

SYNCHRONY 2 Cochlear Implant

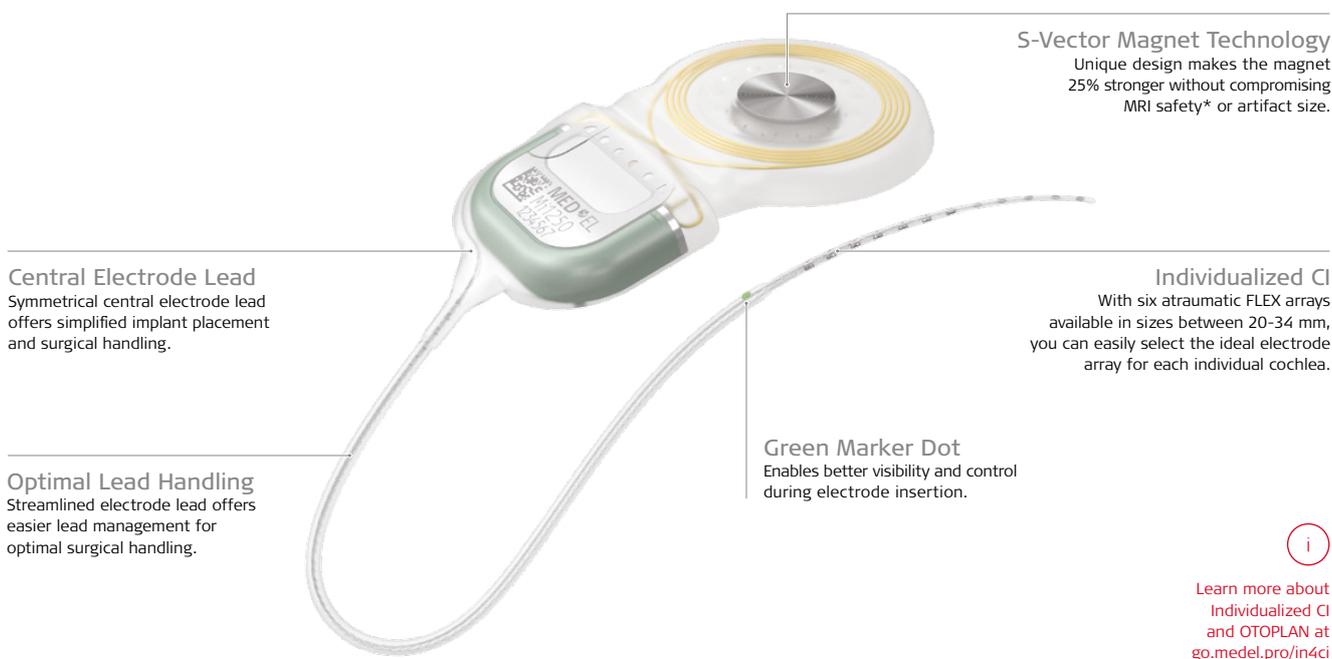
Made for Exceptional Performance



hearLIFE

SYNCHRONY 2 Cochlear Implant

Intuitive Handling and Superior Performance



S-Vector Magnet Technology
Unique design makes the magnet 25% stronger without compromising MRI safety* or artifact size.

Central Electrode Lead
Symmetrical central electrode lead offers simplified implant placement and surgical handling.

Optimal Lead Handling
Streamlined electrode lead offers easier lead management for optimal surgical handling.

Green Marker Dot
Enables better visibility and control during electrode insertion.

Individualized CI
With six atraumatic FLEX arrays available in sizes between 20-34 mm, you can easily select the ideal electrode array for each individual cochlea.


Learn more about Individualized CI and OTOPLAN at go.medel.pro/in4ci

Superior Hearing Performance

We engineered our electrode arrays to most closely match the intricate natural design of the cochlea to enable the closest to natural hearing for each individual.

Structure Preservation

If an electrode array deviates from the scala tympani to the scala vestibuli, it damages critical nerve structures and results in significantly lower hearing performance. Our incredibly flexible free-fitting arrays are designed to gently adapt to the shape of each individual cochlea to protect the delicate natural structures.

Complete Cochlear Coverage

Our long, flexible arrays can be safely inserted all the way to the apical region to provide natural tonotopic stimulation across two full turns of each individual cochlea. This enables a closer to natural hearing experience and significantly better hearing outcomes.^{1,2}

Natural Sound Coding

FineHearing is the only cochlear implant sound coding that mimics the natural time-coding for low frequencies and provides place-pitch match throughout the cochlea. By mimicking natural sound coding, FineHearing provides much more natural sound quality.



¹ Buchman, C.A., Dillon, M.T., King, E.R., Adunka, M.C., Adunka, O.F., & Pillsbury, H.C. (2014) Influence of cochlear implant insertion depth on performance: A prospective randomized trial. *Otol Neurotol.* 35(10), 1773–1779.

² O'Connell, B.P., Hunter, J.B., Haynes, D.S., Holder, J.T., Dedmon, M.M., Noble, J.H., Dawant, B.M., & Wanna, G.B. (2017) Insertion depth impacts speech perception and hearing preservation for lateral wall electrodes. *Laryngoscope.* 127(10):2352–2357



Made for intuitive surgical handling, made for you.



Excellent Surgical Handling

The best just got better: SYNCHRONY 2 builds on the proven performance, MRI safety, and reliability of SYNCHRONY to deliver intuitive surgical handling.

Central Electrode Lead
Symmetrical central electrode lead design for simplified surgical placement.

Angled Fantail Transition
Angled transition for anatomical fit and secure electrode lead placement.

Smallest Titanium Implant
Compact design ideal for minimally invasive surgical techniques with small incision.

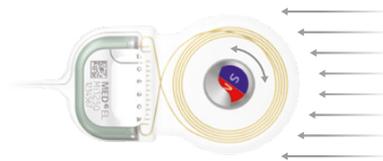
Green Marker Dot
Colored marker enables better visibility of insertion depth of the electrode array.

Optimized Electrode Lead
Streamlined electrode lead for improved handling and easier lead management.

PIN Housing Variant
Titanium fixation pins easily secure the placement of the implant for long-term stability.

3.0 Tesla MRI Safety

The unique SYNCHRONY S-Vector magnet freely rotates to self-align in an MRI scan, even at 3.0 Tesla.* The robust conical housing enables secure optional magnet removal for clearer brain imaging adjacent to the implant.

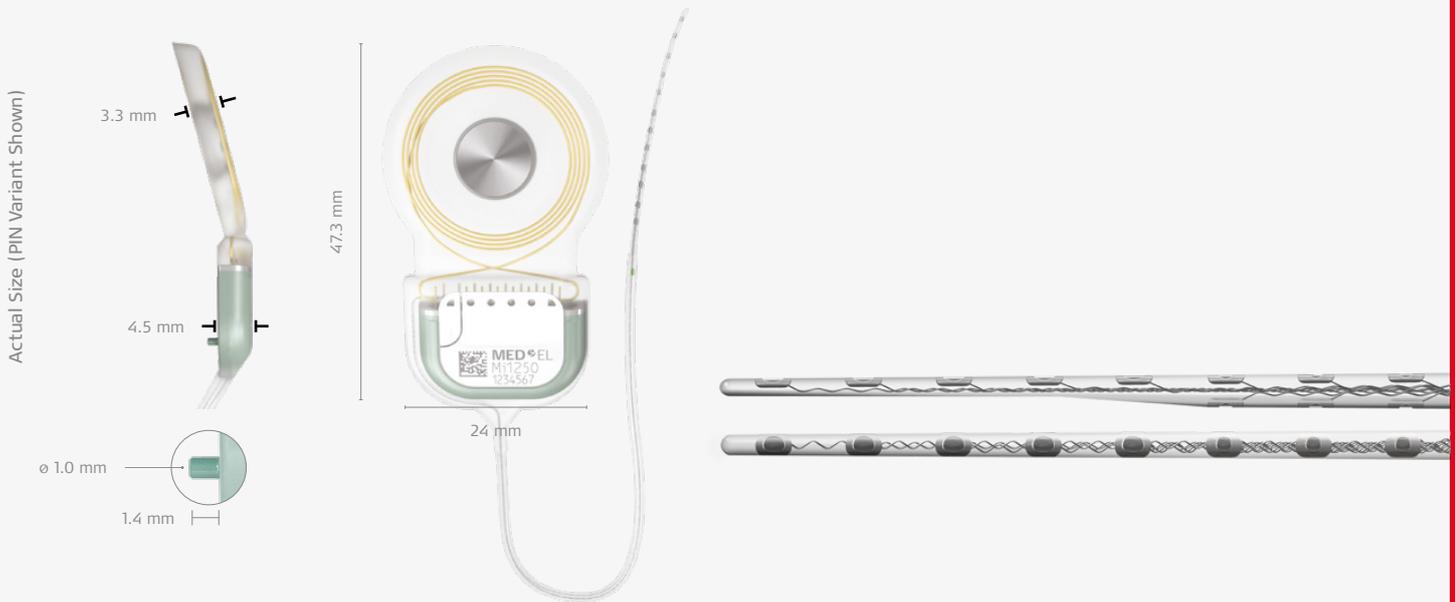


Great Protection. Guaranteed.

We offer more than just outstanding MRI safety. Our MRI guarantee** also covers SYNCHRONY 2 against damage during an MRI exam.

Technical Data

SYNCHRONY 2 Cochlear Implant (Mi1250)



SYNCHRONY 2 Cochlear Implant (Mi1250)

Stimulation Features

- Sequential non-overlapping stimulation on 12 electrode channels
- Simultaneous (parallel) stimulation on 2 to 12 electrode channels
- 24 independent current sources
- Stimulation reference electrode on titanium housing
- Stimulation rates of up to 50,704 pulses per second
- Range of pulse phase duration: 2.1–425.0 μ s/phase
- Time resolution (nominal values): 1.67 μ s
- Current range (nominal value): 0–1200 μ A per pulse phase

Pulse Shapes

- Biphasic, symmetric triphasic and triphasic precision pulses

Comprehensive Diagnostic Toolkit

- Status Telemetry
- Impedance and Field Telemetry (IFT)
- Electrophysiology measurements reference electrode on titanium housing
- Auditory Nerve Response Telemetry (ART™)
- Electrically Evoked Auditory Brainstem Response (EABR)
- Electrically Evoked Stapedius Reflex Threshold (ESRT)
- Electric Acoustic Evoked Potential (EAEP)

Housing Design

- Impact resistance \geq 2.5 Joule
- Unique PIN variant with fixation pins for additional stability
- Hermetically sealed titanium housing
- Stimulator: 18.8 mm x 24 mm x 4.5 mm
- Coil: 29.0 mm diameter x 3.3 mm thick (typical)
- Weight: 7.7 g

Safety Features

- Independent safety capacitors for each electrode channel
- Unique Implant ID (IRIS)
- Biocompatible according to ISO standard 10993-1
- Latex-free***

MRI Conditions*

- MR Conditional at 0.2, 1.0, 1.5 and 3.0 Tesla
- No magnet removal required even at 3.0 Tesla

Removable S-Vector Magnet

- Removeable S-Vector magnet for minimized image distortion
- Rotatable magnet within hermetic titanium housing
- Self-aligning to external magnetic field
- Conical shape for secure placement

Electrode Arrays

FLEX Series

The softest and most flexible electrode arrays, designed for Structure Preservation and Complete Cochlear Coverage. Featuring 19 active and physical platinum electrode contacts and FLEX-tip technology for atraumatic insertion. All FLEX series electrodes feature a green orientation marker for improved visibility and positioning during insertion.

FLEX34

- 28.6 mm stimulation range
- Diameter at basal end: 1.3 mm
- Dimensions at apical end: 0.5 x 0.4 mm

FLEXSOFT

- 26.4 mm stimulation range
- Diameter at basal end: 1.3 mm
- Dimensions at apical end: 0.5 x 0.4 mm

FLEX28

- 23.1 mm stimulation range
- Diameter at basal end: 0.8 mm
- Dimensions at apical end: 0.5 x 0.4 mm

FLEX26

- 20.9 mm stimulation range
- Diameter at basal end: 0.8 mm
- Dimensions at apical end: 0.5 x 0.3 mm

FLEX24

- 20.9 mm stimulation range
- Diameter at basal end: 0.8 mm
- Dimensions at apical end: 0.5 x 0.3 mm

FLEX20

- 15.4 mm stimulation range
- Diameter at basal end: 0.8 mm
- Dimensions at apical end: 0.5 x 0.3 mm

FORM Series

Designed specifically for malformed cochleae and for instances where leakage of cerebrospinal fluid (CSF) is expected. Featuring 24 active and physical platinum electrode contacts and SEAL technology designed to aid closing of the cochlear opening.

FORM24

- 18.7 mm stimulation range
- Diameter at basal end: 0.8 mm
- Diameter at apical end: 0.5 mm

FORM19

- 14.3 mm stimulation range
- Diameter at basal end: 0.8 mm
- Diameter at apical end: 0.5 mm

CLASSIC Series

Features 24 active and physical platinum electrode contacts.

STANDARD

- 26.4 mm stimulation range
- Diameter at basal end: 1.3 mm
- Diameter at apical end: 0.5 mm

MEDIUM

- 20.9 mm stimulation range
- Diameter at basal end: 0.8 mm
- Diameter at apical end: 0.5 mm

COMPRESSED

- 12.1 mm stimulation range
- Diameter at basal end: 0.7 mm
- Diameter at apical end: 0.5 mm

* MED-EL cochlear implants since 1994 are MR conditional. Recipients with a SYNCHRONY 2 Cochlear Implant may be safely MRI scanned at 0.2, 1.0, 1.5, and 3.0 Tesla following the conditions detailed in the Medical Procedures Manual.

** The terms and conditions of the MRI guarantee can be found at <https://go.medel.com/mri-guarantee-terms>

*** Whereby "free" means "not made with latex" according to current FDA guidance: "Recommendations for Labeling Medical Products to Inform Users that the Product or Product Container is not Made with Natural Rubber Latex", 2014.