

 COMMERCIAL

WATER RECLAMATION ENGINEERING GUIDE



Conforms to UL STD 979
Water Treatment Appliances
Certified to CSA STD C22.2 No. 68
Motor-Operated Appliances



*Water Control Corporation
An Employee-Owned Company*

WATER RECLAMATION MADE SIMPLE

STANDARD FEATURES ON ALL WCC-RW SYSTEMS

- Automated disinfection with monitoring (UV Dosage or ORP) and fail-safe alarm protection
- Monitored, easy-to-service filters
- Variable speed pump with ultra-efficient, electronically-commutated (ECM) motor (up to 15 HP*)
- Storage tank level monitoring
- Tank recirculation/treatment system to counter stagnation and biological growth
- Fresh water bypass mechanism for connection to potable or municipal reclaimed water supply**
- Sensors and alarms for protection from blockages, broken pipes, chemical shortages, and more
- Submersible pump enable/disable control for suction lift applications
- Auxiliary power and controls for optional dye/chemical injection
- In-tank accessories including check valves and suction line strainers
- Single-point, 480V/3-phase electrical connection

*Pump motors above 15 Hp to include standard, integral VFD's

**Backflow protection required, per local code

SYSTEM OPTIONS

AVAILABLE CONFIGURATIONS:

- UV disinfection with up to 3 monitored lamps
- Ozone (O₃) disinfection with ORP control
- Sodium Hypochlorite (CL) disinfection with ORP control
- "Recirculation-only" (RC) packages (delivery by separate booster pump)
- Auxiliary tanks and injector pumps for residual disinfectant or dye
- Self-backwashing (ACF) filters in lieu of standard bag filters



WCC-RW-UV-40



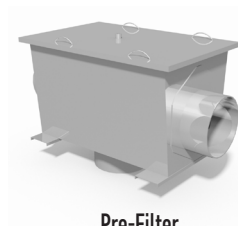
Storage Tanks

STORAGE TANKS AVAILABLE FROM WATER CONTROL:

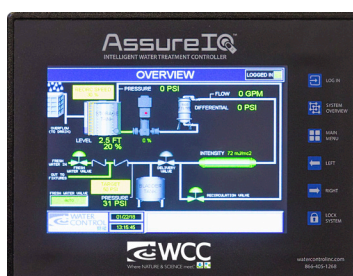
- Above-ground polyethylene (HDPE) up to 10,000 gallons
- Below-ground polyethylene (HDPE) up to 2,500 gallons
- Below-ground reinforced fiberglass up to 50,000 gallons
- Above-ground galvanized with PVC lining, up to 70,000 gallons

ADDITIONAL COMPONENTS AVAILABLE FROM WATER CONTROL:

- Pre-filters (vortex, sieving, and mechanical separators)
- Backflow prevention (Reduced Pressure Zone assemblies and air-gap systems)
- Packaged booster pumps (for higher-demand or higher elevation projects)
- Submersible pumps, controls, and accessories for suction-lift applications



Pre-Filter

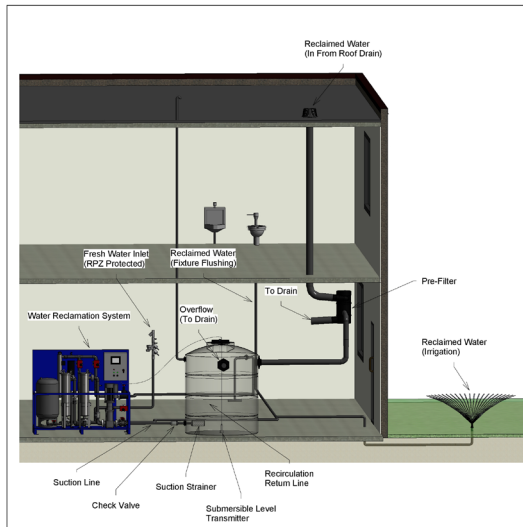


STANDARD ASSURE IQ™ CONTROLLER

- Programmable Logic Controller
- Animated HMI touchscreen
- Component status and setpoint
- Multiple user logins
- Electronic maintenance reminders
- BAS integration (Modbus ready, BACnet upgradable)
- Trending information
- System alarms
- Extreme versatility for various operation requirements

TYPICAL SYSTEM INSTALLATIONS

Rainwater Reclamation



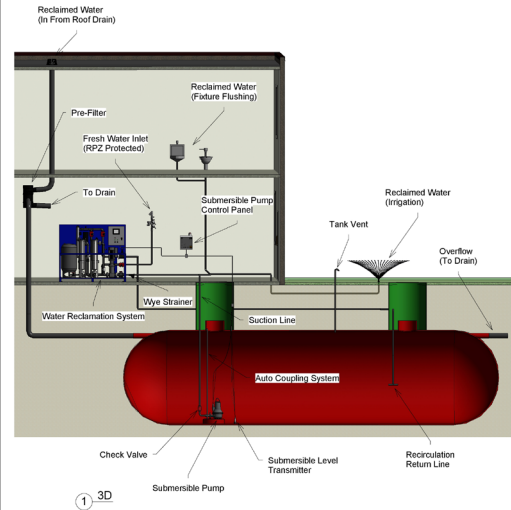
① 3D
-Storage tank must be sealed and vented outdoors for ozone applications
-This drawing is a representation of a typical installation and may not accurately reflect actual installation requirements. Please refer to site specific installation diagrams when applicable.



Typical Installation
Rainwater

Flooded Suction
Date: 2/27/2018
Drawn by: JDP

Above-ground tank



① 3D

This drawing is a representation of a typical installation and may not accurately reflect actual installation requirements. Please refer to site specific installation diagrams when applicable.

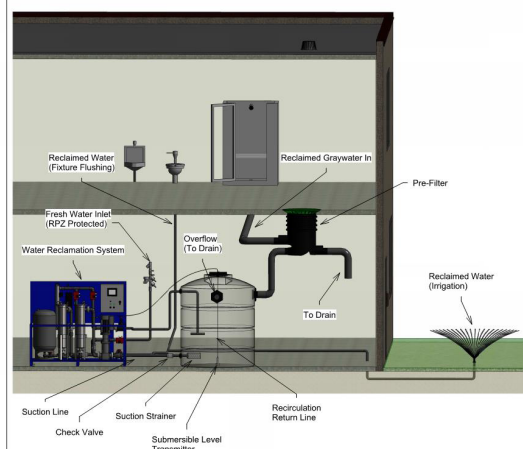


Rainwater
Typical Installation

Suction Lift
Date: 12/09/2017
Drawn by: JDP

Below-ground tank

Graywater Reclamation



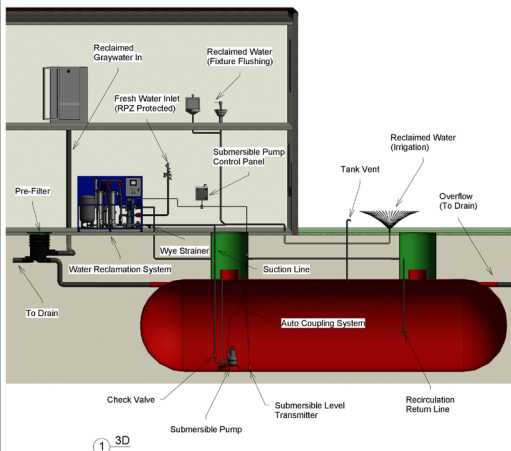
① 3D
-Storage tank must be sealed and vented outdoors for ozone application
-This drawing is a representation of a typical installation and may not accurately reflect actual installation requirements. Please refer to site specific installation diagrams when applicable.



Graywater
Typical Installation

Flooded Suction
Date: 07/19/2017
Drawn by: JDP

Above-ground tank



① 3D

This drawing is a representation of a typical installation and may not accurately reflect actual installation requirements. Please refer to site specific installation diagrams when applicable.



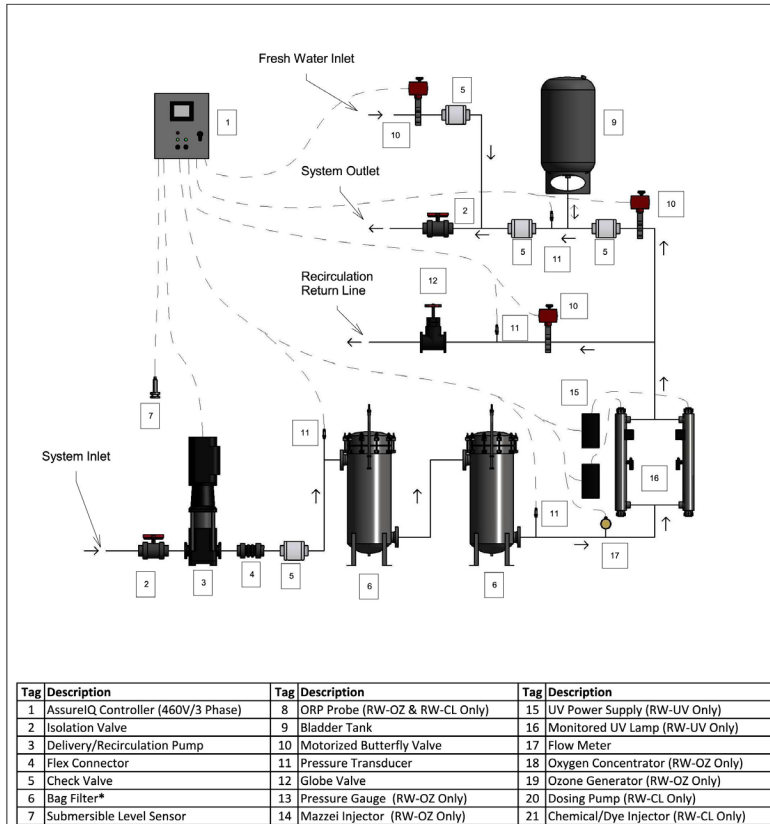
Typical Installation
Graywater

Suction Lift
Date: 8/4/2018
Drawn by: JDP

Below-ground tank

WCC-RW-UV SYSTEMS

(Ultraviolet Light Treatment)



*Self-backwashing (ACF) filters available (optional)



RW-UV Series P&ID

Date 08/12/2017
Drawn by JDP

WCC-RW-UV Series System Specifications

Model Number	Input Power (Voltage/Phase)	Full Load Amps	Delivery/Recirculation Pump			Flanged Plumbing Connections (in)	Bladder Tank (ASME) (gal)	UV System		Skid(s)	Weight (lb) (Estimated)
			HP	Rated Flow (GPM)	Max Pressure (PSI)			UV Dose at Rated Flow (mJ/cm2)	Lamp Quantity		
WCC-RW-UV-20	460/3	4.5	3	20	100	1-1/4	6	33	1	Blue Powder Coated Aluminum	600
WCC-RW-UV-40	460/3	7.0	5	40	100	1-1/2	13	34	1	Blue Powder Coated Aluminum	800
WCC-RW-UV-80	460/3	12.5	10	80	100	2	40	30	1	Blue Powder Coated Aluminum	1,050
WCC-RW-UV-120	460/3	19.0	15	120	100	3	40	40	2	Blue Powder Coated Aluminum	1,600
WCC-RW-UV-160	460/3	19.0	15	160	100	3	40	30	2	Blue Powder Coated Aluminum (2 Skids)	1,800

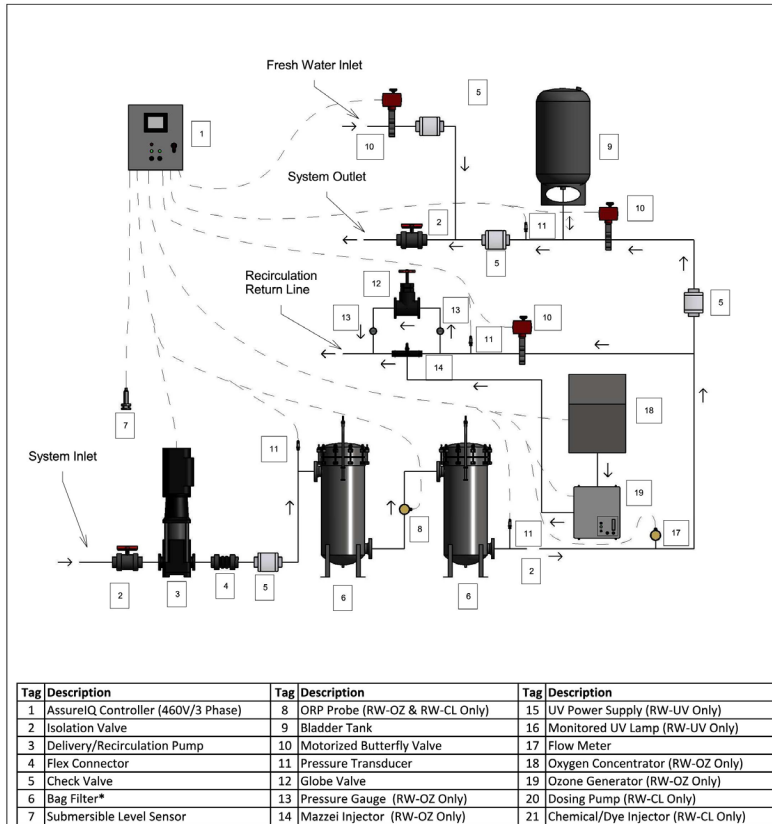


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WCC-RW-OZ SYSTEMS

(Ozone Injection Treatment)



*Self-backwashing (ACF) filters available (optional)



RW-OZ Series P&ID

Date 08/12/2017
Drawn by JDP

WCC-RW-OZ Series System Specifications

Model Number	Input Power (Voltage/Phase)	Full Load Amps	Delivery/Recirculation Pump			Flanged Plumbing Connections (in)	Bladder Tank (ASME) (gal)	Oxygen Concentrator (SCFH)	Ozone Generator (grams/hr)	Ozone Injector (in)	Skid(s)	Weight (lb) (Estimated)
			HP	Rated Flow (GPM)	Max Pressure (PSI)							
WCC-RW-OZ-20	460/3	4.5	3	20	100	1-1/4	6	20	15	1	Blue Powder Coated Aluminum	700
WCC-RW-OZ-40	460/3	7.0	5	40	100	1-1/2	13	20	15	1.5	Blue Powder Coated Aluminum	900
WCC-RW-OZ-80	460/3	12.0	10	80	100	2	40	20	15	1.5	Blue Powder Coated Aluminum	1,150
WCC-RW-OZ-120	460/3	18.5	15	120	100	3	40	20	30	2	Blue Powder Coated Aluminum	1,700
WCC-RW-OZ-160	460/3	18.5	15	160	100	3	40	20	30	2	Blue Powder Coated Aluminum (2 Skids)	1,900

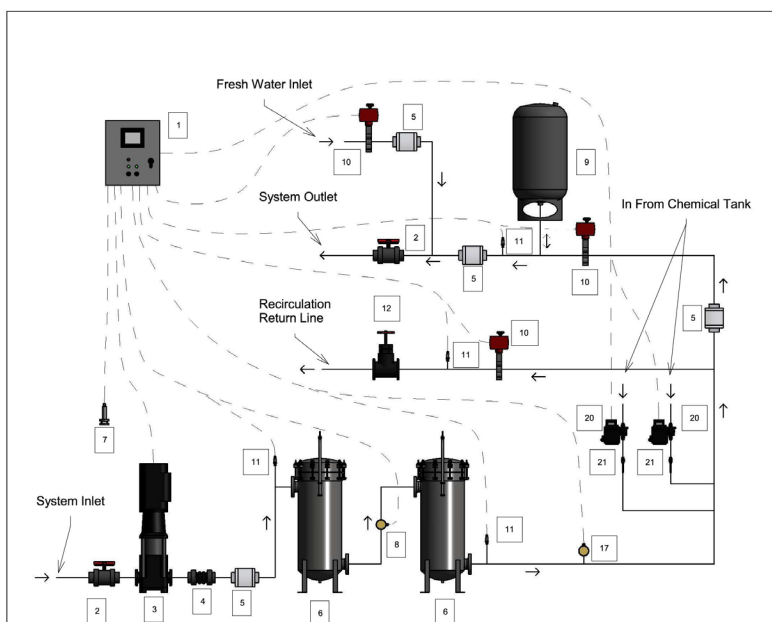


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WCC-RW-CL SYSTEMS

(Sodium Hypochlorite Injection)



Tag	Description	Tag	Description	Tag	Description
1	AssureIQ Controller (460V/3 Phase)	8	ORP Probe (RW-OZ & RW-CL Only)	15	UV Power Supply (RW-UV Only)
2	Isolation Valve	9	Bladder Tank	16	Monitored UV Lamp (RW-UV Only)
3	Delivery/Recirculation Pump	10	Motorized Butterfly Valve	17	Flow Meter
4	Flex Connector	11	Pressure Transducer	18	Oxygen Concentrator (RW-OZ Only)
5	Check Valve	12	Globe Valve	19	Ozone Generator (RW-OZ Only)
6	Bag Filter*	13	Pressure Gauge (RW-OZ Only)	20	Dosing Pump (RW-CL Only)
7	Submersible Level Sensor	14	Mazzei Injector (RW-OZ Only)	21	Chemical/Dye Injector (RW-CL Only)

*Self-backwashing (ACF) filters available (optional)



RW-CL Series P&ID

Date 08/12/2017
Drawn by JDP

WCC-RW-CL Series System Specifications

Model Number	Input Power (Voltage/Phase)	Full Load Amps	Delivery/Recirculation Pump			Flanged Plumbing Connections (in)	Bladder Tank (ASME) (gal)	Dosing Pumps (gal/hr)	Skid(s)	Weight (lb) (Estimated)
			HP	Rated Flow (GPM)	Max Pressure (PSI)					
WCC-RW-CL-20	460/3	4.5	3	20	100	1-1/4	6	up to 1.585	Blue Powder Coated Aluminum	600
WCC-RW-CL-40	460/3	7.0	5	40	100	1-1/2	13	up to 1.585	Blue Powder Coated Aluminum	800
WCC-RW-CL-80	460/3	12.0	10	80	100	2	40	up to 1.585	Blue Powder Coated Aluminum	1,050
WCC-RW-CL-120	460/3	18.5	15	120	100	3	40	up to 1.585	Blue Powder Coated Aluminum	1,600
WCC-RW-CL-160	460/3	18.5	15	160	100	3	40	up to 1.585	Blue Powder Coated Aluminum (2 Skids)	1,800



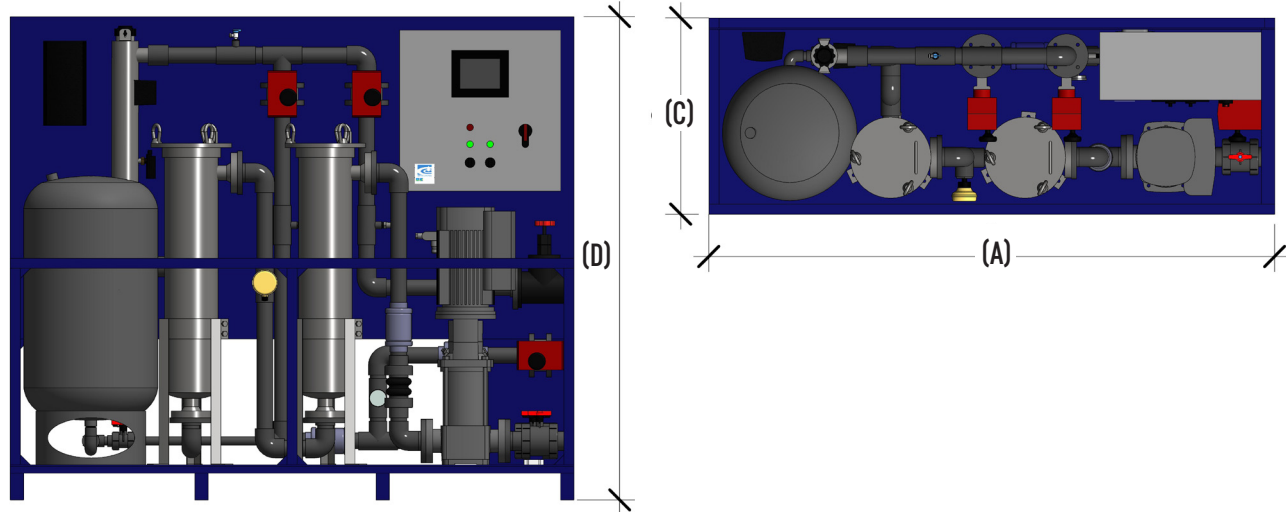
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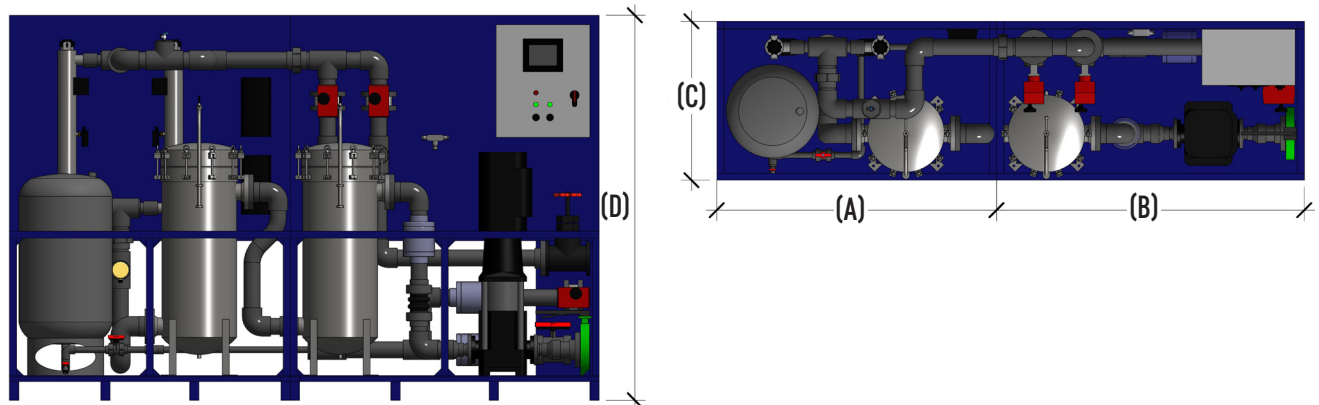
WCC-RW SYSTEM DIMENSIONS*

(All plumbing connections on right side of skids)

WCC-RW-UV/OZ/CL-20 to WCC-RW-UV/OZ/CL-120 (1 Skid)



WCC-RW-UV/OZ/CL-160 (2 Skids)



System Dimensions				
Model Number	(A) Length - Skid 1 (in)	(B) Length - Skid 2 (in)	(C) Width (in)	(D) Height (in)
WCC - RW - UV/OZ/CL - 20	74	N/A	24	76
WCC - RW - UV/OZ/CL - 40	74	N/A	24	76
WCC - RW - UV/OZ/CL - 80	84	N/A	29	76
WCC - RW - UV/OZ/CL - 120	96	N/A	32	80
WCC - RW - UV/OZ/CL - 160	60	66	34	82

*Chemical tanks/drums for "CL" systems to be located adjacent to system skids. Adequate space must be provided.

THE WCC DIFFERENCE

- Easy-to-use system design questionnaires
- 3D (Revit®) renditions for every system
- Custom AIA Division 22 specifications
- Detailed project submittals
- Project-specific installation diagrams
- Intuitive, adaptable controls
- Complete, customized 'Operation and Maintenance' manuals



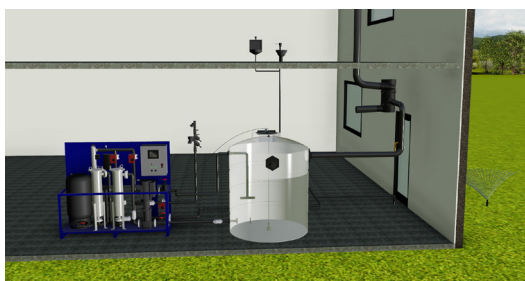
UV System Installation



OZ System Revit® Rendition



Customized 'Operation and Maintenance' Manual



Project-Specific Installation Diagram



CONTACT YOUR LOCAL
SALES REPRESENTATIVE

To find your authorized WCC representative,
please visit: [www.watercontrolinc.com/
representative-locator/](http://www.watercontrolinc.com/representative-locator/).



VISIT US ONLINE

Go to www.watercontrolinc.com, where
you'll find detailed product specification
info and application design questionnaires.



SPEAK DIRECTLY WITH ONE OF
WCC'S DESIGN ENGINEERS

Call 1-866-405-1268 or email
techsupport@watercontrolinc.com.

We look forward to working with you!