Float-A-Lyzer®
Dialysis Device

User Guide

REPLIGEN
INSPIRING ADVANCES IN BIOPROCESSING

The information contained in this document is subject to change without notice.

Repligen Corporation makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Repligen Corporation shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

No part of this document may be photocopied, reproduced, or translated to another language without the prior written consent of Repligen Corporation.

Products are not intended for diagnostic or therapeutic use or for use in vivo with humans or animals.

For further information, please contact Repligen Corporation at www.repligen.com.

Customer Support
customerserviceUS@repligen.com
310-885-4600

Repligen Corporation
18617 South Broadwick Street
Rancho Dominguez, California 90220
www.repligen.com

Contents

List of tables

Abbreviations

CE	Cellulose Ester
EtO	Ethylene oxide
HPLC	High-performance liquid chromatography
kD	Kilodalton
MWCO	Molecular weight cut-off

1. Introduction

The Float-A-Lyzer® Device from Repligen is ideal for the easy and convenient dialysis of small sample volumes. Available in 1 ml, 5 ml and 10 ml volume sizes, the Float-A-Lyzer® Device features proprietary Biotech Grade Cellulose Ester (CE) membrane from Repligen incorporated into a pre-assembled and leak-proof dialysis device.

Biotech CE is a low protein-binding membrane with no heavy metal and sulfide impurities, available in 9 MWCOs ranging from 100 - 1,000,000 Daltons.

The Float-A-Lyzer® Device assures a 95 - 98% sample recovery while maintaining 99% sample purity and < 5% sample dilution.

The single-use device is designed for easy loading, in-process testing and sample retrieval without the risk of needle punctures. The included floatation ring maintains sample buoyancy and vertical orientation during dialysis. The narrow tubular design allows multiple samples to be dialyzed in the same buffer reservoir.

SpectraPor® Biotech CE Membranes have good chemical resistance. Variables in temperature, concentrations and durations of exposure and other factors may affect the performance of the membrane. It is recommended to test the membrane under your application conditions. These membranes are generally compatible with the following groups: common alcohols (low to mid concentration), many dilute acids and bases and some dilute organics. It is incumbent upon user to verify compatibility prior to use with membrane. For membrane compatibility and purchasing information visit www.repligen.com.

2. Applications

The Float-A-Lyzer® Device is used for a variety of applications, including:

- Drug dissolution (controlled drug release)
- Buffer change and desalting
- HPLC Sample preparation
- Nanoparticle and liposome purification
- Removing sulfate, cesium chloride, low molecular weight contaminants or surfactants
- Separation and purifications of DNA, proteins, viruses, antibodies and peptides
- Biopolymer purification and removal of monomers
- Binding studies

3. Specifications

Table 1. Specifications and materials of construction

Specifications and materials of construction	
Screw-on cap	Color-coded for MWCO polypropylene
O-ring	Silicone
Floatation ring	Polyethylene
Top/bottom piece	Polycarbonate
Membrane	Biotech Grade Cellulose Ester
Potting	Polyurethane
9 MWCO	0.1 - 0.5 kD, 0.5 - 1.0 kD, 3.5 - 5 kD, 8 - 10 kD, 20 kD, 50 kD, 100 kD, 300 kD, 1000 kD
3 volume sizes	1 ml, 5 ml and 10 ml
Packing and quantity	Dry with glycerin, 12/pkg
Sample loading	Disposable pipette included for 5 and 10 ml only

Table 2. Dimensions

Device volume size	1 ml volume	5 ml volume	10 ml volume
Approx. working volume	0.7 - 1.5 ml	3.5 - 6 ml	8 - 11 ml
Total length	5 cm	10 cm	16 cm
Membrane diameter	10 mm	10 mm	10 mm
Top piece diameter	23 mm	23 mm	23 mm
Floatation ring	38 mm	38 mm	38 mm

Table 3. MWCO and cap colors

MWCO	Color code
0.1 - 0.5 kD	Green
0.5 - 1.0 kD	Orange
3.5 - 5 kD	Black
8 - 10 kD	Yellow
20 kD	Red
50 kD	Violet
100 kD	Blue
300 kD	Amber
1,000 kD	Pink

4. Instructions for use

4.1 Handling

1. Remove the Float-A-Lyzer® Device from the packaging box.
2. Firmly holding the top piece of the Float-A-Lyzer® Device with one hand and the clear packaging tube with the other hand, gently twist in opposite directions.
3. When the packaging tube separates from the device, carefully pull the device straight out of the tube to avoid wrinkling the membrane.
4. The Float-A-Lyzer® Device should only be handled by the top piece to prevent membrane damage.

4.2 Membrane preparation

1. Unscrew the cap and fill the device with 10 - 20% isopropanol (IPA) or ethanol (EtOH).
2. Replace cap and submerge device in the same alcohol solution for 10 - 30 minutes.
3. Remove the device, unscrew the cap and aspirate out the alcohol from the device. Invert and shake out any remaining drops.
4. Use DI water to flush thoroughly and fill the device. Replace the cap and then soak the device in DI water for 15 - 30 minutes.
5. Remove rinse water.
6. Flush the device again with DI water or condition with dialysate buffer.
7. Once wetted, do not allow membrane to dry out.

4.3 Loading and dialyzing

1. Using a pipette, load the sample. Slowly withdraw the pipette as you dispense.
2. Replace cap.
3. Thread the body of the Float-A-Lyzer® Device through the hole in the floatation ring and pull the ring up snug beneath the collar of the top-piece.
4. Place the Float-A-Lyzer® Device vertically in the dialysis reservoir.
   If using a stir-bar and magnetic stirrer, adjust the stirring rate to create a gentle vortex.
5. Dialyze sample according to specific application requirements. Typically, the samples are dialyzed at room temperature, over-night (12 - 20 hr) and with 3 - 4 buffer changes (after 2 - 4, 6 - 8 and 10 - 14 hours).
6. Optional: In-process sampling can be achieved by removing the device from the dialysis reservoir, opening the cap, aspirating out a small volume for testing, and then returning the closed device back to the dialysis reservoir.
7. After dialysis, open the cap, and retrieve the sample total volume by slowly aspirating while inserting pipette toward the bottom of membrane.
8. Discard the used Float-A-Lyzer® Device. It is intended for single use only.

4.4 Concentrate sample with SpectraGel™ Absorbent

Use SectraGel™ Absorbent to concentrate the sample and reduce the volume in the Float-A-Lyzer® Device. Simply pack the dry SpectraGel™ Absorbent substance around the outside of the membrane to draw out and permanently bind water. Since the molecular weight of the polyacrylate-polyalcohol compound is significantly larger than the membrane MWCO, it cannot pass through the membrane and contaminate the sample. When the desired volume has been removed, wipe or rinse away the hydrated SpectraGel™ Absorbent compound and retrieve reduced sample volume from the Float-A-Lyzer® Device.

A 5 mL sample volume can be reduced to 0.5 mL, a 10-fold concentration, in 60 minutes with 100 grams of the SpectraGel™ Absorbent.

5. Storage and shelf life

Storage: Store new and unused Float-A-Lyzer® Devices in a dry place at room temperature. Care should be taken to avoid humid environments.

Shelf Life: 2 years when stored properly.

Sterilization: The common methods of membrane sterilization include exposure to ethylene oxide (EtO) gas and ebeam or gamma-irradiation. Repligen does not recommend autoclaving as it may lead to changes in membrane performance.

6. Index