

# arium® comfort I

**Space-saving Twin Technology** 



arium® comfort I with iJust

#### Description

Sartorius presents the compact, environmentally friendly, reliable, and easy-to-use arium comfort I for producing ASTM Type 1 ultrapure water and Type 3 pure water combined in a single system. The system contains state-of-the-art reverse osmosis technology, and a unique cartridge specially for the production of the highest quality ultrapure water. Compared to conventional water systems, the arium comfort I optimizes water consumption using the integrated iJust control unit. This unique display with touch function and intuitive menu navigation ensures the most ease of use.

With the optional integrated TOC Monitor, its compact design, the flexible display and the SD card slot, the arium® comfort I is the optimal choice for any critical laboratory applications.

#### **Applications**

- HPLC
- GC-MS, AAS, ICP-MS
- Ion chromatography
- TOC-Analysis
- Photometry
- Buffer solutions
- Feed water for laboratory devices, such as autoclaves, glassware washers etc.

#### **Lowest TOC content**

The optional integrated UV lamp (185 | 254 nm) avoids microbiological growth and reduces the content of TOC to a minimum. Reproducible and reliable results are guaranteed due to the low TOC content of up to  $\leq$  2 ppb.

#### iJust

The iJust conceals an innovative technology that optimizes the water consumption and the quality of the product-water. The intelligent arium® software controls a valve on the concentrate outlet corresponding to the measurement data for CaCO<sub>3</sub> and CO<sub>2</sub>.

- Optimized, economic water consumption
- Premium product-water quality at all times
- Guaranteed longer life of down-stream ultrapure water systems

#### Display with touch function

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

Safe -

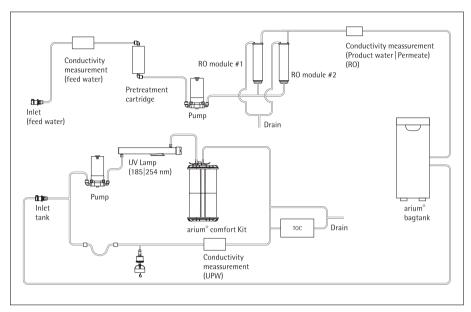
TOC content ≤ 2 ppb for reproducible results

Optimized water

consumption –automatic with iJust

Easy to use -

display with touch function and intuitive menu



Flow chart arium® comfort I (H2O-I-2-TOC-T)

#### **Technical Specifications**

Water purification methods	Adsorption by spherical activated carbon, catalyst, reverse osmosis, deionization, UV radiation, optional final particle and sterile filtration
Dimensions: Width × height × depth	43.5 × 50.1 × 47.6 cm
Empty weight	approx. 23 kg
Operating weight	approx. 31 kg
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, RS-232 interface

# arium® comfort I systems for producing ASTM Type 1 ultrapure water and Type 3 pure water

Equipment supplied: 1 arium® comfort I, Reverse Osmosis Module(s) and Connection Set, optional with UV Lamp, TOC Monitor

Order Number System without UV Lamp and TOC Monitor	Order Number System incl. UV Lamp	Order Number System incl. UV Lamp and TOC Monitor	Description
H2O-l-1-T	H2O-I-1-UV-T	H2O-I-1-TOC-T	arium® comfort I Bench-Top system in a compact design for every laboratory workstation, Type 3 production flow rate 8 l/h
H2O-I-1-B	H2O-I-1-UV-B	H2O-I-1-TOC-B	arium® comfort I space-saving Wall-Mounted system with integrated wall bracket, Type 3 production flow rate 8 I/h
H2O-I-1-D	H2O-I-1-UV-D	H2O-I-1-TOC-D	arium® comfort I Built-In system, space-saving in every laboratory cabinet, with integrated wall bracket for Display-Dispense unit, Type 3 production flow rate 8 I/h
H2O-I-2-T	H2O-I-2-UV-T	H2O-I-2-TOC-T	arium® comfort I Bench-Top system in a compact design for every laboratory workstation, Type 3 production flow rate 16 I/h
H2O-I-2-B	H2O-I-2-UV-B	H2O-I-2-TOC-B	arium® comfort I space-saving Wall-Mounted system with integrated wall bracket, Type 3 production flow rate 16 l/h
H2O-I-2-D	H2O-I-2-UV-D	H2O-I-2-TOC-D	arium® comfort I Built-In system, space-saving in every laboratory cabinet, with integrated wall bracket for Display-Dispense unit, Type 3 production flow rate 16 I/h

### **Product Water Quality**

Type of water	ASTM Type 1	Type 3
Output <sup>6</sup>	120 l/h	8 or 16 l/h
Water dispensing flow rate <sup>4</sup>	up to 2 I/min	up to 3 I/min
Volume controlled output <sup>4</sup>	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 <sup>5</sup>	3 % in the range of 0.25 l and 60 l	-
Typical conductivity <sup>5</sup>	-	< 20 μS/cm
Typical resistivity <sup>5</sup>	-	$< 0.05  \text{M}\Omega \times \text{cm}$
Conductivity <sup>1</sup>	0.055 μS/cm compensated to 25 °C	-
Resistivity <sup>1</sup>	18.2 M $\Omega \times$ cm compensated to 25 °C	-
TOC content <sup>3</sup> (System with UV Lamp)	≤ 2 ppb	-
TOC content <sup>3</sup> (System without UV Lamp)	< 5 ppb	-
Microorganism content <sup>2</sup>	< 1 CFU/1,000 ml	< 1 CFU/1,000 ml
Particle content <sup>2</sup>	< 1/ml	< 1/ml
Typical Ion retention	-	up to 98%
Retention of dissolved organic substances (MW > 300 Dalton)	-	> 99 %
Particle and microorganism retention	-	> 99 %

### Feed Water Quality

Exclusively potable water acc. to the drinking water regulations of the USA, the European Union, or Japan.

Input pressure	0.5 – 6.9 bar, recomm. > 2 bar
Temperature	2-30 °C
Specific conductivity	< 1,500 μS/cm compensated to 25 °C
TOC content	< 2,000 ppb
Max. permanent hardness (max. CaCO <sub>3</sub> )	360 ppm
Free chlorine	< 4 ppm
Iron (total Fe content)	< 0.1 ppm
Fouling Index (SDI)	< 5
Turbidity	<1 NTU
pH value	4 – 10

 <sup>&</sup>lt;sup>1</sup> Measured value output is adjustable to 25 °C compensated or non-compensated
 <sup>2</sup> When using an arium® Sterile Filter (Sartopore® 2 150)
 <sup>3</sup> Determined with municipal water (Goettingen), TOC < 1,000 ppb</li>
 <sup>4</sup> Depending on the arium® bagtank design, hydrostatic pressure, connected accessories and end filter

<sup>&</sup>lt;sup>5</sup> Under constant operating conditions

<sup>&</sup>lt;sup>6</sup> Depending on the feed water pressure, temperature, and condition of the RO Modules

# arium® bagtanks The most innovative tank system



- Integrated venting filter with check valve securely protects against CO<sub>2</sub> contamination
- Optional rollers provide highest flexibility
- Easy replacement of arium® bags, with no time-consuming sanitization
- High operation safety, no use of cleaning agents

#### Description

Pure water is stored in the innovative, closed arium® bagtank system. Here, the prepared pure water is securely protected from secondary contaminations. The arium® bagtank system enables high water quality over an extended period, thereby providing for long-term, reproducible results. In contrast to typical water tanks, the arium® bag provides a high degree of user safety and saves time by the elemination of complex sanitization processes with chemicals.

arium® bagtanks are housings that are equipped with arium® bags. The arium® bagtanks are available in 20 l, 50 l, and 100 l volumes. Their space-saving design is adaptable to any laboratory environment, and the optional rollers make the system extremely flexible.

Integrated distribution pumps are a standard components of the 50 I and 100 I bagtanks. An optional additional pump is also available for a 20 I bagtank. Also available is a wall bracket for a space-saving and user-friendly installation of the arium® bagtank 20.

### Water dispensing flow rate

with pump <sup>1</sup>	up to 3.0 I/min
with pump, dispense gun and sterile-grade filter <sup>2</sup>	up to 2.0 I/min
without pump <sup>2</sup>	up to 1.5 l/min

#### Intended Use

System type: arium® comfort I and comfort II, arium® advance RO and advance EDI

#### **Technical Specifications**

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Materials	
bagtank	Stainless steel plastics
bag	S71 Film
Tubing	PE silicon
Dimensions, with brackets [H×W×	out rollers and wall [D]
bagtank 20	$80.8 \times 16.6 \times 43.7$ cm
bagtank 50	85.2×25.4×58.7 cm
bagtank 100	$85.2 \times 51.4 \times 58.7$ cm
bag 20 l	86.5 × 43.0 cm
bag 50 l	90.0×58.1 cm
Empty weight wit Operating weight	thout arium <sup>®</sup> bag  t with filled arium <sup>®</sup> 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 liter
bagtank 50	1 × 50 liter
bagtank 100	2×50 liter
Power supply <sup>1</sup>	240 VAC (± 10%), 50 Hz, 120 VA (max.)
Power supply, US versions <sup>1</sup>	115 VAC (± 10%), 60 Hz, 170 VA (max.)
Operating temperature	2°C-35°C at max. 80% relative humidity
Storage temperature	5°C–45°C at max. 80% relative humidity
Water connection input	1 × <sup>3</sup> /8" PLC Quick Coupling
Water connection	n output
bagtank 20 <sup>1</sup>	1 × 3/8" PLC Quick Coupling
bagtank 50, bagtank 100	2 × 3/8" PLC Quick Coupling

### Order Number Description

H2O-AOV-20 <sup>3</sup>	arium <sup>®</sup> bagtank 20 I, without pump, qty. 1 unit
H2O-AOV-50 <sup>3</sup>	arium® bagtank 50 I, with pump 240 VAC 50 Hz, qty. 1 unit
H2O-AOV-50-US <sup>3</sup>	arium® bagtank 50 I, with pump 115 VAC 60 Hz, qty. 1 unit
H2O-AOV-50-W <sub>3</sub>	arium® bagtank 50 l, without pump, qty. 1 unit
H2O-AOV-100 <sup>3</sup>	arium® bagtank 100 I, with pump 240 VAC 50 Hz, qty. 1 unit
H2O-AOV-100-US <sup>3</sup>	arium® bagtank 100 I, with pump 115 VAC 60 Hz, qty. 1 unit
H2O-AOV-100-W <sup>3</sup>	arium® bagtank 100 l, without pump, qty. 1 unit
H2O-ADP-20	arium pump <sup>®</sup> bagtank 20 I, 240 VAC 50 Hz, qty. 1 unit
H2O-ADP-20-US	arium pump <sup>®</sup> bagtank 20 l, 115 VAC 60 Hz, qty. 1 unit
H2O-ATR	Rollers for arium® bagtank 50 & bagtank 100, incl. fittings, qty. 4 units
H2O-CBS-20	arium® 20 I bag for arium® 20 I bagtank, qty. 2 units
H2O-CBS-50	arium® 50 l bag for arium® 50 l and 100 l bagtank, qty. 2 units
H2O-ATB	Wall bracket for arium® bagtank 20, qty. 1 unit

<sup>&</sup>lt;sup>1</sup> bagtank 20 is supplied without pump, pump optionally available

<sup>&</sup>lt;sup>2</sup> Value only applies for bagtank 20 dispensing site at the same height or lower than the tank connection

<sup>&</sup>lt;sup>3</sup> Note: The arium<sup>®</sup> bag is not included in the equipment supplied with the arium<sup>®</sup> bagtank

## arium<sup>®</sup> 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<sup>®</sup> dispense gun is an ergonomic, easyto-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 heightadjustable 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 tube guide, 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**

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Materials	
Stand	Aluminum (gray anodized)
Dispense gun	Plastic, white finish
Tubing	PVDF
Dimensions withou	ut tubing [W v H v D]

#### Dimensions without tubing [W $\times$ H $\times$ D]

Dispense gun with stand  $18.5 \times 59.5 \times 51.0$  cm Dispense gun with wall  $9.0 \times 10.0 \times 28.5$  cm mounting bracket

#### Weight without tubing

Dispense gun with stand 5.60 kg Dispense gun with wall 0.46 kg mounting bracket

#### Intended Use

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

Bestellnummer	Beschreibung
H2Opro-AMDG1	arium <sup>®</sup> Dispense Gun inclusive height-adjustable Stand, qty. 1 unit
H2Opro-AMDG2	arium <sup>®</sup> Dispense Gun inclusive wall mounting kit, gty. 1 unit

## arium® bagtank Dispense Gun

#### Ergonomic water dispensing from the arium® bagtank with a working radius of up to 3.7 m



- Extended work area of 3.7 m
- Available with height-adjustable stand or with wall brackets
- Ergonomic design
- Easy-to-use
- Sterile-grade filter can be connected

#### Description

The arium® dispense gun is an ergonomically designed, easy-to-use dispensing unit and is perfectly suited for dispensing pure water.

Depending on the work environment, either position the dispense gun on the wall to save space or on the 70 cm height-adjustable stand. Moreover, the stand lets you work in a relaxed position and allows optimal adjustment to different sized sampling vessels. The extended tube guide ensures a work area 2.5 m away from the arium® bagtank or pressure tank and a further 1.2 m from the stand.

A sterile-grade Sartopore<sup>®</sup> 2 150 capsule with 0.2 µm pore size can be easily connected for quaranteed sterile and particle-free water dispensing.

### Order Number Description

613-AMDG1	arium <sup>®</sup> Dispense Gun inclusive height-adjustable Stand, qty. 1 unit
613-AMDG2	arium <sup>®</sup> Dispense Gun inclusive wall mounting kit, qty. 1 unit

#### **Technical Specifications**

Materials	
Stand	Aluminum (gray anodized)
Dispense gun	Plastic, white finish
Tubing	PE

#### Dimensions without tubing $[W \times H \times D]$

Dispense gun with stand  $18.5 \times 59.5 \times 51.0$  cm Dispense gun with wall  $9.0 \times 10.0 \times 28.5$  cm mounting bracket

#### Weight without tubing

Dispense gun with stand 5.60 kg

Dispense gun with wall 0.46 kg mounting bracket

#### Intended Use for arium bagtanks:

arium® bagtank 20\* arium® bagtank 50 arium® bagtank 100 arium<sup>®</sup> pressure tank 30 arium® pressure tank 50 arium® pressure tank 70

arium® pressure tank 100

\* suitable only with optionally available distribution gmug

## arium® Display Mounting Kit

#### 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 display mounting kit 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  $\mu m$  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<sup>®</sup> comfort I and comfort II arium<sup>®</sup> pro DI, pro UF, pro UV and pro VF

Order Number	Description
H2Opro-ADM1	arium <sup>®</sup> Display Mounting Kit, height-adjustable,
	for arium <sup>®</sup> Ruilt-In systems, gtv, 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 final filters connectable

#### Description

The multifunction stand combines the convenience of a display mounting stand and the flexibility of a remote dispense gun. With these components integrated all into one unit, the multifunction stand enables pure water to be dispensed on demand in the different quantities needed.

Pure water can be dispensed in a number of ways, ranging from volume-controlled removal to time-controlled dispensing or manual removal. Whichever the user's application, the combination dispensing unit set up as a stationary unit or used as a portable device offers the user the best option for dispensing. Moreover, the user can check the downstream pure water quality and control the lab water system directly at the dispensing point.

As the stand can be adjusted by up to a height of 70 cm, or more than 2 ft., and the tube guide can be extended by up to 2.5 m,

or more than 8 ft., the user's working radius can be optimally adapted to his or her specific requirements.

For dispensing pure water that is guaranteed to be sterile and free of particles, a sterile final filter (Sartopore® 2 150 Capsule) with a 0.2 µm pore size can be easily connected to the point-of-use outlet.

#### **Technical Specifications**

Materials	
Stand	Aluminum (gray anodized)
$\begin{array}{l} \textbf{Dimensions} \\ [\textbf{W} \times \textbf{H} \times \textbf{D}] \end{array}$	$22.0 \times 59.5 \times 25.5$ cm
Weight	5.60 kg

# Intended use for arium® built-in units (D-version):

arium<sup>®</sup> comfort I and comfort II arium<sup>®</sup> pro DI, pro UF, pro UV and pro VF

Order Number	Description
H2O-ADD	arium <sup>®</sup> Multifunction Stand, display mounting kit with dispense gun, height-adjustable, for arium <sup>®</sup> Built-In systems. qty. 1 unit

# arium® Foot Switch More convenient pure water dispensing



- Water dispensing at a press of the foot
- Ideally suited for laminar-flow and 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 <sup>®</sup> Foot Switch, 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**

 $\begin{array}{c} \textbf{Dimensions} \\ [\textbf{W} \times \textbf{H} \times \textbf{D}] \end{array}$ 

 $21.5\times7.8\times15.5~\text{cm}$ 

#### **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® Sterile 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 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 and micro-organisms in the last water purification step. 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 <sup>2</sup>
Input and output	1/4" plug connection
Sterilization	Autoclaving at 134°C,
(max. 3 cycles)	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
5441307H4CEB	arium <sup>®</sup> Sterile Filter (Sterile-grade Sartopore <sup>®</sup> 2 150 capsules),
	0.2 μm pore size, gty. 5 units

# arium® comfort Pre-Treatment Cartridge Reliable protection of the comfort RO modules



- Fast and effective adsorption of impurities through high-grade activated carbon
- A highly efficiently catalyst removes 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 the pre-treatment. It highly efficiently removes free chlorine and, unlike pure activated carbon, does so even at low temperatures and or high pH. In addition to preventing deposits from forming, the catalyst diminishes fouling processes and inhibits microbiological growth.

The patented cartridge design ensures minimal time expenditure with ultra-easy installation and replacement.

#### **Technical Specifications**

high-grade polypropylene
Spherical catalytic effective activated carbon
18×26×11 cm
3.5 kg
see "Technical specifications" page 2

#### **Intended Use**

arium® comfort I and comfort II

Order Number	Description
H2O-CPF	arium® comfort Pre-Treatment Cartridge, qty. 2 units

# arium® comfort Kit

### Deionization cartridge featuring top-down technology



- High performance capacity thanks to efficient ion-replacement resins
- Fast and effective adsorption of impurities through high-grade activated carbon
- Optimized flow progression, 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. The set was 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 reproduceability of your results.

Optimized filling materials, such as highly effective activated carbon coupled with highly efficient ion-replacement 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**

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Materials	
Housing	high-grade polypropylene
Mounting screws	stainless steel
Cleaning media	spherical catalytic effective activated carbon ultrapure, semiconductor- grade mixed bed ion exchange resin
Further data for product water quality	see "Technical specifications" page 2

#### Intended Use

arium® comfort I and comfort II

Order Number	Description
H2O-C-PACK	arium <sup>®</sup> comfort Kit, qty. 1 unit

# 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 quarantees easy installation and reliable operation. Each of the two modules contain a low-energy reverse osmosis membrane in a polypropylene housing. The housing has connections for feed water, permeate (product water) and concentrate (waste water). The RO Modules typically enable high recovery rates. This optimize the water consumption while still retaining at least up to 98% of the ions. 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 allows for the immediate dispensing of high quality water.

#### **Technical Specifications**

Low-energy membrane made of polyamide
Polypropylene
Module
30.8 cm
7.8 cm
0.468 kg
see "Technical specifications" page 2

#### **Intended Use**

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

Order Number	Description
613CPM4V	arium® RO Modules, qty. 2 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 (UV & TOC version) arium® pro UV and pro VF arium® 611 UV and VF

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

# arium® RO Module Cleaning Set Maximum Service Life of the RO Module



- Effective removal of scaling and metal fouling
- Elimination of organic compounds
- Dispersion of colloids
- Stable pH values
- Gentle on materials

#### Description

Two-stage cleaning system for removing scaling and organic contaminants.

The alkaline substance contains non-foaming tensides that dissolve organic compounds and disperse colloids. The tensides do not remain on the membrane surface and can be quickly removed. The cleaning efficiency depends on the pH value that can be safely maintained over a wide temperature range by the contained buffer substances.

The acidic cleaning agent to remove scaling contains chelate and reducing agents in order to dissolve metallic fouling. The ideal pH value also remains consistently low over a wide range during cleaning in this case thanks to the buffers.

#### **Technical Specifications**

Ingredients	
Alkaline cleaner	HEDTA, ethanolamine, triethanolamine
Acidic cleaner	HEDTA, phosphoric acid, citric acid

#### **Intended Use**

System type: arium® comfort I and comfort II arium® advance RO and advance EDI arium® 612 and 613

Order Number	Description
H2O-CCS	arium <sup>®</sup> RO Module Cleaning Set, 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
<b>Tubing Connect</b>	ions
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 <sup>®</sup> Water Guard, qty. 1 unit

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