



2261 S. 1560 W.
Woods Cross, UT 84087
United States of America

OPERATOR'S MANUAL – GWT 4000/8000 Series



Produced by General Water Technologies

Thank you to our loyal customers!

Contact: 888-586-5654 M-F 8:00 AM – 5:00 PM MST (message prompt after hours for emergency response 24/7)

Service: service@genwater.com

Sales: sales@genwater.com

Accounting: accounting@genwater.com

Customer Portal (how-to Videos and ordering consumables):

<https://www.genwater.com/customer-portal>

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Safety References

This water purification system complies with state-of-the-art standards in terms of technology and safety regulations. All parts have been produced and or manufactured by preferred vendors to GWT specifications, and then assembled by GWT personnel (henceforth “supplier”) according to our proprietary design.

The supplier has taken all precautions to ensure safe operation. Users must ensure that the installation is performed in a manner that the method/mode of operation will not be affected. A signature at installation verifies that this is the case. Return visits to amend this placement will be subject to additional fees.

The system is supplier factory-approved and fulfills our safety standards.

Please read the following safety precaution before start-up and comply with them during operation.

The system must be operated by trained staff. Users should read this manual prior to utilizing this equipment.

The user is allowed to carry out only that maintenance work described in this manual or provided at training by the installation team. Only use designated spare parts for maintenance work.

The system must be connected to a fused, grounded power supply.

If leaks in the system become evident, the unit must be isolated immediately from the electrical supply and the fault rectified. If required, inform your suppliers customer service department.

Carry out maintenance and inspections as recommended by the supplier at the recommended intervals to insure user-safety and optimal system performance.

The supplier does not take any responsibility for injuries to users caused by improper application of this system, including negligence or abuse.



Site Requirements

Pre-Site Readiness Verification Form – GWT 4000 Series (Must be complete for delivery and installation of equipment)

Water (Domestic) Feed

- 3/4" Supply/feed line per system
 - 3/4" dedicated line per system
 - 3/4" FNPT ball valve connection from each drop
 - Minimum 50 PSI line pressure
 - Pressure gauge upstream side of ball valve connection for verification always

Drainage

- Floor-drain near system (6 ft or closer preferred)
- Drain capacity of 80-100 l/h per system
- Client indicates if water will be pumped or if floor drain not available

Client may purchase pan and pump kit at additional cost if above is true or accept all liability

Power

- Dedicated 120 VAC/20 AMP

It is the responsibility of the purchaser/user to ensure that all above items are complete prior to installation. Failure to achieve appropriate site readiness can impact performance and result in additional service fees.



Purification Process

The process flow with all components is illustrated on the flow chart (see pg. 9).

When the system is started in normal operation the inlet valve opens and the reverse osmosis pump starts. The inlet valve controls the water supply into the system. When not in operation, the inlet valve closes. The pump stops when:

- The system is switched off
- The permeate tank is completely full
- Inlet water pressure drops, either as a result of:
 - System no longer in operation or;
 - As the result of a low-pressure event. Low pressure events are triggered by lack of sufficient inlet water from your plumbing system or a plugged carbon filter.

The sediment filter (if applicable) and carbon filter absorb organic chemicals like chlorides, insecticides, pesticides and herbicides from the water and removes particles larger than 5 microns.

The reverse osmosis pump increases the input pressure to the operating pressure for the reverse osmosis process. The pressure is indicated with a pressure gauge.

The reverse osmosis modules remove ~ 98% ~ of the water's salt content. Moreover, nearly all bacteria, viruses, heavy metal complexes, and organic materials with a molecular weight exceeding 300 Daltons are rejected. The purified water product is called permeate; the wastewater including all rejected components is called concentrate. The concentrate is then directed to the drain.

The conductivity of the permeate is monitored after the RO stage for purposes of evaluating RO performance. This measurement should not be confused with the final water-quality measurement taken after downstream polishing and prior to delivery to the analyzer.

The system must be connected to a tank with the level control. Permeate production and filling of the RO tank are regulated with this level control. When water is produced to the amount (tank level) that it reaches the top-level control, (100%) the production will be stopped. If the tank level falls under 80%, permeate production will recommence and the tank will again be filled to the maximum level. If the tank level falls below 8%, the distribution pump will automatically shut off to prevent a pump failure.

Permeate is stored in the pure water storage tank. The tank is equipped with a distribution pump. The pump continually circulates the water from the tank through the UV sterilizer. When

instruments go into demand, the water is then pumped through a mixed bed polishing filter and a .2-micron filter before final delivery. The quality of the pure water is measured by a probe and dictated on the system megohm display. Delivery pressure to instrumentation is adjusted with a bypass valve containing a pressure gauge.

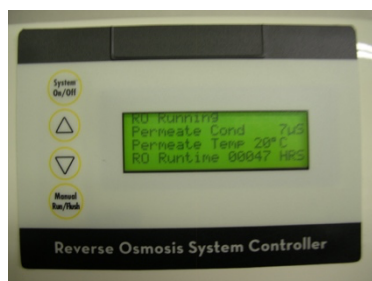
System Features

This water purification system is designed to produce Pure Water out of drinking water from public supply. It unifies purification technologies with Reverse- Osmosis according to the latest developments. The system has to be connected to a tank with level control measurement.

The production rate of pure water is >30 liter per hour with a reduced salt content of 98-99%. Bacteria and particles are rejected for more than 99%. Water quality and tank filling is displayed on the systems screen.

The system runs in the following modes:

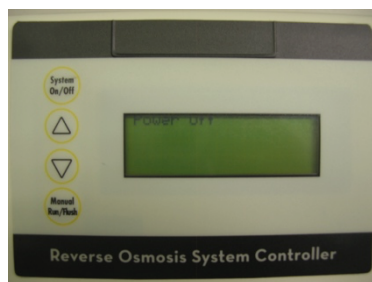
RO RUNNING Mode: Pure water production and tank filling.



TANK FULL Mode: Production is stopped, and the machine is waiting for new water demand.



POWER OFF Mode: Machine has been turned off.

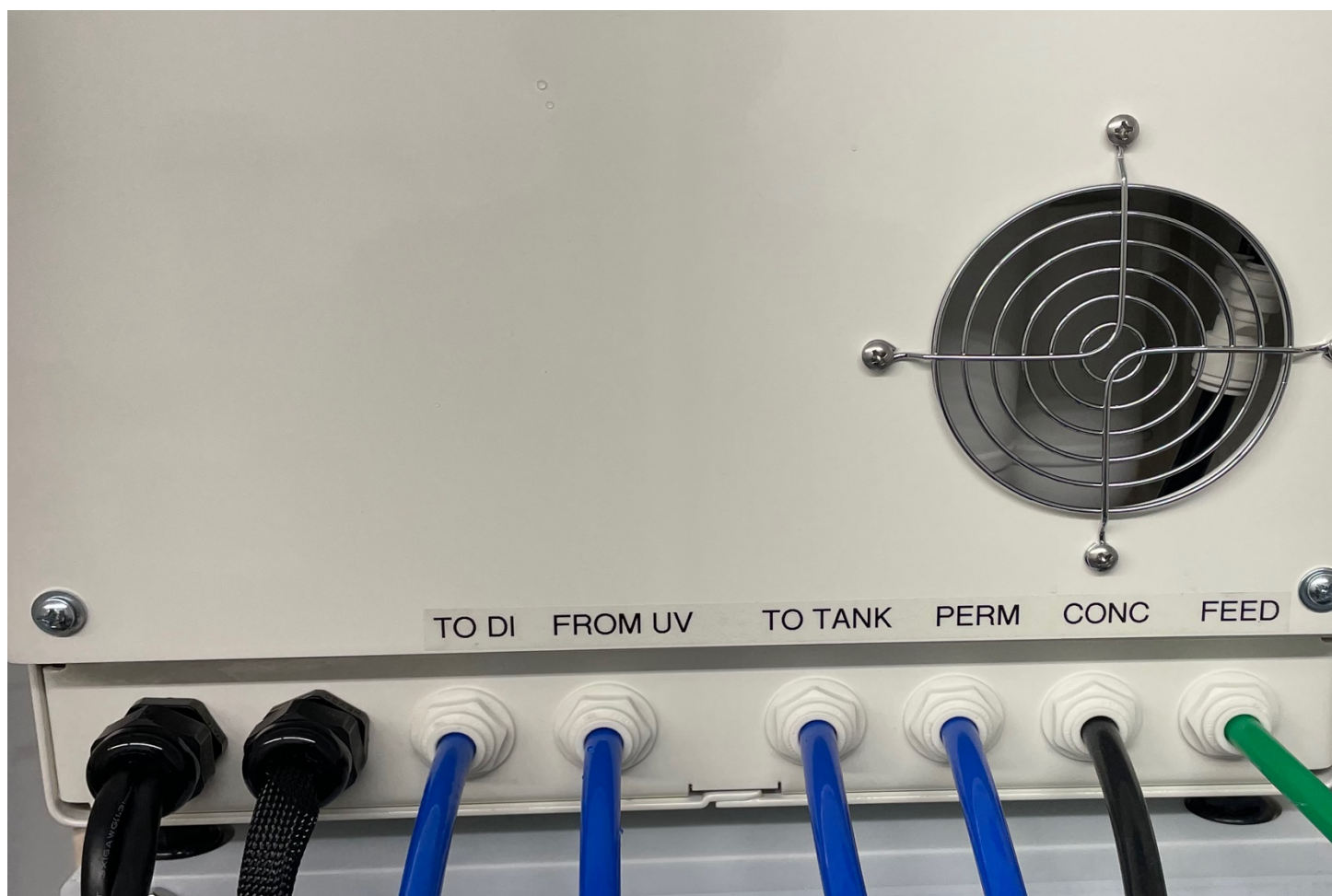


All components of the RO Cabinet are assembled in an aluminum housing. The front door can easily be opened for the access of the modules. The rear panel can be accessed by removing four screws.

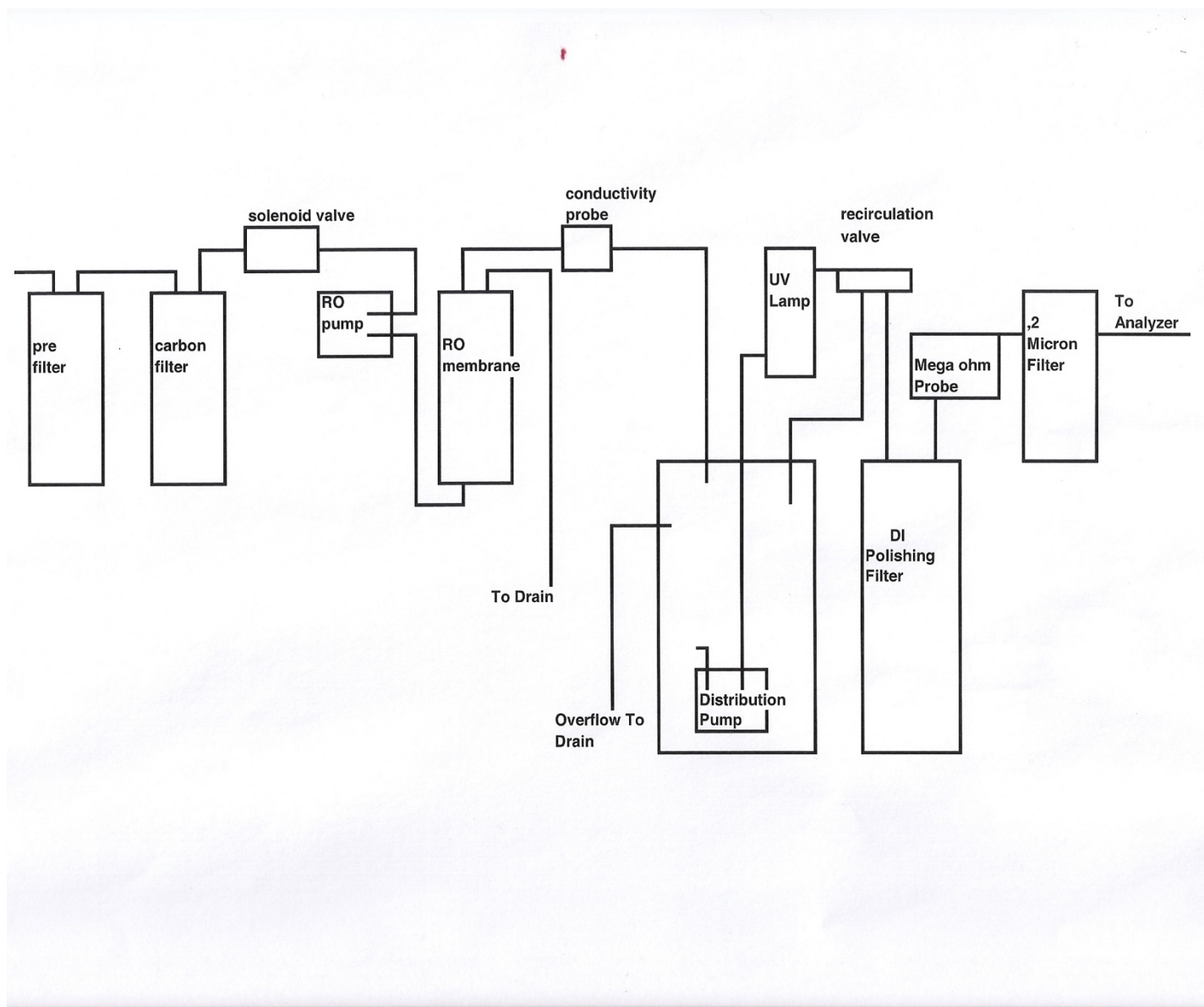
The pure water storage tank is 60 liters and is made of plastic.

This system incorporates a recirculation module. When water is not in demand, it is recirculated from the tank through the UV lamp. The quality of the water being delivered to the analyzer is monitored at the resistivity monitor.

Connections



Flow Chart



General Installation/Operation/Maintenance Requirements and Reminders

1. Water hardness and pure water utilization dictates consumable life.
2. Installation should comply with governing law.
3. John Guest fittings are used throughout the system. To ensure an optimal seal, tubing should be cut square (see directions below). Angled cuts may result in sub-optimal seals and consequent leaks.
4. To install a tube, push it through the collet past the o-ring until it seats firmly. To remove a tube, push in the collet and gently pull out the tube.
5. Install ball valve at inlet water supply near water system.

MAKING A CONNECTION WITH JOHN GUEST FITTINGS

Step 1 – Cut Tubing

Cut the tube square ensuring it is free of score marks. Do NOT use a hacksaw. Avoid damage to the internal o-ring by removing burrs and sharp edges on the tubing.

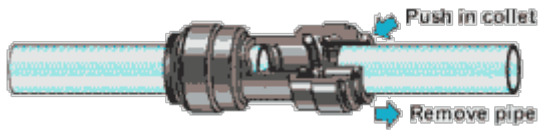
Step 2 – Assemble the Connection

Push the tube into the fitting until secure. The fitting contains stainless steel grippers designed to firmly secure the tubing position. The o-ring provides a permanent leak proof seal. Simply pull on the tube to check it is secure.



Step 3 – Disconnect

Depressurize the line before removing the tube. Push in the collet (ring closest to tube) squarely against the face of the fitting. The tube can be removed when the collet is pushed in. The fitting can be re-used.



DI Canister Exchange

1. Turn the delivery pump off
2. Relieve canister pressure by opening relief valve (black tube on top of di canister) and be sure to have a container ready for excess or spilled water.
3. Remove inlet & outlet connections from DI canister. (Remove at the 2" black connections)
4. Place inlet tube from exhausted DI canister to inlet of replacement canister and the outlet tube from exhausted DI canister to outlet of replacement canister.
5. Remove air relief valve from the top of exhausted DI canister and install on replacement canister.
6. Turn delivery pump back on.
7. Open air relief valve on top of replacement DI canister until a steady flow of water is present.
8. Close air relief valve.
9. Open dispense tap until you have a steady flow of water.
10. Close dispense tap.
11. System is ready.



How To Change Sediment/ Carbon Filter

1. Turn off production pump.
2. Turn off supply water.
3. Remove filter housing by turning counterclockwise.
4. Pull out filter and rinse filter housing.
5. Install new filter in housing.
6. Install filter housing by turning housing clockwise until tight.
7. Turn on supply water and check for leaks.
8. Turn on production pump.



Recommended Filter & Membrane Replacement Schedule

FILTER

RO Membrane (replaced by GWT)

.2 Micron Germ Filter (replaced by GWT)

Carbon block filters and DI canisters are replaced by customer

Carbon Block (when they turn brown or are plugged)

DI Canister

Change as your own standard operating procedure dictates. GWT recommends:

- Type 1 water = 10.0-18.2 meg-ohm (replace when it drops below 10 megohm)
- Type II water = 1-18.2 meg-ohm (replace when it drops below 1 megohm)

*Replacement frequency depends on feed water quality and pure water usage.

System Control Display

Specifications

Power: 120VAC -15+10%, 60Hz, 25 Watts

Environment: -22 F to 140 F, 0-95% RH, noncondensing

Enclosure: 5 1/2" X 4"

Display: 4 Line X 20-character, backlit LCD

Front Panel: Overlay with LCD window, alarm lamp, Keypad

Understanding the Permeate Reading

The system control display includes a permeate water quality reading, typically expressed in microsiemens (μS). This reading measures the conductivity of the water after it has passed through the reverse osmosis (RO) membranes and before it enters the storage tank.

The permeate reading is not a measurement of the final water quality being delivered to the connected laboratory instrument. After RO treatment, the permeate is stored in the system tank and subsequently undergoes additional treatment, including UV exposure, mixed-bed deionization (DI) polishing, and final filtration before delivery to the instrument.

Final delivered water quality is monitored separately by the system's resistivity/megohm measurement. The permeate reading is provided primarily as a system performance and service diagnostic tool. General Water Technologies uses this measurement to evaluate RO membrane performance, identify changes in incoming or RO-treated water quality, and help anticipate future maintenance or service requirements.

Because permeate conductivity can vary based upon incoming feed-water quality and other operating conditions, changes in the permeate reading do not, by themselves, indicate that the system is delivering water outside of the required final water-quality specification.



Daily Checklist

Month _____ Year _____

Serial # _____

*Please contact General Water Technologies 801-294-2426 with any questions.

Date	Product Mohm*cm Range 10.0 - 18.2	Permeate, μS/cm Range 0.0 - 50.0	Runtime	Color of Carbon Filters (Change at dark brown or low pressure message)			CLS Initials
1	Changed?			Left	Right	Changed?	
2	Changed?			Left	Right	Changed?	
3	Changed?			Left	Right	Changed?	
4	Changed?			Left	Right	Changed?	
5	Changed?			Left	Right	Changed?	
6	Changed?			Left	Right	Changed?	
7	Changed?			Left	Right	Changed?	
8	Changed?			Left	Right	Changed?	
9	Changed?			Left	Right	Changed?	
10	Changed?			Left	Right	Changed?	
11	Changed?			Left	Right	Changed?	
12	Changed?			Left	Right	Changed?	
13	Changed?			Left	Right	Changed?	
14	Changed?			Left	Right	Changed?	
15	Changed?			Left	Right	Changed?	
16	Changed?			Left	Right	Changed?	
17	Changed?			Left	Right	Changed?	
18	Changed?			Left	Right	Changed?	
19	Changed?			Left	Right	Changed?	
20	Changed?			Left	Right	Changed?	
21	Changed?			Left	Right	Changed?	
22	Changed?			Left	Right	Changed?	
23	Changed?			Left	Right	Changed?	
24	Changed?			Left	Right	Changed?	
25	Changed?			Left	Right	Changed?	
26	Changed?			Left	Right	Changed?	
27	Changed?			Left	Right	Changed?	
28	Changed?			Left	Right	Changed?	
29	Changed?			Left	Right	Changed?	
30	Changed?			Left	Right	Changed?	
31	Changed?			Left	Right	Changed?	

Document Control

Document Owner	Effective Date	Last Reviewed	Version
Head of Services and Installations	08/24/2026	08/24/2026	1.5