

# Ultra Pure Water Systems

**membraPure**

Water Purification Systems • TOC Analyzer • Chromatography

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**Pure...**



**Purer....**

**...membraPure**



# membraPure ultra pure water systems

membraPure's systems fulfil the limits for ultra pure water requirements of the individual laboratory environment.

Ultra Pure water, being an excellent solvent, cannot be stored in tanks. It will easily pick up contaminants from air such as carbon dioxide, ions, organic solvents or ions and silica from glassware and plasticizers from plastic containers. Therefore membraPure ultra pure water systems produce Type I water on demand for immediate use upon dispensing.

membraPure systems are available in two models: feeded with tap water (Aquinity) and feeded with pretreated water from EDI or RO (Astacus, Aquintus, OptiLab HF, OptiPrep).



## Choosing the right system....

When choosing a system daily consumption and feed water quality are significant parameters. membraPure's range offers a whole selection:

Feed water quality	Tap water	Aquinity P7	Aquinity P/E	
	De-ionized	Astacus	Aquintus	Optilab HF Optiprep
		Low <40l/d	Middle <100l/d	High <500l/d

Consumption per day

### membraPure's Reagent versions

*Designed for general laboratory applications*

### membraPure's Analytical versions

*The preferred systems for chromatography like HPLC, LC, IC, CE, ICP-MS*

### membraPure's LifeScience versions

*Designed for molecular biology and cell culture applications*

# - designed to fulfil your needs

## **When options are needed,...**

### **MemTap**

MemTap with dispenser arm allows the volumetric controlled tapping of water and prevents the overflow of containers. Preset of tap-volume is in 0.1 l steps up to 999.9 l. The dispenser arm can be moved horizontally and vertically and allows to fill containers with a height up to 55 cm.

### **Remote Display and Easy Tap – bench integrated or wall installation**

The remote display allows users to easily operate and monitor a **membraPure** system installed underneath a bench or on the wall.

Easy Tap allows the filling of containers within a 1 m distance from the point of installation.

By lifting the Easy Tap the system automatically starts production of ultra pure water.



### **TOC measurement**

Continuous TOC measurement during production and intermittent measurements during non-use periods allows to check the organic water purity regularly. The TOC meter enables accurate monitoring between 1 and 999 ppb.

### **µS-Control**

The µS-Control checks the conductivity of feed water to protect the cartridges from feed water of poor quality by rejecting it.

### **Trace Analysis upgrade**

To detect traces of substances in analytics, the water quality has to be of highest purity. Therefore all components are made of unfilled material. Tubings material is PTFE for minimal adhesion. Dead spaces are avoided and the recirculation pump is made of PEEK and stainless steel. Finally the material of the tap valve is PVDF.

# Astacus and Aquintus

To produce ultra pure water **Astacus** and **Aquintus** are feeded with de-ionized water or permeate from a reverse osmosis system.

**Astacus** models are designed for a daily production rate of 40 L and are equipped with the MemPak purification cartridge AL or LS.

For a higher demand of ultra pure water up to 100 L per day the **Aquintus** models contain an additional MemPak.

The quick connection system allows changing the cartridges in an easy way. The water is recirculated in the system and by lifting the tapping arm ultra pure water is produced.

Based upon different applications, ultra pure water also needs to match more specific requirements.

Therefore **Astacus** and **Aquintus** are available as *Reagent*, *Analytical* and *LifeScience* version that cover the needs of all customers.

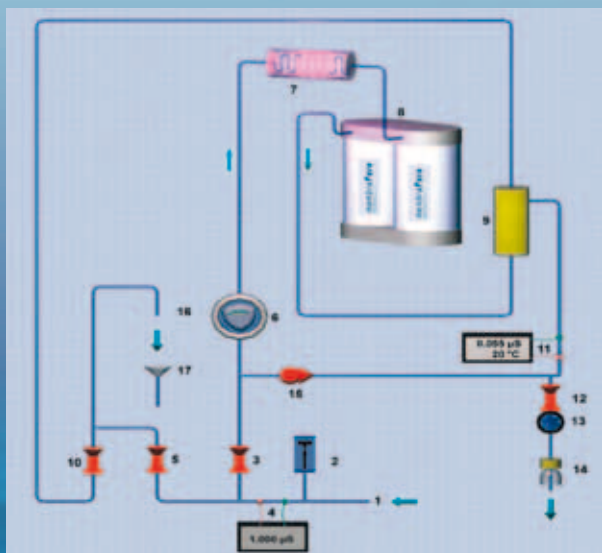
The systems can be installed bench mounted, wall mounted or bench integrated.



Model Version	Astacus - Aquintus		
	Reagent	Analytical	LifeScience
Flow rate [l/min]	< 2	< 2	< 1,8
Resistivity [ $\Omega$ cm]	18.2	18.2	18.2
TOC* [ppb]	< 10	< 3	< 5
Germes [CFU/ml]	< 1	< 1	< 1
Pyrogens [EU/ml]			< 0.001
Heavy Metal [ppb]	< 0.1	< 0.1	< 0.1

\* If feed water is highly purified water from an EDI system

Flowchart Astacus LifeScience



Instrument	
Part-No.	
110-0001	Astacus Reagent
110-0063	Astacus Analytical
110-0064	Astacus LifeScience
111-0001	Aquintus Reagent
111-0032	Aquintus Analytical
111-0005	Aquintus LifeScience
Spare Parts and Consumables	
Part-No.	Astacus
190-0013	Final filter, capsule, 0.2µm
190-0019	MemPak AL
190-0018	MemPak LS
921-0138	UV lamp
190-0052	UF module
Part-No.	Aquintus
190-0013	Final filter, capsule, 0.2µm
190-0019	MemPak AL
190-0017	MemPak PT
190-0018	MemPak LS
921-0138	UV lamp
190-0052	UF module
Options	
Part-No.	
180-0057	Upgrade for Trace Analysis
180-0009	µS Control
180-0055	Mementap

# OptiLab HF and OptiPrep

## When high quantities are needed...

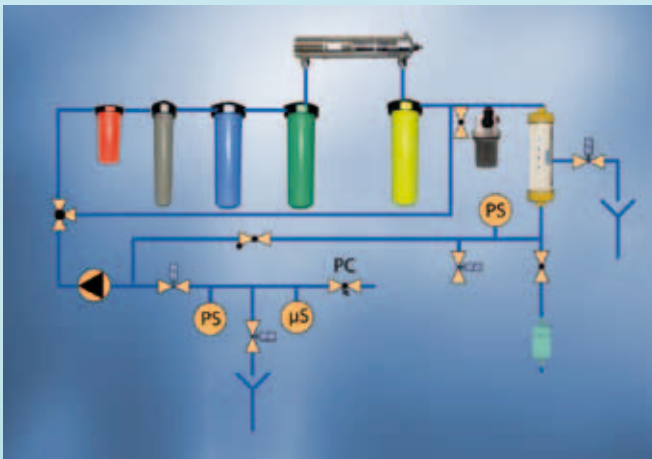
OptiLab HF and OptiPrep produce ultra pure water according to ASTM Type I.

Fed by DI water from a RO module or an EDI system both systems are equipped with specific purification modules capable to produce UPW at a flow rate of 5 L/min (OptiLab HF) or 8 L /min (OptiPrep).

The combination of active carbon filters, mixed bed filters and scavenger filters with high capacities allows the production of UPW in amounts up to 500 liter per day.



## Flowchart OptiPrep Life Science



The pump circulates the water in the system and allows the integration of systems like glassware washers and a loop with a length up to 70 meters.




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<b>OptiLab HF</b>	
Part.No.	
112-0001	OptiLab HF- Reagent
112-0002	OptiLab HF- Analytical
112-0003	OptiLab HF- LifeScience
<b>Consumables</b>	
190-0037	Cartridge Set incl. final filter
<b>Options</b>	
180-0055	Memtap
180-0009	µS Control

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<b>OptiPrep</b>	
Part.No.	
113-0001	OptiPrep- Reagent
113-0002	OptiPrep - Analytical
113-0003	OptiPrep - LifeScience
<b>Consumables</b>	
190-0039	Cartridge Set incl. final filter
<b>Options</b>	
180-0055	Memtap
180-0009	µS Control

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# Aquinity systems - ultra pure water directly from tap water



Feed water Spec.	All types
Conductivity	<1000 $\mu\text{S}/\text{cm}$ at 25 °C P3/P7: <1400 $\mu\text{S}/\text{cm}$
Hardness	< 25 °GSG
Inlet Pressure	0 - 5 bar P3/P7: 3-5 bar
Colloid Index SDI	< 3
Chlorine	< 0.5 mg/l

The **Aquinity** models are ultra pure water systems to produce ASTM Type I grade water directly from municipal or potable tap water.

The model **Aquinity P7** is ideal for laboratories with a lower daily need of UPW. The **Aquinity P7** contains a storage tank with 7 L volume and produces 7 L/h with its RO unit into the tank.

For RO permeate production rates of 10 L/h, the models **Aquinity P** and **Aquinity E** are designed with storage tanks of 30 L and 60 L volume.

In these models RO or EDI water can be tapped directly from the tank.



Part -No.	Aquinity P7
114-0035	Aquinity P7
114-0036	Aquinity P7 Analytical

Part -No.	Consumables P7
198-0033	Pretreatment module P7
198-0044	Polishing cartridge Type P
923-0066	UV lamp Aquinity
190-0013	Final filter

Part -No.	Aquinity P
114-0023	Aquinity P/30 Reagent
114-0015	Aquinity P/30 Analytical
114-0022	Aquinity P/30 LifeScience
114-0011	Aquinity P/30 LifeScience TI

60 L models on request

Part -No.	Aquinity E
114-0039	Aquinity E/30 Reagent
114-0009	Aquinity E/30 Analytical
114-0010	Aquinity E/30 LifeScience
114-0038	Aquinity E/30 LifeScience TI

60 L models on request

Part -No.	Consumables Aquinity P + E
290-0085	Pretreatment set
190-0060	Permeate cartridge
190-0059	Polishing cartridge
923-0066	UV lamp Aquinity
290-0111	Vent filter with CO <sub>2</sub> trap
190-0057	Final filter Aquinity



**AquaPurity P** is equipped with a RO module and produces ultra pure water with a combination of activated carbon and mixed bed purification technology.

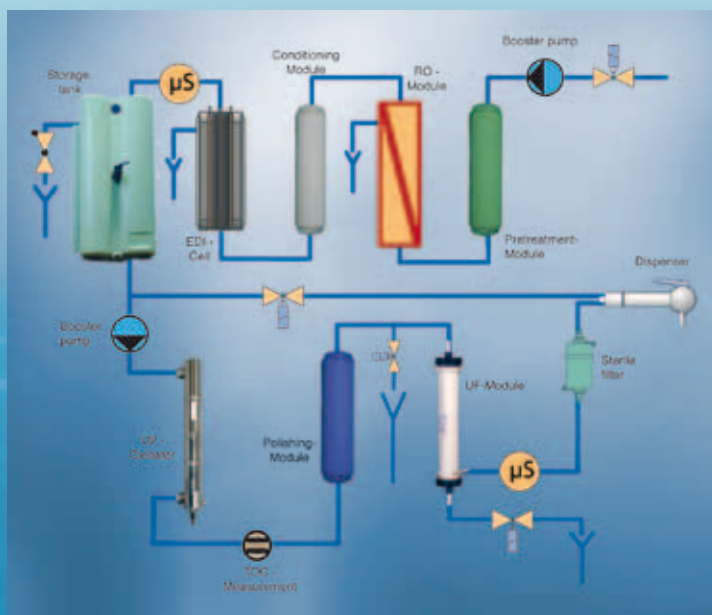
**AquaPurity E** contains an EDI cell for Type II water production into the storage tank.

All **AquaPurity** systems produce ultra pure water with a conductivity of 0.055  $\mu\text{S}/\text{cm}$  at 25°C (18.2 MegOhm/cm).

**AquaPurity P** and **AquaPurity E** are available as *Reagent*, *Analytical* and *LifeScience* versions.

According to the version the TOC values are in the range of lower than 10ppb (Reagent) and below 3ppb (Analytical).

Flowchart AquaPurity E Life Science TI



	<b>AquaPurity P7</b>
Permeate rate	7 l/h
Resistivity	18,2 MOhm x cm
TOC	< 15 ppb (Reagent) < 5 ppb (Analytical)
Flow rate	1,5 l/min
Tank size	7
<b>Versions:</b>	
Reagent	Pretreatment, mixed bed resin polishing cartridge
Analytical	* UV-Lamp 185 nm

	<b>AquaPurity P</b>
Permeate rate	10 l/h
Resistivity	18,2 MOhm x cm
TOC	< 5-10 ppb (Reagent) < 3 ppb (Analytical) < 5 ppb (Life Science)
Flow rate	1,8 l/min
Tank size	30, 60
<b>Versions:</b>	
Reagent	Pretreatment, reverse osmosis, polishing cartridge
Analytical	* UV-Lamp 185 nm
Life Science	* UV-Lamp 185 nm * MCF Ultrafiltration module, 5.000 d cut-off

	<b>AquaPurity E</b>
Permeate rate	10 l/h
Resistivity	18,2 MOhm x cm
TOC	< 5-10 ppb (Reagent) < 3 ppb (Analytical) < 5 ppb (Life Science)
Flow rate	1,8 l/min
Tank size	30, 60
<b>Versions:</b>	
Reagent	Pretreatment, EDI unit, polishing cartridge
Analytical	* UV-Lamp 185 nm
Life Science	* UV-Lamp 185 nm * MCF Ultrafiltration module, 5.000 d cut-off

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