

# Smart RO

## Smart RO 15/30

Provides 15 or 30 liters/hr of purified water at a price that is comparable to compliant purified bottled water without the hassle of continual ordering and storage. The SMART 15/30 is cost-effective and is more environmentally friendly than traditional distillation units. The unit's compact size allows it to be positioned on or under a bench, wall mounted or fitted into a cabinet.

## RO 50/100/150

Cost-effectively provides 50,100,150 liters/hr of compliant purified water. The SMART 50/100/150 ensures a continual supply of purified water for installations such as single washer disinfectors and endoscope reprocessors.

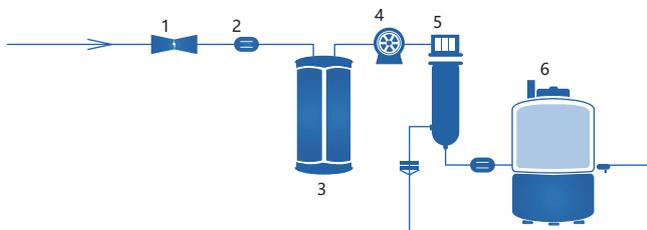


Model	Smart RO (Bench Top)	RO (Floor Type)
Type	RO-15/RO-30	RO-50/RO-100/RO-150
<b>Feed Water Requirement</b>		
Source	Tap water	Tap water
Conductivity*	<2000us/cm	<2000us/cm
Hardness**	<450ppm as CaCO3	<450ppm as CaCO3
Pressure	0.05~0.5MPa(7-72psi)	0.05~0.5MPa(7-72psi)
Temperature	5~40 C	5~40 C
<b>Purification Water(Class III)</b>		
Ionic Rejection	>95%	>95%
Bacteria Rejection	>99%	>99%
Conductivity	1~20us/cm(RO-2 5us/cm)	1~20us/cm(RO-2 5us/cm)
Productivity Rate	15L/h,30L/h	50L/h,100L/h,150L/h
<b>Electrical Requirements</b>		
Electrical Voltage	110V/220V±10%	110V/220V±10%
Electrical Frequency	50HZ/60HZ±10%	50HZ/60HZ±10%
<b>Packing Information</b>		
Net Weight		
Main units	21kg	74kg
Water tank (30L/60L)	5kg	10kg
External Dimensions(W×D×H)		
Main units	315×525×570mm	660×570×1160mm
Water tank (30L/60L)	380×380×595mm	380×380×885mm
Shipping weight		
Main units	34kg	96kg
Water tank (30L/60L)	13kg	13kg
Shipping Dimensions(W×D×H)		
Main units	525×610×770mm	640×680×1165mm
Water tank (30L/60L)	520×440×615mm	510×430×895mm

\* If feed water quality is poor(Conductivity >1000us/cm), strengthened pretreatment module and RO-2 type is highly recommended

\*\* When hardness of feed water is high(>450ppm as CaCO3), 0.5T water soften is recommended

## SMART RO



- 1 Solenoid Valve
- 2 Conductivity Sensor
- 3 Pre-treatment Module
- 4 Boost Pump
- 5 RO Module
- 6 Water Tank

# Pureforce Series RO (150,300,500L/h)

Pureforce RO150/300/500 systems cost-effectively provide high quality feed water at rates of 150 to 500 liters/hr to large or multiple automated endoscope reprocessors and washer disinfectant installations

## Feature

### 0.86m<sup>2</sup>

- Highly integrated water purification system containing pretreatment module, RO membrane, water tank ect. inside.
- It occupies only 0.86 square meters - Maximum space saving

### In-built 350L reservoir

- Water tank is integrated into the main structure to save your valuable laboratory space
- The water reservoir is made through cylindrical mold and blow molding process to avoid the generation of velum
- Standard vented filter prevents microorganism maintains consistent purity of stored water
- A compact design with an in-built wrap-around reservoir ensures a minimal amount of precious hospital or surgery space is occupied.

### 8.0-inch touch screen

- Pureforce RO is easy and cost-effective to operate and a self-disinfection program contributes towards straightforward maintenance.
- Peace of mind is provided by a unique E-key, which restricts access to the most critical functions.

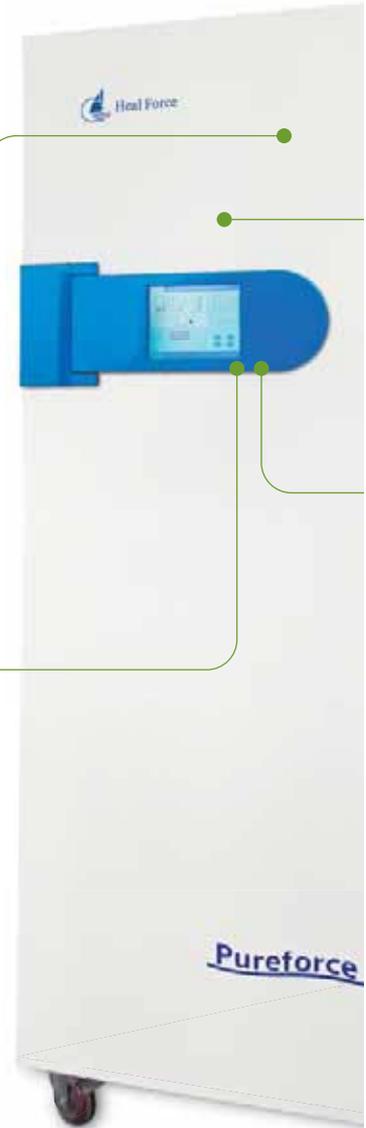
### Dual-system backup control module (optional)

Two Pureforce RO systems can supply high quality water at the same time to fulfill peak water usage. The control module can shift to one system supply mode for daily maintenance.

## Additional

### Pre-filter\* - Save worry, save time, save money

Pre-filter with antiscalant agent replaces quartz sand to eliminate sand, silt, clay and other suspended particles which may cause interference to the following purification steps



\* Applicable for Pureforce RO500



### Push-to-sterilize

Just a simple key press to sterilize reverse osmosis, recirculation pipeline and water tank, ensuring water quality



### Quiet and energy-saving pump

Self-induced high pressure pump with low noise and minimal vibration ensures water flow varies less than 10% when supply water pressure changes 50%, making the pressure of distribution loop stable and RO safe



### Remote monitoring and control system (Optional)

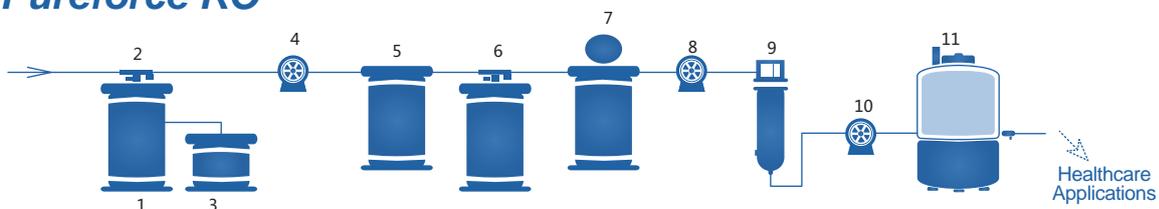
You can not only monitor the real time working status and parameters, but also control the system from a distance. Data storage and print, USB interface configurations promote management efficiency, and control cost. It is perfectly designed for your Smart laboratory.

### Water quality is maintained by:

Regularly sanitizing and validating rinse water systems to ensure they continue to meet the water specification

Model	Production rate	Water quality	External Dimensions(WxDxH)	Electrica
RO150	150L/h	<20µs/cm	1040×800×1850mm	AC220V/2.5KW
RO300	300L/h	<20µs/cm	1040×800×1850mm	AC220V/2.5KW
RO2-150	150L/h	<20µs/cm	1040×800×1850mm	AC220V/2.5KW
RO500	500L/h	<20µs/cm	1040×800×1850mm	AC220V/2.5KW
Feed Water Requirement	Tap water (Conductivity<400us/cm); Feeding Pressure:0.1~0.4MPa;Temperature:5~40 C			
Ionic Rejection	RO≥98%; RO2≥99%			
Bacteria Rejection	≥99%			
Flow rate	An instantaneous demand of up to 800~1300L/h, water supply pressure: 0.15~0.35MPa			

## Pureforce RO



- 1 Soften system (Optional)
- 2 Electronic multi-way valve
- 3 Salt tank (Optional)

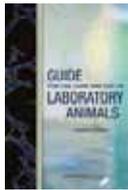
- 4 Raw water feeding pump
- 5 Pre-filter
- 6 Active carbon filter

- 7 Security filter
- 8 High pressure pump
- 9 RO module

- 10 Supply pump
- 11 Built-in high pure water tank



# Animal Watering Solutions



## Introduction

Animal watering is done using either drinking bottles placed in each cage, or an automatic watering system. The US National Research Council Guide for the Care and Use of Laboratory Animals is recognized in many countries as the standard for quality animal care and use.

## Challenges and Requirement



Time & Seasons

While ordinary tap water can be used for animal watering in some cases, the fact that its composition may vary with time and with the seasons can be a problem for researchers.



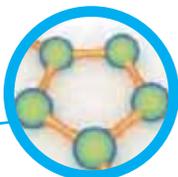
Geographical Locations

Tap water variations may also be an issue when comparing the results of research performed in laboratories located in different geographical locations. In order to obtain consistent and reliable experimental results, it is important to provide laboratory animals with drinking water of consistent quality.



Disease Model

In addition, some animals (for example, immuno-compromised animals) or disease models are known to be very sensitive to their environment and require very pure water.



### Organics

Some organics, such as pesticides, endocrine disruptors, etc. which may be present in tap water, can affect the health of laboratory animals and interfere with the research being conducted. In addition, in the presence of chlorine, organics may form disinfection by-products (DBP), some of which are thought to be carcinogenic or affect reproduction.



### Bacteria

Bacteria can cause serious health problems to the animals and are a main concern in animal facilities. Immuno-compromised and transgenic animals are especially sensitive to bacterial contamination. *Pseudomonas aeruginosa*, for example, is an opportunistic pathogen commonly found in water, and may affect the health of vulnerable animals.



### Heavy metals

High levels of heavy metals (copper, iron, zinc, lead ...) can be toxic for health-compromised animals. These metals can be leached from piping. Ions and metals present in water can be greatly removed by reverse osmosis.



### Hardness and particles

Hard water deposits and particles can damage the valves of automated watering systems, and cause leaks inside the animal cages. They will also increase the need for system maintenance.