READ AND SAVE THESE INSTRUCTIONS

WATER TREATMENT

200 series reverse-osmosis systems

Installation, Operation, and Maintenance Manual

driSteem

Warnings and cautions

⚠ WARNING

Attention installer
Read this manual before installing, and leave this manual with product owner. This product must be installed by qualified HVAC and electrical contractors. Installation must be code approved.

Disconnect electrical power
Disconnect electrical power before installing supply wiring or performing service or maintenance procedures on any part of the system. Failure to disconnect electrical power could result in fire, electrical shock, and other hazardous conditions. These hazardous conditions could cause property damage, personal injury, or death.

CAUTION

Operate system at above-freezing temperatures.
Operating the system at temperatures below freezing can damage the system or cause other property damage.

Maintain pumping and water treatment equipment.
Inadequately maintained pumping and water treatment equipment can cause the system to fail. Refer to the maintenance section of this IOM for recommended maintenance.

Do not install the system using steel or galvanized-steel piping and joints.
Steel and steel-galvanized piping and joints can corrode and cause system damage. Use plastic tubing and joints when assembling system.

Follow all instructions in this manual to maintain product warranty.

FILL IN THE FOLLOWING INFORMATION FOR YOUR RECORDS

Date of purchase _____

Customer's name _____

Model number _____

Serial number _____

Table of contents

Table of contents

ATTENTION INSTALLER

Read this manual before installing.
Leave manual with product owner.

DriSteem® Technical Support
800-328-4447

WHERE TO FIND MORE INFORMATION

Our website:

The following documents are available on our web site: www.dristeem.com

- Water Treatment Systems Catalog
- Vapor-logic Controller Installation and Operation Manual

DriCalc®:

DriCalc, our software for system sizing and selection, can be ordered at our web site.

Call us at 800-328-4447

Obtaining documents from our web site or from DriCalc is the quickest way to view our literature, or we will be happy to mail literature to you.

Download DriSteem literature

Most DriSteem product manuals are available our website: www.dristeem.com

System specifications

Table 2-1: Pressurized RO holding tank specifications				
Model	**Hz**	**Motor HP**	**Volts*/Amps**	**Phase/Frequency**
201 202 203	60	1/3	110-120 VAC/5.5A (208-240 VAC/2.8A)	1/60Hz
* 115V or 230V must be ordered specifically				

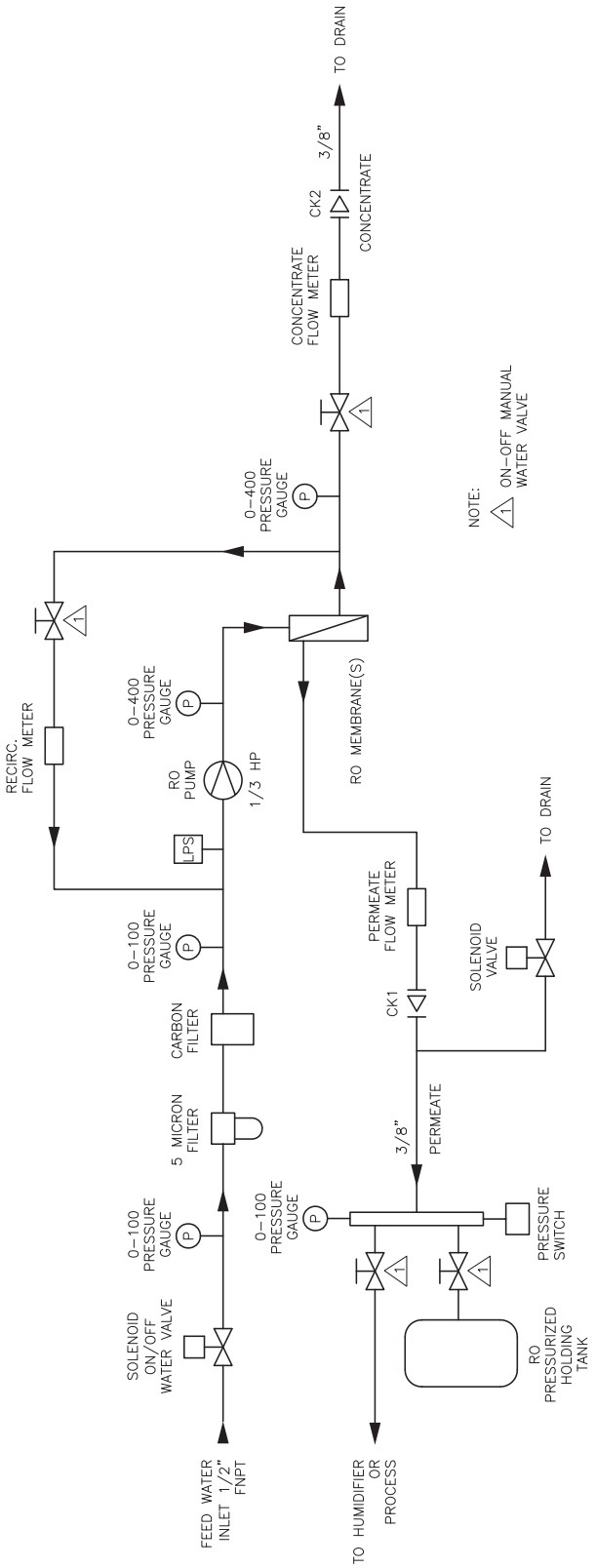
NOTES:

1. All systems rated at 50°F (10°C) using 1000 ppm sodium chloride (NaCl) solution. System capacity decreased significantly with decrease in feed water temperature.
2. Chlorine requirements for the feed water are:
   a. Thin-Film (standard) 0 ppm
3. Feed water must be filtered to a turbidity of less than 1 NTU.
4. System recovery (permeate to concentrate ratio) must be maintained at the recommended level. A higher than recommended recovery will lead to a premature fouling of the membrane with a loss of permeate flow and permeate quality.

Table 2-2: RO station specifications			
Model	**201**	**202**	**203**
Rated capacity, permeate			
Gallons/minute	0.2	0.4	0.6
Concentrate flow (reject)			
Gallons/minute	1.1	1.2	0.97
Recirc (adjustable as needed)			
Gallons/minute	0 - 1.0	0 - 1.0	0 - 0.8
System pressure, psi	100 - 150	100 - 150	100 - 150
°F (°C)	10/50	10/50	10/50
Pre-filters			
Sediment cartridge - 5 micron	1	1	1
Carbon cartridge - 10 micron	1	1	1
Pressure switch settings			
Low pressure (for pump protection)	8 psi	8 psi	8 psi

Flow schematic

FIGURE 3-1: FLOW SCHEMATIC



OM-7822

Component identification

FIGURE 4-1: COMPONENT IDENTIFICATION

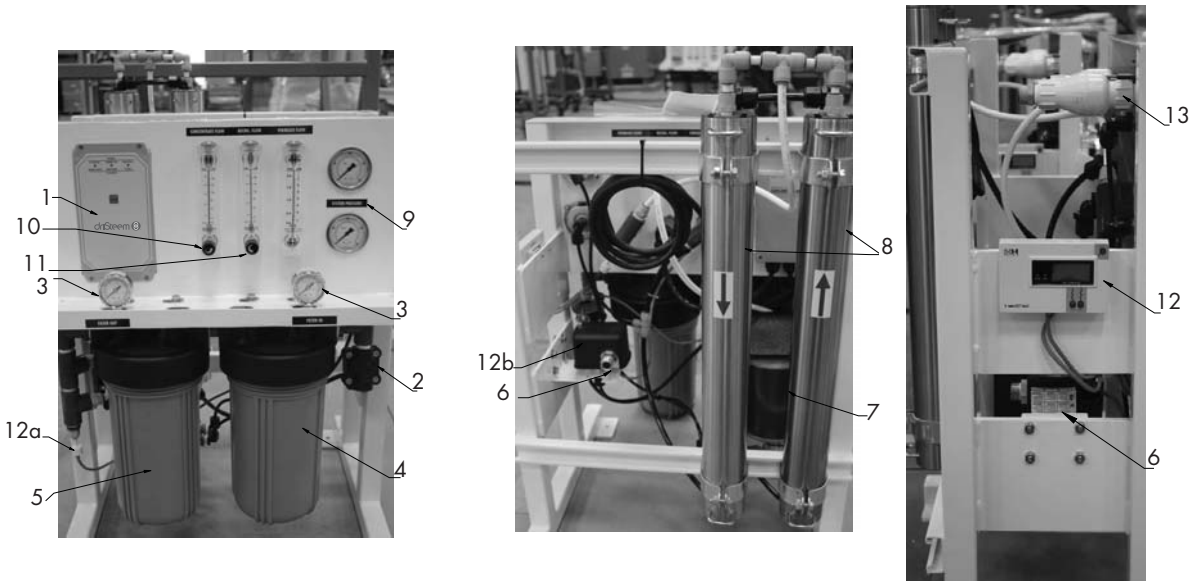


Table 4-2: Component identification		
	Item	**Description**
1	Controller	Power On/Off and status display
2	Inlet solenoid valve	Normally closed. Opens when power is applied.
3	Cartridge filter pressure gauges (in-right/out-left)	Measure the feed and effluent pressure of the cartridge filters. Pressure difference determines when cartridge change out is required.
4	Sediment filter	5 micron sediment filter.
5	Carbon filter	10 micron extruded carbon cartridge to remove chlorine and reduce organics from the feed stream.
6	Low pressure switch	Shuts the system down if the inlet pressure is lower than 8 psi (adjustable).
7	High pressure pump and motor	Rotary pump and motor to pressurize the incoming water.
8	Membrane modules	RO membrane elements housed in stainless steel pressure tubes.
9	System pressure gauges	Measure the system (feed) and concentrate (effluent) pressure of the membrane modules.
10	Concentrate control valve	To adjust system pressure. Must not be completely closed when the system is in operation.
11	Recirc valve	To adjust and maintain adequate flow thru membranes
12	TDS monitor	Monitors the feed and permeate water quality. 12a - feed sensor; 12b - permeate sensor
13	Permeate check valve	Prevents backflow into RO module.

System installation

1. Locate RO system with adequate clearance from walls and other equipment to enable membrane servicing.
2. Run five polyvinyl tube lines to the system as follows:

LINE 1

Connect raw water feed supply to the solenoid valve inlet in front of the first cartridge filter housing. This will require ½ inch threaded pipe fitting and adaptor for the feed line. If desired, install an isolation valve in this line; ensure the valve opening does not restrict the water flow.

LINE 2

Run a ⅜ inch line from the open end of the concentrate valve to a drain. Ensure that no liquids from other lines near this drain flow back through this line.

LINE 3

Run a ⅜ inch line from one of the two permeate outlets on the back of the system to the pressurized permeate storage container.

NOTE: The recirc flow line is pre-connected at the factory.

LINE 4

Run a ⅜ inch line from the other permeate outlet to the humidifier or end process being fed by the system.

LINE 5

Run a ¼inch line from the pressurized relief solenoid to a drain. Ensure that no liquids from other lines near this drain flow back through this line.

FIGURE 5-1: SOLENOID VALVE INLET

CAUTION

Pump and system performance will be adversely affected if the feed/suction line is restricted.

FIGURE 5-2: RECIRC FLOW LINE

CAUTION

Confirm all lines are connected before plugging in unit power.

System installation

PRE-TREATMENT CONNECTION

If you have pre-treatment equipment and you wish to shut-down the RO system during backwash or regeneration, a microswitch is required (standard with DriSteem water softeners).

1. Wire the microswitch to terminal labeled PreTreat inside controller.

When the equipment goes into backwash or regeneration, the pre-treat limit switch opens and turns the power off the inlet solenoid valve, which then turns the RO pump off (and back on) when the cycle is complete.

SERIES 200 CONTROLLER SPECIFICATIONS

POWER

Either 110-120 VAC or 208-240 VAC, 1 phase,
50/60 Hz, +10/-15%, 2.5 watts

Input power is auto selected

INPUTS

Three switch inputs, selectable normally open or normally closed

OUTPUTS

RO pump 1HP (based on service factor of 1.0 max)

Inlet solenoid 5A

20A maximum total load

NOTE: All six switches are factory set to the OFF position.

Auto reset (disabled)

Pressure fault retry (disabled)

Tank full restart time delay (two seconds)

Input contact type (NC, open to operate)

If you desire to change any switch functions, move that switch to the ON position.

CAUTION

The controller is rated for maximum 20 amp total load. Terminal strip P11 is dry contact for input signals from tank full, pressure fault and pretreat lockout. Use a small gauge 2 conductor cable for these wire connections.

FIGURE 6-1: CONTROL BOARD

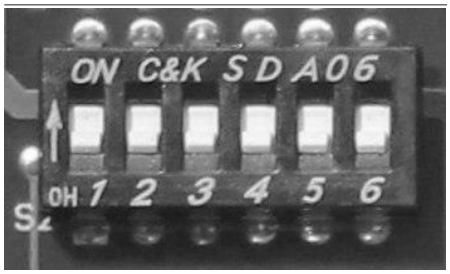
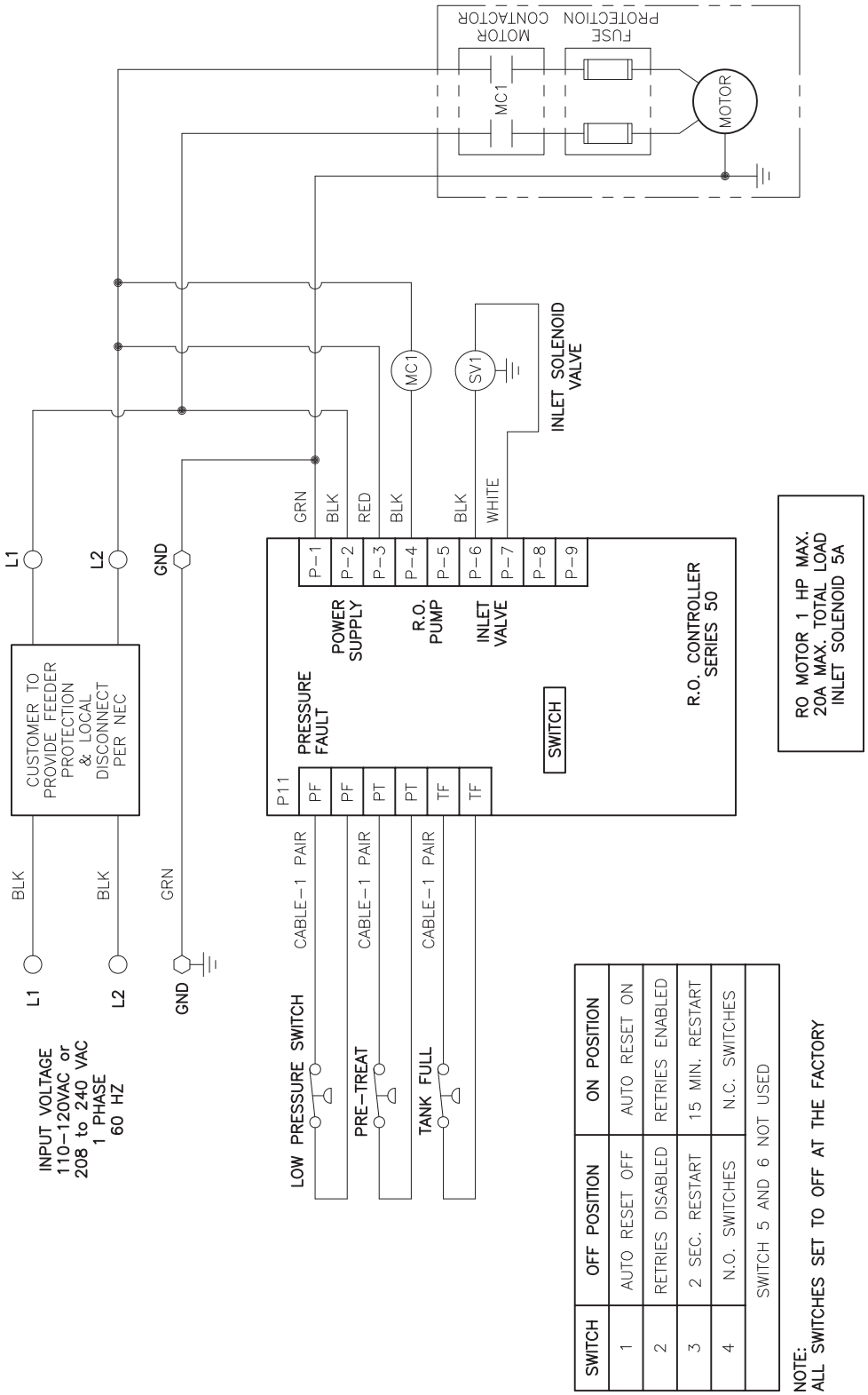


Table 6-1:
Switch positions

Switch	Off position	On position
1	Auto reset off	Auto reset on
2	Retries disabled	Retries enabled
3	2 sec. restart	15 min. restart
4	N.O switches	N.C. switches
Switch 5 and 6 not used.		

Schematic drawing

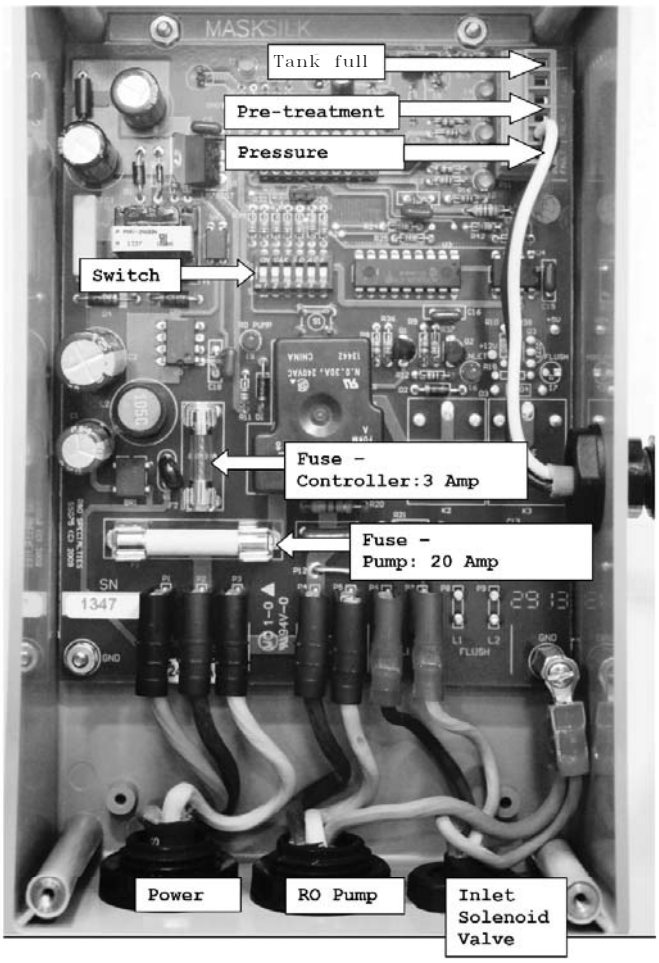
FIGURE 7-1: CONTROLLER ELECTRICAL SCHEMATIC



SWITCH	OFF POSITION	ON POSITION
1	AUTO RESET OFF	AUTO RESET ON
2	RETRIES DISABLED	RETRIES ENABLED
3	2 SEC. RESTART	15 MIN. RESTART
4	N.O. SWITCHES	N.C. SWITCHES

Control board

FIGURE 8-1: CONTROLLER ELECTRICAL SCHEMATIC



RO PUMP WIRING

The RO pump connects to P4 (L1) and P5 (L2) RO pump terminals. This output can operate 110/240 VAC motors up to 1HP directly.

INLET WIRING

The inlet solenoid valve connects to P6 (L1) and P7 (L2) inlet terminals.

PRESSURE FAULT SWITCH

The feed pressure switch is connected to the pressure fault input. Low pressure (factory preset 8 psi) will shut system off.

PRETREAT SWITCH

In systems with pretreatment, a pretreat lockout switch can be connected to the pretreat input. This switch should operate when the pretreatment device is out of service.

NOTE: The output from the pretreatment device must be a dry contact and must not supply voltage.

TANK FULL SWITCH

DriSteem systems use a pressure switch to keep the pressurized storage tank between 30-50 psi (207-345 kPa). The switch is connected to the tank full input.

System operation

The unit has a single mode of operation ON with six sub-modes or states as indicated by the steady or flashing panel lights. Any light condition other than steady power ON indicates the unit is effectively in standby-mode. If there are no lights, the system is OFF and all outputs are turned off. In the operating mode, the unit operates automatically. All inputs are monitored and the outputs are controlled accordingly. Pressing the power key will toggle the unit from off to operate or from operate to off. If power is removed from the unit when power is reapplied, the unit will restart in the mode it was in when the power was removed.

When the power switch is turned ON, the center status LED will light green, the valve will open, and the RO pump will start.

Under normal operation the RO unit will run until:

a. the storage tank is full (right LED amber) or

b. pretreat lockout has occurred (center status LED flashing green).

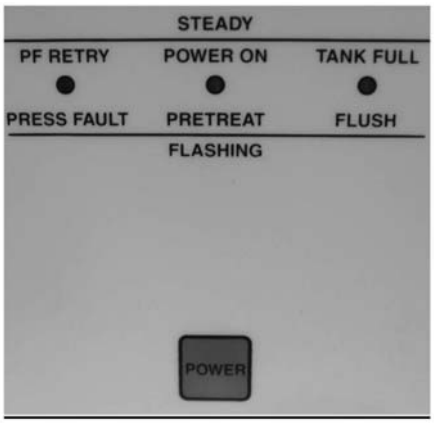
When a or b has cleared after a time delay, the RO unit will restart and the center status LED will return to green. Switch setting three selects a two second or 15 minute tank full restart time delay.

Upon an alarm signal for pressure fault, the left status LED will flash red, the RO pump will stop, and the inlet valve will close and the RO pump will turn OFF.

- If switch one and two are in the OFF position (disabled), the left status LED will be a steady red and the RO will not restart until the power switch has been manually cycled OFF then ON to reset the unit.
- If switch one is in the ON position (auto reset), every 60 minutes the RO will start and stop again if a pressure fault continues.
- If switch two is in the ON position (pressure fault retry), the RO will attempt to restart after 30 seconds, then five minutes, then 30 minutes. If the pressure alarm has not cleared after the third try, the RO unit will remain OFF until manually reset.

If switch one and two are in the ON position after a pressure fault condition, the RO unit will continually attempt to restart after each 60 minute cycle, until the pressure switch input has cleared.

FIGURE 9-1: PANEL LIGHTS AND POWER BUTTON



- Power Key: Places the controller in operating mode
- Pressure retry: Steady red light
- Pressure fault: Blinking red light
- Power on: Steady green light, system is operating.
- Pretreat: Flashing green light
- Tank full: Steady amber light
- Flush: No flush sequence

System operation continued

INITIAL SYSTEM START-UP

SYSTEM FLUSH

Direct permeate discharge to drain for first 30 minutes of operation.

1. Connect the system to the appropriate electrical outlet, 110-120 VAC or 208-240 VAC 1 phase.
2. Ensure all plumbing connections are open to allow flow. Open the concentrate valve (counterclockwise). Close the recirc valve (clockwise).

   Ensure sufficient pressure (40 psi recommended) is in feed line. If pressure is less than 8 psi, the low pressure switch will disallow start-up until pressure is adequate.
3. Press the power button; the solenoid will open and the unit will start operating.
4. After water is flowing from the concentrate line, adjust the concentrate control valve to obtain designated flow for the specific model (see Table 2-2 on page 2).
5. If required, adjust recirc control valve to meet desired flow rates (see Table 2-2 on page 2).
6. Allow the unit to run for 30 minutes to ensure proper flushing of system.
7. After the flush time is over, press the power button OFF.
8. Redirect the permeate line to the desired location.

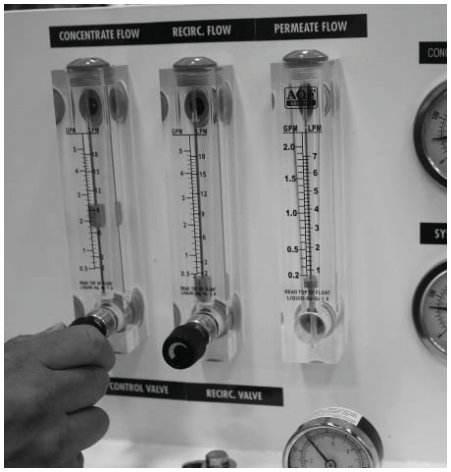
NORMAL OPERATIONS

1. Turn the power back ON. After the pump starts, adjust the control valve to the desired flow/pressure (not to exceed 150 psi).
2. The recycle valve may now be adjusted to achieve desired recycle flow rate, ensuring concentrate flow rate is as specified.

SHUTDOWN

1. Press the power button to shut unit OFF. Close the isolation valve if it is installed on the feed line.
2. If the unit is to be shut down for more than one week, a membrane preservative should be used. To accomplish this, perform 30 second flush using cartridge filter insert (see page 14 for more information). After 30 seconds, press the power button OFF, and close the concentrate valve. This will hold the preservative in the pressure vessel.
3. When the system is restarted after an extended shutdown, follow initial system start-up procedures.

FIGURE 10-1: CONTROL VALVES



CAUTION

To prevent concentrate from precipitating and causing irreversible fouling of the RO membrane, do not operate the system with the control valve completely closed.

CAUTION

Do not exceed recommended maximum recovery.

Maintenance information

MAINTENANCE TIPS

Maintain proper operating conditions:

- Do not exceed 150 psi on the system inlet pressure gauge.
- Do not over use recycle flow. This can cause premature scaling of the membrane. A proper concentrate flow is required for a long membrane life.
- To ensure no chlorine reaches the RO membranes, test the water from your carbon filter periodically for chlorine break through. To do this, a sample could be obtained by briefly removing the Feed TDS probe at the downstream side of the cartridge filters. Brief power ON/OFF will be needed to perform this.

WHEN TO CHANGE CARTRIDGE FILTERS

Cartridge filters (both sediment and carbon) should be changed regularly to maintain proper pressure and flow.

The carbon filter removes chlorine and will exhaust its capacity over time. This is dependent upon feed source concentration and flow rate. Check chlorine removal efficiency regularly.

Change the filters when the difference between the two cartridge filter pressure gauges increase by 10 psi over the initial pressure difference. For example, if initial readings are 60 psi in and 58 psi out, the difference is 2 psi. Therefore, when that difference reaches 12 psi, it is time to replace the sediment and carbon cartridges.

WHEN TO CLEAN MEMBRANES

In normal operation, the membrane in reverse osmosis elements can become fouled by mineral scale, biological matter, and grime. These deposits build up during operation until it causes loss in water output or loss of salt rejection, or both. Elements should be cleaned or replaced whenever the water output rate drops by 10 percent from its initial flow rate (the flow rate established during the first 24 to 48 hours of operation) or when TDS in the product water (permeate) rises above 50. Use the factory mounted TDS sensor located on the right side of the system.

It should be noted that the water output rate will drop if feed water temperature decreases (about 1.5% per °F). This is normal and does not indicate membrane fouling. A malfunction in the pretreatment, pressure control or pump can cause a drop in feed water delivery pressure, feed water flow, product water output, or an increase in salt passage. If such adjustments are needed, the element may not require cleaning.

MEMBRANE CLEANING AND PRESERVATIVE CARTRIDGES

- Clean and preserve membranes without removing them from your system
- Reduce downtime
- Maintain your system performance at a higher level
- Prolong membrane life by regular use of cleaning cartridge

FIGURE 11-1: 4" X 10" SEDIMENT FILTER

DriSteem replacement part number 550026-004.

FIGURE 11-2: 4" X 10" BIG BLUE DECHLORINATOR CARTRIDGE

DriSteem replacement part number 550027-004.

Maintenance continued

MEMBRANE CLEANING IN THE RO SYSTEM

Membrane cleaning cartridges:

- Clean membranes without having to remove them from the RO system
- Reduce downtime
- Maintain the system performance at a higher level
- Prolong membrane life by regular use of cleaning cartridges

HOW DOES IT WORK?

NOTE: Clean monthly to obtain optimum results.

1. Exchange the system's pre-filter cartridge with a cleaning cartridge
2. Follow the instructions.
3. Restart the system.
4. Repeat the process if required.

SCALE CLEANING CARTRIDGE

The scale cleaning cartridge is for removal of mineral scale and build-up.

CLEANING PROCEDURE

1. Shut down the RO system.
2. Disconnect permeate line and divert to drain before any cleaning cartridge is installed.
3. Remove the filter cartridge from the pre-filter housing.
4. Replace the filter cartridge with the cleaning cartridge and assemble into the filter housing.
5. Turn the system ON. After 30-40 seconds, shut down the system.
   OPTIONAL: Instead of time, use one of the following criteria:
   a. Run the system until the pH of the concentrate is almost the same as the cleaning solution (pH=3)
   b. Permeate rate for the system drops to a very low value.
6. Let the membrane(s) soak in the cleaning solution overnight.
7. Remove the empty cleaning cartridge and replace it with the original filter.
8. Restart the system. Direct the permeate to drain for five minutes.
9. Go back to normal operations.

FIGURE 12-1: 10 INCH BIG BLUE SCALE CLEANING CARTRIDGE

DriSteem replacement part number 550045-202.

Maintenance continued

ORGANIC CLEANING CARTRIDGE

The organic cleaning cartridge is for removal of organics/fouling.

CLEANING PROCEDURE

1. Shut down the RO system.
2. Disconnect permeate line and divert permeate to drain during cleaning.
3. Remove the pre-filter cartridge from the filter housing.
4. Replace the sediment pre-filter cartridge with the cleaning cartridge and assemble into the filter housing.
5. Turn the system ON. After 30-40 seconds, shut down the system.
   OPTIONAL: Instead of time, use one of the following criteria:
   a. Run the system until the pH of the concentrate is almost the same as the cleaning solution (pH=10-12)
   b. Permeate rate for the system drops to a very low value.
6. Let the membrane(s) soak in the cleaning solution overnight.
7. Remove the empty cleaning cartridge and replace it with the original filter.
8. Restart the system. Direct the permeate to drain for five minutes.
9. Go back to normal operations.

FIGURE 13-1: 10 INCH BIG BLUE ORGANIC CLEANING CARTRIDGE

DriSteem replacement part number 550045-701.

Storage

To prevent bacterial growth and help maintain flux, it is recommended that elements be immersed in a preservative solution if the system will be OFF for more than one week.

MEMBRANE PRESERVATIVE CARTRIDGE

PRESERVING PROCEDURE

1. Shut down the RO system.
2. Disconnect the permeate line and direct permeate to drain during cleaning/preserving.
3. Remove the 5M filter cartridge from the pre-filter housing.
4. Replace the filter cartridge with the preservative cartridge and assemble into the filter housing.
5. Turn the system ON. After 30-40 seconds, shut down the system.
6. Drain the system of the permeate solution as much as possible by opening a valve/fitting at a low point in the system.
7. Close OFF the inlet and outlet to the membrane/system.

FLUSHING OUT PRESERVATIVE/RESTART PROCEDURE

8. Open valves and put the system back in the position it was before preserving.
9. Remove the empty preservative cartridge and replace it with a new cartridge filter.
10. Restart the system. Direct permeate to drain for 15-30 minutes.
11. Go back to normal operation.

FIGURE 14-1: 10 INCH BIG BLUE CLEANING CARTRIDGE

DriSteem replacement part number 550045-902.

Replacing membranes

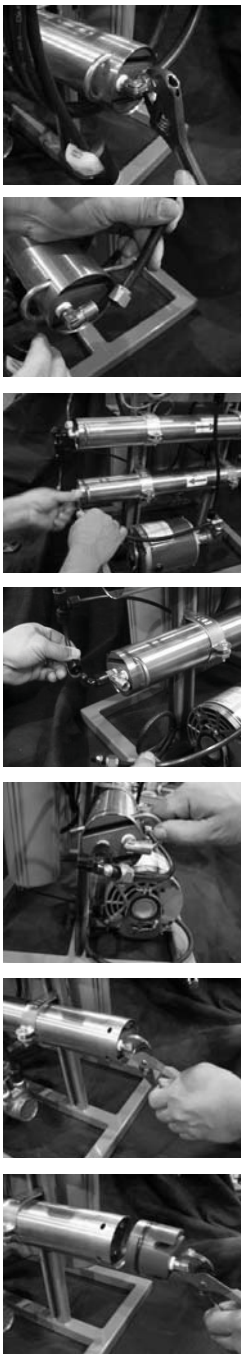
TOOLS

- Rubber mallet
- Flat blade screwdriver
- Open end wrench, ⅞ inch
- Food grade RT-111 silicone
- Safety glasses

PROCEDURE

1. Turn OFF the RO system.
2. Relieve pressure on the membrane arry by opening the control valve.
3. Remove all lines from both ends of the pressure vessel(s). Make sure the fittings are marked so the fittings go back to the correct locations after replacing.
4. Remove u-pins from the vessel. Slowly and carefully pull the end plugs out from the fitting with a channel lock.
5. Remove end plugs by pulling carefully.

FIGURE 15-1: DRISTEEM REVERSE OSMOSIS MEMBRANES



DriSteem replacement part number 550035-025.

Replacing prefilters

PROCEDURE

1. Shut down the RO system.
2. Close field supplied inlet supply valve.
3. Turn the blue pressure housings counterclockwise. Filter cartridge should come free from the housing top and remain in the housing.
4. Remove and replace cartridges.
5. Before replacing the housing, insure the o-ring seal is lubed and placed in groove of housing. Inspect seal and replace as needed.
6. Rotate the housing clockwise until hand tight.

FIGURE 16-1: PRE-FILTER

1. Carbon filter:

   Primarily to remove chlorine; also removes organics and sediments down to 10 microns.
2. Sediment filter:

   Removes sediments and particles down to 5 micron size.

Adjustment of pressure switch

TOOLS

- Flat blade screw driver

LOW PRESSURE CUT-OUT SWITCH

1. Loosen nut and remove cover plate.
2. Use a box wrench to adjust nut on left side counterclockwise to lessen pressure; clockwise to raise pressure.
3. Do not tamper with the nut on the right side.
4. Replace the cover.

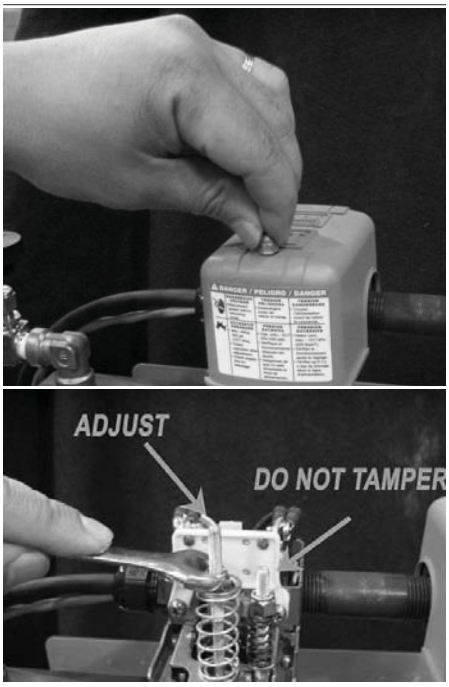
CAUTION

Pressure switch has been factory preset to 8 psi. This switch should not be adjusted unless recommended by DriSteem.

CAUTION

High voltage shock hazard.

FIGURE 17-1: LOW PRESSURE CUT-OUT SWITCH



Operating do's and don'ts

DO

1. Change the cartridge filters regularly.
2. Monitor the system and keep a daily log.
3. Run the system as much as possible, on a continuous basis.
4. Adjust the system recovery to recommend value.

DON'T

1. Permit chlorine in the feed water.
2. Shut down the system for extended periods without preserving the membranes.
3. Close the concentrate control valve completely.
4. Operate the system with insufficient feed flow.

System monitoring and record keeping

The system should be monitored and all pertinent data recorded on a daily basis. This includes cartridge filter pressure in/out, system pressure in/out, flow and water quality (TDS) in/out. Data is needed to determine operating efficiency and for performing system maintenance. The latter includes cleaning of the membranes, adjusting the operating conditions as well as replacement of cartridge filters and RO membranes.

Table 18-1:
Troubleshooting

Issue	Possible Cause	Solution
Inlet pressure low	Low supply pressure	Correct incoming supply pressure
	Cartridge filters plugged	Change filters
	Solenoid valve malfunction	Replace solenoid valve and/or coil
Permeate flow low	Low water temperature	Adjust water temperature
	Low system pressure	Adjust concentrate control valve
	Membranes fouled	Clean membranes
Pump noisy	Low inlet flow	See "Inlet pressure low"
Permeate quality poor	Low inlet flow	Adjust concentrate control valve
	Low system pressure	See "Inlet pressure low"
	Recovery too high	Reduce recovery
	Membranes fouled	Clean membranes
	Membranes damaged	Replace membranes

System operating log

Table 19-1: System operating log							
Date							
Time							
Chlorine							
Cartridge in psi							
Cartridge out psi							
Water temperature							
TDS in							
TDS out							
System psi							
Concentrate psi							
Cartrdige filter change							
Membrane change							
Recorded by							

Notes

Expect quality from the industry leader

Since 1965, DriSteem has led the industry with innovative methods for humidifying and cooling air with precise control. Our focus on ease of ownership is evident in the design of our Water Treatment Systems, which feature low maintenance and comprehensive control. DriSteem also leads the industry with a Two-year Limited Warranty and optional extended warranty.

For more information

www.dristeem.com
sales@dristeem.com

For the most recent product information visit our Web site: www.dristeem.com

DRI-STEEM Corporation
a subsidiary of Research Products Corporation
DriSteem is an ISO 9001:2000 certified company

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Belgium
+3211823595 (voice)
E-mail: dristeem-europe@dristeem.com

Continuous product improvement is a policy of DriSteem; therefore, product features and specifications are subject to change without notice.

Form No. WTS-200-IOM-E-0115
Part No. 890000-870 Rev A

Two-year Limited Warranty

DRI-STEEM Corporation ("DriSteem") warrants to the original user that its products will be free from defects in materials and workmanship for a period of two (2) years after installation or twenty-seven (27) months from the date DriSteem ships such product, whichever date is the earlier.

If any DriSteem product is found to be defective in material or workmanship during the applicable warranty period, DriSteem's entire liability, and the purchaser's sole and exclusive remedy, shall be the repair or replacement of the defective product, or the refund of the purchase price, at DriSteem's election. DriSteem shall not be liable for any costs or expenses, whether direct or indirect, associated with the installation, removal or reinstallation of any defective product. The Limited Warranty does not include cylinder replacement for electrode steam humidifiers.

DriSteem's Limited Warranty shall not be effective or actionable unless there is compliance with all installation and operating instructions furnished by DriSteem, or if the products have been modified or altered without the written consent of DriSteem, or if such products have been subject to accident, misuse, mishandling, tampering, negligence or improper maintenance. Any warranty claim must be submitted to DriSteem in writing within the stated warranty period. Defective parts may be required to be returned to DriSteem.

DriSteem's Limited Warranty is made in lieu of, and DriSteem disclaims all other warranties, whether express or implied, including but not limited to any IMPLIED WARRANTY OF MERCHANTABILITY, ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, any implied warranty arising out of a course of dealing or of performance, custom or usage of trade.

DriSteem SHALL NOT, UNDER ANY CIRCUMSTANCES BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, REVENUE OR BUSINESS) OR DAMAGE OR INJURY TO PERSONS OR PROPERTY IN ANY WAY RELATED TO THE MANUFACTURE OR THE USE OF ITS PRODUCTS. The exclusion applies regardless of whether such damages are sought based on breach of warranty, breach of contract, negligence, strict liability in tort, or any other legal theory, even if DriSteem has notice of the possibility of such damages.

By purchasing DriSteem's products, the purchaser agrees to the terms and conditions of this Limited Warranty.

Extended warranty

The original user may extend the term of the DriSteem Limited Warranty for a limited number of months past the initial applicable warranty period and term provided in the first paragraph of this Limited Warranty. All the terms and conditions of the Limited Warranty during the initial applicable warranty period and term shall apply during any extended term. An extended warranty term of an additional twelve (12) months or twenty four (24) months of coverage may be purchased. The extended warranty term may be purchased until eighteen (18) months after the product is shipped, after which time no extended warranties are available.

Any extension of the Limited Warranty under this program must be in writing, signed by DriSteem, and paid for in full by the purchaser.

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