

# Arium® Pro Ultrapure Water Systems

Application-orientated  
and flexible to meet  
the highest demands



## Advantages

- Modular – System selection specifically for your application
- Flexible – Perfect integration into any laboratory
- Easy to use – Display with touch function and intuitive menu
- Fast – Favorites function with direct access for recurring volumes

## Product Description

As a reliable source of ultrapure water, the Arium® Pro series offers a flexible and modular system which, compared to conventional devices, demonstrates excellent added value.

All systems produce consistent ASTM Type 1 ultrapure water quality and provide the best reproducible results. The ultrapure water can be dispensed at up to 2 liters per minute with a conductivity of 0.055  $\mu\text{S}/\text{cm}$  ( $18.2 \text{ M}\Omega \times \text{cm}$ ). When using an Arium® Sterile Plus final filter, the ultrapure water is virtually free of microorganisms.

The patented Sartorius technology, the SD card slot, the long service life and low maintenance requirement distinguish the Arium® Pro systems as an easy-to-use, economical and reliable Type 1 ultrapure water system.

## Modular

Various device configurations are specifically tailored to your application. Arium® Pro delivers any desired ultrapure water quality for general, analytical and life science applications.

## “Favorites” function

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

Simplify your daily routine by using the new function to save time and work more efficiently in the laboratory.

## Technical Specifications

|                                       |  |
|---------------------------------------|--|
| Dimensions:<br>width × height × depth | 35.0 × 49.2 × 45.1 cm                              |
| Empty weight                          | 17 - 19 kg, depending on the device type           |
| Operating weight                      | 27 - 29 kg, depending on the device type           |
| 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 <sup>2</sup> , RS-232 interface       |

## Display with touch function

Simply navigate intuitively in the easy-to-use and clear menu by lightly touching the display – even with gloves. Even the opening of the dispensing valve can be controlled by the unique touch display.

## Flexible

The space-saving installation of the device on, under, or above your workstation integrates it perfectly into any laboratory. The positioning of the display and the water dispensing point is very flexible.

## Feed Water Quality

Treated water by reverse osmosis, distillation or deionization.<sup>1</sup>

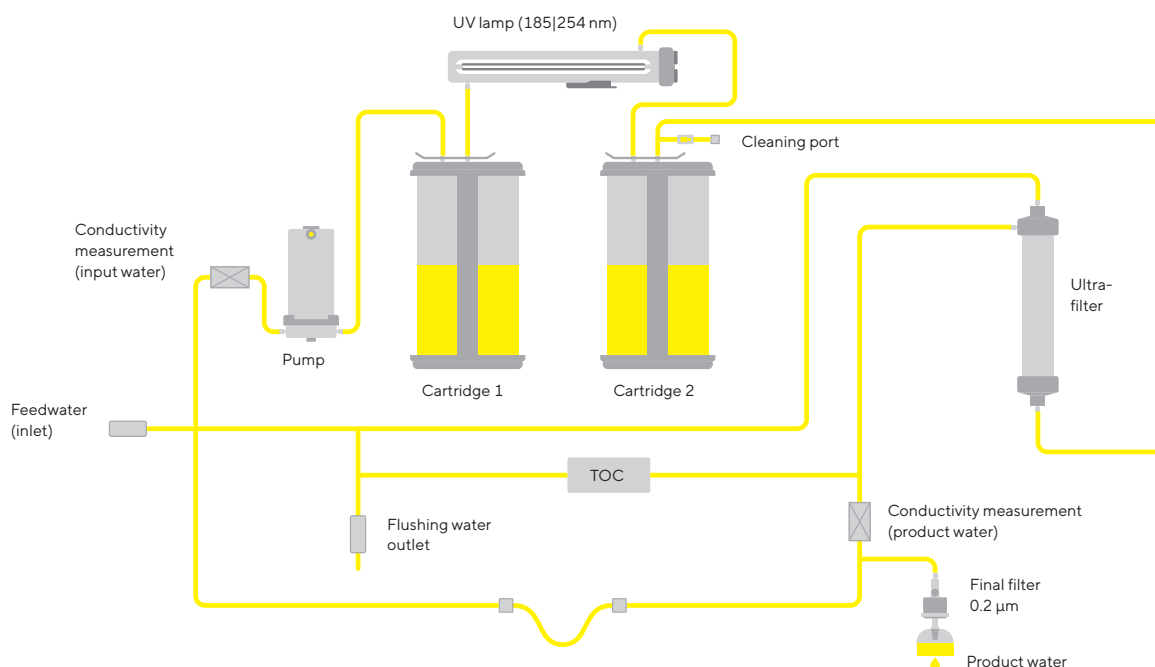
|                             |                                  |
|-----------------------------|----------------------------------|
| Input pressure <sup>3</sup> | 0 - 6.9 bar, recommended > 2 bar |
| Temperature                 | 2 - 30 °C                        |
| Specific conductivity       | < 100 µS/cm compensated to 25 °C |
| TOC                         | < 50 ppb                         |
| Turbidity                   | < 1 NTU                          |
| pH value                    | 4 - 10                           |

<sup>1</sup> With the Universal Kit, Arium® Pro can be directly fed with untreated drinking water to produce ultrapure water.

The appropriate Sartorius application specialists should be consulted to check the feed water specifications.

<sup>2</sup> Does not apply to Arium® Pro

<sup>3</sup> Dynamic pressure/flow pressure 100 L/h



Flow diagram for Arium® Pro VF TOC

# Water Applications

|  | Pro | Pro DI | Pro UV | Pro UF | Pro VF |
|--|-----|--------|--------|--------|--------|
| <b>Water Quality</b>                                     |     |        |        |        |        |
| Type 1 Water   | ■   | ■      | ■      | ■      | ■      |
| <b>Lab Water System by Daily Water Consumption</b>       |     |        |        |        |        |
| Type 1 ultrapure water approx. 40 - 100 Liter/day        | ■   | ■      | ■      | ■      | ■      |
| <b>General Laboratory Application</b>                    |     |        |        |        |        |
| 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   | ■   | ■      | ■      | ■      | ■      |
| <b>Molecular Biology   Lifescience Application</b>       |     |        |        |        |        |
| 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   |     |        |        | ■      | ■      |
| <b>Analytical Application</b>                            |     |        |        |        |        |
| 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

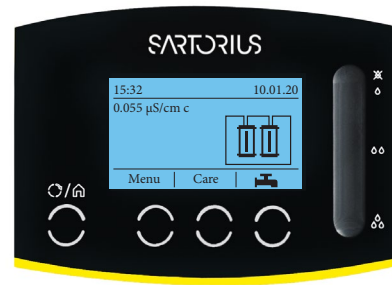
# Arium® Pro DI and Arium® Pro

## Description

The Arium® Pro DI produces ASTM Type 1 ultrapure water and is used for standard daily laboratory applications.

The water is treated using the specially developed Elemental Kit, which reliably removes organic and inorganic impurities from the feed water using a mixture of activated carbon and ion exchange resins.

To protect against contamination by particles and bacteria, an Arium® Sterile Plus can additionally be connected at the consumer endpoint.



A more cost-effective alternative is the Arium® Pro. Reduced to the most important functions, it produces ultrapure water without compromising quality.

## Product Water Quality

|   |  |
|---|--|
| Water purification method               | Adsorption by means of spherical activated carbon, deionization, optional end-position particle and sterile filtration |
| Water type                              | ASTM Type 1 ultrapure water  |
| Output                                  | 120 L/h  |
| Water dispensing flow rate <sup>4</sup> | 0.1 – 2 L/min, adjustable  |
| Volume-controlled dispensing            | 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 – 50 L in 5 L steps                       |
| Volume accuracy <sup>5</sup>            | 3% between 0.25 L and 50 L   |
| Conductivity <sup>1</sup>               | 0.055 µS/cm compensated to 25 °C   |
| Resistivity <sup>1</sup>                | 18.2 MΩ × cm compensated to 25 °C  |
| TOC <sup>3</sup>                        | < 5 ppb  |
| Bacteria <sup>2</sup>                   | < 0.001 CFU/mL   |
| Particle content <sup>2</sup>           | No particles > 0.2 µm  |

<sup>1</sup> Measured value output adjustable to 25 °C, compensated or uncompensated

<sup>2</sup> When using an Arium® Sterile Plus final filter

<sup>3</sup> Feedwater < 50 ppb TOC

<sup>4</sup> At a dynamic flow pressure of 2 bar, depending on the connected accessory or final filter

<sup>5</sup> Under constant operating conditions

## Ordering Information

### Arium® Pro DI and Pro systems, for the production of ASTM Type 1 ultrapure water

Scope of supply: 1 Arium® Pro or Pro DI, water guard and connection set

| Order number | Description                       |
|--------------|-----------------------------------|
| H2Opro-DI-T  | Arium® Pro DI benchtop device     |
| H2Opro-DI-B  | Arium® Pro DI wall-mounted device |
| H2Obasic-T   | Arium® Pro benchtop device        |
| H2Obasic-B   | Arium® Pro wall-mounted device    |

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

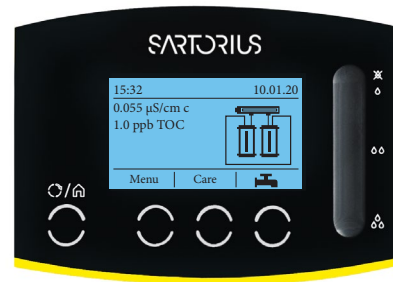
# Arium® Pro UV

## Description

The Arium® Pro UV produces ASTM Type 1 ultrapure water and is used for critical analytical applications in the laboratory.

In addition to the removal of organic and inorganic impurities via the Analytical Kit, by means of a mixture of activated carbon and ion exchange resins, the Arium® Pro UV also purifies the water via a UV lamp.

The UV lamp (185|254 nm) reduces organic components to a minimum (TOC ≤ 2 ppb) and thus ensures reliable and precise analytical results.



Current TOC values can be continuously measured by the optionally integrated TOC monitor and shown on the display.

An Arium® Sterile Plus can also be connected to the consumer endpoint to protect against particulate and bacterial contamination.

## Product Water Quality

|   |  |
|---|--|
| Water purification method               | Adsorption by means of spherical activated carbon, deionization, UV irradiation, optional end-position particle and sterile filtration |
| Water type                              | ASTM Type 1 ultrapure water  |
| Output                                  | 120 L/h  |
| Water dispensing flow rate <sup>4</sup> | 0.1 – 2 L/min, adjustable  |
| Volume-controlled dispensing            | 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 – 50 L in 5 L steps                                       |
| Volume accuracy <sup>5</sup>            | 3% between 0.25 L and 50 L   |
| Conductivity <sup>1</sup>               | 0.055 µS/cm compensated to 25 °C   |
| Resistivity <sup>1</sup>                | 18.2 MΩ × cm compensated to 25 °C  |
| TOC <sup>3</sup>                        | ≤ 2 ppb  |
| Bacteria <sup>2</sup>                   | < 0.001 CFU/mL   |
| Particle content <sup>2</sup>           | No particles > 0.2 µm  |

<sup>1</sup> Measured value output adjustable to 25 °C, compensated or uncompensated

<sup>2</sup> When using an Arium® Sterile Plus final filter

<sup>3</sup> Feedwater < 50 ppb TOC

<sup>4</sup> At a dynamic flow pressure of 2 bar, depending on the connected accessory or final filter

<sup>5</sup> Under constant operating conditions

## Ordering Information

### Arium® Pro systems, for the production of ASTM Type 1 ultrapure water

Scope of supply: 1 Arium® Pro with UV lamp (185 | 254 nm), water guard and connection set

| Order number    | Description  |
|-----------------|--|
| H2Opro-UV-T     | Arium® Pro UV benchtop device, including UV lamp                     |
| H2Opro-UV-B     | Arium® Pro UV wall-mounted device, including UV lamp                 |
| H2Opro-UV-T-TOC | Arium® Pro UV benchtop device, including UV lamp and TOC monitor     |
| H2Opro-UV-B-TOC | Arium® Pro UV wall-mounted device, including UV lamp and TOC monitor |

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

# Arium® Pro UF

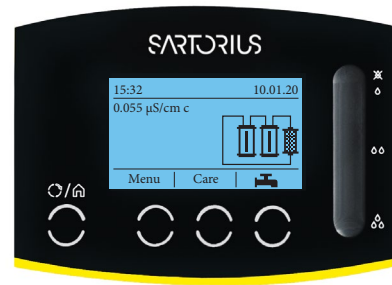
## Description

The Arium® Pro UF produces ASTM Type 1 ultrapure water and is used for critical biological applications in the laboratory.

The water is first treated with the Elemental Kit, using a mixture of activated carbon and ion exchange resins to remove organic and inorganic impurities.

Subsequently, purification takes place via an ultrafilter using cross-flow technology. The ultrafilter reliably removes endotoxins, DNases and RNases, making the system ideal for use in cell culture or critical biological applications.

To protect against contamination by particles and bacteria, an Arium® Sterile Plus can additionally be connected at the consumer endpoint.



## Product Water Quality

|   |   |
|---|---|
| Water purification method               | Adsorption by means of spherical activated carbon, deionization, ultrafiltration, optional end-position particle and sterile filtration |
| Water type                              | ASTM Type 1 ultrapure water   |
| Output                                  | 102 L/h   |
| Water dispensing flow rate <sup>4</sup> | 0.1 – 1.7 L/min, adjustable   |
| Volume-controlled dispensing            | 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 – 50 L in 5 L steps  |
| Volume accuracy <sup>5</sup>            | 3% between 0.25 L and 50 L  |
| Conductivity <sup>1</sup>               | 0.055 µS/cm compensated to 25 °C  |
| Resistivity <sup>1</sup>                | 18.2 MΩ × cm compensated to 25 °C   |
| TOC <sup>3</sup>                        | < 5 ppb   |
| Bacteria <sup>2</sup>                   | < 0.001 CFU/mL  |
| Particle content <sup>2</sup>           | No particles > 0.2 µm   |
| Endotoxin                               | < 0.001 EU/mL   |
| RNase concentration                     | < 1 pg/mL   |
| DNase concentration                     | < 5 pg/mL   |

<sup>1</sup> Measured value output adjustable to 25 °C, compensated or uncompensated

<sup>2</sup> When using an Arium® Sterile Plus final filter

<sup>3</sup> Feedwater < 50 ppb TOC

<sup>4</sup> At a dynamic flow pressure of 2 bar, depending on the connected accessory or final filter

<sup>5</sup> Under constant operating conditions

## Ordering Information

### Arium® Pro UF systems, for the production of ASTM Type 1 ultrapure water

Scope of supply: 1 Arium® Pro with ultrafilter, water guard and connection set

| Order number | Description  |
|--------------|--|
| H2Opro-UF-T  | Arium® Pro UF benchtop device, including ultrafilter     |
| H2Opro-UF-B  | Arium® Pro UF wall-mounted device, including ultrafilter |

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

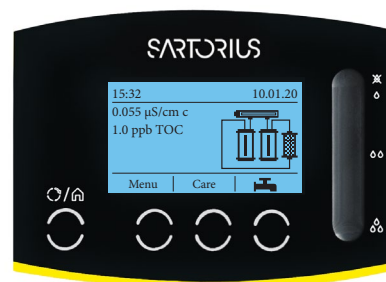
# Arium® Pro VF

## Description

The Arium® Pro VF is the high-end instrument and produces ASTM Type 1 ultrapure water for both critical biological and critical analytical applications.

In addition to water treatment via the Analytical Kit, using activated carbon and ion exchange resins, the Arium® Pro VF combines the advantages of the Arium® Pro UV and Arium® Pro UF in one system.

The combination of integrated UV lamp (185|254) and ultrafilter thus not only provides a reduction of organic contamination to a minimum (TOC  $\leq$  2 ppb), but also simultaneously removes endotoxins, as well as DNases and RNases. This makes the Arium® Pro VF ideal for a variety of different critical applications in the laboratory.



Current TOC values can be continuously measured by the optionally integrated TOC monitor and shown on the display.

An Arium® Sterile Plus can also be connected to the consumer endpoint to protect against particulate and bacterial contamination.

## Product Water Quality

|   |   |
|---|---|
| Water purification method               | Adsorption by means of spherical activated carbon, deionization, ultrafiltration, UV irradiation, optional end-position particle and sterile filtration |
| Water type                              | ASTM Type 1 ultrapure water   |
| Output                                  | 102 L/h   |
| Water dispensing flow rate <sup>4</sup> | 0.1 - 1.7 L/min, adjustable   |
| Volume-controlled dispensing            | 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 - 50 L in 5 L steps  |
| Volume accuracy <sup>5</sup>            | 3% between 0.25 L and 50 L  |
| Conductivity <sup>1</sup>               | 0.055 µS/cm compensated to 25 °C  |
| Resistivity <sup>1</sup>                | 18.2 MΩ × cm compensated to 25 °C   |
| TOC <sup>3</sup>                        | $\leq$ 2 ppb  |
| Bacteria <sup>2</sup>                   | < 0.001 CFU/mL  |
| Particle content <sup>2</sup>           | No particles > 0.2 µm   |
| Endotoxin                               | < 0.001 EU/ml   |
| RNase concentration                     | < 1 pg/mL   |
| DNase concentration                     | < 5 pg/mL   |

<sup>1</sup> Measured value output adjustable to 25 °C, compensated or uncompensated

<sup>2</sup> When using an Arium® Sterile Plus final filter

<sup>3</sup> Feedwater < 50 ppb TOC

<sup>4</sup> At a dynamic flow pressure of 2 bar, depending on the connected accessory or final filter

<sup>5</sup> Under constant operating conditions

## Ordering Information

### Arium® Pro VF systems, for the production of ASTM Type 1 ultrapure water

Scope of supply: 1 Arium® Pro VF with UV lamp (185 | 254 nm), ultrafilter, water guard and connection set

| Order number    | Description   |
|-----------------|---|
| H2Opro-VF-T     | Arium® Pro VF benchtop device, including UV lamp and ultrafilter                  |
| H2Opro-VF-B     | Arium® Pro VF wall-mounted device, including UV lamp and ultrafilter              |
| H2Opro-VF-T-TOC | Arium® Pro VF benchtop device, including UV lamp, ultrafilter and TOC monitor     |
| H2Opro-VF-B-TOC | Arium® Pro VF wall-mounted device, including UV lamp, ultrafilter and TOC monitor |

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

### Additional product water specifications when connected to an Arium® Smart Station<sup>1</sup> final filter

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

<sup>1</sup> Connected to an Arium® Pro DI, UV, UF and VF

<sup>2</sup> When using an Arium® Sterile Plus (Sartopore® 2 150 final filter)

<sup>3</sup> When using an Arium® Cell Plus final filter

<sup>4</sup> Depending on the connected Arium® Pro, hydrostatic pressure, connected accessories or end filter

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



# Accessories

## 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® Pro DI, Pro UF, Pro UV and Pro VF

# 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 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.

Additionally, for maximum flexibility, you can connect up to three Smart Stations to the Arium® Pro. By using the available hose extension set, the distance between each dispense device, can be extended up to 4 meters.

Furthermore, different point-of-use filters for different applications can be added to the individual Smart Stations, as required.

## Arium® Smart Station Ultrapure:

Supplies ultrapure water from Arium® Pro



# Technical Specifications | Ordering Information

| Dimensions Smart Station Bench-Top                |   |
|---|---|
| Control box with stand<br>(w × d × h)             | 213 × 213 × 598 mm<br>(8.4 × 8.4 × 8.2")    |
| Operating range fixed<br>dispense arm (d × w × h) | 428 × 476 × 835 mm<br>(16.9 × 18.7 × 32.9") |
| Tubing Length:<br>Distance to water system        | 2 Meter                                     |
| Operating range flexible hand<br>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<br>(6.8 × 6.2 × 13.5") |
| Operating range<br>dispense arm (d × w × h) | 242 × 90 × 300 mm<br>(9.5 × 3.5 × 11.8")  |
| Tubing Length:<br>Distance to water system  | 2 Meter                                   |
| Operating range flexible hand<br>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,<br>2.5 A (max.) 2 °C - 40 °C |
| Power cord (IEC 60320-1 /<br>C14) | Country specific  |

| Order number  | Description   |
|---------------|---|
| H2O-ARST-UP-T | Arium® Smart Station Ultrapure<br>for benchtop installation     |
| H2O-ARST-UP-B | Arium® Smart Station Ultrapure for<br>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 for the Arium® Smart Station can be found in the Arium® Smart Station data sheet.

## Intended Use

Device type:

- Arium® Pro DI, Pro UF, Pro UV and Pro VF

# 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 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 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® Pro, Pro DI, Pro UF, Pro UV and Pro VF

# 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 dispense 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® Pro DI, Pro UF, Pro UV, and Pro VF

# Arium® Level Sensor

## Practical filling of separate tanks

- Flexible water transport to any location
- Any tank system can be filled

## Description

The level sensor makes it easy to connect an external water storage tank and subsequently fill a tank with ultrapure water.



## Technical Specifications | Ordering Information

|                     |                |
|---------------------|----------------|
| Level sensor length | 88 mm          |
| Connection diameter | 2.03 cm (max.) |
| Drill hole          | 1.65 cm        |
| Cable length        | 3 m            |

| Order number | Description               |
|--------------|---------------------------|
| H2O-ALS1     | Arium® Level Sensor, 1 pc |

### Intended Use

Device type:

- Arium® Pro DI, Pro UF, Pro UV, and Pro VF

# 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"><li>▪ Input: 100–240 V~</li><li>▪ Output: 24 V-; 2.5 A</li></ul> |

| 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® Pro, Pro DI, Pro UF, Pro UV and Pro VF

# Consumables

## Arium® Pro Cartridge Sets

### Pretreatment and post-treatment cartridge using top-down technology

- High performance capacity thanks to efficient ion exchange resins
- Effective adsorption of impurities through high-grade activated carbon
- Optimized flow pattern, prevents separation of the mixed resin bed
- Patented connection process simplifies the replacement of consumables



### Description

The cartridge sets are optimized for the removal of both organic and inorganic constituents. Every set has been 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 purification materials such as highly effective activated carbon coupled with a efficient ion-exchange

resins deliver long-lasting performance and thereby ensure long maintenance intervals.

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 carbons<br>Ultrapure mixed bed ion exchange resin |
| Feed water requirements | see "Technical Specifications" page 2  |

| Order number | Description   |
|--------------|---|
| H2O-A-PACK   | Analytical Kit, Arium® Pro cartridge set for biological, analytical and standard ultrapure water applications, 1 pc |
| H2O-B-PACK   | Biological Kit, Arium® Pro cartridge set for biological ultrapure water applications, 1 pc                          |
| H2O-E-PACK   | Elemental Kit, Arium® Pro cartridge set for standard ultrapure water applications, 1 pc                             |
| H2O-U-PACK*  | Universal Kit, Arium® Pro cartridge set for untreated feed water*, 1 pc   |

### Intended Use

Device type:

- H2O-A-PACK Arium® Pro VF and Pro UV
- H2O-B-PACK Arium® Pro UF
- H2O-E-PACK Arium® Pro and Pro DI
- H2O-U-PACK\* Arium® Pro, Pro DI, Pro UF, Pro UV and Pro VF

\* With the Universal Kit, Arium® Pro can be directly fed with untreated drinking water to produce ultrapure water. The appropriate Sartorius application specialists should be consulted to check the feed water specifications.



# 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          |

| General Specifications        |                                       |
|-------------------------------|---------------------------------------|
| Pore size                     | 0.45 µm × 0.2 µm                      |
| Filtration area               | 0.015 m <sup>2</sup>                  |
| 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), 0.2 µm pore size, 1 pc |

### Intended Use

Device type:

- Arium® Smart Station Ultrapure
- Arium® Pro, Pro DI, Pro UF, Pro UV and Pro VF

# Arium® UV Lamp (185 | 254 nm)

## Ultrapure water, free of TOC

- Horizontal installation, optimized temperature gradient
- Effectively removes 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 down to a TOC (total organic carbon)  $\leq 2$  ppb\*



## Technical Specifications | Ordering Information

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### Typical Specifications

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TOC value for product water\*  $\leq 2$  ppb

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### Order number

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611CEL1

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### Description

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Arium® UV Lamp (185 | 254 nm), 1 pc

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### Intended Use

Device type:

- Arium® Pro UV and Pro VF

\* Feed water < 50 ppb TOC

# Arium® Ultrafilter

## Ultrapure water, free from endotoxins, DNases and RNases

- High flow rates
- Integrity tested
- Long service lives
- Certified quality

## Description

The hollow-fiber ultrafilter utilizes crossflow technology to reliably remove bacterial endotoxins, micro-organisms and particles, as well as DNases and RNases from the ultrapure water.

The filters are developed and produced in accordance with a DIN EN ISO 9001|DIN EN 46 001 certified quality assurance system which fulfills the prerequisites of the Quality System Regulation (Regulation on Quality Systems of the FDA) 21 CFR Part 820. During the manufacturing process, every unit is integrity tested to meet the highest quality standards and safety regulations.



## Technical Specifications | Ordering Information

### Materials

|                            |  |
|----------------------------|--|
| Membrane                   | Polysulfone  |
| Composite material         | Polyurethane (PUR)                                 |
| Housing, caps              | Polycarbonate (PC)                                 |
| Plugs                      | Polypropylene (PP)                                 |
| Efficient membrane surface | 2.1 m <sup>2</sup>                                 |
| Max. operating pressure    | 3 bar at room temperature                          |
| Sterilization              | 200 ppm sodium hypochlorite, 45 min, max. 1 x/week |

### Tank volume

|               |        |
|---------------|--------|
| Lumen         | 152 ml |
| Filtrate side | 306 ml |

### Reduction of nucleases

|                     |           |
|---------------------|-----------|
| RNase concentration | < 1 pg/ml |
| DNase concentration | < 5 pg/ml |

### Retention of bacteria and endotoxins

|                          |            |
|--------------------------|------------|
| Brev. diminuta           | LRV 7 - 10 |
| E. coli O55:B5 endotoxin | LRV > 3,5  |
| Natural endotoxins       | LRV > 3,0  |

### Dimensions of the fibers

|                                 |                |
|---------------------------------|----------------|
| Interior diameter               | 215 µm         |
| Wall thickness                  | 50 µm          |
| Molecular weight cut-off (MWCO) | 5,000 (= 5 kD) |

| Order number | Description              |
|--------------|--------------------------|
| 611CDU5      | Arium® Ultrafilter, 1 pc |

### Intended Use

Device type:

- Arium® Pro VF and Pro UF

# Arium® Cleaning Solution

## Effective cleaning for a long lifetime

- Highly effective cleaning
- Free of organic components
- Surfactant-free
- Gentle on the materials

## Description

With this cleaning agent, the regular removal of impurities that develop during water purification is easy and effective, this results in higher flow rates and longer service lives.

This highly effective agent is already filled in 50 mL syringes and ready for direct connection.



## Technical Specifications | Ordering Information

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### Ingredients

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Sodium hypochlorite

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### Order number

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611CDS1

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### Description

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Arium® Cleaning Solution,  
50 mL cleaning solution  
filled into syringes, 1 pc

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### Intended Use

Device type:

- Arium® Pro UF and Pro VF

# 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:

[www.sartorius.com/service](http://www.sartorius.com/service)




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