The Power to Test Heavy Patients

Rotary Motor Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
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<tbody>
<tr>
<td>Torque Rating</td>
<td>185 ft. lbs (optional upgrade - 365 ft lbs; contact NKI for additional motor sets)</td>
</tr>
<tr>
<td>Continuous Speed</td>
<td>Up to 1,620 deg. per second</td>
</tr>
<tr>
<td>Velocity % Accuracy</td>
<td>.001 (over 360 degrees)</td>
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<tr>
<td>Position Accuracy</td>
<td>18 arc-seconds</td>
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<tr>
<td>Torque Ripple</td>
<td>0.1% to maximum 1%</td>
</tr>
<tr>
<td>Encoder</td>
<td>Single turn absolute, 1.5M data points</td>
</tr>
<tr>
<td>Bearing Capacity</td>
<td>Radial dynamic capacity: 4,300 lbs.</td>
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<td></td>
<td>Thrust dynamic capacity: 4,700 lbs.</td>
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<td></td>
<td>Dynamic moment capacity: 8,700 in-lbs.</td>
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<tr>
<td>Slip Rings</td>
<td>36 line (standard), dual fiber optic available</td>
</tr>
</tbody>
</table>

Frequency vs. Patient Weight Sinusoidal Rotation Test
(with and without Unilateral Centrifugation Configuration)

- 185 ft lb motor @60 deg/sec
- 365 ft lb motor @60 deg/sec
- with unilateral centrifugation
- typical max frequency (0.64)

- Most extensive test battery
- 6 Reimbursable tests
- Modular and Upgradable
- Smooth and precise
- Handles patients up to 400 lbs
- Superior pupil tracking
**Standard System Components**

**Barany Chair Assembly**
Seating assembly designed for maximum patient comfort - adjustments for the patient’s head, legs, and feet. Includes safety harness, hand grips, and abort signal switch.

- Direct drive motor minimized slippage artifacts, eliminating cogging, backlash and slippage.
- Digital motor control and high resolution encoder provides the most precise motion profiles, smoothest operation and cleanest patient analysis.
- Patented motor design provides unsurpassed load capacity with a small foot print.

**Enclosure System**
Enclosed testing environment isolates patient from external stimuli.

- Light tight with directionless sound, eliminating patient supression cues, resulting in more accurate results.
- Smooth interior 360 degree projection surface for precise visual stimuli.
- Infrared video and intercom systems available to monitor patient alertness.

**Pursuit Tracker™**
Patent pending laser diode system displays visual targets for an unmatched range of tests.

- Laser diode light stimulus provides unparalleled precision versus light bars and projection systems resulting in more accurate stimulus and analysis.
- High speed galvometer provides the greatest range of tests with minimal space needs.
- Independent X and Y digital control allows for precise control and feedback of target motion and position for virtually unlimited profiles.

**Optokinetic Stimulus**
Ceiling mounted, rotating sphere projects a full field light pattern. Built-in digital controls provide precise control of multiple motion profiles.

- Full field visual stimulus for both NOTC and VNG system provides higher quality test data.

**Caloric Irrigator**
Delivers controlled temperature and flow rate for canal stimulation during caloric testing.

- Air or water caloric available.

**I-Portal® VOG**
Patient pending, digital, monocular or binocular eye tracking system with real time 4D data and analysis.

- Match performance with budget with 60 and 120 Hz systems.
- Provides additional data for diagnosis, including horizontal, vertical, torsion and pupilometry measurements.
- Torsion capability provides previously unaffordable quantitative data analysis for position tests.
- Base goggle set less than 175 grams meaning more comfortable patient fit and less inertial slippage artifacts for exceptional analysis.

**I-Portal® EOG**
Electrode based eye measurement and tracking system. Two or four channels available to collect horizontal and vertical eye movement data.

- Digital system provides higher quality test data.
- Provides ability to test patients in cases where VOG cannot be used.

**Patient shown with I-Portal® 60 Hz Goggle Set**

**VEST™ Operating and Analysis Software**
Newly upgraded VEST™ neuro-otologic analysis software offers a visual and easy to use interface. All NOTC and VNG tests are built into one software platform, eliminating the need to learn multiple software packages, improving balance clinic efficiency and exchangeability of data. The constantly expanding parameters and protocol settings also provide the flexibility to fulfill the needs of the clinical researcher.

VEST™ is readily upgradeable. The modular design of the software enables clinicians to purchase new tests as budget or need allows, e.g. Dynamic Unilateral Centrifugation or Subjective Visual Vertical / Horizontal.

**Upgrades / Options**

**Dynamic Unilateral Centrifugation -** Dynamic translation on X Axis allows for separate testing of left and right otolith pairs. [Wuyts, F, et al.,”Utricular Sensitivity and Preponderance Assessed by the Unilateral Centrifugation Test”, Journal of Vestibular Research, 2002]

OVAR - Off-vertical axis rotation. Pitch axis rotation up to 30 degrees to stimulate otolith organs.

**Parent Child System -** Enables small infant testing. Y axis movement positions child’s head/chair for on-center rotation.