



sartorius

## arium<sup>®</sup> advance EDI

Ultimate Reliable Electrodeionisation

### Advantages

- Reliable - Consistently high Type 2 water quality thanks to the latest EDI technology
- Time-saving - Use of innovative Bag technology, eliminates costly tank cleaning
- Optimized water consumption - Automatic with iJust
- Easy to use - Display with touch function and intuitive menu



### Product Description

The arium<sup>®</sup> advance EDI provides Type 2 water in consistently high quality. The innovative iJust automatically optimizes water consumption and ensures the conscientious use of our environmental resources. In contrast to conventional water purification systems, the unique touch display with intuitive menu navigation makes it extremely easy to use.

With a flow rate of 5 or 10 l/h, the automatic RO membrane backflush, the latest EDI technology and a constant flow rate, the arium<sup>®</sup> advance EDI is the ideal choice for general and demanding laboratory applications.

### Applications

- Microbiological media & reagents
- Solutions for chemical analysis and synthesis
- Histology
- ELISA, RIA
- Buffer solutions
- Feeding of laboratory equipment: Autoclaves, dishwashers etc.

### Consistently high Type 2 water quality

In addition to pretreatment and purification by reverse osmosis modules, softening and electrochemical deionization is also carried out in the third purification step. By means of this modern EDI technology, the arium<sup>®</sup> advance EDI safely and reliably guarantees the removal of all impurities contained in the feed water.

## Innovative Bag technology

The pure water is stored in the enclosed arium® bagtank system. This guarantees optimal storage of the pure water and protects against secondary contamination. Time-consuming tank cleaning intervals are eliminated thanks to the interchangeable Bag.

## iJust

iJust stands for innovative technology that optimizes water production. Amongst other things, the intelligent arium® software controls a valve on the concentrate outlet in accordance with the data that have been entered for  $\text{CaCO}_3$  and  $\text{CO}_2$ . iJust therefore optimizes the product water quality and water consumption.

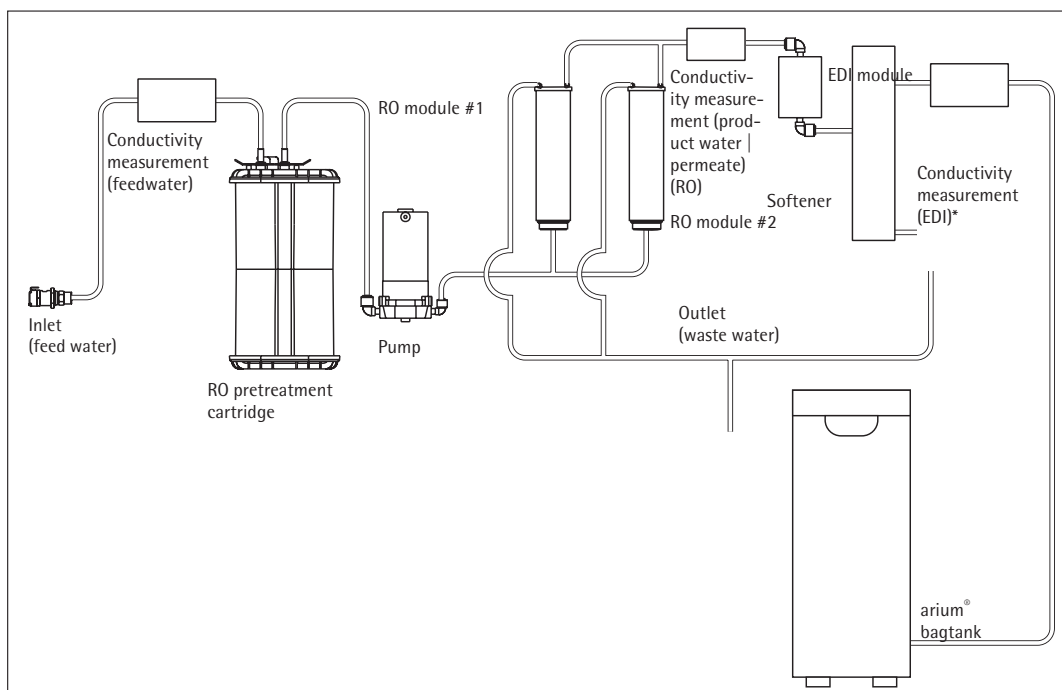
- The highest product water quality at all times
- Optimized, economical water consumption
- Guarantees a longer life of the downstream ultrapure water systems

## Display with touch function

Simply navigate intuitively in the easy-to-use and clear menu by lightly touching the display - even with gloves.

## Technical Specifications

Water purification method	Particle filtration, adsorption using spherical activated carbon, catalyst, reverse osmosis, softening, electrochemical deionization, optional final particle and sterile filtration
Dimensions: width × height × depth	35.0 × 50.1 × 45.1 cm
Empty weight	19 kg
Operating weight	26 kg
Power supply	100–240 VAC (± 10%); 50–60 Hz, 130 VA (max.)
Operating temperature	2°C–35°C at max. 80% relative humidity
Storage temperature	5°C–45°C at max. 80% relative humidity



Flowchart arium® advance EDI (H2O-EDI-2-T)

## Product Water Quality

Water type	Type 2 pure water
Production output <sup>3</sup>	5 l/h or 10 l/h
Water dispensing flow rate <sup>5</sup>	≤ 3 l/min
Typical conductivity <sup>1</sup>	0.2 – 0.07 μS/cm compensated to 25°C
Typical resistivity <sup>1</sup>	5 – 15 MΩ × cm compensated to 25°C
Typical TOC reduction <sup>4</sup>	95%
Microorganism content <sup>2</sup>	< 1 CFU/1,000 ml
Particle content <sup>2</sup>	< 1/ml
Particle and microorganism retention	> 99%

## Feed Water Quality

Exclusively potable tap water pursuant to the drinking water standards of the USA, the European Union, or Japan.

Input pressure	2.0 – 6.9 bar
Temperature	2 – 30°C
Specific conductivity	< 1,500 μS/cm compensated to 25°C
TOC	< 2,000 ppb
Max. total hardness (max. CaCO <sub>3</sub> )	360 ppm
Free chlorine	4 ppm
Iron (total Fe content)	< 0.1 ppm
Manganese	< 0.05 ppm
Aluminum	< 0.05 ppm
CO <sub>2</sub> in solution	≤ 40 ppm
Fouling Index (SDI)	< 5
Turbidity	< 1 NTU
pH value	4 – 10

<sup>1</sup> Depending on the feed water quality (CO<sub>2</sub> ≤ 40 ppm) and temperature

<sup>2</sup> When using an arium® SterilePlus (Sartopore® 2 150, 0.2 μm pore size)

<sup>3</sup> Depending on the feed water pressure, temperature, and condition of the RO module(s)

<sup>4</sup> Depends on the type of organic contamination in the feed water

<sup>5</sup> Depending on the arium® bagtank design, hydrostatic pressure, and connected accessories or end filter

## Ordering information

### arium® advance EDI for the production of Type 2 pure water

Scope of supply: 1 arium® advance EDI, water guard, RO (reverse osmosis) module(s) and connection kit

Order number	Description
H2O-EDI-1-T	arium® advance EDI benchtop device in a compact design for every laboratory bench, flow capacity 5 l/h
H2O-EDI-1-B	arium® advance EDI wall-mounted device, space-saving with integrated wall bracket, flow capacity 5 l/h
H2O-EDI-2-T	arium® advance EDI benchtop device in a compact design for every laboratory bench, flow capacity 10 l/h
H2O-EDI-2-B	arium® advance EDI wall-mounted device, space-saving with integrated wall bracket, flow capacity 10 l/h

## Accessories

### arium® bagtanks

The most innovative tank system

- Integrated ventilation filter with non-return valve provides reliable protection against CO<sub>2</sub> pollution
- Easy and fast exchange of the arium® Bags
- High flexibility through the 4 rollers available as an option
- High user safety due to the avoidance of cleaning chemicals

#### Description

The pure water is stored in the innovative enclosed arium® bagtank system. This system protects the prepared pure water against secondary contamination. The Sartorius bagtank system enables consistent water quality over a prolonged period, thereby ensuring permanent, reproducible results. Unlike conventional water reservoirs, the arium® Bag offers a high level of user safety and time savings, as there is no need for a complicated cleaning procedure with chemicals.

arium® bagtanks are housings which are equipped with arium® Bags. The arium® bagtanks are available in 20 l, 50 l, and 100 l volumes. Their design is adaptable and saves space in any laboratory environment, and the optional rollers make this an extremely flexible system.

Integrated distributor pumps are a standard component of the 50 l and 100 l bagtanks. A distributor pump is also available as an option for the 20 l bagtank. In addition, a wall holder for the space-saving and user-friendly installation of this tank is also available.



#### Water dispensing flow rate

With pump <sup>1</sup>	up to 3.0 l/min
With pump, remote dispenser and SterilePlus filter <sup>1</sup>	up to 2.0 l/min
Without pump <sup>2</sup>	up to 1.5 l/min
Pump pressure	3 bar

#### Intended Use

Device type:  
arium® comfort I and comfort II,  
arium® advance RO and advance EDI

## Technical Specifications | Ordering Information

Materials	
bagtank	Stainless steel   plastic
Bag	S71 film
Tubing	PE   silicone

Dimensions, excluding rollers and wall bracket [H×W×D]	
bagtank 20	80.8×16.6×43.7 cm
bagtank 50	85.2×25.4×58.7 cm
bagtank 100	85.2×51.4×58.7 cm
Bag 20 l	86.5×43.0 cm
Bag 50 l	90.0×58.1 cm

Empty weight without arium® Bag   Operating weight with filled arium® Bag	
bagtank 20	19 kg   40 kg
bagtank 50	33 kg   84 kg
bagtank 100	47 kg   148 kg

Number of Bags per tank	
bagtank 20	1 × 20 liters
bagtank 50	1 × 50 liters
bagtank 100	2 × 50 liters
Power supply <sup>1</sup>	240 VAC (± 10%), 50 Hz, 120 VA (max.)
Power supply US versions <sup>1</sup>	115 VAC (± 10%), 60 Hz, 170 VA (max.)
Operating temperature	2°C – 35°C at max. 80% relative humidity
Storage temperature	2°C – 35°C at max. 80% relative humidity

Water connection input	
	1 × 3/8" PLC quick-connect coupling

Water connection output	
bagtank 20	1 × 3/8" PLC quick-connect coupling
bagtank 50, bagtank 100	2 × 3/8" PLC quick-connect coupling

<sup>1</sup> bagtank 20 is supplied without a pump as standard, pump optionally available

<sup>2</sup> Value only applies to bagtank 20, withdrawal site at the same height or lower than the tank outlet

<sup>3</sup> Note: The arium® Bag is not included in the scope of delivery of the arium® bagtank

Order number	Description
H2O-AOV-20 <sup>3</sup>	arium® bagtank 20 l, without pump, 1 pc
H2O-AOV-50 <sup>3</sup>	arium® bagtank 50 l, with pump 240 VAC, 50 Hz, 1 pc
H2O-AOV-50-W <sup>3</sup>	arium® bagtank 50 l, without pump, 1 pc
H2O-AOV-50-US <sup>3</sup>	arium® bagtank 50 l, with pump 115 VAC, 60 Hz, 1 pc
H2O-AOV-100 <sup>3</sup>	arium® bagtank 100 l, with pump 240 VAC, 50 Hz, 1 pc
H2O-AOV-100-W <sup>3</sup>	arium® bagtank 100 l, without pump, 1 pc
H2O-AOV-100-US <sup>3</sup>	arium® bagtank 100 l, with pump 115 VAC, 60 Hz, 1 pc
H2O-ADP-20	arium® pump for arium® bagtank 20 l, 240 VAC, 50 Hz, 1 pc
H2O-ADP-20-US	arium® pump for arium® bagtank 20 l, 115 VAC, 60 Hz, 1 pc
H2O-ATR	arium® rollers for arium® bagtank 50 l & bagtank 100, including fastening material, 4 pcs
H2O-CBS-20	arium® 20 l Bag for arium® 20 l bagtank, 2 pcs
H2O-CBS-50	arium® 50 l Bag for arium® 50 l and 100 l bagtank, 2 pcs
H2O-ATB	arium® wall mount for arium® bagtank 20, 1 pc

## arium® bagtank Remote Dispenser

Ergonomic water withdrawal from the arium® with a working radius of up to 3.7 m

- Extended operating range of 3.7 m
- Available with height-adjustable stand or wall bracket
- Ergonomic design
- Easy-to-use
- Connection for SterilePlus filter

### Description

The arium® remote dispenser is an ergonomically designed, easy-to-handle dosing unit which is ideally suited to the withdrawal of pure water.

Depending on the working environment, you can save space by mounting the remote dispenser on the wall or on a stand that is height-adjustable up to 70 cm. The stand enables relaxed working with optimal adaptation to the different sizes of the extraction vessels. The extended tube routing provides an operating range of 2.5 m from the arium® back tank and a further 1.2 m from the stand.

To guarantee sterile and particle-free water removal, an arium® SterilePlus final filter with a 0.2 µm pore size can be easily connected.



## Technical Specifications | Ordering Information

Materials	
Stand	Aluminum (gray anodized)
Remote dispenser	Plastic, white finish
Tubing	PE

Dimensions without tubing [W × H × D]	
Remote dispenser with stand	18.5 × 59.5 × 51.0 cm
Remote dispenser with wall mounting bracket	9.0 × 10.0 × 28.5 cm

Weight without tubing	
Remote dispenser with stand	5.60 kg
Remote dispenser with wall mounting bracket	0.46 kg

Order number	Description
613-AMDG1	arium® Remote Dispenser including height-adjustable stand for connection to arium® bagtanks, 1 pc
613-AMDG2	arium® remote dispenser including wall mounting kit for connection to arium® bagtanks, 1 pc

### Intended Use for arium® bagtanks:

arium® bagtank 20\*  
arium® bagtank 50  
arium® bagtank 100

arium® pressure tank 30  
arium® pressure tank 50  
arium® pressure tank 70  
arium® pressure tank 100

\* only in conjunction with an optional distributor pump

## arium® Water Guard

Early detection of leakages protects the laboratory

- Highly sensitive optical sensor
- Audiovisual alarm signals
- Automatic water stop in the case of leakage
- High-quality material, no corrosion
- Easy to install
- Integrated wall mounting bracket for solenoid valve



### Description

Only the early detection of water leakages provides optimal protection against water damage in the laboratory. Leakages are registered by the highly sensitive optical sensor.

In contrast to conventional sensors, this sensor functions independently of conductivity measurement values as these are so low in the ultrapure water area that the activation of the guard is not guaranteed. Once a leak is detected, the water guard automatically locks the feed water inlet line. An acoustic warning is triggered immediately and the system status can be constantly controlled using the integrated LED display. With its sensitive optical sensors and high-quality materials, the arium® water guard is perfect for all ultrapure and pure water systems.

## Technical Specifications | Ordering Information

Sensor dimensions	
Diameter	5 cm
Height	2.5 cm
Cable length	2 m
Tubing connections	
Input	3/8" Plug-in connector
Output	3/8" Plug-in connector
Power supply	100 – 240 VAC 50 – 60 Hz

Order number	Description
610AWG1	arium® water detector, 1 pc

### Intended Use

Device type:  
arium® comfort I and comfort II  
arium® pro, pro DI, pro UF, pro UV, and pro VF  
arium® advance RO and EDI  
arium® 611, 612 and 613

## Consumables

### arium® SterilePlus

Sterile and particle-free water dispensing

- Excellent service life and flow rates
- Integrity tested
- Validated according to HIMA and ASTM F-838-05
- Meets WFI quality standards pursuant to USP incl. USP plastic class VI test
- Production in accordance with DIN ISO 9001
- Easy to install
- Automatic venting
- Certified quality



#### Description

The arium® SterilePlus (Sartopore® 2 150) is a sterile, ready-to-use membrane filter capsule suitable for the most stringent requirements.

arium® SterilePlus membrane filter capsules contain a hydrophilic, heterogeneous polyethersulfone double membrane. These provide an excellent service life and flow rates. The capsule is attached in the end position by means of a quick connector and reliably removes all particles and microorganisms in the last quarter purification step. A hydrophobic PTFE membrane at the farthest point "upstream" allows for easy and clean ventilation of the capsule.

All pleated arium® SterilePlus membrane filter units are validated as sterile filters for biopharmaceutical application according to the HIMA and ASTM F-838-05 guidelines (documentation available). During the manufacturing process, every capsule is integrity-tested to meet the highest quality standards and safety regulations.

## Technical Specifications | Ordering Information

Materials	
Membranes	Asym. Polyethersulfone
Bell assembly	Polycarbonate
Other plastics	Polypropylene
Pore size	0.45 µm × 0.2 µm
Filtration area	0.015 m <sup>2</sup>
Input and Output	1/4" plug-in connector
Sterilization (max. 3 cycles)	Autoclaving at 134°C, 1 bar, 30 min.
Max. diffusion	1 ml/min @ 2.5 bar
Min. bubble point	3.2 bar

Order number	Description
5441307H4--CE	arium® SterilePlus (Sartopore® 2 150), 0.2 µm pore size, 1 pc

#### Intended Use

On remote dispenser and display extraction unit for device type:  
arium® mini and mini plus  
arium® comfort I and comfort II  
arium® pro, pro DI, pro UF, pro UV and pro VF  
arium® 611  
arium® bagtank remote dispenser  
arium® remote dispenser



## arium® RO Pretreatment Cartridge

Safe protection of the RO module

- Fast and effective adsorption of impurities through high-grade activated carbon
- 5 µm depth filter for the retention of particles
- Highly efficient catalyst for removing free chlorine
- Patented cartridge design for easy installation



### Description

The best protection for a downstream reverse osmosis (RO) membrane is the combination of spherical, catalytic effective activated carbon, a catalyst and a depth filter. It reliably removes oxidation agents, such as free chlorine, heavy-metal ions and particulate contaminants from the feed water of the system.

A special catalyst is an integral part of pre-treatment. It is particularly efficient at removing free chlorine and at a lower temperature and/or higher pH value compared to activated carbon alone.

In addition to preventing deposits from forming, the catalyst diminishes fouling processes and inhibits microbiological growth. The patented cartridge design ensures minimal time expenditure with ultra-easy installation and exchange.

## Technical Specifications | Ordering Information

Materials	
Housing	High-quality polypropylene
Cleaning media	Spherical catalytic effective activated carbon plus polypropylene filter cartridge with nom. 5 µm separation rate
Dimensions [W×H×D]	18×26×11 cm
Operating weight	3.5 kg
Feed water requirements	See "Technical Specifications" page 2

### Order number

H2O-CPFAD-1

### Description

arium® RO pretreatment cartridge, 1 pc

### Intended Use

Device type:  
arium® advance RO and advance EDI  
61316, 61215

## arium® RO modules

Reverse osmosis modules with low-energy membranes

- Highly efficient reverse osmosis membranes, optimized water consumption
- Low-energy membranes for ecological and economical operation
- Backflush with product water increases the service life
- Easy replacement
- Constant flow
- Consistently high water quality



### Description

The arium® RO modules consist of two independent membranes whose design guarantees easy installation and reliable operation. Each of the two modules contains a low-energy reverse osmosis membrane in a polypropylene housing.

The housing has connections for feed water, permeate (product water) and concentrate (discarded water). The RO modules enable an ideal water yield, thereby optimizing the water consumption. At the same time, up to 98% of the salts are typically retained. Thanks to the backflush with permeate, particles and salts are removed from the surface of the membrane.

This results in a longer service life and lower system maintenance costs. In addition, this backflush function on restarting the system after a standstill allows for the immediate dispensing of high quality water.

## Technical Specifications | Ordering Information

Materials	
RO membranes	Low-energy membrane made of polyamide
Housing	
	Polypropylene
Dimensions for each module	
Height	30.8 cm
Diameter	7.8 cm
Weight	0.468 kg
Product Water Quality	See "Technical Specifications" page 2

### Order number

H20-CRO-H- 1  
H20-CRO-H- 2

### Description

arium® RO module, 1 pc  
arium® RO module, 2 pcs

### Intended Use

arium® comfort II  
arium® advance EDI

## arium® Softener Cartridge

For maximum service life of the EDI module

- Consistently high water quality
- Long service life
- Effective CaCO<sub>3</sub> elimination

### Description

It is sensible to soften the feed water to improve protection of the EDI module.

The cartridge reliably removes traces of alkaline earth ions from the water, thereby guaranteeing consistently high water quality and a long service life of the EDI module.



## Technical Specifications | Ordering Information

Materials	
Housing	High-purity polypropylene
Filling material	Ultrapure ion exchange resin

### Order number

H2O-CSO-1

### Description

arium® softener cartridge, 1 pc

### Intended Use

Device type:  
arium® comfort II  
arium® advance EDI

# arium® Cleaning Set RO Module

Maximum service life of the RO module

- Effective removal of scaling and metal deposits
- Elimination of organic compounds
- Dispersion of colloids
- Stable pH values
- Gentle on materials

## Description

Two-stage cleaning kit for removing scaling and organic contaminants.

The alkaline substance contains non-foaming surfactants that dissolve organic compounds, disperse colloids and can be quickly removed again from the membrane surface. Cleaning efficiency depends on the pH value that is steadily maintained by buffer substances through a large temperature range.

The acidic cleaning agent to remove scaling contains chelate and reducing agents in order to dissolve metallic deposits. The ideal pH value also remains consistently low over a wide range during cleaning in this case thanks to the buffers.



## Technical Specifications | Ordering Information

Ingredients	
Alkaline cleaner	HEDTA, ethanolamine, triethanolamine
Acidic cleaner	HEDTA, phosphoric acid, citric acid

Order number	Description
H2O-CCS	arium® cleaning kit RO module, 1 pc

### Intended Use

Device type:  
arium® comfort I and comfort II  
arium® advance RO and advance EDI  
arium® 612 and 613

## Sartorius Service

### Ensures the Maximum Performance of Your Lab Water System

A strong team dedicated to your success: From installation and qualification to regular maintenance, our Sartorius Service team will ensure that your lab water system delivers accurate results over the long term and stays up and running perfectly. Ask about our service offering and ensure the consistently high quality of your purified lab water!

Get more information at  
[www.sartorius.com/service](http://www.sartorius.com/service)

Sartorius Lab Instruments  
GmbH & Co. KG  
Otto-Brenner-Strasse 20  
37079 Goettingen, Germany  
Phone +49.551.308.0  
Fax +49.551.308.3289  
[www.sartorius.com](http://www.sartorius.com)

USA Toll-free +1.800.635.2906  
UK +44.1372.737159  
France +33.1.70.62.50.00  
Italy +39.0362.5557.11  
Spain +34.913.586.095  
Russian Federation +7.812.327.53.27  
Japan +81.3.3740.5408

Specifications subject to change without notice.  
Copyright Sartorius Lab Instruments GmbH & Co. KG.  
Printed in the EU on paper bleached without chlorine.  
Publication No.: SLG2053-e170305  
Order No.: 85032-542-62  
Ver. 03 | 2017