



**Harmony**  
SCIENTIFIC

# HS

**series**

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Laboratory water purification system

Excellent Both Internally and Externally  
Efficient and Concise



# HS series ( HSU/HSD/HSRS/HSP )

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## Integrated Pure Water/Ultrapure Water System

Breakthrough design to highlight the aesthetics of science and technology.

HS series, using the innovative automatic control system and LCD display, embedding new purification cartridges with patented structure, stable and reliable RO system with higher ion rejection rate, and DI ion-exchange cartridges with larger capacity, equipping with built-in 1.8-liter pressure water tank, more economical and cost-effective, is the economic choice for lab pure water.

System output ranges from 13 to 60 liters/h (HSP series, with pure water inlet, output is up to 2 liters/minute). It can simultaneously produce ultrapure water (18.2MΩ.cm), high pure water (>17.5MΩ.cm) or pure water(<5μs/cm)<sup>[1]</sup>. The quality of pure water fully meets or exceeds the requirements of water quality standard, specified by ASTM D1193-06, GB/T 11446.1-2013, GB/T 33087-2016, GB/T 6682-2008, CP, EP, USP, JP, CAP, CLSI, etc.

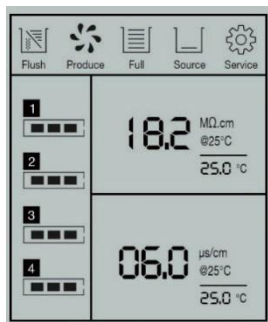
<sup>[1]</sup>HSU/HSD series products can produce single RO water (ion rejection rate ≥ 98%). HSRS series products can produce double RO water (<5μs/cm).

### Application Area:

- HPLC、UPLC、LC-MS
- ICP-MS、ICP-AES、AAS、GC-MS
- MALDI-TOF-MS、IC、TOC analysis
- Electrochemical, spectrophotometric determination
- Preparation of microbial media and reagents
- Cell culture, PCR, IVF
- Protein purification, electrophoresis, biochemistry
- Proteomics, genomics, immunoassay
- Feed water of laboratory instruments, such as: autoclave, bottle washing machine, environmental test chamber, water bath, etc.

# Smart and Concise System Design

## Create Excellent Quality Both Internally and Externally



### 1 Easy-to-use automatic control system

- White LCD display, size up to 68\*87mm, shows intuitive and easy-to-read running status.
- Real-time running status display of flushing, producing water, water full, water shortage and maintenance.
- 2 water quality sensors (RO water, DI water or UP water) can monitor water quality and alarm real-timely.
- 4 (PP/PC/RO/DI) consumables life management function, can real-timely display remaining life of consumables, automatically remind expiration replacement, and avoid water quality declines.
- Acrylic touch panel, with 3-button layout, achieving fast system setup, RO forced flushing and easy 2-way water dispensing function, brings efficient and convenient operating experience.



### 2 Powerful 12-inch pretreated cartridge



- 2 in 1 composite cartridge-high performance activated carbon fiber and deep folding membrane, accuracy of 5μm, eliminates particles and adsorbs organics and residual chlorine efficiently, to avoid carbon powder precipitation maximumly.



### 3 Rigorous double RO system<sup>[1]</sup>

- Double RO system can remove up to 99% soluble inorganic ions, 99% soluble organics, microorganisms and particles.
- Compared with single RO system, the double RO water quality can be stable <5μs/cm (feed water conductivity <1500μs/cm), and the life of the ultrapure unit is longer.
- Equipped with DuPont RO membrane, to achieve combination of long life, stability and high ion rejection rate.
- Auto-flushing function of RO module, to effectively prevent scale and prolong the life of the membrane.
- The automatic discharge function of unqualified RO water can ensure that the RO water quality is suitable to enter the back-end module.
- Integral package of discarded RO module, easy to install and maintain.

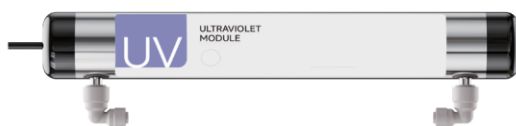
<sup>[1]</sup> Applicable to HSRS.



#### 4 High performance purification cartridge<sup>[1]</sup>

- Patented cartridge structure uses full droop flow mode to prevent the stratification of resin and ensure the exchange capacity of cartridge.
- The resin filling capacity per cartridge is up to 1.36 liters, and up to 2 cartridges can be equipped every host, with a total filling capacity of 2.72 liters, achieving greater ion exchange capacity and significantly reducing the running cost.
- All DuPont resin and high purity material of column ensure absolute 18.2MΩ.cm of ultrapure water resistivity and reduce TOC precipitation.

<sup>[1]</sup> According to different model, cartridge configuration is different. For details, refer to the product manual.



#### 5 Double wavelength UV module<sup>[1]</sup>

- Long-life ultraviolet lamp (185&254nm), combined with SUS316L flow shell, can reduce the value of TOC to  $\leq 2\text{ppb}$ <sup>[2]</sup>, and can achieve efficient sterilization and inhibit bacterial growth, suitable for HPLC, UPLC, LC-MS and other precision instruments.

<sup>[1]</sup> Applicable to ultrapure water systems equipped with UV module.

<sup>[2]</sup> The values vary depending on the nature and concentration of contaminants in source water.



#### 6 Ultrafiltration module<sup>[1]</sup>

- With PES membrane and MWCO>5000D, effectively removes pyrogen/endotoxin, RNase, DNase, and produces nuclease-free, proteinase-free and bacterial-free ultrapure water, suitable for life science applications, such as cell culture/IVF.

<sup>[1]</sup> Applicable to ultrapure water systems equipped with UF module.



#### 7 MF terminal microfilter<sup>[1]</sup>

- (0.45+0.2) $\mu\text{m}$  double-layer PES membrane ensures microbial retention, effectively removes particles and bacteria, and meets critical application requirements.

<sup>[1]</sup> Applicable to ultrapure or high-pure water system. For details, refer to the product manual.



#### 8 Built-in 1.8-liter pressure water tank

- With dual functions of water storage and pressurization, FDA approved, its fully enclosed structure effectively isolates air, and prevent the touching of CO<sub>2</sub> and other pollutants with pure water. Upto 100 liters is optional volume.
- 60 or 120 liters pure water tank with liquid level sensor, equipped with air filter, is optional to achieve more professional pure water storage.



#### UF terminal ultrafilter<sup>[1]</sup>

- With PES membrane and MWCO>15000D, effectively removes pyrogen/endotoxin, RNase, DNase, and produces nuclease-free, proteinase-free and bacterial-free ultrapure water, suitable for life science applications, such as cell culture/IVF.

<sup>[1]</sup> Optional accessory for ultrapure water system only.

# Combination Of Technology & Aesthetics

## Creating highlights both inside and out



### All injection molded housing

- New and advanced manufacturing process bring compelling customer experience.
- With geometric surfaces and simple lines, to show rich three-dimensional sense. With extraordinary imagination, to highlight the aesthetics of science and technology. Beautiful & Easy to use.

### Innovative design of cartridge structure

- Patented 3-chamber design, compatible with packaging of PP/PC/RO/DI cartridge, to ensure consistency.
- Patented clamping mechanism, easier and more efficient to install and replace the cartridge.
- Patented error-proofing design, effective to avoid installation errors of different cartridges.
- 12-inch cylinder with 1.36L resin filling capacity brings more bigger ion exchange capacity and more effective filtration.
- Encrypted long serial number verification code can identify the authenticity of cartridges, record the use and replacement of cartridges, and ensure the safety of the system.



### Powerful HiDis water dispenser arm (Optional)

- Color display, to monitor dispensing resistivity, water temperature, flow rate, single and cumulative water quantity.
- General, quantitative, instant - 3 water dispensing modes cycle, meeting with needs of different water dispensing mode.
- It can be fixed on the bracket in any direction of 360 degrees horizontally, making dispensing water more flexible in different directions.
- Function of circulating with the host can always ensure the quality of pure water.
- Equipped with 0.2 $\mu$ m MF terminal microfilter or UF terminal ultrafilter, to produce bacterial-free, nuclease-free, proteinase-free ultrapure water.
- Up to 5 sets of HiDis water dispenser arm can be connected to one host, fully covering the pure water usage range on the laboratory table.

2021-03-08 11:35	
Dispensing Mode	<b>18.2</b> M $\Omega$ .cm @25°C 3.2 ppb <b>25.2</b> °C
General	Flux <b>0000</b> ml/min Amount <b>500</b> ml



### Professional PE pure water tank (Optional)

- Material: HDPE, double layer design. Anti-UV inhibitor is added to the outer layer to prevent the growth of algae inside and improve the durability of the tank. Pure PE raw material is used in inner layer to reduce material precipitation and ensure water quality safety.
- Drainage valve is installed at the cone bottom, which can empty the water tank and ensure thorough cleaning.
- Feeding from the bottom can reduce CO<sub>2</sub> absorption.
- The enlarged cover with seal can prevent air from entering and facilitate manual cleaning.
- Compound air filter is in the standard configuration, containing special packing and microporous membrane, to absorb CO<sub>2</sub> and organics, and filtrate bacteria and particles.
- UV disinfection module is optional to sterilize tank and inhibit the growth of bacteria in the tank.
- Equipped with an independent pressure sensor, independent level control module and LCD display, it can display the liquid level, storage (L) and storage percentage (%) of the water tank in real-time in the form of dynamic icons. A clear glance for storage status.



# HSU series

## Integrated Ultrapure Water System

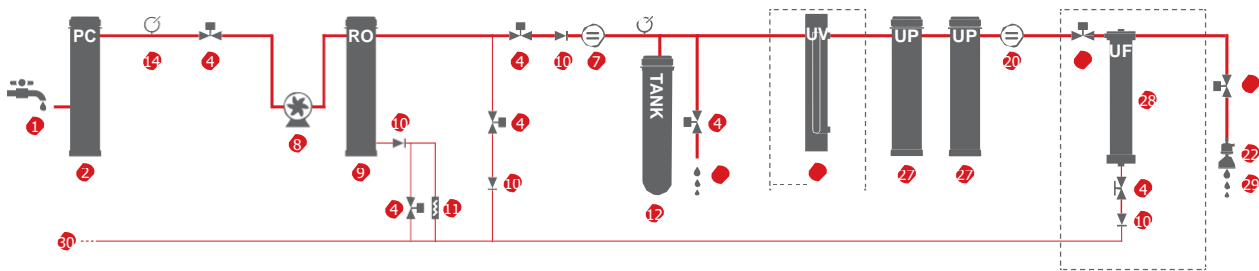
—Ultrapure water, RO<sup>1st</sup> water

With tap water inlet, using the innovative automatic control system and LCD display, embedding new purification cartridges with patented structure, stable and reliable single RO system with higher ion rejection rate, and DI ion-exchange cartridges with larger capacity, equipping with built-in 1.8-liter pressure water tank.

System output: 20, 40, 60 liters/h. It can simultaneously produce ultrapure water (18.2MΩ.cm) and single RO water. The quality of pure water fully meets or exceeds the requirements of water quality standard specified by ASTM D1193-06, GB/T 11446.1-2013, GB/T 33087-2016, GB/T 6682-2008, CP, EP, USP, JP, CAP, CLSI, etc.



## Flow Diagram



- |                             |                       |                        |                           |
|-----------------------------|-----------------------|------------------------|---------------------------|
| 1 Feed Water                | 9 RO cartridge        | 17 Three way valve     | 25 UV Component           |
| 2 PP Pretreatment Cartridge | 10 One way valve      | 18 High tension switch | 26 TOC Component          |
| 3 Pressure sensor           | 11 Flow Restrictor    | 19 DI Cartridge        | 27 UP Ultrapure cartridge |
| 4 Solenoid valve            | 12 Pressure watertank | 20 Resistivity Sensor  | 28 UF Cartridge           |
| 5 Flow sensor               | 13 RO Water Outlet    | 21 Sanitization Block  | 29 UP Water Outlet        |
| 6 PC Pretreatment Cartridge | 14 Low tension switch | 22 Final Filter        | 30 Drain Outlet           |
| 7 Conductivity Sensor       | 15 EDI Component      | 23 DI Water Outlet     |                           |
| 8 Pump                      | 16 PE watertank       | 24 Dispenser arm       |                           |



## HSU Specifications

Name	Standard	Low TOC	Eliminating endotoxin	Synthesizing
Model	HSU-20/40/60	HSU-20/40/60UV	HSU-20/40/60UF	HSU-20/40/60UVF
Production rate <sup>[1]</sup>	20series: 20L/hour, 40series: 40L/hour, 60series: 60L/hour			
Dispensing rate <sup>[2]</sup>	Up to 2liters/minute	Up to 2liters/minute	Up to 2liters/minute	Up to 2liters/minute
Ultrapure water quality <sup>[3]</sup>				
Resistivity ( 25°C ) <sup>[4]</sup>	18.2MΩ.cm	18.2MΩ.cm	18.2MΩ.cm	18.2MΩ.cm
Conductivity ( 25°C )	0.055 μs/cm	0.055 μs/cm	0.055 μs/cm	0.055 μs/cm
TOC <sup>[5]</sup>	5 ppb <sup>[6]</sup>	2 ppb <sup>[7]</sup>	5 ppb <sup>[8]</sup>	2 ppb <sup>[7]</sup>
Particles <sup>[8]</sup>	<1 /ml ( >0.2μm )	<1/ml ( >0.2μm )	<1 /ml ( >0.2μm )	<1/ml ( >0.2μm )
Bacteria <sup>[9]</sup>	<0.01CFU/ml	<0.01CFU/ml	<0.01CFU/ml	<0.01CFU/ml
Endotoxin <sup>[10]</sup>	N/A	N/A	<0.001 EU/ml	<0.001 EU/ml
RNases <sup>[10]</sup>	N/A	N/A	1 pg/ml	1 pg/ml
DNases <sup>[10]</sup>	N/A	N/A	5 pg/ml	5 pg/ml
Protease <sup>[10]</sup>	N/A	N/A	0.15 μg/ml	0.15 μg/ml
RO <sup>1st</sup> water quality <sup>[3]</sup>				
Ion rejection rate	98%-99% (with new RO module)	98%-99% (with new RO module)	98%-99% (with new RO module)	98%-99% (with new RO module)
Organic rejection rate	>99% ( MW>300 Dalton )	>99% ( MW>300 Dalton )	>99% ( MW>300 Dalton )	>99% ( MW>300 Dalton )
Particles and bacteria rejection rate	>99%	>99%	>99%	>99%
Feed water requirements				
Water source type	Tap water	Tap water	Tap water	Tap water
Pressure	1-6 bar	1-6 bar	1-6 bar	1-6 bar
Temperature	5-40°C	5-40°C	5-40°C	5-40°C
Conductivity	<2000 μs/cm	<2000 μs/cm	<2000 μs/cm	<2000 μs/cm
Total hardness (In CaCO <sub>3</sub> )	<300 ppm	<300 ppm	<300 ppm	<300 ppm
TOC	<2000 ppb	<2000 ppb	<2000 ppb	<2000 ppb
Free chlorine	<3 ppm	<3 ppm	<3 ppm	<3 ppm
PH	4-10	4-10	4-10	4-10
Dissolved CO <sub>2</sub>	<30 ppm	<30 ppm	<30 ppm	<30 ppm
Power supply	100-240V , 50/60Hz	100-240V , 50/60Hz	100-240V , 50/60Hz	100-240V , 50/60Hz
Total Power	20series: 48W, 40series: 72W, 60series: 120W			
Dimension (L×W×H)	Main host: 273×555×568mm	Main host: 273×555×568mm	Main host: 273×555×568mm	Main host: 273×555×568mm
weight	About 21KG	About 21KG	About 21KG	About 21KG
Standard configuration	Main host 1 set All cartridges 1 set Built-in 1.8-liter water tank 1 set	Main host 1 set All cartridges 1 set Built-in 1.8-liter water tank 1 set	Main host 1 set All cartridges 1 set Built-in 1.8-liter water tank 1 set	Main host 1 set All cartridges 1 set Built-in 1.8-liter water tank 1 set

[1] Affected by inlet water quality, pressure, temperature and status of RO membrane

[2] Affected by the tank status and terminal filter

[3] The following values are typical and may vary depending on the nature and concentration of feed water contaminants

[4] According to USP requirements, the resistivity can be displayed as a non-temperature-compensated value

[5] Affected by the type of organics

[6] Inlet TOC<1000ppb, follow professional operating procedures and correct sampling conditions

[7] Inlet TOC<50ppb, follow professional operating procedures and correct sampling conditions

[8] Equip with terminal microfilter and follow professional operating procedures and correct sampling conditions

[9] Equip with terminal microfilter and follow professional operating procedures and correct sampling conditions

[10] Equip with terminal ultrafilter and follow professional operating procedures and correct sampling conditions

# HSD series

## Integrated Pure Water System

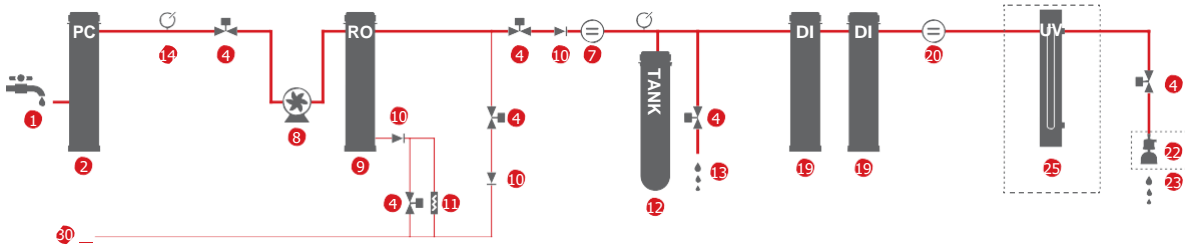
—High pure water, RO<sup>1st</sup> water

With tap water inlet, using the innovative automatic control system and LCD display, embedding new purification cartridges with patented structure, stable and reliable single RO system with higher ion rejection rate, and DI ion-exchange cartridges with larger capacity, equipping with built-in 1.8-liter pressure water tank.

System output: 20, 40, 60 liters/h. It can simultaneously produce high pure water (>17.5MΩ.cm) and single RO water. The quality of pure water fully meets or exceeds the requirements of water quality standard specified by ISO3696 (Grade 2), GB/T 6682 (Grade 1), ASTM D1193 (Type II reagent water), JIS K0557, etc., also meets the purified water technical requirements of CP, EP, USP, JP and other national pharmacopoeia.



## Flow Diagram



- |                             |                       |                       |                          |
|-----------------------------|-----------------------|-----------------------|--------------------------|
| ① Feed Water                | ⑨ RO cartridge        | ⑰ Three way valve     | ⑳ UV Component           |
| ② PP Pretreatment Cartridge | ⑩ One way valve       | ⑱ High tension switch | ㉑ TOC Component          |
| ③ Pressure sensor           | ⑪ Flow Restrictor     | ⑲ DI Cartridge        | ㉒ UP Ultrapure cartridge |
| ④ Solenoid valve            | ⑫ Pressure water tank | ⑳ Resistivity Sensor  | ㉓ UF Cartridge           |
| ⑤ Flow sensor               | ⑬ RO Water Outlet     | ㉑ Sanitization Block  | ㉔ UP Water Outlet        |
| ⑥ PC Pretreatment Cartridge | ⑭ Low tension switch  | ㉒ Final Filter        | ㉕ Drain Outlet           |
| ⑦ Conductivity Sensor       | ⑮ EDI Component       | ㉓ DI Water Outlet     |                          |
| ⑧ Pump                      | ⑯ PE watertank        | ㉔ Dispenser arm       |                          |

## HSD Specifications

Name	Standard	Eliminating bacteria and particle
<b>Model</b>	<b>HSD-20/40/60</b>	<b>HSD-20/40/60UT</b>
Production rate <sup>[1]</sup>	20series: 20L/hour, 40series: 40L/hour, 60series: 60L/hour	
Dispensing rate <sup>[2]</sup>	Up to 2 liters/minute	Up to 2 liters/minute
<b>DI water quality <sup>[3]</sup></b>		
Resistivity ( 25°C ) <sup>[4]</sup>	>17.5 MΩ.cm	>17.5 MΩ.cm
Conductivity ( 25°C )	<0.057 μs/cm	<0.057 μs/cm
Particles <sup>[8]</sup>	N/A	<1/ml ( >0.2μm )
Bacteria <sup>[9]</sup>	N/A	<0.01CFU/ml
<b>RO<sup>1s</sup> water quality <sup>[3]</sup></b>		
Ion rejection rate	98%-99% (with new RO module)	98%-99% (with new RO module)
Organic rejection rate	>99% ( MW>300 Dalton )	>99% ( MW>300 Dalton )
Particles and bacteria rejection rate	>99%	>99%
<b>Feed water requirements</b>		
Water source type	Tapwater	Tapwater
Pressure	1-6bar	1-6bar
Temperature	5-40°C	5-40°C
Conductivity	<2000 μs/cm	<2000 μs/cm
Total hardness (In CaCO <sub>3</sub> )	<300 ppm	<300 ppm
TOC	<2000 ppb	<2000 ppb
Free chlorine	<3 ppm	<3 ppm
PH	4-10	4-10
Dissolved CO <sub>2</sub>	<30 ppm	<30 ppm
Power supply	100-240V , 50/60Hz	100-240V , 50/60Hz
Total Power	20series: 48W, 40series: 72W, 60series: 120W	20series: 48W, 40series: 72W, 60series: 120W
Dimension (L×W×H)	Main host: 273×555×568mm	Main host: 273×555×568mm
weight	About 20KG	About 20KG
Standard configuration	Main host 1 set All cartridges 1 set Built-in 1.8-liter water tank 1 set	Main host 1 set All cartridges 1 set Built-in 1.8-liter water tank 1 set

[1] Affected by inlet water quality, pressure, temperature and status of RO membrane

[2] Affected by the tank status and terminal filter

[3] The following values are typical and may vary depending on the nature and concentration of feed water contaminants

[4] According to USP requirements, the resistivity can be displayed as a non-temperature-compensated value

[5] Affected by the type of organics

[6] Inlet TOC<1000ppb, follow professional operating procedures and correct sampling conditions

[7] Inlet TOC<50ppb, follow professional operating procedures and correct sampling conditions

[8] Equip with terminal microfilter and follow professional operating procedures and correct sampling conditions

[9] Equip with terminal microfilter and follow professional operating procedures and correct sampling conditions

[10] Equip with terminal ultrafilter and follow professional operating procedures and correct sampling conditions

# HSRS Smart series

## Integrated Double RO Water System

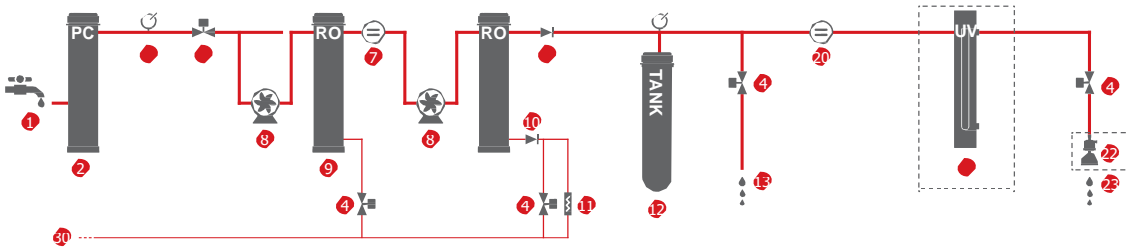
—RO<sup>2nd</sup> water, RO<sup>1st</sup> water

With pure water inlet, using the innovative automatic control system and LCD display, embedding new purification cartridges with patented structure and rigorous double RO system, equipping with built-in 1.8-liter pressure water tank.

System output: 13, 25 liters/h. It can simultaneously produce single RO and double RO water. The ion rejection rate of single RO water is above of 98%, and the conductivity of double RO water is less than 5 $\mu$ s/cm. The quality of pure water fully meets or exceeds the requirements of water quality standard specified by GB/T 6682-2008 (Grade 3).



## Flow Diagram



- |                             |                       |                       |                          |
|-----------------------------|-----------------------|-----------------------|--------------------------|
| ① Feed Water                | ⑨ RO cartridge        | ⑰ Three way valve     | ⑳ UV Component           |
| ② PP Pretreatment Cartridge | ⑩ One way valve       | ⑱ High tension switch | ㉑ TOC Component          |
| ③ Pressure sensor           | ⑪ Flow Restrictor     | ㉒ DI Cartridge        | ㉒ UP Ultrapure cartridge |
| ④ Solenoid valve            | ⑫ Pressure water tank | ㉓ Resistivity Sensor  | ㉓ UF Cartridge           |
| ⑤ Flow sensor               | ⑬ RO Water Outlet     | ㉔ Sanitization Block  | ㉔ UP Water Outlet        |
| ⑥ PC Pretreatment Cartridge | ⑭ Low tension switch  | ㉕ Final Filter        | ㉕ Drain Outlet           |
| ⑦ Conductivity Sensor       | ⑮ EDI Component       | ㉖ DI Water Outlet     |                          |
| ⑧ Pump                      | ⑯ PE water tank       | ㉗ Dispenser arm       |                          |

## HSRS Specifications

Name	Standard	Eliminating bacteria and particle
<b>Model</b>	<b>HSRS-13/25</b>	<b>HSRS-13/25UT</b>
Production rate <sup>[1]</sup>		13 series: 13L/hour, 25 series: 25L/hour
Dispensing rate <sup>[2]</sup>	Up to 2 liters/minute	Up to 2 liters/minute
<b>RO<sup>1st</sup> water quality <sup>[3]</sup></b>		
Ion rejection rate	>98% (with new RO module)	>98% (with new RO module)
<b>RO<sup>2nd</sup> water quality <sup>[3]</sup></b>		
Resistivity ( 25°C ) <sup>[4]</sup>	>0.2 MΩ.cm	>0.2 MΩ.cm
Conductivity ( 25°C )	<5μs/cm	<5μs/cm
Organic rejection rate	>99% ( MW>300 Dalton )	>99% ( MW>300 Dalton )
Particles and bacteria rejection rate	>99%	>99%
Particles <sup>[8]</sup>	N/A	<1/ml ( >0.2μm )
Bacteria <sup>[9]</sup>	N/A	<0.01CFU/ml
<b>Feed water requirements</b>		
Water source type	Tap water	Tap water
Pressure	1-6 bar	1-6 bar
Temperature	5-40°C	5-40°C
Conductivity	<2000 μs/cm	<2000 μs/cm
Total hardness (In CaCO <sub>3</sub> )	<300 ppm	<300 ppm
TOC	<2000 ppb	<2000 ppb
Free chlorine	<3 ppm	<3 ppm
PH	4-10	4-10
Dissolved CO <sub>2</sub>	<30 ppm	<30 ppm
Power supply	100-240V , 50/60Hz	100-240V , 50/60Hz
Total Power	120W	120W
Dimension (L×W×H)	Main host: 273×555×568mm	Main host: 273×555×568mm
weight	About 21KG	About 21KG
Standard configuration	Main host 1 set All cartridges 1 set Built-in 1.8-liter water tank 1 set	Main host 1 set All cartridges 1 set Built-in 1.8-liter water tank 1 set

[1] Affected by inlet water quality, pressure, temperature and status of RO membrane

[2] Affected by the tank status and terminal filter

[3] The following values are typical and may vary depending on the nature and concentration of feed water contaminants

[4] According to USP requirements, the resistivity can be displayed as a non-temperature-compensated value

[5] Affected by the type of organics

[6] Inlet TOC<1000ppb, follow professional operating procedures and correct sampling conditions

[7] Inlet TOC<50ppb, follow professional operating procedures and correct sampling conditions

[8] Equip with terminal microfilter and follow professional operating procedures and correct sampling conditions

[9] Equip with terminal microfilter and follow professional operating procedures and correct sampling conditions

[10] Equip with terminal ultrafilter and follow professional operating procedures and correct sampling conditions

# HSP series

## Ultrapure Water System

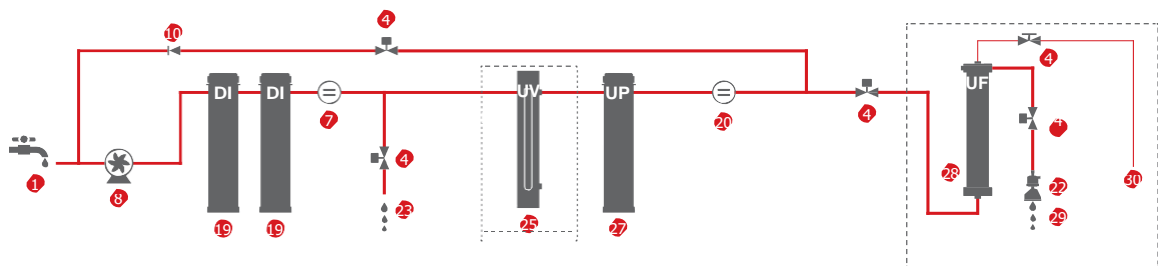
—Ultrapure water, high pure water

With tap water inlet, using the innovative automatic control system and LCD display, embedding new purification cartridges with patented structure and DI ion-exchange cartridges with larger capacity.

System output: Up to 2 liters/minute. It can produce ultrapure water (18.2MΩ.cm). The quality of pure water fully meets or exceeds the requirements of water quality standard specified by ASTM D1193-06, GB/T 11446.1-2013, GB/T 33087-2016, GB/T 6682-2008, CP, EP, USP, JP, CAP, CLSI, etc.



## Flow Diagram



- |                             |                      |                       |                          |
|-----------------------------|----------------------|-----------------------|--------------------------|
| ① Feed Water                | ⑲ RO cartridge       | ⑲ Three way valve     | ⑳ UV Component           |
| ② PP Pretreatment Cartridge | ⑳ One way valve      | ㉑ High tension switch | ㉒ TOC Component          |
| ③ Pressure sensor           | ㉑ Flow Restrictor    | ㉓ DI Cartridge        | ㉔ UP Ultrapure cartridge |
| ④ Solenoid valve            | ㉒ Pressure watertank | ㉕ Resistivity Sensor  | ㉕ UF Cartridge           |
| ⑤ Flow sensor               | ㉓ RO Water Outlet    | ㉖ Sanitization Block  | ㉖ UP Water Outlet        |
| ⑥ PC Pretreatment Cartridge | ㉔ Low tension switch | ㉗ Final Filter        | ㉗ Drain Outlet           |
| ⑦ Conductivity Sensor       | ㉕ EDI Component      | ㉘ DI Water Outlet     |                          |
| ⑧ Pump                      | ㉖ PE watertank       | ㉘ Dispenser arm       |                          |

## HSP Specifications

Name	Standard	Low TOC	Eliminating endotoxin	Synthesizing
Model	HSP	HSP-UV	HSP-UF	HSP-UVF
Production rate <sup>[2]</sup>	Up to 2 liters/minute	Up to 2 liters/minute	Up to 2 liters/minute	Up to 2 liters/minute
Ultrapure water quality <sup>[3]</sup>				
Resistivity ( 25°C ) <sup>[4]</sup>	18.2MΩ.cm	18.2MΩ.cm	18.2MΩ.cm	18.2MΩ.cm
Conductivity ( 25°C )	0.055 μs/cm	0.055 μs/cm	0.055 μs/cm	0.055 μs/cm
TOC <sup>[5]</sup>	5 ppb <sup>[6]</sup>	2 ppb <sup>[7]</sup>	5 ppb <sup>[6]</sup>	2 ppb <sup>[7]</sup>
Particles <sup>[8]</sup>	<1 /ml ( >0.2μm )	<1/ml ( >0.2μm )	<1 /ml ( >0.2μm )	<1/ml ( >0.2μm )
) Bacteria <sup>[9]</sup>	<0.01CFU/ml	<0.01CFU/ml	<0.01CFU/ml	<0.01CFU/ml
Endotoxin <sup>[10]</sup>	N/A	N/A	<0.001 EU/ml	<0.001 EU/ml
RNases <sup>[10]</sup>	N/A	N/A	1 pg/ml	1 pg/ml
DNases <sup>[10]</sup>	N/A	N/A	5 pg/ml	5 pg/ml
Protease <sup>[10]</sup>	N/A	N/A	0.15 μg/ml	0.15 μg/ml
Feed water requirements				
Water source type	Purified water treated by RO/DI/EDI or distillation technology			
Pressure	0-6 bar	0-6 bar	0-6 bar	0-6 bar
Temperature	5-40°C	5-40°C	5-40°C	5-40°C
Conductivity	<100 μs/cm	<100 μs/cm	<100 μs/cm	<100 μs/cm
TOC	<50 ppb	<50 ppb	<50 ppb	<50 ppb
Power supply	100-240V , 50/60Hz	100-240V , 50/60Hz	100-240V , 50/60Hz	100-240V , 50/60Hz
Total Power	72W	72W	72W	72W
Dimension (LxWxH)	Main host: 273×555×568mm	Main host: 273×555×568mm	Main host: 273×555×568mm	Main host: 273×555×568mm
weight	About 16KG	About 16KG	About 16KG	About 16KG
Standard configuration	Main host 1 set All cartridges 1 set	Main host 1 set All cartridges 1 set	Main host 1 set All cartridges 1 set	Main host 1 set All cartridges 1 set

[1] Affected by inlet water quality, pressure, temperature and status of RO membrane

[2] Affected by the tank status and terminal filter

[3] The following values are typical and may vary depending on the nature and concentration of feed water contaminants

[4] According to USP requirements, the resistivity can be displayed as a non-temperature-compensated value

[5] Affected by the type of organics

[6] Inlet TOC<1000ppb, follow professional operating procedures and correct sampling conditions

[7] Inlet TOC<50ppb, follow professional operating procedures and correct sampling conditions

[8] Equip with terminal microfilter and follow professional operating procedures and correct sampling conditions

[9] Equip with terminal microfilter and follow professional operating procedures and correct sampling conditions

[10] Equip with terminal ultrafilter and follow professional operating procedures and correct sampling conditions



**ISO  
3696**

**US Pharmacopoeia  
GB/T 33087 2016**

**Japan Pharmacopoeia**

**ISO9001**

**CLSI GB/T.11446 1-2013**

**ASTMD 5196 ISO14001**

**China Pharmacopoeia ASTM  
GB/T 6682-2008 JIS K  
0557**

**Eu Pharmacopoeia D1193  
CE Quality Standard**

## PRODUCT

- Under management system of ISO9001 and ISO14001, in accordance with CE quality standards, we carry out product design, research & development and manufacturing to ensure long-term stability and reliability of quality.
- To help you meet industry specifications, we can assist in providing certificates of conformity, calibration certificates, quality certificates, performance reports, water quality compliance certificates and other supporting documents upon request.
- HS Smart series - lab water system can produce pure water/ultrapure water to meet the requirements of the following organizations:
- Chinese Pharmacopoeia-CP, United States Pharmacopoeia-USP, European Pharmacopoeia-EP, Japanese Pharmacopoeia-JP, GB/T 33087-2016, GB/T 6682-2008, GB/T 11446.1-2013, ASTM D1193, ASTM D 5196, ISO 3696, CLSI, JIS K 0557.

## SERVICE

### **We wholeheartedly serve, only for your full satisfaction.**

With customer satisfaction as the service goal, to continue to create value for customers as the direction, to grow together with customers as the concept, based on professionalism, we are full of sincerity and enthusiasm, committing to providing customers with professional and perfect technical support and after-sales service. So that you can devote all your energy to focus on the work.

### **Our service include:**

- 12 months product warranty (excluding filter consumables)
- On-site professional training of installation, use and maintenance.
- Regular engineer return visit service
- Free continuous optimization and upgrading service of product life cycle.
- Professional and rigorous 3Q(IQ/OQ/PQ) verification documentation and verification services in both English and Chinese, to help you meet compliance requirements of GLP, GMP and cGMP.

## Ordering Information

	Item No	Product description	
<b>Host</b>	HSU-20	Integrated ultrapure water system,20L/h, Standard, Ultrapure water, RO <sup>1st</sup> water	
	HSU-40	Integrated ultrapure water system,40L/h, Standard, Ultrapure water, RO <sup>1st</sup> water	
	HSU-60	Integrated ultrapure water system,60L/h, Standard, Ultrapure water, RO <sup>1st</sup> water	
	HSU-20UV	Integrated ultrapure water system,20L/h, Low TOC, Ultrapure water, RO <sup>1st</sup> water	
	HSU-40UV	Integrated ultrapure water system,40L/h, Low TOC, Ultrapure water, RO <sup>1st</sup> water	
	HSU-60UV	Integrated ultrapure water system,60L/h, Low TOC, Ultrapure water, RO <sup>1st</sup> water	
	HSU-20UF	Integrated ultrapure water system,20L/h, Eliminating endotoxin, Ultrapure water, RO <sup>1st</sup> water	
	HSU-40UF	Integrated ultrapure water system,40L/h, Eliminating endotoxin, Ultrapure water, RO <sup>1st</sup> water	
	HSU-60UF	Integrated ultrapure water system,60L/h, Eliminating endotoxin, Ultrapure water, RO <sup>1st</sup> water	
	HSU-20UVF	Integrated ultrapure water system,20L/h, Synthesizing, Ultrapure water, RO <sup>1st</sup> water	
	HSU-40UVF	Integrated ultrapure water system,40L/h, Synthesizing, Ultrapure water, RO <sup>1st</sup> water	
	HSU-60UVF	Integrated ultrapure water system,60L/h, Synthesizing, Ultrapure water, RO <sup>1st</sup> water	
	HSD-20	Integrated pure water system,20L/h, Standard, High pure water, RO <sup>1st</sup> water	
	HSD-40	Integrated pure water system,40L/h, Standard, High pure water, RO <sup>1st</sup> water	
	HSD-60	Integrated pure water system,60L/h, Standard, High pure water, RO <sup>1st</sup> water	
	HSD-20UT	Integrated pure water system,20L/h, Eliminating bacteria and particle, High pure water, RO <sup>1st</sup> water	
	HSD-40UT	Integrated pure water system,40L/h, Eliminating bacteria and particle, High pure water, RO <sup>1st</sup> water	
	HSD-60UT	Integrated pure water system,60L/h, Eliminating bacteria and particle, High pure water, RO <sup>1st</sup> water	
	HSRS-13	Integrated double RO water system,13L/h, Standard, RO <sup>2nd</sup> water, RO <sup>1st</sup> water	
	HSRS-25	Integrated double RO water system,25L/h, Standard, RO <sup>2nd</sup> water, RO <sup>1st</sup> water	
	HSRS-13UT	Integrated double RO water system,13L/h, Eliminating bacteria and particle, RO <sup>2nd</sup> water, RO <sup>1st</sup> water	
	HSRS-25UT	Integrated double RO water system,25L/h, Eliminating bacteria and particle, RO <sup>2nd</sup> water, RO <sup>1st</sup> water	
	HSP	Ultrapure water system, up to 2 liters/minute, Standard, Ultrapure water, high pure water	
	HSP-UV	Ultrapure water system, up to 2 liters/minute, Low TOC, Ultrapure water, high pure water	
	HSP-UF	Ultrapure water system, up to 2 liters/minute, Eliminating endotoxin, Ultrapure water, high pure water	
	HSP-UVF	Ultrapure water system, up to 2 liters/minute, Synthesizing, Ultrapure water, high pure water	
	<b>Cartridge</b>	HPC103	Pretreatment cartridge C
		HPC302	RO <sup>1st</sup> module S2
		HPC304	RO <sup>1st</sup> module S4
		HPC306	RO <sup>1st</sup> module S6
HPC303		RO <sup>1st</sup> module F3	
HPC305		RO <sup>1st</sup> module F5	
HPC403		RO <sup>2nd</sup> module D3	
HPC405		RO <sup>2nd</sup> module D5	
HPC501		DI cartridge	
HPC601		UP cartridge, standard	
HPC602		UP cartridge, Low TOC	
HPC700		Air filter for tank	
HPC701		185&254nm double wavelength UV lamp	
HPC702		254nm UV lamp	
HPC709		UF ultrafiltration module	
HPC801		TF terminal microfilter	
HPC802		TF terminal microfilter	
HPC810		TF terminal ultrafilter	

## Ordering Information

Accessory	Item No	Product description	Item No	Product description
	TANK1018	1.8-liter pressure water tank	DISP2001	HiDis dispenser arm (independent), equipped with 2M connection kit
	TANK1015	15-liter pressure water tank	PWA7200	Automatic water softener (salt required)
	TANK1040	40-liter pressure water tank	PWA7010	Pretreatment filter for source water
	TANK1075	75-liter pressure water tank	PWA7011	PP cartridge for pretreatment filter (5 µm, 10 inch)
	TANK1100	100-liter pressure water tank	PWA7012	RS cartridge for pretreatment filter (10 inch)
	TANK1061	60-liter PE pure water tank, equipped with air filter and independent level control module with LCD display	PWA7501	Footswitch
	TANK1060	60-liter PE pure water tank, equipped with air filter	PWA7502	External leak sensor
	TANK1121	120-liter PE pure water tank, equipped with air filter and independent level control module with LCD display	PWA1303	Wall-mounted mounting bracket for S
TANK1120	120-liter PE pure water tank, equipped with air filter			
Service	Item No	Product description		
	HPS51001	1 year extended warranty service (except for consumables)		
	HPS51003	3 year extended warranty service (except for consumables)		
	HPS52001	Verification documents in English		
	HPS53001	Basic verification service		
	HPS59001*	1-year, one-price all-inclusive maintenance agreement, including regular consumables replacement, maintenance and calibration		
HPS59003*	3-year, one-price all-inclusive maintenance agreement, including regular consumables replacement, maintenance and calibration			

\*On the basis of mutual confirmation of pure water consumption and feed water quality.

For more product details, please login: [www.harmony-scientific.com](http://www.harmony-scientific.com) or email to [info@harmony-scientific.com](mailto:info@harmony-scientific.com)