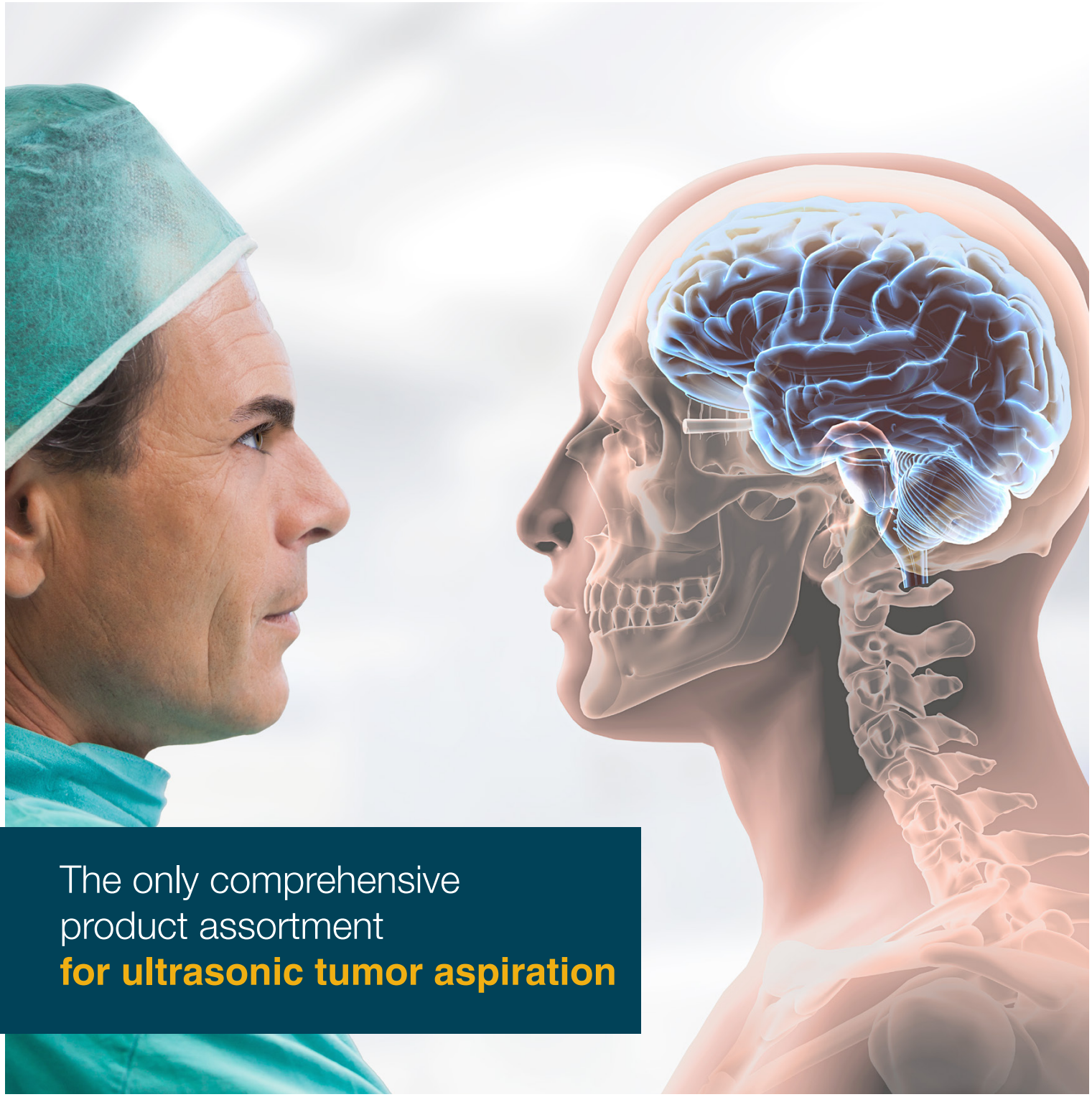
Söring
INNOVATIVE SURGERY

Ultrasonic tumor aspiration:
for leading neurosurgery

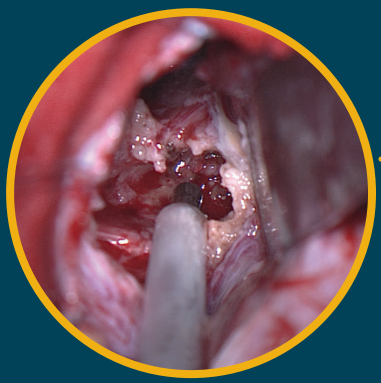


The only comprehensive product assortment **for ultrasonic tumor aspiration**

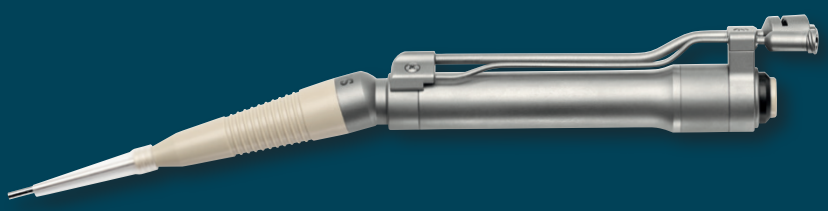
→ The only comprehensive product assortment: **for ultrasonic tumor aspiration**

Enabling advanced surgical techniques for leading neurosurgery, Söring focuses on the continuous development of medical devices. Through intensive global collaborations with leading neurosurgeons, we enable optimized work efficiency while improving patient safety. Specializing in the microscopic and endoscopic neurosurgery, we offer a unique and comprehensive product portfolio in ultrasonic tumor aspiration. These leading innovations provide the reliable support that neurosurgeons require in the operation room.

Söring stands for leading ultrasonic technology with its numerous established applications. From development to design, from production to quality management, everything at Söring is “Made in Germany”.

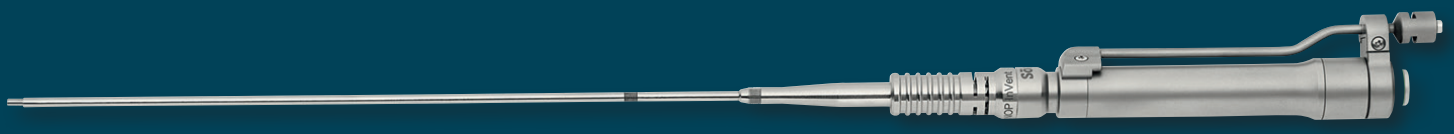


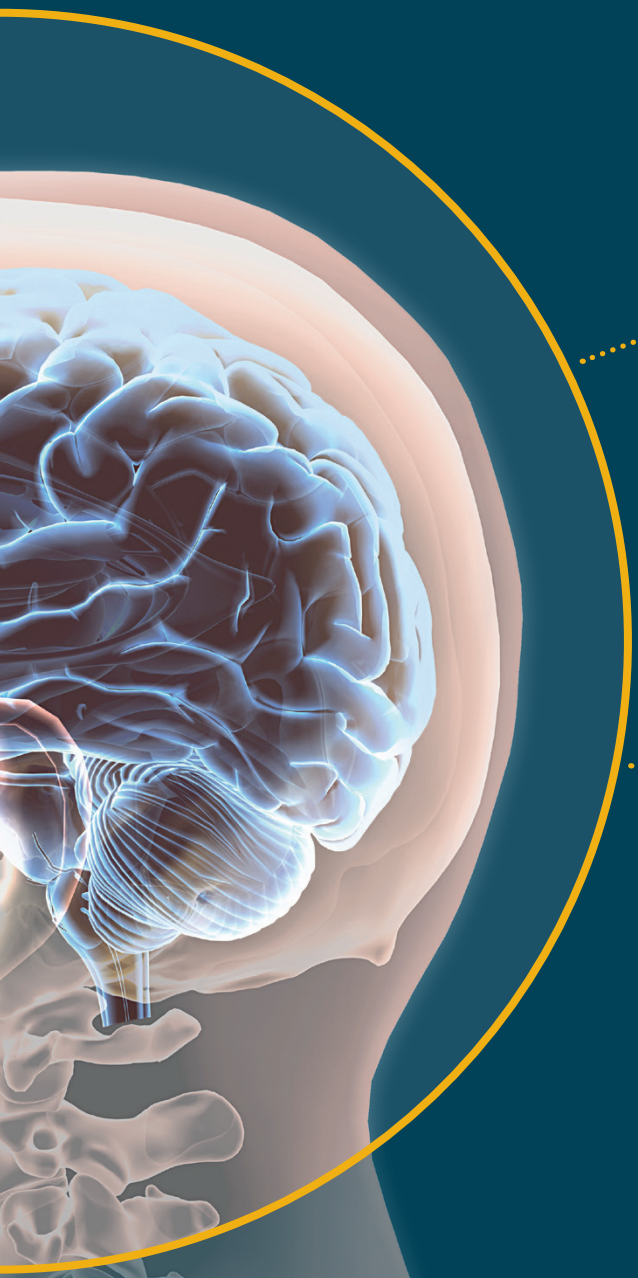
LEVICS ultrasonic aspirator:
Excellent instrument design for precise working
The low weight supports a safe working over long periods of surgery while the angled instrument ensures an optimum view of the surgical field.

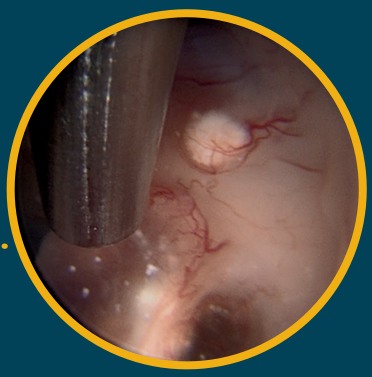


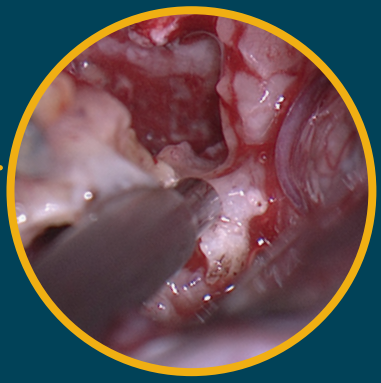
ENP Endoscopic Micro instrument:
Advanced neuroendoscopy with ultrasonic aspiration

The world's only endoscopic ultrasonic aspirator for the unique resection of intraventricular tumors and cysts.



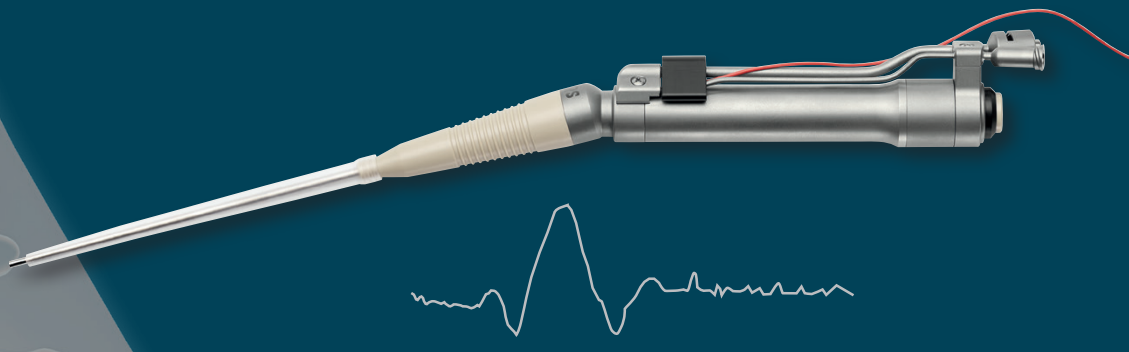






LEVICS ultrasonic aspiration merged with IONM:
Clinical outcome maximized. Safety optimized.

The combination of two technologies: ultrasonic aspiration and IONM for resection of tumors near the corticospinal tract.

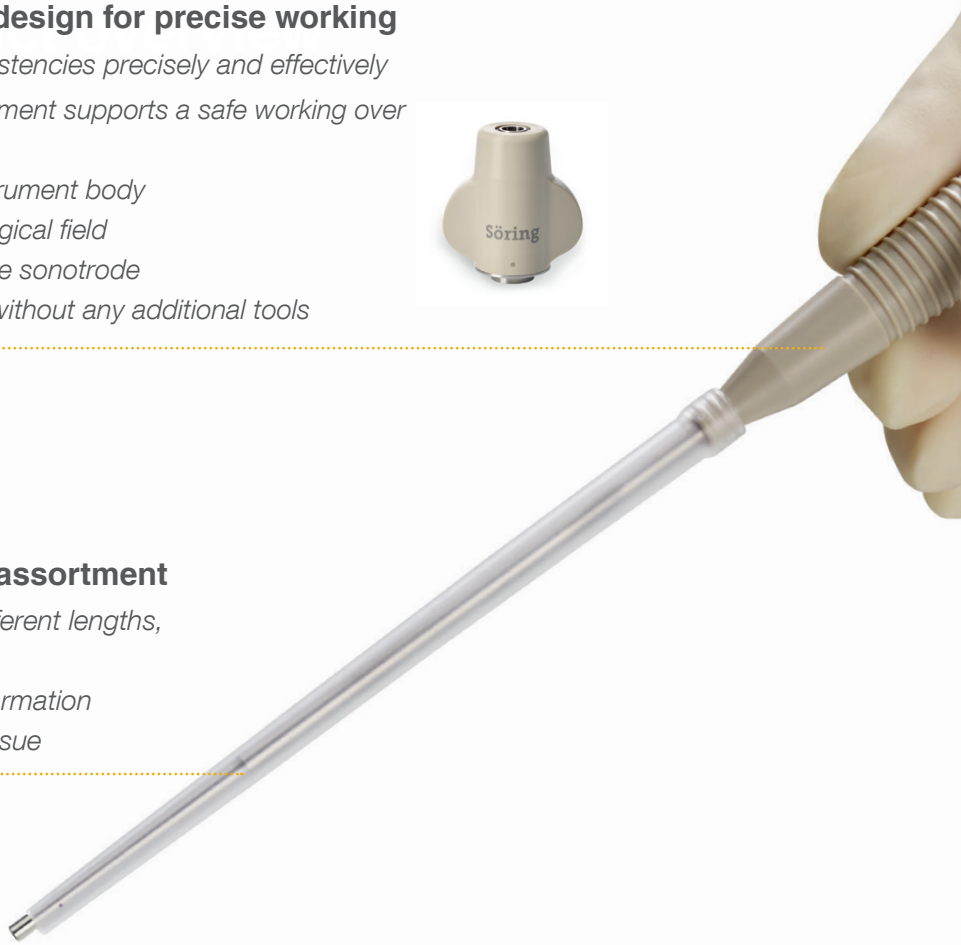


LEVICS ultrasonic aspirator: **excellent instrument design for precise working**

The resection of intracranial and spinal tumors requires an accurate proceeding to preserve the surrounding structures as much as possible. The neurosurgical LEVICS Micro instrument from Söring has been specially developed for this challenge and is therefore characterized by its excellent design. With its working frequency of 35 kHz, it fragments tumors of different consistencies precisely and effectively.

LEVICS excellent instrument design for precise working

- *fragments tumors of different consistencies precisely and effectively*
- *well balanced and lightweight instrument supports a safe working over long periods of surgery*
- *filigree and angled shape of the instrument body ensures an optimum view of the surgical field*
- *using the intuitive torque wrench, the sonotrode can be mounted rapidly and easily without any additional tools*



LEVICS enhanced sonotrode assortment

- *broad range of sonotrodes with different lengths, diameters and tip geometries*
- *excellent visibility - minimal spray formation*
- *minimal adhesion and sticking to tissue*

NEW

LEVICS standard sonotrodes, available in working lengths 36 mm, 98 mm and 108 mm

LEVICS beveled sonotrodes, available in working lengths 37 mm and 98 mm

LEVICS notched sonotrodes, available in working lengths 37 mm and 97 mm

LEVICS ultrasonic aspiration merged with IONM

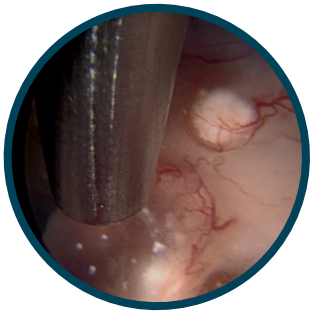
- *higher accuracy of mapping[1] - the tissue is stimulated right at the place of resection*
- *safer resection process[1] - continuous acoustic feedback is given regarding the distance of the corticospinal tract.*
- *simplified intraoperative ergonomics[1] - stimulation and resection is performed with only one device[2]*

[1] are associated with dynamic continuous mapping by inomed as stated in the information material: Dynamic mapping of the corticospinal tract: instrument choice, D030166 EN

[2] illustrated connection clip set is an optional product of ionmed GmbH, Emmendingen

ENP Endoscopic Micro instrument: **advanced neuroendoscopy with ultrasonic aspiration**

When removing intra- and paraventricular tumors and cysts, a minimally invasive approach may be the preferred option. Söring supports this surgical technique by providing the endoscopic Micro instrument ENP, the world‘s only endoscopic ultrasonic aspirator.



Endoscopic ultrasonic technique:

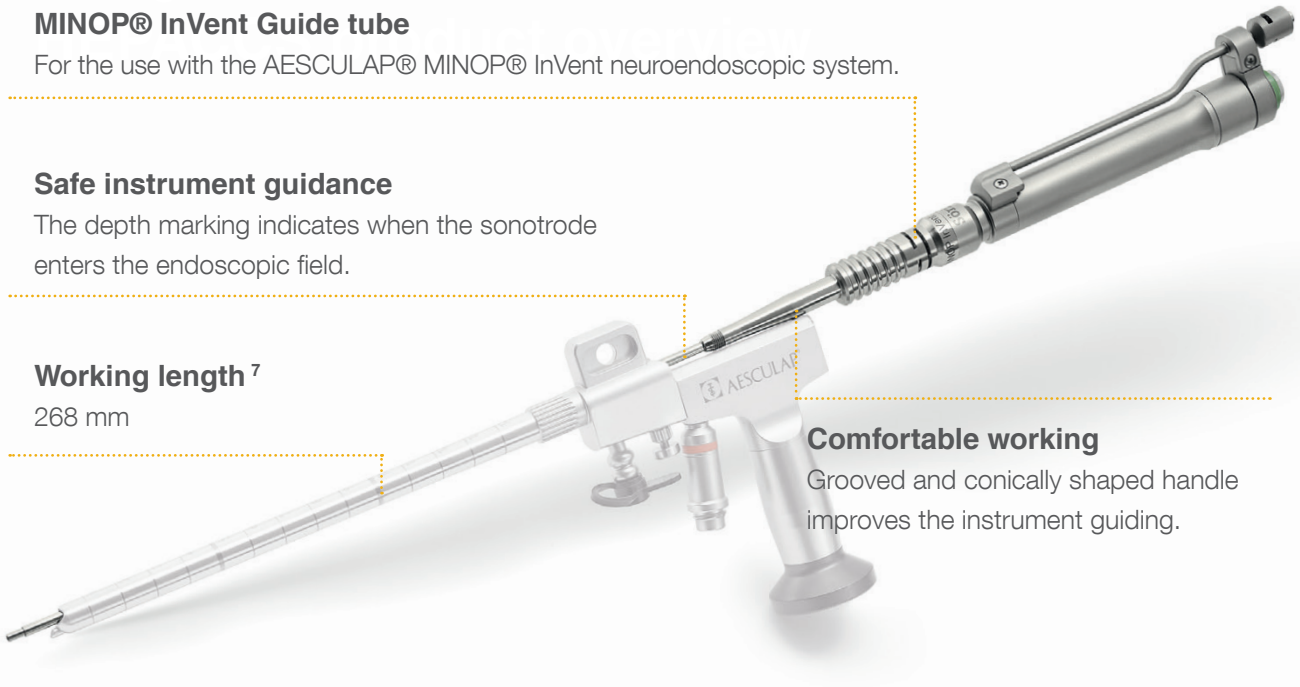
- *resection simply via a neuroendoscopic approach*
- *fast resection by simultaneous fragmentation and aspiration of tissue* [3]
- *clear visibility due to continuous irrigation flow* [4]
- *also efficient for firmer tumor tissue* [5,6]

At a glance:

MINOP® InVent Guide tube
For the use with the AESCULAP® MINOP® InVent neuroendoscopic system.

Safe instrument guidance
The depth marking indicates when the sonotrode enters the endoscopic field.

Working length [7]
268 mm



Comfortable working
Grooved and conically shaped handle improves the instrument guiding.

“The endoscopic ultrasonic aspiration with the Micro instrument ENP is a safe and reliable technique for extensive decompression or complete removal of intra- and paraventricular lesions.”

Prof. Giuseppe Cinalli, Head of the Department of Neurosciences and Head of the Division of Pediatric Neurosurgery, Santobono-Pausilipon Children‘s Hospital, Naples, Italy

[3] related to a standard neuroendoscopic approach

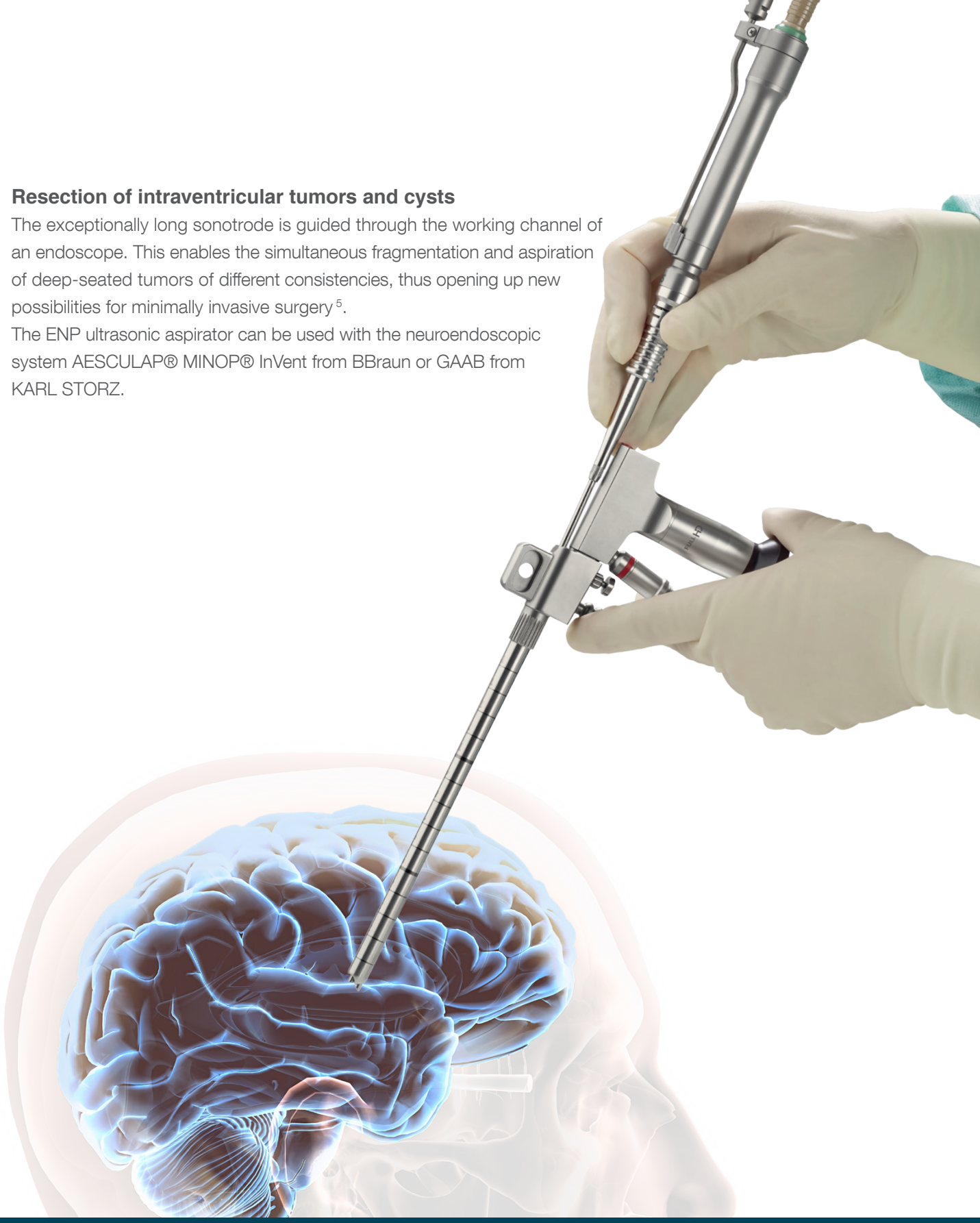
[4] inflow via the endoscopic system, outflow via ultrasonic aspirator

[5] Cinalli G, et al.: Initial experience with endoscopic ultrasonic aspirator in purely neuroendoscopic removal of intraventricular tumors, J Neurosurg Pediatr 19:325–332, 2017

Resection of intraventricular tumors and cysts

The exceptionally long sonotrode is guided through the working channel of an endoscope. This enables the simultaneous fragmentation and aspiration of deep-seated tumors of different consistencies, thus opening up new possibilities for minimally invasive surgery [5].

The ENP ultrasonic aspirator can be used with the neuroendoscopic system AESCULAP® MINOP® InVent from BBraun or GAAB from KARL STORZ.



"The ultrasonic aspirator allows a minimally invasive surgical resection of intra-/ para-ventricular tumors. Especially in case of limited vascularized tumors, we are able to reduce the operation and anaesthesia time."

Prof. Dr. med. Ulrich W. Thomale, Head of Paediatric Neurosurgery, Charité Universitaetsmedizin Berlin, Germany

[6] Ibanez-Botella G, et al.: Purely neuroendoscopic resection of intraventricular tumors with an endoscopic ultrasonic aspirator, Neurosurg Rev 1-10, 2018.
[7] working length with 616K0093 guide tube 92-030 for MINOP InVent: 268.0 mm | working length with 92-030 with guide tube for GAAB endoscope: 213.5 mm

At a glance: LEVICS product overview

LEVICS Mircro instrument

Article no.	**92-501**

LEVICS instrument tray

Article no.	**616S0100**

LEVICS torque wrench

Article no.	**616K0006**

Double tubing

Article no.	**700S0316**
Delivery | Reprocessing	sterile | single-use

LEVICS sonotrode and flue, standard

Article no.	**616K0051**	**616K0052**	**616K0053**
Working length sonotrode	36 mm	98 mm	108 mm
External Ø | Internal Ø of the sonotrode	2.0 mm | 1.4 mm	2.0 mm | 1.4 mm	2.3 mm | 1.7 mm
Delivery | Reprocessing	sterile | single-use	sterile | single-use	sterile | single-use

LEVICS sonotrode and flue, notched

Article no.	**616K0054**	**616K0055**
Working length sonotrode	37 mm	98 mm
External Ø | Internal Ø of the sonotrode	1.9 mm | 1.4 mm	2.0 mm | 1.4 mm
Delivery | Reprocessing	sterile | single-use	sterile | single-use

LEVICS sonotrode and flue, beveled

Article no.	**616K0056**	**616K0057**
Working length sonotrode	37 mm	97 mm
External Ø | Internal Ø of the sonotrode	1.9 mm | 1.4 mm	2.0 mm | 1.4 mm
Delivery | Reprocessing	sterile | single-use	sterile | single-use

Bundle: Micro Instrument ENP for MINOP® InVent (consisting of the following items below)

Order no.	**92-030-MINOP-INVENT**

Micro instrument ENP

Article no.	**92-030**

Guide tube 92-030 for MINOP® InVent

Article no.	**616K0093**

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