

ULTRA CLEAR™ RO AND ULTRA CLEAR™ COMPACT SERIES SYSTEMS

RO, RO DI, RO EDI WATER - PURITY, THAT PAYS FOR ITSELF



ULTRA CLEAR™ COMPACT SERIES SYSTEMS

COMPACT SYSTEM WITH INTEGRATED TANK

The Ultra Clear™ Compact Series System incorporates RO and RO/DI purification technology, a reservoir, and all needed accessories in one unit. The systems are ready to go because the first set of consumables is included. All units are equipped with a 30 l tank.

The space saving systems can be used wall mounted or on a bench top device. Including pump, with or without DI polishing module, the needed system is easily selected.

With approximately 98 % salt reduction in the RO section and a polished water quality < 0,1 µS/cm offers the Compact line water for nearly all laboratory needs.

Flow rate is 15 l/h for both the RO and the RO/DI range. Optional CO₂ trap/vent filter combinations and UV sanitization units are available to protect the incorporated tank.

The unique design for all Ultra Clear™ Compact Series System cartridges allows an easy and fast replacement.

The new product family offers economically priced systems with running costs for each budget.

Ultra Clear™ Compact Series Systems are the perfect solution for all general laboratory water needs including feed water for ultra pure water systems.

Additional water outlets on the tank can be used to feed dishwashers or autoclaves.

The DI version delivers the pure water directly to the faucet on the tank.

The Ultra Clear™ Compact RO DI Series Systems product water quality exceeds ASTM Type II and ISO 3696 Type II.

Compact system - reverse osmosis, deionization and 30 l tank combined in one unit.

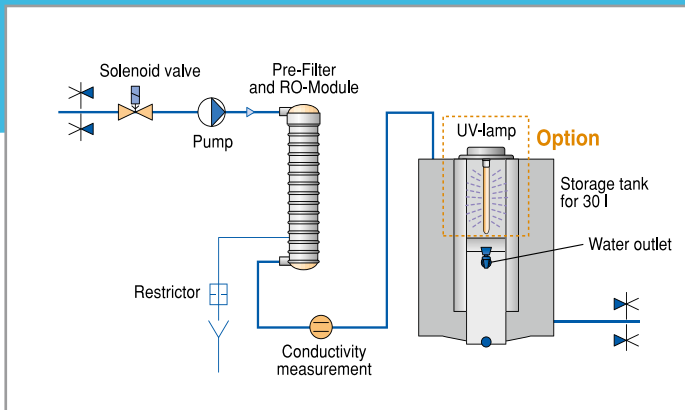
ULTRA CLEAR™ COMPACT

		RO	RO DI
Production rate at 15°C	LPH	15	15
Production rate at 25°C	LPH	20	20
Rejection rate	%	> 96	> 96
Purewater quality	µS/cm	-	< 0.1
Dimension: H/W/D	mm	590/405/395	
Power supply	V/Hz	100 or 240/50 - 60	
Catalog No.		W3T197556	W3T198852

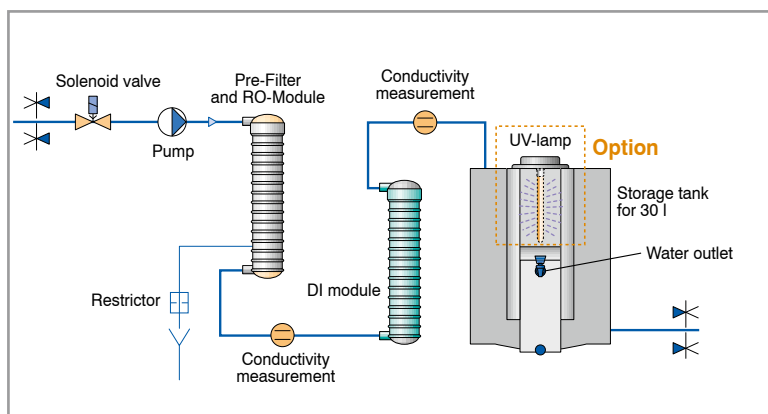
FEEDWATER SPECIFICATION

Conductivity	µS/cm	< 1400
Colloid Index	SDI	< 3
Free Chlorine and Fe	mg/l	0.1
CO ₂ for RO DI	mg/l	15
Temperature	°C	5 - 35





ULTRA CLEAR™ COMPACT RO SERIES SYSTEM FLOWSHEET



ULTRA CLEAR™ COMPACT RO DI SERIES SYSTEM FLOWSHEET

TYPICAL APPLICATIONS

Ultra Clear™ Compact RO Series System:

- Feed for laboratory ultrapure water systems
- general chemistry
- laboratory washing machines
- water for autoclaves and environmental chambers
- buffer preparation

Ultra Clear™ Compact RO DI Series System:

- Feed for laboratory ultrapure water systems
- general chemistry
- general chemical analysis
- laboratory washing machines including final rinse
- water for autoclaves and environmental chambers

CONSUMABLES ULTRA CLEAR™ COMPACT

Item	Cat.No.
Pre-Filter and RO-Module	W3T199852
DI module	W3T199213
CO ₂ trap replacement cartridge	W3T199197
Replacement UV Lamp for W3T199199	W3T199748

OPTIONS ULTRA CLEAR™ COMPACT

Item	Cat.No.
UV-Lamp kit	W3T199199
Wall bracket	W3T197504
CO ₂ trap with vent filter kit	W3T199721
CO ₂ trap with vent filter and UV kit	W3T197554

ACCESSORIES ULTRA CLEAR™ COMPACT

Item	Cat.No.
Degassing unit 10 - 150 l/h to reduce CO ₂ in the inlet water which is increasing the cartridge life time	W3T314413

CLEAR ADVANTAGES:

- 30 l tank is integrated
- Space saving
- Easy to use
- Digital display and controller
- Plug and play
- Quality control of RO permeate in all units
- Reduction rate for particles and bacteria > 99 %
- Pure water quality < 0.1 μS/cm for all DI units



ULTRA CLEAR™ RO SERIES SYSTEMS

ALL NEEDS IN ONE SIZE

The Ultra Clear™ RO Series System produces high quality water with very low energy consumption. The use of “low energy” membranes provide very efficient and economical operation. High quality material standards guarantee long service life.

The Ultra Clear™ RO Series System uses the newest pump technology, which runs without the traditional e-motor, and operates nearly noiseless. Due to an integrated automatic membrane rinse cycle, in many cases, the systems can operate on untreated city water.

Recovery rates up to 75 % are possible with optional water softening.

Product water recovery is set up to an astounding 50 % from the factory, therefore, Ultra Clear™ RO Series Systems also conserve water.

Storage tanks help for the RO systems to provide additional water volume during times of high demand.

The storage tank can also be used to supply water for other lab equipment. The storage tank allows higher volumes of water to be used for short periods that would otherwise be limited to the RO system production rate.

A storage tank basically guarantees that water is available when needed. The proper storage tank size and system configuration will be recommended based on application and water volume requirements to ensure optimum service from the equipment.

Standard tanks are available in 30, 60 and 80 liter sizes. Optional tanks of up to 3,000 liters are also available.

Detailed information about the standard tanks is available in the tank section of this brochure. All systems display inlet and product water quality. The salt reduction rate will be shown in percentage.

Most systems on the market have less than 20 % recovery rate. Automatic, user-friendly maintenance alerts notify the operator when system service is required.

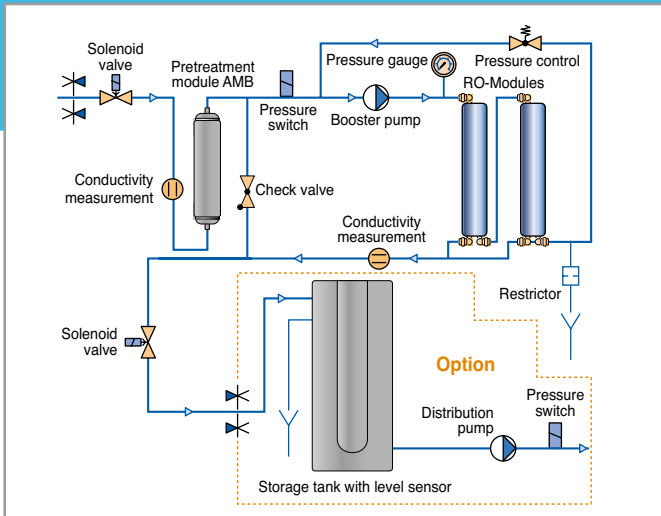
ULTRA CLEAR™ RO SERIES SYSTEM

		20	40	60	100
Product water performance					
Production rate at 15°C	LPH	20	40	60	100
Rejection rate up to	%	98	98	98	98
Rejection rate for bacteria	%	> 99	> 99	> 99	> 99
Rejection rate for particles	%	> 99	> 99	> 99	> 99
Feed water specification					
Pressure	bar	2 - 6	2 - 6	2 - 6	2 - 6
Conductivity max.	µS/cm	< 2000	< 2000	< 2000	< 2000
Colloid Index	SDI	< 3	< 3	< 3	< 3
Free Chlorine and Fe	mg/l	< 0.1	< 0.1	< 0.1	< 0.1
Shipping weight	kg	31	32	33	35
Power consumption	kWh	0.2	0.2	0.2	0.2
Power supply	V/Hz	240 / 50 - 60 (115 V upon request)			
Dimension: H/W/D	mm	530 / 340 / 420			
Catalog Number		W3T199828	W3T198860	W3T199978	W3T198158

TYPICAL APPLICATIONS

All types:

- Feed for laboratory ultrapure water systems
- general chemistry
- laboratory washing machines
- water for autoclaves and environmental chambers
- buffer preparation



ULTRA CLEAR™ RO SERIES SYSTEM FLOWSHEET



ULTRA CLEAR™ RO SERIES SYSTEM WITH 30 L TANK



ULTRA CLEAR™ RO SERIES SYSTEM WITH 60 L TANK



ULTRA CLEAR™ RO SERIES SYSTEM WITH 80 L TANK

CONSUMABLES ULTRA CLEAR™ RO SERIES SYSTEM

Item	Change frequency	Cat.No.
Pretreatment Module AMB	3 - 6 monthly*	W3T197613
RO-Module for Ultra Clear™ RO 20...100**	2 - 3 years*	W3T197580

* Cartridge exchange may be more frequent. Subject to feed water quality and consumption.

** Amount depends on system size.



ULTRA CLEAR™ RO DI WITH
30 AND 60 LITER TANK

ULTRA CLEAR™ RO DI SERIES SYSTEM

HIGH QUALITY - LOW PRICE.

The Ultra Clear™ RO DI Series System delivers permeate water with a salt reduction of approximately 98 %.

The Ultra Clear™ RO DI Series System will polish the RO permeate to a quality of < 0.1 µS/cm. At a 98 % rejection rate, the RO permeate water that originated from a 400 µS/cm feed water source would still have a conductivity of about 8 µS/cm. The Ultra Clear™ RO DI Series System polishes this water to < 0.1 µS/cm.

The deionization module is delivered with the Ultra Clear™ RO DI Series System. These modules are directional and will require replacing at a frequency

dependant on feed water quality and water consumption. A changing interval of about 3 months is typical. The DI modules are a lower cost alternative to electro-deionization systems such as our Ultra Clear™ RO EDI Systems.

An Ultra Clear™ RO system with DI module delivers water with a quality that fulfills the needs of most laboratory requirements.

All systems display inlet and product water quality. The salt reduction rate will be shown in percentage.

ULTRA CLEAR™ RO DI SERIES SYSTEM

		10	20
Product water performance			
Production rate at 15°C	LPH	10	20
Rejection rate (RO) up to	%	98	98
Conductivity at 25°C	µS/cm	< 0.1	< 0.1
Rejection rate for bacteria	%	> 99	> 99
Rejection rate for particles	%	> 99	> 99
Feed water specification			
Pressure	bar	0.1 - 5	2 - 6
Conductivity	µS/cm	< 2000	< 2000
CO ₂ max.	mg/l	15	15
Colloid Index	SDI	< 3	< 3
Free Chlorine and Fe	mg/l	< 0.5	< 0.1
Temperature	°C	5 - 35	5 - 35
Shipping weight	kg	28	33
Power consumption	kWh	0.05	0.2
Power supply	V/Hz	100 - 240 / 50 - 60	240 / 50 - 60*
Dimension: H/W/D	mm	530 / 340 / 320	530 / 340 / 420
Catalog Number		W3T198148	W3T199189

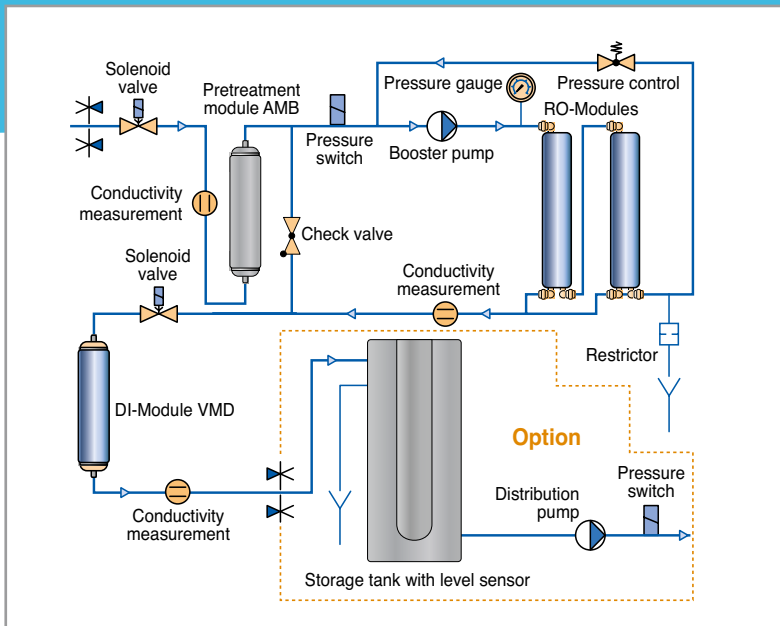
If the CO₂ content is 15 mg/l the conductivity should not exceed 500 µS/cm. If this is the case you need a feed water treatment in front of the RO unit.

* 115 V upon request.

TYPICAL APPLICATIONS

All types:

- Feed for laboratory ultrapure water systems
- general chemistry
- laboratory washing machines including final rinse,
- feed for autoclaves and climate chambers
- buffer preparation
- photometry,
- spectrophotometry
- media preparation



ULTRA CLEAR™ RO DI SERIES SYSTEM FLOWSHEET



REPLACEMENT CARTRIDGE

CONSUMABLES ULTRA CLEAR™ RO DI SERIES SYSTEM

Item	Change frequency	Cat.No.
Pretreatment Module AMB	3 - 6 monthly*	W3T197613
RO-Module for Ultra Clear™ RO 10 DI, 1 x	2 - 3 years	W3T197620
RO-Module for Ultra Clear™ RO 20 DI	2 - 3 years	W3T197580
DI-Module VMD	3 monthly*	W3T197618

* Cartridge exchange may be more frequent. Subject to feed water quality and consumption. High CO₂ values in the inlet water variate the change frequency.

ACCESSORIES ULTRA CLEAR™ RO DI

Item	Cat.No.
Degassing unit 10 - 150 l/h to reduce CO ₂ in the inlet water which is increasing the cartridge life time	W3T314413



ULTRA CLEAR™ RO EDI
(RIGHT SIDE WITH 80 LITER TANK)

ULTRA CLEAR™ RO EDI SERIES SYSTEM

NO DI CARTRIDGE CHANGE, NO CHEMICALS USED

The successful Ultra Clear™ RO EDI Series Systems combines leading edge technology and modern design. The name stands for the high quality purified water produced by the El-Ion™ cells combined with proven reverse osmosis technology.

The Ultra Clear™ RO EDI Series Systems is characterized by low energy consumption, high-product water yield, and economical operation. The latest pump technology with an almost silent motor, is another highlight of our Ultra Clear™ RO EDI Series Systems. As pioneers in the electro-deionization field,

we can make your decisions easy. El-Ion™ cells do not require regeneration chemicals as do mixed bed ion exchangers. El-Ion™ modules also use less rinse water than competitive systems.

The results are impressive. Conductivity down to < 0.060 µS/cm, TOC values down to < 10 ppb, reduction of endotoxins down to < 0.02 EU/ml and significant bacteria reduction, set new standards for electro-deionization.

All systems display inlet and product water quality. The salt reduction rate will be shown in percentage.

ULTRA CLEAR™ RO EDI SERIES SYSTEM

		10	40	55
Product water performance				
Production rate at 15°C	LPH	10	40	55
Conductivity at 25°C	µS/cm	0.07 - 0.1	0.07 - 0.1	0.07 - 0.1
Resistivity at 25°C	MΩ-cm	5 - 17	5 - 17	5 - 17
TOC	ppb	5 - 20	5 - 20	5 - 20
Feed water specification				
Pressure	bar	0.1 - 5	2 - 6	2 - 6
Conductivity	µS/cm	< 1400	< 1400	< 1400
Hardness	°dH	< 20	< 5	< 5
Colloid Index	SDI	< 3	< 3	< 3
Free Chlorine and Fe	mg/l	< 0.5	< 0.1	< 0.1
SiO ₂ max. *	mg/l	15	15	15
CO ₂ max. *	mg/l	15	15	15
Shipping weight	kg	31	44	46
Power consumption	kWh	0.1	0.25	0.3
Power supply	V/Hz	100 - 240 / 50 - 60	240 / 50 - 60**	
Dimension: H/W/D	mm	530 / 340 / 320		530 / 340 / 420
Catalog Number		W3T199897	W3T198136	W3T198868

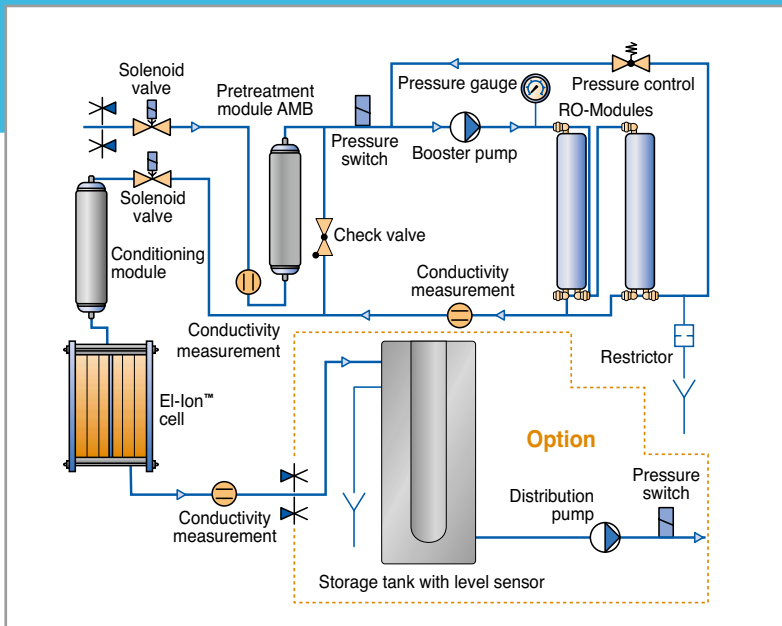
* Please contact us if you have high CO₂ and SiO₂ levels in your water.

** 115 V upon request.

TYPICAL APPLICATIONS

All types:

- Feed for laboratory ultrapure water systems
- general chemistry
- laboratory washing machines including final rinse,
- feed for autoclaves and environmental chambers
- buffer preparation
- photometry,
- spectrophotometry
- general chemical analysis
- media preparation
- protein electrophoreses
- microbiological media preparation
- cytology and histology work
- electrophoreses



ULTRA CLEAR™ RO EDI SERIES SYSTEM FLOWSHEET



EDI CELLS

CONSUMABLES ULTRA CLEAR™ RO EDI SERIES SYSTEM

Item	Change frequency	Cat.No.
Pretreatment Module AMB	3 - 6 monthly*	W3T197613
Conditioning Module	**	
RO-Module for Ultra Clear™ RO 10 plus, 1x	2 - 3 years	W3T197620
RO-Module for Ultra Clear™ RO 40 ... 55 plus***	2 - 3 years	W3T197580

* Cartridge exchange may be more frequent. Subject to feed water quality and consumption.

** Change frequency depends on water hardness and amount of used water. Please enter your actual hardness at the controller and the change frequency will be shown automatically.

*** Amount depends on system size.

ACCESSORIES

ULTRA CLEAR™ RO EDI

Item	Cat.No.
Degassing unit 10 - 150 l/h to reduce CO ₂ in the inlet water which is increasing the cartridge life time	W3T314413

ULTRA CLEAR™ RO EDI SERIES SYSTEM

LEADING TECHNOLOGY EVERYWHERE YOU LOOK

This electro-deionization process, which makes it possible to greatly improve the quality of the reverse osmosis permeate, was invented and patented at the Jülich research center. As licensees of this technology, we have developed the process to the highest industry standards. Since 1994, the technology has been identified under the El-Ion™ brand name. This unique technology has the ability to reduce bacteria, oxidize TOC, and handle higher than normal CO₂ levels. There is no other product as capable and compact.

Comparison: Ion exchange and the El-Ion™ electro-deionization module

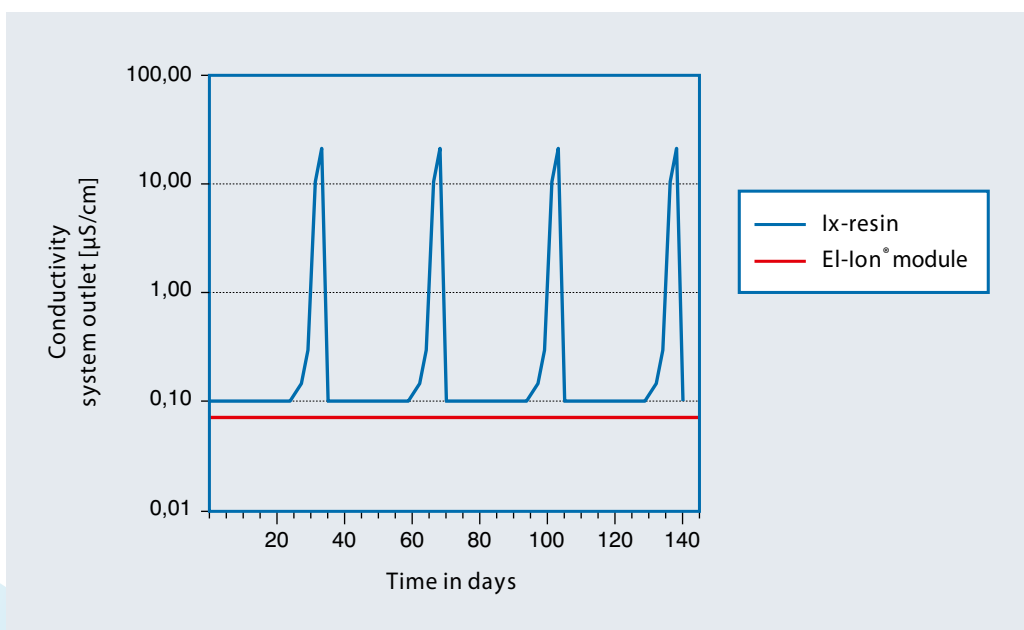
This diagram shows clearly what modern technology can do.

When a mixed bed polishing module is used, the conductivity of the product water increases during normal operation and exhaustion. The resin has to be changed or regenerated if the maximum acceptable conductivity is reached.

If using the El-Ion™ electro-deionization module, the product water quality is constantly at the highest level.

Kontinuierliche Wasserqualität, ohne DI-Modulaustausch. El-Ion™-Technik liefert niedrige TOC-Werte. Einfach hohe Wasserqualität zu jeder Zeit. Simply high quality water at all time.

COMPARISON IX-RESIN / ELECTRO-DEIONIZATION





EL-ION™ MODULE, PURE WATER OUTPUT 10 L/H



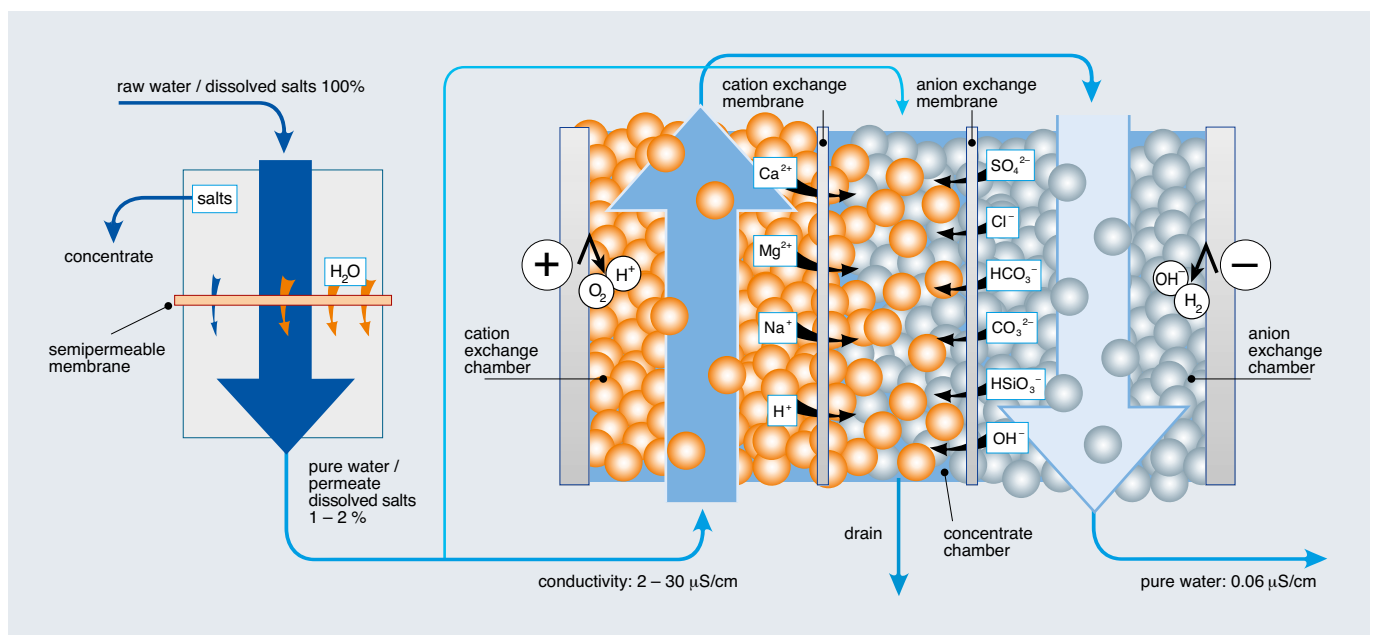
EL-ION™ MODULE, PURE WATER OUTPUT 40 TO 55 L/H

El-Ion™

Our electro-deionization module use resin chambers in a single bed configuration to further deionize the water. Microbiological analysis has proven a remarkable reduction in the number of bacteria with high CFU counts in the feed water. The electrodes that contact the resin create an electric potential in the water that is unsuitable for bacteria to live in. The intermediate pH

shift in the cells creates a positive effect for the removal of SiO_2 and CO_2 .

An added advantage of electro-deionization is continuous operation. The resin is continually regenerated without the use of any acids or alkali. The energy consumption of this process is very low and serves as an advantage for the environment - no chemicals and low power consumption.



THE PRINCIPLE OF THE EL-ION™ MODULE



STORAGE TANKS -
30 LITER AND 60 LITER

STORAGE TANKS

MADE OF POLYETHYLENE

All PE tanks are 100 % drainable. Accessories like UV lamps and distribution pumps available.

Storage tanks - 30 liter and 60 liter

These purified water resistant polyethylene tanks match the design of our Ultra Clear™ reverse osmosis systems. They can operate on a lab bench or can be mounted on a wall.

Connections are available for filling an automatic laboratory washing machine. A faucet can be placed at the bottom or middle of the tank for convenient use. The middle position allows a reserve of water for an adjustable laboratory washing machine. Level control sensor is included with two free selectable switch points for automatic on / off of the Ultra Clear™ reverse osmosis system.

A tank level display is also available. The tank level is indicated by continuous display on the RO panel.

The tanks can be equipped with additional accessories including sterile filter or CO₂ traps as shown in the tables.

Tanks are 100 % drainable.

Tank sizes from 100 l - 3000 l, as well as distribution pumps tank UV systems and CO₂ traps are available.

Storage tanks - 80 l

- A high grade steel pump with sufficient performance to provide automatic laboratory rinse units.
- Independent pressure control and protection against dry running of the pump.
- A level sensor provides a continuous display of the tank fill level in percent.
- Sterile air filter for the tank and CO₂ traps are available as options.
- Tank material is purified water resistant polyethylene.
- 100% drainable.



STORAGE TANK -
80 LITER

STORAGE TANKS FOR ULTRA CLEAR™ RO, RO DI AND RO EDI SERIES SYSTEMS

Type*		30 l	60 l	80 l	80 l
Tank volume	l	app. 30	app. 60	app. 80	app. 80
Power supply	V/Hz/kW	-	-	230/50/0.55	230/50/0.20
Pump performance	l/min	-	-	8	1.2
with counter pressure	bar	-	-	2	2
Level Sensor	mA	4 - 20	4 - 20	4 - 20	4 - 20
Height	mm	555	555	810	810
Depth	mm	300	300	520	580
Shipping weight	kg	9	10	15	15
Catalog Number		W3T199202	W3T199891	W3T197510	W3T197526

* Other tank sizes available upon request.

ACCESSORIES FOR ULTRA CLEAR™ RO TANKS

Item	Cat.No.
Accessories for Ultra Clear™ RO 30 l Tank	
CO ₂ Trap CT1 with Vent Filter VT1 Kit	W3T197552
CO ₂ Trap CT1 with Vent Filter VT1 & Submersible UV Lamp Kit	W3T199779
Submersible UV Lamp Kit	W3T199198
Vent Filter VT1 Kit	W3T199596
Vent Filter VT1 & Submersible UV Lamp Kit	W3T198122
Wall Bracket ET 30	W3T199991
Accessories for Ultra Clear™ RO 60 l Tank	
CO ₂ Trap CT1 with Vent Filter VT1 Kit	W3T197552
CO ₂ Trap CT1 with Vent Filter VT1 & Submersible UV Lamp Kit	W3T198870
Submersible UV Lamp Kit	W3T197553
Vent Filter VT1 Kit	W3T199596
Vent Filter VT1 & Submersible UV Lamp Kit	W3T199882
Wall Bracket ET 60	W3T197563
Accessories for Ultra Clear™ RO 80 l Tanks	
Vent Filter VT1	W3T199881
CO ₂ Trap CT1, incl. Vent Filter VT1 Kit	W3T199837
Submersible UV Lamp	W3T199615

CONSUMABLES FOR ULTRA CLEAR™ RO TANKS

Item	Cat.No.
Vent Filter VT1, Replacement Cartridge	W2T526554
CO ₂ Trap CT1, Replacement Cartridge	W3T199197
UV Replacement Bulb for 30 l Tank	W3T199748
UV Replacement Bulb for 60 l Tank	W3T199284
UV Replacement Bulb for 80 l Tank	W3T197514



ACTIVATED CARBON, ANIONS, MIXED BED AND CATION EXCHANGE RESINS (FROM LEFT TO RIGHT)

SYSTEM COMPONENTS

RAW WATER, ITS CONTAMINANTS AND THE EMBEDDED COMPONENTS OF THE WATER TECHNOLOGY UNITS

Potable water or water that is considered safe to drink contains many dissolved or suspended materials that could interfere with laboratory test methods. For reagent grade or ultrapure water, all of these materials would be considered contaminants.

These contaminants include: Total dissolved solids or ions, particles, colloids, organic material, gases and microorganisms. Potable water systems should not contain viable or pathogenic microorganisms. However, due to the ubiquitous nature of microorganisms, there is potential for small amounts of bacteria, viruses, algae, protozoa or fungi to be present.

Remnant body parts or large biochemical components of destroyed bacteria or other microorganisms may also be present in the form of endotoxins, DNA, RNase and DNase. Microorganism contamination may also pose a problem for stored water from pretreatment systems. All these impurities are removed by a combination of different purification technologies.

Only new, specially selected and certified materials are used for the treatment steps in our water systems. Resins and treatment media go through a rigorous R&D stage before approval for use to ensure high quality and zero leachable material that could interfere with water quality.

Carefully selected activated carbon is used in the systems to produce pure water with extremely low organic contaminants. The second application is the removal of free chlorine to protect RO membranes. All wetted parts within the our water systems are specially selected and tested to ensure purity.

The purification modules are accurately designed to ensure complete wetting of the activated carbon to remove entrained air and purge the systems.

The storage of modules is limited and items should be used within one year. Modules should be stored in a cool, dry location (< 20°C) away from light. Freshly produced replacement modules can always be obtained.

Pure water

- 1. High quality pure water can only be maintained if the produced water is constantly being re-circulated via different purification stages including the sterile filter.
- 2. A tank for storing pure water should always be equipped with a sterile vent filter, activated carbon unit, a CO₂ trap and a submersible UV lamp. A constant high water quality level can only be maintained by implementation of these components.
- 3. A regular disinfection procedure diminishes the formation of Biofilms. Disinfection should be done on a regular basis.
- 4. To prevent the growth of algae: Tanks used for storing water should be made of opaque material or be placed in a cabinet to prevent exposure to light. Avoid direct sun light.
- 5. Purifying modules should be replaced on a regular basis in order to maintain high quality water and to minimize possible contamination of bacteria.
- 6. In order to guarantee best water quality and operation of the water systems, the systems should undergo a regularly scheduled preventative maintenance and service procedure. An agreement for this service can be arranged with us.
- 7. Drainage tubing from any water treatment device should contain an air gap to prevent contamination. Maintain at least a 5-cm gap between the end of the tube and the drain.



Pretreatment module AMB

Activated carbon / pre-filter combination to protect RO membranes. Granulated carbon and a 1 µm filter.

Catalog No.: W3T197613



Conditioning module

Module used for the removal of residual hardness. The special cation deionizer resin prevents "Scaling" in the El-Ion™ cell.

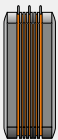
Catalog No.: W3T199848



Deionization module VMD

Mixed bed resin module utilized for a reduction of the inlet conductivity. Used for inorganic applications.

Catalog No.: W3T197618



El-Ion™ module

Electro-deionization process module for pure water production < 0.2 µS/cm. No chemicals in use. Constant water quality.

Catalog No. dependent on system size



RO Replacement module

Module with high performance TFC (thin-film-composite) membrane with a salt retention rate of up to 98%. Retention rate for dissolved organic compounds, particles and colloids and bacteria can exceed 99%.

Catalog No.: W3T197580



UV-disinfection

The 254 nm wavelengths range is used to destroy bacteria that may enter the system. The radiation produced in the 254 to 260 nm range is very effective at destroying bacteria and other microorganisms. The nucleic acids are disrupted resulting in the death of the organism. A properly sized high output UV system will substantially limit the bacterial growth in the system.

Catalog No.:

W3T199198: for 30 l tank

W3T197553: for 60 l tank

W3T199615: for 80 l tank

W3T199199: for Compact tank



UV-replacement bulb

The 254 nm wavelengths range is used to destroy bacteria that may enter the system. The radiation produced in the 254 to 260 nm range is very effective at destroying bacteria and other microorganisms. The nucleic acids are disrupted resulting in the death of the organism. A properly sized high output UV system will substantially limit the bacterial growth in the system.

Catalog No.:

W3T199748: for 30 l and Compact tank

W3T199284: for 60 l tank

W3T197514: for 80 l tank



PRE-PURIFICATION AMB AND VMD MODULES AND CONDITIONING MODULE.



REVERSE OSMOSIS

A NATURAL PHENOMENON IS USED FOR WATER PURIFICATION

The natural osmosis process can be reversed and used as an environmentally friendly and safe form of water purification.

HOW DOES REVERSE OSMOSIS WORK?

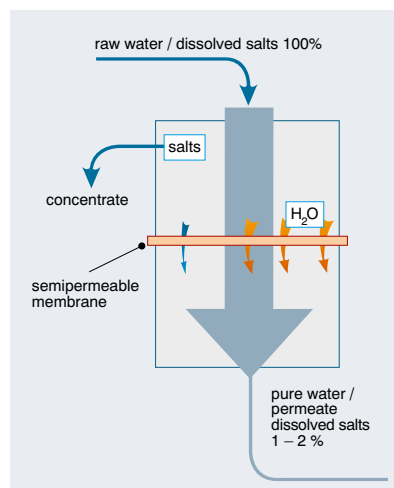
A solution with a high salt concentration is separated by a semi permeable membrane from a solution with a low salt concentration. In normal osmosis, the water from the side with less salt will begin permeating the membrane into the more concentrated solution.

In reverse osmosis, pressure is supplied that exceeds the osmotic pressure of the higher concentrated solution to force water in the reverse direction.

Clean water starts to permeate through the membrane. This water contains approximately 98% less salt than the inlet water. This technology will also remove > 99 % of particles and bacteria. The production rate of an RO

system depends on the water temperature. Our specifications are given at a water temperature of 15°C. Each °C of temperature variation creates a water production shift of 3 %!

Most manufacturers use 25°C to rate their performance, however, with our systems, you can be assured that your water production is in the right range even if the temperature falls below 25°C.



THE PRINCIPLE OF REVERSE OSMOSIS



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