



726 Beacon St, Loves Park, IL 61111 | 815-636-8833 | 800-919-0888 | 815-636-8844 fx | www.watersurplus.com

### EQUIPMENT DATA SHEET RO

<b>Description</b>	400 GPM Single Pass RO Container
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<b>Owner</b>		<b>Mfg. Yr.</b>
Watersurplus		2009

NORMAL OPERATING PARAMETERS		
Operating Water Temperature	70	°F
Min. Inlet Water Pressure	30	PSI
Maximum SDI	3	SDI
Maximum Turbidity	≤ 1	NTU
Max. Free Chlorine/chloramines	< .02	PPM
Nominal Operating Pressure	218	PSI
Maximum Recovery	75	%
Maximum TDS	5000	ppm

POWER REQUIREMENTS					
GENERAL POWER	VAC	PH	HZ	Amps	Src
Total High Voltage	460	3	60	300	Ext
Total Control Voltage	120	1	60	20	Int
PUMPS & MOTORS					
Individual Motors	VAC	PH	HZ	HP	Amps
(4) Primary First Pass	460	3	60	40	45
	n/a				
CIP	n/a				
Inlet Feed/Trans	n/a				

CONTROLS	
Main Controller	AB MicroLogix1400-1766L32BXBA
HMI	AB PanelView 1000, 10" Screen
I/O Type	AB 1762- IF4,OF8,IQ16,IF8U,OW8
Motor Starter	(4) Goulds Aquavar CPC VFD
Chem Pumps Qty.	(4) Pulsafeeder Puslatron MP
Chm Pmp Ctrl Method	PLC

AVAILABLE DOCUMENTATION				
Description	AVAIL	Description	AVAIL	
Process & Instrumentation Diagram - P&ID	Y	Electrical Schematics	Y	
Piping layout/General Arrangement	Y	Program Logic	Y	
Major Component List - MC List	Y	Operations/Maintenance Manuals	Y	

<b>Asset #:</b>	ROE3100252-1R
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<b>EQUIPMENT TYPE</b>	<b>OEM</b>
RO System	Culligan

UNIT CONFIGURATION x (4) UNITS		
# Units Per Container	4	A, B, C & D
# Stages Per Unit	3	
Stage Array Per Unit	3:2:1	
Hsg Size,Mat'l,psi,Mfr	8" x 4M,FRP,300 psi, WaveCyber Model 300P-8	
# Membranes per Unit	24	(96) 4 RO's total
Pre-Filter Cartridge	(4) Shelco 7Rx40 #7FOS4	
Pre-Filter Element	(28) GE 2x40, 1 Micron, MB	

FLOW SPECIFICATIONS		
Total Feed	533	gpm
Total Product	400	gpm (75% Rec)
Total Reject	133	gpm
Recycle Per Unit	10	gpm
Flush Per Unit	24	gpm
Total Drain	133	gpm
Instrument Air	80	psi
	5	SCFM

PHYSICAL SPECIFICATIONS		
Length	576	inches
Width	102	inches
Height (incl Chassis)	160	inches
Weight (shipping)	44360	lbs.(no memb)
Weight (operating)	48360	lbs.(memb+water)
Inlet Piping Material	6" sch 80 PVC	
Outlet Piping Material	6" sch 80 PVC	

**EQUIPMENT DATA SHEET RO**

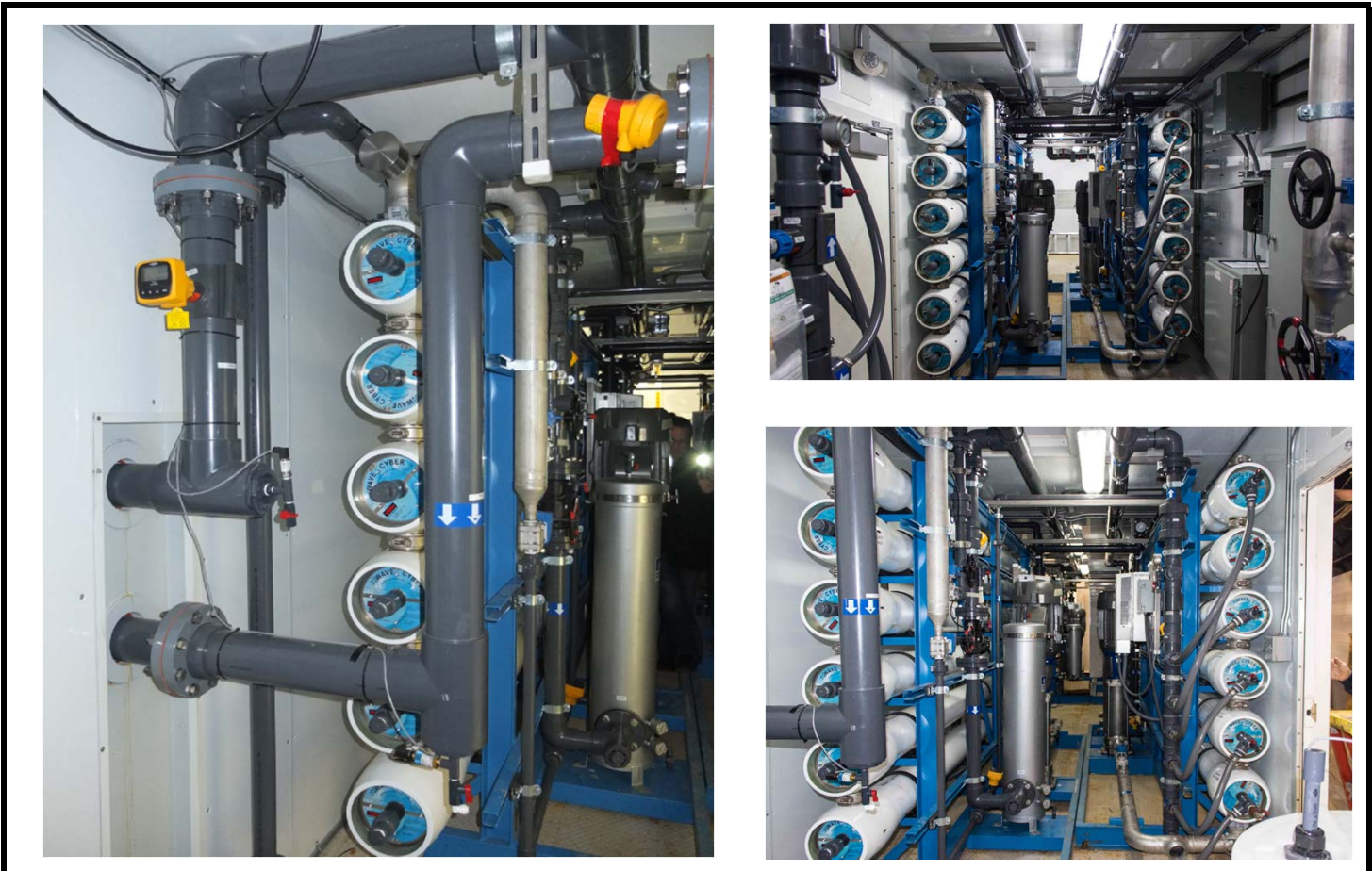
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PROCESS CONNECTIONS (SIZES & LOCATION SYMBOLS)		
	Size & Type	Location Symbol
Feed Inlet	6" ANSI 150 Flanged	Front Left Side
Permeate outlet	6" ANSI 150 Flanged	Front Left Side
Concentrate to drain	4" ANSI 150 Flanged	Front Left Side
CIP Inlet	3" Victaulic 316 SST	On Each RO - (4 RO's)
CIP Outlet	3" Victaulic 316 SST	On Each RO - (4 RO's)
Instrument Air	On Board Air Compressor	Left Front Corner



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**MISCELLANEOUS INFORMATION**

Mobile RO chassis / container designed for 400 gpm of high quality permeate output. Container is set up with four complete single pass RO systems capable of providing 100 gpm of permeate each. This system comes complete with a full PLC automatic control system and full on board power distribution / transformer for automatic system operation. Users only have to bring in one power supply to the container and three fluid connections. PLC control is done through a touch screen HMI. pH adjust, sodium bisulfite and antiscalant chemical feed systems are included and automatically controlled through the PLC / HMI. RO pretreatment must be provided by other means as none are included with this containerized system.

This Container includes a mobile, heavy duty chassis with custom adjustable rear support stanchions and heavy duty adjustable front stanchions in addition to the standard front stanchion. Container is fully lighted with two convenient man doors and ladder for access to the container. Back access is double swing doors.



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#### INSTRUMENTATION

Pressure	Ind.	Sw.	Xmtr	Manufacturer	Part Number
Low Inlet		X		Transducers Direct	1/4" 316 SST NPT Conn, 6-30 PSIG Adjustable
Pre-filter Inlet	X			?	2.5" Dial, 1/4" NPT, SST, 0-160 psi Glyc Fill Gauge
Pre-Filter Outlet	X			?	2.5" Dial, 1/4" NPT, SST, 0-160 psi Glyc Fill Gauge
High Pump Discharge			X	Transducers Direct	TDM52 - 7/16" NPT 316 SST Conn, 0-300 psig Range
High Pump Discharge	X			CTRBK	2.5" Dial, 1/4" NPT, SST, 0-400 psi Glyc Fill Gauge
Inter-stage					n/a
Permeate Outlet	X			?	2.5" Dial, 1/4" NPT, SST, 0-100 psi Glyc Fill Gauge
Concentrate			X	Transducers Direct	TDM52 - 7/16" NPT 316 SST Conn, 0-300 psig Range
<b>Conductivity</b>					
Each RO Inlet			X	GF-Signet	3-2841-1 (v), 1.0 Cell Constant, 1000ppm, Integral Mount Trans
Each RO Permeate			X	GF-Signet	3-2850-52-40, 0.1 Cell Constant, 500 ppm, Integral Mount Trans
Each RO Concentrate					n/a
<b>Flow</b>					
Inlet			X	GF-Signet	3-2536-P0 Paddle Wheel, 25' cable
Permeate			X	GF-Signet	3-2537-6C-P0 Paddle Wheel, 25' cable
Concentrate					n/a
Concentrate Recycle	X			GF-Signet	3-8150-PO Battery Powered Flow Totalizer
Conc Recycle pH Adj	X			GF-Signet	
<b>Other</b>					
pH			X	GF-Signet	3-2726-LC-00 pH, 2750-1 Analyzer
ORP			X	GF-Signet	Optional Swap Out Sensor Available

#### MAJOR COMPONENTS

Pumps	Manufacturer	Model	Desc
High Pressure Feed	Goulds	33SV70NP4F20	e-SV Multi Stage (7) Centrifugal, 316 SST, 175 gpm @ 580 ft (251 psi) Max, Baldor Motor, 460VAC, 60 Hz, 3 pH, 40 Hp, 45 amps, TEFC



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CIP			n/a
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Cartridge Filter	Manufacturer	Model	Desc
Housing	Shelco	7FOS4-V-316-2.5F-GP-P-E	(7) Round x 40" Element, 12" Dia 316 SST Filter Housing, 150 psig, Clamp Style Top, 2.5" Flanged Conn.
Elements	GE	RO.Zs.01-40-XK FIL2170013N	(7) 2" Dia x 40" Long Melt Blown, 1 Micron SOE With Spring

Chemical Feed	Manufacturer	Model	Desc
Antiscalant Tank	Pulsafeeder	J40366	55 Gal PE Tank w/ Ridged Slip On Top
Antiscalant Pump	Pulsafeeder	LMASTA-VTCY-500	PulsaTRON MP PD Diaphragm Pump, 0.50 gph (12 gpd), 100 psig, 3/8" tubing Conn, 115VAC, 60 Hz, 1 pH,0.6 amps
Antiscalant Mixer	Dayton	6GAK9	Mini Mixer, 1/4" dia x 36" long 316 SST Shaft, Four Blade Impeller, 115VAC, 60 Hz, 1 ph, 1/20 Hp, 1.9 amp, 1550 rpm Motor
Antiscalant Level	?	?	1" PVC Float Well and Float Switch
Unit A Caustic Tank	Pulsafeeder	J40366	55 Gal PE Tank w/ Ridged Slip On Top
Unit A Caustic Pump	Pulsafeeder	LMASTA-VTCY-500	PulsaTRON MP PD Diaphragm Pump, 0.50 gph (12 gpd), 100 psig, 3/8" tubing Conn, 115VAC, 60 Hz, 1 pH,0.6 amps
Unit A Caustic Mixer	Dayton	6GAK9	Mini Mixer, 1/4" dia x 36" long 316 SST Shaft, Four Blade Impeller, 115VAC, 60 Hz, 1 ph, 1/20 Hp, 1.9 amp, 1550 rpm Motor
Unit A Caustic Level	?	?	1" PVC Float Well and Float Switch
Unit B Caustic Tank	Pulsafeeder	J40366	55 Gal PE Tank w/ Ridged Slip On Top
Unit B Caustic Pump	Pulsafeeder	LMASTA-VTCY-500	PulsaTRON MP PD Diaphragm Pump, 0.50 gph (12 gpd), 100 psig, 3/8" tubing Conn, 115VAC, 60 Hz, 1 pH,0.6 amps
Unit B Caustic Mixer	Dayton	6GAK9	Mini Mixer, 1/4" dia x 36" long 316 SST Shaft, Four Blade Impeller, 115VAC, 60 Hz, 1 ph, 1/20 Hp, 1.9 amp, 1550 rpm Motor
Unit B Caustic Level	?	?	1" PVC Float Well and Float Switch
Sodium Bisulfite Tank	Pulsafeeder	J40366	50 Gal PE Tank w/ Ridged Slip On Top



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Sodium Bisulfite Pump	Pulsafeeder	LMA2TA-PTCJ-500	PulsaTRON MP PD Diaphragm Pump, 0.25 gph (6 gpd), 100 psig, 1/4" tubing Conn, 115VAC, 60 Hz, 1 pH, 0.6 amps
Sodium Bisulfite Mixer	Pulsafeeder	42753	Mini Mixer, 1/4" dia x 28" long 316 SST Shaft, Four Blade Impeller, 115VAC, 60 Hz, 1 ph, 1/20 Hp, 1.9 amp, 1550 rpm Motor
Sodium Bisulfite Level	?	?	1" PVC Float Well and Float Switch
<b>Compressor</b>	<b>Manufacturer</b>	<b>Model</b>	<b>Desc</b>
Container	Craftsman		33 Gal, 165 psig, ?? scfm at 90 psig rated, 115VAC, 1 pH, 60 Hz