

LABWAN Ultra Purification System

Product Description

The LABWAN Ultra Purification System is designed to produce Type I Ultrapure Water and Type II Pure Water directly from potable tap water through multi-stage purification technology. It combines RO, DI, UV, polishing and final filtration with intelligent monitoring and automated operation.

Features

- Intelligent LCD Monitoring
- RFID-Enabled Consumables
- Multi-Stage Purification Technology
- Consistent High-Purity Water
- Compact, Reliable & Easy to Operate
- Low Maintenance & High Performance

Applications & Uses

- Research Laboratories
- Pharmaceutical & Biopharmaceutical Industries
- Biotechnology Laboratories
- Clinical & Diagnostic Laboratories
- Universities & Research Institutes
- Quality Control Laboratories
- HPLC, LC-MS & ICP-MS Applications
- Molecular Biology & Cell Culture



LWPS-11

Feed Water Requirements (Inlet Water Parameters)

Parameter	Value & Unit
Feed water quality	Potable Tap Water Feed
Feed Water Conductivity	< 2000 μ S/cm at 25°C
Feed Water TOC	< 2000 ppb
Feed Water Pressure	1 – 6 bar
Feed Water Temperature	5 – 35 °C
Feed Water Chlorine	< 3 ppm
Feed Water Fouling Index	< 12
Feed water pH	4 to 10 pH units

Ultrapure Water Quality (Type I - Ultrapure Water)

Parameter	Value & Unit
Resistivity*	18.2 M Ω ·cm @ 25°C
Conductivity	0.055 μ S/cm @ 25°C
TOC (Total Organic Carbon)**	<5 ppb
Particulates (> 0.22 μ m)	No particle > 0.22 μ m/mL
Microorganisms / Bacteria***	< 0.01 cfu/mL
Endotoxins (Pyrogens)****	< 0.001 EU/mL
RNases*****	< 1 pg/mL
DNases*****	<5 pg/mL
Proteases	<0.15 μ g/mL
Flow Rate (Dispensing)	2 L/min

Purification Process

Pre-treatment → RO → DI → Type II Pure Water → Ultra Purification → UV Oxidation → 0.22 μ m Point-of-Use Filtration → Type I Ultrapure Water

RO Water Quality (Type II - Pure Water)

Parameter	Value & Unit
Resistivity	> 5 (Typically 10 – 15) MΩ·cm @ 25°C
TOC (Total Organic Carbon)	< 30 ppb
Bacteria Level	< 10 cfu/mL
Flow Rate	8 or 16 L/hr

Electrical Specifications

Parameter	Value
Voltage	230V with 50 Hz
Frequency	50-60 Hz ±10%
Main Fuse	3.15 Amp Fast Acting; 5 mm x 20 mm; 250 V safety voltage.
Power Used	145 VA
Power Cord Length	2.5 metres
Electrical Ground	Earth Grounded
Power Cord use	The System is powered on and off by removing the power cord from the wall outlet. The power cord should be plugged into a wall outlet that is accessible.

Environmental & Operating Parameters

Parameter	Value
Altitude	< 3000 metres
Ambient operating temperature	4 – 40°C
Ambient storage temperature	4 – 40°C
Installation Category	II
Location	The System is intended for indoor use only.
Pollution Degree	2
Relative humidity during storage and operation	Maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C.

Physical & Dispensing Specifications

Parameter	Specification
Dimensions (W x H x D)	1150 mm x 800 mm x 220 mm
Operating Weight	35 kg (Filled with water)
Dry / Shipping Weight	30 kg
Dispensing Control	Volumetric (100 mL to 60 L) & Low/Med/High Flow
Recirculation System	Automatic periodic recirculation loop to maintain purity
Display & Monitoring	In-line Resistivity, Temperature, and TOC Monitoring

System Components

Item	Component Name	Status / Type
A	P-Pak® Cartridge	Standard (Pre-treatment with RFID)
B	UV 254 nm Lamp	Optional (Bactericidal Module)
C	UV 185/254 nm Lamp	Standard (Dual Wavelength TOC Reduction)
D	U-Pak® Pack	Standard (Polishing Ion-Exchange with RFID)
E	0.22 µm Capsule Filter	Standard (Point of Delivery Microfiltration)

Advanced Operating Features

- Automatic RO membrane flushing with real-time 0–100% progress display.
- Real-time conductivity, resistivity and TOC monitoring.
- Live tank level indication.
- Automated volumetric dispensing from 100 mL to 60 L.
- UV lamp operational-hours and dispensed-volume tracking.
- Integrated diagnostics for RTC settings, data resets and sensor calibrations.
- RFID identification of U-Pak® cartridges with anti-counterfeit alerts.