Initial Startup Axeon Reverse Osmosis R1-10140

Glass Water Systems

813-626-9498

Axeon Technical Support: **800-320-4074** Option #2

PRODUCT SPECIFICATIONS

MODELS	R1 – 10140
Flow Rates†††	
Permeate Flow Rate (gpd)	18,000
Permeate Flow Rate (gpm)	12.50
Feedwater† TDS max (ppm)	2,000
Standard Recovery	68%
Minimum Concentrate Flow Rate (gpm)	6
Concentrate Recycle Flow Rate (gpm)	Up to 5
Connections	
Feed	1" FNPT
Permeate	1" FNPT
Concentrate	1" FNPT
Membranes	
Membrane(s) Per Vessel	1
Membrane Quantity	10
Membrane Size	4040
Nominal TDS Rejection	98.5%
Vessels	
Vessel Array	2:2:2:2:2
Vessel Quantity	10
Standard Pump	
Pump Type	Multi–stage
Motor HP	3
RPM at 60	3450
Standard Voltage + Amp Draw	220V 60HZ 1PH 16A
System Dimens	
Approximate Dimensions* L x W x H	32" x 52" x 61"
Approximate Weight	550 lbs.

SYSTEM IDENTIFICATION

MODELS:

R1–1140 R1–2140, R1–3140, R1–4140, R1–5140, R1–6140, R1–8140, R1–10140, R1–12140

Component descriptions for each of the numbered items below are referenced on the next page.

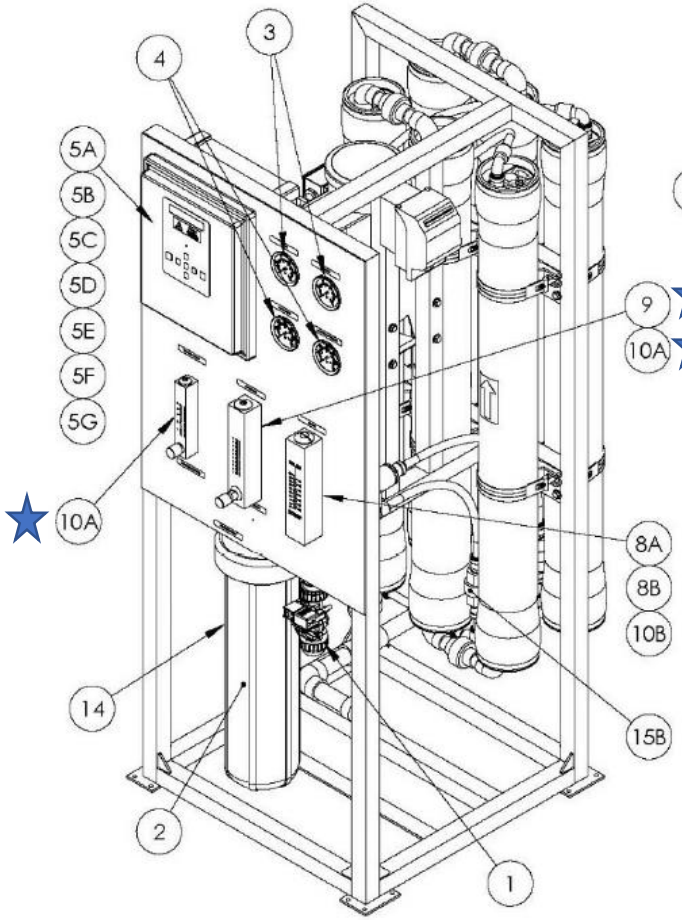


Figure 1A

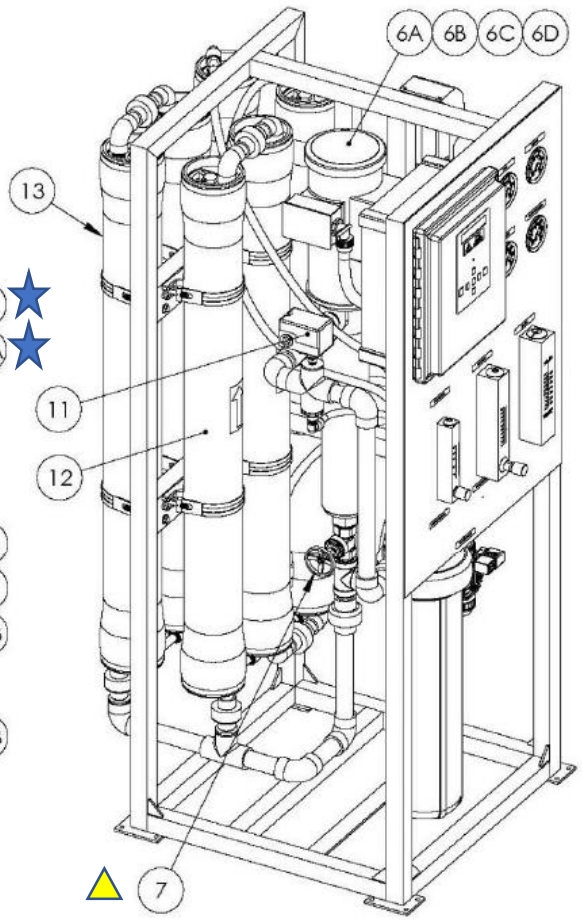
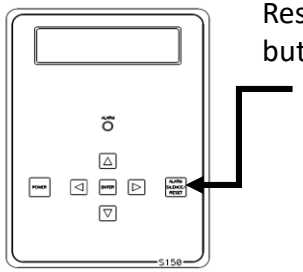


Figure 1B

SYSTEM PURGING

1. Redirect permeate water to the drain for this procedure
2. Fully open the concentrate valve by turning it counter–clockwise. (Figure 1A, Page 14) #9A, 9B, 10A = ★
3. Fully close the recycle valve by turning it clockwise. (Figure 1A, Page 14) #10A = ★
4. Fully open the throttle valve by turning it counter–clockwise. (Figure 1B, Page 14) #7 = △
5. Activate the solenoid bypass feature by holding down the reset button on the controller for five seconds. The controller will allow water to flow through the system without starting the pump for a period of five minutes.



6. Let the system purge until no visible bubbles appear from concentrate flow meter. (Figure 1A, Page 14) =

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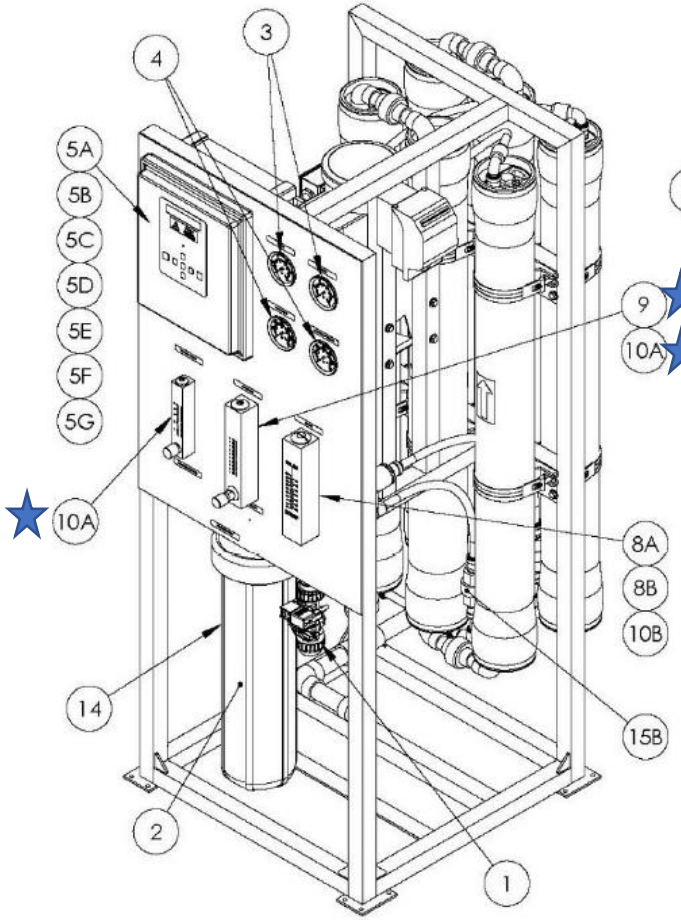


Figure 1A

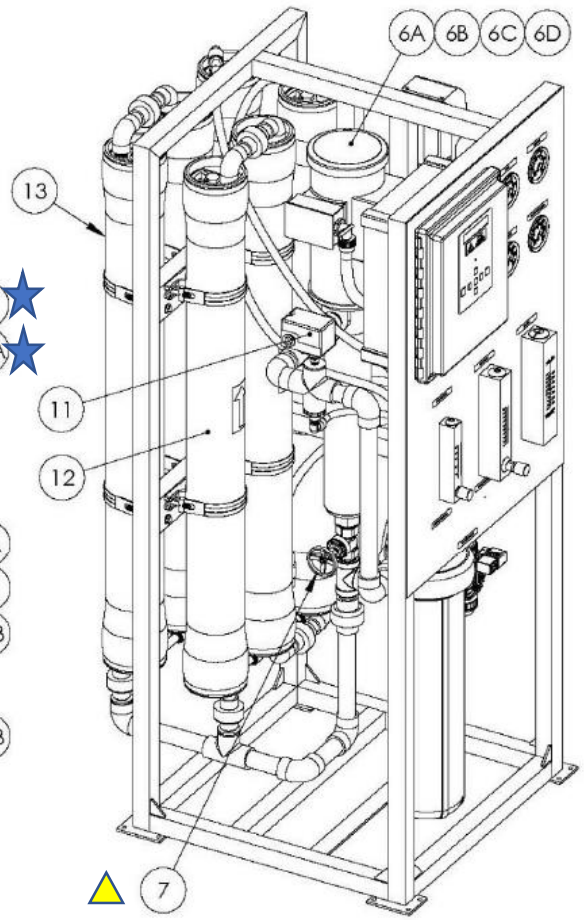
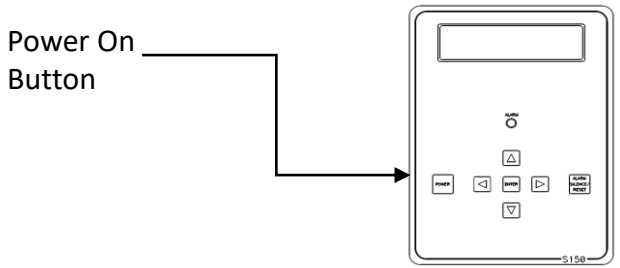


Figure 1B

INITIAL START–UP

Carefully inspect your system before initial start–up. Check that all plumbing and electrical connections are not loose or have not come undone during shipment. A User Manual, test results and filter housing wrench will accompany your R1 – Series Reverse Osmosis System.

1. Direct the permeate water line to drain for this procedure
2. Fully open the concentrate valve by turning it counter–clockwise. (#9A, 9B, 10A , Figure 1A,Page 14)★
3. Fully close the recycle valve by turning it clockwise. (#10A, Figure 1A, Page 14) ★
4. Fully close the throttle valve by turning it clockwise until it stops, then open the valve (by turning it counter–clockwise) one half turn. (#7, Figure 1B, Page 14)△
5. Turn the RO system on and adjust the concentrate (waste) valve, recycle valve and the throttle valve to the designed flow and pressure. (Figure 1A and 1B, Page 14)



6. Inspect the system for leaks.
7. Allow the system to run for 30 minutes to flush the preservative solution from the system.
8. After 30 minutes, shut down the system.
9. Re–direct the permeate water back to the tank and then turn the system back on.
10. Record the readings daily for a week; after one week record the readings once a week.

PUMP THROTTLE VALVE

The pump throttle valve is installed as a standard feature on the R1 – Series Reverse Osmosis Systems. It provides an adjustment for pump pressure. As the feedwater temperature decreases, and/or the feedwater TDS increases, the system will require a higher operating pressure to produce the specified permeate flow.

ADJUSTING THE THROTTLE VALVE

To decrease the pressure, turn the handle clockwise.
To increase the pressure, turn the handle counter clockwise.
(As shown in Figure 2 below)

Figure 2

TROUBLESHOOTING

SYMPTOMS	POSSIBLE CAUSES	CORRECTIVE ACTION
Low Inlet Pressure	Low supply pressure	Increase inlet pressure
	Cartridge filters plugged	Change filters
	Solenoid valve malfunction	Replace solenoid valve and/or coil
	Motor may not be drawing correct current	Use clamp–on amp meter to check the motor amp draw
	Concentrate valve might be damaged	Replace needle valve
	Leaks	Fix any visible leaks
Low Permeate Flow	Low inlet flow	Adjust concentrate valve
	Cold feedwater	See temperature correction sheet
	Low operating pressure	See low inlet pressure
	Defective membrane brine seal	Inspect and/or replace brine seal
	Fouled or scaled membrane	Clean membranes
High Permeate Flow	Damaged product tube o–rings	Inspect and/or replace
	Damaged or oxidized membrane	Replace membrane
	Exceeding maximum feedwater temperature	See temperature correction sheet
Poor Permeate Quality	Low operating pressure	See low inlet pressure
	Damage product tube o–rings	Inspect and/or replace
	Damaged or oxidized membrane	Replace membrane
Membrane Fouling	Metal oxide fouling	Improve pretreatment to remove metals. Clean with acid cleaners
	Colloidal fouling	Optimize pretreatment for colloid removal. Clean with high pH anionic cleaners
	Scaling (CaSO4, CaSO3, BaSO4, SiO2)	Increase acid addition and antiscalant dosage for CaVO3 and CaCO4. Reduce recovery. Clean with acid cleaners
	Biological fouling	Shock dosage of sodium bi–sulfate. Continuous feed of sodium bi–sulfate at reduced pH. Chlorination and de–chlorination. Replace cartridge filters
	Organic fouling	Activated carbon or other pretreatment. Clean with high pH cleaner
	Chlorine oxidation	Check chlorine feed equipment and de–chlorination system
	Abrasion of membrane by crystalline material	Improve pretreatment. Check all filters for media leakage

R1 – SERIES SYSTEMS PART LIST

ITEM	PART NO.	DESCRIPTION	MODEL(S)
1	207475	VALVE, SOLENOID, 2–WAY, COMPOSITE, 220V, 1"FNPT, ASCO	1140–12140
2	200640	CARTRIDGE, SEDIMENT, POLYPRO, 4.5" X 20", 5 MIC, SDF–45–2005, AXEON	1140–12140
3	204165	GAUGE, PM, GLY FILL, 0–100 PSI/BAR, 2.5" DIA, 1/4" MNPT, AXEON	1140–12140
4	200904	GAUGE, PM, GLY FILL, 0–300 PSI/BAR, 2.5" DIA, 1/4" MNPT, AXEON	1140–12140
5A	206350	CONTROLLER, COMPUTER, S–150, 220V, 1PH, 12 X 10 BOX	1140–12140
5B	207730	CONTROLLER, COMPUTER, S–150, 220V, 3PH, 1.5HP, 12 X 10 BOX	1140–4140 (220V)
5C	203261	CONTROLLER, COMPUTER, S–150, 380V, 3PH, 3 HP, 12X10 BOX	5140–12140 (380V)
5D	202848	CONTROLLER, COMPUTER, S–150, 460V, 3PH, 1 – 1.5 HP, 12X10	1140–4140 (460V)
5E	203260	CONTROLLER, COMPUTER, S–150, 220V, 3PH, 3 HP, 12X10 BOX	5140–12140 (220V)
5F	203262	CONTROLLER, COMPUTER, S–150, 460V, 3PH, 3 HP, 12X10 BOX	6140–12140 (460V)
5G	203259	CONTROLLER, COMPUTER, S–150, 380V, 3PH, 1 – 1.5 HP, 12X10 BOX	1140–4140
6A	200795	PUMP, MULTI–STAGE, 1.5 HP, 110/220V 1 PH, 10GBS1514Q4, GOULDS	1140–4140
6B	200798	PUMP, MULTI–STAGE, 3 HP, 220V 1 PH, 25GBS3014P4, GOULDS	5140–12140
6C	200799	PUMP, MULTI–STAGE, 3 HP, 220/460V 3 PH, 25GBS3017P4, GOULDS	5140–12140
6D	203248	PUMP, MULTI–STAGE, 1.5 HP, 220/460V 3 PH, 10GBS1517Q4, GOULDS	1140–4140
7	200995	VALVE, GLOBE, SS, 1" FNPT	1140–12140
8A	200899	METER, FLOW, PM, 1–10 GPM, 1" MNPT x 1" MNPT, AXEON	4140–5140
8B	200900	METER, FLOW, PM, 2–20 GPM, 1" MNPT x 1" MNPT, AXEON	6140–12140
9	205105	METER, FLOW, PM, 1–10 GPM, SS VALVE, 1" MNPT X 1" MNPT, AXEON	4140–12140
10A	205104	METER, FLOW, PM, 1–5 GPM, SS VALVE, 1/2" MNPT X 1/2" MNPT, AXEON	1140–12140
10B	200898	METER, FLOW, PM, 1–5 GPM, 1/2" MNPT x 1/2" MNPT, AXEON	1140–3140
11	200906	SWITCH, PRESSURE, LOW, N/O, 15–30 PSI, 1/4" FNPT	1140–12140
12	200394	MEMBRANE, HF5, 4040, DRY, AXEON	1140–12140
13	208419	HOUSING, MEMBRANE, FRP–300E, 4040, 1/2" P X 3/4" C FNPT, AXEON	1140–12140
14	207290	HOUSING, FILTER, BLK/GRY, 4.5" X 20", SGL O–RING, NPR, 1" FNPT, AXEON	1140–12140
15A	200965	VALVE, CHECK, PVC, 1/2" FNPT X 1/2" FNPT	1140–5140
15B	200966	VALVE, CHECK, PVC, 3/4" FNPT X 3/4" FNPT	6140–12140