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neuromate® stereotactic robot - key features

About the *neuromate*® stereotactic robot

Designed specifically for neurosurgery, the *neuromate* robot can be used for a range of stereotactic procedures, including stereoelectroencephalography (SEEG), deep brain stimulation (DBS), biopsy and neuroendoscopy. The *neuromate* robot has both FDA clearance for sale in the USA and CE mark. Systems are installed in several countries worldwide. Before the installation of a *neuromate* system, our engineering team will evaluate your surgical workflows and, wherever possible, provide solutions to ensure optimal integration into your method of surgery. We also offer a strong international support team who can provide regular services and training to help keep operations running smoothly.

Surgical applications

- Stereotactic neurosurgery procedures
  - DBS, biopsy, SEEG, neuroendoscopy;
  - Research and development applications, including investigational intraparenchymal drug delivery

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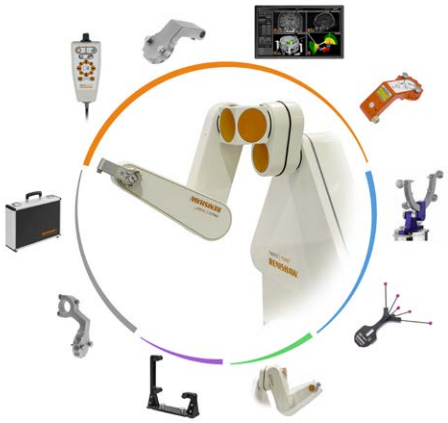
System benefits

- Complete procedure solution
  - Procedure specific modules / tools
  - Comprehensive surgical planning
  - Integrates with intraoperative imaging workflows
  - Framebased patient registration
  - 3D and 2D frameless patient registration
- Significant time saving when implanting multiple trajectories
- Compact, easy to manoeuvre and easy to clean
- Designed for quick parts replacement
- Quick to set up and operate
- On-board system diagnostics
- Customisable
  - Dimensions
  - Frame adaptors
  - Imaging modalities
  - Powered tool holders for standard or custom tools
- Strong international clinical support team
- Superior CT/MRI fusion with *neuroinspire™* surgical planning software[1]. Please see additional *neuroinspire* key features document.



neuromate robot accessories

Safety features

- Used in over 10,000 procedures[2]
- Anti-collision system
- Constant accuracy checking with redundant encoders
- Safety line constantly monitoring the status of mechanical and electrical components
- Remote control with safety trigger
- Non-backdrivable joints with no backlash ensure immediate, stiff mechanical locking in case of error condition or power outage
- Full image guidance during planning and operation

neurolocate™ frameless patient registration module

As a replacement for the targeting arc of a stereotactic frame or for a tracking system, *neuromate* offers the following safety benefits:

- Regular calibration ensures system remains within accuracy specifications
- Reduced risk of invisible mechanical damage or wear (compared to a stereotactic frame arc)
- No need for error-prone writing down or setting of target co-ordinates
- Stable mechanical attachment (compared to a stereotactic frame or clamping systems used with a navigation system)
- Stiff tool holding

neuroinspire stereotactic planning software

References

[1]Geervarghese R, O'Gorman Tuura R, Lumsden D, et al. Stereotactic and Functional Neurosurgery. 2016; 94: 159-163

[2] Renishaw field service data

For worldwide contact details, visit www.renishaw.com/contact

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