eVol® XR

- Speed up and simplify laboratory workflow
- Improve accuracy and reproducibility
- Standardize results independent of operator skill

1 mL Syringe now available

Every One an Expert

SGE Analytical Science
www.sge.com
Discover the Many Advantages of the Award Winning eVol®

eVol is the World’s First Digital Analytical Syringe

eVol is the coupling of two precision devices: a digitally controlled electronic drive and an XCHANGE® enabled analytical syringe.

- XCHANGE syringes are easily and quickly changed allowing them to be dedicated to individual liquids or methods to prevent possible cross-contamination of reagents.
- eVol is ergonomic, comfortable and easy to use.
- eVol is easily calibrated and calibration factors saved for each syringe, enabling laboratories to comply with stringent global laboratory standards (e.g. GLP, GMP, FDA).
- eVol is suitable for use with volatile samples.
- eVol is programmable to store a laboratory workflow (up to 98 steps).
- eVol is suitable for direct injection onto a chromatography column with a consistent flow rate.
- eVol’s stainless steel needle enables direct injection through septa.
- Password protection options enabling standardization of work processes
- Variable speed of operation

Applications and Volume Range of eVol XCHANGE Syringes

Applications for eVol include:
- Preparation of calibration standards
- Preparation and addition of internal standards
- Precise dispensing of aqueous and non-aqueous liquids
- Routine dispensing
- Ergonomic operation with substances in a fume hood
- Sample dilution
- GC and LC Instrument injections
- Eliminates the need for serial dilutions
- Micro titrations
- TLC spotting
- FDA methods requiring a 1 mL syringe

Volume range of eVol XCHANGE Syringes:

- New 1 mL Syringe expands applications for eVol®
The award winning eVol improves the pace of laboratory processes while delivering improved accuracy and reproducibility.

### eVol Improves Standard Laboratory Processes

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>Without eVol®</th>
<th>With eVol®</th>
<th>eVol® BENEFIT</th>
</tr>
</thead>
</table>
| Standard Preparation             | Standards prepared in a large volume flask. From this standard aliquots are individually dispensed into autosampler vials. | Standards are made up directly in the vial, including the make up solvent. | • Less glassware usage  
• Reduces waste fluid  
• Significant time saving  
• Improved accuracy and reproducibility |
| Addition of Standards            | Small amounts of standard aspirated and dispensed into all samples before being transferred to an autosampler vial. | One aspiration and a fast series of repeated accurate dispenses directly into vials. | • Significant time saving  
• Improved accuracy and reproducibility |
| Delivery of derivatization agents| Laboratory staff required to work in a fume hood with potentially hazardous materials, to prepare combinations of derivatization agents in open vials. | Process completed with eVol® programmed to aspirate an amount of solvent or agent and then dispense aliquots into sealed vials, Single handed operation. | • Improved operator safety, lower spill and splash risk  
• Ergonomic benefits behind fume hood screen  
• Improved accuracy and reproducibility  
• Less glassware use |
| Serial dilutions                 | Transfer of a small amount of solution to another container. Solvent added to achieve the required volume. This is repeated multiple times to obtain the required final accurate concentration. | One aspiration of the solution can be dispensed directly into the solvent to achieve the required accurate concentration. | • Complete workflow simplification  
• Significant time savings  
• Improved accuracy  
• Less solvent required  
• Less glassware used |

The table above includes examples of how eVol® improves standard laboratory processes.

### eVol NMR Edition and Mighty MEPS™

**eVol NMR**

eVol NMR Edition, featuring long stainless steel needles, enables in tube sample dilution and mixing, and recovery of samples facilitating re-use of NMR tubes. Contact SGE for details.

**Mighty MEPS**

The eVol custom programming function enables MEPS (micro SPE) to be semi-automated and proofed before transition to fully automated platforms. Ask SGE for more information on how eVol MEPS can improve your method development.
### Starter Kit and Accessories

#### eVol® XR Syringe Starter Kit
- eVol® XR Electronic Syringe
- 3 eVol® Syringes – 5 µL, 100 µL and 1 mL
- Stand
- Universal Charger
- Comprehensive Instruction Manual
- Disc with Manual in Multiple Languages

#### eVol® NMR Edition
- eVol® Electronic Syringe
- 3 eVol® Syringes – 5 µL syringe is supplied with a 115 mm needle, 50 µL and 500 µL syringes are supplied with both 115 and 180 mm needles
- Stand
- Universal Charger
- Comprehensive Instruction Manual
- Disc with Manual in Multiple Languages

#### eVol Electronic Syringe (handle only)

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
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<tbody>
<tr>
<td>eVol® XR Syringe Starter Kit</td>
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<tr>
<td>eVol® NMR Edition</td>
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<tr>
<td>eVol® Electronic Syringe (handle only)</td>
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### eVol XCHANGE and eVol MEPS Syringes

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<tr>
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<th>Needle Gauge</th>
<th>Needle OD (mm)</th>
<th>Needle ID (mm)</th>
<th>Needle Tip</th>
<th>Replacement Needle Part No.</th>
<th>Replacement Plunger Part No.</th>
<th>Syringe 3 Pack Part No.</th>
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<tbody>
<tr>
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<td>0.5</td>
<td>0.12</td>
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<td>036910</td>
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<td>5 µL (supplied without needle)</td>
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<tr>
<td>50 µL</td>
<td>50</td>
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<td>0.2</td>
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<td>50 µL (supplied without needle)</td>
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<tr>
<td>100 µL</td>
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<td>25</td>
<td>0.5</td>
<td>0.2</td>
<td>Bevel</td>
<td>038110</td>
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<tr>
<td>100 µL for MEPS™ applications*</td>
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<tr>
<td>500 µL</td>
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</table>

* 1 mL syringe can only be used with eVol® XR, not compatible with eVol® Classic.
\* All SGE 25 – 500 µL replacement needles can be used with 50 µL and 100 µL eVol® syringes.
\^ All SGE 1 – 2.5 mL replacement needles can be used with 500 µL and 1 mL eVol® syringes. * The eVol® MEPS™ syringes can be used with the range of MEPS™ BINs.