

# Water Purification System



Heal Force leads you to healthier life

# NW Series Water Purification System



Well-proved NW series water purification system can be directly connected to water tap, providing you with optimum convenience.

NW series water purification system meets all eminent international water quality standards like: ASTM Type 1, NCCLS Type 1 and ISO 3696 Type 1.

## Features

### Microprocessor Control

Automatic microprocessor control system consists of self-diagnostic pretreatment cartridge, reverse-osmosis membrane, primary purification column, ultra purification column, micro filtration, ultra filtration, UV lamp and other muting functions, plus visual and audio alarm, guarantee an optimum operation condition.

### User-friendly LCD Display

System status and temperature LCD display, with indication on conductivity, resistivity, water tank liquid level and consumable changing reminder to prevent water quality deterioration.

### Module-designed Purification Unit

Disposable integrated purification column design makes operation is very simple. Quick connector facilitates cartridge replacement.

### Patented Pretreatment Structure Design

By pretreatment, RO unit can be more effectively and economically used. CanRex™ patented technology can filter and remove particles and surplus chlorine better than other water purification systems, while enhancing service life for reverse-osmosis membrane.

### Precise System Resistivity Measurement

4 channels resistivity sensor, equipped with micro and precise automatic temperature compensation resistivity sensor, comprehensively monitors system operation and water quality variation.

### Flow Restriction Designed Reverse-osmosis

Flow restriction design keeps reverse-osmosis membranes surface wet during operation, for cleaning improvement, reverse-osmosis lifespan maximization and better water quality.

### Advanced DC Pump

Low noise level and non-contamination DC pump brings a tangible mute operation (lower than 40db at 1 meter distance).

### UV Photo-oxidation Technology

UF and VF modes with built-in UV lamps are used for production on low TOC water.

### Network Compatible

RS232 data port allows submitting data to PC or printer.

### Distinctive Inner Pressure Structure

Featured multifunctional treatment unit adopts distinctive inner pressure structure design, enables a closer contact of water and resin to achieve more effective exchange efficiency, and optimize multifunctional purification column's process capacity.

### Purification Column Process Procedure Design

Dual purification columns procedure flow design conducts organic water process, therefore reduces organic load for double wavelength UV lamp and multifunctional purification column. This can effectively improve water quality and expand service life for double wavelength UV lamp and multifunctional purification column.



RO Cartridge



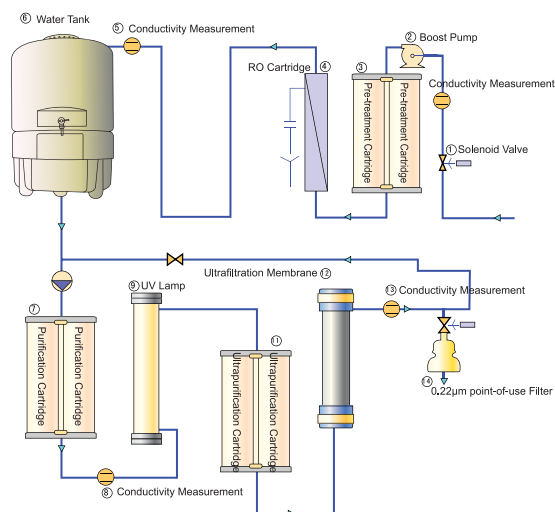
Pre-treatment Cartridge



Resistivity Measurements



NW Series



Flowsheet of NW Water Purification System

## Typical Applications

**NW:** AAS, Common Analysis, Standard Buffer, GC

**NW UV:** HPLC, IC, GC, GC/MS, TOC Analysis, ICP and ICP/MS

**NWUF:** Cell and tissue culture, monoclonal antibody production, pyrogen sensitive application

**NWVF:** DNase free, RNase free, DNase free, DNase free, PCR, IVF, 2-D-electrophoresis, critical cell culture, pyrogen sensitive application

## NW System Configuration

NW System	NW**	NW**UV	NW**UF	NW**VF
Pretreatment Cartridge	○	○	○	○
Reverse Osmosis	○	○	○	○
Storage Tank 30L	○	○	○	○
Boost Pump	○	○	○	○
Purification Cartridge	○	○	○	○
UV-oxidator	—	○	—	○
UV-sterilizer	○	—	○	—
Ultrapurification Cartridge	○	○	○	○
Ultrafiltration	—	—	○	○
Microfiltration	○	○	—	—
Point-of-use Filter	○	○	○	○

## NW Specification

Model	NW**Basic	NW**UV	NW**UF	NW**VF
<b>Feed Water Requirements</b>				
Feed Water	Tap Water			
Feed Water Temperature	5—40°C			
Feed Pressure	1—5 bar			
<b>Pure Water Quality</b>				
Ionic Rejection	95%-99%			
Bacteria and Particulates Rejection	>99%			
Conductivity	<5µs/cm			
Productivity Rate	10L/h	15L/h	20L/h	30L/h
<b>Ultrapure Water Quality</b>				
Resistivity at 25°C	18.2 MΩ-cm			
Conductivity at 25°C	0.055µs/cm			
Flow Rate	1.5—2.0L/min			
TOC	<5ppb	1-3ppb	<5ppb	1-3ppb
Endotoxin	—	—	<0,001 EU/ml	<0,001 EU/ml
Resistivity Cell	k = 0.01cm <sup>-1</sup>			
Particulates(≥0.22µm)	<1 pc/ml			
Bacteria	<1 cfu/ml			
Net Weight	32Kg	34Kg	36Kg	38Kg

Notes:\*\* stands for hourly output of pure water. For example, output of NW10,NW15,NW20 and NW30 is 10L/h,15L/h,20L/h,30L/h respectively.

# PW Series Water Purification System

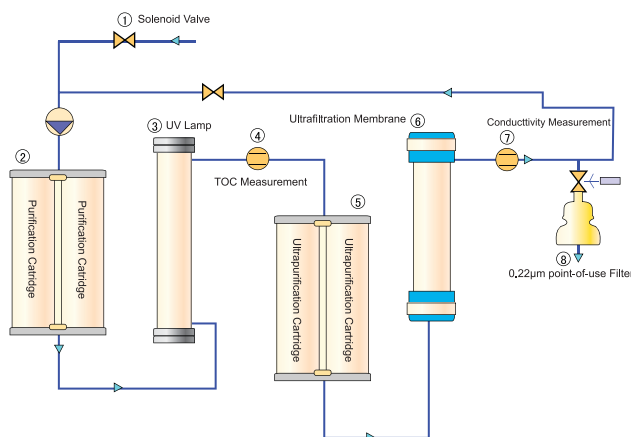
PW series water purification system produces ultrapure water from pretreated water at flow rate of 1.0-1.5L/min, providing integrative solutions for scientific laboratory.



PW Series



Control Panel



Flowsheet PW Water Purification System

## Features

### Microprocessor Control

Automatic microprocessor control system, consisted of self-diagnostic pretreatment cartridge, reverse-osmosis membrane, primary purification column, ultra purification column, micro filtration, ultra filtration, and UV lamp with function of visual and audio alarm, guarantees an optimum operation.

### Standard Purification Processes

PW series water purification system adopts 3 step purification processes:

**Step 1:** Purification cartridge is tailored to feedwater source, to optimize downstream purification media performance and ensure consistent results.

**Step 2:** The purification cartridge removes ionic and organic contaminants, and generates 18.2 MΩ·cm (at 25°C) water for analytical application.

**Step 3:** 0.22 µm membrane filters particles and bacteria, output water can be used for most of the analytical applications.

### UV Photo-oxidation Technology

PW UF and VF systems with dual wavelength UV-oxidizer for organic contaminants oxidation and bacteria control. Purified water containing extremely low inorganic and organic contaminants, meet the demand of HPLC, GC-MS and other ultra-trace organic applications.

### Ultrafiltration

PW UF and VF systems consist of an ultrafiltration cartridge, and used in pyrogen-free and nuclease-free ultrapure water production (<0.001 Eu/ml), for life science or molecular biology application.

## Typical Applications

**PW:** AAS, Common Analysis, Standard Buffer, GC

**PW UV:** HPLC, IC, GC, GC/MS, TOC Analysis, ICP and ICP/MS

**PW UF:** Cell and tissue culture, monoclonal antibody production, pyrogen sensitive application

**PW VF:** DNase free, RNase free, DNase free, DNA free, PCR, IVF, 2-D-electrophoresis, critical cell culture, pyrogen sensitive application

### PW System Configuration

PW System	PW	PWUV	PWUF	PWVF
Boost Pump	○	○	○	○
Purification Cartridge	○	○	○	○
UV-oxidator	—	○	—	○
UV-sterilizer	○	—	○	—
Ultrapurification Cartridge	○	○	○	○
Ultrafiltration	—	—	○	○
Microfiltration	○	○	—	—
Point-of-use Filter	○	○	○	○



UV Sterilizer



UF Cartridge

### PW Specification

Model	PW	PW UV	PW UF	PW VF
<b>Feed Water Requirements</b>				
Feed Water	RO,Distilled,DI Water			
Feed Water Temperature	5~40℃			
Feed Pressure	-0.3~3.0 bar			
<b>Ultrapure Water Quality</b>				
Resistivity at 25 °C	18.2 MΩ-cm			
Conductivity at 25 °C	0.055µs/cm			
Productivity Rate	1.5—2.0L/min			
TOC	<5ppb	1-3ppb	<5ppb	1-3ppb
Endotoxin	—	—	<0.001 EU/ml	<0.001 EU/ml
Conductivity/Resistivity Cell	k =0.01cm <sup>-1</sup>			
Particulates(≥0.22µm)	<1 pc/ml			
Bacteria	<1 cfu/ml			
Net Weight	32Kg	34Kg	36Kg	38Kg

# ROP Series Water Purification System

ROP system combines new osmosis technology with deionization resins can instantly produce deionized water (resistivity > 10MΩ-cm) directly from tap water, suitable for purified water output at 10-70L/h application.

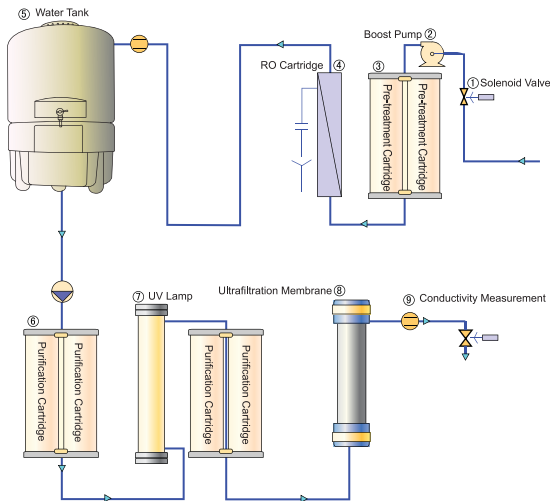
## Features

- ROP system produces high quality pure water with superior resistivity and low TOC(< 30 ppd). Produced water can be stored in anti-contamination water tank, and is an ideal solution for routine laboratory application.
- Technique combines reverse osmosis, deionization and UV-sterilizer to achieve effective remove on all types of water contaminants (typically at 95-99%).
- Built-in UV lamp is ideal for low bacteria application.
- Pretreatment reverse osmosis membrane and ion-exchange resin are replaceable consumables.
- LCD display provides real-time system status indication for a convenient operation.



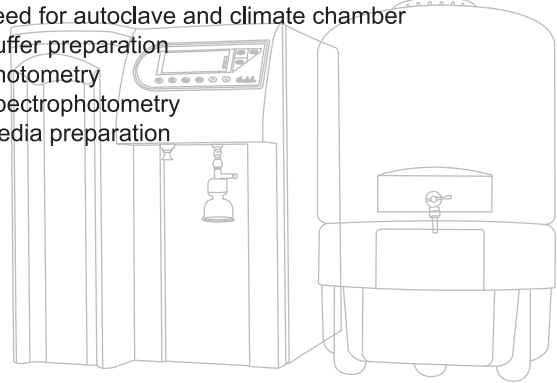
ROP(RO) Series

# Typical Applications of ROP System



Flowsheet ROP Water Purification System

- Feed for laboratory water purification system
- General chemistry
- Laboratory washing machines, including final rinse
- Feed for autoclave and climate chamber
- Buffer preparation
- Photometry
- Spectrophotometry
- Media preparation

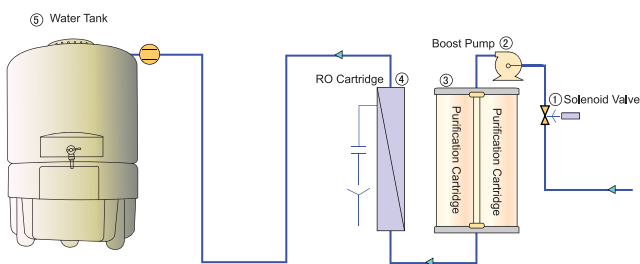


## ROP Specification

Model	ROP10	ROP15	ROP20	ROP30
<b>Feed Water Requirements</b>				
Feed Water	Tap Water			
Feed Water Temperature	5—40°C			
Feed Pressure	1—5 bar			
<b>Pure water quality</b>				
Resistivity at 25°C	10-15 MΩ-cm			
Rejection Rate for Bacteria	>99%			
Productivity Rate	10L/h	15L/h	20L/h	30L/h
Flow Rate	1-1.5L/m			
TOC	<30ppb			
Resistivity Cell	k=0.01cm-1			
Particulates (≥0.22μm)	<1pc/ml			
Bacteria	<1cfu/ml			
Net Weight	28Kg	28Kg	30Kg	30Kg
Dimensions	390×540×500mm			

# RO Series Water Purification System

Direct supply from tap water, processed by reverse osmosis technology and deionization resins, RO system can constantly produce deionized water (resistivity > 10 MΩ-cm) at 10-70L/h.



Flowsheet RO Water Purification System



## Features

- Automatic microprocessor control and intelligent control
- Large LCD display shows system temperature, conductivity/resistivity, water tank level, quantitative output water and other operating information
- High precision resistance sensor
- Automatic reverse osmosis membrane rinse
- GLP standard RS232 interface

## Typical Applications of RO System

- Feed for laboratory water purification system
- General chemistry
- Laboratory washing machine
- Feed for autoclave and climate chamber
- Buffer preparation

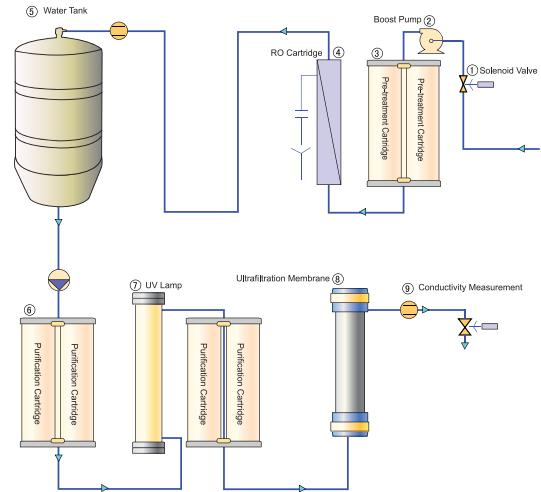
### RO Specification

Model	RO10	RO15	RO20	RO30	RO2-10	RO2-15
<b>Feed Water Requirements</b>						
Feed Water	Tap Water					
Feed Water Temperature	5—40°C					
Feed Pressure	1—5 bar					
<b>Pure water quality</b>						
Ionic Rejection	95%—99%					
Bacteria Rejection	>99%					
Productivity Rate	10L/h	15L/h	20L/h	30L/h	10L/h	15L/h
Net Weight	28Kg	28Kg	30Kg	30Kg	24kg	25kg
Dimensions	390x540x500mm					

# CROB Analyzer Feed Water System

Specialist in water purification for chemistry analyzer.

Specially designed water purification system can produce NCCLS Type I reagent water for chemistry analyzer. Heal Force AFS System can support various online applications of reagent reconstitution, probe rinse and cuvette wash, and is a quality feed water system to provide chemistry analyzer with quality purified water.



Flowsheet CROB Analyser Feed Water System



Floor Type (Built-in 40L Water Tank)



Desktop (External 40L Water Tank)



105L (optional) Water Tank



75L (optional) Water Tank



40L (Standard) Water Tank

# Water Purification System

CROB Specification						
Model	CROB10	CROB15	CROB20	CROB30	CROB50	CROB70
<b>Inlet water</b>						
Feed Water	Tap Water					
Feed Water Temperature	5—40°C					
Feed Pressure	1.0—4.0 kg/cm <sup>2</sup>					
<b>Output Water Quality</b>						
Resistivity at 25°C	≥10 MΩ-cm					
Productivity Rate	10L/h	15L/h	20L/h	30L/h	50L/h	70L/h
Flow Rate	1-1.5L/m					
TOC	<30 ppb					
Bacteria	<1 cfu/ml					
Particulates (≥0.22μm)	<1 pc/ml					
Power Consumption	0.1kW/h					
Net Weight	28Kg	28Kg	30Kg	30Kg	80Kg	80Kg

# Heal Force Laboratory Equipment



Laboratory Centrifuge



CO<sub>2</sub> Incubator



Biological Safety Cabinet



Water Purification System



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