



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

EQUIPMENT DATA SHEET RO

Description	45-90 GPM SWRO
--------------------	----------------

Asset #:	ROE3120165
-----------------	------------

Owner		Mfg. Yr.
Watersurplus		Refurb 2017

EQUIPMENT TYPE	OEM
RO	Applied Membranes

NORMAL OPERATING PARAMETERS		
Operating Water Temperature	70	°F
Min. Inlet Water Pressure	40	PSI
Maximum SDI	3	
Maximum Turbidity	≤ 1	NTU
Max. Free Chlorine/chloramines	< .02	PPM
Nominal Operating Pressure	1000	PSI
Nominal Recovery	60%	%
Nominal TDS	50,000	ppm

UNIT CONFIGURATION		
# Passes	1	
# Stages	1	
Array	5:0	
Hsg Size,Mat'l,psi,Mfr	8" x 6M,FRP,1200 psi,PROTEC	
Total # membranes	30	
Pre-Filter Cartridge	(1) 10Rx30,FRP Body (1) 12Rx40,SST Body	

POWER REQUIREMENTS						
GENERAL POWER	VAC	PH	HZ	Amps	Src	
High Voltage	460	3	60	175	EXT	
Control Voltage	120	1	60	10	INT	
PUMPS & MOTORS						
	VAC	PH	HZ	HP	Amps	
FEED	460	3	60	10	11.9	
Primary/First Pass	460	3	60	100	108	
CIP	460	3	60	10	11.9	

FLOW SPECIFICATIONS		
Feed	150	gpm
Product	90	gpm
Reject	60	gpm
Recycle	15	gpm
Flush	200	gpm
Drain	200	gpm
Instrument Air	N/A	psi
	N/A	SCFM

CONTROLS	
Main Controller	AB Micrologix
HMI	AB VersaView 1200P
I/O Type	1769-IF4,IO16,OF4CI
Motor Starter	VFD (Hitachi - L700)
Chem Pumps Qty.	2
Chm Pmp Ctrl Method	PLC

PHYSICAL SPECIFICATIONS		
Length	288	inches
Width	60	inches
Height	78	inches
Weight (shipping)		lbs. (without membranes)
Weight (operating)	TBD	lbs. (memb+water)
Inlet Piping Material	4" PVC SCH 80	
Outlet Piping Material	3" PVC SCH 80	



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

EQUIPMENT DATA SHEET RO

Description	45-90 GPM SWRO
--------------------	----------------

Asset #:	ROE3120165
-----------------	------------

Owner		Mfg. Yr.
Watersurplus		Refurb 2017

EQUIPMENT TYPE	OEM
RO	Applied Membranes

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	

PROCESS CONNECTIONS (SIZES & LOCATION SYMBOLS)			
	Size & Type	Location Symbol	
Feed Inlet	4" PVC #150 , Flanged	Right End/Bottom	
Permeate Outlet	3" PVC #150 , Flanged	Top/Left/Rear	
Concentrate to drain	3" PVC #150 , Flanged	Top/Right/Rear	
CIP Inlet	3" PVC FNPT	Front/Lower Left	
Permeate CIP Inlet	2" PVC Grooved End	Left End/Bottom	
Concentrate CIP Outlet	3" PVC Grooved End	Left End/Top	
Instrument Air	n/a	n/a	



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

EQUIPMENT DATA SHEET RO

Description	45-90 GPM SWRO
--------------------	----------------

Asset #:	ROE3120165
-----------------	------------

Owner	Mfg. Yr.
Watersurplus	Refurb 2017

EQUIPMENT TYPE	OEM
RO	Applied Membranes





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

EQUIPMENT DATA SHEET RO

Description	45-90 GPM SWRO
--------------------	----------------

Asset #:	ROE3120165
-----------------	------------

Owner		Mfg. Yr.
Watersurplus		Refurb 2017

EQUIPMENT TYPE	OEM
RO	Applied Membranes



MISCELLANEOUS INFORMATION

This is a 45-90 GPM sea water unit operating at 30-60% recovery. The system is controlled with an Allen Bradley PLC and HMI, for complete control of the unit. High pressure feed pump is controlled using a HITACHI (L700-750HFF) VFD, which is enclosed in a NEMA 4 cabinet along with PLC. The system is cooled using an internal Air conditioner mounted alongside the panel. The CIP pump (Goulds) is also mounted on the skid and can be controlled from the panel. A Energy recovery device is used to transfer energy from high pressure concentrate to low pressure feed. Instrumentation included with the unit are conductivity transmitters, flow transmitter pressure switches and ORP transmitter. The unit requires a single power drop (460VAC, 3pH, 60Hz).



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

EQUIPMENT DATA SHEET RO

Description	45-90 GPM SWRO
--------------------	----------------

Asset #:	ROE3120165
-----------------	-------------------

Owner		Mfg. Yr.
Watersurplus		Refurb 2017

EQUIPMENT TYPE	OEM
RO	Applied Membranes

INSTRUMENTATION					
Pressure	Ind.	Sw.	Xmtr	Manufacturer	Part Number
Pre-filter Inlet	X				INDICATOR, PRESSURE, ANALOG, 0-160 PSI, PANEL MOUNT, 2 1/2" DIAL, GLYCERINE FILLED, 1/4" MNPT CENTER BACK CONNECTION
Pre-Filter Outlet	X				INDICATOR, PRESSURE, ANALOG, 0-160 PSI, PANEL MOUNT, 2 1/2" DIAL, GLYCERINE FILLED, 1/4" MNPT CENTER BACK CONNECTION
High Pump suction		X	X	IFM	PRESSURE TRANSMITTER WITH DISPLAY, MEASURE RANGE -14.6 TO 145 PSI, 4 TO 20 mA ANALOG OUTPUT, 1/4" MNPT THREADED CONNECTION, 316L SST
High Pump Discharge	X		X	IFM	INDICATOR, PRESSURE, ANALOG, 0-1500 PSI, 2 1/2" DIAL, GLYCERINE FILLED, 1/4" MNPT CENTER BACK CONNECTION CD-U1C5-300J/HR216 PRESSURE TRANSMITTER WITH DISPLAY, MEASURE RANGE 0 TO 1450 PSI, 4 TO 20 mA ANALOG OUTPUT, 1/4" MNPT THREADED CONNECTION, 316L SST
Interstage Pressure	N/A				SINGLE STAGE RO
Concentrate/Reject	X		X	ASHCROFT IFM	INDICATOR, PRESSURE, ANALOG, 0-100 PSI, PANEL MOUNT, 2 1/2" DIAL, GLYCERINE FILLED, 1/4" MNPT CENTER BACK CONNECTION PRESSURE TRANSMITTER WITH DISPLAY, MEASURE RANGE -14.6 TO 145 PSI, 4 TO 20 mA ANALOG OUTPUT, 1/4" MNPT THREADED CONNECTION, 316L SST
Permeate Disch.	X			ASHCROFT	INDICATOR, PRESSURE, ANALOG, 0-100 PSI, PANEL MOUNT, 2 1/2" DIAL, GLYCERINE FILLED, 1/4" MNPT CENTER BACK CONNECTION
Conductivity					
Inlet			X	GF	3-2850-52-42V INTEGRAL SYSTEM, CONDUCTIVITY, 3/4" NPT, 4 to 20 Ma, CELL CONSTANT: 10.00.
Permeate			X	GF	3-2850-52-41 INTEGRAL SYSTEM, CONDUCTIVITY, 3/4" NPT, 4 to 20 Ma, CELL CONSTANT: 1.00.
Concentrate					N/A
Monitor					N/A



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

EQUIPMENT DATA SHEET RO

Description	45-90 GPM SWRO	Asset #:	ROE3120165
--------------------	----------------	-----------------	------------

Owner		Mfg. Yr.	EQUIPMENT TYPE	OEM
Watersurplus		Refurb 2017	RO	Applied Membranes

Flow				
Inlet				N/A
Permeate		X	GF	3-2537-6C-P0 NTEGRAL SYSTEM, FLOW, INTEGRAL MOUNT PADDLE WHEEL, 3.5" to 4", 4-20 mA, POLYPROPYLENE BODY, BLACK PVDF ROTOR, TITANIUM PIN
Concentrate/Reject		X	GF	3-2537-6C-P0 NTEGRAL SYSTEM, FLOW, INTEGRAL MOUNT PADDLE WHEEL, 3.5" to 4", 4-20 mA, POLYPROPYLENE BODY, BLACK PVDF ROTOR, TITANIUM PIN
Recycle	X		DURCHFLUSS-MESSER	ROTAMETER, 1 1/2", 6-66 GPM, POLYSULPHONE SHELL, PVDV FLOAT, EPDM
CIP Inlet	X		DURCHFLUSS-MESSER	ROTAMETER, 1 1/2", 35-264 GPM, POLYSULPHONE SHELL, PVDV FLOAT, EPDM

Other				
ORP(Feed)		X	GF	3-2750-2 SENSOR, IN-LINE WITH JUNCTION BOX AND EASY CAL, ORP
Permeate Temperature				N/A

MAJOR COMPONENTS

Pump	Manufacturer	Model	Desc
Feed - Booster Pump #1	Goulds	G&SL SSH	PUMP, SINGLE STAGE CENTRIFUGAL, 1.5" DISCHARGE, 2.5" SUCTION, 6.75 IMPELLER, 200 GPM @ 50PSI, 10 HP, 3PH, 230/460VAC, 25.3/11.9 AMPS, G&L SERIES SSH, 4SHK6 (discharge size needs to be verified)
Feed - H.P. Pump #2	Fedco	MSS 4027	PUMP, MULTI-STAGE CENTIFUGAL, 3" GROOVED SUCTION, 3" GROOVED DISCHARGE, 220 GPM @ 1200 PSI, 100 HP, 3PH, 460V, 108 FLA
CIP - Pump #3	Goulds	G&SL SSH	PUMP, SINGLE STAGE CENTRIFUGAL, 1.5" DISCHARGE, 1.5" SUCTION, 6.75 IMPELLER, 200 GPM @ 50PSI, 10 HP, 3PH, 230/460VAC, 25.3/11.9 AMPS, G&L SERIES SSH, 4SHK6 (discharge size needs to be verified)



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

EQUIPMENT DATA SHEET RO

Description		45-90 GPM SWRO		Asset #:	ROE3120165
Owner		Mfg. Yr.		EQUIPMENT TYPE	OEM
Watersurplus		Refurb 2017		RO	Applied Membranes
V.F.D.	Manufacturer	Model	Desc		
Variable Frequency Drive	HITACHI	L700-750HFF	VFD, 100 HP, 135 AMP, 3PH, 380-480V		
Cartridge Filter	Manufacturer	Model	Desc		
Inlet Housing	EDEN	30EFCS3-3C150	FILTER HOUSING, 10R X 30", FRP, 3" FLANGED CONNECTIONS		
Inlet Elements	GE	N/A	ELEMENT, MELT BLOWN, 2 1/2"X30", DOUBLE OPEN ENDED, 5 MICRON		
CIP Housing	VOSS	N/A	FILTER HOUSING, 12R X 40", FRP, 3" FLANGED CONNECTIONS		
CIP Elements	GE	N/A	ELEMENT, MELT BLOWN, 2 1/2"X40", SINGLE OPEN ENDED, 5 MICRON		
RO	Manufacturer	Model	Desc		
RO Housing	PROTEC	PRO-8-1200SP-6	HOUSING, RO, EPOXY FRP, 1200 PSI, 20°-120° F		
Valves	Manufacturer	Model	Desc		
Automatic inlet valve	TECHNO PLASTIC VALVE GF ACTUATOR	VFA02D900 TYPE EA21	VALVE, MANUAL, BUTTERFLY, 3", PVC BODY, EPDM SEAL ACTUATOR, ELECTRIC, 120V, GF		
Concentrate control valve	OIC	8GL-6L-U-G	VALVE, GLOBE, 1" NPT, 316SS		
Automatic Conc. Flush valve			N/A		
Recycle control valve	GF	161 314 679	VALVE, DIAPHRAGM, 1", PVC, EPDM, TRUE UNION, TYPE 314		