QUICK START GUIDE

Natrix Recon HD-Sb

Hydrogel Membrane Devices

Natrix®

A. EXPERIMENTAL PARAMETERS

Key Technical Information

Product Code	NSB-02	
Membrane Volume (MV)	0.87 mL	
Flow Rate Range	5-15 MV/min	(4.4-13 mL/min)
Max Pressure	90 psi	(6 bar)

Where to Start

Flow rate	8.7 mL/min
Equilibration/wash buffer	50 mM Acetate + NaCl, pH 4.5 & 16 mS/cm
Load	60 mg/mL
Elution	Linear gradient from A to B for 20 minutes
	Buffer A: 50 mM Acetate, pH 5.0
	Buffer B: 50 mM Acetate + 500 mM NaCl, pH 5.0
Cleaning/Regeneration	250 mM NaOH

Sample Preparation

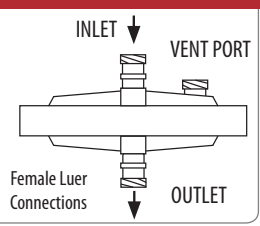
- Adjust pH (4.0-5.5) and conductivity (5-22 mS/cm).
- Ensure solution has enough buffering capacity (≥ 20 mM) at operating pH.
- Microfiltration of the process stream before loading is recommended to avoid excessive pressure increase during operation.

B. SYSTEM SET-UP

Connect to System

Connect the hydrogel membrane device to the chromatography system (see illustrations at right)

Adapters may be required to connect to the intended chromatography system which can be configured with M6 or 10-32 threaded connectors.



C. OPERATION

1. Prime

1. Open the vent port. Start flowing equilibration buffer at 10 MV/min.
2. Hold the device at approximately 45 degrees, with the vent port at the highest point to allow air removal.
3. Gently tap the device to facilitate air removal. Keep tapping until there are no more air bubbles escaping through the vent port.
4. Replace the vent cap after all the air has been purged from the device.
5. With the flow on, temporarily turn the connected device with the outlet pointing up to remove any air trapped downstream from the membrane.

2. Sanitization

1. Check if there are any air bubbles trapped in the device before sanitizing. Complete the priming procedure to remove any trapped air bubbles.
2. Flush the device with 1 M NaOH sanitization solution for 5 minutes at 10 MV/min, followed by a static soak for up to 60 minutes.
3. Flush the device with at least 100 mL of equilibration buffer at the desired flow rate or until pH and conductivity return to the specified range. A solution with up to 10x concentration of the equilibration buffer can be used to reduce the volume needed to achieve the desired pH prior to the equilibration step.

3. Equilibration

- Flow equilibration buffer at 10 MV/min for 5 – 10 minutes.
- Ensure effluent pH and conductivity are within specified range.

4. Load

- Adjust pH and conductivity of sample and ensure that the sample has sufficient buffering capacity at operating pH (≥ 20 mM).
- Microfilter and load the appropriate amount of sample solution (based on dynamic binding capacity testing).

5. Wash

- Flow equilibration buffer at 10 MV/min for 4 – 5 minutes to complete the sample injection and wash out unbound impurities.
- If needed, flow a second wash buffer at 10 MV/min for 5 - 10 minutes to remove loosely bound impurities.

6. Elution

- Linear conductivity gradient: Flow buffer A at 10 MV/min for 5 minutes before initiating linear gradient (Buffer A to B over 20 minutes).
- Step conductivity gradient: Flow elution buffer at 10 MV/min for 5 – 10 minutes to elute the product.

7. Cleaning/Regeneration

- Remove strongly bound impurities by flowing high salt buffer at neutral or slightly basic pH (for example, 500 mM NaCl in 50 mM sodium phosphate, pH 7.0 or 1M NaCl, 25 mM Tris, pH 8.2) for 5 minutes at 10 MV/min flow rate.
- If the process demands a stronger cleaning agent, up to 1 M NaOH can be used.

8. Re-Equilibration

- Flow equilibration buffer at 10 MV/min for 5 – 10 minutes.
- Ensure effluent pH and conductivity are within specified range.

9. Disconnecting and Disposal

- Ensure that the system pressure has been relieved prior to disconnecting the device.
- Personal Protective Equipment should be worn when handling the device and during operation in accordance with any applicable safety protocols and standard operating procedures.

PACKAGE CONTENTS

- 5 Natrix Recon HD-Sb devices (NSB-02)
  or 2 devices with Sample Pack (RSB-02)
- Natrix HD-Sb Recon Instruction Guide
- Natrix HD-Sb Recon Quick Start Guide

The blue ring on the devices in this package indicates the HD-Sb membrane chemistry.

ORDERING & TECHNICAL SUPPORT

For ordering information or technical support, please contact your local distributor. Distributor contact information can be found at:

www.natrixseparations.com/contact

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