



Puroxi Pure Water Global Inc.

Shield 500/1000 Drinking Water System (DWS)

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1. Shield vs. RO Comparison

Puralytics – Shield DWS

Equipment List:

Pre filters
Ion exchange (Cation/Anion) system
Operate on line pressure (15-60 psi)
Shield 500/1000
Water storage tank
Pump/gravity
Mounting skid (optional)

Highlights:

- Advance Oxidation Process (AOP) uses 99% of the feed water to produce purified water.
- Contaminants are either destroyed or captured, not returned to the environment
- Low water pressure requirements mean low operating expenses
- Operates using line pressure 15-60 PSI (1.0-4.1 bar)
- No chemicals added to the water

Reverse Osmosis System

Equipment List:

Pre filters
Ion exchange (Cation only) system
High pressure pump (up to 340 PSI)
RO membranes
Water storage tank (pressure tank)
Pump/gravity
Mounting skid (optional)

Highlights:

- Reverse Osmosis (RO) is still an incredibly inefficient process. On average, the reverse osmosis process wastes about one gallon of water for every three gallons of purified water it produces.
- RO returns 100% of contaminants to the environment
- High water pressure requirements mean high operating expenses.
- RO requires up to 340 PSI (23.4 bar) required.

Puralytics – Shield DWS

Performance:

Removes all particulates > 0.35 um
Meets EPA disinfection requirements
Bacteria 6-log (99.9999%)
Virus 4-log (99.99%)
Protozoa 3-log (99.9%)
Captures harmful metals and inorganic ions:
Mercury, Arsenic, Lead, Nitrates, Nitrites and Fluoride
Destroys up to 90% volatile organic chemicals (VOCs) in a single pass
Destroys up to 99.9% of VOCs in a water recirculation configuration

Reverse Osmosis System

Performance:

-RO does not remove volatile organic chemicals (VOCs) effectively – leaving a residual in the product water.
-VOCs are contained in a wide variety of commercial, industrial and residential products including fuel oils, gasoline, solvents, cleaners and degreasers, paints, inks, dyes, refrigerants, pesticides, herbicides, and pharmaceuticals.
-RO is ineffective at removing low molecular weight aromatic hydrocarbons which can give rise to odor problems in drinking water at concentrations as low as 30 µg/L.

2. Water Vending Machines

Aqua Products Includes:

- 1800 to 4000 Gallons per day Production
- 6 – Stage Filtration Process Including Reverse Osmosis (RO)
- 1x 130 to 3x 300 Gallon Holding Tanks
- Deluxe Multi-Gauge Control Panel

Overall Dimensions:

1800 Rack = 60" W x 32" D x 87" H

4000 Rack #1 = 60"L x 29"D x 78"H

4000 Rack #2 = 39"L x 29"D x 78"H

Weight: Approx. 1700 lbs.

Plumbing Connections: Plumbing: 1" Water Feed Line

Sanitary Drain: Floor sink recommended (in close proximity)

Electrical Connections: 2 separate 220V circuits, 20 amps



DWS Equipment Configuration

Puralytics DWS 500/1000 Includes:

500/1000 Gallons per day Production

6 – Stage Treatment Process Including Advance Oxidation (AOP)

1x 160 Clean Water Holding Tank

Single Rack Design

Service/Maintenance Panel

Overall Dimensions:

Rack = 45" (L) x 29" (D) x 60" (H)

Tank = 1 pc 36" (Dia.) x 60" (H)

Weight: Approx. 1,000 lbs.

Plumbing Connections:

Inlet – Hose couplings provided: 3/4" CPC fitting with shut-off

Drain – 1" piping to approved drain (gravity feed)

Electrical Connections:

One 90/230VAC single phase 50/60 Hz, 10/5 amps

Big Blue filter housing

10 to 5um dual gradient filter

0.35 pleated filter

Differential pressure gauge

Cation

Brine tank

Anion

Brine tank

Valves

Prevents IX water bypass during regeneration

Stops water flow when water tank is full

Shield 500/1000

Variable water flow meter

Water tank

Full/Empty float switches

Output Pump

Skid with Maintenance Panel

DWS Maintenance Panel

Power Entry Module

GRN LED/Fuse/90-230VAC

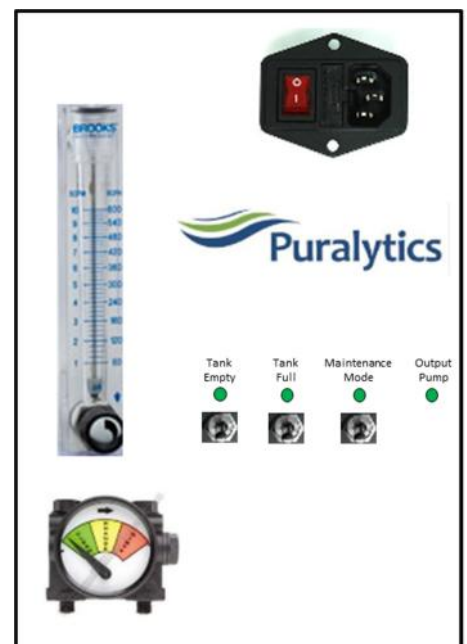
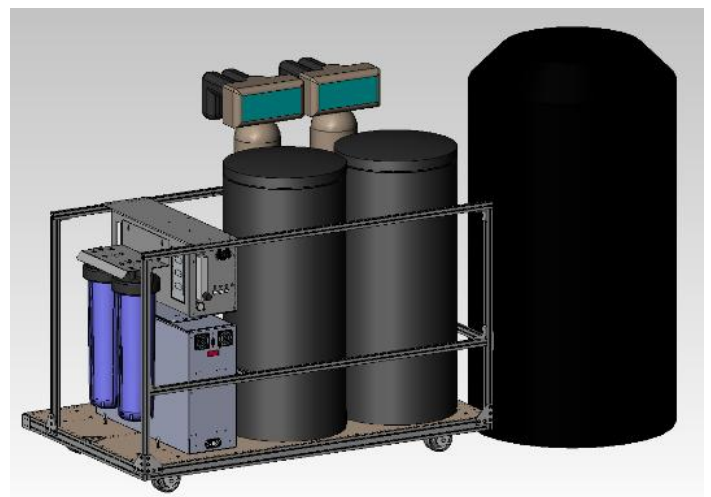
Variable Flow Meter

0.4 to 4.5 LPM range

Differential pressure Gauge

Monitors Big Blue filters

LEDs and Toggle Switches



Maintenance Mode:

Used for trouble shooting relays and switches (fault isolation)

Tank Empty

Tank Full

Output Pump

DWS Maintenance Intervals

Sediment filters:

Replace the 10um-5um dual gradient filter and the 0.35 pleated filter annually.

If there is a large volume of undissolved solids in the water this will shorten the life of the filter. A differential pressure gauge is provide with the DWS to monitor the filter performance.

Ion Exchange tanks:

Regeneration cycles are based on water hardness. A water hardness test kit is provided to aid in the proper regeneration settings.

Brine tanks:

The salt consumption is dependent on water hardness.

In environments with low hardness the salt in the brine tanks will last approximately 3 to 4 months before the salt needs to be replenished.

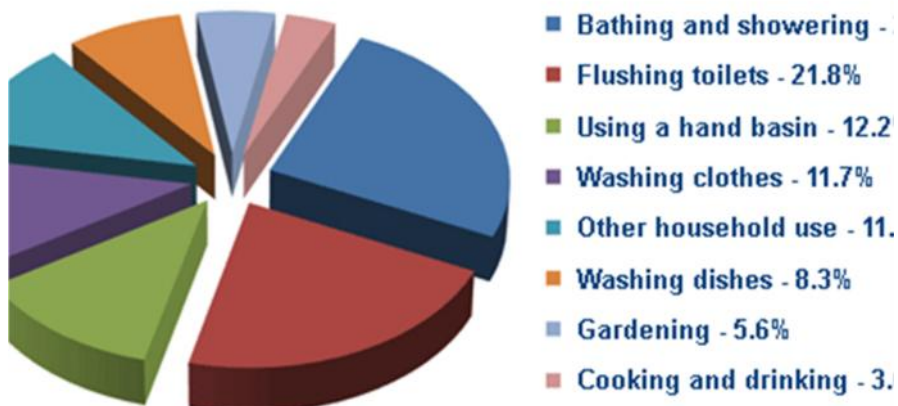
In environments where the water hardness is at the maximum levels recommended for the use in the DWS, the salt will need to be replenished in about 30-days.

The DWS is supplied with two brine tanks each holding approximately 350 lbs of salt.

Shield 500/1000:

Replace the internal 5um filter along with the UVC bulb and UVC sleeve annually.

In the USA each person uses about 80-100 gallons of water per day. In a four person household that equals about 300 gallons because of shared resources. However, in most other countries those numbers are substantially less.



Clean Water Tank Selection:

500/1000 Gallon Dispense Time (hours)	Tank Volume Req'd (gallon)
4	410 / 820
6	365 / 730
8	320 / 640
12	230 / 460
15	160 / 320



3. Incoming Water Specifications

Factors	Range/Limits
pH	6.5-8.5
TDS	<500 mg/L
Temperature	5C - 40C (40F - 100F)
Turbidity	<5 NTU
Iron	<1 mg/L
Manganese	<0.2 mg/L
Chlorine	<2.0 mg/L
Hardness	<250 mg/L
Alkalinity	<180 mg/L
Sulfate	<150 mg/L
Phosphate	<4 mg/L
Nitrate	<10 mg/L
Nitrite	<1.8 mg/L

For additional health benefits, we recommend adding our Puroxi (OB) formula at the end of the process to OXYGENATE your water.

4. Incoming Water Test Kit

- 4 Easy to use meters to determine if untreated water meets our incoming water specifications.
- 1 meter measures
- pH and Temperature
- 1 meter measures
- TDS and Temperature
- 1 meter measures
- Turbidity (optional color wheel?)
- 1 meter measure
- Iron, Manganese, Chlorine
- Hardness, Alkalinity
- Sulfate, Phosphate
- Nitrate, Nitrite



Contact Us

Puroxi Pure Water Global Inc. Head Office:

Phone: 604-826-8368

Toll Free North America: 1-866-466-8252

E-mail: interested@puroxi.com

Web: www.puroxi.com

Address: 41611 Nicomen Island Trunk Road, Deroche, British Columbia, Canada, V0M1G0.

Note:

We are in the Pacific Time Zone in North America.

If you call us please call between 8 AM and 4 PM Pacific Time Zone.