



ULTRA PURE SYSTEMS SMALL, MEDIUM LARGE INSTALLATION AND OPERATION MANUAL

Thank you for choosing **UPS** (Ultra-Pure Systems) for your DI solution. We are confident you have made the right decision. This system will effectively remove contaminants as well as organic and inorganic compounds.

Table of Contents

Product Specification	Pg. 2
About the System	Pg. 2
Warranty	Pg. 3
System Requirements	Pg. 3
System Includes	Pg. 4
Installation	Pg. 4
Operation	Pg. 5
Maintenance / Filter Replacement	Pg. 5



Product Specification

General:

4 Stage DI Cabinet

Dimensions:

Cabinet: Height 42", Width 35", Depth 13"

About the System:

DI Process:

- City water enters into cabinet via ½" FPT on side of cabinet marked water in/feed
- Water passes through (1) sediment removing heavy calcium and sand.
- Water passes through (1) Viqua UV sterilizer removing natural bacteria prior to exiting out of cabinet marked Product/DI Water

Purification Processes/ Filter specifications:

Removes microbiological contaminants like Cysts (protozoan), inorganic/Radiological contaminants like Barium, Cadmium, Copper, Chromium (hexavalent), Chromium (trivalent), Fluoride, Lead, Radium 226/228, Selenium, etc. Ammonia, Arsenic, chloramines, chlorine, copper, lead, nitrate, phosphate, silica, hardness, calcium, magnesium, other dissolved solids.

- 1st Stage: 5 micron sediment filter 2" X 20" height, made by 100% pure polypropylene fibers
- 2nd & 3rd (2) 8" x 35" DI tanks filled with Type 2 DI Resin
- 4th Stage: DI Resin tank .5 cu/ft replaceable resin.

Production:

The final purity of the water leaving the DI System is between 0-2 TDS . Systems flow will be incoming city pressure less any pressure drop over sediment (side gauges inlet/outlet)



Warranty:

- 1-year complete system warranty on parts, hardware, DI resin is not under warranty.
- **WARNING:** DO NOT CONNECT HOT WATER TO THIS SYSTEM
- **WARNING:** INCORRECT INSTALLATION WILL VOID WARRENTY

System Requirements:

- Working pressure 40-80 psi feed water pressure required. Due to pressure drop across pre filter and DI resin. 40si is recommended using ½” inlet piping or tubing
- Working temperature 100-40 deg. F (37-4 deg. C)
- pH range 2-11

System Includes:

- DI unit 4 stages, DI resin and sediment filter are shipped dry.
- 18g enclosure, aluminum construction, powder coated, with door hinges and lockable handles
- (2) Pressure gauges 0-150 psig mounted on side of cabinet. Inlet pressure and Feed pressure. (pre filter and post filter)
- VIQUA Ultraviolet Light
- Digital RO/DI monitor with no/nc dry contacts for remote PLC/BMS. 24VDC (digital meter will requires DC voltage.)

Installation:

We have designed this system to be a turnkey solution to obtain DI quality water.

Once the DI system arrives inspect for damage, notate on delivery BOL all evident damage with a picture. Contact UPS promptly at 800-729-5192. We will resolve issue in a timely manner.

If no damage is evident proceed with unboxing the system.

- (1) Remove green L brackets located on top of cabinet secured with (3) S/S 3/8” bolts and washers. Inside cabinet remove small bag with (3) identical bolts and washers. Secure top L bracket to cabinet and mount on wall using anchors (field supplied). Once top is secure repeat same attachment with bottom L bracket.



- (2) Pipe city water to UPS system and terminate piping with ½" MPT connection to inlet water connection. If necessary, include a ball valve to isolate city water manually.
- (3) Pipe Drain water to approved Local Code waste water and terminate piping with ½" MPT connection to Drain/Concentrate fitting.
- (4) Pipe DI water to process.

Piping outside of DI cabinet is recommended with 316 S/S however there are several manufacturers of Polyethylene plastic pipe that withstand DI water. Refer to local municipally code for DI water delivery.

System gauge tolerances after initial start-up:

- Inlet Pressure Gauge: (40-80 psi)
- Feed Pressure gauge +/- 5psi delta of inlet pressure

Operation:

UPS-Small, Medium, Large

1. Water enters into cabinet and 1 pass through (1) sediment filter
2. Water passes through (2) DI resin tanks
3. Water passes through UV sterilizer
4. Water exits cabinet

Inlet/Feed pressure: (pnds sq/in) gauge:

- Inlet/Feed glycerin gauge mounted on the side of cabinet monitors pressure of water before and after sediment filter. Once delta reaches 10-15psi, changing pre filter is recommended.

HM Digital Meter:

- This meter is designed to monitor parts per million (PPM) of City & DI water. Local alarm will annunciate both visual and audible user defined.



In addition to local monitoring this instrument has built in n/o-n/c dry contacts using 24vdc only. to a PLC or BMS when a preprogrammed limit is set within the controller. Factory settings is 999PPM high limit for city and 10PPM for DI. PPM is factory calibrated and does not require any additional calibration once on site.

Maintenance / Filter Replacement:

Filter Life:

- 1st **Stage Sediment Filter:** Recommend changing every 2 months or when pressure difference of 15-20psi from inlet and feed gauges appear Part # UPS SED ELF-5
- 2nd 3rd Stage **DI Polish Resin:** Every 3-6 months depending on PPM. Recommendation is not to exceed 10 PPM
- 6th Stage UV Light Every 10,000 hours

Filter replacement:

Filter replacement changes from site to site. In order to maintain your system we recommend a regimented filter replacement throughout the year.

Pre-filters and Membrane:

- 1) Close city water and tank pressure ball valve
- 2) Remove RED tube located inside cabinet and open to remove pressure from system. Close ball valve once pressure is gone.
- 3) Twist used sediment pre filter (CCW) counter clockwise until filter drops off.
- 4) Pre filter have alignment notches. Confirm notches match inside housing for proper sealing. Proceed to install replacement pre filters (CW) clockwise.
- 5) Once filter has been replaced confirm all valves are closed turn system on.



DI Resin:

- 1) DI Resin needs to be changed if digital meter exceeds 10PPM. Visit www.ultrapureus.com for replacement bottle and resin. Do not throw used DI bottle away. Return to Ultra Pure Systems for credit.

Although we test each system with water and pressure test up to 100psi. Once we remove our test pre-filter and add dry resin to each tank. There is a possibility that there may be a small leak around the head of each DI tank or sediment filter.

Confirm water leaks prior to closing cabinet

Ultra Pure Systems is always here to help. If at any time you have questions or concerns regarding the system Contact us @ 1-800-729-5192. Thank you once again for choosing **UPS** for your RODI needs.