sartorius

arium® Water Purification Systems

turning science into solutions

DOMINIQUE DUTSCHER SAS

arium® Laboratory-grade Water Purification Systems

Our arium® laboratory-grade water purification systems inspire with their application-oriented operating designs. They enable you to perform your workflows faster and more reliably, make your daily lab work easier and ensure long-term economical operation. All instruments offer the ultimate flexibility, since they can be perfectly integrated into your laboratory environment and adapted to your requirements.

A choice of more than 70 arium® versions is available to meet all your requirements on water quality and to cover any application. The arium® bagtanks and the innovative iJust function specially matched to these versions enable significantly more cost-effective water usage and efficient operation of these water purification systems than do conventional units. All arium® systems are already certified when delivered. Plus, we offer equipment qualification and maintenance as supplementary services to considerably extend their uses even further.

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with Added Value

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Reliable Processes Thanks to the Highest Water Quality

Low detection limits and sensitive analysis devices require laboratory-grade water with consistently high quality. You can always rely on the arium® laboratory-grade water purification systems to provide you with reliable results for your critical and analytical applications. They meet the highest quality requirements and thus ensure the best reproducible results.

Innovative arium® bagtank System for Time Savings and User Safety

Pure water is stored in the closed arium® bagtank system, which reliably protects purified water from secondary contamination. This ensures consistently high water quality and, therefore, reproducible results.

Unlike conventional tank systems, arium® bagtank technology saves time because the bag can be replaced in less than 5 minutes. At the same time, it increases your users' safety because the bagtank eliminates time-consuming cleaning procedures with hazardous chemicals. The rollers on the arium® bagtank let you move it fast and conveniently to wherever you need to use it.

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Easy Operation Using Touch-activated Functions

You name it, from adjusting basic settings to dispensing water, all functions of the arium® can be controlled by touch screen. Navigate intuitively through the logical user interface – even while wearing gloves. Virtual real-time updates of measured data, flow charts and warning messages are displayed at all times.

Water dispensing can be carried out manually using the slider, the foot switch or via the Favorites function. The latter, in particular, simplifies daily dispensing of recurrent volumes.

Less Waiting Means More Cost Savings

Consumables, i.e., the filter cartridges, can be quickly and easily changed out. This minimizes maintenance and downtime.

Optimized Water Usage with iJust

The clever iJust feature automatically optimizes your purified water quality and water usage. Its intelligent software controls a valve on the concentrate drain based on the data measured for $CaCO_3$ and CO_2.

The advantages:
- Ensures more economical water usage
- Provides the highest purified water quality at all times
- Extends the life of downstream water purification systems

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More Flexibility

The different modules of arium® systems offer the perfect solution for every task in the laboratory. The display is positioned at eye level. You can set up the dispensing location exactly where you need it. Depending on your given space requirements, the system can be integrated as desired at any location within the laboratory.

Benchtop Unit

Space-saving, compact design; water is dispensed directly at the display level.

Remote Dispenser with Stand

The remote dispenser features an ergonomic design. Moreover, its height can be adjusted by up to 70 cm (around 30 inches = more than 2 feet). Both of these features enable you to work effortlessly using just one hand. The extended tube guide lets you expand your work area by 3.7 m, or more than 12 ft. This remote dispenser can be used in combination with all benchtop, wall-mounted and built-in units.

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Wall-mounted Unit

The wall-mounted unit saves valuable space on your lab benchtop. The display and dispensing unit are positioned at the bottom to ensure user-friendly, ergonomic operation.

Built-in Unit

This version saves space on and above your lab bench. You can choose to mount both the display and water dispensing units on a wall or on a multifuntional stand.

Remote Dispenser with Wall-mounting Plate

This ergonomically designed and easy-to-use remote dispenser is simply mounted on a wall to save space. It is suitable for all benchtop, wall-mounted and built-in units.

Multifunctional Stand

This convenient stand combines a design that allows unlimited access to all display and dispensing functions and flexibility provided by its height that is adjustable by up to 70 cm (around 30 inches).

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Exactly the Right System – Always

A selection of more than 70 different varieties offers tailor-made solutions without any compromises for all applications.

Features

iJust
Optimized purified water quality and water usage; extends the life of downstream ultrapure water systems

arium® bagtank System
Reliable protection against secondary contamination; easy change-out of the arium® bag saves time; protects users as it eliminates the need for hazardous cleaning chemicals

Display with Touch-activated Functions
Clearly organized user interface featuring intuitive navigation; continuous display of measured data and warning messages

High-quality Features
Integrated feed water conductivity measurement standard on all units; integrated pressure controller, integrated space for depositing utensils, and many more convenient features

Maximum System Flexibility
A variety of hardware configurations; operating and dispensing unit can be flexibly positioned; easy and space-saving integration

The Highest Water Quality
Meets and exceeds ASTM Type 1; excellent retention rates for RNases, DNases and endotoxins, and reduces TOCs; ideal for demanding biological and analytical applications, such as cell cultivation and chromatography

SOP Monitoring
Graphic and acoustic signals for displaying maintenance prompts, alarm messages when limits are exceeded or data falls below minimum limits as well as maintenance interval prompts

"Favorites" function
Quick access to pre-programmed volume dispensing

EDI technology
Consistently high Type 2 water quality; desalted electrochemically

Type of Water

ASTM Type 1

Type 2

Type 3

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arium® comfort Series

Combined pure and ultrapure water systems

arium® pro Series

Ultrapure water systems; any application-specific configuration can be selected

arium® advance Series

Pure water systems

	✓		✓
	✓		✓
	✓	✓	✓
	✓	✓	✓
	✓	✓	✓
	✓	✓	
	✓	✓	✓
	✓	✓	
	comfort II		advance EDI

comfort I and comfort II	All arium® pro units	
comfort II		advance EDI
comfort I		advance RO

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arium® comfort Series

The arium® comfort lab water systems combine pretreatment and final treatment technologies into one device. Featuring a compact design, they provide ultrapure and pure water of the highest quality. The pure water produced is kept in a closed arium® bagtank. This guarantees optimal storage of the purified water and protects against secondary contamination. The replaceable bag eliminates time-consuming tank cleaning intervals.

The optional UV lamp (185 | 254 nm) built into the ultrapure water loop also prevents microbiological growth and reduces the TOC content to a minimum. The current TOC value is continuously checked by an optionally integrated TOC monitor and displayed for convenient verification.

Features

Safe
TOC content ≤ 2 ppb for reproducible results; continuously updated TOC readings can be conveniently viewed on the display

Efficient
Optimized water usage ensured by intelligent iJust feature

Easy
Glass display with touch-activated functions and intuitive menu navigation

Time-saving
The arium® bagtank system provides reliable protection against secondary contamination and eliminates the need for regular tank cleaning

Space-saving
Compact design saves valuable work space

Fast
"Favorites" function for direct access to pre-programmed volume dispensing

Critical Application (Type 1)

- HPLC
- GC-MS, AAS, ICP-MS
- Ion chromatography
- TOC analysis
- SPE (solid phase extraction)

Standard Applications (Type 2 | Type 3)

- Microbiological media and reagents
- Histology
- ELISA, RIA
- Buffers and pH solutions
- Feed water for laboratory devices, such as autoclaves, glassware washers, humidifiers, water baths, etc.

Water Quality

- Conductivity for Type 1: 0.055 µS/cm (≅ 18.2 MΩ × cm)
- Typical conductivity for Type 2: 0.2–0.07 µS/cm (≅ 5–15 MΩ × cm)
- Typical conductivity for Type 3: < 20 µS/cm (≅ > 0.05 MΩ × cm)
- TOC content for Type 1: ≤ 2 ppb
- Microorganisms: < 1 CFU/1,000 ml
- Particles: < 1/ml

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Type 1 | Type 2 Water

Type 1 | Type 3 Water

arium® comfort II

The arium® comfort II delivers up to 2 L/min of ASTM Type 1 ultrapure water, as well as 5 L/h or 10 L/h of Type 2 pure water. The additional EDI technology downstream from the RO modules optimizes the system and offers highly efficient ion retention with a quality ranging from 0.2 to 0.07 µS/cm.

arium® comfort I

The arium® comfort I provides up to 2 L/min of ASTM Type 1 ultrapure water, as well as 8 L/h or 16 L/h of Type 3 pure water. Feed water is treated with a pretreatment cartridge and downstream RO modules; continuous permeate backflushing effectively prevents deposits and fouling.

	arium® comfort II	arium® comfort I
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		✓
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	✓	✓
	✓	✓

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Type 1 Water

arium® pro Series

The arium® pro ultrapure water systems provide the ultimate flexibility and an excellent cost-benefit ratio because their device configurations are specially tailored to your applications.

All systems meet and exceed the ASTM Type 1 water quality standards and ensure the best reproducible results. Up to 2 L/min of ultrapure water with a conductivity of 0.055 µS/cm (≅ 18.2 MΩ × cm) can be dispensed in consistently high quality.

Features

Reliable
TOC content ≤ 2 ppb for reproducible results; current TOC readings can be read directly on the display

Complete range
Five systems specially customized to meet your specific applications

Flexible
Adapts to any laboratory environment thanks to flexible positioning of the system, control unit and dispensing unit

Easy
Glass display with touch-activated functions and intuitive menu navigation

Fast
"Favorites" function for direct access to pre-programmed volume dispensing

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Type 1 Water

arium® pro

The arium® pro is a particularly cost-effective system. It focuses on the most important functions and produces ultrapure water in uncompromising quality.

Standard Applications

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

Water Quality

- Conductivity: 0.055 µS/cm (≅ 18.2 MΩ × cm)
- TOC content: < 5 ppb
- Microorganisms: < 1 CFU/1,000 ml
- Particles: < 1/ml

arium® pro DI

The arium® pro DI delivers ultrapure water for standard applications of any kind. The Elemental Kit comprising a set of cartridges reliably removes organic and inorganic components; the TOC content of ultrapure water produced is < 5 ppb.

Standard Applications

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

Water Quality

- Conductivity: 0.055 µS/cm (≅ 18.2 MΩ × cm)
- TOC content: < 5 ppb
- Microorganisms: < 1 CFU/1,000 ml
- Particles: < 1/ml

arium® pro UV

In arium® pro UV, the Analytical Kit cartridges reliably retain organic and inorganic components. The system's integrated UV lamp (185 | 254 nm) prevents microbiological growth and permits TOC values of ≤ 2 ppb.

The current TOC value is continuously checked by the optionally integrated TOC monitor and shown on the display.

Chemical-Analytical Applications

- HPLC
- GC-MS, AAS, ICP-MS
- Ion chromatography
- TOC analysis
- Photometry

Water Quality

- Conductivity: 0.055 µS/cm (≅ 18.2 MΩ × cm)
- TOC content: ≤ 2 ppb
- Microorganisms: < 1 CFU/1,000 ml
- Particles: < 1/ml

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arium® pro UF

In arium® pro UF, the Biological Kit cartridges reliably remove organic and inorganic components. The system's integrated ultrafilter module ensures that the purified water does not contain any endotoxins, RNA | DNA or DNases and RNases.

The arium® pro UF delivers ultrapure water of consistently high quality and offers ideal conditions to ensure the reliability of critical biological results.

Chemical-Analytical and Biological Applications:

- AAS, ICP-MS
- Ion chromatography
- Electrophoresis
- Endotoxin analysis
- Immunocytochemistry
- Culture media for cell cultivation
- Production of monoclonal antibodies
- Photometry

Water Quality

- Conductivity: 0.055 µS/cm (≙ 18.2 MΩ × cm)
- TOC content: < 5 ppb
- Endotoxins: < 0.001 EU/ml
- RNases: < 0.004 ng/ml
- DNases: < 0.024 pg/µl
- Microorganisms: < 1 CFU/1,000 ml
- Particles: < 1/ml

arium® pro VF

This high-end arium® pro VF unit delivers constantly high ultrapure water quality. Its integrated UV lamp (185 | 254 nm) and hollow-fiber ultrafilter module not only prevent microbiological growth and reduce the TOC content to ≤ 2 ppb, but also remove endotoxins, microorganisms, RNA | DNA and DNases and RNases.

This system is the ideal solution for all critical applications in your laboratory.

Chemical-Analytical and Biological Applications

- HPLC
- GC-MS, AAS, ICP-MS
- Ion chromatography
- TOC analysis
- PCR
- Electrophoresis
- Endotoxin analysis
- Immunocytochemistry
- Culture media for cell cultivation
- Production of monoclonal antibodies
- Photometry

Water Quality

- Conductivity: 0.055 µS/cm (≙ 18.2 MΩ × cm)
- TOC content: ≤ 2 ppb
- Endotoxins: < 0.001 EU/ml
- RNases: < 0.004 ng/ml
- DNases: < 0.024 pg/µl
- Microorganisms: < 1 CFU/1,000 ml
- Particles: < 1/ml

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arium® advance Series

The arium® advance EDI and arium® advance RO systems achieve the highest retention rates of ions with an optimal water yield and reliably remove oxidants, heavy metal ions and particles from the feed water. The built-in iJust function also optimizes purified water quality and water usage. Pure water is stored in the innovative, closed arium® bagtank system, which protects this water from secondary contamination.

Features

Efficient
Optimized water usage ensured by the intelligent iJust feature

Easy
Glass display with touch-activated functions and intuitive menu navigation

Time-saving
The arium® bagtank system provides reliable protection against secondary contamination and eliminates the need for regular tank cleaning

Consistently high quality Type 2 water:
State-of-the-art EDI technology

Standard Applications

Microbiological media and reagents
Solutions for chemical analysis and synthesis
Histology
ELISA, RIA
Buffers and pH solutions
Feed water for various laboratory devices, such as autoclaves, glassware washers, humidifiers, water baths, etc.

Water Quality

Typical conductivity: 0.2–0.07 µS/cm (≅ 5–15 MΩ × cm)
Typical conductivity: < 20 µS/cm (≅ > 0.05 MΩ × cm)
Microorganisms: < 1 CFU/1,000 ml
Particles: < 1/ml

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Type 2 Water

Type 3 Water

arium® advance EDI

The arium® advance EDI provides Type 2 pure water in consistently high quality. At a flow rate of 5 L/h or 10 L/h, the system uses the latest EDI technology to ensure reliable and safe removal of impurities in the feed water and reduces the ion content to a minimum.

arium® advance RO

The arium® advance RO provides Type 3 reverse osmosis water. With a flow rate of 8 L/h, 16 L/h or 24 L/h and automatic RO membrane backflushing, the arium® advance RO is the perfect choice for your general laboratory applications.

	arium® advance EDI	arium® advance RO
	✓	
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		✓
	✓	✓
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Service for Ultrapure Water Systems

For many applications in the biopharmaceutical industry, at universities and in clinical settings, the availability of pure and ultrapure water of the highest quality is of great importance. Growing demands and more sensitive analytical equipment are raising the bar higher and higher for pure and ultrapure water. Whether you need laboratory-grade water of Type 1, Type 2 or Type 3, Sartorius has the right system for your specific application and the water quality you require.

We invest in the continuous and thorough training of our application and service specialists so that they understand the full range of your applications and can give you well-founded technical advice in accordance with all legal requirements.

Services Provided

- Installation and startup as well as equipment qualification (IQ | OQ)
- Device configuration based on feed water analysis to achieve the ultimate in ultrapure water quality
- Regular preventive maintenance, including equipment inspection and replacement of consumables
- Extended warranty services

Your Benefits

- Installation and startup by factory-trained service staff so that you can unleash the full potential of your instruments
- Regular preventive maintenance ensures the reliability of the results and your lab water instrumentation
- Detailed service and calibration records verify compliance with all requirements for documentation

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Specifications subject to change without notice. Printed in the EU on paper bleached without chlorine. | W
Publication No.: SI-1532-e150805 · Order No.: 85032-542-45 · Ver. 08 | 2015