

Arium® Comfort II

Space-saving
Twin Technology



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
- Quick – Favorites function with direct access for recurring volumes

Product Description

Sartorius offers the compact, environmentally friendly, reliable, and easy-to-use Arium® Comfort II for producing

ASTM Type 1 ultrapure water and Type 2 pure water combined in a single system. The system contains state-of-the-art reverse osmosis technology, the latest EDI technology and a unique cartridge specifically for the production of high ultrapure water quality. Compared to conventional water systems, the Arium® Comfort II optimizes water consumption using the integrated iJust control unit. This unique touch display with intuitive menu navigation ensures the utmost ease of use.

With the optionally integrated TOC monitor, its compact design, the flexible display and the SD card slot, the Arium® Comfort II is the ideal choice for the most demanding laboratory applications.

Consistently high Type 2 water quality

In addition to pretreatment and purification by reverse osmosis modules, an electrochemical deionization is also carried out in the third purification step. By means of this modern EDI technology, the Arium® Comfort II safely and reliably guarantees a highly effective removal of ions 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 the product water quality and water consumption. The intelligent Arium® software controls a valve on the concentrate outlet in accordance with the measurement data for CaCO_3 and CO_2 .

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

“Favorites” function

With the new favorites function it is possible to save recurring volumes and retrieve them as required by direct access.

Technical Specifications

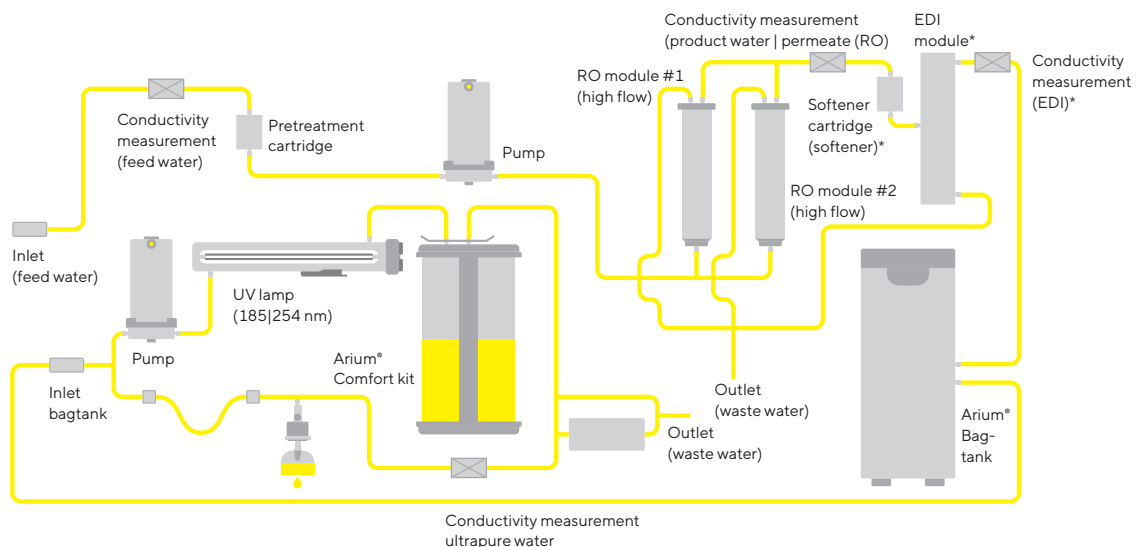
| | |
|------------------------------------|----------------------------------------------------|
| Dimensions: width × height × depth | 43.5 × 50.1 × 47.6 cm |
| Empty weight | 28 kg |
| Operating weight | 36 kg |
| Power supply | 100 – 240 VAC (±10%); 50 – 60 Hz, 130 VA (max.) |
| Operating temperature | 2 °C – 35 °C at max. 80% relative humidity |
| Storage temperature | 5 °C – 45 °C at max. 80% relative humidity |
| Data output | SD card slot, RS-232 interface |

Feed Water Quality

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

| | |
|---------------------------------------------|------------------------------------------------------|
| Input pressure ¹ | 0.5 – 6.9 bar, recommended > 2 bar |
| Temperature | 2 – 30 °C |
| Specific conductivity | < 1,500 $\mu\text{S}/\text{cm}$ 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 |
| Manganese | < 0.05 ppm |
| Aluminum | < 0.05 ppm |
| CO_2 in solution | \leq 40 ppm |
| Fouling Index (SDI) | < 5 |
| Turbidity | < 1 NTU |
| pH value | 4 – 10 |

¹ Dynamic pressure/flow pressure 100 L/h



Flowchart Arium® Comfort II (H2O-II-2 TOC-T)

Water Applications

| Water Quality | Comfort II | Comfort II UV |
|------------------------------------------------------------------|------------|---------------|
| Type 1 Ultrapure Water | ▪ | ▪ |
| Type 2 Pure Water | ▪ | ▪ |
| Lab Water System by Daily Water Consumption | | |
| Type 1 ultrapure water approx. 10–40 Liter/day | ▪ | ▪ |
| Type 2 pure water approx. 120 Liter/day (5 L/h) | ▪ | ▪ |
| Type 2 pure water approx. 150 Liter/day (10 L/h) | ▪ | ▪ |
| Feed Application | | |
| Water for Laboratory devices (Autoclaves Washing Machine etc.) | ▪ | ▪ |
| General Laboratory Application | | |
| Buffer, media and pH solutions | ▪ | ▪ |
| Histology | ▪ | ▪ |
| ELISA (Enzyme-Linked Immunosorbent Assay) | ▪ | ▪ |
| AAS (Atomic Absorption Spectroscopy) | ▪ | ▪ |
| Solutions for chemical analysis and synthesis | ▪ | ▪ |
| GF-AAS (Graphite Furnace Atomic Absorption Spectrometry) | ▪ | ▪ |
| Preparation of reagents | ▪ | ▪ |
| Photometry | ▪ | ▪ |
| Molecular Biology Lifescience Application | | |
| Electrophoresis | ▪ | |
| Northern Blot | ▪ | |
| Southern Blot | ▪ | |
| Western Blot | ▪ | |
| Endotoxin analysis | ▪ | |
| Immunocytochemistry | ▪ | |
| Production of monoclonal antibodies | ▪ | |
| PCR (Polymerase Chain Reaction) | ▪ | |
| DNA Sequencing | ▪ | |
| Nutrient media for cell culture (Mammalia & plant) | ▪ | |
| Chromatography | ▪ | |
| Analytical Application | | |
| SPE (Solid phase extraction) | | ▪ |
| Trace metal analysis | | ▪ |
| IC (Ion chromatography) | | ▪ |
| ICP-MS (Inductively Coupled Plasma Mass Spectrometry) | | ▪ |
| LC-MS (Liquid Chromatography with Mass Spectrometry) | | ▪ |
| GC-MS (Gas Chromatography–Mass Spectrometry) | | ▪ |
| HPLC (High-Performance Liquid Chromatography) | | ▪ |
| TOC analysis | | ▪ |

All displayed applicable systems starting with the minimal requested water quality criteria ¹ Only when equipped with Cell Plus final filter

Product Water Quality Type 1

| | |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Water purification method | Adsorption by spherical activated carbon, ion exchange and UV oxidation (optional) |
| Water type | ASTM Type 1 ultrapure water |
| Water dispensing flow rate ¹ | Up to 2 L/min |
| Volume-controlled dispensing intervals | 0.05 in 0.05 L step, 0.1 – 2.0 L in 0.1 L steps, 2.0 – 20 L in 1 L steps, 20 – 95 L in 5 L steps |
| Volume accuracy ² | 3% between 0.25 L and 95 L |
| Conductivity ^{3,4} | 0.055 µS/cm compensated to 25 °C |
| Resistivity ^{3,4} | 18.2 MΩ × cm compensated to 25 °C |
| TOC content ⁵ (system with UV lamp) | ≤ 2 ppb |
| TOC content ⁵ (system without UV lamp) | < 5 ppb |
| Bacteria ⁶ | < 0.001 CFU/mL |
| Particle content ⁶ | No particles > 0.2 µm |
| Endotoxins ⁷ | < 0.001 EU/mL |
| RNase concentration ⁷ | < 1 pg/mL |
| DNase concentration ⁷ | < 5 pg/mL |

¹ Depending on the feed water pressure, temperature, and condition of the RO modules

² Depending on feed water and constant operating conditions

³ Measured value output adjustable to 25 °C, compensated or uncompensated

⁴ Constant of the ultrapure water measurement cell: 0.01 cm¹

⁵ Determined with municipal water (Goettingen), TOC < 1,000 ppb

⁶ When using an Arium® Sterile Plus (Sartopore® 2 150)

⁷ When using an Arium® Cell Plus

Product Water Quality Type 2

| | |
|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Water purification method | Adsorption by spherical activated carbon, catalyst, reverse osmosis, softening and electrochemical deionization |
| Water type | Type 2 pure water |
| Production output ¹ | 5 L/h or 10 L/h |
| Water dispensing flow rate ² | Up to 3 L/min ³ |
| Typical conductivity ³ | 0.2 – 0.07 µS/cm compensated to 25 °C |
| Typical resistivity ³ | 5 – 15 MΩ × cm compensated to 25 °C |
| Retention of dissolved organic substances (MW > 300 Dalton) ⁴ | > 99% |
| Particle and microorganism retention | > 99% |

¹ Depending on the feed water pressure, temperature, and condition of the RO module(s)

² When using an Arium® Bagtank with pump, depending on hydrostatic pressure, connected accessories or end filter

³ Depending on the feed water quality (CO₂ ≤ 40 ppm) and temperature

⁴ Depending on the type of organic contamination in the feed water

Additional product water specifications when connected to an Arium® Smart Station¹ with final filter

| | |
|-----------------------------------------|----------------------------|
| Particle content ² | No particles > 0.2 µm |
| Bacteria ² | < 0.001 CFU/mL |
| Endotoxins ³ | < 0.001 EU/mL |
| RNase concentration ³ | < 1 pg/mL |
| DNase concentration ³ | < 5 pg/mL |
| Water dispensing flow rate ⁴ | Up to 2 L/min |
| Volume-controlled dispensing | 0.05 – 50 L in 50 mL steps |

¹ Connected to an Arium® Bagtank or an Arium® Comfort

² When using an Arium® Sterile Plus (Sartopore® 2 150)

³ When using an Arium® Cell Plus final filter

⁴ Depending on the connected Arium® Bagtank, hydrostatic pressure, connected accessories and end filter

Accessories and final filters for the Arium® Smart Station can be found in the Arium® Smart Station data sheet.

Ordering Information

Arium® Comfort II systems for the production of ASTM Type 1 ultrapure water and Type 2 pure water

Scope of supply: 1 Arium® Comfort II, Water Guard, RO (reverse osmosis) module(s) and connection kit, optionally with UV lamp and TOC monitor

| Order number without UV lamp without TOC monitor | Order number incl. UV lamp | Order number incl. UV lamp incl. TOC monitor | Description |
|--------------------------------------------------------|-------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------|
| H2O-II-1-T | H2O-II-1-UV-T | H2O-II-1-TOC-T | Arium® Comfort II bench-top device, flow capacity Type 2 pure water 5 L/h |
| H2O-II-1-B | H2O-II-1-UV-B | H2O-II-1-TOC-B | Arium® Comfort II wall-mounted device, flow capacity Type 2 pure water 5 L/h |
| H2O-II-2-T | H2O-II-2-UV-T | H2O-II-2-TOC-T | Arium® Comfort II bench-top device, flow capacity Type 2 pure water 10 L/h |
| H2O-II-2-B | H2O-II-2-UV-B | H2O-II-2-TOC-B | Arium® Comfort II wall-mounted device, flow capacity Type 2 pure water 10 L/h |

For under-bench installation of the Comfort II devices please order a comparable bench-top device, as well as the conversion kit described under the accessories (H2O-ACK-D).

Accessories

Arium® Bagtanks

The most innovative tank system

- Integrated ventilation filter with non-return valve provides reliable protection against CO₂ 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 Bag-tank 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 |
| Pump pressure | 3 bar |

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

Intended Use

Device type:

- Arium® Comfort II

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 L |
| Bagtank 50 | 1 × 50 L |
| Bagtank 100 | 2 × 50 L |
| Power supply ¹ | 240 VAC (±10%), 50 Hz, 120 VA (max.) ² |
| Power supply US versions ¹ | 115 VAC (±10%), 60 Hz, 170 VA (max.) ¹ |
| 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 & bag- tank 100, including fastening materi- al, 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® Conversion Kit

Flexibly placeable, simple and space-saving integration

- Optimal integration into your laboratory furniture
- Space-saving arrangement of the system through variable wall installation of the display | dispenser unit
- Full operation directly on the display | dispenser unit

Description

In conjunction with an Arium® bench-top system, the Arium® Conversion Kit also enables the installation of the device as a built-in version.

By extending the tube routing as well as the display | dispenser unit, the system can be ideally integrated into your laboratory furniture.

This version creates more space on and above the laboratory bench, as the control unit with display and water dispenser can be mounted on the wall in various ways.



Technical Specifications | Ordering Information

| Dimensions | |
|--------------|-------|
| Tubing | 1/4" |
| Tube length | 3.4 m |
| Cable length | 3.0 m |

| Order number | Description |
|--------------|--------------------------------------------------------------------------------------|
| H2O-ACK-D | Arium® Conversion Kit, including wall mounting kit for the display dispenser unit* |

* The Arium® Conversion Kit can only be used in conjunction with an Arium® bench-top device. Conversion of the system should only be carried out by Sartorius Service specialists.

Intended Use

Device type:

- Arium® Comfort II

Arium® Smart Station

Remote dispensing at high flexibility

- Compact: Save space integrating in your lab
- Intuitive: Touch-activated color display with direct access to all important functions
- Flexible: Stepless height adjustment to fill different size containers
- Accurate: Precise volume dispense for reliable buffer and sample preparation

Description

The Arium® Smart Station is designed for flexible remote dispensing of pure and ultrapure water directly at the point of use. While dispensing water into a broad range of different sized containers, the Smart Station offers constant control of every important quality parameters, at all times. The ergonomic design supports left- and right-hand operation and can be easily adjusted to your need.

For maximum flexibility, you can connect three Arium® Smart Station Ultrapure to the Arium® Comfort. By this you can expand the ultrapure water dispensing points up to four. Thereby, the distance between the individual dispensing points and the device can be extended to 4 meters, each. To take pure water directly from the Arium® Bagtank, you can connect an Arium® Smart Station Pure.

Arium® Smart Station Ultrapure:

Supply ultrapure water from Arium® Comfort

Arium® Smart Station Pure:

Supply pure water from Arium® Bagtank



Depending on your needs and application, different final filters can be added to the Smart Station.



Technical Specifications | Ordering Information

Dimensions Smart Station Bench-Top

| | |
|---------------------------------------------------------|---------------------------------------------|
| Control box with stand (w × d × h) | 213 × 213 × 598 mm (8.4 × 8.4 × 8.2") |
| Operating range fixed dispense arm (d × w × h) | 428 × 476 × 835 mm (16.9 × 18.7 × 32.9") |
| Tubing Length: Distance to water system bagtank | 2 Meter |
| Operating range flexible hand held | 0.7 Meter |
| Weight | Approx. 4.9 kg (10.8 lbs) |

Dimensions Smart Station Wall-Mounted

| | |
|---------------------------------------------------------|-------------------------------------------|
| Control box (w × d × h) | 172 × 157 × 343 mm (6.8 × 6.2 × 13.5") |
| Operating range dispense arm (d × w × h) | 242 × 90 × 300 mm (9.5 × 3.5 × 11.8") |
| Tubing Length: Distance to water system bagtank | 2 Meter |
| Operating range flexible hand held | 0.7 Meter |
| Weight | Approx. 2.4 kg (5.3 lbs) |

General Specifications

| | |
|-----------------------------------|-------------------------------------------------------|
| Volume-controlled dispensing | 0.05 – 50 L in 50 mL steps |
| Volume accuracy | ±5% between |
| Power supply | 100–240 VAC; 50 and 60 Hz, 2.5 A (max.) 2 °C–40 °C |
| Power cord (IEC 60320-1 / C14) | Country specific |

| Order number | Description |
|---------------|-----------------------------------------------------------------|
| H2O-ARST-UP-T | Arium® Smart Station Ultrapure for benchtop installation |
| H2O-ARST-UP-B | Arium® Smart Station Ultrapure for wall-mounted installation |
| H2O-ARST-P-T | Arium® Smart Station Pure for benchtop installation |
| H2O-ARST-P-B | Arium® Smart Station Pure for wall-mounted installation |

Benchtop and wall-mounted edition can be assembled for left or right hand side, without additional equipment required.

Accessories and final filters of the Arium® Smart Station can be found in the data sheet Arium® Smart Station

Intended Use

Device type:

- Arium® Comfort II
- Arium® Bagtank

Arium® Foot Switch

Greater convenience during ultrapure water dispensing

- Water dispensing at a press of the foot
- Facilitates work in the clean room and minimizes the risk of contamination
- Low installation height enables Comfortable, fatigue-free switching

Description

Easy-to-connect foot switch to start and stop the water extraction process. The sturdy foot switch enables work to be performed with both hands, e.g. for switching vessels, and minimizes the risk of contamination in the clean room.



Technical Specifications | Ordering Information

| | |
|------------------------|-------------------------------|
| Material | Nylon, glass fiber-reinforced |
| Dimensions [W × H × D] | 14.0 × 4.5 (max.) × 10.6 cm |
| Cable length | 2 m |
| Power supply | 100 - 240 VAC 50 - 60 Hz |
| Connection | Phoenix plug, 2-pin |

| Order number | Description |
|--------------|--------------------------|
| H2O-AFS1 | Arium® Foot Switch, 1 pc |

Intended Use

Device type:

- Arium® Comfort II

Arium® Printer

GMP data documentation made easy

- Acquisition and documentation of current measurement data
- High printing speed
- Compact and robust design
- Thermal transfer printing process (for durable prints in regulated areas)
- Direct thermal printing method possible (for less stringent requirements in standard use)



Description

To assist with qualification and documentation tasks, current measured values are output via an RS-232 interface to the printer.

Technical Specifications | Ordering Information

| | |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensions [W × H × D] | 241.3 × 139.9 × 177.4 mm |
| Interface | RS-232 (max 115,200 bps) – USB 2.0 (full speed) |
| Power supply | External universal switching power supply <ul style="list-style-type: none">▪ Input: 100–240 V~▪ Output: 24 V-; 2.5 A |

| Order number | Description |
|---------------|------------------------------------------------------------------------------------|
| YDP30 | Printer, 1 pc |
| SB-12-01-0250 | Connection cable Arium® (required), 1 pc |
| 69Y03285 | Set of standard paper and ink ribbon for thermal transfer printing (GMP-compliant) |
| 69Y03287 | Standard paper for direct thermal printing |

Intended Use

Device type:

- Arium® Comfort II

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 and pure water area that the activation of the guard would not be 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

610AWG1

Description

Arium® Water Guard, 1 pc

Intended Use

Device type:

- Arium® Comfort II

Consumables

Arium® Sterile Plus

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® Sterile Plus (Sartopore® 2 150) is a sterile, ready-to-use membrane filter capsule containing a hydrophilic, heterogeneous polyethersulfone double membrane for excellent service life and flow rates. Attached, to the point of use, via a quick connector, the capsule reliably removes particles and microorganisms in the final step of water treatment. A hydrophobic PTFE membrane at the farthest point “upstream” allows for easy and clean ventilation of the capsule.

All 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 |

| General Specifications | |
|-------------------------------|---------------------------------------|
| 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, 2 bar, 30 min. |
| Max. diffusion | 1 mL/min @ 2.5 bar |
| Min. bubble point | 3.2 bar |

| Typical Specifications | |
|------------------------|-----------------------|
| Bacteria | < 0.001 CFU/mL |
| Particle content | No particles > 0.2 µm |

| Order number | Description |
|---------------|------------------------------------------------------|
| 5441307H4--CE | Arium® Sterile Plus (Sartopore® 2 150 Capsule), 1 pc |

Intended Use

Device type:

- Arium® Comfort II
- Arium® Smart Station Ultrapure
- Arium® Smart Station Pure

Arium® Cell Plus Ultrafilter

For effective removal of endotoxins in cell culture applications

- Effective removal of RNase | DNase
- Reliable removal of endotoxins
- High flow rate performance
- Certified quality
- Sterile-packaged

Description

The Arium® Cell Plus is a point-of-use ultrafilter for efficient removal of endotoxins, RNase, DNase, microorganisms and particles.

Designed for Arium® Comfort water systems, this sterile-packaged ultrafilter provides the highest safety for your critical cell culture applications. A protective bell supplied with the ultrafilter additionally prevents retrograde contamination.

Moreover, the high-grade material selected for Arium® Cell Plus enables excellent total throughputs and optimal flow rates.



Technical Specifications | Ordering Information

| Materials | |
|--------------------|---------------------------------------|
| Membrane | Polysulfone |
| Composite material | Polyurethane (PUR) |
| Housing | Acrylonitrile butadiene styrene (ABS) |
| Protective bell | Polycarbonate (PC) |

| Typical Specifications | |
|--------------------------------------------------------------|-----------------|
| Flow rate (depends on the inlet pressure and type of system) | Up to 2.0 L/min |
| Endotoxins | < 0.001 EU/mL |
| Bacteria | < 1 cfu/100 mL |
| RNase concentration | < 1 pg/mL |
| DNase concentration | < 5 pg/mL |

| General Specifications | |
|--------------------------------|---------------------------|
| Cut-off | 15,000 Daltons 0.005 µm |
| Inlet and Outlet | ¼" Plug-in connector |
| Dimensions (height × diameter) | 169 × 50 mm |
| Max. operating pressure | 6 bar (87 psi) |
| Max. inlet temperature | 50 °C |
| Effective membrane area | 0.5 m ² |

| Order number | Description |
|--------------|------------------------------------|
| H2O-CUF | Arium® Cell Plus Ultrafilter, 1 pc |

Intended Use

Device type:

- Arium® Comfort II
- Arium® Smart Station Ultrapure
- Arium® Smart Station Pure

Arium® Comfort Pretreatment Cartridge

Reliable protection of the Comfort RO module

- Fast and effective adsorption of impurities through high-grade activated carbon
- Highly efficient catalyst for removing free chlorine

Description

The combination of spherical, catalytically active activated carbon with an added catalyst constitutes the best protection for a downstream reverse osmosis (RO) membrane. It reliably removes oxidation agents, such as free chlorine and ozone, 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 at a lower temperature and | or higher pH value compared to activated carbon alone.

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 activated carbon |
| Feed water requirements | See "Technical Specifications" page 2 |

| Order number | Description |
|--------------|---------------------------------------------|
| H2O-CPFCO-1 | Arium® Comfort Pretreatment Cartridge, 1 pc |

Intended Use

Device type:

- Arium® Comfort II

Arium® Softener Cartridge

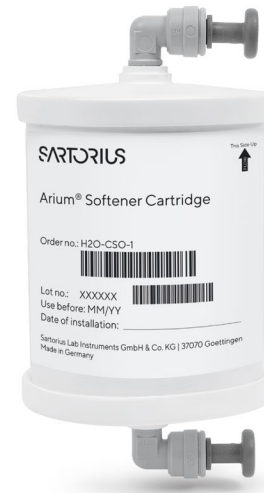
For maximum service life of the EDI module

- Consistently high water quality
- Long service life
- Effective CaCO₃ 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 | Description |
|--------------|---------------------------------|
| H2O-CSO-1 | Arium® Softener Cartridge, 1 pc |

Intended Use

Device type:

- Arium® Comfort II

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.

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 |



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.

| Order number | Description |
|--------------|-------------------------|
| H2O-CRO-H-1 | Arium® RO Module, 1 pc |
| H2O-CRO-H-2 | Arium® RO Module, 2 pcs |

Intended Use

Device type:

- Arium® Comfort II

Arium® Comfort kit

Deionization cartridge featuring top-down technology

- High performance capacity thanks to efficient ion exchange resins
- Fast and effective adsorption of impurities through high-grade activated carbon
- Optimized crossflow behavior, prevents separation of the resin mixed-bed
- Patented connection method, easy replacement of consumables



Description

The cartridge sets are optimized for the removal of both organic and inorganic constituents. The set was designed specifically to match the unit and delivers ultrapure water that even exceeds the ASTM type 1 quality standard. This consistent level of high-quality water ensures optimal reproducibility of your results.

Optimized filling materials, such as highly effective activated carbon coupled with highly efficient ion exchange resins, deliver long lasting performance and low-maintenance operation.

The top-down flow technology produces ideal purification kinetics and prevents any mixing of cleaning media. The cartridge was designed with the applicable standards for flow rate in the cross section and contact time with the medium in mind.

Technical Specifications | Ordering Information

| Materials | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------|
| Housing | High-purity polypropylene |
| Fixing screws | Stainless steel |
| Cleaning media | Spherical, catalytic activated carbon Ultrapure mixed bed ion exchange resin in semiconductor quality |
| Further data on product water quality | See "Technical Specifications" page 2 |

| Order number | Description |
|--------------|--------------------------|
| H2O-C-PACK | Arium® Comfort Kit, 1 pc |

Intended Use

Device type:

- Arium® Comfort II

Arium® UV Lamp (185 | 254 nm)

Ultrapure water, free of TOC

- Horizontal installation, optimized temperature gradient
- Effectively destroys organic compounds
- Easy replacement

Description

The horizontally arranged UV lamp provides particularly reliable results. In contrast to vertical devices, the temperature gradient is less pronounced and thus prevents the influence on the activity of UV waves.

The two different wavelengths reliably remove organic substances up to a TOC (total organic carbon) content of ≤ 2 ppb*.



Technical Specifications | Ordering Information

Typical Specifications

TOC value for product water* ≤ 2 ppb

Order number

611CEL1

Description

Arium® UV Lamp (185 | 254 nm), 1 pc

Intended Use

Device type:

- Arium® Comfort II (UV & TOC version)

* Feed water < 50 ppb TOC

Arium® RO Cleaning Set

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 impurities.

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® RO Cleaning Set, 1 pc |

Intended Use

Device type:

- Arium® Comfort II

Sartorius Service

We Ensure the Quality of Your Results

At Sartorius, quality products go hand in hand with professional service. With our wide service offering, we will help guarantee the safe, reliable and optimal operation of your Arium® systems. Just ask us and we will even cover the entire life cycle of your laboratory water system – from commissioning to qualification to regular maintenance. Together with you, we will ensure the consistently high quality of your laboratory water purification.

Our Services at a Glance:

Installation and Commissioning

Your advantage: Your system will operate reliably at peak performance from day one

Equipment Qualification (IQ | OQ)

Your advantage: You will meet all regulatory requirements (GMP | GLP)

Regular Preventative Maintenance, Including Calibration, inspection and testing of your system and exchange of consumables

Your advantages: Optimal operation of your system; reliable results; prevention of downtime or even equipment failure

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