



Proseers



# Quality Laboratory Water Solution



QINGDAO INNOVA BIO-MEDITECH CO., LTD





## About Us

**Innova Bio-Meditech** is one of the leading global providers of laboratory and medical devices. Firmly committed to our mission of “sharing innovative bio-meditech solutions with the world”, we are dedicated to innovation in the fields of Biology Project, Life Science, Pharmacy Industry and Medical Treatment.

**Innova Bio-Meditech** possesses a sound distribution and service network with business partners in North and Latin America, Europe, Africa and Asia-Pacific etc. We have built up a well established R&D, manufacture network with 3 centers in Beijing, Qingdao, and Shanghai. Inspired by the needs of our customers, we adopt advanced technologies and transform them into accessible innovation. This means constant effort and research, in order to more fully understand the developments of the market, produce constantly upgraded product ranges by adding new products year after year.

*The passion for science*



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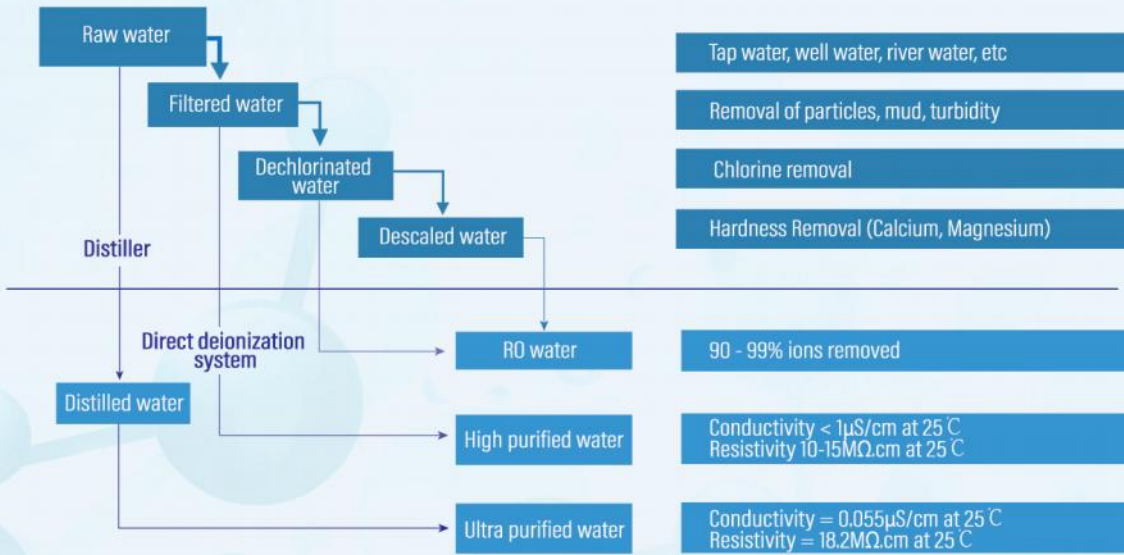
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Classic C300 / Classic C500 Central Type II high purified water Upgraded Type I ultra purified water for optional	27
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## Water purification phase



## Pollutants in water



### o Inorganic salt (ion)

Interfering element analysis experiments, such as: titration experiments, IC, AA, ICP-MS (ten times lower than the detection limit), affecting cell culture and other biochemical and molecular biology experiments: cadmium is still toxic to cells at a concentration of 0.1ppb, Generate scale or crystals

### o Organic matter (TOC)

Encapsulate ion exchange resin, affect cell growth, interfere with HPLC (background, miscellaneous peaks...), nutrients for microbial growth, and generally affect molecular biology experiments

### o Microorganism

Affect biological and molecular biology experiments such as cell culture experiments

### o Particles, colloids

Block filters, disperse light, provide food and carriers for microorganisms

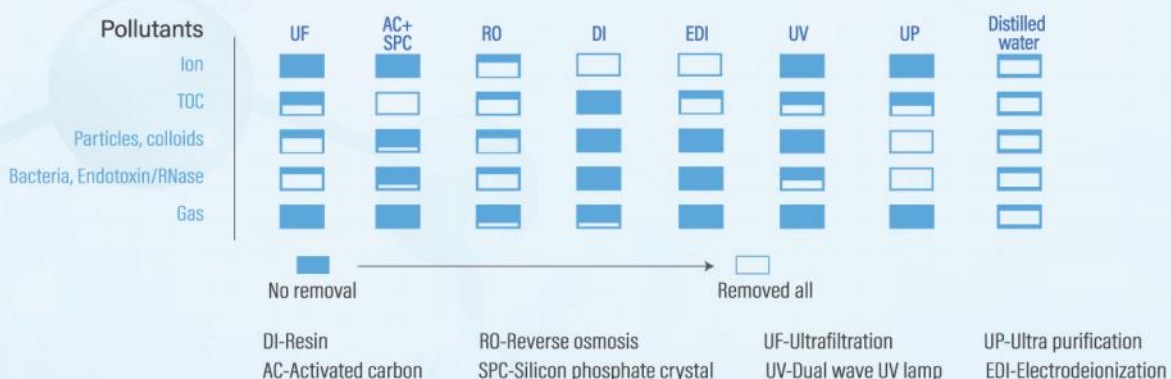
### o Heat source (endotoxin)/RNase, etc.

Cell culture and molecular biology will be affected

### o Gas:

The water also contains gas, but it has a very small impact on the experiment, and has a certain impact on individual optical experiments.

## Purification Technology



## Water system selection guide

Water Type	Application	Series
ASTM D1193 Type II water European pharmacopoeia purified water Japanese pharmacopoeia purified water ISO 3696 Grade 2 water JIS K 0577 A3 water Clinical Laboratory Reagent Water (CLSI)	Preparation of the buffer solution, microbial medium and reagents Cleaning materials (dishwasher), autoclave sterilizer, greenhouse Atomic absorption (depending on the resolution) Water peer crops Chemical industry (pure water) Pharmaceutical and cosmetic industry (purified water according to USP) Veterinary laboratory (purified water according to USP) Clinical analysis Salt fog room Climate room	<b>All-in-one system</b> Nova series: Nova EU10/EU15/EU20 Performa series: Performa EU10 Performa EU15/EU20 Classic series: Classic DU15/DU20/DU25 <b>Type II high purified water system</b> Performa series: Performa E10/E15/E20 Classic series: Classic D15 D20 D25
ASTM D1193 Type I water, Grade B European pharmacopoeia purified water in bulk Japanese pharmacopoeia purified water ISO 3696 Grade 1 water JIS K 0577 A4 water	Atomic absorption / ICP HPLC Ion chromatography GC-MS Molecular biology PCR Cell cultures DNA sequencing	<b>All-in-one system</b> Nova series: Nova EU10/EU15/EU20 Performa series: Performa EU10 Performa EU15/EU20 Classic series: Classic DU15/DU20/DU25 <b>Type I ultra purified water system</b> Nova series: Nova U Performa series: Performa U
ASTM D1193 Type II water European pharmacopoeia purified water Japanese pharmacopoeia purified water ISO 3696 Grade 2 water JIS K 0577 A3 water Clinical Laboratory Reagent Water (CLSI)	Quality laboratory purified feed water distributed by building pipeline Upgraded Type I ultra purified water for optional	<b>Titan series central high purified water system</b> Nova C300, Nova C500 Classic C300, Classic C500

### Standard Specification for the American Society of Testing and Materials (ASTM) D1193-91 reagent grade water

Parameters	Type I*	Type II**	Type III ***	Type IV
Maximum conductivity( $\mu\text{S}/\text{cm}$ at 25 °C)	0.056	1	4	5
Resistance: Electrical Min. ( $\text{M}\Omega\cdot\text{cm}$ at 25 °C)	18	1	0.25	0.2
PH at 25 °C	—	—	—	5-8
Maximum TOC ( $\mu\text{g}/\text{L}$ )	10	50	200	No restriction
Maximum sodium ( $\mu\text{g}/\text{L}$ )	1	5	10	50
Maximum silica ( $\mu\text{g}/\text{L}$ )	3	3	500	No restriction
Maximum chlorine ( $\mu\text{g}/\text{L}$ )	1	5	10	50

\* A membrane filter of 0.2 micron is required    \*\*Prepared by distillation    \*\*\*Requires a membrane filter of 0.45 $\mu\text{m}$

### 2006 CLSI Specification for Reagent Laboratory Water

Water Type	CLSI Specifications
CLRW (Clinical laboratory reagent water)	Maximum microbial content (CFU/mL) <10 Minimum resistivity 10 $\text{M}\Omega\cdot\text{cm}$ , 25°C Free of particulates >0.22 $\mu\text{m}$ Organic materials (TOC)<500 ppb



# Pretreatment module

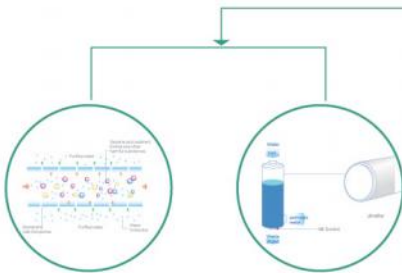
Pretreatment module is device to pre filter tap water before it goes to main system. Depends on the quality of inlet water, service life can reach 2-3 years.

*In the back of module are five water ports: water inlet, filtered water outlet, waste water outlet, booster pump water inlet, booster pump water outlet*

When working, the waste water outlet port will be closed. Inlet water will pass through the ultrafiltration membrane and out from filtered water outlet. When washing program running, a solenoid valve will turn on, water will go through the cartridge by pass filtered water outlet, flush the impurity on the surface of membrane, the waste water directly discharges from the waste water outlet.



## Module inside & Ultrafiltration cartridge



Ultrafiltration membrane



Ultrafiltration cartridge



Water leakage detection solenoid valve



Pretreatment flush solenoid valve

### Ultrafiltration cartridge

Ultrafiltration membrane molecular weight cutoff  $\leq 50000\text{Da}$ , can remove colloids, particles, free chlorine and minerals.

### Solenoid valve

The water leakage detection solenoid valve is placed inside the pretreatment module and is controlled by the host; when water leakage is detected and

lasts for 2 seconds, the solenoid valve cuts off the pretreatment water inlet.

### Pretreatment flush

The pretreatment ultrafiltration membrane flushing is linked with water production, automatically flushing the pretreatment module, the water is produced for 2 hours and flushed for 10 minutes (can be set), which can adapt to different water production

needs and extend the service life of consumables.

### Feed water requirements

The quality of feed water will affect directly the quality of purified water and service life of equipment, if the tap water contains a high rate of hardness that do not meet the requirements, please use salt softener to remove calcium ions and magnesium ion in advance.

# Three main purification cartridges

## Purification cartridges

### Pre-guard cartridge A

Filled with high-quality coconut shell activated carbon to effectively remove residual chlorine, macromolecular organics, colloids and heavy metal ions, etc.

### Pre-guard cartridge B

Filled with an appropriate amount of silicon phosphorus crystals to effectively reduce the hardness of feed water. Filled with wire wound filter elements to retain powder and floc impurities.

### Ultra purification cartridge B

Filled with electronic grade ion exchange resin, the ions in the water are controlled at ultra-trace levels. Advanced vertical flow purification method is adopted to ensure the service life and purification effect of purification cartridge, and reduce the use cost.

### Ultra purification cartridge A (optional)

Suitable for organic analysis experiments. Filled with electronic grade ion exchange resin and medical grade artificial activated carbon, the ions and organic matter are controlled at ultra trace level. Advanced vertical flow purification method is adopted to ensure the service life and purification effect of purification cartridge, and reduce the use cost.

### How to detect the water quality ?

— Conductivity sensors equipped in four places to detect the water quality.



# Rapid installation of cartridges

—The Assembly and disassembly of cartridges is super easy, remove the cap and place it where it should be.



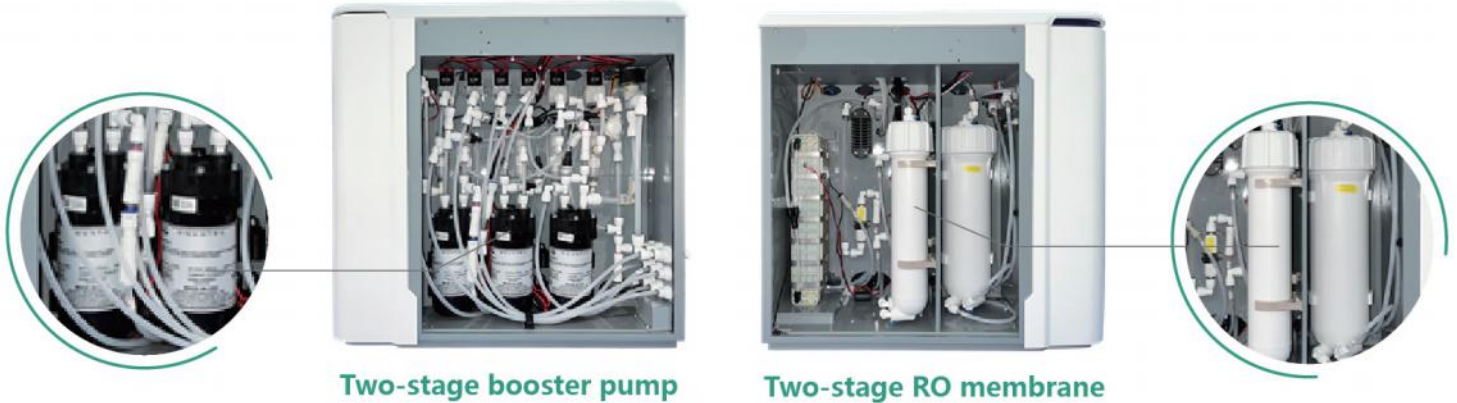
## Working capacity

- Pre-guard cartridge A—25000L
- Pre-guard cartridge B—25000L
- Ultra purification cartridge B—15000L
- Ultra purification cartridge A (optional)—15000L

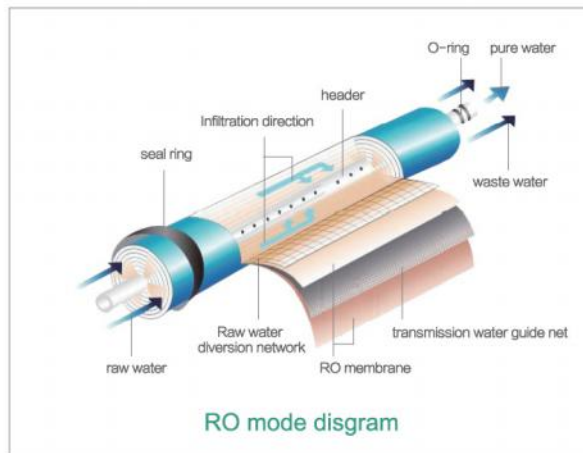




# Two-stage RO module



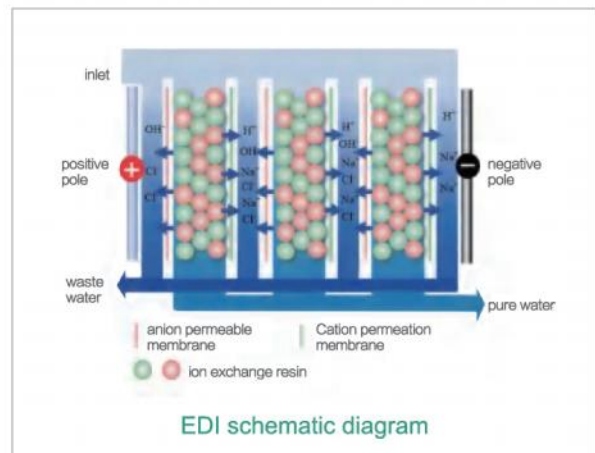
The output pressure of the two-stage booster pump can be automatically adjusted in real time according to the feed water conditions. Depends on feed water quality, our two-stage RO module service life can reach 2-3 years, and the conductivity of RO water will be less than 5µS/cm which can protect the EDI module and prolong EDI service life.



## Electrodeionization (EDI) system



The aim of Electrodeionization (EDI) system is removal ions completely



# Water circulation before collecting



## Water circulation before collecting

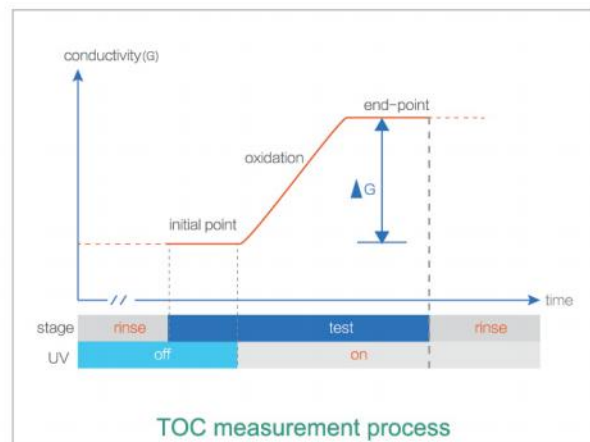
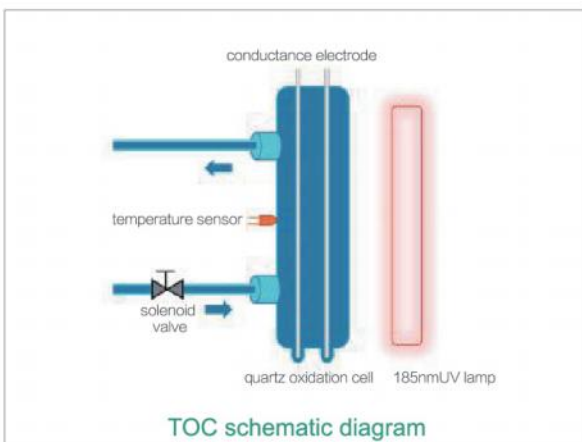
- When collect Type II water, the water in water tank flows back to the host, passing through circulation pump then outlet from the dispenser.
- When collect Type I water, the water in water tank flows back to the host, passing through circulation pump, dual wavelength ultraviolet lamp and ultra purification cartridge then outlet from the dispenser. Meanwhile, a little bit of Type I water will be divided to TOC analyzer module to evaluate the purity.

## Water pumps

CE and NSF qualified water pumps, low noisy and stable working pressure.

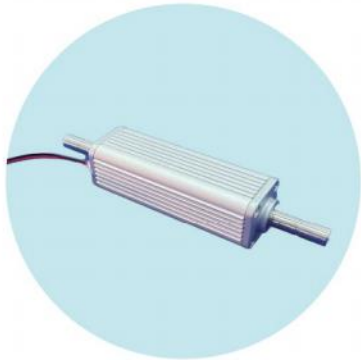
## TOC detection module

Total organic carbon(TOC) data will be shown on the screen, evaluated by a built-in real on-line TOC analyzer module with an independent closed oxidation cell that completely oxidizes organic matter to ensure accurate data. TOC level of Type I water is always less than 5ppb( $\mu\text{g/L}$ ).



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## System UV lamp



### Pure water UV lamp

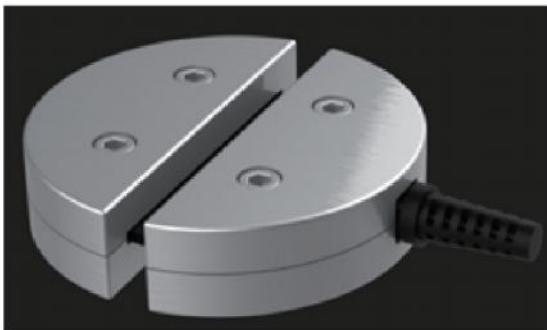
Equipped with Type II pure water **265nm LED UV lamp (mercury-free, eco-friendly)** for disinfection. Ensure that the pure water produced has low microbial content, and the microbial content of pure water tank will be less;



### Dual wavelength UV lamp

185nm wavelength can oxidize organic compounds. 254nm wavelength can cause microbial DNA damage and has disinfection effect.

## Water leakage detector



### External water leakage detector



### Built-in water leakage detector

Independent water leakage protection, dual-site detection inside and outside the main host, accurate identification of water contact points, distinguish between water source leakage and instrument internal leakage, to ensure the safety of the entire laboratory. Once water leakage detected, 2 seconds after will turns to standby mode automatically.



# 30/60/100 liters PE water tank

- 254nm UV lamp, works 10 minutes every 1h 50mins to prevent growth of bacteria.
- 0.2µm inlet air filter to prevent air pollution.
- Pressure sensor to indicate the amount of water.
- Stepless water level adjustment on touch screen.



UV lamp



Air filter



Liquid level sensor



## Automatic wake-up program for RO and EDI

- When the purification system rests more than 24 hours, a wake-up program will start automatically to produce purified water in order to make sure the purification quality for your daily use.

## How to dispense purified water?



- To collect Type II water by using water valve directly from the water tank



- Collect Type II and Type I water by using dispenser arms: dispense water by clicking the button to activate, by rotating the button to control the flow rate upto 2L/min, to stop dispensing by clicking the button again



- **Quantitative water dispense.** Click the flask icon, enter the amount in milliliters, save and press 'dispenser' to collect water, the collecting can be terminated by clicking "cancel"



- **Foot pedal** frees your hands, flow rate upto 2L/minutus need be setted in advance by rotating the button of dispenser arm (Standard)

# Remote dispenser arms

Two remote dispenser arms, one for Type II high purified water and one for Type I ultra purified water. Mounted with TFT touch sc-reen for setting, operating and monitoring. The arm equipped with a point-of-use filter can move up and down, and it also can be rotated 360 degrees.



# Universal salt softener all laboratory use models

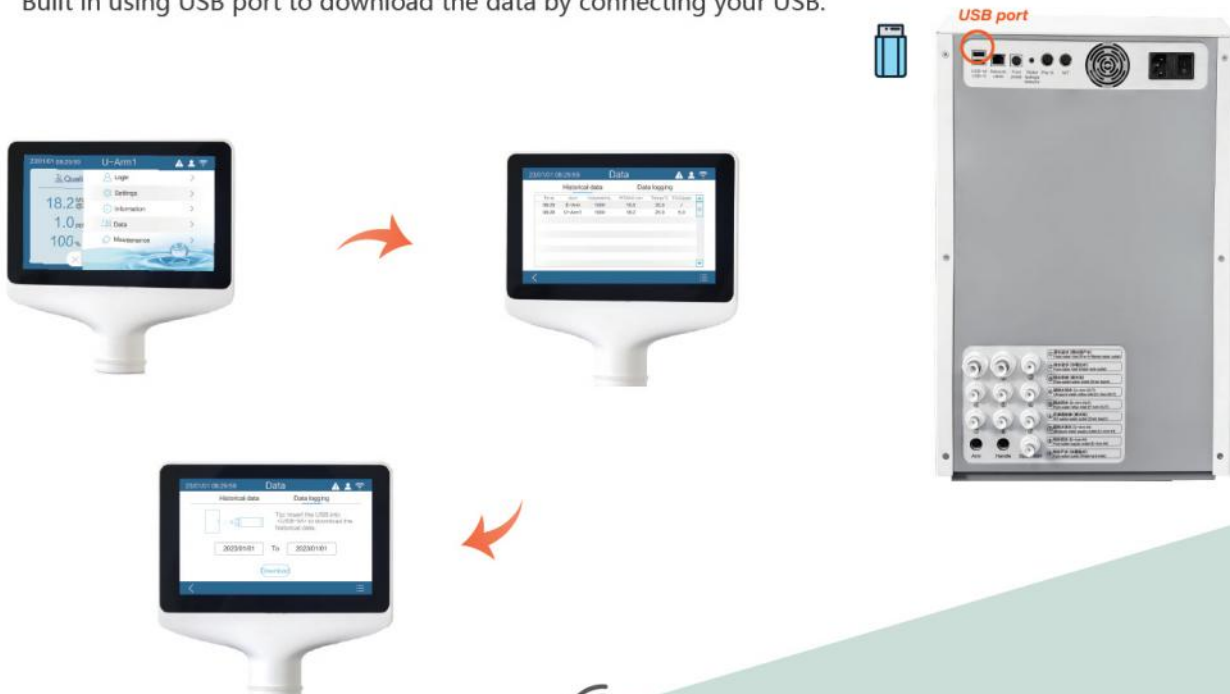


Control valve	Automatic
Regeneration mode	Flow time mixed type/time type
Volume	5L
Recommended flow	≥0.5T/H
Pressure	0.15-0.5MPa
voltage	220V 50Hz
Inlet and outlet size	3/4" and 1"
Drain pipe size	φ18mm
Salt valve	Yes
External dimension	230×450×485mm
Packing dimension	240×465×520mm

# Data record & WIFI service

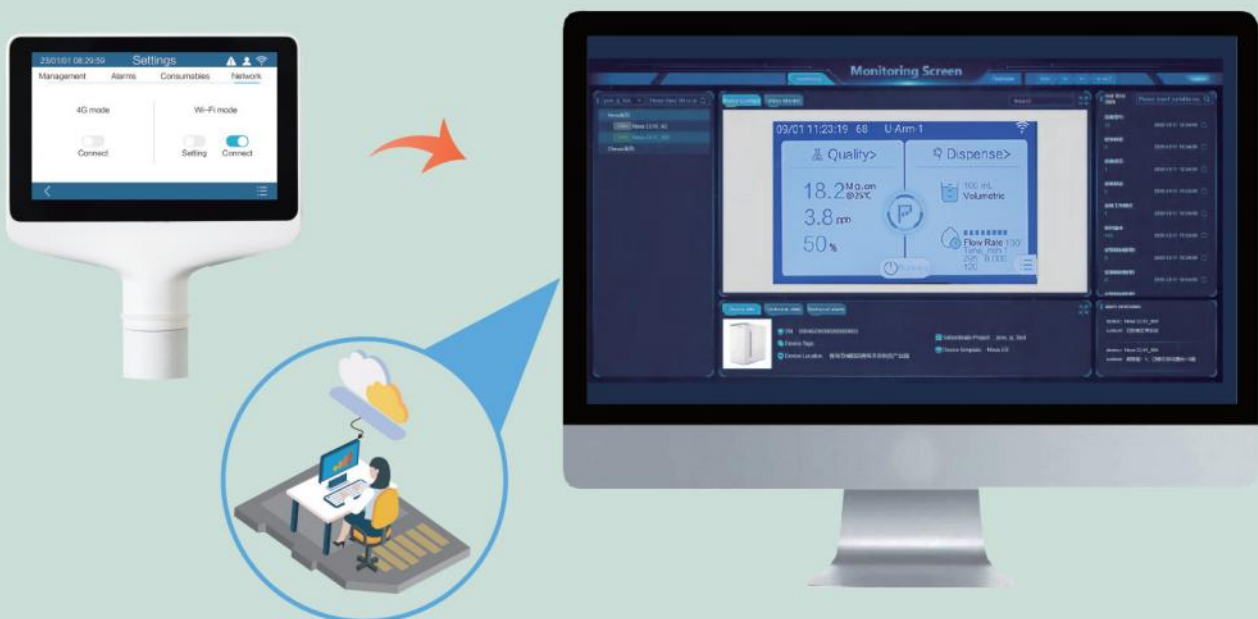
## How to download data?

Built in using USB port to download the data by connecting your USB.



## Wifi function

Our Wifi function offers real-time remote monitoring service, in the settings menu, select wifi mode or 4G mode. After connecting, users can check the running status of system at any time.





# Nova Zero-ion

**purification terminal and dispensing unit of Nova U and Nova EU series, providing ppt or sub-ppt ultrapure water for sensitive analyses such as trace and ultra-trace elemental analysis**

## Applications:

- ICP-MS/ nano UHPLC/ nano LC-MS/ LC-ESI- MS/ GF-AAS analyses
- Detection and measurement of elements at ppt and sub-ppt levels in samples
- Trace and ultra-trace elemental analyses
- Electronic chip flushing
- Environmental testing, drug analysis, forensic medicine, food and beverage industry, etc.



## Main features

Compact design occupies less space, simple dispenser unit can be placed in super clean area to reduce contamination. Equipped with NFC chip recognition, internet of things technology, online real time U-cloud remote monitoring.

## Trace analysis ultra-purification cartridge



- Unique cartridge with patented electronica grade resin, easy to replace
- Brand-new waterway design, more loading capacity and stable water quality
- Unique connection design, stronger pressure resistance, better tightness

## Outlet pipe support



- Easy to place in any clean environment
- Integrated design, easy to clean, prevent the growth of bacteria
- Good chemical stability, suitable for any environmental conditions

## Intelligent human-computer interaction



- 5" LCD touch screen, animated icons, easy to operate



- Three-level access authorities, convenient laboratory management

ion_col	
Name	ion_col
Identification code	95437000
Installation date	2022-01-13
Running time	47Day
Volume	11000L

- Clear running status and information display

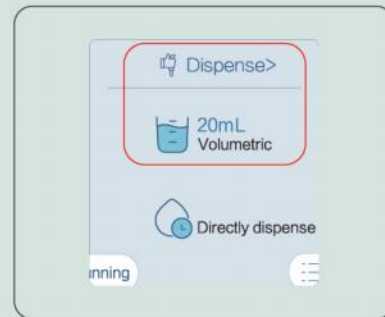


- Water quality report viewing and exporting function

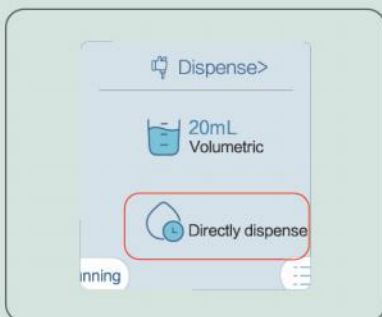
## Dispense control



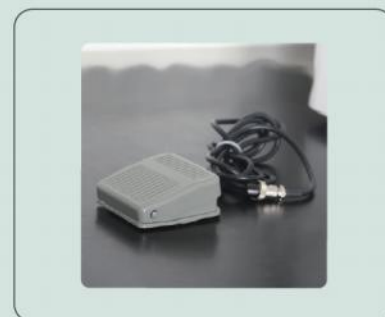
- Flow rate control by Type I water dispenser arm, up to 2L/min



- Quantitative water dispense



- Directly dispense by click the icon



- Foot pedal frees your hands

# Central high purified water system

—Titan series is central high purified water system including pre-treatment system, main system and water tank.



## Pre-treatment system include

- Raw water pump
- Sand carbon filter, filled with activated carbon with stable performance to effectively remove residual chlorine and organic matter.
- Dual treatment of salt tank and resin softener to reduce the water hardness and remove water scale.
- Ultrafiltration membrane, PVDF material, nano-level filtration, remove particles, silt, colloids, microorganisms, etc. to ensure the safety and efficiency of the back-end purification components.

## Main system include

- CE and NSF qualified high pressure water pump
- Reverse osmosis membrane, rejection rate 95% -99% to remove organic matter, ions and particles.
- EDI module
- Water distribution pump
- Microporous filter membrane pipeline filter to prevent pipeline pollution caused by microorganisms and blockage by debris
- Dual wavelength (254nm & 185nm) UV-lamp to remove microorganisms including bacterial spores and non-pathogenic microorganisms



## SUS 304 stainless steel water tank

- Standard volume is 500L, can be customized upto 1 ton, 1.5 tons, 2 tons, etc. Equipped with 254nm UV lamp and 0.2μm inlet air filter

## How to collect purified water?

- Water supply port, directly distribute the purified water into all inlet pipeline of building
- Purified water outlet for temporary water collecting



# —Nova-Smart



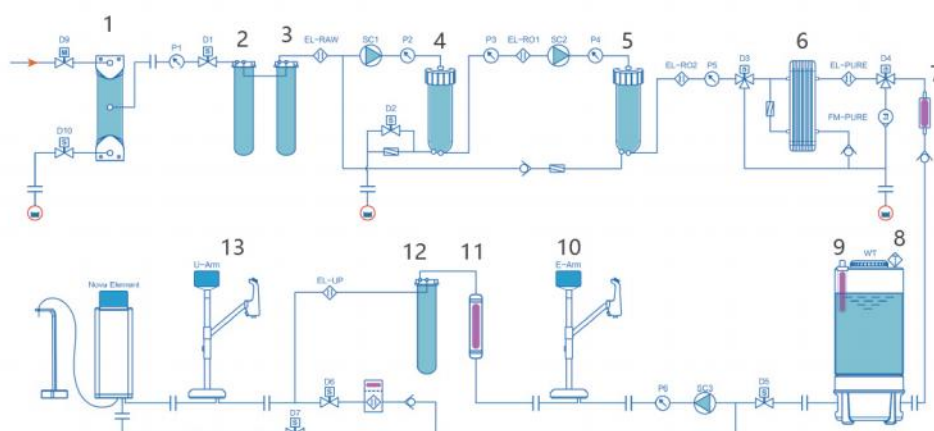
## Nova EU10 / Nova EU15 / Nova EU20

### Unique features

All-in-one system

- All-in-one system for ASTM Type I & Type II water/Clinical laboratory reagent water (CLSI)
- Real on-line TOC analyzer with 185nm UV-lamp inside
- EDI module imported
- Dual wavelength UV lamp 254nm & 185nm, Pure water UV lamp 265nm
- Two (Type I & Type II) remote water dispenser arms with touch screen display
- U-cloud platform for remote monitoring (Wifi module)
- USB access port for data logging

### Water Flow Chart



- |                            |                             |                                  |
|----------------------------|-----------------------------|----------------------------------|
| 1. Pre-treatment module    | 5. Second stage RO membrane | 9. Water tank UV lamp 254nm      |
| 2. Pre-guard cartridge A   | 6. EDI module               | 10. Type II water dispenser arm  |
| 3. Pre-guard cartridge B   | 7. Pure water UV lamp 265nm | 11. UV lamp 185 & 254 nm         |
| 4. First stage RO membrane | 8. Water tank air filter    | 12. Ultra purification cartridge |
|                            |                             | 13. Type I water dispenser arm   |



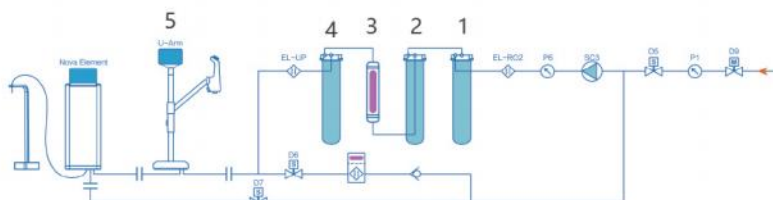
## Nova U

### Unique features

- ASTM Type I Ultra purified water system
- Real on-line TOC analyzer with 185nm UV-lamp inside
- Dual wavelength UV-lamp 254nm & 185nm
- One Type I remote water dispenser arm with touch screen display
- U-cloud platform for remote monitoring (Wifi module)
- USB access port for data logging

ASTM Type I Ultra purified water system

### Water Flow Chart



1. Pre purification cartridge A
2. Pre purification cartridge B
3. UV lamp 185 & 254 nm
4. Ultra purification cartridge
5. Type I water dispenser arm

Main configurations	All-in-one system			Type I water
	Nova EU10	Nova EU15	Nova EU20	Nova U
Pre-treatment module		YES		NO
Main host		YES		YES
Pre-guard cartridge A		YES		NO
Pre-guard cartridge B		YES		NO
Ultra purification cartridge B*		YES		YES
Two-stage Reverse osmosis		YES		NO
EDI module imported		YES		NO
Pre purification cartridge A		NO		YES
Pre purification cartridge B		NO		YES
Dual wavelength (254nm & 185nm) UV-lamp		YES		YES
Pure water UV lamp (265nm)		YES		NO
Real on-line TOC analyzer		YES		YES
Type I Remote water dispenser arm with touch screen display		YES		YES
Type II Remote water dispenser arm with touch screen display		YES		NO
2M water piping from main unit to water tank & water dispenser		YES		YES
Water tank of Type II water, stepless water level sensor		YES		NO
254nm UV light of water tank		YES		NO
Inlet air filter of water tank 0.2µm		YES		NO
Water leakage protection sensor		YES		YES
0.22 µm end filter		YES		YES

\*Optional ultra purification cartridge A special for semiconductor industry that has higher deionization requirements

Model	All-in-one system			Type I water
	Nova EU10	Nova EU15	Nova EU20	Nova U
<b>Feed water requirements</b>				
Source	Potable tap water			Type II water/RO
Conductivity	<2000µS/cm			<100µS/cm
TOC	<1ppm			<50ppb
Hardness*	< 300ppm			0-1ppm
Pressure	0.1~0.4MPa			0~0.4MPa
Temperature	4~45℃			4~45℃
PH	5-9			7/6-8
Total chlorine	<3ppm			/
Residual chlorine	<2ppm			/
SiO <sub>2</sub>	<30ppm			/
<b>Type II high purified water</b>				
Resistivity at 25℃**	15MΩ.cm; typically 10-15MΩ.cm			
Conductivity at 25℃**	0.067µS/cm; typically 0.1µS/cm			
TOC	<30ppb(µg/L)			N/A
Particulates with size > 0.22µm***	No particles			
Bacteria***	<0.01cfu/mL (<10cfu/L)			
RO rejection	≥99%			
EDI ion rejection	≥99%			
Production flow rate	10L/H	15L/H	20L/H	
Manual control water flow rate	Maximum 2L/min, stepless control of flow rate			
Quantitative water dispense range	0.01L ~ 60L			
<b>Type I ultra purified water</b>				
Resistivity at 25℃	18.2MΩ.cm			
Conductivity at 25℃	0.055µS/cm			
TOC	≤2ppb(µg/L)			
Particulates with size > 0.22µm***	No particles			
Endotoxin (Pyrogens)***	<0.001EU/mL			
Bacteria***	<0.01cfu/mL (<10cfu/L)			
Rnase/Dnase***	—			
Proteases***	<0.15µg/mL			
Manual control water flow rate	Maximum 2L/min, stepless control of flow rate			
Quantitative water dispense range	0.01L ~ 60L			
<b>Electrical requirement</b>				
Electrical voltage	110V/220V ±10%			
Electrical frequency	50Hz/60Hz			
Power	<135W			
<b>Size information</b>				
<b>Net Weight</b>				
Pre-treatment module	5.9kg			N/A
Main host	24.9kg	25.4kg	26.6kg	14.3kg
Water dispenser arm	4.1kg/unit			N/A
30L Water tank	10.6kg			
60L Water tank	12.2kg			
100L Water tank	13.6kg			
<b>External Dimension (WxDxH)</b>				
Pre-treatment module	180×215×430 (mm)			N/A
Main host	330×545×525 (mm)			330×420×525 (mm)
Water dispenser arm	204×330×714 (mm)/unit			
30L Water tank	410×410×695(mm)			N/A
60L Water tank	410×410×935(mm)			
100L Water tank	410×410×1245(mm)			
<b>Packing information</b>				
<b>Gross Weight</b>				
Accessory	13kg			N/A
Main host	33kg			24kg
Water dispenser arm	7.5kg/unit			N/A
30L Water tank	12.5kg			
60L Water tank	15.1kg			
100L Water tank	16kg			
<b>Packing Dimension (WxDxH)</b>				
Accessory	400×780×280 (mm)			N/A
Main host	420×630×700 (mm)			420×630×790 (mm)
Water dispenser arm	400×780×280 (mm)/unit			
30L Water tank	420×420×770 (mm)			N/A
60L Water tank	420×420×1010 (mm)			
100L Water tank	420×420×1320 (mm)			

\*If the tap water contains a high rate of calcium ions and magnesium ion which do not meet the requirement, please use salty box to remove part of calcium ions and magnesium ion in advance

\*\*Resistivity typically 10-15MΩ.cm at 25℃, Conductivity typically 0.1µS/cm, at 25℃

\*\*\*Feed water quality should meet above requirements and purified water through the remote water dispenser with end filter



# —Nova Zero-ion



## Nova Zero-ion

### Unique features

- Equip with Nova EU and Nova U only
- Unique cartridge with patented electronica grade resin
- U-cloud platform for remote monitoring
- USB access port for data logging

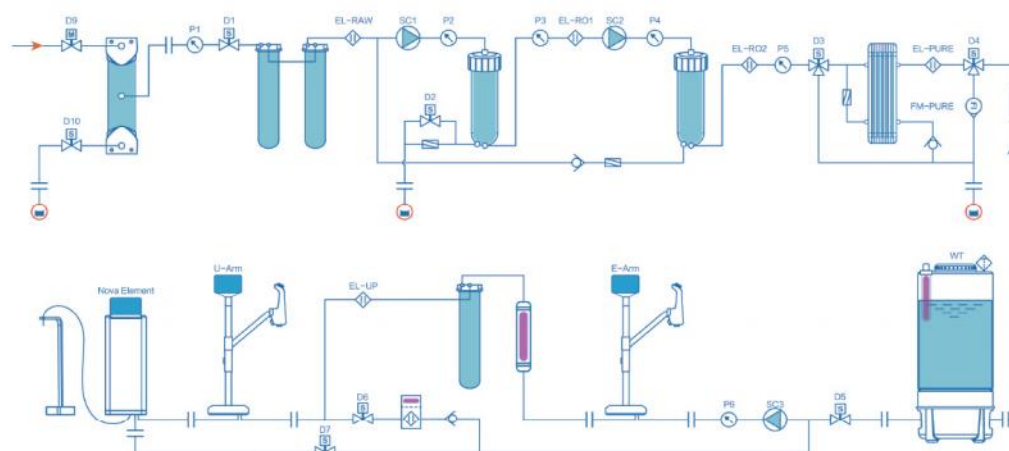
ppt or sub-ppt ultra purified water

Feed water*	
Resistivity at 25 °C	18.2MΩ.cm
Total Organic Carbon (TOC)	≤5ppb(μg/L)
Performance	
Resistivity at 25 °C	18.2MΩ.cm
Total Organic Carbon (TOC)	≤2ppb(μg/L)
Ion content**	<0.1ppt
Flow rate	Up to 2L/min, stepless control
Quantitative water dispense range	0.01L-60L
Size information	
Dimensions (W×D×H)	180×217×510mm
Net weight	6.9kg
Length of outlet pipe	Standard 2m, customized length for optional
Outlet pipe support dimensions (W×D×H)	80×201.5×400mm
Packing information	
Package dimensions (W×D×H)	220×451×563mm
Gross weight	8.5kg

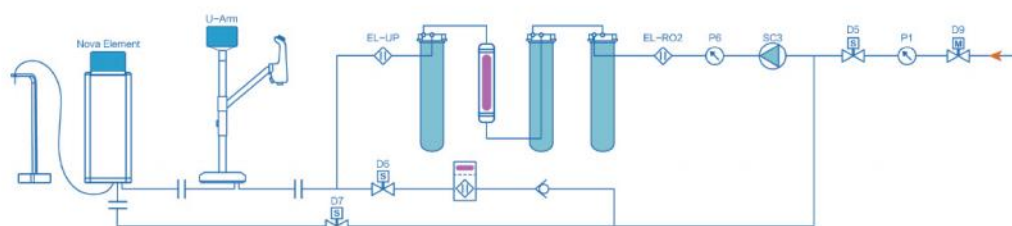
\*Ultra pure water/Type I water by Nova series

\*\*Verified by end user, analytical technique of trace elements

## Nova EU



## Nova U



### Elemental detection data

Element	Unit	Detection limit	Sample
Calcium (Ca)	µg/L	6.61	<6.61
Iron (Fe)	µg/L	0.82	<0.82
Chromium (Cr)	µg/L	0.11	<0.11
Barium (Ba)	µg/L	0.2	<0.2
Vanadium (V)	µg/L	0.08	<0.08
Cadmium (Cd)	µg/L	0.05	<0.05
Cobalt (Co)	µg/L	0.03	<0.03
Gallium (Ga)	µg/L	0.02	<0.02
Potassium(K)	µg/L	4.5	<4.5
Aluminium (Al)	µg/L	1.15	<1.15
Magnesium (Mg)	µg/L	1.94	<1.94
Manganese (Mn)	µg/L	0.12	<0.12
Molybdenum (Mo)	µg/L	0.06	<0.06
Sodium (Na)	µg/L	6.36	<6.36
Nickel (Ni)	µg/L	0.06	<0.06
Boron (Bi)	µg/L	1.25	<1.25
Beryllium (Be)	µg/L	0.04	<0.04
Lead (Pb)	µg/L	0.09	<0.09
Arsenic (As)	µg/L	0.12	<0.12
Strontium (Sr)	µg/L	0.29	<0.29
Thallium (Tl)	µg/L	0.02	<0.02
Titanium (Ti)	µg/L	0.46	<0.46
Antimony (Sb)	µg/L	0.15	<0.15
Copper (Cu)	µg/L	0.08	<0.08
Selenium (Se)	µg/L	0.41	<0.41
Tin (Sn)	µg/L	0.08	<0.08
Zinc (Zn)	µg/L	0.67	<0.67
Sliver (Ag)	µg/L	0.04	<0.04

Data obtained courtesy of SGS-CSTC Standards Technical Services (Qingdao) Co., Ltd

# —Performa



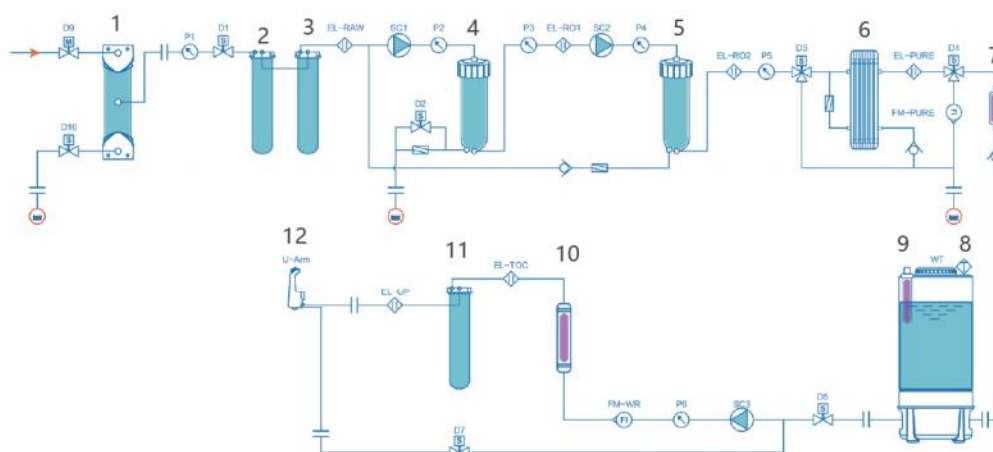
## Performa EU10 / Performa EU15 / Performa EU20

### Unique features

### All-in-one system

- All-in-one system for ASTM Type I & Type II water/Clinical laboratory reagent water (CLSI)
- Integrated water dispenser arm
- On line real time TOC monitoring
- Dual wavelength UV lamp 254nm & 185nm, Pure water UV lamp 265nm
- China made EDI self-developed
- U-cloud platform for remote monitoring (Wifi module)
- USB access port for data logging

### Water Flow Chart



1. Pre-treatment module
2. Pre-guard cartridge A
3. Pre-guard cartridge B
4. First stage RO membrane

5. Second stage RO membrane
6. EDI module
7. Pure water UV lamp 265nm
8. Water tank air filter

9. Water tank UV lamp 254nm
10. UV lamp 185 & 254 nm
11. Ultra purification cartridge
12. Type I water dispenser arm





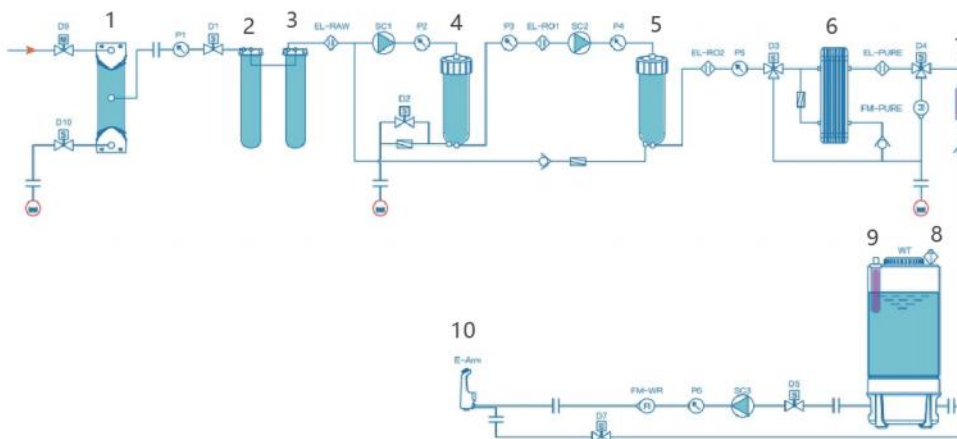
## Performa E10 / Performa E15 / Performa E20

### Unique features

- Integrated water dispenser arm
- China made EDI self-developed
- U-cloud platform for remote monitoring (Wifi module)
- USB access port for data logging
- Pure water UV lamp 265nm

ASTM Type II high purified water system  
Clinical laboratory reagent water (CLSI)

### Water Flow Chart



1. Pre-treatment module
2. Pre-guard cartridge A
3. Pre-guard cartridge B
4. First stage RO membrane
5. Second stage RO membrane

6. EDI module
7. Pure water UV lamp 265nm
8. Water tank air filter
9. Water tank UV lamp 254nm
10. Type II water dispenser arm



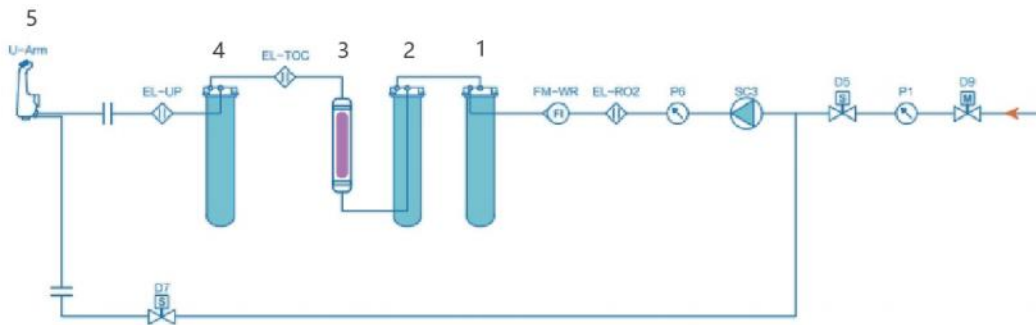
## Performa U

### Unique features

- Integrated water dispenser arm
- On line real time TOC monitoring
- Dual wavelength UV-lamp 254nm & 185nm
- U-cloud platform for remote monitoring (Wifi module)
- USB access port for data logging

ASTM Type I Ultra purified water system

### Water Flow Chart



1. Pre purification cartridge A
2. Pre purification cartridge B
3. UV lamp 185 & 254 nm
4. Ultra purification cartridge
5. Type I water dispenser arm

Main configurations	All-in-one system			Type II water			Type I water
	Performa EU0	Performa EU15	Performa EU20	Performa E10	Performa E15	Performa E20	Performa U
Pre-treatment module		YES			YES		NO
Main host		YES			YES		YES
Pre-guard cartridge A		YES			YES		NO
Pre-guard cartridge B		YES			YES		NO
Pre purification cartridge A		NO			NO		YES
Pre purification cartridge B		NO			NO		YES
Two-stage Reverse osmosis		YES			YES		NO
EDI module self-developed		YES			YES		NO
Water tank; stepless water level sensor		YES			YES		NO
254nm UV light of water tank		YES			YES		NO
Inlet air filter of water tank 0.2µm		YES			YES		NO
Water leakage protection sensor		YES			YES		YES
Dual wavelength (254nm & 185nm) UV-lamp		YES			NO		YES
Pure water UV lamp (265nm)		YES			YES		NO
TOC monitoring		YES			NO		YES
Ultra purification cartridge B		YES			NO		YES
One integrated water dispenser arm		YES			YES		YES
1M water piping from main unit to water dispenser arm		YES			YES		YES
0.22 µm end filter		YES			YES		YES

\* Optional ultra purification cartridge A special for semiconductor industry that has higher deionization requirements

Model	All-in-one system			Type II water			Type I water
	Performa EU10	Performa EU15	Performa EU20	Performa E10	Performa E15	Performa E20	Performa U
<b>Feed water requirements</b>							
Source	Potable tap water						Type II water/RO
Conductivity	<2000µS/cm						<100µS/cm
TOC	<1ppm						<50ppb
Hardness*	<300ppm						0-1ppm
Pressure	0.1~0.4MPa						0~0.4MPa
Temperature	4~45 C						4~45 C
PH	5-9						7/6-8
Total chlorine	<3ppm						/
Residual chlorine	<2ppm						/
SiO <sub>2</sub>	<30ppm						/
<b>Type II high purified water</b>							
Resistivity at 25 C **	15MΩ.cm; typically 10-15MΩ.cm						N/A
Conductivity at 25 C **	0.067µS/cm; typically 0.1µS/cm						
TOC	<30ppb(µg/L)						
Particulates with size > 0.22µm***	No particles						
Bacteria***	<0.01cfu/mL (<10cfu/L)						
RO rejection	≥99%						
EDI ion rejection	≥99%						
Production flow rate	10L/H	15L/H	20L/H	10L/H	15L/H	20L/H	
<b>Type I ultra purified water</b>							
Resistivity at 25 C	18.2MΩ.cm			N/A			18.2MΩ.cm
Conductivity at 25 C	0.055µS/cm						0.055µS/cm
TOC	≤2ppb(µg/L)						≤2ppb(µg/L)
Particulates with size > 0.22µm ***	No particles						No particles
Endotoxin (Pyrogens) ***	<0.001EU/mL						<0.001EU/mL
Bacteria ***	<0.01cfu/mL (<10cfu/L)						<0.01cfu/mL (<10cfu/L)
Rnase/Dnase***	—						Free
Proteases***	<0.15µg/mL			<0.15µg/mL			
Manual control water flow rate	Maximum 2L/min, stepless control of flow rate			Maximum 2L/min, stepless control of flow rate			
Quantitative water dispense range	0.01L ~ 60L			0.01L ~ 60L			
<b>Electrical requirement</b>							
Electrical voltage	110V/220V ±10%						
Electrical frequency	50Hz/60Hz						
Power	<135W						
<b>Size information</b>							
<b>Net Weight</b>							
Pre-treatment module	5.9kg						N/A
Main host with dispenser arm	26.8kg	27.2kg	27.6kg	25.8kg	26.2kg	26.6kg	14.6kg
30L Water tank	10.6kg						N/A
60L Water tank	12.2kg						
100L Water tank	13.6kg						
<b>External Dimension (WxDxH)</b>							
Pre-treatment module	180×215×430 (mm)						N/A
Main host with dispenser arm	330×545×605 (mm)						330×420×605 (mm)
30L Water tank	410×410×695 (mm)						N/A
60L Water tank	410×410×935 (mm)						
100L Water tank	410×410×1245 (mm)						
<b>Packing information</b>							
<b>Gross Weight</b>							
Accessory	13kg						24kg
Main host with dispenser arm	36kg						
30L Water tank	12.5kg						
60L Water tank	15.1kg						
100L Water tank	16kg						N/A
<b>Packing Dimension (WxDxH)</b>							
Accessory	400×780×280 (mm)						N/A
Main host with dispenser arm	420×630×790 (mm)						420×630×790 (mm)
30L Water tank	420×420×770 (mm)						N/A
60L Water tank	420×420×1010 (mm)						
100L Water tank	420×420×1320 (mm)						

\*If the tap water contains a high rate of calcium ions and magnesium ion which do not meet the requirement, please use salty box to remove part of calcium ions and magnesium ion in advance

\*\*Resistivity typically 10-15MΩ.cm at 25 C, Conductivity typically 0.1µS/cm, at 25 C.

\*\*\*Feed water quality should meet above requirements and purified water through the remote water dispenser with end filter



# —Classic



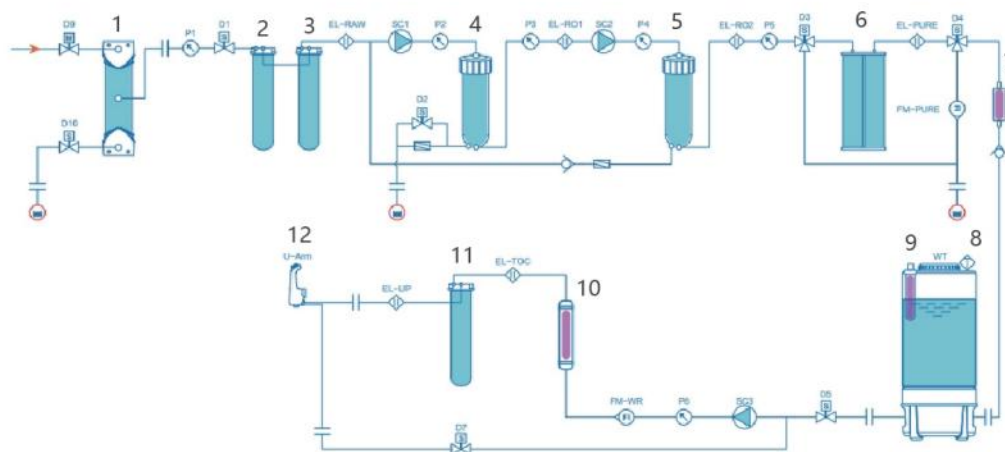
## Classic DU15 / Classic DU20 / Classic DU25

### Unique features

- ASTM Type I & Type II water/Clinical laboratory reagent water (CLSI)
- On line real time TOC monitoring
- Dual wavelength UV lamp 254nm & 185nm, Pure water UV lamp 265nm
- U-cloud platform for remote monitoring (Wifi module)
- DI resin module
- USB access port for data logging

### All-in-one system

## Water Flow Chart



1. Pre-treatment module
2. Pre-guard cartridge A
3. Pre-guard cartridge B
4. First stage RO membrane

5. Second stage RO membrane
6. DI module
7. Pure water UV lamp 265nm
8. Water tank air filter

9. Water tank UV lamp 254nm
10. UV lamp 185 & 254 nm
11. Ultra purification cartridge
12. Type I water dispenser arm



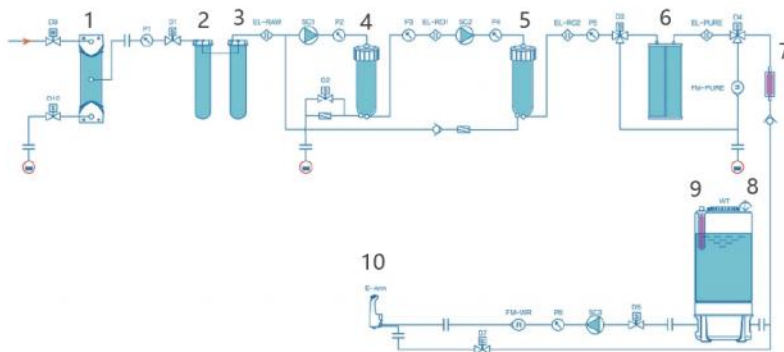
### Classic D15 / Classic D20 / Classic D25

#### Unique features

- Integrated water dispenser arm
- U-cloud platform for remote monitoring (Wifi module)
- DI resin module
- USB access port for data logging
- Pure water UV lamp 265nm

ASTM Type II high purified water system  
Clinical laboratory reagent water (CLSI)

#### Water Flow Chart



1. Pre-treatment module
2. Pre-guard cartridge A
3. Pre-guard cartridge B
4. First stage RO membrane
5. Second stage RO membrane
6. DI module
7. Pure water UV lamp 265nm
8. Water tank air filter
9. Water tank UV lamp 254nm
10. Type II water dispenser arm

Main configurations	All-in-one system			Type II water		
	DU15	DU20	DU25	D15	D20	D25
Pre-treatment module		YES			YES	
Main host		YES			YES	
Pre-guard cartridge A		YES			YES	
Pre-guard cartridge B		YES			YES	
Two-stage Reverse Osmosis		YES			YES	
DI resin		YES			YES	
Water tank; stepless water level sensor		YES			YES	
254nm UV light of water tank		YES			YES	
Inlet air filter of water tank		YES			YES	
Water leakage protection sensor		YES			YES	
TOC monitoring		YES			NO	
Dual wavelength (254nm & 185nm )UV-lamp		YES			NO	
Pure water UV lamp (265nm)		YES			YES	
Ultra purification cartridge B		YES			NO	
One integrated water dispenser arm		YES			YES	
0.22 μm end filter		YES			YES	

\*Optional ultra purification cartridge A special for semiconductor industry that has higher deionization requirements

Model	All-in-one system			Type II water		
	DU15	DU20	DU25	D15	D20	D25
<b>Feed water requirement</b>						
Source	Potable tap water					
Conductivity	< 2000 $\mu$ S/cm					
TOC	< 1ppm					
Hardness*	< 300ppm					
Pressure	0.1 – 0.4MPa					
Temperature	4~45 °C					
pH	5-9					
Total chlorine	<3ppm					
Residual chlorine	<2ppm					
SiO <sub>2</sub>	<30ppm					
<b>Type II high purified water</b>						
Resistivity at 25 °C**	>8M $\Omega$ .cm; typically 10-15M $\Omega$ .cm					
Conductivity at 25 °C**	Typically 0.1 $\mu$ S/cm					
TOC	<30ppb( $\mu$ g/L)					
Particulates with size > 0.22 $\mu$ m***	<1pc/ $\mu$ L					
Bacteria***	<0.01cfu/mL (<10cfu/L)					
RO rejection	≥99%					
EDI ion rejection	≥99%					
Production flow rate	15L/H	20L/H	25L/H	15L/H	20L/H	25L/H
<b>Type I ultra purified water</b>						
Resistivity at 25 °C	18.2M $\Omega$ .cm			N/A		
Conductivity at 25 °C	0.055 $\mu$ S/cm					
TOC	≤2ppb( $\mu$ g/L)					
Particulates with size > 0.22 $\mu$ m***	No particles					
Endotoxin (Pyrogens)***	<0.001EU/mL					
Bacteria***	<0.01cfu/mL (<10cfu/L)					
Rnase/Dnase***	—					
Proteases***	<0.15 $\mu$ g/mL					
Manual control water flow rate	Maximum 2L/min, stepless control of flow rate					
Quantitative water dispense range	0.01L ~ 60L					
<b>Electrical requirement</b>						
Electrical voltage	110V/220V ±10%					
Electrical frequency	50Hz/60Hz					
Power	135W					
<b>Size information</b>						
<b>Net Weight</b>						
Pre-treatment module				5.9kg		
Main host with dispenser arm	25.6kg			24.6kg		
30L Water tank				10.6kg		
60L Water tank				12.2kg		
100L Water tank				13.6kg		
<b>External Dimension (WxDxH)</b>						
Pre-treatment module	180×215×430 (mm)					
Main host with dispenser arm	330×545×605 (mm)					
30L Water tank	410×410×695 (mm)					
60L Water tank	410×410×935 (mm)					
100L Water tank	410×410×1245 (mm)					
<b>Packing information</b>						
<b>Gross Weight</b>						
Accessory	13kg					
Main host with dispenser arm	36kg					
30L Water tank	12.5kg					
60L Water tank	15.1kg					
100L Water tank	16kg					
<b>Packing Dimension (WxDxH)</b>						
Accessory	400×780×280 (mm)					
Main host with dispenser arm	420×630×790 (mm)					
30L Water tank	420×420×770 (mm)					
60L Water tank	420×420×1010 (mm)					
100L Water tank	420×420×1320 (mm)					

\* If the tap water contains a high rate of calcium ions and magnesium ion which do not meet the requirement, please use salty box to remove part of calcium ions and magnesium ion in advance

\*\* Resistivity typically 10-15M $\Omega$ .cm at 25 °C, Conductivity typically 0.1 $\mu$ S/cm, at 25 °C

\*\*\* Feed water quality should meet above requirements and purified water through the remote water dispenser with end filter



## —TITAN



## Nova C300 / Nova C500 / Classic C300 / Classic C500

## Nova-Unique features

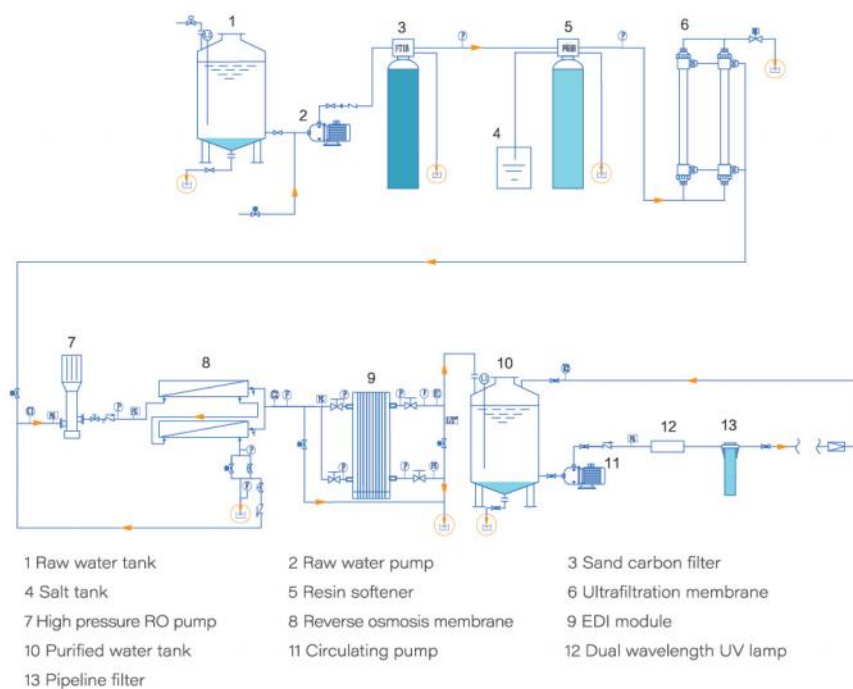
- EDI and water pumps original imported
- ASTM Type II / Type I purified water system
- Pre-treatment module
- 500L stainless steel water tank
- Productivity rate 300L/500L
- TFT touch screen controller
- U-cloud platform for remote monitoring (Wifi module)
- USB access port for data logging

## Classic-Unique features

- China made high quality customized EDI and pumps
- ASTM Type II / Type I purified water system
- Pre-treatment module
- 500L stainless steel water tank
- Productivity rate 300L/500L
- TFT touch screen controller
- U-cloud platform for remote monitoring (Wifi module)
- USB access port for data logging

Central high purified  
water system

## Water Flow Chart



Main configurations		Central high purified water system			
		Nova C300	Nova C500	Classic C300	Classic C500
Raw water tank		<ul style="list-style-type: none"> <li>● All water pumps are original imported, qualified by CE and NSF</li> <li>● EDI imported</li> </ul>		<ul style="list-style-type: none"> <li>● China made high quality water pump</li> <li>● EDI self-developed</li> </ul>	
Pre-treatment module	Raw water pump				
	Sand carbon filter				
	Salt tank and Resin softener				
	Ultrafiltration membrane				
Main system	High pressure water pump				
	Reverse osmosis membrane				
	EDI module				
	Water distribution pump				
500L Stainless steel water tank	Microporous filter membrane pipeline filter				
	Dual wavelength (254nm & 185nm) UV- lamp				
	254nm UV light				
	0.2μm inlet air filter				

\*Please contact for more customized water tank: one ton, one and half tons, two tons, etc

\*\* If needed, we will help to design installation building pipeline

▲ *Upgraded Type I ultra purified water system equipped with ultrafiltration membrane and TOC module (optional)*

Model		Central high purified water system			
		Nova C300	Nova C500	Classic C300	Classic C500
Feed water requirement	Source	Potable tap water			
	Conductivity	<2000μS/cm			
	TOC	<1ppm			
	Hardness*	<450ppm as CaCO <sub>3</sub>			
	Pressure	0.1~0.4Mpa (7-72psi)			
	Temperature	5~45 °C			
	PH	4-10			
Specifications	Resistivity at 25 °C**	>8MΩ.cm; typically 10-15MΩ.cm			
	Conductivity at 25 °C**	0.125μS/cm; typically 0.1μS/cm			
	TOC	<30ppb(μg/L)			
	Particulates with size>0.22μm****	<1pc/μL			
	Bacteria****	<0.01cfu/mL(<10cfu/L)			
	Rnase****	<1pg/mL			
	Dnase****	<5pg/mL			
	Proteases****	<0.15μg/mL			
	RO rejection	≥99%			
	EDI ion rejection	≥99%			
	Flow rate***	Instantaneous demand 500-1000L/H			
Production rate	300L/H	500L/H	300L/H	500L/H	
Electrical requirement	Electrical voltage	110V/220V ±10%			
	Electrical frequency	50Hz/60Hz			
	Power	220V			
Net weight	Pre-treatment module	200kgs			
	Main host	380kgs			
	500L Water tank	57kgs			
External dimension (HxWxL)	Pre-treatment module	1500x790x660(mm)			
	Main host	1750x1150x780(mm)			
	500L Water tank	2150x700x700(mm)			
	Pipeline connection	3/4 inch			
Packing gross weight	Pre-treatment module	240kgs			
	Main host	430kgs			
	500L water tank	57.5kgs			
Packing dimension (HxWxL)	Pre-treatment module	1650x840x710(mm)			
	Main host	1900x1200x830(mm)			
	500L water tank	2300x750x750(mm)			

\* If the tap water contains a high rate of calcium ions and magnesium ion which do not meet the requirement, please use salty box to remove part of calcium ions and magnesium ion in advance

\*\* Resistivity Typically 10-15MΩ.cm at 25 °C, Conductivity typically 0.1μS/cm, at 25 °C

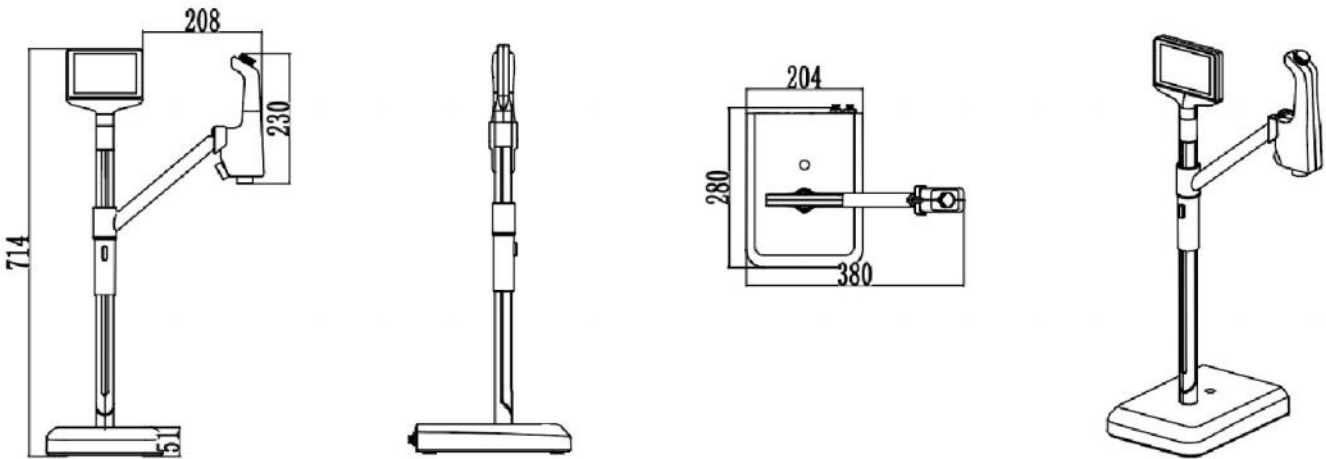
\*\*\* Instantaneous demand, water pressure 0.15-0.35MPa

\*\*\*\*Feed water quality should meet above requirements

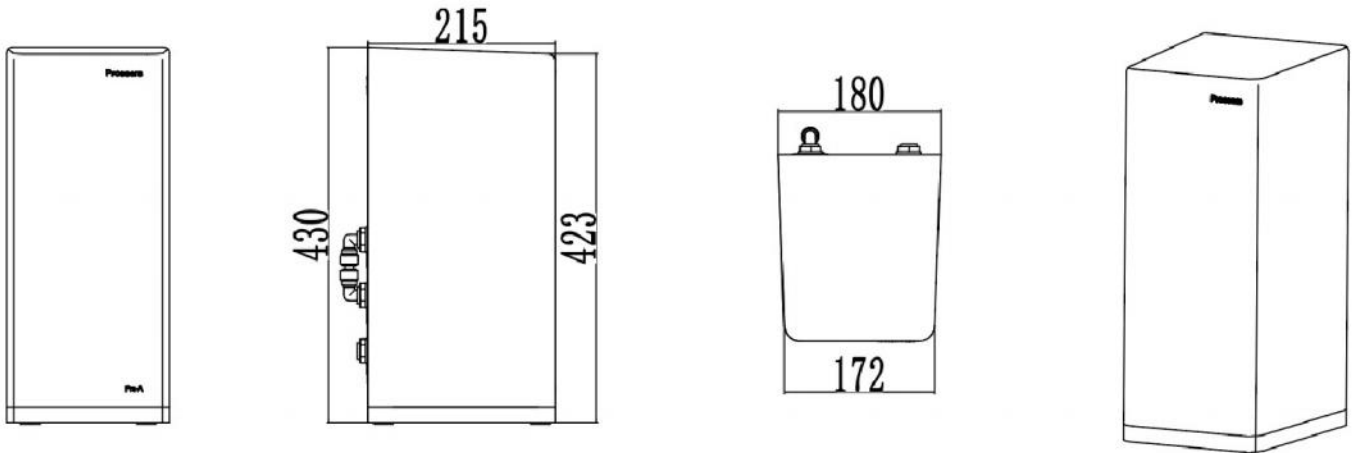
# Installation information

(In mm)

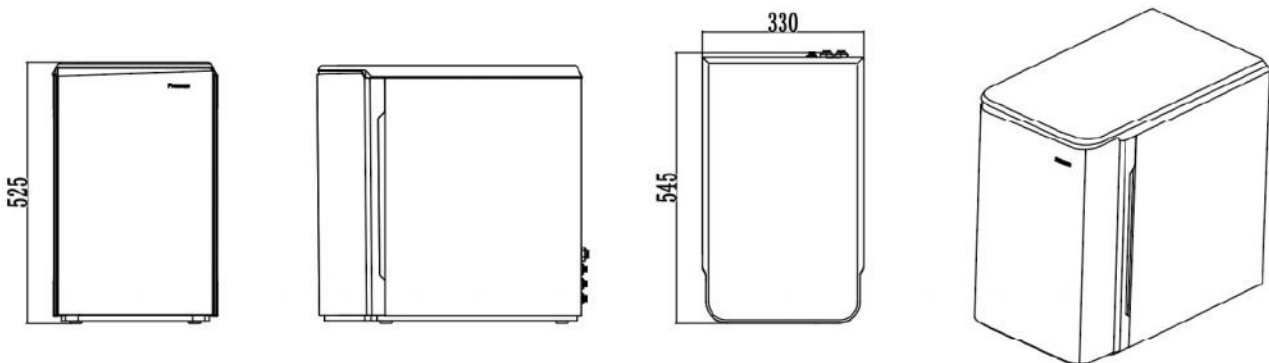
## Dispenser Arm-Nova-Smart



## Pretreatment module-All models



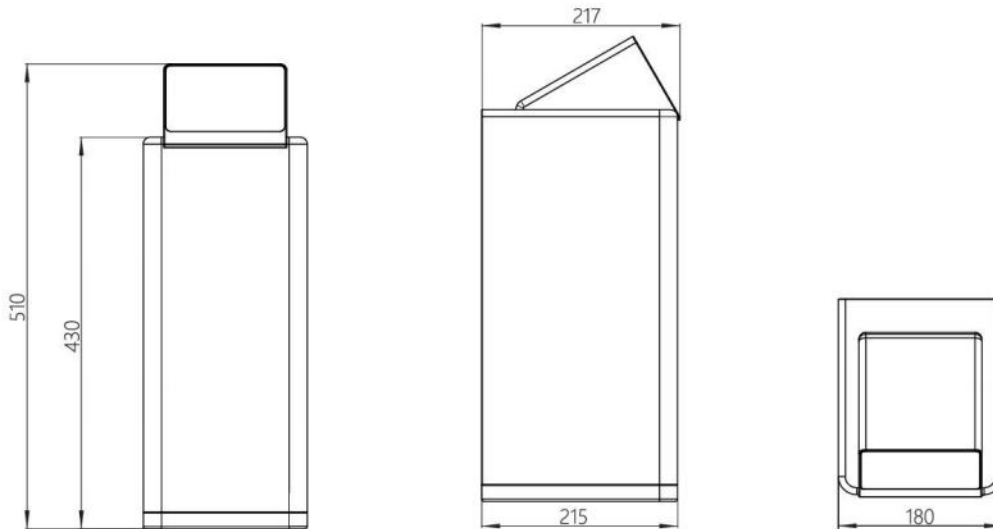
## Nova series all-in-one machine



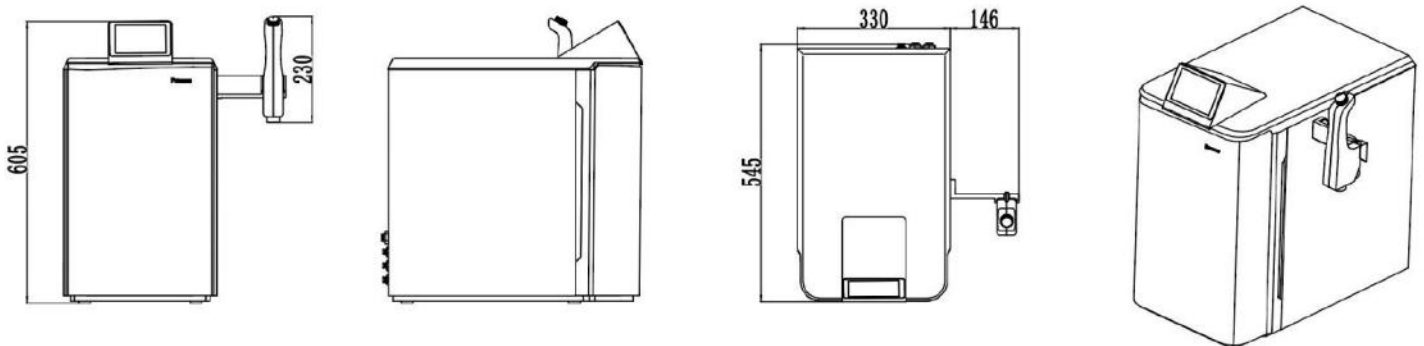
# Installation information

(In mm)

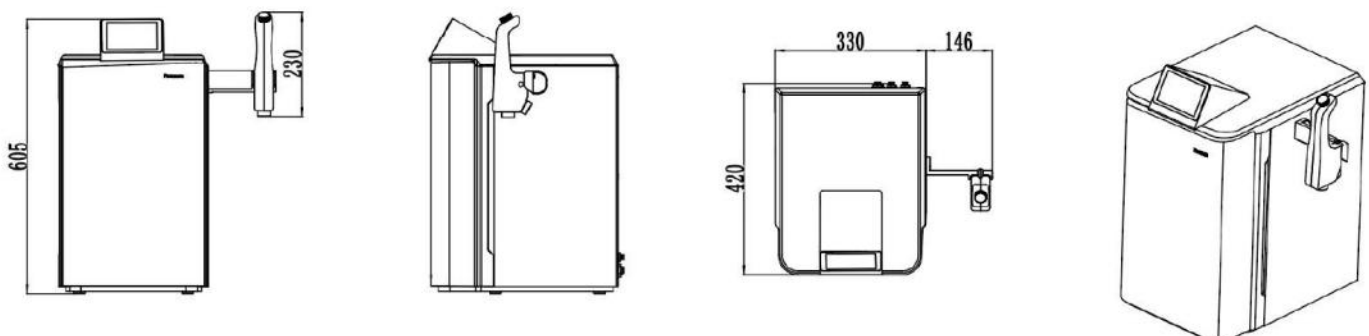
## Nova Zero-ion



Performa serie All-in-one system  
Classic serie All-in-one system  
Classic serie Type II water system



## Performa U

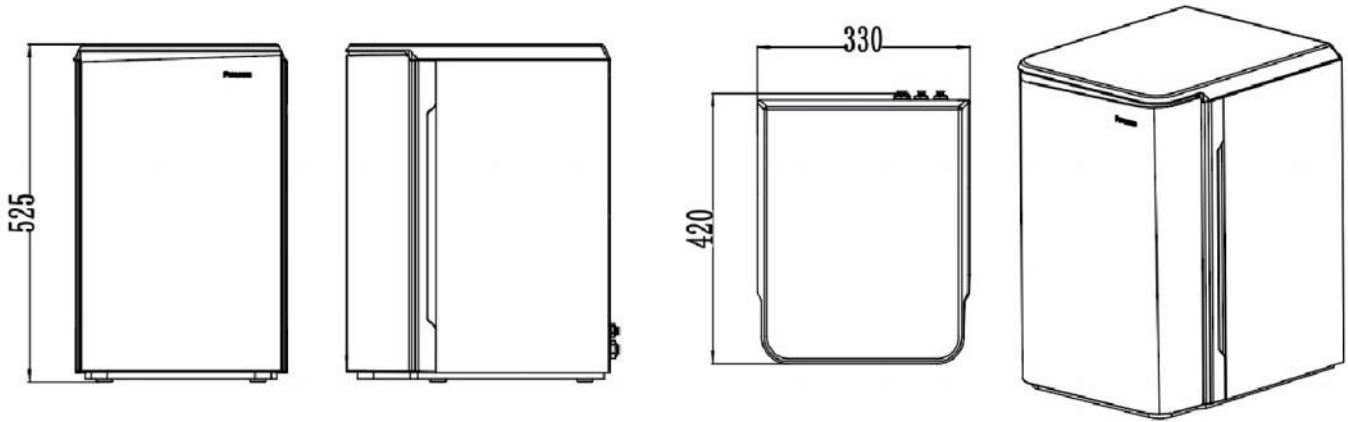




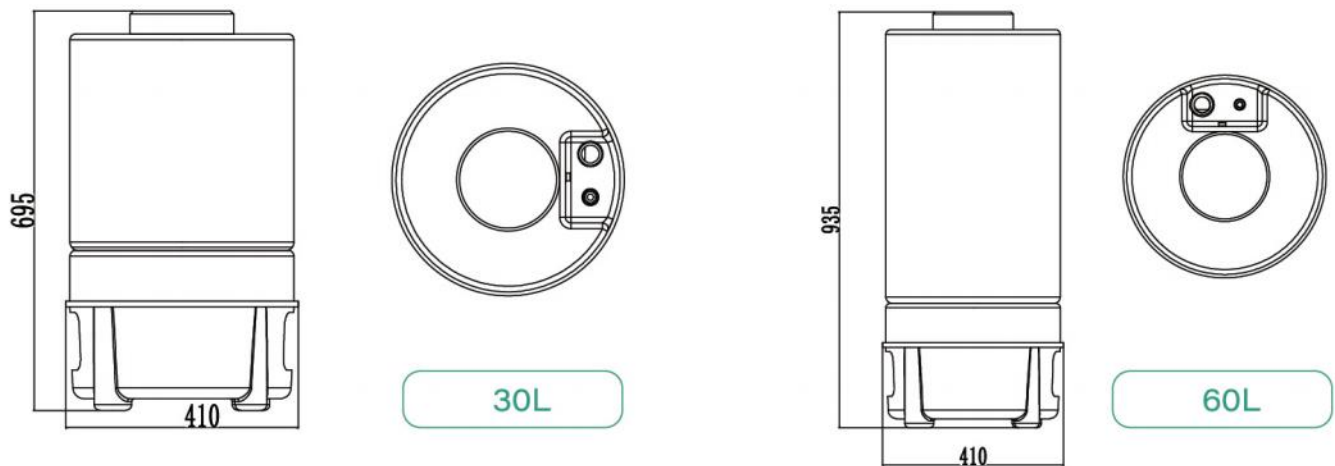
# Installation information

(In mm)

## Nova U



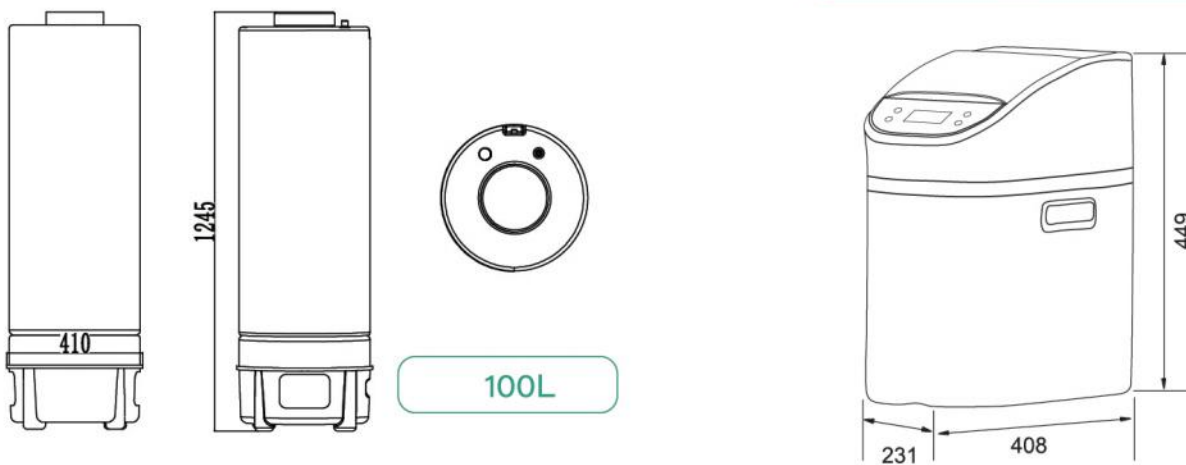
## Water tank



30L

60L

## Universal salt softener for all laboratory use models

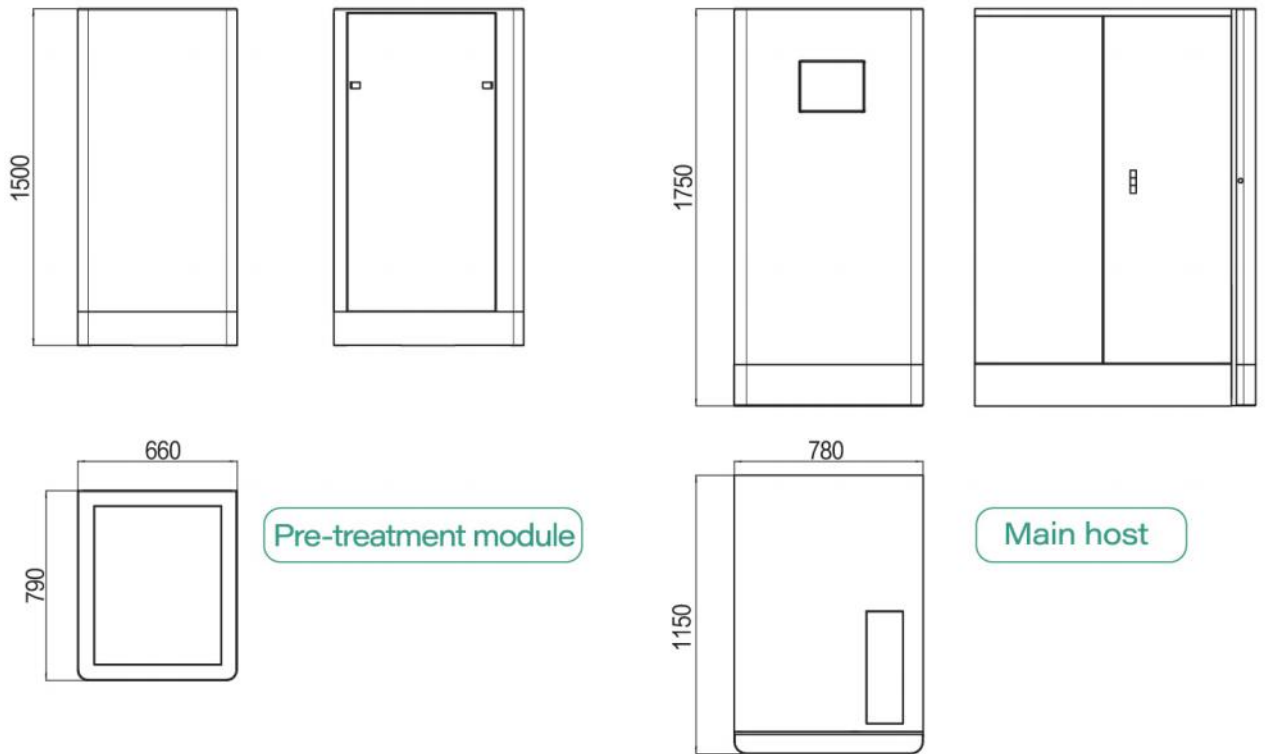


100L

# Installation information

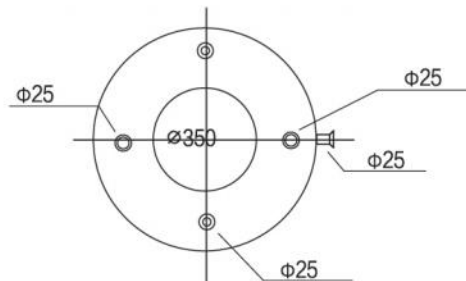
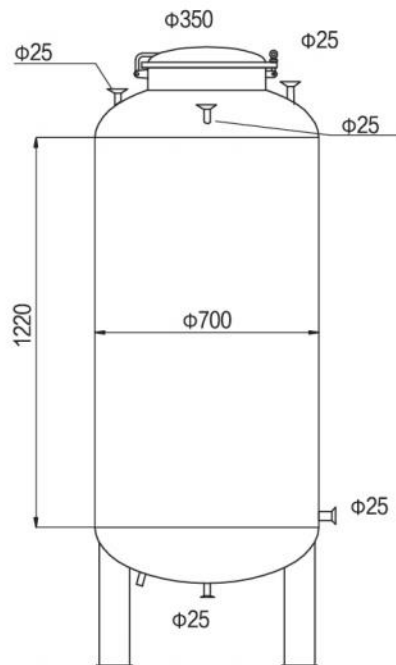
(In mm)

## Central high purified water system



Pre-treatment module

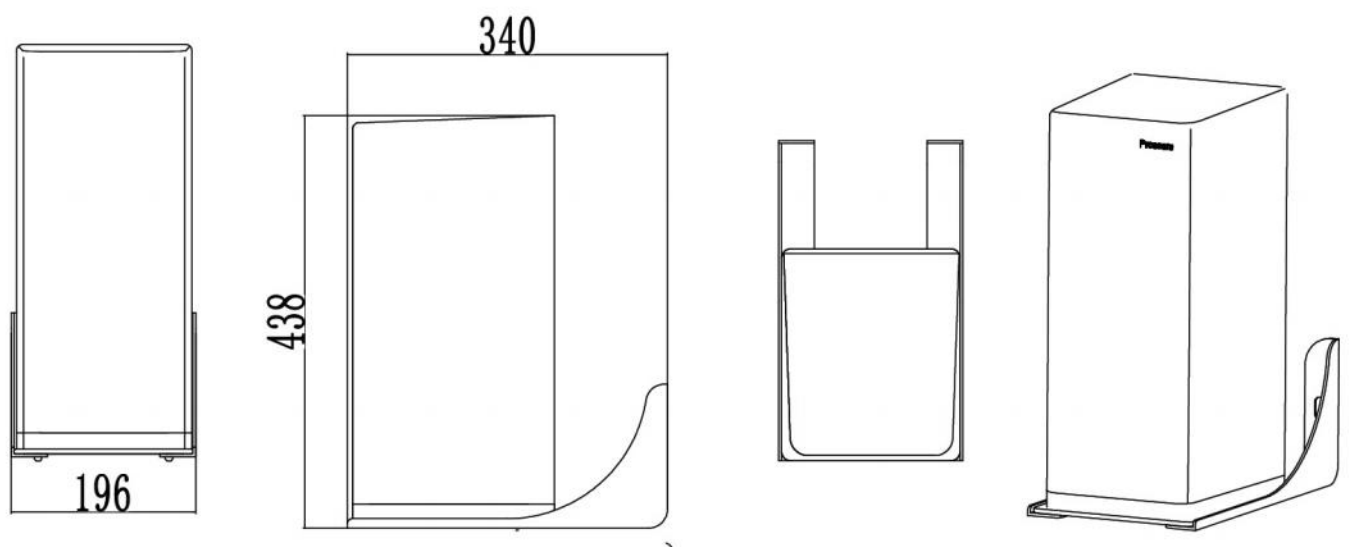
Main host



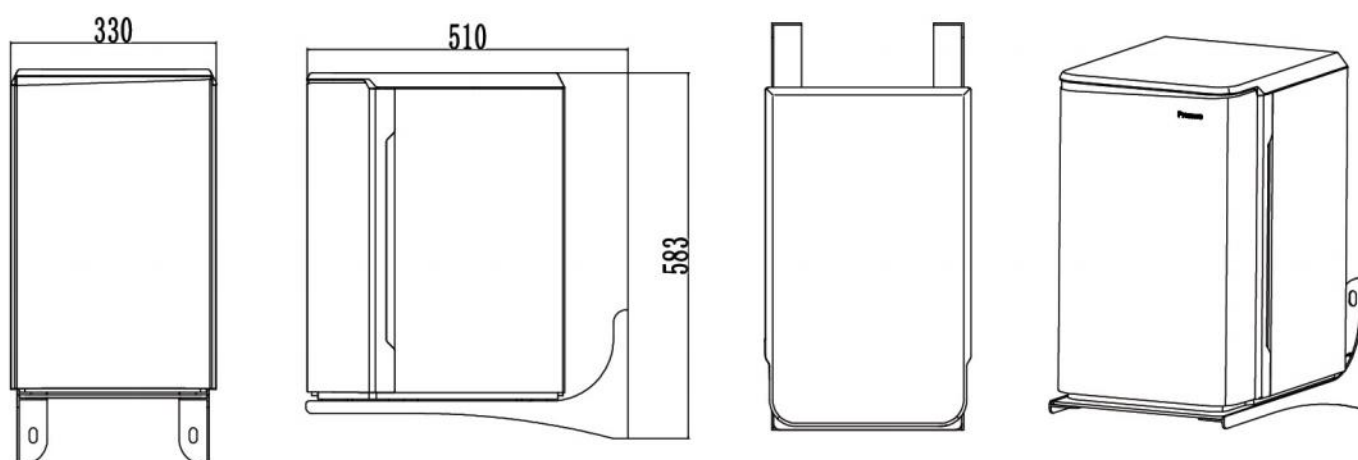
Stainless steel water tank

# Wall-mounted installation

(In mm)



Pre-treatment module



Main host



Proseers

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