



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>	60 GPM RO
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<b>Asset #:</b>	<b>ROE3100295R</b>
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<b>Owner</b>		<b>Refurb Yr.</b>
Watersurplus		2019

<b>EQUIPMENT TYPE</b>	<b>OEM</b>
RO System	Watersurplus

NORMAL OPERATING PARAMETERS		
Operating Water Temperature	77	°F
Min. Inlet Water Pressure	30	PSI
Maximum SDI	3	
Maximum Turbidity	< 1	NTU
Max. Free Chlorine/chloramines	<.02	PPM
Nominal Operating Pressure	200-250	PSI
Nominal Recovery	75%	%
Nominal TDS	5,000	ppm

UNIT CONFIGURATION		
# Passes	1	
# Stages	3	
Array	2:1:1	
Hsg Size,Mat'l,psi,Mfr	3M,FRP,300 PSI, ROPV	
Total # membranes	12	
Pre-Filter Cartridge	(1)7Rx 40,SOE , Melt Blown , 1 micron, Spring top	

POWER REQUIREMENTS						
GENERAL POWER	VAC	PH	HZ	Amps	Src	
High Voltage	460	3	60	30	Ext	
Control Voltage	120	1	60	10	Ext	
PUMPS & MOTORS						
	VAC	PH	HZ	HP	Amps	
Primary/First Pass	460	3	60	15	17	
Redund/Second Pass						
CIP	380	3	60	5	7	

FLOW SPECIFICATIONS		
Feed	90	gpm
Product	60	gpm
Reject	30	gpm
Recycle	n/a	gpm
Flush	90	gpm
Drain	90	gpm
Instrument Air	n/a	psi
	n/a	SCFM

CONTROLS	
Main Controller	AB Micrologix
HMI	AB Panel view plus 600
I/O Type	L32BWAA
Motor Starter	VFD
Chem Pumps Qty.	2
Chm Pmp Ctrl Method	PLC

PHYSICAL SPECIFICATIONS		
Length	153	inches
Width	42	inches
Height	77	inches
Weight (shipping)	3,300	lbs. (without membranes)
Weight (operating)	4,500	lbs. (memb+water)
Inlet Piping Material	2" SCH 80 PVC	
Outlet Piping Material	2" SCH 80 PVC	

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

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PROCESS CONNECTIONS (SIZES & LOCATION SYMBOLS)		
	Size & Type	Location Symbol
Feed Inlet	2" ANSI 150 Flanged(AV-0901)	Front/Left/Vertical
Permeate Outlet	2" ANSI 150 Flanged(HV-0903)	Front/Right/Vertical
Concentrate to drain	1-1/2" ANSI 150 Flanged(HV-0905)	Front/Right/Vertical
CIP Inlet	2" Hand Valve(HV-1701)	Back/Left/Horizontal
Permeate CIP Inlet	2" ANSI 150 Flanged(HV-0904)	Front/Right/Vertical
Concentrate CIP Outlet	1-1/2" ANSI 150 Flanged(HV-0906)	Front/Right/Vertical
Instrument Air	n/a	n/a



### MISCELLANEOUS INFORMATION

This is a 60GPM RO unit operating at 60-75% recovery. The system is controlled with AB Micrologix control system. There is an automatic valve at inlet to protect the sytem against loss of power and not allowing low feed water into the unit. Instruments included with the unit are conductivity, flow, pH, and temperature.
(2) Injection quills for chemicals are present on the skid. The unit is also equipped with a 20HP Danfoss VFD.



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#### INSTRUMENTATION

Pressure	Ind.	Sw.	Xmtr	Manufacturer	Part Number
Pre-filter Inlet	X			USG	0-100 psi , 2-1/2"D.F., L.F., 316SS, 1/4" MNPT, Center mount connection, panel mounted
Pre-Filter Outlet	X			USG	0-100 psi , 2-1/2"D.F., L.F., 316SS, 1/4" MNPT, Center mount connection, panel mounted
High Pump suction		X		United Electric	10-F10 , 316L , Buna N , 1/8" NPT Male connection (SP= 12psi)
High Pump Discharge	X			USG	0-600psi, 2-1/2"D.F., L.F., 316SS, 1/4" MNPT, Btm.M connection
Interstage Pressure	X			WIKA	0-300psi, 2-1/2"D.F., L.F., 316SS, 1/4" MNPT, Center mount connection
Concentrate/Reject	X	X		United Electric WIKA	10-F12, 316L, Buna N , 1/8" NPT Male connection (SP - 80psi) 0-100psi, 2-1/2"D.F.,L.F., 316SS, 1/4" MNPT, Center mount connection
Permeate Disch.	X	X		United Electric	10-F12, 316L, Buna N , 1/8" NPT Male connection (SP - 80psi) 0-100psi, 2-1/2"D.F.,L.F., 316SS, 1/4" MNPT, Center mount connection

#### Conductivity

	Ind.	Sw.	Xmtr	Manufacturer	Part Number
Inlet			n/a		
Permeate			X	GF-Signet	3-2850-40, 0.1 Cell constant, 1000ppm , Integral mounted transmitter, 4-20mA o/p, 3/4"MNPT
Concentrate			n/a		
Monitor			n/a		

#### Flow

	Ind.	Sw.	Xmtr	Manufacturer	Part Number
Inlet			n/a		
Permeate			X	Pentair	Autotrol turbine , 2-1/2" socket weld connection, polypropylene impellers , 5-250 gpm range
Concentrate/Reject			X	Pentair	Autotrol turbine , 2-1/2" socket weld connection, polypropylene impellers , 5-250 gpm range
Recycle		X		GF-Signet	Integral (sensor) mounted paddle wheel flow sensor with battrey operated flow meter totalizer with display for 1/2" - 4" pipe. (GF



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<b>Other</b>					
pH(Feed)			X	GF-Signet	(3-2724-00)(3-2750-2) GF signet pH sensor, integral 4-20mA output with Easy cal, PT1000 bulb tip, 3/4" NPT thread for use with 2750 sensor electronics.
Permeate Temperature			X	GF-Signet	(3-2530-3) Temperature sensor , 3/4"NPT connection, 4-20mA signal

#### MAJOR COMPONENTS

Pump	Manufacturer	Model	Desc
Feed - H.P. Pump #1	Tonkaflo	SS8512KZB	86 gpm @ 215 psi ; horizontal centrifugal pump; 3" victaulic connections; 316SS internal housings with Noryl stages and Buna N seals
CIP - Pump #2	Tonkaflo	SS5503G	80 gpm @ 46psi ; horizontal centrifugal pump; 3" Vitaulic connections; 316SS internal housings with Noryl stages and Buna N seals
V.F.D.	Manufacturer	Model	Desc
Variable Frequency Drive	Danfoss	FC-202	20HP VFD, 480VAC, 3pH, 1P66, NEMA 4X, Includes main disconnect and fuse, Frame size: B1
Cartridge Filter	Manufacturer	Model	Desc
Housing	GE	HSG-HX0740-2.0V-316-A	7Rx40 , 316 SS Housing with 2" Victaulic inlet and outlet connections
Elements	SUEZ	FIL2170013N	2-1/2" Dia.x 40" long , SOE, spring top, Melt blown , 1Micron
RO	Manufacturer	Model	Desc
RO Housing	ROPV	R80B300BE	8" x 3M, 300pspi, 2" x 4 side port connections, FRP

Valves	Manufacturer	Model	Desc
Automatic inlet valve	A-Qmatic	K535-X200-14000	2" Solenoid controlled valve, Normally Open, Noryl/PVC body, Buna N diaphragm seals
Concentrate control valve	JFW	GB-200	1-1/2" Single body globe valve , Stainless steel body , Teflon gaskets , FNPT connection, handle wheel controlled
Automatic Conc. Flush valve	Parker	12F22C61148A3F19480	24VDC solenoid control flush valve
Recycle control valve	JFW	GB-200	1-1/4" Single body globe valve , Stainless steel body , Teflon gaskets , FNPT connection, handle wheel controlled