The Sciclone ALH 3000 Advanced Liquid Handling system delivers highly accurate and precise liquid handling in a versatile, scalable open-design format. With the flexibility to adapt as your needs change, it is an ideal tool for automating virtually any genomic, proteomic or drug screening protocol. Key features include:

- Swap on-the-fly 96 and 384 fixed cannula arrays, disposable tip arrays and pin tools.
- Z-8™ dispense module with independent Z-axis control for single well access and liquid level sensing.
- Up to six independently programmable bulk reagent dispense modules.
- Powerful easy-to-use software.
- 20 position deck and access from all four sides for easy integration.

### Liquid Handling Performance

<table>
<thead>
<tr>
<th>Dispense Module</th>
<th>Volume Range</th>
<th>Characteristic Performance*</th>
<th>Tip Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALH-HV Module (96 channels)</td>
<td>1-200µl</td>
<td>1-5µl: CV &lt; 5%, 5-200µl: CV &lt; 2%</td>
<td>100 or 200µl disposable tips</td>
</tr>
<tr>
<td>ALH-LV Module (384 channels)</td>
<td>0.5 - 25µl</td>
<td>0.5 - 2µl: CV &lt; 3%, 2-25µl: CV &lt; 2%</td>
<td>96, 384 deep, or 384/1536 fixed cannula arrays, 96 or 384 mandrel arrays for disposable tips, Custom V&amp;P Scientific Pin tools</td>
</tr>
<tr>
<td>ALH -NL Module (384 channels)</td>
<td>0.1 - 5.0µl</td>
<td>0.1 - 0.5µl: CV &lt; 6%, 0.5 - 5µl: CV &lt; 2%</td>
<td>96, or 384/1536 fixed cannula arrays, Custom V&amp;P Scientific Pin tools</td>
</tr>
<tr>
<td>Z-8 Dispense Module (8 channels with independent Z-axis control)</td>
<td>1-100µl with disposable tips</td>
<td>1-5µl: CV &lt; 5%, 5-100µl: CV &lt; 3%</td>
<td>100µl disposable tips</td>
</tr>
<tr>
<td></td>
<td>1-50µl with fixed cannula</td>
<td>1-2µl: CV &lt; 3%, 2-50µl: CV &lt; 2%</td>
<td>50µl fixed cannula</td>
</tr>
<tr>
<td>Bulk Dispense Module with Syringe Pump (8 fixed channels)</td>
<td>10-2,500µl</td>
<td>10-20µl: CV &lt; 3%, 20-2,500µl: CV &lt; 2%</td>
<td>Fixed cannula module</td>
</tr>
</tbody>
</table>

*Based upon Zymark application studies using liquid to liquid dispense methods with either water or DMSO & tartrazine dye. Application notes available upon request.
Sciclone ALH 3000 Liquid Handling System - Technical Specifications

**Dimensions**

Height: 37 in  Width: 48 in  Depth: 28 in

94 cm  122 cm  71 cm

**Weight**

345 lbs.  (157 kgs.)

**Worktable Data**

- 20 microplate positions
- 8 deck holes for recessed accessories (columns 4 and 5)

**Electrical Requirements**

50/60 Hz  120-240V, 10 amp

**Robotic Positioning**

Bi-directional repeatability:

- X-axis +/- 20 micron
- Y-axis +/- 20 micron
- Z-axis +/- 20 micron

**System Communications**

24V I/O

**Pneumatic Requirements**

Oil-free, dry air at 60 - 70 psi recommended

**Regulatory Ratings**

CE Compliant

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### Microplate Shaker

100-2000rpm with 2mm self-centering motion

Occupies one above deck location (<40mm height)

### Temperature Controlled Locator

100-240V, 50/60 Hz

Temperature range: 4 - 45°C

Occupies one recessed deck location.

Standard Reservoir - Teflon coated

(Max volume: 200ml, Min volume: 10ml)

Adapters for holding 96 & 384 well PCR plates and flat bottom microplates

### Positive Pressure Filtration Unit

100-240V, 50/60Hz

Pressure controller: 0-15psi manual adjustment

Swap on the fly Pressure Manifold

Occupies one recessed and one above deck location.

### Piercing Array

96 piercing cones for piercing foil based plate sealers

Swap on the fly spring mounted array. Occupies one above deck location

### Ultrasonic Wash Station

100-240V, 50/60Hz

Independent on-line fill and drain pumps

Fill volume: 350ml

Occupies one recessed deck location.

### Fixed Cannula Arrays & Mandrel Arrays

<table>
<thead>
<tr>
<th>Array Type</th>
<th>Length (protruded)</th>
<th>Diameter at Tips</th>
<th>External Coating</th>
</tr>
</thead>
<tbody>
<tr>
<td>96 Cannula Array for ALH-LV Head</td>
<td>1.69&quot;</td>
<td>.050&quot; .015&quot;</td>
<td>Teflon</td>
</tr>
<tr>
<td>384 deep Cannula Array for ALH-LV Head</td>
<td>1.69&quot;</td>
<td>.050&quot; .015&quot;</td>
<td>Teflon</td>
</tr>
<tr>
<td>384/1536 Cannula Array for ALH-LV Head</td>
<td>1.35&quot;</td>
<td>.030&quot; .015&quot;</td>
<td>Teflon</td>
</tr>
<tr>
<td>96 Cannula Array for 100nl Head</td>
<td>1.06&quot;</td>
<td>.030&quot; .018&quot;</td>
<td>Teflon</td>
</tr>
<tr>
<td>384 Cannula Array for 100nl Head</td>
<td>1.06&quot;</td>
<td>.030&quot; .018&quot;</td>
<td>Teflon</td>
</tr>
<tr>
<td>Z-8 Cannula</td>
<td>1.88&quot;</td>
<td>.050&quot; .015&quot;</td>
<td>Teflon</td>
</tr>
<tr>
<td>96 Mandrel Array for ALH-LV Head</td>
<td>1.31&quot; w/Tips .20&quot; w/o Tips</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>384 Mandrel Array for ALH-LV Head</td>
<td>1.31&quot; w/Tips .20&quot; w/o Tips</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

### Sciclone ALH 3000 Controller

Hardware
- 2GHz Minitower (17.5"h x 8.1"w x 17.2"d)
- 512Mb RAM
- 20GB Hard Drive
- CD-RW
- 3.5” Floppy Drive
- 56k Modem
- 15” Flat Panel Display Monitor

I/O Ports:
- 6 USB
- 3 Serial RS232
- 1 Parallel
- 2 PS/2

Software
- Windows 2000 SP2 or greater, Microsoft® Office Professional, Sciclone 3.0 Software or higher

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