arium® advance RO

Reverse osmosis system with iJust



Advantages

- 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® advance RO provides Type 3 reverse osmosis water of the highest 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 up to 8, 16 or 24 l/h, the automatic RO membrane backflush and a constant flow rate, the arium® advance RO is the optimal choice for general laboratory applications.

Applications

- Feed water for ultrapure water systems
- Rinsing of glass and laboratory containers
- Feed water for various laboratory devices, such as humidifiers, autoclaves, and dishwashers

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 $CaCO_3$ and CO_2. iJust therefore optimizes the product water quality and water consumption.

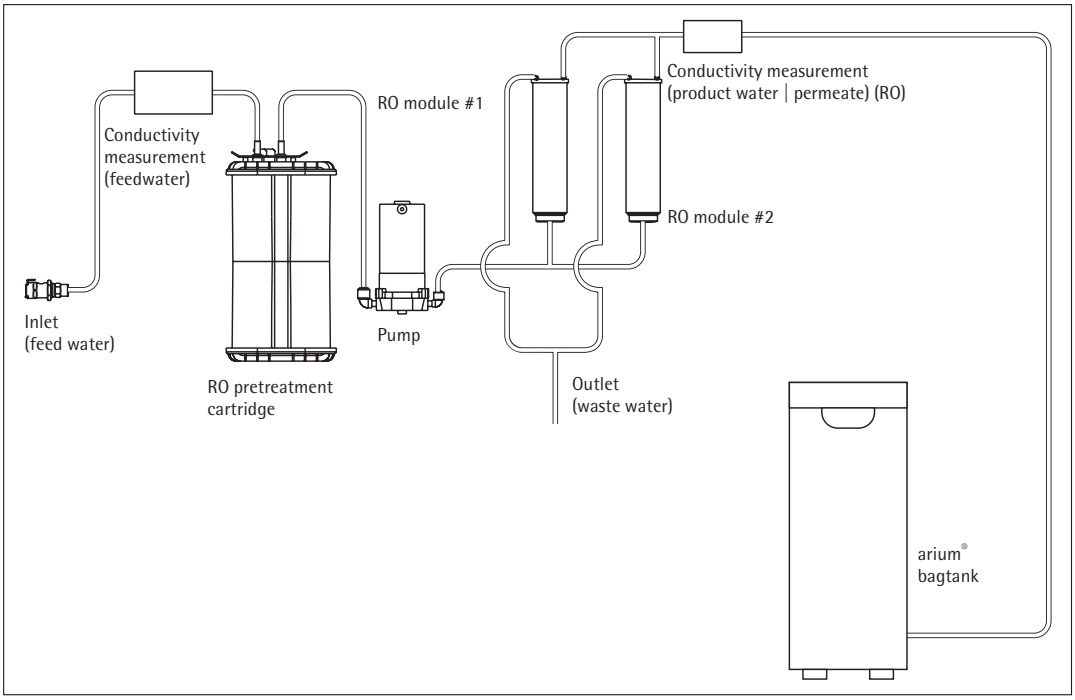
- The highest product water quality at all times
- Optimized, economical water consumption
- Guarantees a longer life of the downstream ultrapure water systems

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 by means of spherical activated carbon, catalyst, reverse osmosis, optional end-position particle, and sterile filtration
Dimensions: width × height × depth	35.0 × 50.1 × 45.1 cm
Empty weight	approx. 15 kg
Operating weight	approx. 22 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



Flow diagram arium® advance RO (H2O-RO-2-T)

Product Water Quality

Water type	Type 3 pure water
Production output[3]	8, 16 or 24 l/h
Water dispensing flow rate[4]	3 l/min
Typical conductivity[1]	< 20 µS/cm
Typical resistivity[1]	< 0.05 MO × cm
Microorganism content[2]	< 1 CFU/1,000 ml
Particle content[2]	< 1/ml
Typical ion retention	up to 98%
Retention of dissolved organic substances (MW > 300 Dalton)	> 99%
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	0.5 – 6.9 bar, recommended > 2 bar
Temperature	2 – 30°C
Specific conductivity	< 1,500 µS/cm compensated to 25°C
TOC	< 2,000 ppb
Max. total hardness (max. $CaCO_3$)	360 ppm
Free chlorine	< 4 ppm
Iron (total Fe content)	< 0.1 ppm
Fouling Index (SDI)	< 5
Turbidity	<1 NTU
pH value	4 – 10

[1] Depending on the feed water quality and temperature
[2] When using an arium® SterilePlus (Sartopore® 2 150)
[3] Depending on the feed water pressure, temperature, and condition of the RO modules
[4] Depending on the arium® bagtank design, hydrostatic pressure, and connected accessories or end filter

Ordering Information

arium® advance RO reverse osmosis systems for the production of Type 3 pure water
Scope of supply: 1 arium® advance, water guard, RO-(reverse osmosis) module(s) and connection kit

Order no.	Description
H2O-RO-1-T	arium® advance RO benchtop device in a compact design for every laboratory bench, flow capacity 8 l/h
H2O-RO-1-B	arium® advance RO wall-mounted device, space-saving with integrated wall bracket, flow capacity 8 l/h
H2O-RO-2-T	arium® advance RO benchtop device in a compact design for every laboratory bench, flow capacity 16 l/h
H2O-RO-2-B	arium® advance RO wall-mounted device, space-saving with integrated wall bracket, flow capacity 16 l/h
H2O-RO-3-T	arium® advance RO benchtop device in a compact design for every laboratory bench, flow capacity 24 l/h
H2O-RO-3-B	arium® advance RO wall-mounted device, space-saving with integrated wall bracket, flow capacity 24 l/h

arium® bagtanks

The most innovative tank system

- Integrated ventilation filter with non-return valve provides reliable protection against CO_2 pollution
- High flexibility through the 4 rollers available as an option
- Easy and fast exchange of the arium® Bags
- 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 [1]	up to 3.0 l/min
With pump, remote dispenser and SterilePlus filter [1]	up to 2.0 l/min
without pump [2]	up to 1.5 l/min

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[1]	240 VAC (± 10 %), 50 Hz, 120 VA (max.)
Power supply US versions[1]	115 VAC (± 10 %), 60 Hz, 170 VA (max.)
Operating temperature	2 °C – -35 °C at max. 80% relative humidity
Storage temperature	5 °C – 45 °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

[1] bagtank 20 is supplied without a pump as standard, pump optionally available
[2] Value only applies to bagtank 20, dispensing site at the same height or lower than the tank outlet
[3] Note: The arium® Bag is not included in the scope of delivery of the arium® bagtank

Order number	Description
H2O-AOV-20[3]	arium® bagtank 20 l, without pump, 1 pc
H2O-AOV-50[3]	arium® bagtank 50 l, with pump 240 VAC, 50 Hz, 1 pc
H2O-AOV-50-US[3]	arium® bagtank 50 l, with pump 115 VAC, 60 Hz, 1 pc
H2O-AOV-50-W[3]	arium® bagtank 50 l, without pump, 1 pc
H2O-AOV-100[3]	arium® bagtank 100 l, with pump 240 VAC, 50 Hz, 1 pc
H2O-AOV-100-US[3]	arium® bagtank 100 l, with pump 115 VAC, 60 Hz, 1 pc
H2O-AOV-100-W[3]	arium® bagtank 100 l, without pump, 1 pc
H2O-ADP-20	Pump arium® bagtank 20 l, 240 VAC, 50 Hz, 1 pc
H2O-ADP-20-US	Pump arium® bagtank 20 l, 115 VAC, 60 Hz, 1 pc
H2O-ATR	Rollers for arium® bagtank 50 & 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	Wall mount for arium® bagtank 20, 1 pc

arium® bagtank Remote Dispenser

Ergonomic water dispensing with a working radius of up to 3.7 m

- Extended operating range of 3.7 m
- Available with height-adjustable stand or wall mounting 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. Moreover, the stand lets you work in a relaxed position one-handedly and allows optimal adjustment to different sized 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 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 pure and ultrapure water range 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 guard, 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

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. It enables 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^2
Input and Output	¼" 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	Description
H2O-CPFAD-1	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, the salts are typically retained to a high level of 98%. 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	Description
613CPM4	arium® RO module, 1 pc
613CPM4--------V	arium® RO module, 2 pcs

Intended Use

Device type:
arium® comfort I
arium® advance RO
arium® 61316 and 61215

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

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