

Nucleus® CI422 Cochlear Implant

Technical Specifications

From the company that continually sets the benchmark in implant reliability and performance, the Cochlear™ Nucleus® CI422 cochlear implant is the newest addition to the Cochlear portfolio and draws on experience gained over 25 years.

The CI422 has a range of distinct features which is designed to achieve an atraumatic single stroke insertion, including:

- the world's thinnest full length straight electrode array, tapering from 0.6mm to 0.3mm, ideally suited to round window and cochleostomy surgeries,
- a unique, patented basal stiffener to prevent buckling, and
- a proprietary Softip, smooth lateral surface and handle to facilitate a gentle insertion to protect the delicate cochlea structures.

CI422 electrode array in detail



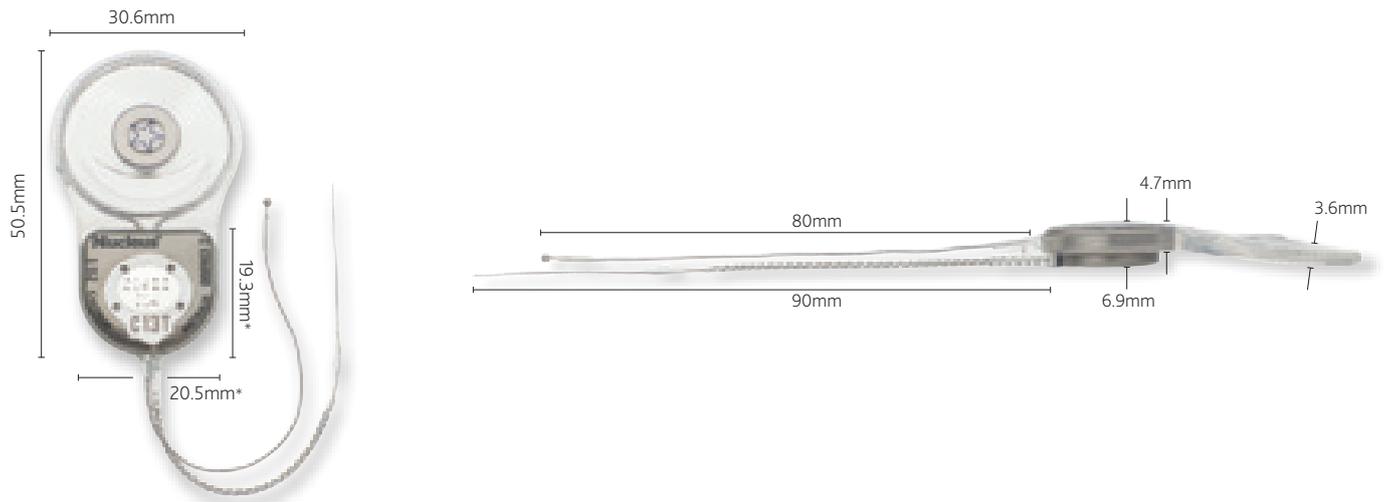
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| <p>1 Softip for minimal insertion trauma.</p> <p>2 Diameter at apical end 0.3mm.</p> <p>3 Intracochlear electrode array, smooth lateral surface.</p> <p>4 22 platinum electrode contacts spread over 20mm, face medially on opposite side to handle.</p> <p>5 Diameter at basal end 0.6mm.</p> | <p>6 White marker at 20mm indicates active electrode array.</p> <p>7 Patented basal stiffener enabling smooth, single motion insertion.</p> <p>8 White marker at 25mm indicates maximum insertion depth.</p> <p>9 Handle for reliable surgical handling and electrode orientation. Handle faces laterally for insertion.</p> |
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Components of the Nucleus CI422 Implant



- 1** Receiver/stimulator in titanium casing for high impact resistance.
- 2** Removable magnet for MRI safety (star on magnet indicates the side that should be away from the bone; sterilised replacement available from Cochlear - Z50101). MRI safe at 3 Tesla with magnet removed (for further details refer to the Surgeon's Guide 249168)¹. Non-magnetic plug to assist MRI procedures available from Cochlear (Z50100).
- 3** Implant coil.
- 4** Two extracochlear electrodes for different stimulation modes, and high performance telemetry.
- 5** 22 half-banded platinum electrodes, spaced over a 20mm active array.

Dimensions of the Nucleus CI422



* Specified dimensions for receiver/stimulator titanium casing.

ELECTRODE ARRAY

Contacts

- 22 half-banded platinum electrodes, spaced over a 20mm active array.

General features

- A circumferential white marker proximal to the first electrode indicates 20mm insertion depth. A similar marker 5mm closer to the receiver/stimulator package indicates 25mm maximum insertion depth.
- Electrode handle for reliable surgical handling and electrode orientation.
- Two extracochlear electrodes: one platinum plate attached to the receiver/stimulator package, and a separate 1.5mm (typical) diameter ball electrode on an 80mm lead.

RECEIVER/STIMULATOR

General features

- Weight – 9.5g (including electrode array).

MRI

- MRI safe up to 1.5 Tesla with magnet in place.
 - MRI safe at 3 Tesla with magnet removed.
- (for further details refer to the Surgeon's Guide 249168)¹.

MICROELECTRONIC PLATFORM

General features

- Power efficient, custom design.
- Stimulus amplitude range: 0 μ A to 1.75mA.
- Stimulation rates up to 31.5kHz.
- Pulse width: 9.6 μ s to 400 μ s per phase.
- Implant ID to uniquely identify implants.

Stimulation modes

- Monopolar, bipolar mode and common ground stimulation, biphasic current pulses.

Telemetry capability

- Ultra-low-noise floor (\sim 1 μ V) – enabling advanced AutoNRT™ telemetry capabilities.
- Includes fully integrated telemetry modes - NRT, AutoNRT and intraoperative NRT.
- Supports electrophysiology – ESRT, ABR and CEP.

¹ MRI field strength approval varies by country, check your warnings and precautions document.

Specifications are nominal and accurate at the time of printing, subject to change without notification.