Integrated Double RO Water System

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Integrated Double RO Water System

DS-SR2050UT

System Overview

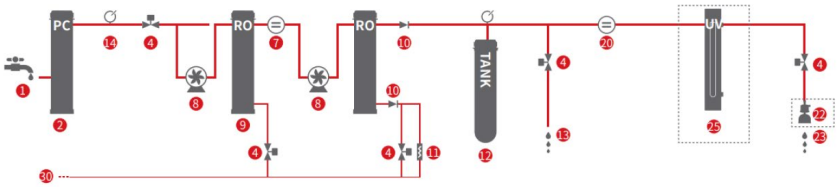
With pure water inlet, using the innovative automatic control system and LCD display, embedding new purification cartridges with patented structure and rigorous double RO system, equipping with built-in 1.8-liter pressure water tank.
System output: 25 liters/h. It can simultaneously produce single RO 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 5μs/cm. The quality of pure water fully meets or exceeds the requirements of water quality standard specified by GB/T 6682- 2008 (Grade 3).

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.

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

Model	DS-SR2050UT
Production rate[1]	25 L/hour
Dispensing rate[2]	Up to 2 L/min
RO1st water quality 3	
Ion rejection rate	>98% (with new RO module)
RO1st water quality3	
Resistivity (25°C)[4]	>0.2 MΩ·cm
Conductivity (25°C)	<5 μs/cm
Organic rejection rate	>99% (MW >300 Dalton)
Particles and bacteria rejection rate	>99%
Particles[8]	<1 /ml (>0.2 μm)
Bacteria[9]	<0.01 CFU/ml
Feed water requirements	
Water source type	Tap water
Pressure	1–6 bar
Temperature	5–40°C
Conductivity	<2000 μs/cm
Total hardness ($CaCO_3$)	<300 ppm
TOC	<2000 ppb
Free chlorine	<3 ppm
pH	4–10
Dissolved CO_2	<30 ppm
Power supply	100–240V, 50/60Hz
Total Power	120W
Dimension (L×W×H)	273×555×568 mm
Weight	21 kg



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

Introduction to Performance & Characteristics

Smart and Concise System Design, Create Excellent Quality Both Internally and Externally

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 (RO1stwater and RO2ndwater) 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.

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.

Rigorous double RO system

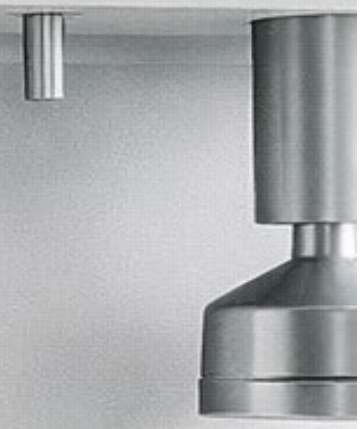
- Double RO system can remove up to 99% soluble inorganic ions, 99% soluble organics, microorganisms and particles.
- The double RO water quality can be stable < 5μs/cm (feed water conductivity < 1500μs/cm), and the life of the ultrapure unit is longer.
- Equipped with DuPont RO membrane, to achieve combination of long life, stability and high ion rejection rate.
- Auto-flushing function of RO module with adjustable flushing interval and duration, 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.

Double wavelength UV module

- Long-life ultraviolet lamp (185&254nm), combined with SUS316L flow shell, can reduce the value of TOC to ≤2ppb[1], and can achieve efficient sterilization and inhibit bacterial growth, suitable for HPLC, UPLC, LC-MS and other precision instruments.

MF terminal microfilter

- (0.45+0.2) μm double-layer PES membrane ensures microbial retention, effectively removes particles and bacteria, and meets critical application requirements.



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 CO2 and other pollutants with pure water. Up to 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.

Combination Of Technology & Aesthetics Creating highlights both inside and out

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.

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.

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 CO2 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 CO2 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.

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 0.2μm 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.

Item	Model	Description	Approximately Replacement Term	QTY	Unit Price (USD)
1	DS103PC	Pretreatment cartridge C	10 months	1	70
2	DS305PC	RO 1st module F5	12–24 months	1	360
3	DS405PC	RO 2nd module D5	12–24 months	1	202
4	DS702PC	254nm UV lamp	9000 hours	1	100
5	DS801PC	TF terminal microfilter	6–12 months	1	130