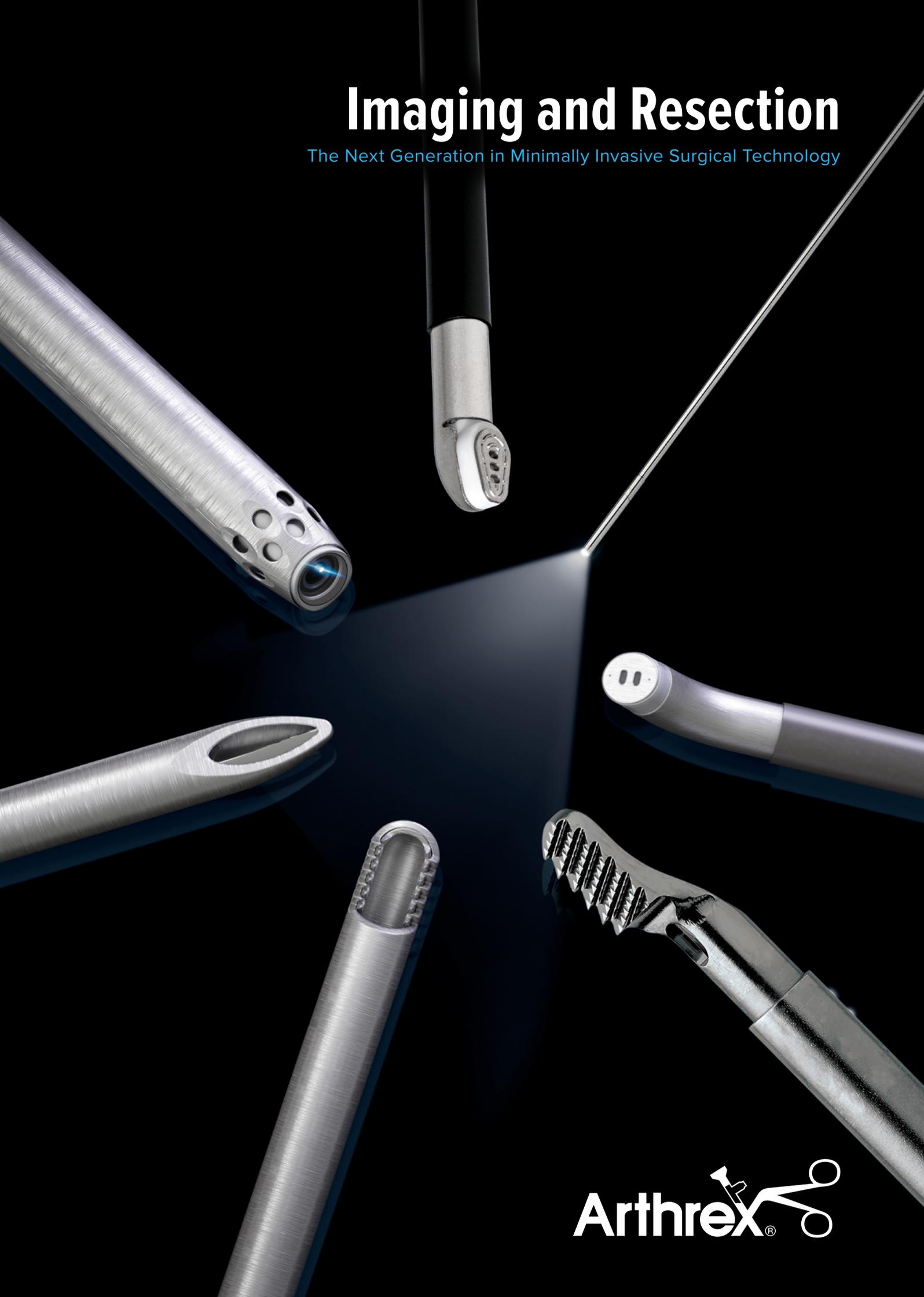


Imaging and Resection

The Next Generation in Minimally Invasive Surgical Technology



Arthrex® 

Helping Surgeons Treat Their Patients Better[®]

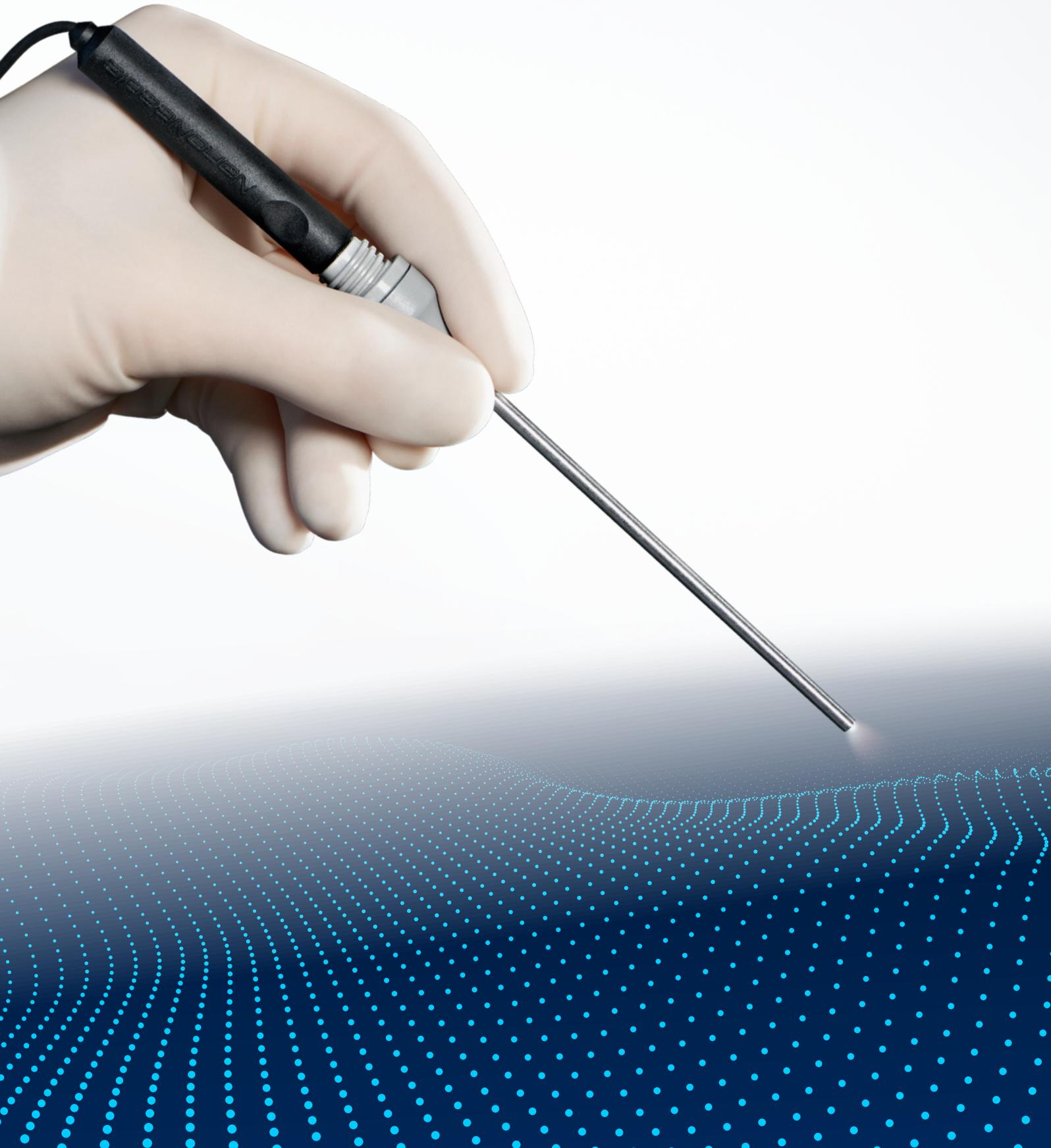
Since its inception, Arthrex has been committed to one mission: Helping Surgeons Treat Their Patients Better. We are strategically focused on constant product innovation through scientific research, surgeon collaboration, and medical education to make less invasive surgical procedures simple, safer, and more reproducible. Each year, we develop more than 1000 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.

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Nano Arthroscopy System

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Size Comparison: Conventional Arthroscope vs NanoNeedle

REDUCTION IN
INVASIVE AREA



Ø5.9 mm
sheath



-84%



Ø2.4 mm
sheath



Ø1.9 mm
NanoNeedle

Nano Arthroscopy System

The Nano arthroscopy system consists of the NanoScope console and the NanoNeedle Scope.

It features the latest technologies in small imaging sensors, LED lighting, image management, and OR integration. The NanoNeedle Scope is an all-in-one, chip-on-tip, single-use camera system that offers surgeons the ergonomic benefits of a pencil-style handpiece.

NanoScope™ Console



- Portable control unit – including documentation and data management
- 13" touch screen monitor
- Rechargeable-battery powered
- Medical grade device
- Ethernet, USB, and HDMI ports – wireless network capabilities
- DICOM
- Integrated microphone

Product description	Item number
NanoScope™ console	AR-3200-0030

NanoNeedle Scope



- Single-use sterile camera
- Chip-on-tip technology
- Headless design
- 1.9 mm scope diameter
- 0° direction of view
- 120° field of view
- Integrated LED light source
- Lightweight and well balanced
- 3 different lengths: 125 mm, 180 mm, and 250 mm

Product description	Item number
NanoNeedle Scope, 125 mm	AR-3210-0043
NanoNeedle Scope, 180 mm	AR-3210-0044
NanoNeedle Scope, 250 mm	AR-3210-0045

NanoNeedle Scope Accessories

NanoNeedle Scope – Sheath Kits

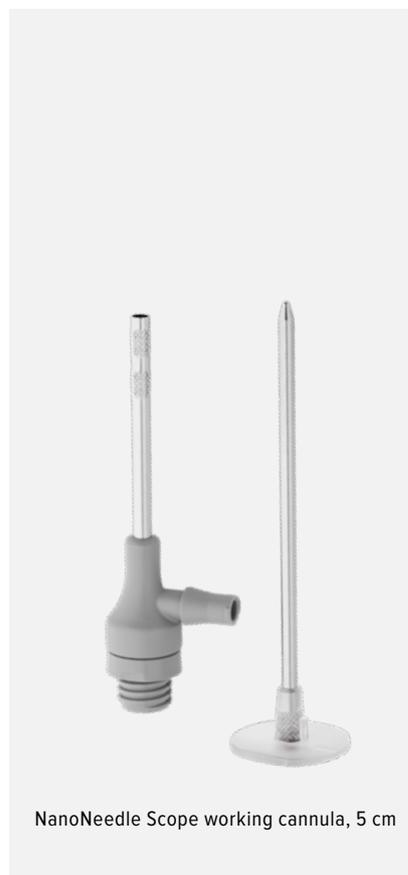
Surgeons can select the ideal sheath system to suit their specialty, site of care, and flow requirements independently of the NanoNeedle. Options include the diagnostic sheath kit with an OD* of 2.4 mm and high-flow operative sheaths with a larger OD (3.3 mm) for higher flow rates and increased joint distention. Each system is packaged sterile and contains a straight sheath as well as a 10° angled sheath to provide a 10° viewing angle.

Components

- One straight inflow sheath with sharp obturator, single-use, sterile
- One 10° angled inflow sheath with flexible blunt cannulated obturator, single-use, sterile
- One stopcock, single-use, sterile

Product description	Item number
NanoNeedle Scope diagnostic sheath kit, 125 mm (OD 2.4 mm)	AR-3210-0050
NanoNeedle Scope high-flow operative sheath kit, 125 mm (OD 3.3 mm)	AR-3210-0051
NanoNeedle Scope high-flow operative sheath kit, 125 mm, with crown tip and fenestration cutout (OD 3.3 mm)	AR-3210-0052
NanoNeedle Scope diagnostic sheath kit, 180 mm (OD 2.4 mm)	AR-3210-0054
NanoNeedle Scope high-flow operative sheath kit, 180 mm (OD 3.3 mm)	AR-3210-0055
NanoNeedle Scope high-flow operative sheath kit, 180 mm, with crown tip and fenestration cutout (OD 3.3 mm)	AR-3210-0058

* OD = outer diameter



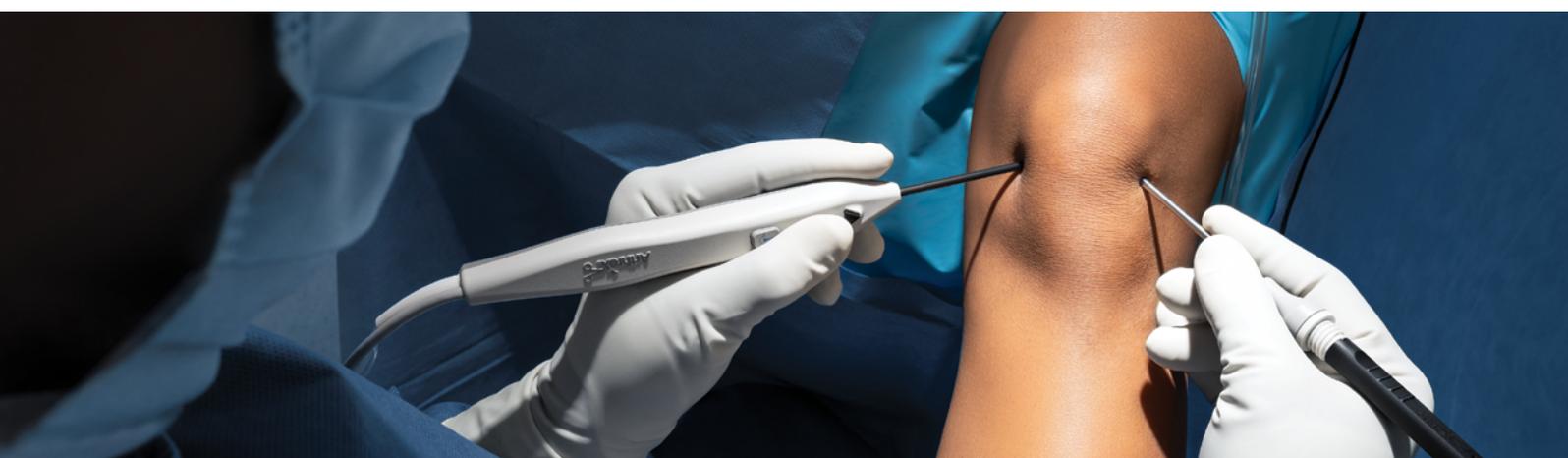
NanoNeedle Scope – Access Kits

The NanoNeedle Scope access kits contain both inflow sheaths and essential components for precise joint access.

Components

- One straight inflow sheath with sharp obturator, single-use, sterile
- One 10° angled inflow sheath with flexible blunt cannulated obturator, single-use, sterile
- One spinal needle stylet, single-use, sterile
- One guide wire, single-use, sterile
- One stopcock, single-use, sterile

Product description	Item number
NanoNeedle Scope high-flow operative sheath kit (elbow access), 125 mm	AR-3210-0053
NanoNeedle Scope diagnostic sheath kit (hip access), 180 mm	AR-3210-0056
NanoNeedle Scope high-flow operative sheath kit (hip access), 180 mm	AR-3210-0057



NanoNeedle Scope – Working Cannulas

The NanoNeedle Scope working cannulas are designed to facilitate the insertion of the NanoNeedle Scope, as well as Nano hand instruments and small-diameter shaver blades. They all feature a flexible plastic dam to prevent fluid loss and have a knurl pattern at the distal end to ensure the cannula stays in position during instrument removal.

Components

- One working cannula with blunt obturator, OD 3.8 mm / ID* 3.4 mm, single-use, sterile

Product description	Item number
NanoNeedle Scope working cannula, 5 cm	AR-3210-0059
NanoNeedle Scope working cannula, 1.5 cm	AR-3210-0063

* ID = inner diameter



NanoNeedle spear with
FiberTak anchor for DEX:
AR-3210-0061
AR-3210-0052
AR-8991



NanoNeedle spear with
FiberTak anchor for shoulder:
AR-3210-0060
AR-3210-0052
AR-3638



NanoNeedle spear with
FiberTak anchor for hip:
AR-3210-0062
AR-3210-0058
AR-3602H

NanoNeedle Spear

Direct Single-Portal FiberTak® Anchor Placement

Explore Arthrex's first fully specialized scope sheath for direct single-portal anchor placement in arthroscopic procedures. Insertion of 1.8 mm FiberTak anchors can be achieved by using any NanoNeedle sheath in combination with the Nano 1.8 mm FiberTak handle. For best placement, we recommend using the NanoNeedle sheaths with crown tip. Arthrex offers 3 specialized handles to accommodate distal extremity, shoulder, and hip procedures. The handles are sized and calibrated to ensure an accurate depth stop for FiberTak anchor insertion.



NanoNeedle spear with FiberTak anchor for DEX



NanoNeedle spear with FiberTak anchor for shoulder



NanoNeedle spear with FiberTak anchor for hip

Implants

Product description	Item number
DX Knotless FiberTak® anchor, single-use, sterile	AR-8991
FiberTak® anchor, for shoulder, single-use, sterile	AR-3638
FiberTak® anchor, for hip, single-use, sterile	AR-3602H

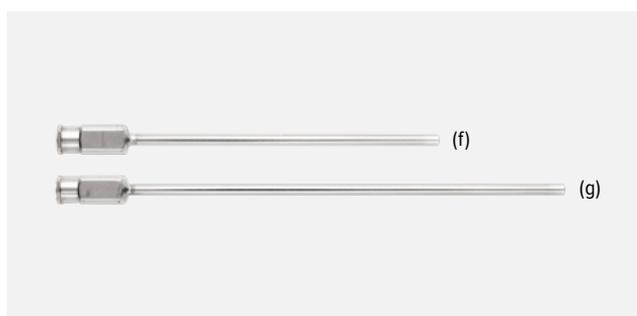
FiberTak® Handles for NanoNeedle Sheaths

Product description	Item number
Nano 1.8 mm FiberTak® handle, for shoulder, reusable	AR-3210-0060
Nano 1.8 mm FiberTak® handle, for DEX, reusable	AR-3210-0061
Nano 1.8 mm FiberTak® handle, for hip, reusable	AR-3210-0062

Recommended NanoNeedle Sheath Kits

Product description	Item number
NanoNeedle Scope high-flow operative sheath kit, 125 mm, with crown tip and fenestration cutout (OD 3.3 mm), single-use, sterile	AR-3210-0052
NanoNeedle Scope high-flow operative sheath kit, 180 mm, with crown tip and fenestration cutout (OD 3.3 mm), single-use, sterile	AR-3210-0058

Nano Arthroscopy Cannulas and Insertion Kit



Nano Arthroscopy Cannulas

The Nano arthroscopy cannula features a flexible plastic dam to prevent fluid loss. The cannula is designed to facilitate the insertion of the NanoNeedle Scope, as well as Nano hand instruments.

The included Tegaderm* skin adhesive is placed over the NanoCannula to maintain cannula position during instrument removal.

Components

- NanoCannula and cannulated obturator, 2.7 mm ID / 3.4 mm OD, single-use, sterile,
- Tegaderm* skin adhesive, single-use, sterile

Product description	Item number
NanoCannula, 1.5 cm length (a)	AR-1090C-15-1
NanoCannula, 3 cm length (b)	AR-1090C-30-1
NanoCannula, 4 cm length (c)	AR-1090C-40-1
NanoCannula, 5 cm length (d)	AR-1090C-50-1
NanoCannula, 7 cm length (e)	AR-1090C-70-1

* Tegaderm is a trademark of 3M Medical

Outflow Cannulas

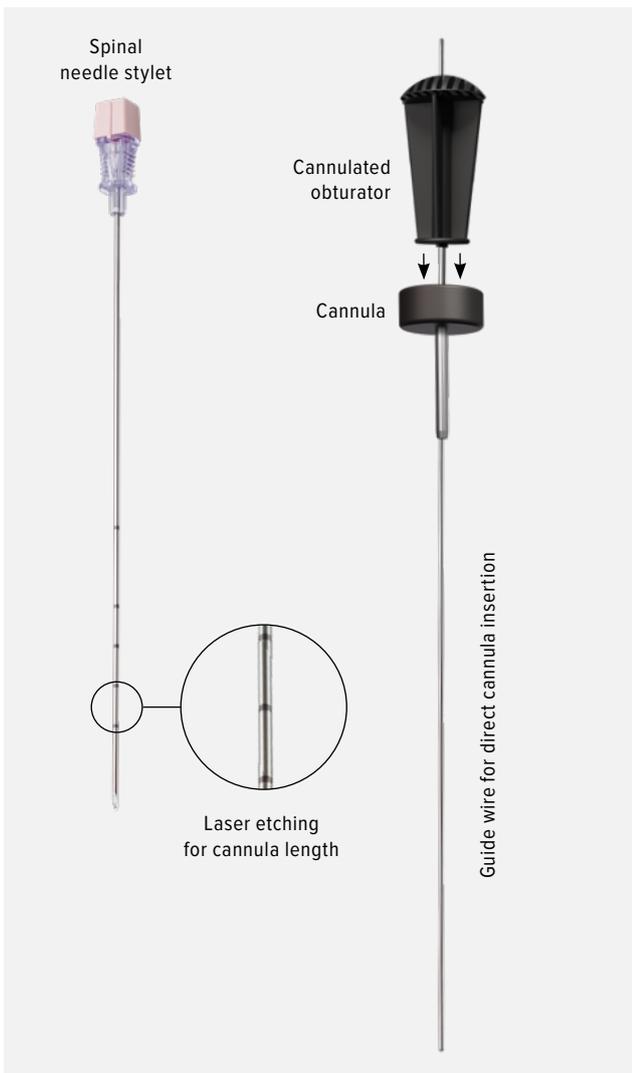
The outflow cannula can be inserted through the NanoCannula for aspiration of fluid and resected soft tissue. It connects to syringes or suction tubing.

Components

- Outflow cannula, 2.4 mm OD, single-use, sterile

Product description	Item number
Outflow cannula, 7 cm (f)	AR-1090S-70-1
Outflow cannula, 10 cm (g)	AR-1090S-100-1

Percutaneous Insertion Kit

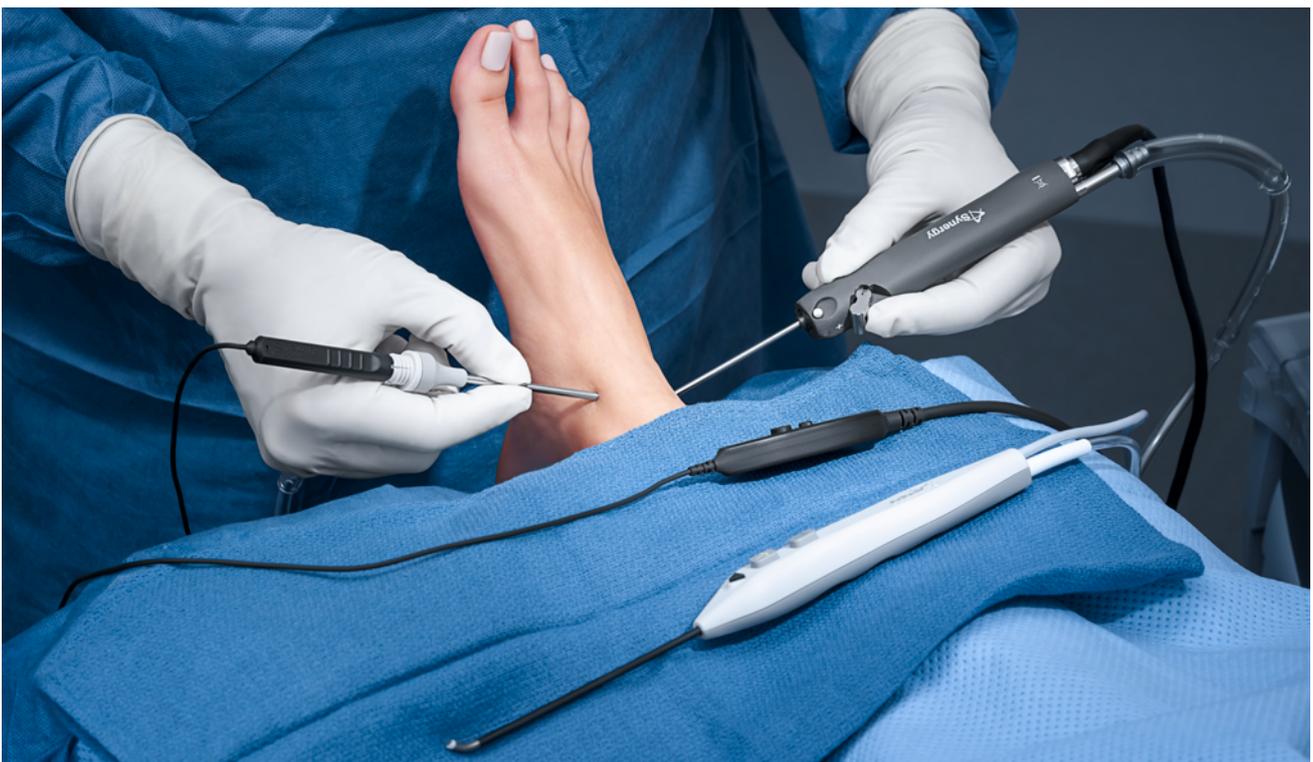


Percutaneous insertion kit, for cannula insertion and measuring the appropriate cannula length.

Components

- Calibrated spinal needle stylet, single-use, sterile
- Guide wire, single-use, sterile

Product description	Item number
Percutaneous insertion kit	AR-1090PK-1



Nano Arthroscopy Hand Instruments



Harnessing 20 years of excellence, Arthrex has engineered the next generation of instruments for diagnostic, resection, and extraction procedures.

The NanoProbe is an articulating, retractable-hook probe used for diagnostic procedures. The NanoBiter, NanoScissor, and NanoGrasper are small arthroscopic soft-tissue resection instruments. Just 2 mm in diameter, they are designed for atraumatic insertion through tight joint spaces. These instruments are sharp and engineered to efficiently resect meniscal tissue and other soft-tissue structures.

Nano Arthroscopy Hand Instruments, 130 mm Working Length, 2 mm Diameter, Single-Use, Sterile

Product description	Item number
NanoBiter, straight (a)	AR-10911D-1
NanoBiter, 15° up	AR-10922D-1
NanoGrasper, straight	AR-10913D-1
NanoScissor, straight	AR-10915D-1
NanoProbe, retractable (b)	AR-10100N

Nano Arthroscopy Hand Instruments, 70 mm Working Length, 2 mm Diameter, Single-Use, Sterile

Product description	Item number
NanoBiter, straight	AR-10901D-1
NanoBiter, 15° up	AR-10902D-1
NanoGrasper, straight	AR-10903D-1
NanoScissor, straight	AR-10905D-1



Product description

NanoBiter, 15° up



Product description

NanoGrasper



Product description

NanoScissor



Product description

NanoProbe, retractable



NanoScopic™ Release System



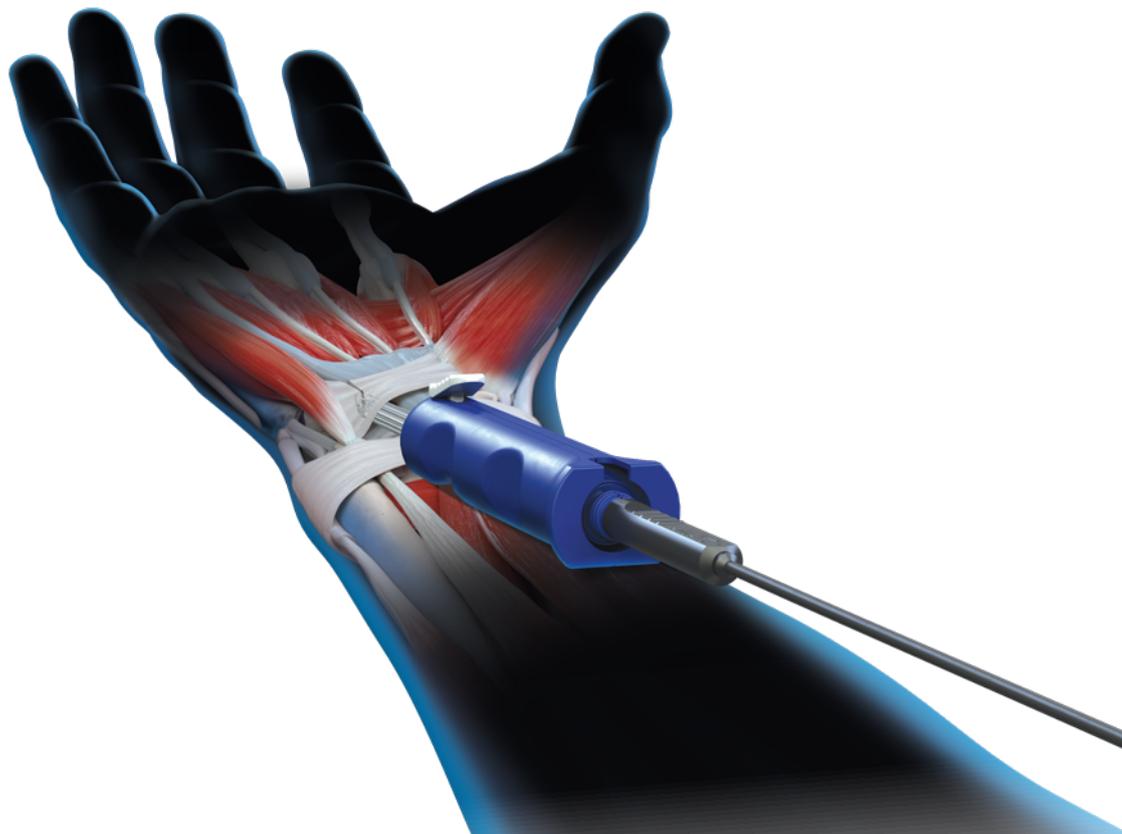
A simplified, all-in-one system, the NanoScopic carpal tunnel release system streamlines endoscopic carpal tunnel release (ECTR) procedures. Designed for precision and efficiency, this disposable system facilitates a straightforward, single-handed pull blade technique that enables a quick and exact procedure, while offering an ergonomic design for maximized comfort and an improved feel and function during the procedure.

Highlights:

- No trays and sterilization
- No light guide
- No coupler
- No heat
- No fogging

Centerline™ ECTR System

Product description	Item number
NanoScopic™ carpal tunnel release kit (a)	AR-8850DS
NanoScope™ tablet control unit	AR-3200-0030



NanoScope™ Mobile Cart Options



Uni-Cart

Product description	Item number
Uni-cart	KU.5849.903



NanoScope™ Console Cart

Height adjustable with power supply and cable management features

Product description	Item number
NanoScope Mobile Cart	AR-3502-CRT



DualWave™ Cart

With the 5010-1500, the NanoScope console can be mounted onto the DualWave cart AR-6481.

Product description	Item number
DualWave™ cart	AR-6481
NanoScope™ console mount, for DualWave™ cart	5010-1500



Side-Arm for Equipment Cart

The side-arm TS.6314.991 in combination with ZV.9731.999 allows for the mounting of the NanoScope console to the equipment cart AR-5995-16STI.*

Product description	Item number
Side-arm, for flat panel, VESA 75/100	TS.6314.991
Mounting kit, for carts	ZV.9731.999

* Tilt stability needs to be considered



Synergy Image Management

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The Synergy Concept



A Proud History of Innovation

Starting with the Synergy^{HD3} surgical video system and continuing with the Synergy^{UHD4} and Synergy^{ID} systems, Arthrex has become synonymous with innovative endoscopic visualization. The innovations that Arthrex has brought to the market include:

- An **all-in-one console** including LED lighting and image management to free up OR space and simplify equipment setup
- **Tablet control** to make system use easier and allow you to focus on patient care instead of equipment
- A big **toolbox of image management features** that allows for:
 - Photo capture and video recording
 - USB and network export including DICOM
 - Heads-up display
 - Live video streaming within the network
- **4K video and multi-sensor camera heads** to achieve the best possible endoscopic image quality
- Best in-class **fluorescence (NIR)** imaging
- A **software-based architecture** that allows for regular software updates

Changing Perspectives.

Synergy Vision furthers this story by combining all the previous features and benefits with additional technologies, such as high dynamic range (HDR) imaging, Pano scope wide-view imaging, NanoNeedle support and video routing integration through Synergy Vision Connect.

LED Light Source

- Solid-state high-output LED light source
- Cost-effective with light engine life > 30,000 hours
- Low heat generation
- Automatic light adjustment
- Light-guide turret for connecting the following cable standards:
 - ACMI
 - Storz
 - Wolf
 - Olympus



Synergy Surgeon2™ App

Delivering Hospital Efficiencies and Improving Patient Experience



Experience a locally hosted data management system that allows surgeons to manage and distribute surgical videos, surgical stills, and other selected content directly to their patients.



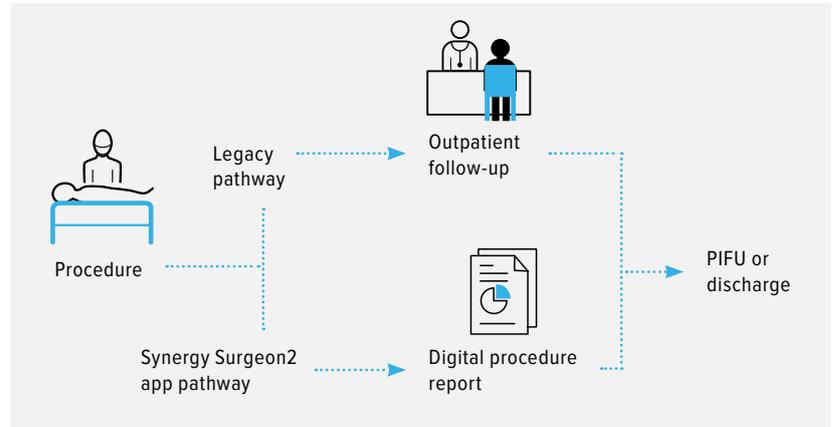
The application is available for iPad and iPhone and works with the Arthrex Synergy and NanoScope imaging systems.

Features

- Surgeons can quickly and easily create and send custom patient reports
- Improved communication with patients promotes improved patient satisfaction scores
- Global templates offer prepared content to send reports on first log-in
- Latest encryption technology ensures content remains private and secure for both patients and surgeons
- Reducing face-to-face outpatient appointments (and the associated patient travel) is a recognized way to reduce greenhouse gas (GHG) emissions¹

Pathway Impact

Substituting a face-to-face outpatient follow-up appointment with a Synergy Surgeon2 app digital report may reduce the healthcare resource utilization associated with the patient pathway. This may deliver substantial system benefits if applied to clinically appropriate high-volume procedures.



PIFU: Patient-initiated follow-up

Potential Synergy Surgeon2™ App Benefits



Improved patient experience



Cost reduction



Clinical time release and capacity gain



Reduction in GHG emissions

References

1. NHS Net Zero report. Retrieved from: <https://www.england.nhs.uk/greenernhs/wp-content/uploads/sites/51/2020/10/delivering-a-net-zero-national-health-service.pdf>

Synergy Vision™ Imaging Platform

Changing Perspectives.



Experience the Synergy Vision imaging system, an all-in-one option featuring high dynamic range 4K visualization with wide-view imaging and fluorescence while supporting the NanoNeedle Scope and video integration.

Key Features and Benefits

The Synergy Vision imaging system was designed with the latest technology to deliver optimal and revolutionary results.

Pano™ Scope

Quickly and easily switch between traditional 30° and 70° views to a 45° ultrawide view at the touch of a button. The Pano scope allows surgeons to visualize more anatomy on a single screen while minimizing the need for additional portals or scopes.

Nano Vision™

The NanoNeedle Scope integrates directly to the Synergy Vision console as either a primary or secondary camera allowing for a simultaneous 4K and Nano visualization on the same screen.

Synergy Vision Connect™ Console

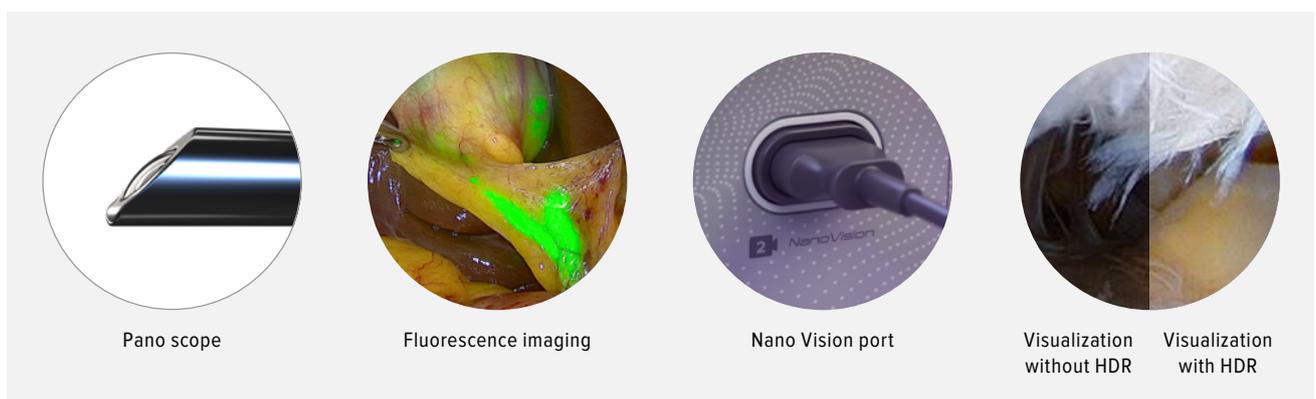
Allowing for 7 inputs and 4 outputs, the Synergy Vision Connect system offers built-in OR integration capabilities for in-room switching and routing.

High Dynamic Range (HDR)

The Synergy Vision imaging system offers high dynamic range (HDR). Eliminating hot spots as well as dark areas, HDR imaging provides consistent illumination across the entire screen.

Fluorescence Imaging

Switch to fluorescence 4K imaging with the touch of a button. Easily toggle through different modes and colors, depending on the fluorescence application and individual surgeon preference.



Pano scope

Fluorescence imaging

Nano Vision port

Visualization without HDR Visualization with HDR

Consoles for Synergy Vision™



The Synergy Vision consoles contain state-of-the-art 4K visualization, fluorescence imaging, LED lighting, image management, and integration in a small footprint. Explore the world's first imaging console with built-in video integration: 7 video inputs and 4 unique video streams/outputs on up to 7 displays allow for in-room surgical video routing.

Product description	Item number
Synergy Vision™ console (a)	AR-3200-0026
Synergy Vision Connect™ console (a)	AR-3200-0027
Synergy Laser Light Source	AR-3200-1018
Digital documentation tablet (b)	AR-3200-1016
Cover for Synergy Vision™ tablet	2821

Camera Heads for Synergy Vision

The Synergy Vision™ imaging system supports 2 distinct options of camera heads: the Synergy Visionary™ camera head and the Synergy Vision camera head. Both camera heads are compatible with the Pano scope. The Synergy Visionary camera head specifically supports HDR and NIR fluorescence imaging. All Synergy Vision camera heads are in a hermetically sealed titanium housing and carry the industry-leading 7-year warranty on autoclaving.

Product description	Item number
Synergy Visionary™ C-mount camera head	AR-3210-0034
Synergy Vision™ C-mount camera head	AR-3210-0035

Camera Head Attachments, C-Mount

Product description	Item number
Optical zoom coupler, C-mount	AR-3210-0006
Optical 90° coupler, C-mount	AR-3210-0009
C-mount coupler, fixed focal length	AR-3210-0012

Synergy Visionary™
Camera Head



Synergy Vision™
Camera Head



C-mount
Coupler

