

### Type classes for Pure and Ultrapure Water Systems

**Type I:** Ultrapure Water for analytical applications such as cell culture, tissue culture and HPLC (high-performance liquid chromatography) as well as for molecular biology techniques.

**Type II:** Pure Water for buffers and pH repairs, as well as for applications in histology, general reagent preparation and chemistry.

**Type III:** Water from reverse osmosis, for rinsing water baths, autoclaves, hydroponics and glassware and as feed water for Type I Ultrapure Water Systems.

**1**


### 1 Distilled water

Deionized and UV irradiated. Acc to DIN 43530/EN 385. In plastic canister.

#### Specifications

pH value:	<7.0
Conductivity:	<5 µS/cm
Hardness:	<0.02 mmol/l
Chlorine content:	<2 mg/l

Capacity L	PK	Cat. No.
10.0	1	6.273 852
20.0	1	6.280 900
60.0	1	6.289 280

### Deioniser, behropur®

behropur® mixed-bed ion exchangers deliver de-ionized water according to Grade 3 of the ISO 3696 standard, -Water for analytical laboratory use; Specification and test methods. The resins inside the behropur® ion exchangers are of certified quality.

The completely equal distribution of water inside the ion exchanger leads to the maximum utilization of the exchange capacity of the unit. Thus the user benefits from very low conductance water throughout the life cycle of each exchanger charge.

**2**


### 2 Deioniser, behropur®

Heavy-walled, robust and practical mixed bed deioniser in blue polyethylene with free flow output to the reservoir. Also ideal for the post desalination of reverse osmosis systems or for aquariums.

*behr*

- Can be directly connected to the water supply and is immediately ready for operation.
- Automatic venting as water is supplied from below.
- Minimal risk of contamination due to slotted filter in the raw water inlet.
- Nozzles are durable and easy to clean. Highly resistant to abrasion or shocks.
- Extremely sturdy, heavy-duty nozzle welding by the manufacturer's own welding process.
- Resistivity meter fitted.
- B5 and B10 can also be used as wall mounted devices (wall mounting included).
- Also available with water quality cut-out and solenoid valve which engages if specified limits are exceeded and reservoir level control.
- Resistivity control available directly on the unit or remotely at any location.

#### Output data:

Cation exchange capacity*at 10°dH:	<b>B5/B10</b> 500 L/1000 L
Flow max.:	50/100 L/hr.
Dia.:	16/21 cm
Height:	53/63 cm

Type	Description	PK	Cat. No.
B5	unpressurised, complete with resistivity meter	1	9.882 114
B10	unpressurised, complete with resistivity meter	1	9.882 115
B5Z	dual cartridge for unpressurised	1	9.882 116
B10Z	dual cartridge for unpressurised	1	9.882 117
B5A	unpressurised, resistivity meter with water quality cut-out and solenoid valve	1	9.882 118
B10A	unpressurised, resistivity meter with water quality cut-out and solenoid valve	1	9.882 119

\* Limiting value 20 µS

## 12. Environmental-, soil-, water-, food analysis

### Water purification/Pure and ultra-pure water

#### 1 Deionisers, pressure-resistant, behropur®

Compact and secure mixed bed deionisers for small to medium-sized volumes of ultra pure water. Ideal for feeding laboratory washing machines, general requirements in the laboratory, low level consumption in industry and for post-treatment desalination of the output from reverse osmosis systems.

- Optimal utilisation of the deioniser due to totally uniform water distribution in the resin chamber.
- Can be connected directly to the raw water mains without a pressure reducer.
- Back pressure resistant.
- Also available with water quality cut-out and solenoid valve, which engages if specified limits are exceeded, and reservoir level control.
- Resistivity control available directly on the unit or remotely at any location.

<b>Performance data:</b>	<b>B10dN/B22dN/B45dN</b>
Cation exchange capacity at 10°dH:	1200 L/2400 L/5500 L
Flow max.:	300/500/800 L/hr
Dia.:	21/21/26 cm
Height incl. LF:	68/112/125 cm
Height, cartridge only:	55/98/110 cm



Type	Description	PK	Cat. No.
B10dN	Pressure-resistant mixed bed unit, with resistivity meter	1	9.882 120
B10dNZ	behropur water de-ioniser cartridge, nylon, pressure resistant for 9.882 120	1	9.882 123
B10dNA	Pressure-resistant mixed bed unit, with resistivity meter	1	9.882 126
B22dN	Pressure-resistant mixed bed unit, with resistivity meter	1	9.882 121
B22dNZ	behropur water de-ioniser cartridge, nylon, pressure resistant for 9.882 121	1	9.882 124
B22dNA	Pressure-resistant mixed bed unit stivity, meter with water quality cut-out	1	9.882 127
B45dN	Pressure-resistant mixed bed unit, with resistivity meter	1	9.882 122
B45dNZ	behropur water de-ioniser cartridge, nylon, pressure resistant for 9.882 122	1	9.882 125
B45dNA	Pressure-resistant mixed bed unit, meter with water quality cut-out	1	9.882 128
	Quick release coupling for water deionizers pressure resistant	1	4.675 377 2

\* Limit value 20 µS/cm

#### 3 Mixed-bed ion exchanger made of stainless steel

Standard cartridge made of V4A stainless steel for general purpose application: To supply laboratory glassware washers, for general laboratory maintenance and for small industrial consumers. For subsequent demineralization of reverse osmosis systems.

- pressure resistant to 10 bar /8 bar at E40dA
- optimum exploitation of the ion exchanger capacity due to absolute uniform water distribution in the unit
- flow rates up to 700 litres/hour
- the unique behropur® jet nozzle system distributes the raw water over the entire resin bed. This ensures an optimum exchange capacity and quality
- can be connected to the raw water network directly and without a pressure reducer
- resistant to alternating pressure
- hard rubber collars vulcanized to the base and top of the unit offer effective protection
- convenient transport thanks to the handles embedded into the top part of the unit
- conductivity is controlled directly on the unit (installed measuring equipment) or with remote location meter
- Also available with shut-off when the limit value is reached and limit control

<b>Specifications</b>	<b>E 28/E 40 d</b>
Exchange capacity*at 10°dH	2800 litres/4000 litres
Flow max. litres/hour	500/700
Diameter in cm	24/24
Height incl. LF in cm	74/84
Height of cartridge only in cm	60/70



Type	Material	Description	PK	Cat. No.
E28d	Stainless steel V 4A	complete with conductivity meter	1	9.915 730
E40d	Stainless steel V 4A	complete with conductivity meter	1	9.915 731
E28dZ	Stainless steel V 4A	spare cartridge	1	9.915 732
E40dZ	Stainless steel V 4A	spare cartridge	1	9.915 733
E28dA	Stainless steel V 4A	conductivity meter with limit switch and electrovalve	1	9.915 734
E40dA	Nylon	conductivity meter with limit switch and electrovalve	1	9.915 735

\* Limit value 20 µS/cm

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### 1 Ion exchangers DS 450/DS 750, PE

The non-pressurised cartridges, which are suitable for a daily requirement up to 15 litres, are simply replaced after a prolonged period of service. A filter system prevents any resin from escaping.

*Stakpure GmbH*

**Scope of delivery DS 450:** incl. analogue conductivity meter, set of hoses and wall mount.

**Scope of delivery DS 750:** incl. analogue conductivity meter and set of hoses.

**Specifications:**

Pure water quality:	0.1 ... 20 µS/cm
Max. water temperature:	30 °C
Connection:	R ¾"
Power supply:	230 V/50 ... 60 Hz

Type	Description	Capacity*	Flow rate L / h	Weight kg	PK	Cat. No.
DS 450	with non-reusable cartridge	425 l	50	3	1	<b>6.274 373</b>
DS 750	with reusable cartridge	750 l	100	6	1	<b>6.310 979</b>

\* At 10° total dissolved solids

**2**


4.665 496

### Replacement cartridges for ion exchanger DS 450/DS 750, PE

*Stakpure GmbH*

Type	Description	PK	Cat. No.
Exchange cartridges DS 450 (Set of 2)	Also suitable for TKA / Thermo DI 425	2	<b>4.665 496 2</b>
Replacement cartridge DS 750	Also suitable for TKA / Thermo DI 750	1	<b>6.310 981</b>

**3**


### 3 Ion exchangers series DS, stainless steel AISI 316

Pressure resistant stainless steel cartridge, specifically for laboratory applications, with a particularly high capacity and flow rates of up to 1000 litres an hour. The flow system ensures a fast and effective flow through the mixed-bed system with ion-exchange resins.

*Stakpure GmbH*

**Specifications:**

Max. pressure:	10 bar
Pure water quality:	0.1 ... 20 µS/cm
Max. water temperature:	30 °C
Connection:	R ¾"

Type	Capacity*	Flow rate L / h	Diam. mm	Height mm	Weight kg	PK	Cat. No.
DS 1500**	1500 l	300	240	410	14	1	<b>6.310 985</b>
DS 2000**	2000 l	300	240	490	18	1	<b>6.291 565</b>
DS 2800**	2800 l	950	240	579	24	1	<b>6.310 986</b>
DS 4000**	4000 l	1000	240	700	27	1	<b>6.310 987</b>
DS 6000**	6000 l	1000	240	1155	45	1	<b>6.310 988</b>

\* At 10° total dissolved solids

\*\*Hard rubber carrying handles

### Accessories for ion exchangers

*Stakpure GmbH*

Description	PK	Cat. No.
Converting set to quick release nipple for cartridge - R ¾"	1	<b>4.668 478</b>
Converting set to quick release coupling for meter - hose R ¾"	1	<b>4.668 477</b>

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6.291 567

### Analogue conductivity meters AC 100/AW 100/AE 100

Analog conductivity meter for easy and reliable conductivity measurement of pure water. Analogue display of measurement value in µS/cm.

*Stakpure GmbH*

**Scope of delivery:** Measuring cell and set of two 1.5 m hoses.

**Specifications:**

Measuring range:	0.1 ... 50 µS/cm
Connection:	R ¾"
Power supply:	230 V/50 ... 60 Hz

Type	Description	Dimensions (W x D x H) mm	PK	Cat. No.
AC 100	For cartridge installation	93 x 123 x 170	1	<b>6.291 567 4</b>
AW 100	For wall installation	93 x 125 x 96	1	<b>6.310 992</b>
AE 100	For front panel mounting	60 x 43 x 46	1	<b>6.310 993</b>

# 12. Environmental-, soil-, water-, food analysis

## Water purification/Pure and ultra-pure water

### Digital conductivity meters DC 400

Stakpure GmbH

For online measurement of pure and ultrapure water downstream of ionexchange cartridges and for monitoring ring-main systems.

- Large, 2-colour, back-lit graphic digital display
- Direct connection of peripheral equipment at potential-free contact (optionally)
- Wall mounting

**Scope of delivery:** DC 400, connecting cable, plug-type power supply unit, set of two 1.5 m hoses and measuring cell.

**Specifications:**

Conductivity measuring range:	0.1 ... 300 µS/cm
Temperature measuring range:	0.1 ... 50 °C
Conductivity limiting value setting:	0.1 ... 30 µS/cm, infinitely variable
Temperature limiting value setting:	1 ... 50 °C infinitely variable
Signal when limiting value is exceeded:	red/green LED indicator + buzzer (both can be deactivated)
Connector:	R 3/4"
Interface:	potential-free contact (optionally)
Dimensions ( W x D x H):	73 x 32 x 141 mm
Power supply:	110/230 V, 50 ... 60 Hz

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6.291 566

Type	Description	PK	Cat. No.
DC 400	Standard	1	6.291 566 1
DC 400	With potential-free contact	1	6.310 994
DC 400	With potential-free contact and solenoid valve	1	6.310 995

### Accessories for digital conductivity meters DC 400

Stakpure GmbH

Description	PK	Cat. No.
Leakage sensor for DC 400 (14180600 + 14180700)	1	6.310 996

### Filter for behropur® mixed-bed ion exchanger

behr

Filter for pressure-resistant behropur® mixed-bed ion exchangers. Transparent casing. Once added to the ion exchanger, it completely retains even the finest particles and protects your high-quality equipment. Due to the transparent casing of the FG 130, you can see the state of the filter insert at any time and at a glance. Depending on the requirements, you can use a universal filter (5µ) or a carbon filter (20µ). Downstream filters may only be used on pressure-resistant behropur® ion exchangers. Pressure-free exchangers are destroyed by the counter pressure. It could also subsequently result in expensive damage.

**FG 130** behropur® filter housing for filter inserts with a length of 5". Transparent casing made of PP.

Connections 3/4", maximum operating pressure 8bar, max. temp. 50°C

**FE 130** behropur® filter insert, PP, 5µ, length 5", max. pressure 6bar, max. temp. 80°C

**AF 130** behropur® filter insert, carbon, 20µ, length 5", max. pressure 6bar, max. temp. 50°C

Type	PK	Cat. No.
FG 130	1	9.915 736 2
FE 130	1	9.915 737
AF 130	1	9.915 738

2



9.915 736

### 3 Spare cartridge deionisers, stainless steel (V4A)

High quality stainless steel ion exchanger (V4A) pressure resistant up to 10 bar.

High quality and longevity, parts in stainless steel in contact with medium.

Optimized water distribution.

Without conductivity meter. Please order separately.

evoqua

For	Output	Diam.	Height	Weight	PK	Cat. No.
	L / hr.					
SG 2000 SK	450	230	410	16	1	9.914 442
SG 2800 SK	800	230	570	22	1	9.914 452
SG 4500 SK	1000	230	785	33	1	9.914 437
SG 6200 SK	1000	230	1025	46	1	9.914 432
SG 7000 SK	1500	360	670	55	1	6.285 619
SG 11000 SK	1500	360	860	66	1	6.285 620
SG 15000 SK	1500	360	1120	120	1	6.285 621
SG 2000 3/4"	450	230	410	16	1	9.914 512
SG 2800 3/4"	800	230	570	22	1	9.914 509
SG 4500 3/4"	1000	230	785	33	1	9.914 506
SG 6200 3/4"	1000	230	1125	46	1	9.914 587
SG 7000 1 1/4"	2000	360	670	55	1	9.914 502
SG 11000 1 1/4"	2500	360	860	66	1	6.035 607
SG 15000 1 1/4"	3000	360	1120	120	1	6.035 609

3



## Water purification/Pure and ultra-pure water

**1**


### 1 Ultra pure water system OmniaTap

For pure water and ultra pure water Type I + II.

*Stakpure GmbH*

OmniaTap is the ideal system when both pure water and ultrapure water are required, but in relatively small amounts. It provides both types from a single system. These also make it possible to connect the system directly to a drinking water tap. A touch on the flexible OptiFill dispenser button activates dispensing of ultrapure water type I via the digital dispenser control. The recirculation of the pure water held in the installed 10 litre tank keeps it permanently at type II quality.

**Applications:**
**OmniaTap 6/12:** AAS, IC, ICP, buffers and media preparation

**OmniaTap 6 UV/12 UV:** Ultra-trace analysis, ICP-MS, HPLC, TOC-analysis

**OmniaTap 6 UV/UF/12 UV/UF:** Life science and microbiology, cell culture media

**Scope of supply:** Instrument incl. filter cartridges and sterile filter capsule 0.2 µm

**Specifications**
**Type II**

Ultrapure water output:

Resistivity:

Conductivity:

Pure water tank pressurized outlet:

**Type I**

Dispensing performance:

Resistivity:

Conductivity:

Bacteria (with end filter):

Particles (with end filter):

Feed water requirements:

Dimensions (W x D x H):

Weight:

Power supply:

**OmniaTap/OmniaTap UV/OmniaTap UV/UF**

6 or 12 l/h

15-10 MΩ-cm

0.067-0.1 µS/cm

optional

up to 2 l/min

18.2 MΩ-cm

0.055 µS/cm

&lt; 0.1 CFU/ml

&lt; 1/ml

Drinking water according to DIN 2000

390 x 615 x 720 mm

20 kg/21 kg/21 kg

90-240 V, 50/60 Hz

Type	TOC value	Endotoxin content EU/ml	PK	Cat. No.
OmniaTap 6	5-10 ppb	-	1	6.272 145
OmniaTap 6 UV	1-5 ppb	-	1	6.272 146
OmniaTap 6 UV/UF	1-5 ppb	0.001	1	6.272 147
OmniaTap 12	5-10 ppb	-	1	6.272 148
OmniaTap 12 UV	1-5 ppb	-	1	6.272 149
OmniaTap 12 UV/UF	1-5 ppb	0.001	1	6.272 150

### Accessories for Ultra pure water systems OmniaPure/OmniaTap/OmniaLab<sup>ED</sup>

*Stakpure GmbH*

Type	For	PK	Cat. No.
Pre treatment cartridge OmniaPure	OmniaPure	1	6.272 136
Pure water cartridge Omnia 055	OmniaPure / OmniaTap / OmniaLab <sup>ED</sup>	1	6.272 137
Sterile filter capsule 0,2 µm	OmniaPure / OmniaTap / OmniaLab <sup>ED</sup>	1	6.272 138
Bio end filter	OmniaPure / OmniaTap / OmniaLab <sup>ED</sup>	1	6.272 139
Spare UV lamp Omnia 185	OmniaPure / OmniaTap / OmniaLab <sup>ED</sup>	1	6.272 140
UF ultra filtration BIG	OmniaPure / OmniaTap	1	6.272 141
Wall mount Omnia	OmniaPure / OmniaTap	1	6.272 142
Disinfection kit Omnia	OmniaPure / OmniaTap	1	6.272 143
Disinfection solution Omnia	OmniaPure / OmniaTap	1	6.272 144
RO-cartridge	OmniaTap 6	1	6.272 151
RO-cartridge	OmniaTap 12	1	6.272 152
Pre-treatment unit OmniaTap/Lab - 10"	OmniaTap / OmniaLab <sup>ED</sup>	1	6.272 154
Clear water cartridge Omnia 067	OmniaLab <sup>ED</sup>	1	6.272 159
UV tank disinfection unit	OmniaLab <sup>ED</sup>	1	6.272 160
UV flow disinfection Omnia 254	OmniaLab <sup>ED</sup>	1	6.272 161
UV unit for TOC reduction Omnia 185	OmniaLab <sup>ED</sup>	1	6.272 162

### 1 Ultra pure water system OmniaPure

Stakpure GmbH

For ultra pure water Type I.  
 For ultra pure water system of highest quality that fulfils the demands of analytical and life science laboratory requirements. Versatile in configuration, flexible in function, economical in operation. The incorporated pre-treatment constantly ensures the reliability of your experimental results and reduces running costs. Wall-mounting or, to save bench space, in a base cabinet. The standard OptiFill dispenser and monitoring unit enables convenient and precise filling into laboratory vessels.

**Applications:**

- OmniaPure:** AAS, IC, ICP, buffers and media preparation
- OmniaPure UV:** Ultra-trace analysis, ICP-MS, HPLC, TOC-analysis
- OmniaPure UV/UF:** Life science and microbiology, cell culture media
- OmniaPure UV-TOC:** Ultra-trace analysis, ICP-MS, HPLC, TOC measurement
- OmniaPure UV-TOC/UF:** Life science and microbiology, cell culture media, TOC measurement

**Scope of supply:** Instrument incl. filter cartridges and sterile filter capsule 0.2 µm

Specifications	OmniaPure/OmniaPure UV/OmniaPure UV/UF
Ultrapure water output:	up to 2 l/min/up to 2 l/min/up to 1.6 l/min
Resistivity:	18.2 MΩ-cm
Conductivity:	0.055 µS/cm
Bacteria (with end filter):	< 0.1 CFU/ml
Particles (with end filter):	< 1/ml
Feed water conductivity:	< 30 µS/cm
RNase (with UF module):	< 0.01 ng/ml
DNase (with UF module):	< 4 pg/µl
Dimensions (W x D x H):	390 x 525 x 720*mm
Weight:	19 kg/20 kg/20 kg
Power supply:	90-240 V, 50/60 Hz

Type	TOC value	Endotoxin content EU/ml	PK	Cat. No.
OmniaPure	5-10 ppb	-	1	6.272 133
OmniaPure UV	1-5 ppb	-	1	6.272 134
OmniaPure UV/UF	1-5 ppb	0,001	1	6.272 135
OmniaPure UV-TOC	1-5 ppb	-	1	6.312 930
OmniaPure UV-TOC/UF	1-5 ppb	0,001	1	6.312 931

\*with OptiFill Dispenser

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### 2 Ultra pure water system OmniaLab<sup>ED+</sup>

Stakpure GmbH

For pure water and ultra pure water Type I + II.  
 Delivers the complete laboratory pure water and ultra-pure water supply. The system complies with international water standards such as ASTM, ISO 3696 and CLSI. The economy of it is maximized by the inclusion of a continuously self-regenerating electrodeionizer. Further to this, each OmniaLab<sup>ED+</sup>-system holds 100 litres of pure water type II ready for withdrawal in a storage tank that is equipped with quality recirculation. The flexible positioning of the purification modules enables OmniaLab<sup>ED+</sup> to be supplied as a tower-unit (mobile on castors) or, to save space, for fitting in a base cabinet. OmniaLab<sup>ED+</sup> is exactly right as pure water supplier to autoclaves, laboratory washing machines and the dispensing of type I ultra pure water for analytical and bioscience applications.

**Application:** Complete laboratory supply

**Specifications OmniaLab**

**ED20+ / ED40+ / ED70+**

Type II	
Ultrapure water output:	20 l/h/40 l/h/70 l/h
Resistivity:	15-1 MΩ-cm
Conductivity:	0.067 ... 1 µS/cm
Pure water tank pressurized outlet:	optional
Bacteria (with end filter):	< 0.1 CFU/ml
Particles (with end filter):	< 1/ml
Type I	
Resistivity (with ultrapure water cartridge):	18.2 MΩ-cm
Conductivity (with ultrapure water cartridge):	0.055 µS/cm
TOC value (with UV unit):	1 ... 5 ppb
Feed water requirements:	softened water according to DIN 2000
Dimensions Tower (W x D x H):	511 x 575 x 1520*mm
Dimensions base cabinet tank (W x D x H):	511 x 575 x 800 mm
Weight:	43 kg/43 kg/45 kg
Power supply:	90-240 V, 50/60 Hz

Type	PK	Cat. No.
OmniaLab <sup>ED20+</sup>	1	6.272 155
OmniaLab <sup>ED40+</sup>	1	6.272 156
OmniaLab <sup>ED70+</sup>	1	6.272 157

\*with OptiFill Dispenser

2



### 1 Ultrapure water system, arium® pro

ASTM Typ1 water purification system for the high-end user. Whether for routine analysis or critical applications where reagent-grade water is required, the system consistently supplies high quality that is perfect for your applications.

Sartorius Lab Instruments

arium® pro features a convincing innovative design, quality and ease of use. From the intuitive menu navigation to the operator friendly setup, all units in the arium® pro series feature ultra easy operation and ultra high flexibility for producing laboratory-grade purified water. arium® pro UV and pro VF water purification systems are also optionally available with an integrated TOC monitor for regularly checking the organic water constituents in product water. The TOC can be measured manually or automatically as required.

#### Areas of Application

- Atomic absorption (AA)
- Ion exchange chromatography (IC)
- High performance liquid chromatography (HPLC)
- Polymerase chain reaction (PCR)
- Inductively coupled plasma mass spectrometry (ICP-MS)
- Preparing cell culture media
- Protein purification
- Manufacturing reagents
- Preparing buffers and media
- Rinsing glass vessels

#### Features

- Innovative glass operator interface with touch function
- Integrated TOC measurement (optional)
- Volume- and time-controlled dispensing
- Freely adjustable flow rates up to 2 L/min
- Conductivity measurement for feed and product water
- Integrated monitoring of water consumption
- Data logging on SD card and printer or PC
- Activatable PIN code for basic configurations
- Service and alarm functions supported by graphic displays
- Intelligent alarm system
- Compact design

#### Product Water Quality

Resistivity:	18.2 MΩ x cm
TOC (at 50 ppb feed water):	
arium® pro DI/UF:	≤ 5 ppb*
arium® pro UV/VF:	< 2 ppb*
Endotoxin at arium® pro UF/VF:	< 0.001 EU/ml
Particles (at 0.2 µm):	< 1/ml
Bacteria (CFU/1000 ml):	< 1
Flow rate (at 2 bar without final filter)	
arium® pro DI/UV:	up to 2 L/min
arium® pro UF/VF:	up to 1.7 L/min

Type	Description	PK	Cat. No.
arium® pro DI-T	standard system	1	9.914 548
arium® pro UV-T	with UV-lamp, for chromatographic applications	1	9.914 549
arium® pro UF-T	with ultra filter, for cell culture applications	1	9.914 550
arium® pro VF-T	with ultra filter and UV-lamp, for standard, cell culture and chromatographic applications	1	9.914 553

\*Values may vary depending on the quality of the feed water, the amount of contamination contained in the feed water, and/or the type of cartridge in use.

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### 1 Pure water purification systems Barnstead™ Pacific™ TII

The Thermo Scientific Pacific Barnstead TII system provides ultrapure water (1 - 10 MΩm) ASTM type II for typical demand up to 200 l/day. By combining different treatment technologies such as pretreatment, reverse osmosis, ion exchangers, adsorption and optional UV lamp, the Pacific TII produces pure water (ASTM type II) that meets the highest quality standards such as ASTM II, CAP, ISO 3696, CLSI and Bi distillate. Pacific TII is suitable for table or wall mounting. Three tank sizes 30 l, 60 l, or 100 l are available to match the range of permeate capacities of 7, 12 and 20 l/h. Upgrading the system and thus increasing the capacity for a growing pure water demand is possible at any time. Ideal for supplying ultrapure water systems, clinical analysers, reagent/dilution preparation and general chemical analysis. Thermo Scientific

**Product features:**

- Feed water (e.g. tap water) is pre-cleaned by reverse osmosis membrane. Via the pure water cartridge and optional UV unit the type II water is temporarily stored in the storage tank. The optional recirculation of the water via the integrated pump ensures constant optimal water quality
- Flexible and compact laboratory system for optional mounting on the laboratory bench or with the integrated mounting bracket on the wall
- Simple and economical change of consumables due to separately exchangeable high-tech cartridges
- In the 4-line display numerous operating parameters, such as limit values, flushing cycles tank volume display in % can be easily set and queried
- The code-protected operating system as well as a high-precision conductivity monitoring in acc. with USP enable documentation acc. with GLP requirements
- Additional pressure booster system on the ultrapure water tank for supplying downstream devices (e.g. autoclaves, dishwasher, analyser)
- The scope of supply includes all necessary materials for immediate use: Integrated wall bracket, RO membrane, pure water cartridge, pressure reducer and UV lamp (for Pacific TII UV)

Optional hand dispenser with flexible circulating line for dispensing water in a distance of up to 3 m. The kit contains a 0.2 µm end filter.

**Pure water specifications**

Operating pressure:	2 to 6 bar
Temperature:	+2 °C to +35 °C
Permeate conductivity:	0.067 to 0.1 µS/cm (at <30 ppm CO <sub>2</sub> in feeding water)
Permeate resistance at 25°C:	15 to 10 MΩ.cm
Removal bacteria, Pyrogens:	>99 %
TOC value:	<30 ppb
Interface:	RS 232

**Specifications**

Power supply:	90-240 V/50-60 Hz
Dimensions (W x D x H):	372 x 330 x 613 mm
Feedwater connector:	Tubing 1.5 m with 8 mm o.d. and R <sup>3</sup> / <sub>4</sub> " inner thread
Wastewater connector:	¼" or 8 mm o.d., tubing 2 m, pressureless drain
Power Consumption:	0.08 kW

Type	Permeate L/hr	PK	Cat. No.
Pacific TII 7	7	1	9.535 537
Pacific TII 7 (UV)	7	1	9.535 542
Pacific TII 12	12	1	9.535 538
Pacific TII 12 (UV)	12	1	9.535 543
Pacific TII 20	20	1	9.535 539
Pacific TII 20 (UV)	20	1	9.535 544

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## Water purification/Pure and ultra-pure water

**1**


### 1 Ultrapure water purification systems Barnstead™ GenPure™, ASTM I

All Barnstead GenPure systems meet the requirements of the international standards ASTM type I, ISO 3696 type 1, ASTM D1193 and CLSI- CLRW. A variety of innovative expansion options, such as UV-lamp with wavelengths 185/254 nm and UV-intensity monitoring, a backwashable ultrafilter, real time TOC monitoring, a remote dispenser xCAD (operating radius 80 cm) or a flexible (operating radius 60 cm) dispenser on the unit (GenPure Pro), ensure optimal supply for all analytical and life science applications. All GenPure systems are supplied with: Feed water pressure reducer, wall-mounting, ultrapure water cartridge, end filter, options - all available under one order number

*Thermo Scientific*

#### Product features:

- Pre-cleaned feed water (e.g. reverse osmosis, distillation, demineralised water) is treated by a filtration cartridge and optional UV/UF units to produce ultrapure water
- Compact laboratory system for optional mounting on the laboratory bench, on the wall or with the optional dispensing unit xCAD under the laboratory bench
- Simple and economical change of consumables due to easily accessible service hood and cartridge with quick release fasteners and AquaStopp
- Integrated feed water monitoring with individually adjustable limit value ensures the purity grade of the product water and durability of the filter sets
- Swivel-mounted display/keyboard unit for setting and querying all operating and performance parameters (e.g. limit values for ultrapure water quality)
- USP-compliant conductivity measurement with auto-calibration
- Pre-settable dosing in the range from 0.01 to 65 l
- Accurate real-time TOC measurement at the sample point for continuous monitoring of the organic water constituents meets USP requirements
- Permanent UV-intensity monitoring and display in %, as well as UV operating hours counter with individual adjustable limit values

#### Ultrapure water specifications ASTM Type I

Flow rate, max.:	Up to 2 L/min
Operating pressure:	2 to 6 bar
Temperature:	2 °C to 35 °C
Conductivity:	0.055 µS/cm
Resistance at 25°C:	18.2 MΩxcm
TOC value in ppb (Models with UV):	1 - 5
TOC value in ppb (Models without UV):	< 10
Endotoxins*in EU/ml (Models with UF):	< 0.001
RNase*in ng/ml (Models with UF):	0.01
DNase*in pg/µl (Models with UF):	4
Bacterial content:	<1 cfu/ml
Particles >0.2µm/mL:	< 1
Dimensions (W x D x H):	372 x 330 x 615 mm
Dimensions xCAD (W x D x H):	260 x 530 x 725 mm
Feedwater connector:	¾" o.d.
Drainwater connector:	¼"
Power Consumption:	0.1 kW
Power supply:	90-240 V/50-60 Hz

Type	Description	PK	Cat. No.
GenPure UF/UV	Molecular biology, PCR, DNA, monoclonal antibodies, cell culture	1	9.535 877
GenPure Pro UV	Trace analysis, HPLC, ICP-MS, IC	1	9.535 890
GenPure Pro UV/UF	Molecular biology, PCR, DNA, monoclonal antibodies, cell culture	1	9.535 889
GenPure Pro UV-TOC	Trace analysis, HPLC, ICP-MS, IC, TOC analysis	1	9.535 891
GenPure Pro UV-TOC/UF	Molecular biology, PCR, DNA, monoclonal antibodies, cell culture	1	9.535 892

UF=with ultra filtration, UV=with UV photo oxidation 185/254 nm, UV-TOC=with UV photo oxidation 185/254 nm and TOC display, UV-TOC/UF=with UV photo oxidation 185/254 nm, TOC display and ultra filtration

\*depending on feed water quality

### Accessories for Ultrapure water purification systems Barnstead™ GenPure/GenPure Pro

*Thermo Scientific*

Description	PK	Cat. No.
Ultrapure water filter set	1	9.535 971
Sterile filter 0.2 µm	1	9.535 961

### 1 Ultrapure water purification system Barnstead™ MicroPure™, ASTM I

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Thermo Scientific

The Thermo Scientific Barnstead MicroPure system provides ultrapure water (18.2 MΩ, 0.055 μS/cm) ASTM type I, for typical demand up to 15 l/day. All MicroPure systems meet the requirements of the international standards ASTM (type I), ISO 3696 (type 1), ASTM D1193 and CLSI-CLRW. A variety of innovative expansion options, such as UV-lamp with wavelengths 185/254 nm and a backwashable ultrafilter with a flow rate up to 0.6 l/min, ensure optimal supply for all analytical and life science applications.



MicroPure systems are supplied for immediate use with: pressure reducer, end filter, ultrapure water cartridge

**Product features:**

- Pre-cleaned feed water (e.g. reverse osmosis, distillation, demineralised water) is treated by a filtration cartridge and optional UV/UF units to produce ultrapure water
- Compact laboratory system for optional mounting on the laboratory bench or on the wall
- Simple and economical change of consumables due to easily accessible service hood and cartridge with quick release fasteners and AquaStopp
- Swivel-mounted display/keypad unit for setting and querying all operating and performance parameters such as limit values for ultrapure water quality
- **MicroPure ST systems** supplied with integrated 6 l tank for mobile use in the laboratory. Feed water supply with pre-cleaned water is provided by this tank

**Specifications**

Flow rate, max.:	1L/min
Operating pressure:	2 to 6 bar
Temperature:	+2 °C to +35 °C
Conductivity:	0.055 μS/cm
Resistance at 25°C:	18.2 MΩxcm
TOC value (models with UV):	1 to 5 ppb
TOC value (models without UV):	< 10 ppb
Bacterial content:	<1 cfu/ml
Particles >0.2 μm/mL:	<1
Endotoxins (Models with UF):	<0.001 EU/ml
Power consumption:	0.06 kW
Power supply:	90-240 V, 50/60 Hz, automatic voltage regulation to 24 V
Dimensions (W x D x H):	305 x 300 x 545 mm
Dimensions models with reservoir (W x D x H):	305 x 400 x 545 mm

Type	Description	PK	Cat. No.
MicroPure UV	Trace analysis, HPLC, ICP-MS, IC	1	9.535 826
MicroPure UF/UV	Molecular biology, PCR, DNA, monoclonal antibodies, cell culture	1	9.535 825
MicroPure UV-ST	Trace analysis, HPLC, ICP-MS, IC	1	9.535 830
MicroPure UF/UV-ST	Molecular biology, PCR, DNA, monoclonal antibodies, cell culture	1	9.535 829

With UF = ultrafiltration, UV = UV photo-oxidation 185/254 nm, UF/UV = Ultra Filtration and UV photo-oxidation 185/254 nm

### Accessories for Ultra pure water system Barnstead™ MicroPure™

Thermo Scientific

Description	PK	Cat. No.
Ultra pure filter set	1	9.535 963
Sterile filter 0.2 μm	1	9.535 961
UV replacement lamp	1	9.535 960
Disinfectant cartridge	1	9.535 968



## Water purification/Pure and ultra-pure water



### 1 Pure and Ultrapure water purification system Barnstead™ Smart2Pure™, ASTM I and II

The Thermo Scientific Barnstead Smart2Pure system is a compact system which converts tap water into ASTM type I and II water. The Smart2Pure models 3 and 6 are featured with an built-in 6 l tank to store the type II water. The Smart2Pure 12 offers the choice between a 30 l or 60 l tank depending on storage requirements. A variety of innovative expansion options, such as UV-lamp with wavelenghts 185/254 nm and a backwashable ultrafilter with a flow rate up to 0.6 l/min, ensure optimal supply for all analytical and life science applications. A swiveling display and the easy filter change make the Smart2Pure the perfect laboratory water unit for the small demand.

Thermo Scientific

#### Product features:

- Easy and economical change of consumables due to separately exchangeable high-tech reprocessing cartridges
- Guaranteed pure water quality: Recirculation pump and sterile ventilation filter protect from contamination and ensure a tank water quality from 10 up to 15 MW x cm
- Additional pressure outlet on the ultrapure water tank for supplying downstream devices (e.g. autoclaves, analyser) or connection of a flexible dispenser
- The scope of supply includes all necessary materials for the first-time operation (for Smart2Pure12 a storage tank must be supplemented)
- Optional hand dispenser with 3 m flexible circulation line for remote dispensing of the water. The kit contains a 0.2 µm end filter

#### Ultrapure water specifications ASTM Type I

Flow rate:	1.0 l/min
Flow rate UF-models:	0.6 l/min
Conductivity:	0.055 µS/cm
Resistance at 25 °C:	18.2 MΩxcm
TOC value:	<10 ppb
TOC values UV-models:	1 to 5 ppb
Endotoxins UF-models:	0.005 EU/ml
Bacterial content:	<1cfu/ml
Particles >0.2 µM/ml:	<1

#### Pure water specifications ASTM Type II

Permeate flow rate at 15 °C:	
Smart2Pure 3:	3 l/h
Smart2Pure 6:	6 l/h
Smart2Pure 12:	12 l/h
Permeate conductivity:	0.067 to 0.1 µS/cm
Permeate resistance at 25 °C:	15 to 10 MΩxcm

#### Specifications

Power supply:	90-240 V, 50/60 Hz
Dimensions (W x D x H):	305 x 400 x 545 mm
Feedwater connector:	¾ inch
Drain connection:	¼ inch

Type	Description	PK	Cat. No.
Smart2Pure 3 UV	Trace analysis, HPLC, ICP-MS, IC	1	9.535 862
Smart2Pure 3 UF/UV	Molecular biology, PCR, DNA, monoclonal antibodies, cell culture	1	9.535 863
Smart2Pure 6 UV	Trace analysis, HPLC, ICP-MS, IC	1	9.535 866
Smart2Pure 6 UF/UV	Molecular biology, PCR, DNA, monoclonal antibodies, cell culture	1	9.535 867
Smart2Pure 12 UV	Trace analysis, HPLC, ICP-MS, IC	1	9.535 870
Smart2Pure 12 UF/UV	Molecular biology, PCR, DNA, monoclonal antibodies, cell culture	1	9.535 871

With UF = ultrafiltration, UV = UV photo-oxidation 185/254 nm, UF/UV = Ultra Filtration and UV photo-oxidation 185/254 nm

### Accessories for pure and ultrapure purification systems Barnstead™ Smart2Pure™

Thermo Scientific

Description	PK	Cat. No.
Ultrapure water cartridge	1	9.535 966
UV replacement lamp	1	9.535 960
Sterile filter, 0.2 µm for direct removal/device	1	9.535 961
Reverse Osmosis membrane with integrated pretreatment, 3 L/hr	1	9.535 970
Reverse Osmosis membrane with integrated pretreatment, 6 L/hr	1	9.535 972
Reverse Osmosis membrane with integrated pretreatment, 12 L/hr	1	9.535 973
CO <sub>2</sub> adsorber and sterile venting filter for Smart2Pure 12	1	9.535 923
Smart2Pure 12 Tank 30 l	1	9.535 931
Smart2Pure 12 Tank 60 l	1	9.535 935

### 1 Reverse osmosis systems, Ultra Clear™ RO EDI

The well-proven Ultra Clear™ RO range has been enhanced to peak water quality level in the plus series by adding electronic deionisation cells: accessory deionisers for removing inorganic materials from the output are therefore no longer required.

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Technical parameters:

- Resistance up to 17 megohm (0.07 µS/cm)
- TOC < 5 to 20 ppb at RO cell output
- Typical pure water quality < 0.07 µS/cm

In all Ultra Clear™ RO systems the quality of the feed and output water will be shown on the display.

#### Features:

- pure water treatment for simple analysis, laboratory rinsing machines, autoclaves, up to ultrapure water systems
- germ/pyrogen retention rate >99 %
- complete, connection-ready system; fittings allow supply tanks to be expanded if required (e.g. Ultra Clear™ RO supply tanks with 30, 60 and 80 litre capacities, larger tanks are available on request)
- menu-driven controller, RS232 interface
- Entrance- and Product water quality will be shown on the display.

#### Specifications

Rating:	200/300 W
Dimensions (W x D x H):	340 x 420 x 520 mm
Colloidal index (SDI):	< 3
Supply water pressure:	2 to 6 bar (0.1 to 5 bar Ultra Clear™ RO EDI 10)
Input conductivity:	< 1400 µS/cm



Type	Pure water output at 15 °C l / hr	Weight kg	PK	Cat. No.
Ultra Clear™ RO EDI 10	10	31	1	6.267 641
Ultra Clear™ RO EDI 20	20	32	1	4.667 956
Ultra Clear™ RO EDI 30	30	35	1	4.667 959
Ultra Clear™ RO EDI 55	55	46	1	9.914 623

Further models can be found in our online shop.

### Accessories for Reverse osmosis systems Ultra Clear™ RO/RO EDI/LaboStar™ RO DI

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Type	For	Change interval	PK	Cat. No.
Pre-treatment module VMD	Ultra Clear™ RO DI 10-40/RO EDI, LaboStar™ RO/DI	every 3 months*	1	9.914 520
Pre-treatment module AMB	Ultra Clear™ RO, LaboStar™ RO/DI	every 6 months*	1	9.914 524
RO module**	Ultra Clear™ RO EDI, LaboStar™ RO/DI	every 2 to 3 years	1	9.914 519
Conditioning module	Ultra Clear™ RO EDI	every 3 to 6 months	1	6.241 832
RO module 55 l/h	Ultra Clear™ RO EDI 55 l	every 2 to 3 years	1	6.283 462
CO <sub>2</sub> trap CT1 incl. Vent filter (spare cartridge)	Ultra Clear™ RO EDI		1	9.914 527
CO <sub>2</sub> trap CT1 with Vent filter VT1	LaboStar™ RO DI	every 12 months	1	6.285 641
Kit for 30 / 60 l tank				
Vent filter for 7 l tank	LaboStar™ RO DI	every 12 months	3	6.285 643
Sterile filter 0.2 µm	LaboStar™ RO DI	every 6 months	3	6.238 931
Sterile filter 0.2 µm with endotoxin retention	LaboStar™ RO DI	every 6 months	3	6.259 821
30 l Extension storage tank	LaboStar™ RO DI		1	6.285 642
60 l Extension storage tank	LaboStar™ RO DI		1	6.285 597
Degassing unit (max. 150 l/h)	LaboStar™ RO DI		1	6.285 640
Wall bracket ET 30 for 30 l tank	LaboStar™ RO DI		1	7.981 287
Wall bracket ET 60 for 60 l tank	LaboStar™ RO DI		1	6.285 639
CO <sub>2</sub> + UV Kit for 30 l	Ultra Clear™ RO, RO DI, RO EDI		1	4.670 986
CO <sub>2</sub> + UV Kit for 60 l	Ultra Clear™ RO, RO DI, RO EDI		1	4.670 987
CO <sub>2</sub> trap CT1 incl. Vent filter for 80 l	Ultra Clear™ RO, RO DI, RO EDI		1	4.670 988
UV-Kit 80 l tank	W3T324515 + W3T314514		1	4.670 989
UV-Kit 80 l tank, UV replacement lamps	W3T197526 + W3T197510		1	4.670 990
Tank 30 l	All Ultra Clear™ RO EDI		1	6.285 646
Tank 60 l	All Ultra Clear™ RO EDI		1	6.285 647
Tank 80 l, incl. pump 8 l/min	Ultra Clear™ RO EDI 10-30		1	6.285 648
Tank 80 l, incl. pump 1.2 l/min	Ultra Clear™ RO EDI 10-30		1	6.285 649
Tank 80 l, incl. pump 8 l/min	Ultra Clear™ RO EDI 55		1	6.285 650
Tank 80 l, incl. pump 1.2 l/min	Ultra Clear™ RO EDI 55		1	6.285 651
RO module 15 l/h	Ultra Clear™ RO, RO DI, RO EDI 10 and 30 l	every 2 to 3 years	1	9.914 510

\* Interval of exchanges depends on raw water quality and throughput

### 1 Ultra pure water system, Ultra Clear™ TP TWF EDI

The Ultra Clear™ TWF EDI system is equipped with all the necessary components to produce reagent grade water directly from municipal tap water. The built-in reverse osmosis system has a recovery rate of >30 % to conserve water. evoqua

The continuous electrodeionization (CEDI) stage purifies RO product water down to a quality range between 0.055 to 0.2 µS/cm. CEDI product water can be drawn directly from the integrated storage tank. Each system is equipped with economical state-of-the-art purification technology. Water quality with a resistivity of 18.2 MΩ-cm and a TOC level between 1 to 3 ppb far exceeds all reagent water quality standards including: ASTM Type 1, CLSI and ISO 3696 Type 1. All systems that include ultrafiltration (UF) produce the highest possible water quality. These units deliver RNase-, DNase- and DNA-free water. A separate reverse osmosis system with storage tank, an electro-deionization and an ultrapure water treatment, compiled into a system, always requires a far greater financial investment. Our system contains All-in-One.

- 7" multi-color glass display for fast and easy operation, with a generous overview
- Easy to navigate by touching functional system components
- New designed user interface
- Graphic display of all main functions
- SD cards and USB connection for data transfer
- Interface and manual available in 7 languages (German, English, French, Spanish, Portuguese, Russian and Chinese)
- Ultrapure water system with an integrated reverse osmosis system to transform municipal water to pure and ultrapure water.
- Consistent water quality due to the EDI cell
- Connection directly to the drinking water line

#### Specifications

Ultrapure water output:	up to 1.8 l/min
Resistivity at 25 °C:	18.2 MΩ-cm
Conductivity at 25 °C:	0.055 µS/cm
Bacteria:	< 1 cfu/ml
TOC:	< 1 to 3 ppb
Particles >0.2:	< 1 per ml
Pure water flow rate:	< 20 l/h
Feed water conductivity:	< 1400 µS/cm
DNase, RNase, DNA:	free (UF versions only)
Power supply:	100-240 V, 50/60 Hz

Type	TOC value	Endotoxin content EU/ml	Dimensions (W x D x H) mm	PK	Cat. No.
30 UV TM	< 1-3	-	640 x 320 x 535	1	<b>6.285 633</b>
30 UV UF TM	< 1-3	< 0.001	640 x 320 x 535	1	<b>6.285 634</b>
60 UV TM	< 1-3	-	900 x 320 x 535	1	<b>6.285 635</b>
60 UV UF TM	< 1-3	< 0.001	900 x 320 x 535	1	<b>6.285 636</b>

Further models can be found in our online shop.

### Accessories for Ultra pure water system, Ultra Clear™ TP/TWF TP/TP TWF EDI Touch Panel

Description	For	PK	Cat. No.
CO2 trap CT1 incl. Vent filter (spare cartridge)	TWF TP / TP TWF EDI	1	<b>9.914 527</b>
UV replacement bulb UC (tank)	TWF TP / TP TWF EDI	1	<b>6.265 907</b>
RO module	TWF TP / TP TWF EDI / TP TWF EDI	1	<b>9.914 519</b>
Pre-treatment module AMB	TWF TP / TP TWF EDI	1	<b>9.914 524</b>
Conditioning module	RO EDI / TP TWF EDI	1	<b>6.241 832</b>
Flexible side ndispenser	TP / TWF TP / TP TWF EDI	1	<b>6.285 637</b>
Pre-treatment module VMD	TP / TWF TP	1	<b>9.914 520</b>

