

# 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 the highest 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, 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 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 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  $\text{CaCO}_3$  and  $\text{CO}_2$ .

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

## “Favorites” function

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

## Technical Specifications

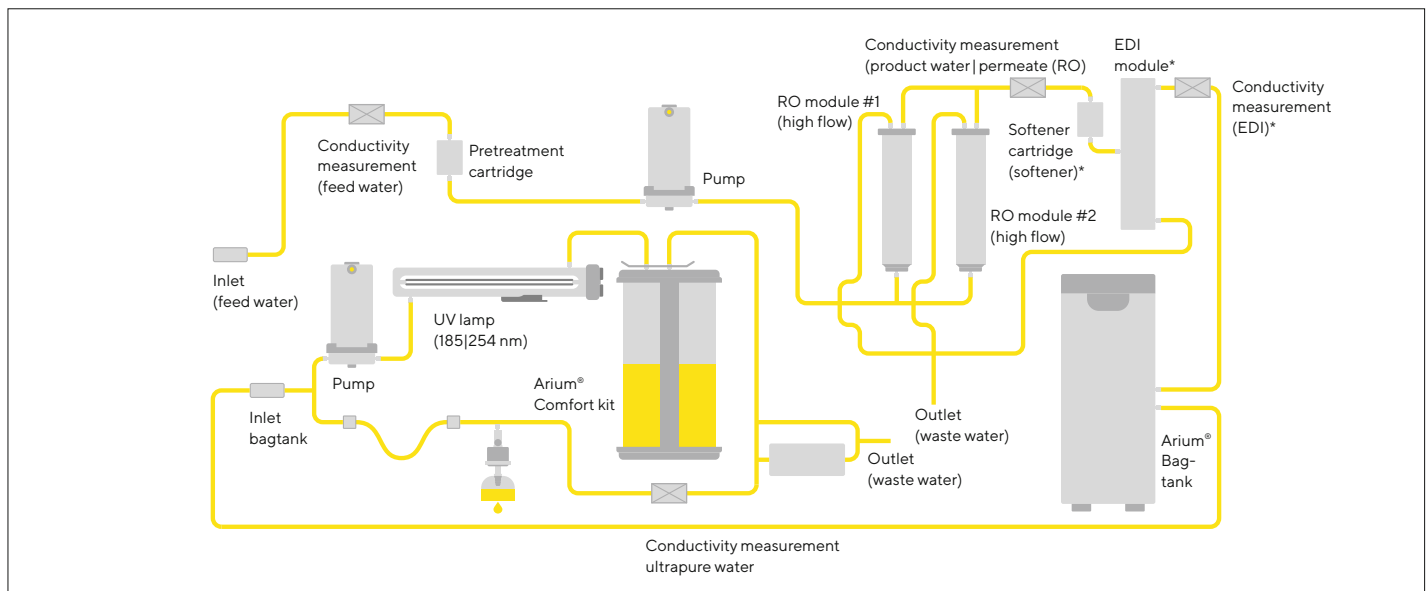
|                                       |   |
|---------------------------------------|---|
| Dimensions:<br>width × height × depth | 43.5 × 50.1 × 47.6 cm                               |
| Empty weight                          | 28 kg   |
| Operating weight                      | 36 kg   |
| Power supply                          | 100 – 240 VAC (± 10%);<br>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 <sup>1</sup>                    | 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<br>(max. $\text{CaCO}_3$ ) | 360 ppm  |
| Free chlorine                                  | < 4 ppm  |
| Iron (total Fe content)                        | < 0.1 ppm  |
| Manganese                                      | < 0.05 ppm   |
| Aluminum                                       | < 0.05 ppm   |
| $\text{CO}_2$ in solution                      | $\leq 40$ ppm  |
| Fouling Index (SDI)                            | < 5  |
| Turbidity                                      | < 1 NTU  |
| pH value                                       | 4 – 10   |

<sup>1</sup> Dynamic pressure/flow pressure 100 L/h



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

# Water Applications

## Lab Water System Quality

| Water Quality          | Comfort II | Comfort II UV |
|------------------------|------------|---------------|
| Type 1 Ultrapure Water | ▪          | ▪             |
| Type 2 Pure Water      | ▪          | ▪             |

| Lab Water System by Daily Water Consumption | Comfort II | Comfort II UV |
|---|------------|---------------|
| Type 1 ultrapure water 40 - 100 Liter/day   | ▪          | ▪             |
| Type 2 pure water <120 Liter/day (5 L/h)    | ▪          | ▪             |
| Type 2 pure water <150 Liter/day (10 L/h)   | ▪          | ▪             |

| Feed Application   | Comfort II | Comfort II UV |
|--|------------|---------------|
| Water for Laboratory devices (Autoclaves   Washing Machine etc.) | ▪          | ▪             |

| General Laboratory Application                           | Comfort II | Comfort II UV |
|--|------------|---------------|
| 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        | Comfort II | Comfort II UV |
|--|------------|---------------|
| 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                                | Comfort II | Comfort II UV |
|---|------------|---------------|
| SPE (Solid phase extraction)                          |            | ▪             |
| Trace metal analysis                                  |            | ▪             |
| IC (Ion chromatography)                               |            | ▪             |
| ICP-MS (Inductively Coupled Plasma Mass Spectrometry) |            | ▪             |
| GC-MS (Gas Chromatography-Mass Spectrometry)          |            | ▪             |
| HPLC (High-Performance Liquid Chromatography)         |            | ▪             |
| TOC analysis  |            | ▪             |

## Product Water Quality

|   |   |  |
|---|---|--|
| Water purification method                         | Adsorption by means of spherical activated carbon, catalyst, reverse osmosis, electrochemical deionization, optional end-position particle and sterile filtration |  |
| Water type  | ASTM Type 1 ultrapure water   | Type 2 pure water                                  |
| Production output <sup>1</sup>                    | 120 L/h   | 5 L/h or 10 L/h                                    |
| Water dispensing flow rate <sup>3</sup>           | Up to 2 L/min   | Up to 3 L/min <sup>2</sup>                         |
| Volume-controlled dispensing <sup>3</sup>         | 2 L/min in 100 mL, 1L or 5 L steps, depending on the total amount removed between 0.1L and 60 L   | -  |
| Volume accuracy <sup>3</sup>                      | 3 % between 0.25 L and 60 L   | -  |
| Typical conductivity <sup>4</sup>                 | 0.055 µS/cm compensated to 25 °C  | 0.2 – 0.07 µS/cm compensated to 25 °C <sup>3</sup> |
| Typical resistivity <sup>4</sup>                  | 18.2 MΩ × cm compensated to 25 °C   | 5 – 15 MΩ × cm compensated to 25 °C <sup>3</sup>   |
| Typical TOC reduction <sup>6</sup>                | -   | 95 %   |
| TOC content <sup>7</sup> (system with UV lamp)    | ≤ 2 ppb   | -  |
| TOC content <sup>7</sup> (system without UV lamp) | < 5 ppb   | -  |
| Bacteria <sup>8</sup>                             | < 0.01 CFU/mL   | -  |
| Particle content <sup>8</sup>                     | No particles > 0.22 µm  | -  |
| Endotoxins <sup>9</sup>                           | < 0.001 EU/mL   | -  |
| RNase concentration <sup>9</sup>                  | < 1 pg/mL   | -  |
| DNase concentration <sup>9</sup>                  | < 5 pg/mL   | -  |
| Particle and microorganism retention              | -   | > 99 %   |

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

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

<sup>3</sup> Under constant operating conditions

<sup>4</sup> Measured value output adjustable to 25 °C, compensated or uncompensated

<sup>5</sup> Constant of the ultrapure water measurement cell: 0.01 cm<sup>1</sup>

<sup>6</sup> Depends on the type of organic contamination in the feed water

<sup>7</sup> Determined with municipal water (Goettingen), TOC < 1,000 ppb

<sup>8</sup> When using an Arium® Sterile Plus (Sartopore® 2 150, 0.2 µm pore size)

<sup>9</sup> When using an Arium Cell Plus

## Ordering Information

### Arium® Comfort II 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-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 |
| 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  |

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 CO<sub>2</sub> 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.

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### Water dispensing flow rate

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|   |                 |
|---|-----------------|
| 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           |

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### 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 <sup>1</sup>                | 240 VAC (± 10 %), 50 Hz, 120 VA (max.) <sup>2</sup> |
| Power supply<br>US versions <sup>1</sup> | 115 VAC (± 10 %), 60 Hz, 170 VA (max.) <sup>1</sup> |
| 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 |

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

<sup>2</sup> Value only applies to Bagtank 20, dispensing 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, 1pc  |
| H2O-AOV-50 <sup>3</sup>     | Arium® Bagtank 50 L, with pump 240 VAC, 50 Hz, 1pc                                |
| H2O-AOV-50-US <sup>3</sup>  | Arium® Bagtank 50 L, with pump 115 VAC, 60 Hz, 1pc                                |
| H2O-AOV-50-W <sup>3</sup>   | Arium® Bagtank 50 L, without pump, 1pc  |
| H2O-AOV-100 <sup>3</sup>    | Arium® Bagtank 100 L, with pump 240 VAC, 50 Hz, 1pc                               |
| H2O-AOV-100-US <sup>3</sup> | Arium® Bagtank 100 L, with pump 115 VAC, 60 Hz, 1pc                               |
| H2O-AOV-100-W <sup>3</sup>  | Arium® Bagtank 100 L, without pump, 1pc   |
| H2O-ADP-20                  | Pump Arium® Bagtank 20 L, 240 VAC, 50 Hz, 1pc                                     |
| H2O-ADP-20-US               | Pump Arium® Bagtank 20 L, 115 VAC, 60 Hz, 1pc                                     |
| H2O-ATR                     | Rollers for Arium® Bagtank 50 & bag-tank 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, 1pc   |

# 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

| Materials    |      |
|--------------|------|
| Tubing       | PVDF |
| Tube length  | 3.4m |
| Cable length | 3.0m |

| 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® 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 Sterile Plus or Cell Plus 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® device and a further 1.2 m from the stand.



Depending on the requirements, the remote dispenser can also be used with a Sterile Plus or Cell Plus filter.

## Technical Specifications | Ordering Information

| Materials        |                          |
|------------------|--------------------------|
| Stand            | Aluminum (gray anodized) |
| Remote Dispenser | Plastic, white finish    |
| Tubing           | PVDF                     |

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

| Weight without tubing              |         |
|------------------------------------|---------|
| Remote Dispenser with stand        | 5.60 kg |
| Remote Dispenser with wall bracket | 0.46 kg |

| Order number | Description   |
|--------------|---|
| H2Opro-AMDG1 | Arium® Remote Dispenser including height-adjustable stand, 1 pc |
| H2Opro-AMDG2 | Arium® Remote Dispenser including wall mounting kit, 1 pc       |

### Intended Use

Device type:

- Arium® Comfort II



# Arium® Bagtank Remote Dispenser

## Ergonomic water dispensing 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 mounting bracket
- Ergonomic design
- Easy-to-use
- Connection for Sterile Plus or Cell Plus filter

## Description

The Arium® Bagtank Remote Dispenser is an ergonomically designed, easy-to-handle dosing unit which is ideally suited to the dispensing 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® Bagtank and a further 1.2 m from the stand.



Depending on the requirements, the remote dispenser can also be used with a Sterile Plus or Cell Plus filter.

## 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, 1 pc |
| 613-AMDG2    | Arium® Remote Dispenser including wall mounting kit, 1 pc       |

### Intended Use

- Arium® Bagtank 20\*
- Arium® Bagtank 50
- Arium® Bagtank 100

\* only in conjunction with an optional distributor pump

## Arium® Display Mounting Kit

### All menu functions directly at the water-dispensing site

- Visual quality control directly at the water-dispensing site
- System control directly at the workplace
- Optimum adjustment to various vessel sizes
- Water dispensing using the slider
- Reach up to 2.5 meters
- Connection for Sterile Plus or Cell Plus filter

## Description

The Display Mounting Kit not only expands the working radius of up to 2.5 meters from the Arium® ultrapure water system, but also allows control of the device and monitoring of the ultrapure water quality directly at the dispensing site. Integrated into the stand is the bracket to which the flexible Arium® display is mounted. The result is a combination of full access to the menu with its functions and the practical convenience of a remote dispenser.

The stand, the height of which can be adjusted over 70 cm, enables relaxed working with only one hand with optimal adaptation to the different sizes of the extraction vessels.



Depending on the requirements, the remote dispenser can also be used with a Sterile Plus or Cell Plus filter.

## Technical Specifications | Ordering Information

|                    |                          |
|--------------------|--------------------------|
| Material Stand     | Aluminum (gray anodized) |
| Dimensions [W×H×D] | 22.0×59.5×25.5 cm        |
| Weight             | 5.60 kg                  |

| Order number | Description  |
|--------------|--|
| H2Opro-ADM1  | Arium® Display Mounting Kit, height-adjustable, for connection to Arium® under-bench systems, 1 pc |

\* The Arium® Display Mounting Kit can only be used in conjunction with an Arium® Conversion Kit. Conversion of the system should only be carried out by Sartorius Service specialists.

### Intended Use

Device type:

- Arium® Comfort II

# Arium® Multifunctional Stand

## Full menu function with maximum flexibility

- Visual quality control directly at the water-dispensing site
- System control directly at the workplace
- Optimum adjustment to various vessel sizes
- Flexible water dispensing as required
- Reach up to 2.5 meters
- Connection for Sterile Plus or Cell Plus filter

## Description

The multifunctional stand combines the convenience of the display mounting stand with the flexibility of the remote dispenser. Combined into one unit, the multifunctional stand allows the withdrawal of ultrapure water as required with variable dosing.

The dosing can be performed by volume-controlled withdrawal or even time-controlled or manual withdrawal. Depending on the application, the dosing unit – either stationary or flexible – therefore offers the user an ideal dispensing option. Monitoring of the ultrapure water quality and control of the device is performed directly at the extraction point.

Due to the ability to adjust the height of the stand by up to 70 cm and the elongated tube routing of 2.5 m, the working



radius can be ideally adjusted to meet the user's requirements, thereby enabling relaxed working.

Depending on the requirements, the remote dispenser can also be used with a Sterile Plus or Cell Plus filter.

## Technical Specifications | Ordering Information

|                    |                          |
|--------------------|--------------------------|
| Material Stand     | Aluminum (gray anodized) |
| Dimensions [W×H×D] | 22.0×59.5×25.5 cm        |
| Weight             | 5.60 kg                  |

| Order number | Description   |
|--------------|---|
| H2O-ADD      | Arium® Multifunctional Stand for connection to Arium® under-bench systems, 1 pc |

\* The Arium® Multifunctional Stand can only be used in conjunction with an Arium® Conversion Kit. Conversion of the system should only be carried out by Sartorius Service specialists.

## Intended Use

Device type:

- Arium® Comfort II

# 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] | 241.3×139.9×177.4mm  |
| 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"><li>▪ Input: 100 – 240 V~</li><li>▪ Output: 24 V-; 2.5 A</li></ul> |

| Order number  | Description  |
|---------------|--|
| YDP30         | Printer, 1pc   |
| SB-12-01-0250 | Connection cable Arium® (required), 1pc  |
| 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 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 Guard, 1pc |

### 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 suitable for the most stringent requirements. Arium® Sterile Plus 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 water purification step. A hydrophobic PTFE membrane at the farthest point “upstream” allows for easy and clean ventilation of the capsule.

All pleated Arium® Sterile Plus 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 × 0.22 µm                     |
| Filtration area               | 0.015 m <sup>2</sup>                  |
| 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® Sterile Plus (Sartopore® 2 150 Capsule), 0.22 µm pore size, 1 pc |

### Intended Use

Device type:

- Arium® Comfort II
- Arium® Bagtank Remote Dispenser
- Arium® Remote Dispenser

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

| General Specifications         |                    |
|--------------------------------|--------------------|
| Dimensions (height × diameter) | 169 × 50 mm        |
| Max. operating pressure        | 6 bar (87 psi)     |
| Max. inlet temperature         | 50°C               |
| Effective membrane area        | 0.5 m <sup>2</sup> |

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

### Intended Use

Device type:

- Arium® Comfort II
- Arium® Bagtank Remote Dispenser
- Arium® Remote Dispenser



# 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 |
| 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-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 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 | 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.

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                     | 30.8cm                                |
| Diameter                   | 7.8cm                                 |
| Weight                     | 0.468 kg                              |
| Product Water Quality      | See "Technical Specifications" page 2 |

| Order number | Description             |
|--------------|-------------------------|
| H2O-CRO-H- 1 | Arium® RO Module, 1pc   |
| 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<br>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, 1pc |

### 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 delivers especially reliable results. Unlike vertical units, the temperature gradient is less pronounced and does not affect the activity of UV waves.

The two different wavelengths reliably removes organic substances (TOC or total organic carbon).



## Technical Specifications | Ordering Information

|                              |              |
|------------------------------|--------------|
| Materials                    | Fused silica |
| TOC value for product water* | <2 ppb       |

|              |                                     |
|--------------|-------------------------------------|
| Order number | Description                         |
| 611CEL1      | 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 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® 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

Get more information now at:

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