arium® pro Ultrapure Water Systems

Application-Orientated and Flexible to Meet the Highest Demands

Water Purification in Laboratories

arium® pro ultrapure water systems

- Modular – selection of five systems specially for your application
- Flexible – perfect fit to every laboratory environment
- Easy to use – glass touch display with intuitive menu navigation

Description
The arium® pro series offers a flexible and modular system which, compared to conventional devices, demonstrates excellent cost efficiency.

All systems meet and exceed the ASTM Type 1 water quality standards and ensure the best reproducible results in their class. Up to 120 l of consistently high-quality ultrapure water with a conductivity of 0.055 µS/cm (≙ 18.2 MΩ × cm) can be dispensed each hour.
The ultrapure water is virtually microorganism-free when a Sartopore® 2 150 end filter is used.

The patented Sartorius technology, SD card slot, long service life, and low maintenance requirement distinguish the arium® pro systems as easy-to-use, efficient and reliable Type 1 ultrapure water systems.

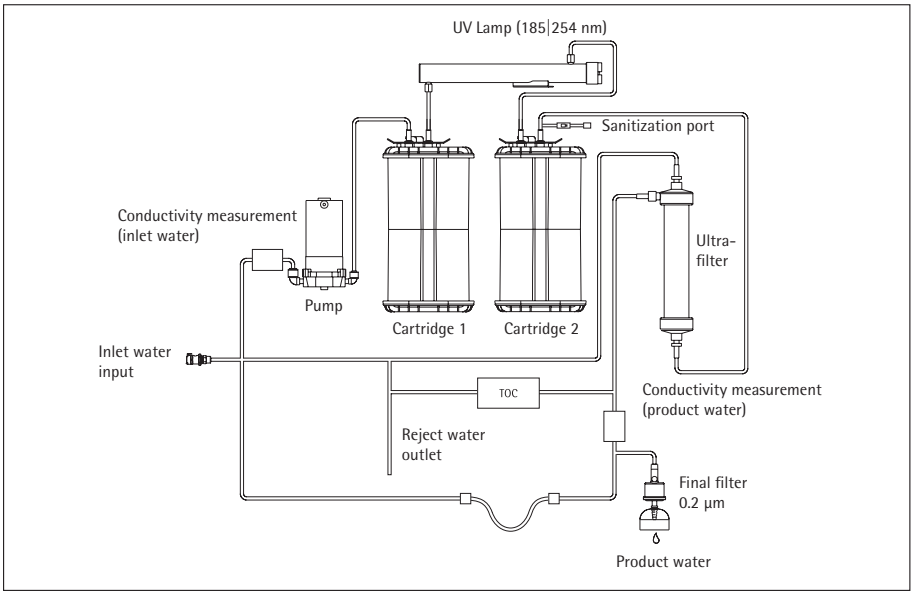
Applications

- HPLC, GC-MS
- Biological applications e.g. Cell Culture
- Standard Applications such as preparation of solutions, media and reagents

Modular
The selection of five systems contains module components specially tailored to your application. arium® pro supplies the desired level of ultrapure water quality for any critical and standard applications.

Flexible
The space-saving installation of the device on, under, or above your workstation integrates it perfectly into any laboratory. The display-dispense unit can be flexible positioned.

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



Flow chart arium® pro VF TOC

Technical Specifications

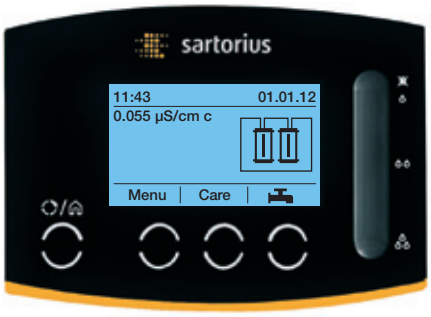
Dimensions: Width × height × depth	35.0 × 49.2 × 45,1 cm
Empty weight	17 – 19 kg, depending on system type
Operating weight	27 – 29 kg, depending on system type
Power supply	100 – 240 VAC (± 10%); 50 – 60 Hz, 130 VA (max.)
Operating temperature	2 °C – 35 °C at max. 80% rel. humidity
Storage temperature	5 °C – 45 °C at max. 80% rel. humidity
Data output	SD card slot[2], RS-232 interface

Feed Water Quality
Water purified by reverse osmosis, distillation or Deionisation.[1]

Input pressure	0 – 6.9 bar, recomm. > 2 bar
Temperature	2 – 30 °C
Specific conductivity	< 100 µS/cm compensated to 25 °C
TOC content	< 50 ppb
Turbidity	< 1 NTU
pH value	4 – 10

[1] To operate arium® pro with non-treated drinking water the Universal Kit could be used in most cases. In order to verify the specifications of your feed water, please contact the Sartorius Application Support.
[2] Not applicable for arium® pro

arium® pro DI and arium® pro



Standard Applications
- AAS, ICP-MS
- Ion chromatography
- Preparation of reagents
- Photometry

Description
The arium® pro DI is a highly efficient water treatment system and the ultrapure water quality exceeds the ASTM Type 1 quality standard.

Water is purified by a three-stage process. In the first two stages, both organic and inorganic components are removed reliably from the feed water by using the specially developed Elemental Kit cartridges. The third purification stage is performed using a Sartopore® final filter, which is connected directly at the point of use and removes particles and bacteria.

The arium® pro offers an even more affordable alternative. Reduced to the essential features, it produces ultrapure water – without any compromises.

Product water quality

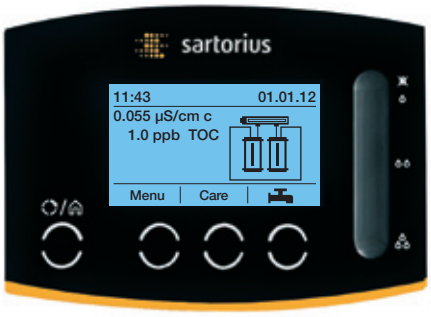
Water purification methods	Adsorption by spherical activated carbon, deionization, optional final particle and sterile filtration
Type of water	ASTM Type 1 ultrapure water
Output	120 l/h
Water dispensing flow rate	0.1 – 2 l/ min. adjustable
Volume controlled output[4]	2 l/min in 100 ml, 1 l or 5 l steps, depending on total dispense between 0,1 l and 60 l
Volume accuracy[5]	3 % in the range of 0.25 l and 60 l
Conductivity[1]	0.055 µS/cm compensated to 25 °C
Resistivity[1]	18.2 MΩ × cm compensated to 25 °C
TOC content[3]	≤ 5 ppb
Microorganism content[2]	< 1 CFU/1,000 ml
Particle content[2]	< 1/ml

arium® pro DI and pro systems for producing ASTM Type 1 ultrapure water
Equipment supplied: 1 arium® pro and Connection Set

Order Number	Description
H2Opro-DI-T	arium® pro DI Bench-Top system in a compact design for every laboratory workstation
H2Opro-DI-B	arium® pro DI space saving Wall-Mounted system with integrated wall bracket
H2Opro-DI-D	arium® pro DI Built-In system, space saving in every laboratory cabinet, with integrated wall bracket for display-dispense unit
H2Obasic-T	arium® pro Bench-Top system in a compact design for every laboratory workstation
H2Obasic-B	arium® pro space saving Wall-Mounted system with integrated wall bracket

[1] Measured value output is adjustable to 25 °C compensated or non-compensated
[2] When using a Sartopore® 2 150 end filter
[3] Feed water < 50 ppb TOC content
[4] At 2 bar pressure, depending on the connected accessories and end filter
[5] Under constant operating conditions

arium® pro UV



Chemical-Analytical Applications
- HPLC
- GC-MS, AAS, ICP-MS
- Ion chromatography
- TOC-Analysis
- Photometry

Description
Like arium® pro DI, the arium® pro UV features three-stage purification technology. Yet it additionally uses photooxidation to remove organic components.

With two different wavelengths, the horizontally positioned UV lamp (185 | 254 mm) prevents microbial growth and reliably reduces organic compounds to a TOC value of ≤ 2 ppb.

Perfectly matched to support photooxidation technology, the Analytical Kit cartridges optimize water purification and specifically remove inorganic and organic substances.

The current TOC values are continuously measured by the optionally integrated TOC monitor and shown on the display.

Product water quality

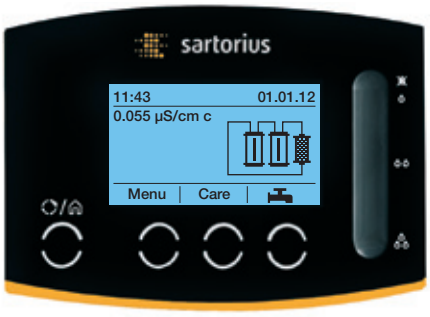
Water purification methods	Adsorption by spherical activated carbon, de-ionization, UV-irradiation, optional final particle and sterile filtration
Type of water	ASTM Type 1 ultrapure water
Output	120 l/h
Water dispensing flow rate	0.1 – 2 l/ min. adjustable
Volume controlled output[4]	2 l/min in 100 ml, 1 l or 5 l steps, depending on total dispense between 0,1 l and 60 l
Volume accuracy[5]	3 % in the range of 0.25 l and 60 l
Conductivity[1]	0.055 µS/cm compensated to 25 °C
Resistivity[1]	18.2 MΩ × cm compensated to 25 °C
TOC content[3]	≤ 2 ppb
Microorganism content[2]	< 1 CFU/1.000 ml
Particle content[2]	< 1/ml

arium® pro UV systems for producing ASTM Type 1 ultrapure water
Equipment supplied: 1 arium® pro with UV Lamp (185 | 254 nm) and Connection Set

Order Number	Description
H2Opro-UV-T	arium® pro UV Bench-Top system in a compact design for every laboratory workstation, incl. UV Lamp
H2Opro-UV-B	arium® pro UV space saving Wall-Mounted system with integrated wall bracket and incl. UV Lamp
H2Opro-UV-D	arium® pro UV Built-In system, space saving in every laboratory cabinet, with integrated wall bracket for display-dispense unit and incl. UV Lamp
H2Opro-UV-T-TOC	arium® pro UV Bench-Top system in a compact design for every laboratory workstation, incl. UV Lamp and TOC Monitor
H2Opro-UV-B-TOC	arium® pro UV space saving Wall-Mounted system with integrated wall bracket, incl. UV Lamp and TOC Monitor
H2Opro-UV-D-TOC	arium® pro UV Built-In system, space saving in every laboratory cabinet, with integrated wall bracket for display-dispense unit, incl. UV Lamp and TOC Monitor

[1] Measured value output is adjustable to 25 °C compensated or non-compensated
[2] When using a Sartopore® 2 150 end filter
[3] Feed water < 50 ppb TOC content
[4] At 2 bar pressure, depending on the connected accessories and end filter
[5] Under constant operating conditions

arium® pro UF



Biological Applications
- AAS, ICP-MS
- Ion chromatography
- Electrophoresis
- Endotoxin-Analysis
- Immunocytochemistry
- Nutrient media for cell culture
- Production of monoclonal antibodies
- Photometry

Description
In addition to featuring highly efficient purification components, such as active carbon and highly effective ion exchange resin, the arium® pro UF ultrapure water system additionally includes a hollow-fiber ultrafilter. This ultrafilter uses crossflow technology to reliably remove endotoxins, microorganisms and particles, as well as DNases and RNases from ultrapure water. As a result, this filter makes the arium® pro UF ideal for use in cell cultivation, electrophoresis, and many other related applications.

Supported by the top-down flow technology incorporated into Biological Kit cartridges, the system produces ASTM Type 1 ultrapure water of the highest quality.

Product water quality

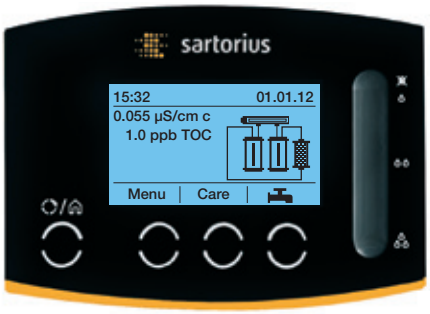
Water purification methods	Adsorption by spherical activated carbon, deionization, ultrafiltration, optional final particle and sterile filtration
Type of water	ASTM Type 1 ultrapure water
Output	120 l/h
Water dispensing flow rate	0.1 – 1.7 l/min. adjustable
Volume controlled output[4]	1.7 l/min in 100 ml, 1 l or 5 l steps, depending on total dispense between 0,1 l and 60 l
Volume accuracy[5]	3 % in the range of 0.25 l and 60 l
Conductivity[1]	0.055 µS/cm compensated to 25 °C
Resistivity[1]	18.2 MΩ × cm compensated to 25 °C
TOC content[3]	< 5 ppb
Microorganism content[2]	< 1 CFU/1,000 ml
Particle content[2]	< 1/ml
Endotoxin	< 0.001 EU/ml
RNase content	< 0.004 ng/ml
DNase content	< 0.024 pg/µl

arium® pro UF systems for producing ASTM Type 1 ultrapure water
Equipment supplied: 1 arium® pro with Ultrafilter and Connection Set

Order Number	Description
H2Opro-UF-T	arium® pro UF Bench-Top system in a compact design for every laboratory workstation, incl. Ultrafilter
H2Opro-UF-B	arium® pro UF space saving Wall-Mounted system with integrated wall bracket and incl. Ultrafilter
H2Opro-UF-D	arium® pro UF Built-In system, space saving in every laboratory cabinet, with integrated wall bracket for display-dispense unit and incl. Ultrafilter

[1] Measured value output is adjustable to 25 °C compensated or non-compensated
[2] When using a Sartopore® 2 150 end filter
[3] Feed water < 50 ppb TOC content
[4] At 2 bar pressure, depending on the connected accessories and end filter
[5] Under constant operating conditions

arium® pro VF



Chemical-Analytical, Biological, and Standard Applications

- HPLC, GC-MS, AAS, ICP-MS, IC
- PCR
- Electrophoresis
- Endotoxin-Analysis
- Immunocytochemistry
- Nutrient media for cell culture
- Production of monoclonal antibodies
- Photometry

Description

This high-end unit delivers ultrapure water of the highest quality and combines the purification technology of the arium® pro UF and pro UV units all into one system.

The integrated, horizontal UV lamp (185 | 254 mm), together with a hollow-fiber ultrafilter, not only prevents microbial growth and reduces the TOC content to a minimum of ≤ 2 ppb, but also additionally removes endotoxins, microorganisms and particles, as well as DNases and RNases. As a result, it is the perfect solution for a large number of critical applications in the laboratory.

Current TOC values are continuously measured with the highest accuracy by the optionally integrated TOC monitor and displayed on the screen.

Product water quality

Water purification methods	Adsorption by spherical activated carbon, de-ionization, ultrafiltration, UV irradiation, optional final particle and sterile filtration
Type of water	ASTM Type 1 ultrapure water
Output	120 l/h
Water dispensing flow rate	0.1 – 1.7 l/min. adjustable
Volume controlled output[4]	1.7 l/min in 100 ml, 1 l or 5 l steps, depending on total dispense between 0,1 l and 60 l
Volume accuracy[5]	3 % in the range of 0.25 l and 60 l
Conductivity[1]	0.055 µS/cm compensated to 25 °C
Resistivity[1]	18.2 MΩ × cm compensated to 25 °C
TOC content[3]	≤ 2 ppb
Microorganism content[2]	< 1 CFU/1,000 ml
Particle content[2]	< 1/ml
Endotoxin	< 0.001 EU/ml
RNase content	< 0.004 ng/ml
DNase content	< 0.024 pg/µl

arium® pro VF systems for producing ASTM Type 1 ultrapure water

Equipment supplied: 1 arium® pro with UV lamp (185 | 254 nm), Ultrafilter and Connection Set

Order Number	Description
H2Opro-VF-T	arium® pro VF Bench-Top system in a compact design for every laboratory workstation, incl. UV Lamp and Ultrafilter
H2Opro-VF-B	arium® pro VF space saving Wall-Mounted system with integrated wall bracket, incl. UV Lamp and Ultrafilter
H2Opro-VF-D	arium® pro VF Built-In system, space saving in every laboratory cabinet, with integrated wall bracket for display-dispense unit, incl. UV Lamp and Ultrafilter
H2Opro-VF-T-TOC	arium® pro VF Bench-Top system in a compact design for every laboratory workstation, incl. UV Lamp, Ultrafilter and TOC Monitor
H2Opro-VF-B-TOC	arium® pro VF space saving Wall-Mounted system with integrated wall bracket, incl. UV Lamp, Ultrafilter and TOC Monitor
H2Opro-VF-D-TOC	arium® pro VF Built-In system, space saving in every laboratory cabinet, with integrated wall bracket for display-dispense unit, incl. UV Lamp, Ultrafilter and TOC Monitor

[1] Measured value output is adjustable to 25 °C compensated or non-compensated
[2] When using a Sartopore® 2 150 end filter
[3] Feed water < 50 ppb TOC content
[4] At 2 bar pressure, depending on the connected accessories and end filter
[5] Under constant operating conditions

arium® Dispense Gun

Ergonomic Water Dispensing with an up to 3.7 m Working Radius

- Extended working area of 3.7 m
- Available with a height-adjustable stand or wall mounting bracket
- Ergonomic design
- Easy-to-use
- Sterile-grade filters connectable

Description
The arium® dispense gun is an ergonomic, easy-to-handle dispensing unit that is excellently suited for dispensing ultrapure water.

Depending on the working environment, you can save space by mounting the dispense gun on the wall or on a stand that is height-adjustable up to 70 cm.

Moreover, the stand lets you work in a relaxed position and allows optimal adjustment to different sized sampling vessels. Thanks to the extended tubing, the work area has an expanded radius to up to 2.5 m away from the arium® unit and another 1.2 m to the stand.

It is also easy to install a sterile-grade filter (Sartopore® 2 150 capsule) with 0.2 µm pore size for guaranteed sterile and particulate-free water dispensing.

Technical Specifications

Materials	
Stand	Aluminum (gray anodized)
Dispense gun	Plastic, white finish
Tubing	PVDF
Dimensions without tubing [W × H × D]	
Dispense gun with stand	18.5 × 59.5 × 51.0 cm
Dispense gun with wall mounting bracket	9.0 × 10.0 × 28.5 cm
Weight without tubing	
Dispense gun with stand	5.60 kg
Dispense gun with wall mounting bracket	0.46 kg

Intended Use
arium® comfort I and comfort II
arium® pro DI, pro UF, pro UV and pro VF
arium® 611

Order Number	Description
H2Opro-AMDG1	arium® Dispense Gun inclusive height-adjustable Stand, qty. 1 unit
H2Opro-AMDG2	arium® Dispense Gun inclusive wall mounting kit, qty. 1 unit

arium® Multifunction Stand

All Menu Functions Directly at the Dispensing Port

- Visual quality control directly at the water-dispensing port
- System control directly at the work place
- Optimal customization to the variously sized sampling vessels
- Water dispensing using the slider
- Radius extends up to 2.5 meters
- Sterile-grade filters connectable

Description

The multifunction stand not only extends the working radius up to 2.5 meter from arium® ultrapure water system, but at the same time enables the control of the unit and monitors the ultrapure water quality directly at the dispensing port. The bracket is integrated in the stand to which the flexible arium® display is mounted. This creates a combination that provides complete access to the menu with all its functions along with the practical convenience of a dispense gun.

Moreover, the over 70 cm height-adjustable stand lets you work in a relaxed position one-handedly and allows optimal adjustment to different sized sampling vessels.

It is also easy to install a sterile-grade (filter Sartopore® 2 150 capsule) with 0.2 µm pore size for guaranteed sterile and particulate-free water dispensing.

Technical Specifications

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

Intended use for arium® built-in units (D-version):
arium® comfort I and comfort II
arium® pro DI, pro UF, pro UV and pro VF

Order Number	Description
H2Opro-ADM1	arium® Multifunction Stand, height-adjustable, including display-mounting kit, for arium® Built-In systems. qty. 1 unit

arium® Water Guard

Early Detection of Leakages Protects the Laboratory

- Highly sensitive optical sensor
- Audiovisual alarm signals
- Automatic water-stop in case of leakage
- High-grade material, non-corrosive
- Easy to install
- Integrated wall mounting bracket for magnetic 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 leakage 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. The sensitive, optical sensors and high-grade materials mean that the arium® water guard is perfect for all ultrapure and pure water systems.

Technical Specifications

Sensor Dimensions	
Diameter	5 cm
Height	2.5 cm
Cable length	2 m
Tubing Connections	
Input	3/8" plug connection
Output	3/8" plug connection
Power supply	100 – 240 VAC 50 – 60 Hz

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

Order Number	Description
610AWG1	arium® Water Guard, qty. 1 unit

arium® Foot Switch

More Convenient Pure Water Dispensing

- Water dispensing at a press of the foot
- Ideally suited for clean rooms, minimize the risk of contamination
- Comfortable fatigue-free switching thanks to low height

Description
Easy-to-connect foot switch for starting and stopping the water dispensing.
The rugged foot switch frees up both hands for other tasks, such as changing vessels, and minimizes the risk of contamination in the cleanroom.

Technical Specifications

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
Connector	Phoenix plug, 2-pin

Intended Use
arium® comfort I and comfort II
arium® pro DI, pro UF, pro UV and pro VF

Order Number	Description
H2O-AFS1	arium® Foot Switch, qty. 1 unit

arium® Level Sensor

Practically Separate Tank Filling

- Flexible water transport to anywhere
- Can fill every tank system

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

Technical Specifications

Length Level Sensor	88 mm
Diameter Connection	2.03 cm (max.)
Bore	1.65 cm
Cable length	3 m

Intended Use
arium® pro DI, pro UF, pro UV and pro VF

Order Number	Description
H2O-ALS1	arium® Level Sensor, qty. 1 unit

arium® Printer

GMP Data Logging Make Easy

- Acquisition and documentation of current measurement data

Description
Current measurements can be output to the printer via an RS-232 interface to support qualification and documentation tasks.

Technical Specifications

Dimensions [W × H × D]	21.5 × 7.8 × 15.5 cm

Intended Use
arium® comfort I and comfort II
arium® pro DI, pro UF, pro UV and pro VF
arium® 611, 612 and 613

Order Number	Description
611APR1	arium® Printer, qty. 1 unit

arium® pro Cartridge Sets

Pre-treatment and Post-treatment Cartridge Utilizing Top-Down Technology

- High performance capacity thanks to efficient ion-exchange resin
- Fast and effective absorption of impurities through high-grade activated carbon
- Optimized crossflow behavior, prevents separation of the resin mixed-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. Such consistently high water quality is a guarantee for optimal reproducibility of your results.

Optimized cartridge materials such as highly effective activated carbon coupled with a highly efficient ion-exchange resin 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

Materials	
Housing	high-grade polypropylene
Mounting screws	stainless steel
Cleaning media	spherical catalytic effective activated carbon ultrapure, mixed bed ion exchange resin
Feed water requirements	see "Technical specifications" page 2

Exchange capacity at 18.2 MΩ × cm ultrapure water related to $CaCO_3$

	[Grain]	[Equivalent]
Analytical Kit	965	1.25
Biological Kit	1,141	1.48
Elemental Kit	1,268	1.64
Universal Kit	965	1.25

Intended Use

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 UVand pro VF

Order Number	Description
H2O-A-PACK	Analytical Kit, arium® pro Cartridge Set for biological, chemical-analytical and standard ultrapure water applications, qty. 1 unit
H2O-B-PACK	Biological Kit, arium® pro Cartridge Set for biological ultrapure water applications, qty. 1 unit
H2O-E-PACK	Elemental Kit, arium® pro Cartridge Set for standard ultrapure water applications, qty. 1 unit
H2O-U-PACK*	Universal Kit, arium® pro Cartridge Set for non-treated drinking water*, qty. 1 unit

*) To operate arium® pro with non-treated drinking water the Universal Kit could be used in most cases.
In order to verify the specifications of your feed water, please contact the Sartorius Application Support.

arium® Sterile-grade Filter

Sterile and Particle-free Water Dispensing

- Excellent service lifetime and flow rate
- Integrity tested
- Validated acc. to HIMA and ASTM F-838-05
- Meets WFI quality standards acc. to USP incl. USP plastic class VI test
- Manufacture acc. to DIN ISO 9001
- Easy to install
- Automatic venting
- Certified quality

Description

The arium® sterile-grade filter (Sartopore® 2 150) is a sterile, ready-to-use membrane filter capsule for the most stringent requirements. Sartopore® 2 150 membrane filter capsules contain a hydrophilic, heterogeneous polyethersulfone double membrane. It enables an excellent service life and output. The capsule is attached, by a quick connector, at the final position and reliably removes all particles. A hydrophobic PTFE membrane at the farthest point „upstream" allows for easy and clean venting of the capsule.

All pleated Sartopore® 2 membrane filter units are validated as sterile filters for biopharmaceutical applications according to the HIMA and ASTM F-838-05 guidelines (documentation available). During the manufacturing process, every unit is tested for integrity in order to meet the highest quality standards and safety regulations.

Technical Specifications

Materials	
Membranes	Asym. Polyethersulfone
Filling bell	Polycarbonate
Other plastics	Polypropylene
Pore size	0.45 µm + 0.2 µm
Filtration area	0.015 m^2
Input and output	1/4" plug connection
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

Intended Use

On Dispense Guns and Display-Dispense Unit for system type:
arium® comfort I and comfort II
arium® pro, pro DI, pro UF, pro UV and pro VF
arium® 611
arium® bagtank Dispense Gun
arium® Dispense Gun

Order Number	Description
5441307H4--CE--B	arium® Sterile-grade Filter (Sartopore® 2 150 capsules), 0.2 µm pore size, qty. 5 units

arium® UV Lamp (185 | 254 nm)

Ultrapure Water, Free of TOC

- Horizontal installation, optimize temperature gradient
- Effectively destroys organic compounds
- Reduces microbiological growth
- 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), effectively preventing microbiological growth. Organic compounds oxidize at 185 nm, whereas 254 nm prevents microbiological growth.

Technical Specifications

Material	quartz glass
TOC-content product water*	< 2 ppb

Intended Use

arium® comfort I and comfort II
arium® pro UV and pro VF
arium® 611 UV and VF

* Feed water < 50 ppb TOC content

Order Number	Description
611CEL1	arium® UV Lamp (185 | 254 nm), qty. 1 unit

arium® Ultrafilter

Ultrapure Water, Free of Endotoxines, 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, microorganisms and particulates, as well as DNases and RNases from the ultrapure water.

The filters have been developed and manufactured according to DIN EN ISO 9001 | DIN EN 46 001 certified quality assurance system that meets the requirements of the FDA's Quality System Regulation 21 CFR Part 820. During the manufacturing process, every unit is integrity tested to meet the highest quality standards and safety regulations.

Technical Specifications

Materials	
Membrane	polysulfone
Composites	polyurethane (PUR)
Housings, Caps	polycarbonate (PC)
Plugs	polypropylene (PP)
Effective membrane area	2.1 m^2
Max. pressure	3 bar at room temperature
Sanitization	200 ppm sodium hypochlorite, 45 min, max. 1×/week
Filling volume	
Lumen	152 ml
Filtrate area	306 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 fibers	
Inner diameter	215 µm
Wall thickness	50 µm
Molecular Weight Cut Off (MWCO)	5.000 (= 5 kD)

Intended Use
arium® pro VF and pro UF
arium® 611 VF and UF

Order Number	Description
611CDU5	arium® Ultrafilter, qty. 1 unit

arium® Biofilm Cleaning Syringes

Effective Removal of Microorganisms for a Long Lifetime

- Highly effective against biofilms (consisting of bacteria, fungi etc.)
- Free of organic components (TOC)
- Tenside-free
- Gentle on the environment and materials

Description

With this cleaning agent, the regular removal of the biofilms that develop during water purification is easy and effective. Biofilms especially develop on the concentrate side of ultrafilters. If biofilms are removed regularly, higher flow rates and longer lifetimes result.

This highly effective solution is prefilled in 50 ml syringes and directly ready for use. It does not form any trihalogenmethane, chloramines, hydrochloric acid or chlorate. The cleaning agent is non-caustic and degrades into NaCl and water.

Technical Specifications

Ingredients

- Sodium hypochlorite
- Hydrogen peroxide
- Sodium chloride
- Hypochlorous acid

Intended Use

arium® pro DI, pro UF, pro UV and pro VF
arium® 611

Order Number	Description
611CDS2	arium® Biofilm Cleaning Syringes, prefilled in 50 ml syringes, qty. 2 units
611CDS6	arium® Biofilm Cleaning Syringes, prefilled in 50 ml syringes, qty. 6 units

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