



User Guide

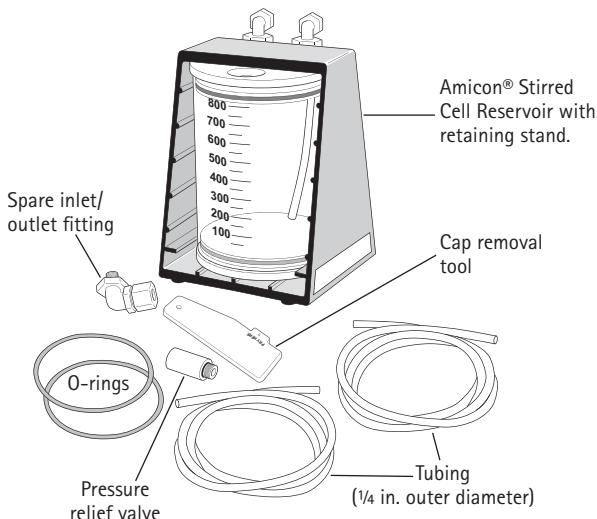
Amicon® Stirred Cell Reservoir

Cat. No. 6028

Introduction

The 800 mL Amicon® Stirred Cell Reservoir increases the volume capacity of Amicon® Stirred Cells. When pressurized by an external gas source, the reservoir automatically replenishes liquid in the stirred cell due to the pressure differential between the two vessels. The reservoir can also be used for continuous diafiltration to exchange sample buffer. In order to maintain an appropriate volume of fluid in the Amicon® Stirred Cell, the Amicon® Stirred Cell Selector Valve, cat. no. 6003, (or similar user-supplied valve(s) to control gas and liquid output independently) should be installed between the reservoir and stirred cell.

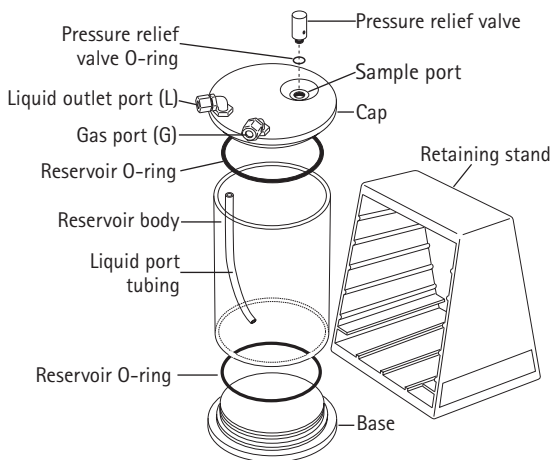
Components Supplied



Setup

Reservoir Assembly/Disassembly

1. Remove pressure relief valve (if installed) and slide reservoir out of retaining stand. Disassemble and clean all components prior to first time use.
2. Attach a 5 in. (12.7 cm) piece of 1/4 in. (6.4 mm) outer diameter (OD) tubing to the liquid outlet port (labeled "L") on the bottom of the reservoir cap.



3. Ensure that the reservoir O-rings are positioned correctly in the grooves of base and cap. If needed, lubricate O-rings lightly with water or petroleum jelly. Do not allow petroleum jelly to come in contact with sample.

NOTE: Inspect O-rings for cuts or wear; if necessary, replace with spare O-rings.

4. Push base and cap into reservoir body until properly seated, then slide reservoir assembly into retaining stand.

WARNING: Never use reservoir without its retaining stand! The cap will pop off when reservoir is pressurized and liquid in reservoir may splatter.

Inlet/Outlet Tube Fitting Assembly

The polyethylene tubing required for assembling the reservoir with the stirred cell and selector valve is supplied with the following products. Tubing designations listed below refer to the ports on the Amicon® Stirred Cell Selector Valve.

RES IN and RES OUT port tubing is supplied with the Amicon® Stirred Cell Reservoir.

CELL tubing is supplied with the Amicon® Stirred Cell (quick-connect fitting on one end).

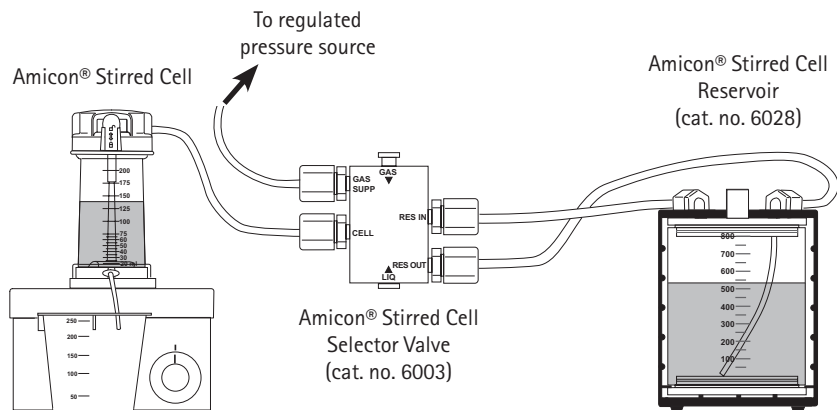
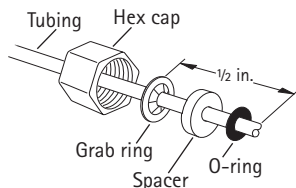
GAS SUPP tubing is supplied with the Amicon® Stirred Cell Selector Valve.

NOTE: Attachment to older model stirred cells is the same, except that the cell cap connection is the tubing assembly shown on the next page, rather than quick-connect.

Setup, continued

Additional tubing may be needed if using the reservoir with other devices.

1. Lay out the stirred cell, selector valve, reservoir, and four pieces of tubing in positions appropriate for their use together. Estimate length of tubing required for each connection and cut to length if necessary.
2. Carefully unscrew each of the four hex caps from the selector valve body and remove the O-ring. A grab ring and spacer are included inside each hex cap.
3. Slide the hex cap and grab ring (flat portion facing hex cap) onto one end of each of the four pieces of tubing leaving no more than $\frac{1}{2}$ in. (1.3 cm) of tubing beyond grab ring. Add a spacer (countersink toward grab ring) and O-ring onto the end of each piece of tubing.
4. Attach each tubing assembly to the appropriate selector valve port and hand tighten the hex caps.
5. Add appropriate tube fittings to the free ends of RES IN, RES OUT, and GAS SUPP tubing pieces. The CELL tubing already has a quick-connect fitting on it.
6. Refer to the diagram below and connect the ends of the tubing as follows:
 - Connect **GAS SUPP** to external pressure source.
 - Connect **CELL** to quick-connect inlet fitting on stirred cell.
 - Connect **RES IN** to inlet fitting (labeled "G" on Amicon® Stirred Cell Reservoir cap).
 - Connect **RES OUT** to outlet fitting (labeled "L" on Amicon® Stirred Cell Reservoir cap).
7. Assemble the Amicon® Stirred Cell according to the user guide and fill with sample.
8. Add sample or diafiltration buffer to the reservoir through the recessed sample port. Install pressure relief valve, taking care not to cross-thread the valve in the sample port.



Operation

WARNING: Do not exceed pressure limit of 5.2 bar (75 psi). During diafiltration, the pressure should not exceed 3.8 bar (55 psi), in order to maintain equilibrium between the stirred cell and the reservoir. If the liquid level increases slightly, concentrate briefly.

To prevent fluid from entering the stirred cell pressure relief valve during diafiltration, do not exceed the maximum working volume (e.g., 50 mL for the 50 mL stirred cell).

NOTE: Nitrogen gas is recommended for pressurizing the Amicon® Stirred Cell and reservoir.

Refer to Amicon® Stirred Cell Selector Valve user guide for detailed instructions on concentrating and diafiltering with the selector valve and reservoir.

1. To concentrate, push the **GAS** spool valve plug on the selector valve in until spool plug seats fully.
2. Initiate stirring and slowly pressurize the reservoir. Check connections for leaks, then increase pressure as desired. Both the reservoir and stirred cell are pressurized, but the cell is "seeing" only gas and there is no flow of liquid from the reservoir to the cell.
3. To diafilter, first run in **GAS** mode (steps 1 and 2) for 5–10 seconds, then push the **LIQ** spool valve plug in. This allows pressurized liquid to flow out of the reservoir and into the stirred cell.
4. Proceed with concentration or diafiltration until desired sample volume or buffer exchange has been achieved.

Shutdown and Disassembly

1. Turn off pressure at source, then turn off magnetic stirrer.
2. Vent pressure from system using the reservoir pressure relief valve, rather than the stirred cell pressure relief valve. This prevents liquid remaining in tubing/valve between cell and reservoir from flowing into the cell.
3. To disassemble, disconnect gas and liquid tube fittings.
4. Remove pressure relief valve and slide reservoir out of retaining stand.
5. Pry top and bottom caps from reservoir sleeve using cap removal tool provided.
6. Remove O-rings from top and bottom caps if needed.

Cleaning and Maintenance

1. After each use, wash the reservoir and all fluid-carrying tubing with mild laboratory detergent and rinse with deionized water.
2. If tube fitting assemblies are removed for any reason, rewrap the threads with polytetrafluoroethylene tape before replacing them back into the cover. Use moderate force when replacing fittings.

Sterilization/Disinfecting

The reservoir is **NOT** autoclavable. To sterilize, use standard sterilizing gas mixtures. To disinfect, use 5% formalin. Do **NOT** use alcohol.

Chemical Resistance

Do not use the reservoir with alcohols, strong acids or bases (pH < 2 or > 10), oxidizing agents, or organic solvents (esters, ketones, aromatic and chlorinated hydrocarbons).

Specifications

Maximum operating pressure			
Amicon® Stirred Cell Reservoir	5.2 bar (75 psi)		
Amicon® Stirred Cell	5.2 bar (75 psi)		
Amicon® Stirred Cell Selector Valve	5.2 bar (75 psi)		
Diafiltration using the Amicon® Stirred Cell, Selector Valve, and Reservoir	3.8 bar (55 psi)		
Working temperature range	4–40 °C (39–104 °F)		
Capacity	800 mL		
Holdup volume	4 mL		
Dimensions	width/diameter	length	height
Reservoir without stand	12.1 cm (4.75 in.)	N/A	19.1 cm (7.5 in.)
Retaining stand	12.7 cm (5 in.)	12.1 cm (4.75 in.)	17.8 cm (7 in.)
Tubing	¼ in. (6.4 mm) OD x 2.4 m (8 ft)		
Weight (without tubing)	1.7 kg (3.7 lb)		
Liquid and gas port connections	¼ in. (6.4 mm) OD x ⅛ in. (3.2 mm) NPT tube fittings		
Materials of construction			
Reservoir body	Acrylic		
Cap and base	Acetal		
Retaining stand	Glass-filled nylon		
Reservoir O-rings (red)	Silicone		
Relief valve O-ring	Buna-N		
Tube fittings	Nylon, stainless steel, buna-N		
Tubing	Polyethylene		

Statement Regarding Compliance with the Pressure Equipment Directive 97/23/EC

EMD Millipore Corporation certifies that this product complies with the European Pressure Equipment Directive, 97/23/EC of 29 May 1997. This product is classified under Article 3 § 3 of the Pressure Equipment Directive. It has been designed and manufactured in accordance with sound engineering practices to ensure safe use. The product is accompanied by user instructions and bears markings to permit identification of EMD Millipore Corporation as the manufacturer or authorized representative of this product within the European Community. In compliance with Article 3 § 3 of the Pressure Equipment Directive, this product does not bear the CE mark.

Ordering Information

This section lists catalogue numbers for the Amicon® Stirred Cell Reservoir and related products. See Technical Assistance section for contact information. You can purchase these products on-line at www.millipore.com/products.

Description	Cat. No.	Qty
Amicon® Stirred Cell Reservoir, 800 mL Includes reservoir, tube fittings, tubing.	6028	1
Amicon® Stirred Cell, 50 mL	UFSC05001	1
Amicon® Stirred Cell, 200 mL	UFSC20001	1
Amicon® Stirred Cell, 400 mL	USCF40001	1
Amicon® Stirred Cell Selector Valve For instant switching from concentration to diafiltration. Includes selector valve, tube fittings, tubing.	6003	1
Amicon® Stirred Cell Manifold For operation of multiple cells or reservoirs; individually valved. Includes manifold, tube fittings, tubing, mounting hardware.	6015	1

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Standard Warranty

The applicable warranty for the products listed in this publication may be found at www.millipore.com/terms ("Conditions of Sale").

