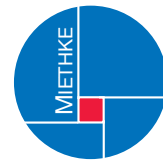


miniNAV[®]



The MIETHKE differential pressure valve
Rx Only

Indications for Use: The MIETHKE Shunt System is intended to shunt cerebrospinal fluid (CSF) from the lateral ventricles of the brain into the peritoneum.



Aesculap Neurosurgery

AESCULAP[®]

Aesculap and MIETHKE

Alliance for Innovation



Aesculap AG, Tuttlingen, Germany

When two strong partners combine their know-how, it often leads to innovative and groundbreaking solutions which could not be achieved independently by either of the partners.

Following this philosophy, Aesculap and MIETHKE have been working together since 1993. Our aim was and still is to develop better solutions for the complex treatment of hydrocephalus.

The *miniNAV*[®] valve is the world's smallest differential pressure valve with reliable drainage control for the treatment of hydrocephalus. Its ultra small size and streamlined shape make it an ideal choice for the treatment of pediatric hydrocephalus, especially in premature and newborn infants.

The *miniNAV* valve is also useful in treating recumbent patients where a gravitational valve is not needed. For active patients, we recommend combining *miniNAV* with *ShuntAssistant*[®] or the programmable gravitational valve *proSA*[®].

miniNAV Features and Benefits

- Titanium housing allows the *miniNAV* valve to be made extremely small, but still have large flow paths to help reduce the risk of obstruction.
- Ultra-small size and streamlined shape for fast, easy implantation and improved aesthetics.
- Available in four pressure levels to help manage the complex needs of different patients.
- Features a unique zero cm H₂O opening pressure choice for use in creating low pressure anti-reflux systems.

"The closer our connection is with surgeons and patients, the more we understand."

—Christoph Miethke (pictured below)

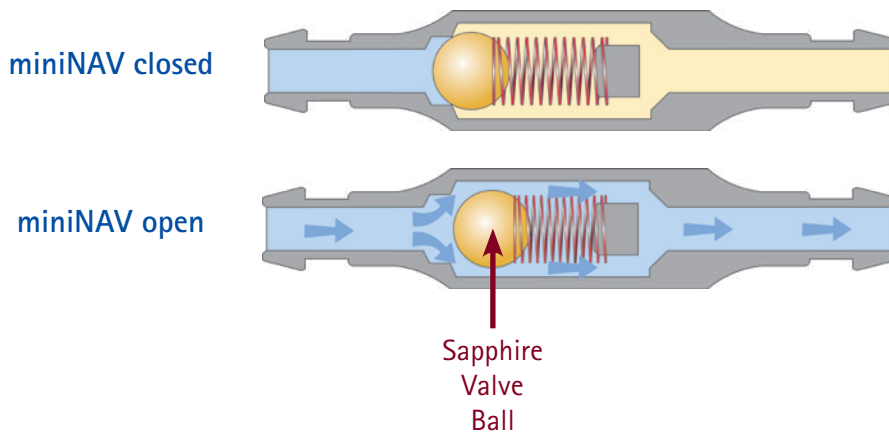
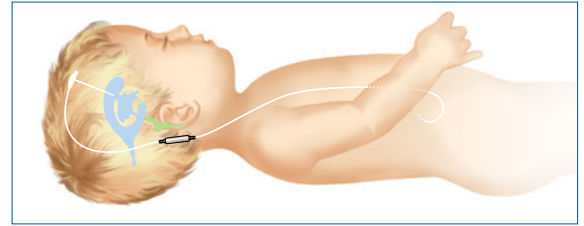


miniNAV[®]

Function and Pressure Selection

Function

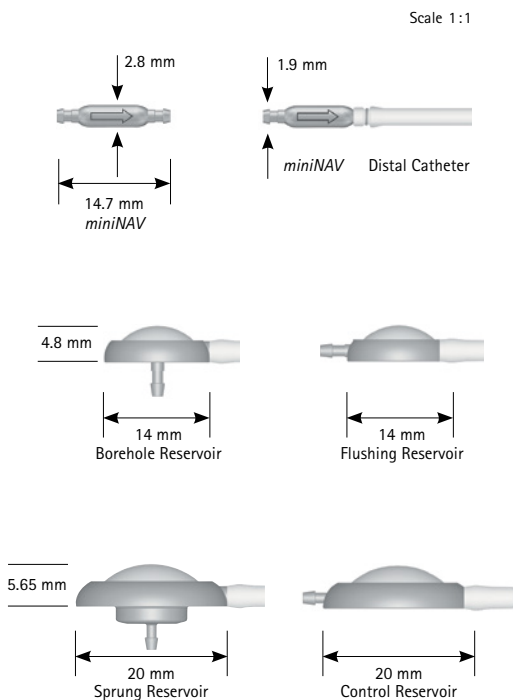
As soon as the intraventricular pressure exceeds the valve opening pressure, the spring force, which keeps the ball-in-cone valve closed, is overcome. The spring is compressed, the sapphire ball moves out of the cone, and the cerebrospinal fluid is drained out through the gap that results.



miniNAV is available separately or with integrated catheters and reservoirs.*

The opening pressure should be chosen according to patient symptoms. miniNAV is available with four pressure levels. Refer to product IFU for more information.

Postoperatively, the pressure level of each valve can be recognized by the shape of the valve shell as seen in x-ray images. For instance, a valve with concave (inward-curving) outlines at the proximal end and convex (outward-curving) contours at the distal end has an opening pressure of 5 cm H₂O.



Opening pressure (cm H ₂ O)	X-ray marker code miniNAV
0	
5	
10	
15	

*Reservoirs are available in small (14 mm) and large (20 mm) sizes. Contact your local representative for details and ordering information.

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See Instructions for Use for additional information including Contraindications, Warnings and Precautions.

Aesculap, Inc. | 3773 Corporate Parkway | Center Valley, PA | 18034
Phone 800-282-9000 | Fax 610-791-6886 | www.aesculapusa.com

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