Thermo Scientific
Spinnaker Robot

Microplate mover with integrated barcode-imaging system

Features
- Quiet operation
- Integrated vision
- Intelligent teach-jig
- Location verification
- Sample confirmation
- On-the-fly barcode reading
- Gravity neutral
- Offset gripper standard
- Overhead gripper optional
- Infinite rotations on all axes
- Integrated regrip station
- Native lidding/de-lidding capability
- Random access or stacked storage
- Bench-top ready
- Rapid set-up
- Arrayed or radial instrument configurations
- Thermo Scientific™ Momentum™ 4.0 ready
- Thermo Scientific™ BenchTrak™ ready

Unique vision capabilities
The Thermo Scientific™ Spinnaker™ robot is the only SCARA type (Selective Compliance Articulated Robot Arm) lab automation robot with integrated vision-assisted teaching and barcode reading. This robot can see issues that result in lost samples and cycle time before they become problems. When utilized with Thermo Scientific Momentum™ 4.0 Workflow and Scheduling software, the combination delivers an unprecedented integrated solution that greatly simplifies the design, setup, and execution of automated scientific processes.

Simple, quick set-up
Utilizing its built-in vision system and the specialized teach jig included with all Spinnaker movers, teaching locations is a quick and painless process. The vision system is also equipped with a location verification procedure that inspects all nest locations prior to a run, and will automatically correct minor location discrepancies (position healing). The integrated camera on Spinnaker also acts as a barcode reader, enabling automatic confirmation of sample ID’s and robust sample tracking.
### Axis/Joint Specifications

<table>
<thead>
<tr>
<th>Axis</th>
<th>Range</th>
<th>Velocity</th>
<th>Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base (rotate)</td>
<td>Infinite</td>
<td>180 °/s</td>
<td>360 °/s²</td>
</tr>
<tr>
<td>Elevator</td>
<td>635 mm</td>
<td>750 mm/s</td>
<td>2000 mm/s²</td>
</tr>
<tr>
<td>Elbow (rotate)</td>
<td>Infinite</td>
<td>360 °/s</td>
<td>1440 °/s²</td>
</tr>
<tr>
<td>Wrist (rotate)</td>
<td>Infinite</td>
<td>720 °/s</td>
<td>2880 °/s²</td>
</tr>
</tbody>
</table>

### Storage Options

**Hotels**

- Random Access: 15 plates per hotel
- Sequential Access: 40 plates per hotel

**Maximum Capacity with Hotels**

- Random Access: 180 plates
- Sequential Access: 480 plates

### General Specifications

- **Power Requirements**: 100 - 240 V auto switching
- **Operating Environment**: 15 - 40 °C, non-condensing
- **Safety Compliances**: CE, CSA
- **Weight**: 25 kg
- **Motion Control**: Closed Loop Servo, Controlled Stepper
- **Control**: Momentum 4.0. Directly from PC, requires Windows 7 or Windows 8 operating systems

### Gripper Details

- Built-in imaging bar code reader
- Handles most SBS conforming plates
- Landscape or Portrait
- Easily handles lids
- Plate detection during grip
- Adjustable gripping force and grip distance
- Variable plate/container finger designs
- **Payload**: 250 g