

# Neurosurgical Product Overview



Aesculap Neurosurgery

**AESCULAP**<sup>®</sup>

# Aesculap®

Blending Old World Craftsmanship with Modern Technology

## Aesculap

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As the world's largest surgical instrument manufacturer, Aesculap designs and produces surgical instruments, implants and motors for several surgical specialties including ENT, plastic and reconstructive, thoracic, cardiovascular, orthopedic, gynecologic and general surgery as well as neurosurgery and minimally-invasive surgery.

The company was founded in 1867 by master craftsman Gottfried Jetter in Tuttlingen, Germany. For more than 140 years, the name Aesculap has been synonymous with quality throughout the world.

Today, modern technology blends with Aesculap Old World tradition to provide healthcare professionals with the widest array of neurosurgical products available from a single manufacturer.

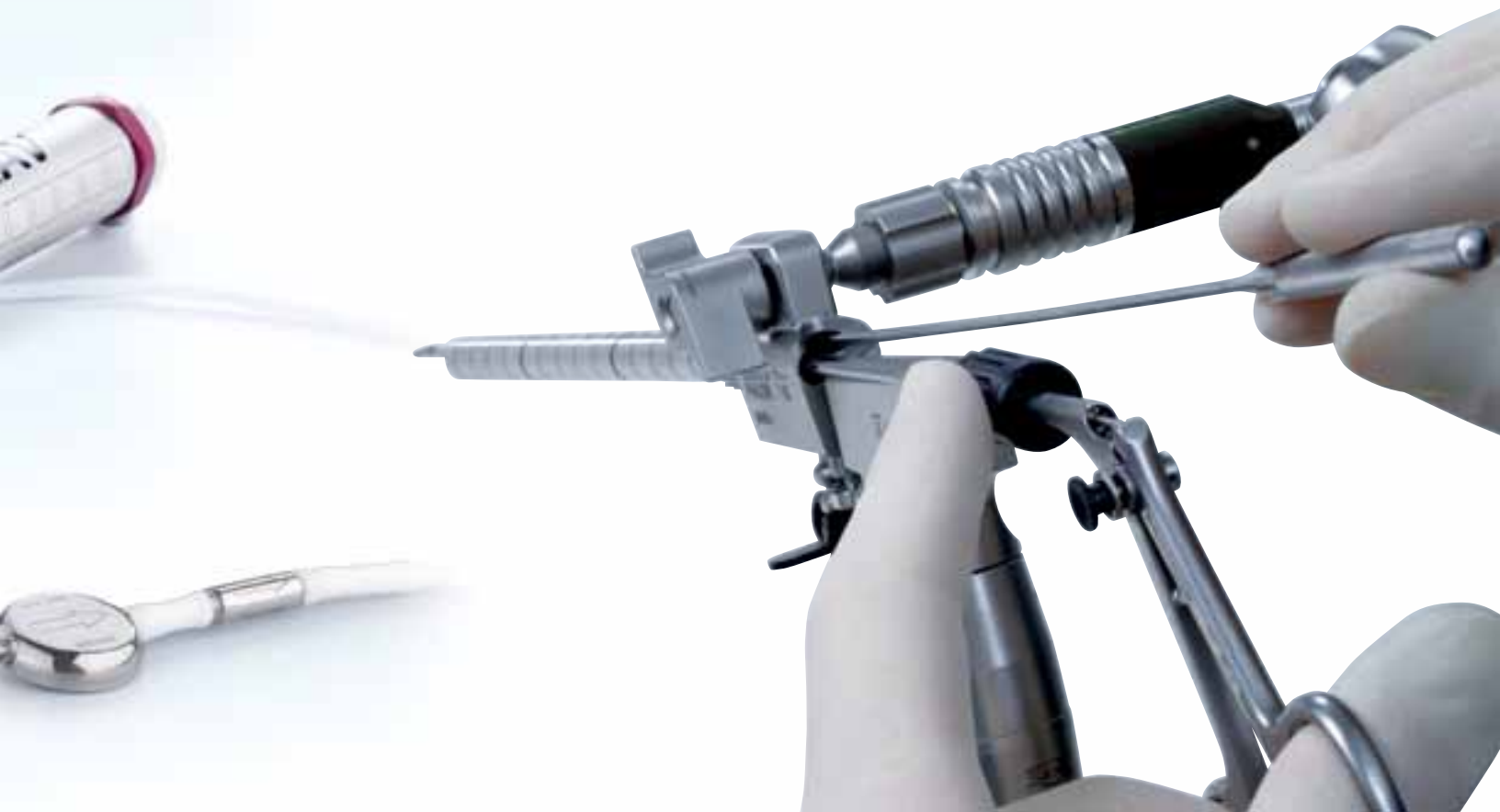


See Instructions For Use for additional information including warnings and precautions, which can be found at [www.aesculapusa.com](http://www.aesculapusa.com).  
Rx only.

Aesculap can support your clinical care and financial objectives by offering:

- State-of-the-art, high-quality products
- Cost-effective operating room and patient care solutions
- Extensive neurosurgical product range
- Simplified purchasing process
- Aesculap Academy award-winning educational programs for healthcare providers

For additional information, please contact your local Aesculap Neurosurgery representative, call Customer Service at 800-282-9000, or visit us online at [www.aesculapusa.com](http://www.aesculapusa.com)





### ■ YASARGIL® Aneurysm Clip System

- Most trusted name in aneurysm clips
- Extensive range of patterns available for every type of aneurysm
- High closing force clips
- Unique box lock mechanism ensures precise guidance of clip blades; low profile for improved visualization
- The Phynox and Titanium clips are MR Conditional



### ■ T-Bar Aneurysm Clips

- Unique "T" shape eliminates need for multiple clips when treating complex aneurysms
- Also used as a salvage clip for arterial injuries
- Unique box lock mechanism ensures precise guidance of clip blades; low profile for improved visualization
- The Phynox and Titanium clips are MR Conditional



### ■ Long Aneurysm Clips

- Extra long jaws are ideal for occlusion of giant aneurysms
- Unique box lock mechanism ensures precise guidance of clip blades; low profile for improved visualization
- Low-profile, bayonet-shaped applicator provides optimal field of view
- The Phynox clips are MR Conditional

### ■ AVM Microclip System

- Complete line of straight and curved patterns
- May be applied for temporary occlusion or as a permanent implant
- Unique packaging simplifies clip loading
- Available in MR-Safe, non-ferromagnetic Phynox



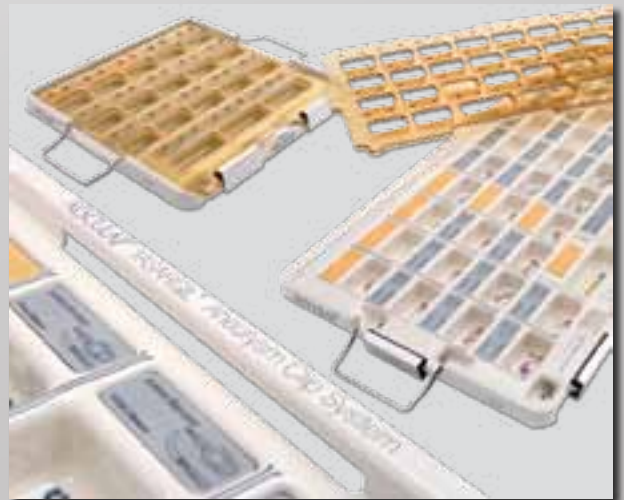
### ■ Aneurysm Clip Applicators

- Classic and minimally invasive models
- Smooth operating mechanism
- Low-profile, bayonet-shaped designs for improved visualization



### ■ Aneurysm Clip Trays

- For transport, storage and sterilization of YASARGIL® aneurysm clips
- Press-in identification tags allow for customized clip arrangements
- Tags show actual size images of clip and key information for easy recognition
- Trays available in two sizes





### ■ CranioFix<sup>®</sup>2

- Proven reliability through over 3 million implants
- Complete cranial flap fixation in less than two minutes
- Secure, two-sided fixation in a low-profile design
- Storage tray available for easy organization
- The CranioFix2 System is MR Conditional



### ■ CranioPlate<sup>™</sup> Cranial Plating System

- Preloaded screw magazines simplify handling and dispensing
- Low-profile plates for excellent cosmetic results
- Self-drilling screws for ease of use
- Complete and convenient cranial and scalp fixation combination trays



### ■ CranioFix<sup>®</sup> Absorbable

- Simple, instrument-free application
- Smooth with a very low profile
- No heating or contouring pen necessary
- No artifacts or obstructions in postoperative MRI or CT imaging

## ■ Lyoplant® Onlay Dura Substitute

- Reliable protection against CSF leakage
- Multi-use: Onlay or Suturable
- Helps prevent cortical adhesion
- Superior tensile strength
- 40% thinner than competition\*



## ■ Scalp Fixation Systems

- Fast and reliable application
- Reusable handle with disposable cartridges
- Available with a lightweight polymer or aluminum handle
- Raney Systems also available

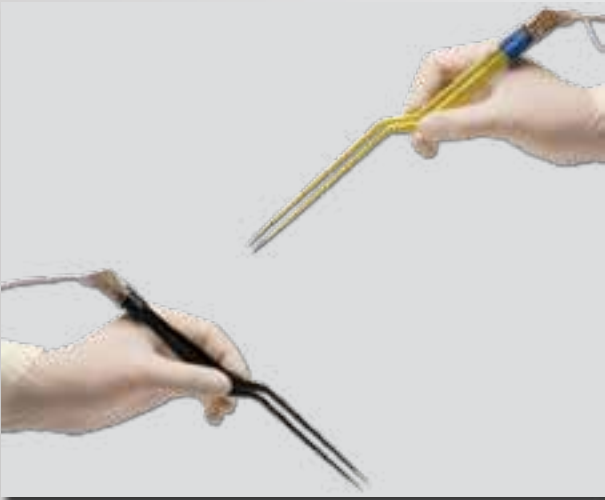


\*Biomechanical data is on file at Aesculap, Inc.



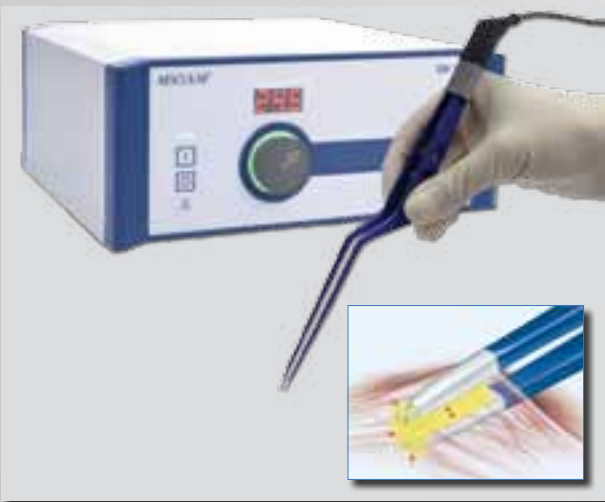
### ■ Bipolar System

- The latest in electrosurgical technology. Current and flow are measured in real time to effectively reduce sparks
- Precise coagulation through the use of two power ranges, micro and macro
- Coagulation available in both watts and malis units



### ■ Non-Irrigating and Irrigating Bipolar Forceps

- Available in stainless steel and rose gold
- Available in strong tension for blunt spreading of tissue
- Parallel guiding handle for exact tip alignment
- Irrigating styles reduce overheating at coagulation point



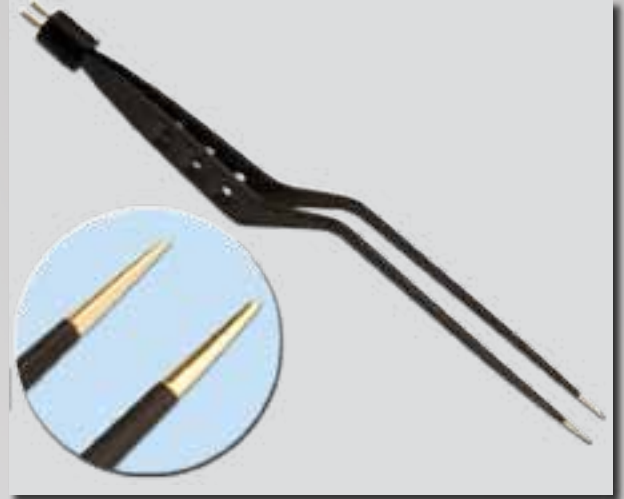
### ■ BiProtect® Bipolar Forceps

- Ceramic coated tip for less collateral damage and reduced thermal spread
- Partially insulated tip for precise and safe surface coagulation



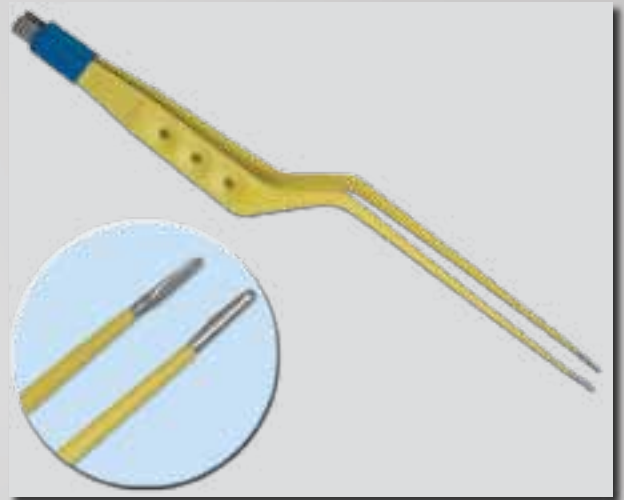
### ■ Rose Gold Tip Bipolar Forceps

- Gold-plated tips reduce tissue adhesion
- Irrigating and non-irrigating designs
- Standard, universal pin connector
- Microform, 3-hole handle design provides a good grip for precise handling



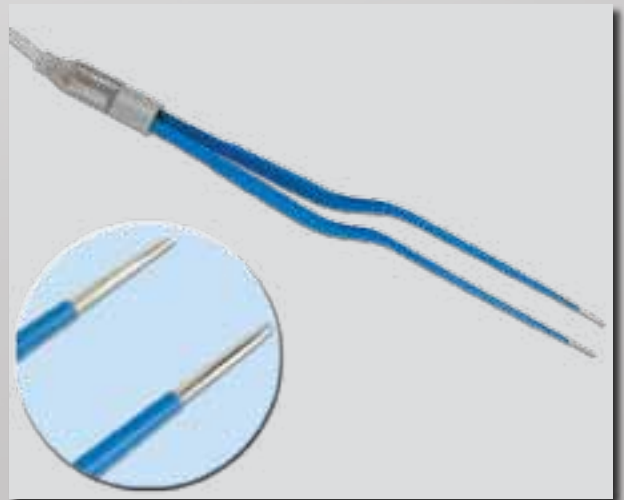
### ■ YASARGIL® Style Bipolar Forceps

- Classic YASARGIL design
- Increased spring tension for tissue preparation and dissection
- Microform, 3-hole handle design provides a good grip for precise handling



### ■ Disposable Bipolar Forceps

- Single use forceps
- Eliminates issues with reprocessing
- Available in stainless steel and rose gold
- Non-irrigating and irrigating styles





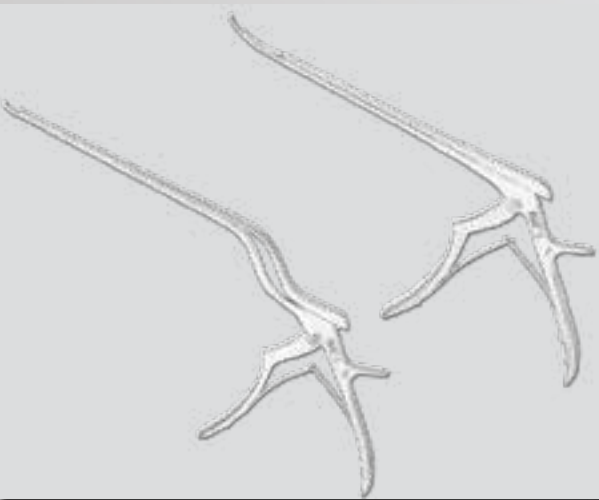
### ■ Neuro Instruments

- Aesculap has more than 140 years of experience and expertise
- Aesculap only uses the highest grade German steel
- Only Aesculap exceeds DIN and ISO standards for pattern consistency



### ■ Kerrisons - Standard

- Standard and detachable styles
- Ejector pins in most models
- Extra large opening laminectomy styles
- Smooth operating ceramic coated styles

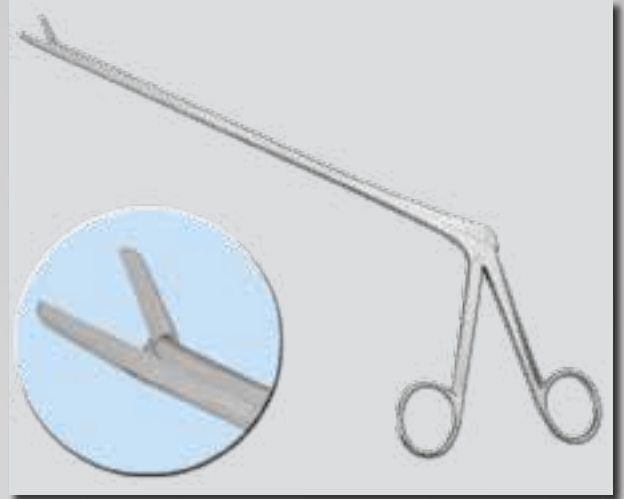


### ■ Kerrisons - Speciality

- Foraminotomy design with upward curve allows for easier bone removal
- Bayonet design allows increased visibility to the surgical site
- Both available in 2 mm - 5 mm patterns

### ■ IVD Rongeurs

- Cushing, Love-Gruenwald, and Spurling patterns
- Available in 9", 11" and 12" sizes
- Up, down and straight jaw designs



### ■ Spine Retractor Set

- Titanium retractor blades and frames provide radiolucent imaging
- Hinged and rigid frame design
- Multiple blade and hook configurations



### ■ KAIRISON™

- Pneumatic Kerrison reduces physical effort
- Relieves strain on hands and joints
- Detachable shafts offer easier cleaning
- Shafts available in both 9 and 11-inch sizes





### ■ Sensation™ Instruments

- Angled bayonet shape for enhanced sight lines
- Slender jaws for optimal visibility and access to tight corridors
- Fine jaws for delicate microsurgery
- Color-coded and textured handles for easy identification and ergonomic grip



### ■ Diamond Knives

- Four different cutting geometries: round, retrograde, 45° wedge and lancet blade
- Clean, precise and force-free incisions
- Color coded titanium handles



### ■ Currettes

- Comprehensive selection of bayonet, colored and black handled patterns
- Various sizes to accommodate Neuro, Ortho or Spine procedures
- Different jaw designs

## ■ EC/IC Bypass Instruments

- NOIR™ coated instruments with a round golf ball handle
- Fine instrument tips for bypass procedures
- Micro scissors, micro forceps and needle holders that are at different working lengths that allow exposure of varying surgical field depths



## ■ Suctions

- Teardrop shaped thumb control offers excellent suction control
- Modular suctions - thumb control is compatible with 36 different suction tubes
- RAABE suctions - color coded width and ring-coded length provide easy identification
- Fukushima suctions - malleable shaft and a wide array of lengths and diameters available



## ■ MIN Set

- Fine instrument tips for Minimally Invasive Neurosurgery
- Round golf ball handle ensures excellent grip and easy rotation
- Slender design with angled bayonet shape
- Various working lengths
- NOIR™ coated





### ■ **microspeed® uni**

- State-of-the-art technology
- Powerful 150-watt high and low-speed motors
- Dual motor control for effortless selection between motors
- Integrated irrigation system with precise, adjustable control



### ■ **microspeed® uni XS Motor**

- Electric high-speed motor runs at 80,000 rpm
- Powerful and smooth bone dissection
- Balanced, compact design delivers comfort and control



### ■ **Minimally Invasive Hi-Line XXS Handpiece\***

- Best in class view to the operating site
- Exclusive bayoneted design
- XXS distal shaft end only 3.6 mm
- 2 straight and 2 curved shaft and options that offers 8 positions

*\*For use in spine only. Not cleared by the FDA for use in neurosurgery.*

## ■ Minimally Invasive Hi-Line XS XL Handpieces

- For high-speed drilling in M.I.S. procedures
- Compatible with Aesculap HiLAN® XS and microspeed® uni Power Systems
- Available in three lengths to accommodate Spine and Neuroendoscopy procedures



## ■ HiLAN® XS, HiLAN®, microLAN

- The pneumatic system for all applications in microneurosurgery
- Integration of high and low speed
- Powerful, smooth and quiet for precision bone removal
- Balanced, compact design delivers comfort and control
- Ultra lightweight yet durable and reliable



## ■ ECCOS™ – Economic Clean and Care System

- Innovative drill holding and storage system for mechanical cleaning in single chamber washing machines
- Customized holders prevent water from entering critical openings
- Fast, consistent decontamination compared to manual reprocessing of drills





### ■ *AESCULAP-MIETHKE* Gravitational Shunts

- The weight of the CSF in the shunt catheter can create a negative pressure in the ventricles known as siphoning
- The *AESCULAP-MIETHKE* gravitational shunts automatically change their opening pressure to compensate for this siphoning effect potentially eliminating or reducing overdrainage complications



### ■ proGAV® and proSA®

- Adjustable valves clinically proven to reduce overdrainage complications
- "Active-lock" MR-Brake mechanism prevents inadvertent pressure adjustments by external magnetic fields, such as MRI's
- proGAV System - Adjustable valve plus gravitational unit to help prevent or eliminate overdrainage complications
- proSA System - Adjustable gravitational valve system that allows for pressure adjustments in the upright position



### ■ ShuntAssistant®

- Simply implanted in-line with a programmable or DP valve
- Automatically adjusts its opening pressure based on patient's body position
- Potentially reduces or eliminates overdrainage complications



### ■ GAV® and paediGAV®

- Automatically adjusts opening pressure based on body position
- May reduce or eliminate overdrainage complications such as slit ventricles, hematomas and hygromas
- Low-profile design



### ■ miniNAV®

- World's smallest differential pressure valve
- Large flow paths reduce the risk of obstruction
- Available in 4 pressures to help manage complex needs of patients
- Can be used in combination with proSA® (adjustable gravitational unit)



### ■ DualSwitch™ Valve for LP

- Great performance for Pseudotumor Cerebri patients
- Automatically switches from a low to a high pressure based on body position
- Can potentially reduce or eliminate overdrainage complications
- Durable, robust design





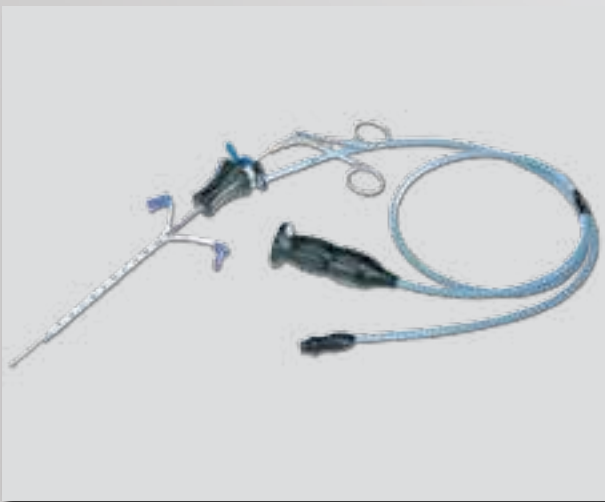
### ■ MINOP® Intraventricular Neuroendoscopy

- Full HD image quality allows clear visualization of minute anatomy
- "Pistol" style grip camera allows for greater control and flexibility
- Rigid instruments can be inserted straight down the working channel, allowing for easy and precise jaw rotation and improved feel
- Allows for two instruments to be used at once



### ■ MINOP® Endoscope-Assisted Neurosurgery

- Full HD image quality allows clear visualization of minute anatomy
- Angled scopes provide views not possible with a microscope alone
- Camera connects at a right angle allowing for increased positioning flexibility when used alongside a microscope



### ■ paediScope® Pediatric Neuroendoscopy

- Slender 3 mm diameter
- 30,000 Pixel Resolution
- Working channel and two irrigation/overflow ports
- Completely steam autoclavable

### ■ MINOP® InVent

- Unique solution for bi-manual resection of solid tumors and cysts
- Large working channel allows for unparalleled flexibility
- 18 specialized instruments, 32 options available



### ■ MINOP® Transsphenoidal Endoscopes

- Surgeon-controlled irrigation to keep endoscope clean
- Continuous suction inhibits fogging and removes irrigation fluid
- Ergonomic handle design on MINOP TREND allows for precise handling



### ■ MINOP® Neurovisual Systems

- Complete system for intraventricular and endo-assisted procedures
- Brilliant image quality allows clear visualization of anatomy
- Ergonomically-designed equipment
- Full HD camera, monitor, recorder, LED lightsource and tower



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