Precision Dilutor: Improved Accuracy, Better Speed

The PDS200 Dilutor System:
- Automates the preparation of working standards from a stock standard,
- Estimates the concentration of off-scale samples,
- Performs the required dilution,
- And re-runs the sample automatically — without operator intervention!

TIME SAVINGS WITH IMPROVED ACCURACY, REDUCED MANUAL DILUTIONS, AND QUALITY CONTROL

Lachat’s precision autodilutor, the PDS200, used with the QuikChem 8500® Series Instruments, shines with numerous advantages:

- Uses a single, rather than dual piston system, decreasing the time per dilution.
- Improves accuracy—the PDS200 performs dilutions over the range of 1.6- to 4000-fold within 10% accuracy.
- Eliminates carryover issues.
- Easy to access tubing connections.
- Easy to clean and maintain.

MECHANICAL ADVANCES IMPROVE SPEED

The use of a single rather than dual piston system improves speed. The PDS200 has a single piston that is used in single mode for dilutions up to 100-fold, and in serial mode for dilutions above 100-fold. This change, to controlling the movement of only a single piston in the design of the PDS200, provides a 12% speed increase in single mode and a 16% increase in serial mode, without sacrificing accuracy or precision.

PRECISION EXCEEDS EXPECTATIONS

Carryover is no longer an issue with the PDS200. This allows for precision of less than 2.5% RSD and accuracy within 10% residual at 4000-fold dilutions. The table below shows the accuracy of the PDS200 at several dilution levels.

Summary of Performance Obtained with the PDS200*

<table>
<thead>
<tr>
<th>Range in Dilutions</th>
<th>Accuracy Achieved (Absolute Error) for the Range Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6-100</td>
<td>0.4-5.9%</td>
</tr>
<tr>
<td>100-800</td>
<td>0.3-5.9%</td>
</tr>
<tr>
<td>800-4000</td>
<td>0.5-7.9%</td>
</tr>
</tbody>
</table>

* % errors calculated for groups of 5-10 replicates of each dilution. Absolute errors across modes are combined in this table. Three diluters were tested. #
Specifications*  

<table>
<thead>
<tr>
<th>Range:</th>
<th>Dimensions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6-4000 fold Dilutions</td>
<td>9 x 21 x 20.5 cm (3.5 x 8.25 x 8&quot;)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Accuracy:</th>
<th>Construction:</th>
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<tbody>
<tr>
<td>&lt;1-% error</td>
<td>Corrosion-resistant, powder-coated, polyester-painted aluminum exterior</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample Processing Time:</th>
<th>Power Requirements:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approx. 2.4x cycle period for 1.6 to 100 fold dilutions (Single Dilutions)</td>
<td>100-230V, 50/60 Hz, 24 Vdc (2.2 Amp) output</td>
</tr>
<tr>
<td>Approx. 4.6 x cycle period for &gt; 100 fold Dilutions (serial dilutions)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample Volume Requirements:</th>
<th>Compliance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum of 2 µL per dilution (for 4000-fold)</td>
<td>CE certified indicating compliance to the European EMC directories.</td>
</tr>
<tr>
<td>To maximum of 5 mL/Dilution (for 1.6 – fold).</td>
<td></td>
</tr>
</tbody>
</table>

*Subject to change

How To Order

A89103 PDS200 Autodilutor, 115V  
A89203 PDS200 Autodilutor, 220V  
5015900 Serial Cable, PDS200 - Dilutor to Sampler  
21936 Sample Line Assembly - ASX-500/Dilutor; Tubing, pump tube and fittings from port 6 of the instrument valve to port B of the solenoid valve.  
89020 Tubing Kit, PDS200; includes dual sample probe  
29915 Dual Probe Assembly, with Tubing and Fittings - ASX-500 Sampler/Dilutor  
85020 Diluent Line Filter Assembly; Port E on dilutor to diluent  
29940 DI Water Line Tubing Assembly; Port A on solenoid valve to DI water  
2952500 Power Supply, PDS200  
31196 Power Cord, 250V 10A  
20026 Power Cord, 125V 10A

For Technical Assistance, Price Information and Ordering

In the U.S.A.

Call toll-free (800) 247-7613.

Outside the U.S.A.

Contact the LACHAT office or distributor serving you.

On the Worldwide Web  
www.lachatinsstruments.com or www.hach.com  
E-mail for Support  
techhelp@hach.com  
E-mail for Sales  
sales@lachatinsstruments.com

Local Distributor: