Sartorius H2O-CCS

Sartorius Arium H2O-CCS RO-Module Cleaning Set Instruction Manual

1. Product Overview

This manual provides essential instructions for the proper use and maintenance of the Sartorius Arium H2O-CCS RO-Module Cleaning Set. This set is specifically designed for the effective cleaning of Reverse Osmosis (RO) modules within Sartorius Arium lab water systems.

The H2O-CCS cleaning set includes two distinct solutions: an alkaline cleaner and an acid cleaner. These solutions are formulated to address different types of fouling that can occur on RO membranes, ensuring optimal performance and longevity of your lab water system.

2. Safety Information

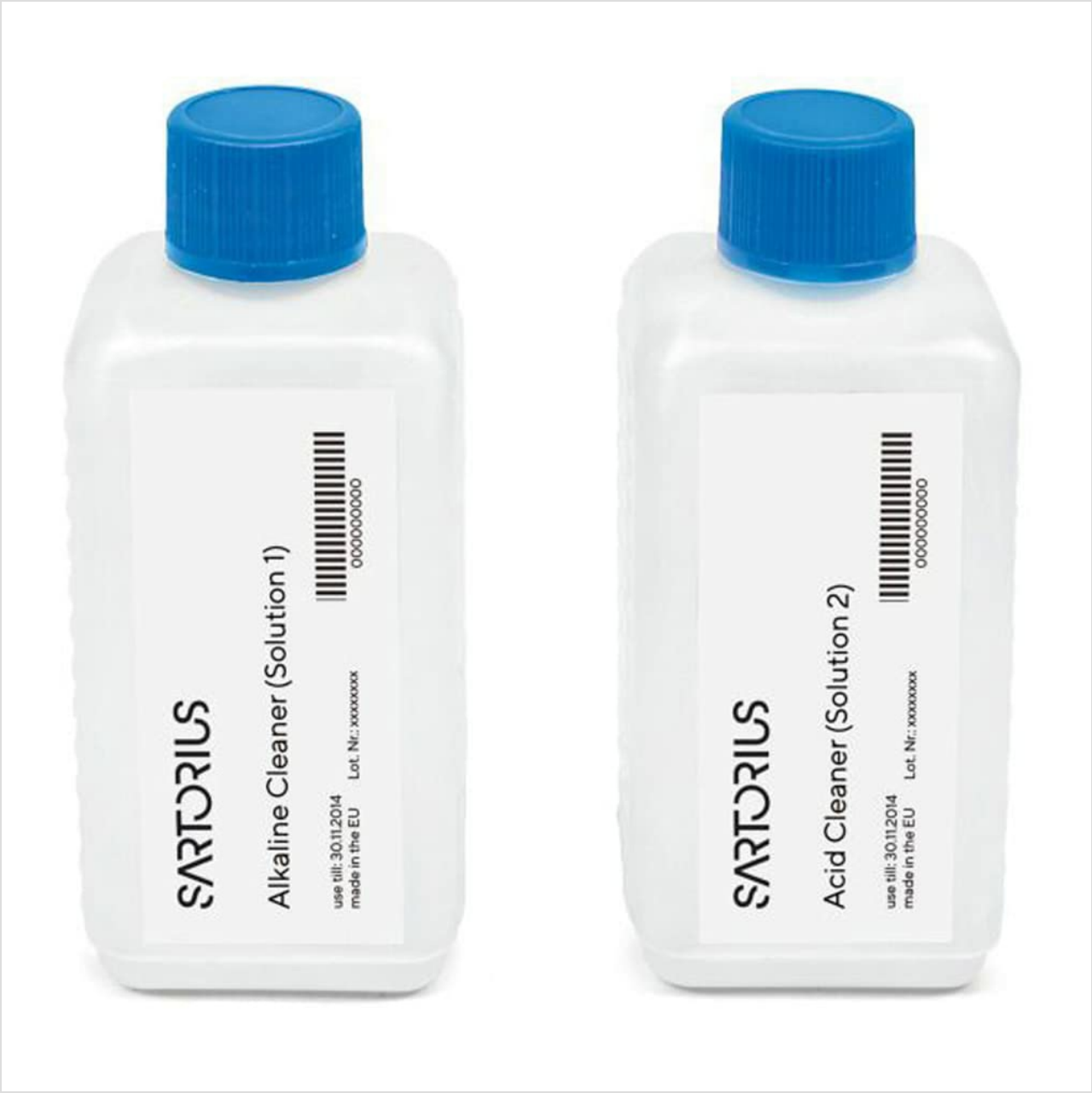
Adherence to safety guidelines is critical when handling chemical cleaning agents. Please read and understand all safety instructions before use.

- Always wear appropriate personal protective equipment (PPE), including safety glasses and chemical-resistant gloves, when handling cleaning solutions.
- Refer to the Safety Data Sheets (SDS) for detailed information on each solution, including handling, storage, and emergency procedures.
- Ensure adequate ventilation in the work area to prevent inhalation of fumes.
- **Do not mix the alkaline and acid solutions directly**, as this can cause a dangerous reaction. Always rinse the system thoroughly between alkaline and acid cleaning steps.
- Dispose of used solutions and rinse water according to local environmental regulations and facility protocols.

3. Package Contents

The Sartorius Arium H2O-CCS RO-Module Cleaning Set contains the following components:

- One bottle of Alkaline Cleaner (Solution 1)
- One bottle of Acid Cleaner (Solution 2)



This image displays the two components of the Sartorius Arium H2O-CCS RO-Module Cleaning Set: a bottle of alkaline cleaner and a bottle of acid cleaner, both essential for comprehensive RO membrane maintenance.

4. Setup

Before initiating the cleaning process, ensure your Sartorius Arium lab water system is properly prepared.

1. **Power Off and Depressurize:** Ensure the Arium lab water system is powered off and depressurized according to its specific user manual.
2. **Isolate RO Module:** Consult your specific Arium system's user manual for detailed instructions on isolating the RO module from the rest of the system and draining any residual water.
3. **Prepare Cleaning Reservoir:** Prepare a dedicated cleaning reservoir or container. Ensure it is clean, free from contaminants, and compatible with both acidic and alkaline solutions. The volume of the reservoir should be sufficient for the cleaning solutions and rinse water.
4. **Connect Cleaning Loop:** Establish a closed-loop circulation system for the cleaning solutions, connecting the RO module to the cleaning reservoir and a suitable pump.

5. Operating Instructions

The cleaning process typically involves two distinct stages: an alkaline wash followed by an acid wash. Always follow the specific cleaning protocol outlined in your Sartorius Arium system's user manual for precise dilution ratios, circulation times, and temperatures.

Stage 1: Alkaline Cleaning

1. **Dilute Alkaline Cleaner:** Dilute Alkaline Cleaner (Solution 1) with purified water according to the instructions provided on the bottle label or in your Arium system's specific cleaning protocol.
2. **Circulate Alkaline Solution:** Introduce the diluted alkaline solution into the cleaning loop and circulate it through the RO module using the pump. Maintain the recommended flow rate, pressure, and temperature for the specified duration.
3. **Drain Alkaline Solution:** After the alkaline cleaning cycle, drain the used alkaline solution from the system and dispose of it properly.
4. **Rinse System:** Rinse the RO module and cleaning loop thoroughly with purified water until the effluent pH is neutral. This step is crucial to prevent mixing with the subsequent acid solution.

Stage 2: Acid Cleaning

1. **Dilute Acid Cleaner:** Dilute Acid Cleaner (Solution 2) with purified water according to the instructions provided on the bottle label or in your Arium system's specific cleaning protocol.
2. **Circulate Acid Solution:** Introduce the diluted acid solution into the cleaning loop and circulate it through the RO module. Maintain the recommended flow rate, pressure, and temperature for the specified duration.
3. **Drain Acid Solution:** After the acid cleaning cycle, drain the used acid solution from the system and dispose of it properly.
4. **Final Rinse:** Rinse the RO module and cleaning loop thoroughly with purified water until the effluent pH is neutral and conductivity levels are stable and acceptable for your application.
5. **System Reconnection:** After cleaning and rinsing, disconnect the cleaning loop. Reconnect the RO module to the Arium system and perform a system flush as per the system's manual before resuming normal operation.

6. Maintenance

Regular cleaning of the RO module is crucial for maintaining optimal performance, ensuring consistent water quality, and extending the lifespan of the membrane.

- **Cleaning Frequency:** The frequency of cleaning depends on several factors, including the quality of the feed water, the volume of water processed, and system usage. Monitor RO performance indicators such as permeate flow rate, conductivity, and pressure differential to determine appropriate cleaning intervals.
- **Follow System Manual:** Always adhere to the specific cleaning schedule and procedures recommended in your Sartorius Arium system's user manual.
- **Storage:** Store the cleaning solutions in their original containers, tightly sealed, in a cool, dry place, away from direct sunlight and incompatible materials.

7. Troubleshooting

This section addresses common issues that may arise during or after the RO module cleaning process.

- **Reduced Permeate Flow After Cleaning:**
  - Ensure thorough rinsing to remove all cleaning agents. Residual chemicals can affect membrane performance.
  - Check for proper system reassembly and connections.

- Verify pump operation and flow rates.

- **Persistent High Conductivity in Permeate:**
  - May indicate incomplete cleaning. Consider repeating the appropriate cleaning cycle (alkaline or acid) if fouling is suspected.
  - Could also suggest membrane damage. If performance does not improve after repeated cleaning, membrane replacement may be necessary.
  - Ensure all connections are secure and there are no leaks bypassing the membrane.
- **Foaming During Cleaning:**
  - This can occur with certain cleaning agents. Ensure proper dilution ratios are maintained.
  - Avoid overfilling the cleaning reservoir, which can exacerbate foaming.
  - Reduce circulation pump speed if excessive foaming persists.

8. Specifications

Attribute	Detail
Model	H2O-CCS
Manufacturer	Sartorius
Contents	Alkaline Cleaner (Solution 1), Acid Cleaner (Solution 2)
Application	Cleaning of Reverse Osmosis (RO) modules in Sartorius Arium lab water systems
Package Dimensions	6 x 5.3 x 2.7 inches
Package Weight	12.8 ounces
Date First Available	September 6, 2014

9. Warranty and Support

For detailed warranty information, technical assistance, or to obtain Safety Data Sheets (SDS) for the cleaning solutions, please refer to the official Sartorius website or contact your local authorized Sartorius representative.

Product documentation and support resources are typically available through the Sartorius support portal.

Related Documents - H2O-CCS

	Sartorius Secura, Quintix, Practum Laboratory Balances User Manual Comprehensive user manual for Sartorius Secura, Quintix, and Practum laboratory balances. Details installation, operation, safety guidelines, various weighing applications, system settings, and technical specifications for precise laboratory measurements.

	[Sartorius Secura, Quintix, Practum Laboratory Balances User Manual] This user manual provides comprehensive instructions for Sartorius Secura®, Quintix®, and Practum® laboratory balances. It details installation, operation, calibration, maintenance, and various weighing applications, ensuring optimal performance and accuracy for laboratory professionals.
	[Sartorius PR 5230 Transmitter in Field Housing - Instrument Manual] Comprehensive instrument manual for the Sartorius PR 5230 Transmitter in Field Housing. Covers installation, operation, calibration, safety, and technical specifications for industrial weighing applications.
	[Sartocon® Sartocon® Slice Sartocon® Slice 200 Cassettes: User Manual & Instructions] User manual detailing installation, operation, cleaning, sterilization, and storage for Sartorius Sartocon®, Sartocon® Slice, and Sartocon® Slice 200 filtration cassettes. Includes technical specifications and safety guidelines for bioprocessing applications.
	[Sartorius CP | Gemplus Series Electronic Balances - Operating Instructions] Comprehensive operating instructions for Sartorius CP | Gemplus Series electronic micro-, analytical, and precision balances, including CPA, GCA, and GPA models. Covers installation, operation, configuration, application programs, troubleshooting, maintenance, and specifications.
	[Manuale d'uso Sartorius CP Gemplus: Istruzioni per Bilance Analitiche e di Precisione] Guida completa alle istruzioni per l'uso delle bilance elettroniche Sartorius CP e Gemplus (modelli CPA, GCA, GPA). Copre installazione, funzionamento, impostazioni, manutenzione e specifiche tecniche.