RevElution™
Bio-Concentrators

NEW!
The new RevElution™ Bio-Concentrator is revolutionary. It uses a patented* technology to rapidly and efficiently concentrate liquid microbial samples for further analysis. Samples as large as two liters may be concentrated at a rate up to 100 mL/minute using a unique method that draws the liquid through a filter and then elutes the trapped particles with a wet foam solution. As many as 90% or more of microbes are recovered, ready and viable for various rapid or classical analytical methods such as immunoassay, PCR or cell culture. The RevElution is an ideal sample prep instrument for bacteria, parasites, molds, fungi and whole cells found in food, beverage and environmental samples and other life science applications.

Easy to use, the RevElution operates with the press of a button. Simply insert a single-use filter tip, lower it into the sample, and press one button to draw the sample through the filter. The liquid passing through the filter may be directed to a drain and discarded or collected for future use. Once all the liquid has been filtered, press the button to trigger the wet foam elution process, which releases the particles from the filter into a final sample container. Final sample volume is user selected from 200 to 1000 µl (≤ 1 mL). The RevElution’s single use tips eliminate contaminant carryover between samples. The entire sample path is contained within the disposable tip.

* Patents pending.
Features & Benefits

**Patented** technology ensures fast concentration. Depending on the solution and filter tip type, samples may be concentrated at a rate of up to 100 mL/minute.

Easy-to-read LCD prompts user to set program parameters and displays operation in progress and alerts. Elution volume is programmable as low as 100 microliters for repeatable processing of multiple samples.

Excellent recovery of analytes. During testing, over 90% of microbes present in various liquid samples were recovered. Specific examples are shown below.

<table>
<thead>
<tr>
<th>Species</th>
<th>Efficiency**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacillus thuringiensis israelensis (Bti)</td>
<td>97%</td>
</tr>
<tr>
<td>Bacillus atrophaeus (Bg)</td>
<td>95%</td>
</tr>
<tr>
<td>Escherichia coli (Ec)</td>
<td>99%</td>
</tr>
<tr>
<td>MS-2 bacteriophage</td>
<td>92%</td>
</tr>
</tbody>
</table>

Dramatically reduces sample volume. Liquid and particles smaller than the membrane's pore size pass through the Filter Tip, reducing interference from unwanted analytes during subsequent testing. The final volume, which may be one milliliter or less and contains a concentrated sample of the microbes, makes transporting easy and minimizes space needed for storage.

Easy to use. Pressing one button activates the diaphragm pump to draw the sample through the filter. When the sensor detects that the entire sample volume has been aspirated, the pump automatically stops and an audible/visual alarm alerts the user that filtering is complete. Pressing the button releases a programmed amount of wet foam that elutes the particles trapped on the filter.

Biological samples remain viable. The filter and elution foam are free of contaminants and do not denature microbes.

No cross contamination. Since the entire sample path is contained within the disposable tip, the potential for cross contamination is eliminated.

Small footprint. Measuring only 6.0" wide x 14.0" deep x 11.2" tall and weighing only 10 pounds, the RevElution fits into small spaces and may be easily transported from lab to lab.

Durable powder-coated cast aluminum base resists corrosion and scratches.

Hinged head lifts up easily for filter tip insertion and removal and lowers for tip placement in a sample container.

Non-marking feet protect work surfaces and stabilize the base.

One 500 mL conical-bottom centrifuge tube and stand are included. The high density polyethylene tube holds the initial sample volume. The stand keeps the tube upright during processing. Alternatively, user-supplied containers such as flasks or beakers may be used. For oversized containers, a user-supplied flexible tube may be attached to the filter tip and placed in a container next to the RevElution.

Fully automated preventative maintenance. With the blank tip (included) and optional Maintenance Kit (sold separately), the fluid path may be quickly decontaminated. An LCD alert reminds the user to perform maintenance at programmed intervals.

Quick-connect hose barb fitting and permeate line directs waste fluid to drain or collection vessel. Two feet of 1/8" ID flexible PVC tubing is provided for connection to the rear mounted fitting.

Specifications

**Patented** wet foam elution technology

- Glacier white dry powder-coated cast aluminum base
- Black thermoplastic head with stainless steel hinges
- Built-in flow sensor and diaphragm pump

Microprocessor-controlled programming of elution volume, advanced run options and decon reminder intervals

- LCD for display of menu options, operation in progress, and alerts
- Audible/visual filtering step completion alert
- LED that glows blue when unit is on, flashes red during filtering step, and flashes green during elution step
- Quick-connect fitting for 1/8" ID permeate tubing
- Permeate line of PVC flexible tubing, 2' length, 1/8" ID
- On/off switch
- USB port for software updates
- Non-marking hard plastic feet
- High density polyethylene, conical-bottom, 500 mL centrifuge tube with thermoplastic stand

Blank maintenance tip of polystyrene and polyethylene

- Overall width and depth: 6.0" w x 14.0" d (15.2 x 35.6 cm). Minimum height with head raised: 16.0" (40.6 cm). Minimum height with head lowered: 11.2" (28.4 cm).
- ETL & ETL-C listing on 6100000
- Made in the U.S.A.
- 71.0" (180.3 cm) 2-wire electrical cord with plug and 24 volt power supply with 47.5" (120.7 cm) cord
- Actual weight 10 lbs. (5 kg). Shipping weight 12 lbs. (5 kg)

Accessories required (not included)

- Filter Tips. See RevElution Filter Tips or Starter Kits.
- Elution Fluid. See RevElution Elution Fluid Packs or Starter Kits.
- Permeate container

Optional Accessories

- 4-Place Centrifuge Tube Carrier
- Maintenance Kit

Ordering Information

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Electrical Requirements</th>
<th>Plug Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>6100000</td>
<td>115 volts, 50/60 Hz, 1 amp</td>
<td>115 volts</td>
</tr>
<tr>
<td>6100001</td>
<td>230 volts, 50/60 Hz, 1 amp</td>
<td>British (UK)</td>
</tr>
<tr>
<td>6100002</td>
<td>230 volts, 50/60 Hz, 1 amp</td>
<td>Schuko</td>
</tr>
<tr>
<td>6100003</td>
<td>230 volts, 50/60 Hz, 1 amp</td>
<td>China</td>
</tr>
<tr>
<td>6100004</td>
<td>230 volts, 50/60 Hz, 1 amp</td>
<td>Australia</td>
</tr>
</tbody>
</table>

* Patent pending

** Efficiency was achieved in testing using Filter Tip 6100900. Individual results may vary and are dependent on the solution and detection method. Contact Labconco for application notes.
**Accessories**

**RevElution Starter Kits**  
Each kit includes one pressurized can of RevElution Elution Fluid, five RevElution 0.4 Micron Filter Tips, and five RevElution 0.1 Micron Filter Tips. Shipping weight 1.5 lbs. (0.7 kg)

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6101900</td>
<td>Starter Kit with Tris Elution Fluid, 25 mL. Consists of 0.075% Tween 20/25 mM Tris buffer.</td>
</tr>
<tr>
<td>6102000</td>
<td>Starter Kit with PBS Elution Fluid, 25 mL. Consists of 0.075% Tween 20/PBS buffer.</td>
</tr>
</tbody>
</table>

**RevElution Filter Tips**  
Single-use, disposable flat filter tips with Luer taper capture microbes and particles. Non-absorbent filter media surrounded by polystyrene housing. Gamma irradiated. Individually wrapped. **Required for operation.**

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6100800</td>
<td>0.1 Micron Filter Tips, Polyethersulfone filter media</td>
</tr>
<tr>
<td>6100900</td>
<td>0.4 Micron Filter Tips, Polycarbonate filter media</td>
</tr>
</tbody>
</table>

**RevElution Elution Fluid 6-Packs**  
Each convenient disposable pressurized can provides approximately 30-50 each 0.5 milliliter elutions. Package of 6. **Required for operation.**

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6101001</td>
<td>Tris Buffer Elution Fluid Pack, 25 mL 0.075% Tween 20/25 mM Tris buffer.</td>
</tr>
<tr>
<td>6101000</td>
<td>PBS Buffer Elution Fluid Pack, 25 mL 0.075% Tween 20/PBS buffer.</td>
</tr>
</tbody>
</table>

**RevElution Elution Process**  
Starting sample consists of particles in fluid, up to 2 liters. **STEP 1:** Sample is drawn through the Filter Tip. Particles larger than the pore size are captured on the filter. Fluid and particles smaller than the pore size pass through the filter. **STEP 2:** Wet foam elution process extracts the captured particles.

**Wet Foam Elution**  
Wet foam collapses leaving a small concentrated sample of particles in liquid. Ending sample is 200 to 1000 µl.

**6101600 Conical-Bottom Centrifuge Tube 4-Pack**  
Includes four each 500 mL polyethylene conical-bottom centrifuge tubes. Shipping weight 1.5 lbs. (0.7 kg)

**6101700 4-Place Centrifuge Tube Carrier**  
Holding tray with handle accommodates 4 each 500 mL conical-bottom centrifuge tubes (tubes not included). High density polyethylene. Shipping weight 1 lb. (0.5 kg)

**6101100 RevElution Maintenance Kit**  
Includes one pressurized can of decon fluid of 25 mL (0.01 N NaOH) and one pressurized can of rinse fluid. Provides for one decontamination. Shipping weight 0.5 lb. (0.2 kg)

**6101500 Replacement Blank Maintenance Tip**  
For use during decontamination. Made of polystyrene and polyethylene. One included with each RevElution Bio-Concentrator. Shipping weight 0.5 lb. (0.2 kg)

**6101800 Replacement Tube Stand**  
Supports a 500 conical-bottom centrifuge tube. Molded thermoplastic. One included with each RevElution Bio-Concentrator. Shipping weight 0.5 lb. (0.2 kg)