

# NuZar

## Water Purification Systems

*Compact  
and powerful.*



NuZar U

NuZar Q

NuZar E

NuZar R

NuZar H

NuZar C / NuZar C-DI

# About NuZar Laboratory Water Systems

The NuZar systems introduce a unique series to the RephiLe water purification portfolio. They are specifically designed for laboratories that demand a balance between cost of ownership and exceeding their purified water requirements.

The NuZar models are powerful, intelligent, and compact, which allows the systems to provide consistent water quality, effortless operation, user-friendly monitoring, and lower cost of ownership.

The series includes 7 models:



Feed Water	Product Water
HP* Tap	UP** HP*
● NuZar U	● (RO)
● NuZar E	● (EDI)
● NuZar H	● (DI)
● NuZar R	● (RO)
● ● ● NuZar Q	●
● NuZar C	● (CLRW)
● ● ● NuZar C-DI	● (CLRW)

\*HP: Purified water \*\*UP: Ultrapure Water

## Key Features

### Reliable, Stable, Traceable and Predictable

#### Simple installation and maintenance

- ◇ RFID tracking of consumables (RO Pack included) for enhanced management
- ◇ Easy to remove consumable access cover.
- ◇ Automatic RO membrane cleaning cycles (Cl<sub>2</sub> and pH cleaning)

#### Low running cost

- ◇ Self-maintenance functions for maximum RO membrane effectiveness and lifetime
- ◇ RFID record of cartridge history for predictable consumable replacements
- ◇ Highly-efficient cartridges



#### Reliable water quality and stable system performance

- ◇ Stable RO permeability over a wide range of temperatures
- ◇ Diversion to drain if quality of RO permeate falls below a pre-set set-point
- ◇ Automatic hourly recirculation of ultrapure water

#### Data traceability

- ◇ Automatic data backup for up to 2 years
- ◇ Easy data transfer through multiple interfaces, such as LAN, USB, etc.

#### Compact and small footprint

- ◇ An in-built single pretreatment P Pack
- ◇ Placement flexibility - on the bench or on a wall
- ◇ All-in-one design. Space-Saver



RFID technology



Data traceability



Low running cost



Small footprint

## Components & Parts



### Cartridge

- Optimized flow design to improve water quality stability & efficiency of polishing resins
- High pressure rated housings, proprietary sealing, and double O-ring design ensures operational confidence
- Cartridge color, label, and RFID recognition prevent incorrect installation



### Ergonomic dispenser with 2.4" color touch screen

- One dispenser for one system (two for NuZar U)
- Intuitive display - water quality with temperature compensation, volumetric dispensing and flow rate
- System alerts are displayed on the touch screen
- Effortless adjustment - dispensing rate (up to 2 L/min), manual and volumetric dispensing
- Choice of final filters: RephiBio and 0.2 µm final filter



Two dispenser heights for the ultimate in flexibility



### Storage Tank

- A 10 L quality HDPE tank integrated with the system (not for NuZar Q / NuZar C-DI)
- Tank recirculation function specifically for NuZar H to guarantee water quality in the tank
- Tank sanitization module is available for storage tanks of 30 liters or larger.







Extendable to 30/60/100/350 L tank if needed



Select a right NuZar system for your applications

*Easy Selections  
Peace of Mind!*

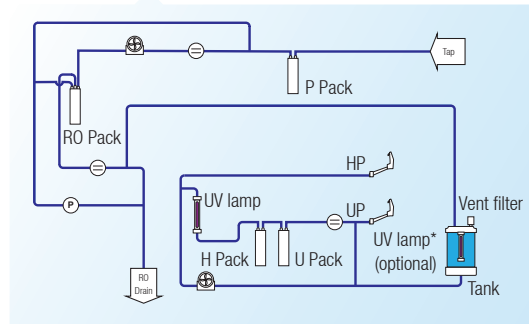
NuZar System	Water type	Main Applications
	Ultrapure water	<ul style="list-style-type: none"> <li>HPLC mobile phase preparation</li> <li>Preparation of reagent blank solutions</li> <li>Sample diluent for GC, HPLC, ICP-MS or other analytical techniques</li> <li>Preparation of buffers and culture media for cell culture</li> <li>Preparation of molecular biology reagents, etc.</li> </ul>
	EDI / DI water	<ul style="list-style-type: none"> <li>Preparation of chemical and bio-reagents</li> <li>Preparation of culture media / buffer</li> <li>Water supply for clinical analyzers</li> <li>Medical device and equipment rinsing</li> <li>For serum and blood fractionation</li> <li>Water supply for ultrapure water systems</li> </ul>
	Pure water	<ul style="list-style-type: none"> <li>Dilution of clinical reagents, samples and detergents</li> <li>Automatic medical device and equipment rinsing</li> <li>Reaction cuvettes cleaning</li> <li>Feeding washing stations for probe tips and stirrer paddles</li> <li>Temperature controlled Incubator baths</li> <li>An interface between syringe and sample</li> </ul>
	RO water	<ul style="list-style-type: none"> <li>Washing machine for glassware cleaning</li> <li>Feed water for laboratory animals</li> <li>Feed water for humidifiers, autoclaves, etc.</li> <li>Water supply for ultrapure water systems</li> <li>Hydroponics</li> </ul>

# Flow Schematics

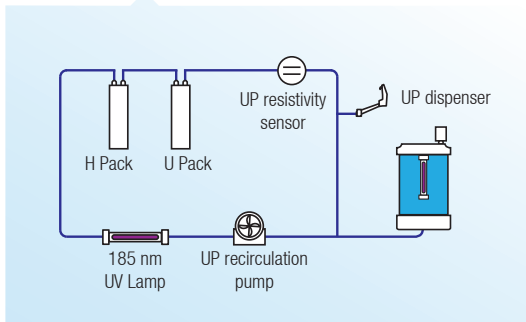
Rephile NuZar systems incorporate advanced technologies and optimized flow paths to ensure exceptional water quality for customers' applications.

Comprehensive process control management with continuous water purity monitoring after every purification step. This allows consistent and reliable operation which ensures the product meets the NuZar specifications.

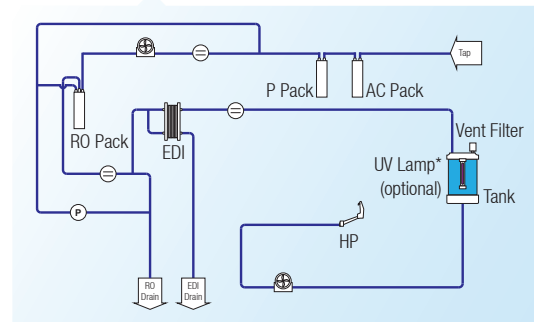
**NuZar U** Tap water to ultrapure & RO water (24 L/h)



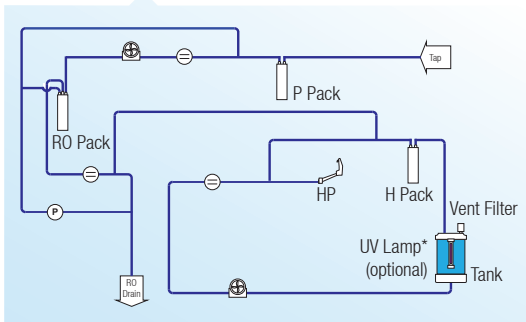
**NuZar Q** Pure water to ultrapure water



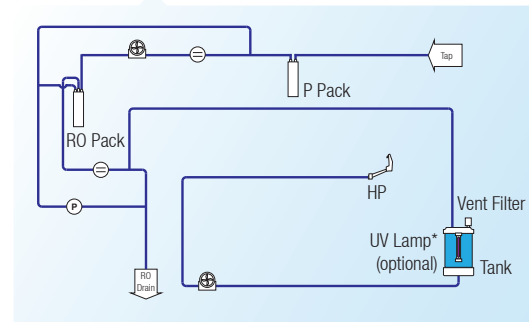
**NuZar E** Tap water to EDI water (10 L/h) with an EDI module



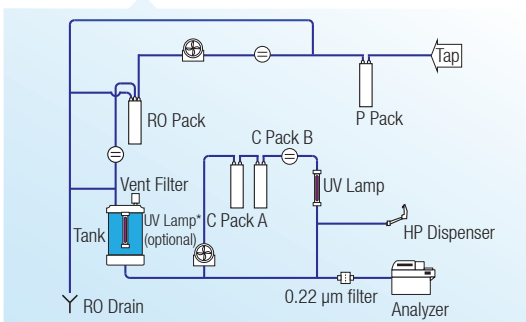
**NuZar H** Tap water to DI water (24 L/h) with tank recirculation function



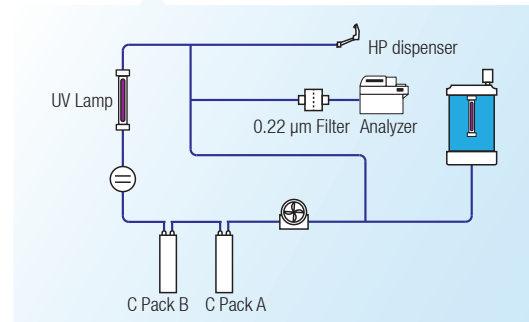
**NuZar R** Tap water to RO water (24 L/h) with automatic RO flush and rinsing



**NuZar C** Tap water to Pure water (CLRW) (24 L/h)



**NuZar C<sub>DI</sub>** Pure water to Pure water (CLRW)



- Dispenser
- Conductivity / Resistivity Sensor
- Booster / Recirculation Pump
- Pressure Sensor
- \*UV lamp is only optional for 30 L storage tanks or above.

## Water Quality Compliance

Quality of ultrapure water meets or exceeds ASTM, CLSI, CAP and ISO Type I water standards. Quality of high pure water meets or exceeds ASTM, CLSI, CAP and ISO Type II water standards and also complies with the Purified Water requirements from the European and U.S. Pharmacopoeia. NuZar C / NuZar C-DI: The product water quality fulfills the critical needs within the clinical laboratory, in compliance with CLSI Clinical Laboratory Reagent Water (CLRW) quantitative specifications.

## Specifications

General Specifications		NuZar Q	NuZar C-DI	NuZar U	NuZar R	NuZar E	NuZar H	NuZar C
Operating voltage		24 VDC						
Input voltage		100 - 240 VAC						
Main system power		< 190 W						
Feed Water Requirements								
Feed water conductivity / TDS		EDI, RO, Distilled, Deionized water			Tap water < 2000 $\mu\text{S}/\text{cm}$ / < 1000 ppm			
Operating temperature		5 – 35 °C						
Feed water pressure		0 - 1 bar (0 - 15 psi)*			1 – 6 bar (15 – 90 psi)			
Product Water Type		Ultrapure	Pure	Ultrapure & RO	RO	EDI	DI	Pure
Dimensions W x D x H		NuZar U: 491 x 422 x 624 mm (19.3 x 16.6 x 24.5 in) NuZar E / H / R / C: 414 x 422 x 624 mm (16.3 x 16.6 x 24.5 in) NuZar Q / C-DI: 414 x 310 x 624 mm (16.3 x 12.2 x 24.5 in)						
Weight (Approximate)	net	18 kg	18 kg	21 kg	19 kg	21 kg	20 kg	20 kg
	gross	27 kg	27 kg	30 kg	28 kg	30 kg	29 kg	29 kg

\*It's recommended to use a pressure regulator if feed water pressure is above 15 psi (1 bar)

Product water Specifications	NuZar U / Q ● Ultrapure water	NuZar E ● EDI water	NuZar H ● DI water	NuZar C ● Pure water	NuZar C-DI ● Pure water	NuZar R ● RO water
Production rate	-	10 L/hr	24 L/hr	24 L/hr	-	24 L/hr
Dispenser rate	Up to 2 L/min					
Conductivity (@25°C)	-	-	-	-	-	Typically < 20 $\mu\text{S}/\text{cm}$
RO rejection (Not for Q or C-DI)	97 to 98% ionic rejection (new RO cartridge) > 99% organic rejection > 99% particulates & bacteria rejection					
Resistivity (@25°C)	18.2 M $\Omega$ ·cm	> 5 M $\Omega$ ·cm (typically 10 – 16 M $\Omega$ ·cm)	> 1 M $\Omega$ ·cm (Product water quality stored in tank)	> 10 M $\Omega$ ·cm (typically > 16 M $\Omega$ ·cm)		-
TOC	< 5 ppb*	< 30 ppb**	-	< 30 ppb		-
Particles	No Particles with size > 0.22 $\mu\text{m}$ ***	-	-	No Particles with size > 0.22 $\mu\text{m}$ ***		-
Microorganisms	< 0.01 cfu/ml****	-	-	< 1 CFU/ml		-
Pyrogens (endotoxins)	< 0.001 Eu/ml****	-	-	-	-	-
RNase	< 0.5 pg/ml****	-	-	-	-	-
DNase	< 10 pg/ml****	-	-	-	-	-
Silica	-	-	-	< 5 $\mu\text{g}/\text{L}$		-

\*When TOC Level of feed water is < 50 ppb.

\*\*Product water quality may vary due to local feed water conditions.

\*\*\*with a 0.2  $\mu\text{m}$  final filter

\*\*\*\*with a RephiBio filter and ISO Type I water standards

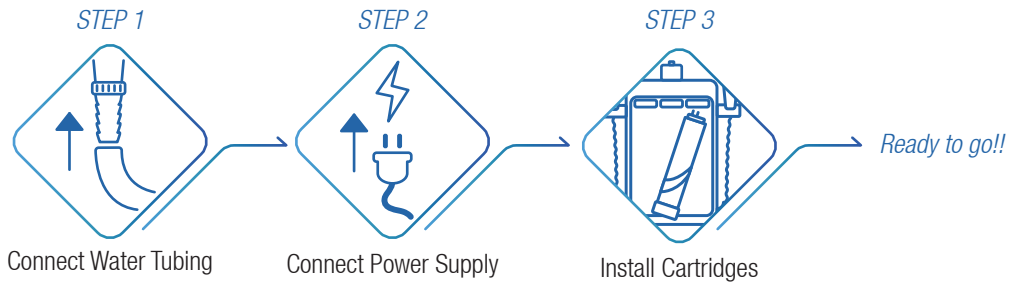
## Ordering Info

Description	Cat. No.
NuZar water system set, U24	RNOU020T1K
NuZar water system set, E10	RNOE010T1K
NuZar water system set, R24	RNOR020T1K
NuZar water system set, H24	RNOH020T1K

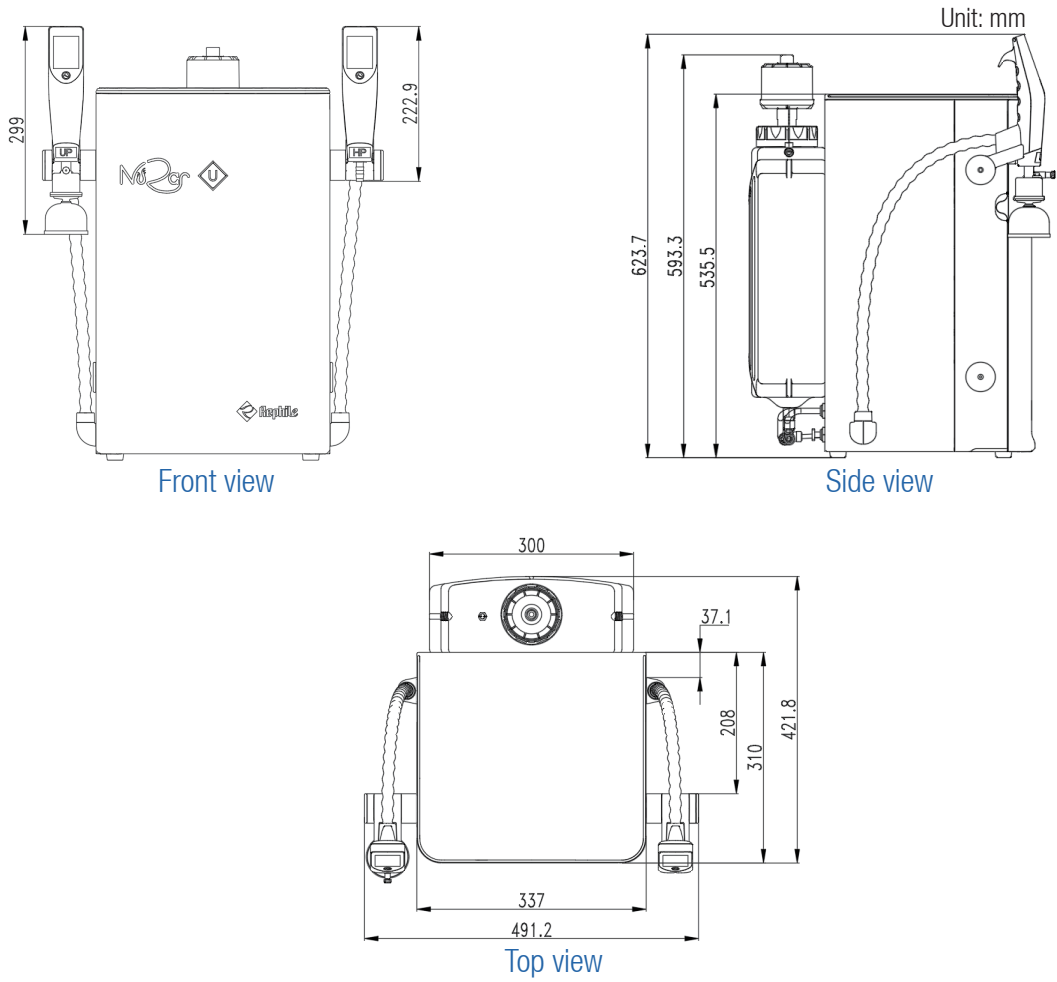
Description	Cat. No.
NuZar water system set, Q	RNOQ00000K
NuZar water system set, C24	RNOC00000K
NuZar water system set, C-DI	RNOCD0000K

# Installation Information

Plug-N-Play with only 3 steps



## Installation instructions



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Tel: + 44 (0)1376-332-909  
Email: sales@labcareservice.co.uk  
www.labcareservice.co.uk

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