AVIDITY®
SCIENCE

Solo™ S

A REVOLUTIONARY NEW SUSTAINABLE LABORATORY WATER PURIFICATION SYSTEM

Solo™ S

A new sustainable laboratory water purification system with reusable cartridges.

Laboratory Ultrapure water directly from tap water, producing up to 10 litres a day of Type 1 water.

Unrivalled Sustainability

- Unique cartridge design enables re-use, eliminates customers' plastic cartridge waste disposal and delivers up to 90% reduction in carbon emissions.
- Treatment media can be recycled with an AvRecycle™ plan.
- Cartridge housing made from 100% recyclable material.

Green Credentials by Design

- Mercury-free bacteria control LED UV technology, eliminates the downstream challenge of dealing with mercury waste.
- Solo™ S is delivered in plastic-free packaging, certified to FSC, designed for sustainability.
- Revolutionary pump design and reverse osmosis membrane flow path, to maintain water quality with reduced energy and water consumption.
- Automatic switching to energy saving mode after a period of inactivity, further reducing energy consumption.

Solo™ S is delivered in plastic-free packaging, designed for sustainability.

Solo™ S – A New Level of Sustainability

AvRecycle™ - a re-usable and recyclable water purification cartridge scheme, the first of its kind in laboratory water purification

- Revolutionary consumable cartridge design with no glue or welding allows for complete separation of the internal media from the outer housing.
- Annual consumables can be returned to Avidity Science for reprocessing – not thrown away.
- Recycling consumables is a comprehensive process of disassembly, emptying and cleaning the plastic cartridges before refilling and testing.
- Innovative non-carbon pre-treatment media for reverse osmosis membrane protection can be backwashed and re-used.
- All returned cartridges will be re-used and, in return, you will receive a rebate on your next Annual Consumable pack purchase.

How does AvRecycle™ work for Solo™ S?

- Every Annual Consumables pack supplied with a Return Box to simplify packaging.
- Simple online Return Form completed via a QR Code will provide a unique tracking number.
- When ready, return the used consumables to your local Avidity Science Processing Centre. Avidity does the rest!
- We reprocess the returned cartridges and rebate your next consumable purchase.

Unique cartridge design provides a water draining function when replacing consumables to prevent pressure and water leaks.

AvRecycle
with Avidity Science

Up to 90% reduction in calculated carbon emissions and plastic waste from consumables

Solo™ S

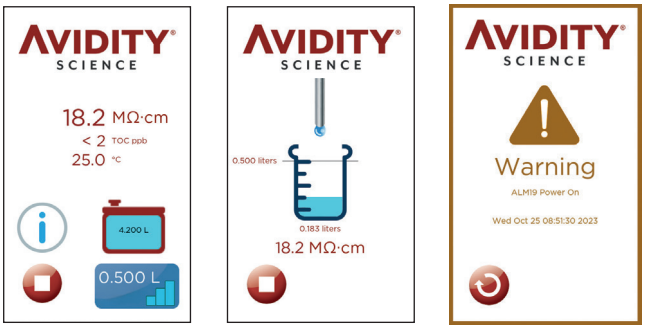
Delivering Ultrapure Water With Ease and Intelligence

Smart Dispensing With Full Flexibility

- Ultrapure water delivered at up to 1.2 litres/minute minimises research delay.
- Volumetric dispensing from 100ml to 4 litres allows you to work while water is delivered.
- Configurable dispense button to provide full control when using manual and volumetric configuration.
- Configurable flow rate down to drop-by-drop dispensing assists precision filling in a single vessel.

Intuitive Touch Screen Display

- 5-inch TFT colour screen with simple icon navigation.
- Real time monitoring in multiple languages.
- Password protection for critical operating parameters.

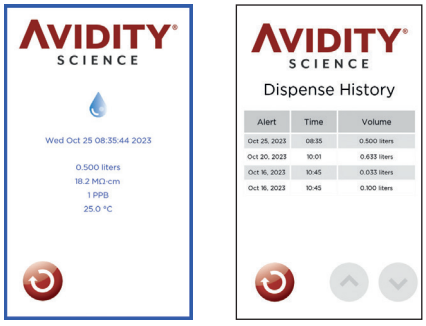


Effortless Operation and Maintenance

- System alerts when cartridges require changing – access is easy.
- System status notification providing visual indication of the water purification status via a colour-coded dispense button.
- In-built leak detection provides system security.
- Semi-automatic sanitisation process is simple and safe.

Ingenious Data Tracking and Reporting

- Near Field Communication (NFC) enables consumable identification and secure data logging ensuring traceability.
- Paperless data management with SD card technology.
- Data acquisition meeting regulatory compliance.



Single use plastics have surged in recent decades. Avidity Science's innovative design ensures cartridges can be re-used many times for the same purpose without compromising your research. With an AvRecycle™ plan, internal treatment media can be recycled preventing waste going to landfill.

Avidity Science has developed a revolutionary new sustainable water purification system that means you no longer need to send large volumes of plastic waste to landfill.

Avidity Science has incorporated fully re-usable cartridges in this, the first of its kind, laboratory water purification unit. Cartridges are returned to a designated Avidity Science facility for a visual inspection before reprocessing. Each component is thoroughly cleaned and validated before entering the AvRecycle™ plan.

Guaranteed Ultrapure Water Quality

Analysis was performed by an ISO/IEC 17025 accredited external service provider.

Table 1: Trace metal results - Solo™ S Water
RESULT*

ELEMENT	UNIT	SOLO™ S WATER	MDL**
Al	ppb	0.022	0.001
Sb	ppb	0.001	0.001
As	ppb	0.001	0.001
Ba	ppb	0.001	0.001
Be	ppb	0.001	0.001
Bi	ppb	0.001	0.001
Cr	ppb	0.001	0.001
Co	ppb	0.001	0.001
Cu	ppb	0.004	0.001
Ga	ppb	0.001	0.001
Ge	ppb	0.001	0.001
Au	ppb	0.006	0.001
Fe	ppb	0.007	0.001
Pb	ppb	0.001	0.001
Li	ppb	0.001	0.001
Mn	ppb	0.007	0.002
Mo	ppb	0.001	0.001
Ni	ppb	0.005	0.003
Nb	ppb	0.001	0.001
Pt	ppb	0.001	0.001
K	ppb	0.017	0.001
Ag	ppb	0.001	0.001
Na	ppb	0.075	0.001
Sr	ppb	0.003	0.001
Ta	ppb	0.022	0.001
Tl	ppb	0.001	0.001
Sn	ppb	0.001	0.001
Ti	ppb	0.015	0.002
W	ppb	0.002	0.001
V	ppb	0.001	0.001
Zn	ppb	0.079	0.001
Zr	ppb	0.007	0.001
P	ppb	0.020	0.014

*Analysis was performed by ICP-MS technique
**MDL = Measurement detection limit

Table 2: Anion results - Solo™ S Water
RESULT*

ANION	UNIT	SOLO™ S WATER	QL**
Br	ppb	0.015	0.015
F	ppb	0.005	0.005
PO_4	ppb	0.423	0.010
SO_4	ppb	0.423	0.010

*Analysis was performed by IC technique
** QL=Quantification limit

Table 3: Cation results - Solo™ S Water
RESULT*

CATION	UNIT	SOLO™ S WATER	QL**
NH_4	ppb	0.144	0.015
Li	ppb	0.005	0.005
Mg	ppb	0.091	0.015
K	ppb	0.020	0.020
Na	ppb	0.075	0.010

* Analysis was performed by IC technique
** QL=Quantification limit

Table 4: Silica results - Solo™ S Water
RESULT*

COMPOUND		UNIT	SOLO™ S WATER	MDL**
Total Silica	Si02	ppb	0.51	0.51
Dissolved Silica	Si02	ppb	0.51	0.51
Colloidal Silica*	Si02	ppb	0.00	-

*Total Silica analysis was performed by ICP-OES (evaporation) technique. Dissolved Silica analysis was performed by UV-VIS (evaporation) technique. Colloidal silica is calculated as the difference between Total Silica and Dissolved Silica.
**MDL = Measurement detection limit

SOLO™ S FOR CRITICAL APPLICATIONS

ANALYTICAL	LIFE SCIENCE
IC	Electrophoresis
ICP-MS	PCR/RT-PCR
GC-MS	DNA Sequencing
HPLC	Immunocytochemistry
AA	Mammalian Cell Culture
ICP-OES	Endotoxin Analysis

Technical Specifications

SYSTEM REQUIREMENTS

FEED WATER	Solo™ S
Pressure (Bar)	2 to 6 max (29 to 87 psi)
pH	6.5 - 8.5
Hardness as $CaCO_3$ (ppm)	< 1000
Temperature (°C)	5 - 35 max (45 to 90°F)
Conductivity*** (µS/cm)	< 2000
Free Chlorine (ppm)	< 5
Total Dissolved Solids (ppm)	< 1400

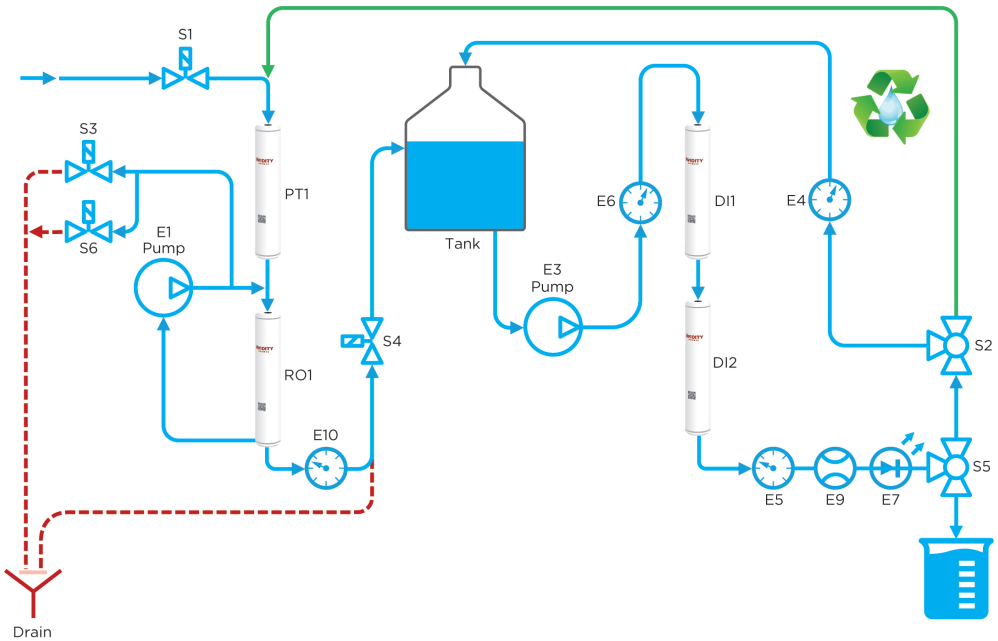
SYSTEM CAPABILITIES

SPECIFICATION	Solo™ S
Reverse Osmosis flowrate (L/hr) @ 20°C	3 - 25
Resistivity (Mohm/cm at 25°C)	18.2
Conductivity (µS/cm at 25°C)	0.055
Total Organic Carbon (TOC ppb) **	< 2
Bacteria (CFU/100mL) ***	< 0.01 µfc / ml
Particles (at filter) ***	< 0.2 µm / 1 ml
Delivery flowrate (L/min)	up to 1.2
RNASE *	< 1 pg / ml
DNASE *	< 5 pg / ml
PROTEASE *	< 0.15 µg / ml

UNIT SPECIFICATIONS

Solo™ S	
Dimensions (HxWxD) (mm/In)	585 x 377 X 526 / 23 x 14.8 x 20.7
Working Depth (mm/In)	377 / 14.8
Net Weight (kg/lbs)	18 / 39.68 lbs
Operating Weight (kg/lbs)	24 / 52.90 lbs
Internal tank capacity (Litres)	4.2
Power Supply - Unit	24vdc
	130W (max)
Power Supply	100-230VAC ±10%
	50 / 60 Hz
	130W (max)
NFC (Near Field Communication)	13.56 Mhz

With AvPOU01*
With TOC Model**
With AvPOU01 or AvPOU02***



S1	Inlet Solenoid Valve	S4	Permeate Service Solenoid Valve	PT1	AvProtect01 Cartridge	E1	RO Water Cross Flow Pump	E6	Temperature and Pressure Sensor
S2	PW Loop Drain Solenoid Valve	S5	Dispense Solenoid Valve	RO1	AvRO01 Cartridge	E3	Ultrapure Water Pump	E7	AvLED01 or AvUV01
S3	RO Flush Solenoid Valve	S6	RO Drain Solenoid Valve	DI1	AvUltra01 Cartridge	E4	Resistivity Cell	E9	Flow Sensor
				DI2	AvUltra01 Cartridge	E5	Loop Resistivity Cell	E10	Permeate Conductivity Cell

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