

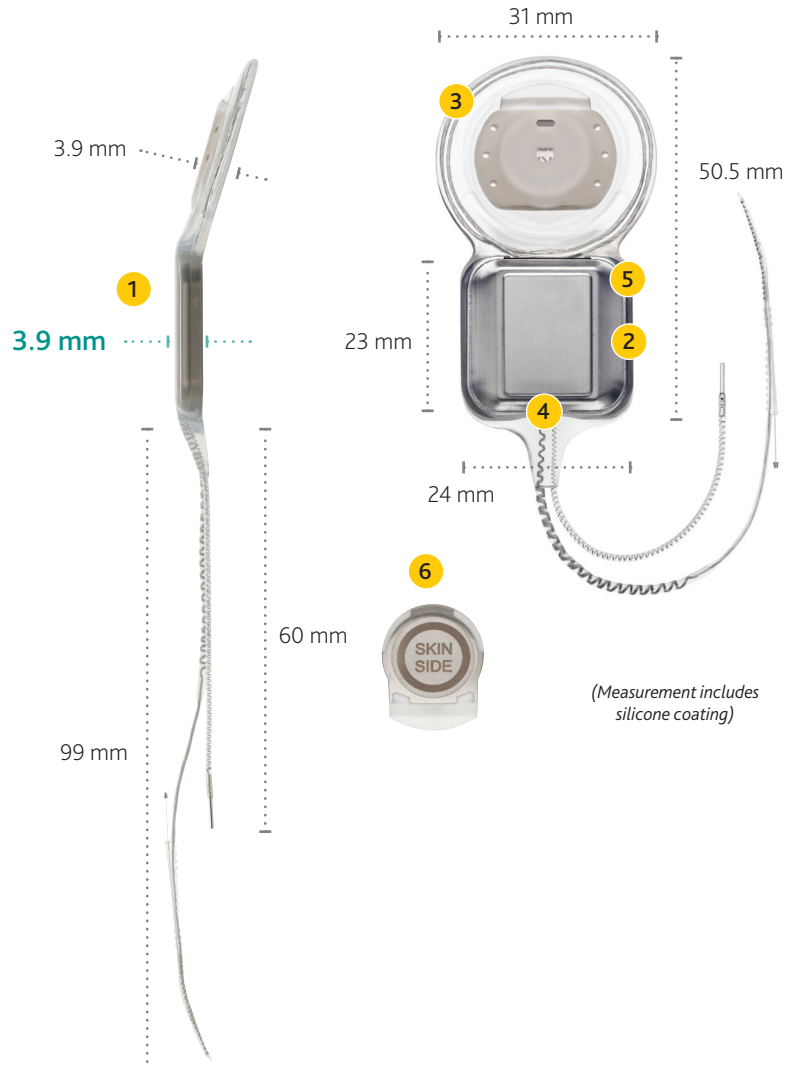
# Cochlear™ Nucleus® Profile™ Plus with Contour Advance® Electrode (CI612)

## MRI at 1.5T and 3.0T with Magnet in Place

- 1 Thin implant body that provides a natural and low-profile appearance designed to minimize need for drilling.<sup>1</sup>
- 2 Titanium casing, for impact resistance.
- 3 Implant coil, enabling telemetry.
- 4 Symmetrical, side by side exit leads from main casing.
- 5 Smooth external geometry to minimize biofilm formation and reduce risk of infection.<sup>2</sup>
- 6 Removable magnet to reduce artifact, if required. Implant is approved for 1.5T and 3.0T with magnet in place.<sup>3</sup>

Circle on magnet indicates the side that should be away from the bone.

Sterilized replacement magnet (P782485) and non-magnetic cassette (P782484) are available from Cochlear.



<b>Weight</b>	9.2 g including electrode array.
<b>Impact Resistance</b>	Resistant against external impact up to 2.5 joules. <sup>4</sup>

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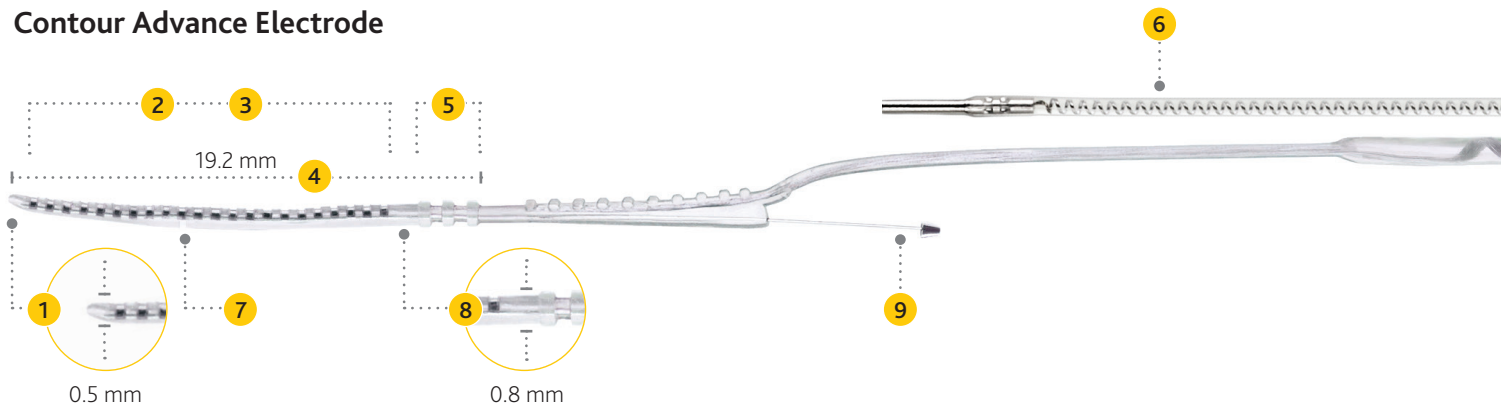
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Hear now. And always



## Contour Advance Electrode



- 1 Softip™ measuring 0.5 mm diameter at apical end, proven to minimize insertion trauma.<sup>5</sup>
- 2 22 half-banded platinum electrodes arranged in non-uniform spacing from 0.4 to 0.8 mm providing focused stimulation to the spiral ganglion cell region over 14.25 mm active length.
- 3 Pre-curved design for perimodiolar placement, reduces spread of excitation<sup>6</sup> and maximizes hearing performance.<sup>7-9</sup>
- 4 19.2 mm intracochlear length providing optimal hearing zone coverage.
- 5 3 silicone ribs to indicate insertion depth.
- 6 Two extracochlear electrodes (one on the receiver/stimulator and one on the extracochlear electrode lead) designed to provide individualized stimulation and mapping.
- 7 White marker to facilitate Advance Off-Stylet® (AOS™) insertion and indicate insertion depth when the tip is close to the lateral wall of the cochlea.
- 8 Basal diameter at 0.8 mm.
- 9 Platinum stylet holds the electrode straight for insertion with AOS surgical technique.

The Contour Advance Electrode is indicated for extended round window and cochleostomy surgical approach.

## Custom Design Microelectric Platform

### Power Efficient

- Stimulus amplitude range: 0 to 1.75 mA.
- Stimulation rates up to 31.5 kHz.

### Implant Identification

- Implant ID allows the sound processor to uniquely identify and stimulate the intended implants.

### Stimulation Modes

- Monopolar, bipolar and common ground stimulation modes using biphasic current pulses, designed for flexible programming options.

### Telemetry Capability

- Ultra-low-noise floor (~1  $\mu\text{V}$ ), enabling advanced AutoNRT® telemetry capabilities.
- Includes fully integrated Electrophysiology telemetry modes - NRT®, AutoNRT, ESRT, ABR, CEP and intraoperative NRT.

1. Compared to all currently available receiver stimulators available from Cochlear and other cochlear implant manufacturers. Based on published device specification information.
2. James G A, Boegli L, Hancock J, Bowersock L, Parker A, Kinney B M, Bacterial Adhesion and Biofilm Formation on Textured Breast Implant Shell Materials, *Aesth Plast Surg*, October 2018; <https://doi.org/10.1007/s00266-018-1234-7>
3. MRI compatibility may vary by country depending on regulatory approvals in each country. Please check the MRI guidance provided in your country by contacting your local Cochlear representative or clinic before proceeding with an MRI scan.
4. EN 45502-2-3 Active implantable medical devices - Part 2-3: Particular requirements for cochlear and auditory brainstem implant systems.
5. Roland J T, A model for cochlear implant electrode insertion and force evaluation: Results with a new electrode design and insertion technique, *Laryngoscope*, vol. 115, pp. 1325-1339, 2005.
6. Hughes ML, Stille LJ. Effect of stimulus and recording parameters on spatial spread of excitation and masking patterns obtained with the electrically evoked compound action potential in cochlear implants. *Ear Hear*. 2010;31:679-92
7. Xi X, Ji F, Han D, Hong M, Chen A. Electrode interaction in cochlear implant recipients: comparison of straight and contour electrode arrays. *ORL J Otorhinolaryngol Relat Spec*. 2009;71(4):228-37. doi: 10.1159/000229303. Epub 2009 Aug 26.
8. Basta D, Todt I, Ernst A. Audiological outcome of the pull-back technique in cochlear implantees. *Laryngoscope*. 2010 Jul; 120(7):1391-6.
9. Cohen L, Richardson L, Saunders E, Cowan R: Spatial spread of neural excitation in cochlear implant recipients: comparison of improved ECAP method and psychophysical forward masking *Hearing Research* 179 (2003) 72-87

