

# N-Form<sup>®</sup> Array Insertion Tool



Directions for Use  
Neural Microelectrode Array Insertion  
Holder, Non-sterile

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# Contents

**N-Form® Insertion  
Holder**

1. Cautions
2. Specifications
3. Description
4. Testing for Correct Operation
5. Instructions for Insertion
6. Sterilization
7. Storage

Technical Note Document  
No. INHTN0001a  
(Initial Issue – March, 2018)

**READ BEFORE USE**

Inspect insertion holder before use.

**CAUTION: For research purposes only – NOT FOR HUMAN USE**

U.S. Patent No. 9,095,267

**PATENTS PENDING**

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**1. ! CAUTIONS !**

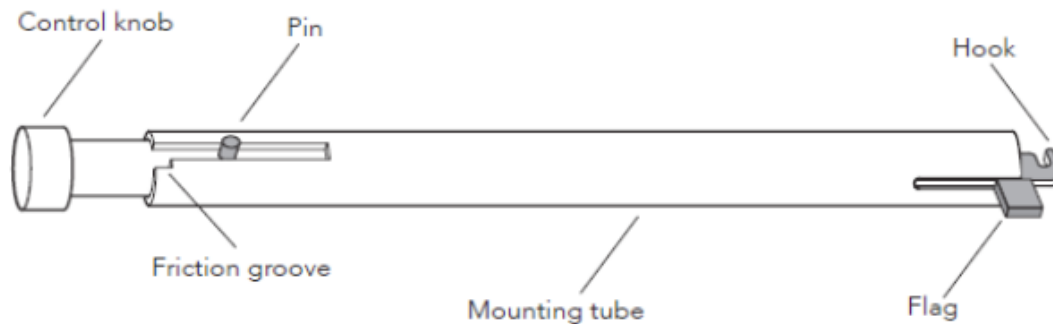
- Retract insertion hook to avoid damage when not in use.
- Calibrate insertion speeds to application.
- Not for human use.

**2. Specifications**

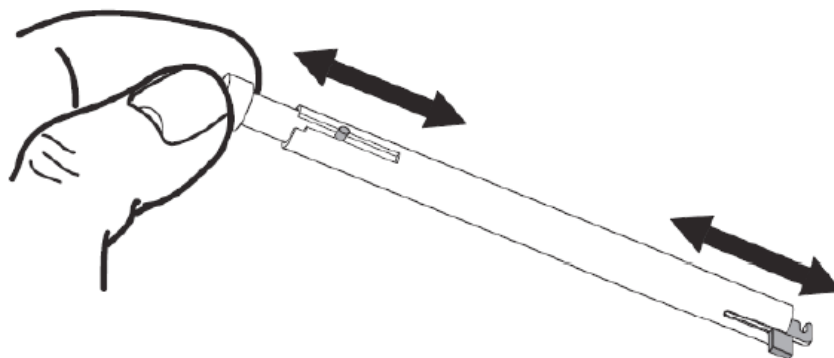
Mounting tube diameter	2.41 mm
Maximum extension of hook	1.7 mm
Width of hook	1.0 mm

**3. Description**

The insertion holder is used to insert N-Forms into nervous systems. It is designed for use with micromanipulators as well as custom set-ups.

**4. Testing for Correct Operation**

The insertion holder is designed for use after removal from its packaging and if necessary, sterilization. It is recommended that experimenters perform an inspection and brief functional test prior to implantation. Grasp the control knob and rotate to unlock the engagement hook. Slide the control knob to advance the engagement hook, and confirm that the pin moves freely between retracted and extended positions.



### 5. Instructions for Insertion

The insertion holder is designed for implanting N-Form microelectrodes into brain, spinal cord, and peripheral nerve tissue. The insertion holder mechanically engages with the N-Form and micromanipulators, providing precise insertions and a range of approach angles.

I. Hold the N-Form by its connector and carefully remove it from packaging. Avoid contacting microelectrode tips with any surfaces. This can result in tip deformation and reduced penetration performance.

II. Place the connector in the desired position within the experiment. Using tweezers with soft tips, manipulate the wire-bundle to within a 0.5 mm radius of its intended position. Fix the connector assembly in position using dental cement.

III. Place the insertion holder within a micro positioner making sure that the control knob and pin are free to displace and rotate.

IV. Using the micropositioner, position the distal end of the insertion holder directly above the N-Form array. The insertion holder should be aligned with the axes of the shanks.

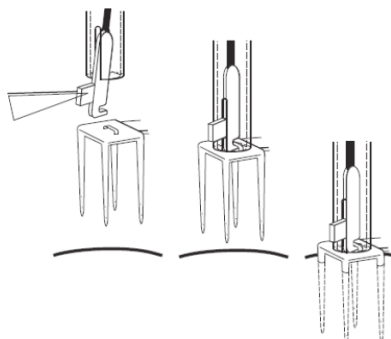
! Do not clamp control knob or pin !



V. Turn the control knob until the pin is free to move within its track. Advance the control knob until the hook emerges at the end of the mounting tube. Using a pair of tweezers, grasp the flag and hook the loop on the back of the N-Form array (see diagram below).

VI. Pull the control knob backward and rotate the pin into the friction groove to lock the array (see diagram).

VII. Advance the N-Form into the target anatomy until the baseplate is touching the tissue (see diagram).



**N-Form® Insertion Holder**

VIII. To remove the insertion holder: pull and rotate the control knob to release tension on the hook. Gently grasp the flag with tweezers and slowly disengage the hook from the loop of the N-Form. Retract the insertion holder to a safe distance.

**6. Sterilization**

EtO sterilization is recommended (a conservative protocol is 24 hours followed by 7 days of degassing).

- An acceptable temperature range is room temperature to 40 °C.
- An acceptable temperature range within the product packaging is room temperature to 40 °C.

! CAUTION ! Do not use organic solvents to sterilize this product (e.g., isopropyl alcohol).

! CAUTION ! High temperature sterilization techniques are not recommended for this product.

Please contact us if necessary.

**7. Storage**

Retract the engagement hook before storing the microarray insertion holder. Carefully lay the microarray insertion holder down within its case and close the lid.

**About Plexon Inc**

Plexon is a pioneer and leading innovator of custom, high-performance data acquisition, behavior and analysis solutions specifically designed for scientific research. We collaborate with and supply thousands of customers including the most prestigious neuroscience laboratories around the globe driving new frontiers in areas including basic science, brain-machine interfaces (BMI), neurodegenerative diseases, addictive behaviors and neuroprosthetics. Plexon offers integrated solutions for in vivo neurophysiology, optogenetics, and behavioral research – backed by its industry-leading commitment to quality and customer support. For more information, please visit [www.plexon.com](http://www.plexon.com).

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