

# GROWONIX

TUNED FOR GROWING



## GX1000 OWNERS MANUAL

[WWW.GROWONIX.COM](http://WWW.GROWONIX.COM)



Built in the U.S.A.

# INTRODUCTION

## OUR MISSION

Durability, Reliability, Efficiency, Purity, and Conservation form the foundation on which we design and build all of our products. Consistent and superior quality sets us apart from other manufacturers and increases our value to you - our customer. Whether you are a hydroponics hobbyist, serious enthusiast, or large-scale gardener, GrowoniX is committed to bringing you the best solution for water purification systems.

## WHAT IS REVERSE OSMOSIS?

Reverse osmosis (RO) is a filtration method that removes many types of large molecules and ions from solutions by applying pressure to the solution when it is on one side of a selective membrane. This filtering process ensures that the solute (waste water) is contained within the pressurized chamber while the pure solvent (RO water) is allowed to pass freely through the membrane.

## TUNED FOR GROWING - IN TUNE WITH OUR CUSTOMERS

Traditional RO systems have waste ratios of approximately 4:1, which means there are 4 gallons of waste water produced for every 1 gallon of purified water. GrowoniX line of water filters achieve waste ratios of 2:1 with all 200-400 GPD systems, and an astounding 1:1 ratio with the 600-1000 GPD systems.

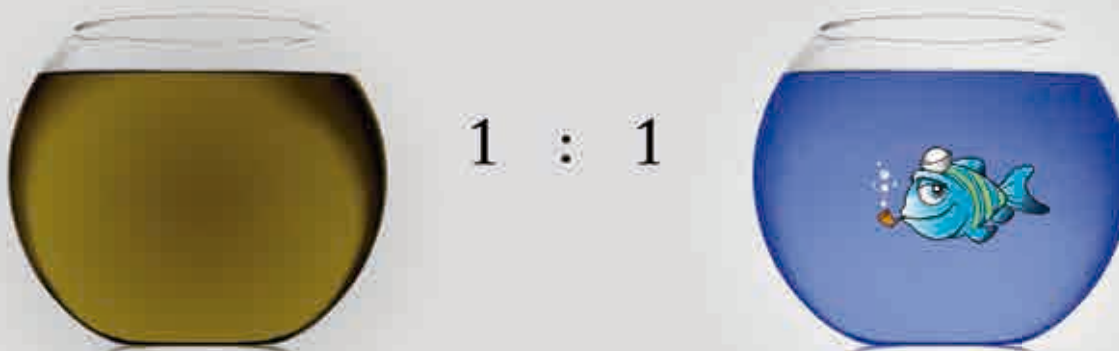
GrowoniX has created a complete product line that will address the needs of hydroponic operations of all sizes. Our filters will significantly reduce your water use while dramatically increasing your yields.

### THE TRADITIONAL WAY









takes 4 gallons of waste water to produce 1 gallon of pure water



### THE GROWONIX WAY



# FEATURES

- 
**HIGH FLOW COLD WATER MEMBRANE ELEMENTS.**
- 
**1:1 SYSTEM RATIO—THE MOST EFFICIENT IN THE INDUSTRY.**
- 
**ELECTROGALVANIZED POWDER COATED STEEL BRACKETS.**
- 
**MEMBRANE FLUSH KIT.**
- 
**2.5" STAINLESS STEEL LIQUID FILLED GAUGES.**
- 
**CARBON FILTER RATED FOR 17,000 TOTAL GALS , OR 8500 GALS OF PURIFIED WATER.**
- 
**HIGH FLOW PLEATED SEDIMENT FILTER, COMPLETELY WASHABLE AND REUSABLE.**
- 
**AUTO SHUTOFF VALVE: FOR POSITIVE AUTOMATIC SHUTOFF WHEN USING A FLOAT VALVE.**



## WHY USE A GROWONIX GX1000 SERIES?

The strategy behind the GX1000 is simple—make the highest quality, most efficient water filter, tuned specifically to meet the rigors of the industry. Each filter system is designed, hand built, and tested right here in the United States, using American made, top-of-the-line fittings and tubing. All components are housed in steel powder-coated brackets fabricated in sunny Los Angeles, California.

The crown jewel of the GX Line is the GXM High Flow membrane element, delivering a consistent rejection of 97% at a 1:1 ratio. No matter how big or small your water production needs are, the GX Line has a solution for you. Designed to flow 42 gallons per hour of pure RO water with an astounding 1:1 ratio—High flow rates and water savings never before seen in a package so affordable and durable. Utilizing the best membrane technology in the world, mounted on locking casters, and wrapped in our GX Series patented bracketing system, our premier flagship is a mobile powerhouse.

A pair of liquid-filled stainless steel pressure gauges informs when it's time to change the pre-filters. A manual flush valve allows you to clean the membrane, purging out pollutants that could otherwise add buildup to the system—flushing adds considerable life to the membrane as well. For those who demand even more performance, the GX1000 can be used with a booster pump, raising the system pressure to 150psi, doubling the gallon per day output.

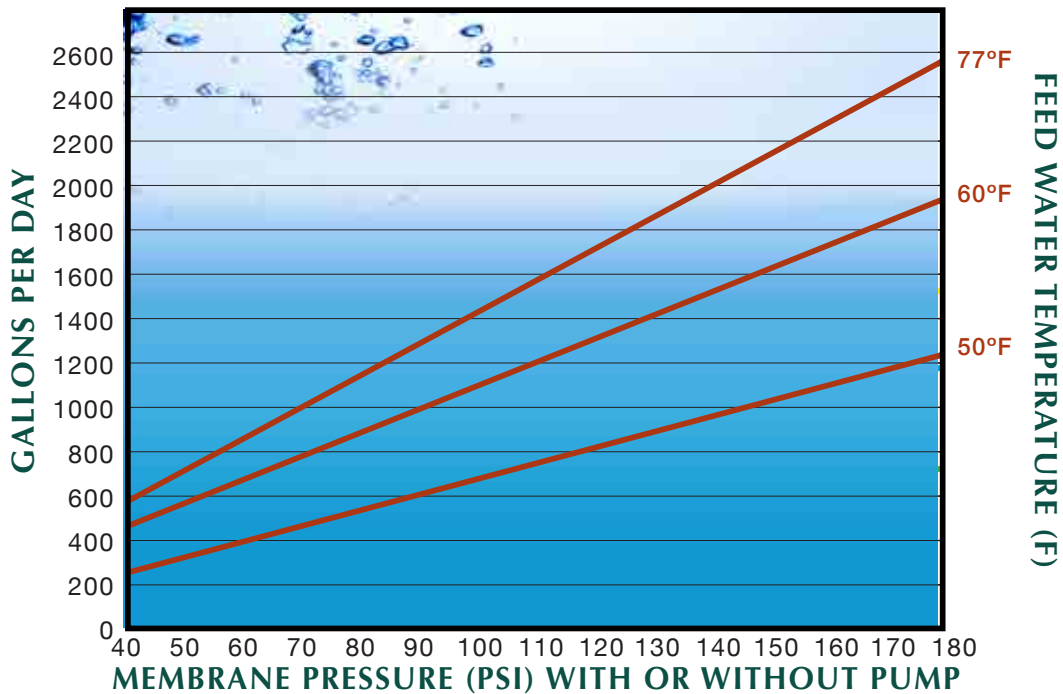


No Assembly Required



PART #	FLOW RATE	CARBON CAPACITY TOTAL GALLONS	BOOSTER PUMP
GX1000	1000 GPD	17,000	BP-6010-CH, BP-6010, BP-1000

# HF FLOW RATES



Test Conditions: Permeate flow and salt rejection based on 550 ppm, 80 psi, 77°F (25°C), pH 7, and 50% recovery.

## SYSTEM SPECIFICATIONS

Recovery (System Ratio)	50% (1:1)
Nominal Salt Rejection %	97%
Permeate Flow GPD	1000
Permeate Flow GPH	42
Min Feed Flow GPM	1.39
Max Feed Water TDS	<2000
Max Feed Temp °F (°C)	100 (37.77)
Min Feed Temp °F (°C)	40 (4.44)
Max Ambient Temp °F (°C)	115 (46.11)
Min Ambient Temp °F (°C)	40 (4.44)
Max Feed Pressure psi	80
Min Feed Pressure psi	40
Max SDI Rating SDI	<3
Mad TDS ppm	2000
Max Hardness gpg	0
Max pH (Continuous)	10
Min pH (Continuous)	3
Max Turbidity NTU	1
Feed inch	3/4" FGH (3/4 FNPT)
Permeate inch	3/8" Tube
Concentrate inch	3/8" Tube
Dimensions L x W x H inch	21" x 9" x 28"
Weight lbs	50

# ACCESSORIES

**BP-6010-CH** *Splash Guard chassis version connects directly to the GX1000.*



- DOUBLES pure water production for all 600-1000 GPD systems— MAX 2000 GPD.
- Only needs 30psi of incoming water pressure to produce the full flow rate.
- Low-pressure cutoff to safeguard against a loss of incoming water pressure
- Stainless steel liquid-filled 300 psi pressure gauge.
- Manually controlled or automated with our ESOK electric shutoff kit.

**BP-6010** *Non-chassis version is wall or table mount.*

**ESOK-34** *Electric Shut Off Kit*



- An essential add-on to any water filter.
- Shuts down feed water BEFORE the water filter.
- Controls on/off cycling of high pressure booster pumps.
- 120VAC piggyback cable, 20ft.
- Solenoid valve with manual override for failsafe water-making.

**FlowBox-1000** *Adjustable System Ratios*



- GrowoniX FlowBox is a componential add-on to any EX/GX1000 that utilizes a BP Series booster pump.
- Equipped with highly accurate liquid flow-meters, the FlowBox allows for custom fine-tuning of the system ratio.
- Run your system at any ratio from 5:1 to 1:1. Keep a perfect 1:1 all year round with a FlowBox.
- Flush the system with a simple twist of the stainless steel needle valve.
- Allows for removal of the standard drain/flush assembly.
- Mounts atop the EX/GX1000 series chassis for easy viewing and adjusting. Easy wall mounting as well.

**EP-2** *Delivery Pump*



- 7 GPM delivery pump.
- High pressure cutoff, automatically shuts off when used with a solenoid valve, ball valve, float valve, or watering wand etc...
- Transfer water from storage tanks to batch tanks.
- Siphons water up to 12' in elevation.
- Able to run dry intermittently and slurp.
- Thermal shutdown to protect against overheating.

# EX1000 REPLACEMENT WATER FILTERS

Product	Sediment	Carbon	Membrane	Ultraviolet
GX1000	SF-4510-PL	CF-4510-CC	GXM-1000-HR	UV-6010
	SF-4510-SP	CF-4510-GB	GXM-1000-HF	
		CF-4510-KDF		

*\*Blue color indicates filters installed in unit.*

*\*Green color indicates optional filters.*

*\*Chloramine removal requires the KDF85 carbon filter.*

\*GX1000 CARBON FILTER RATED AT 17,000 GALS TOTAL CAPACITY, OR 8,500 GALS OF FILTERED WATER AT 2:1 RATIO.

## FILTER INDEX



### **GXM HIGH FLOW COLD WATER MEMBRANES**

Highest flowing ultra-low-energy membranes on the planet—with the lowest waste ratio.



### **KDF85/CATALYTIC ACTIVATED CARBON FILTER**

Premium carbon filter using the best catalytic activated carbon with a bed of KDF85 media. There's no better carbon filter available.



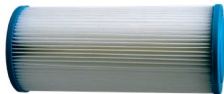
### **COCONUT CARBON FILTER—“GREEN BLOCK”**

Premium coco carbon, produced using eco-friendly low emissions processes



### **COCONUT CARBON FILTER—“WHITE BLOCK”**

Economy coco carbon, same performance as Green Block, for a little less money.



### **PLEATED SEDIMENT FILTER**

High flow washable sediment filters with ultra low pressure drop.



### **SPUN SEDIMENT FILTER**

Spun poly sediment filters with huge dirt holding capacity and a little more pressure drop.



### **UV STERILIZATION**

Kills 99.9% bacteria and viruses.



### **ALKALINE INLINE**

Inline filter adds calcium & magnesium to filtered water, and raises the Ph.



### **REMINERALIZING INLINE**

Inline filter adds calcium & magnesium to filtered water.



### **DI INLINE**

De-Ionization filter removes last bit of PPM.

# PRECAUTIONS

\* Do not use unit with inlet water pressure exceeding 80 psi. If inlet water pressure is too high, install water pressure regulator before the unit. Pressure regulators are available at [GrowoniX.com](http://GrowoniX.com) or your local plumbing supply. \*

A minimum of 40 psi is recommended to operate GrowoniX water filters. If your inlet water pressure is too low, a booster pump can be used to increase pressure.

Slower performance may be noted in areas with colder temperatures, higher water salinity, or lower inlet water pressure.

Keep unit away from direct light. Direct light can cause algae and other biologicals to grow inside of the filter housings.

Do not install unit near electrical outlets or electrical devices.

Do not install in places where a leak can cause damage.

Do not use a flow restrictor other than the one included with your unit.

## INFORMATION ON QUICK CONNECT FITTINGS

GROWONIX WATER FILTERS USE QUICK CONNECT FITTINGS THAT ALLOW FOR EASY MAINTENANCE.

### MAKE A CLEAN TUBE CUT

Cut the tube squarely and if using plastic tubing, ensure that the cut has not made the tube out of round.

Also ensure that the tube has a smooth outside diameter without any burrs or score marks prior to inserting it into the fitting.

### INSERT TUBE INTO FITTING

Push the tubing through the collet and dual o-rings until it bottoms out against the tube stop. The collet holds the tube in place and the dual o-rings provide a leak resistant seal.

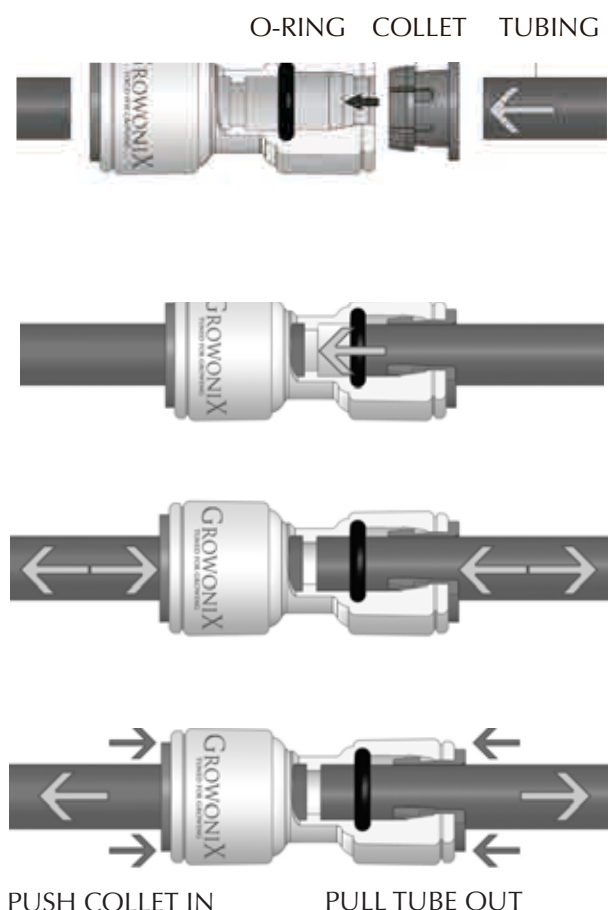
### TEST AND INSPECT

Push and pull the tubing toward and away from the fitting to ensure that it has been installed properly.

Test and inspect the installation for any leaks.

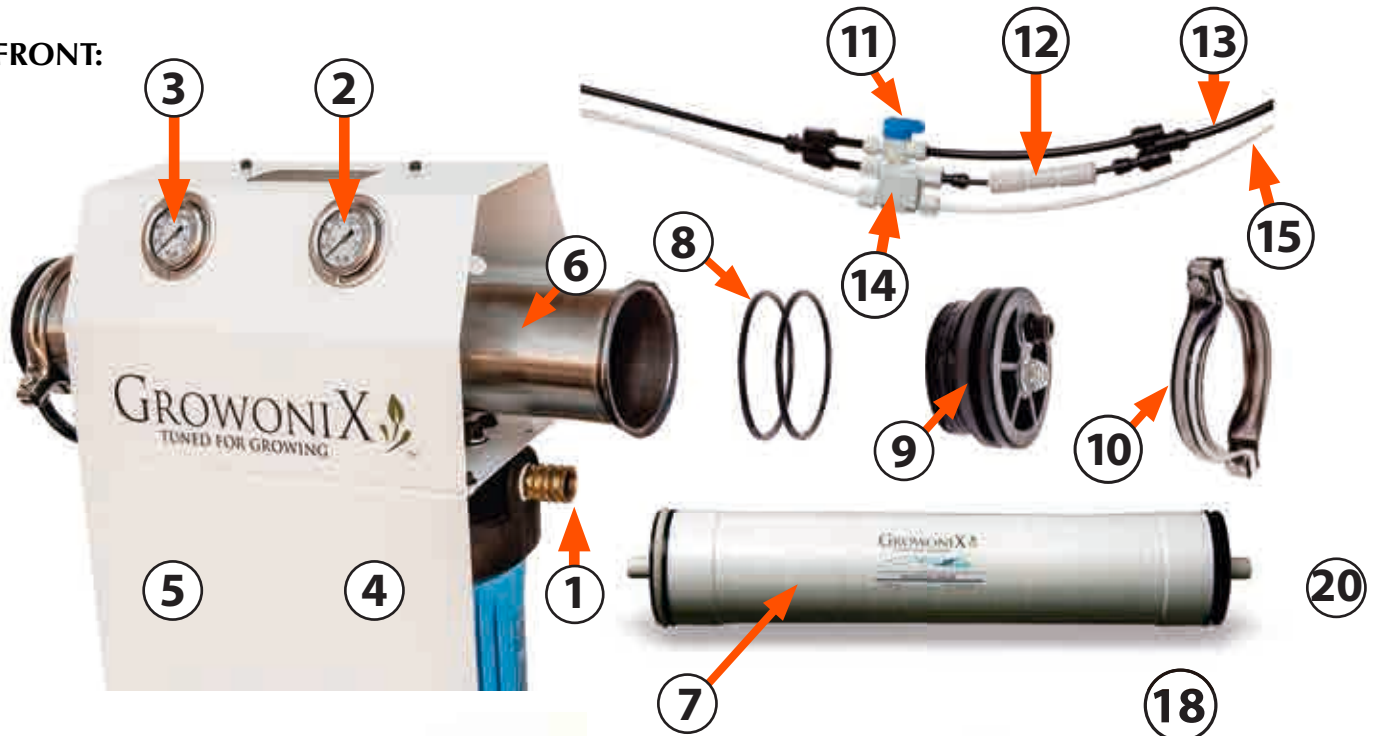
### TUBE REMOVAL

Relieve pressure from the tubing and fitting. Push uniformly around the collet flange against the fitting body while pulling the tubing away from the fitting to release it.

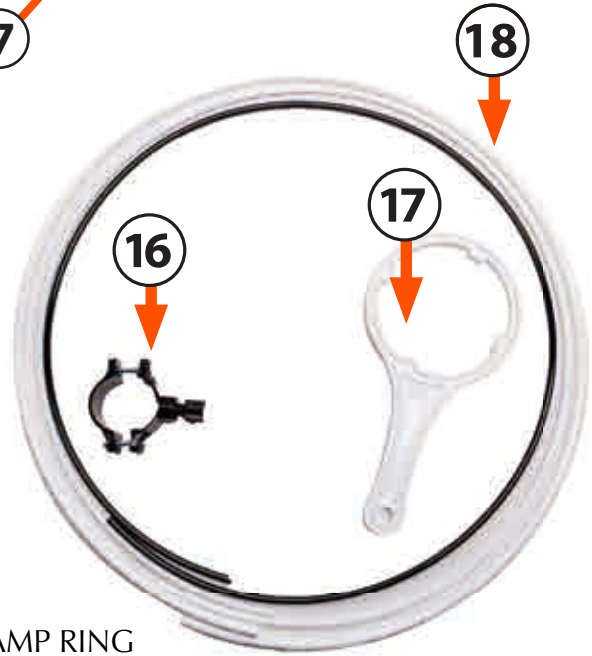
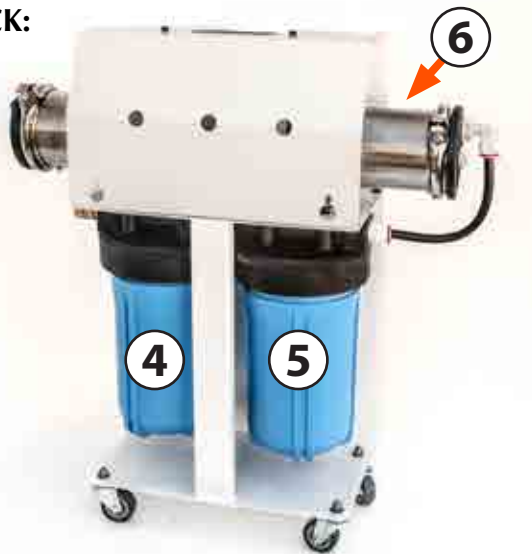


# COMPONENT DIAGRAM

FRONT:



BACK:



1. SUPPLY WATER IN
2. INPUT PRESSURE GAUGE
3. OUTPUT PRESSURE GAUGE
4. SEDIMENT FILTER
5. CARBON FILTER
6. RO MEMBRANE HOUSING
7. RO MEMBRANE
8. O-RINGS
9. END CAP

10. SS CLAMP RING
11. FLUSH VALVE
12. FLOW RESTRICTOR
13. DRAIN/WASTE WATER OUT
14. AUTO-SHUTOFF VALVE
15. RO WATER OUT
16. DRAIN SADDLE CLAMP
17. FILTER WRENCH
18. RO AND DRAIN TUBING

A "FLUSHKIT" IS COMPRISED OF PARTS 11-15 AND IS MENTIONED THROUGHOUT THIS MANUAL.

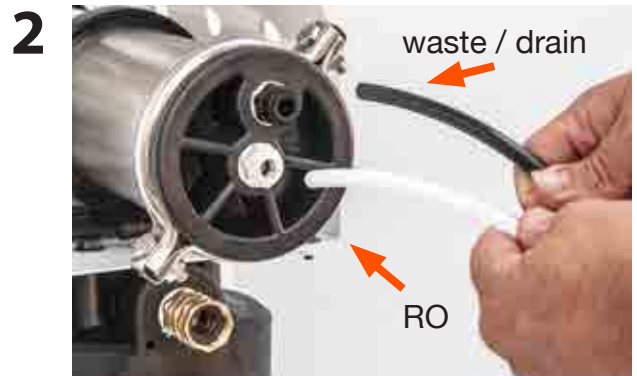


# SETUP INSTRUCTIONS

- Always turn incoming water pressure off before servicing the unit.
- Always turn incoming water pressure on slowly, allowing all air to be discharged from the system before full water pressure is restored.
- GrowoniX GX1000 water filters are designed to be used with between 40-80 psi of incoming water pressure. Do not exceed 80 psi of incoming water pressure.
- If incoming water pressure is too high, install pressure regulator before unit.
- It is recommended to flush the carbon filter and membrane upon initial startup. (see following instructions)



Connect the inlet water supply. This example shows a 3/4" garden hose connected to the supplied hose union. Hose fittings can be removed to allow for 3/4" NPT pipe connections.



Connect the RO and drain tubing (flush-kit) to the membrane housing as shown. Make sure the tubing is seated completely into the O-rings of the quick-connect fitting.



Mount the drain clamp to an available drain pipe. Only insert the tubing halfway into the drain pipe—do not bottom out. Connect other end of drain tubing to the included drain clamp.



Make sure the flush valve is in the open position as shown above. ***This position is only for flushing the RO membrane.***

**BEFORE TURNING INCOMING WATER SUPPLY ON, REFER TO NEXT STEP "FLUSHING THE KDF85 CARBON FILTER" ON THE NEXT PAGE.**



# FLUSHING THE KDF85 CARBON FILTER

Growonix GX1000 water filters can be upgraded with a KDF85 Catalytic Carbon Pre-Filter. The "KDF" carbon filter is a superior blend of highly reactive catalytic carbon and KDF85 process media used to remove/reduce iron, hydrogen sulfide, chlorine, chloramine, bacteria, scale, and algae.

The catalytic carbon in these filters is in a loose form, and thus will discharge a small amount of carbon dust upon initial startup. It is recommended to unhook the membrane input side and flush 40 gallons of water through the carbon filter before re-connecting to the RO membrane. This will ensure no dust gets into the membrane, causing premature fouling.

1

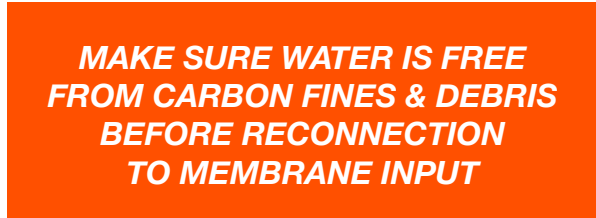


With the system OFF and depressurized, disconnect the stem elbow fitting from the membrane input.

2



Position the fitting over a drain or bucket, and slowly turn on the incoming water pressure. Flush 20 gallons of water before reconnecting to the membrane input or optional booster pump input.

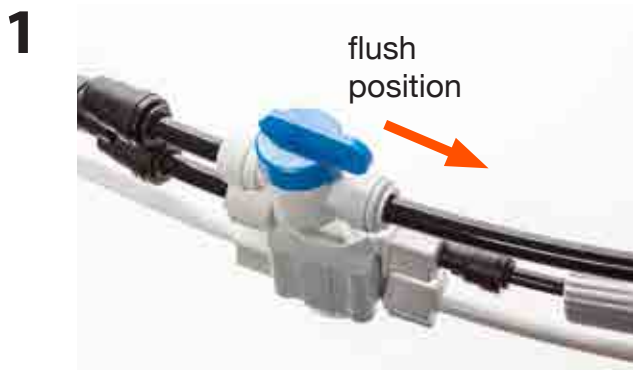


\*CARBON FILTER RATED AT 17,000 GALS TOTAL CAPACITY, OR 8,500 GALS OF FILTERED WATER AT 1:1 RATIO.

# FLUSHING THE MEMBRANE ELEMENT

Growonix GX1000 water filters come with a manual flush valve. Flushing the membrane element after each use for approximately 3-5 minutes will remove standing salts from the membrane, significantly extending membrane life. Even weekly flushes will improve membrane life and system performance.

The flush valve is located on the waste line of the RO membrane. To flush the membrane simply turn the flush valve to the FLUSH position as seen in picture 1. High-pressure water will bypass the flow restrictor and shutoff valve and be sent down the drain, carrying membrane pollutants with it. If using a float valve and the system happens to be OFF due to valve engagement, opening the flush valve will start the system again in flush mode, and the membrane will be cleaned.



While the system is running, open the valve to the FLUSH position.



Let the system run for 3-5 minutes.



After flushing is complete, simply turn the flush valve to the CLOSED position. The membrane has been flushed.

# REPLACING THE PRE-FILTERS

- 🌱 Sediment filters should be changed when either brown discoloration occurs, or system flow rates have significantly declined.
- 🌱 Carbon filters have a gallon count: 17,000 gals total capacity, or 8,500 gals of filtered water at 1:1 ratio for the GX1000.
- 🌱 Always turn incoming water pressure off before servicing the unit.
- 🌱 Always turn incoming water pressure on slowly, allowing all air to be discharged before full water pressure is restored.

## CHLORINE/CHLORAMINE REMOVAL CHART (CHLORAMINE REMOVAL REQUIRES A KDF CARBON FILTER)

PART #	TOTAL GALLONS (DRAINS & PURIFIED)	PURIFIED WATER GALLONS AT 1:1 RATIO
GX1000	17,000	8,500

\*GX1000 CARBON FILTER RATED AT 17,000 GALS TOTAL CAPACITY, OR 8,500 GALS OF FILTERED WATER AT 1:1 RATIO.

## DETERMINING PRESSURE DROP VIA DUAL GAUGES

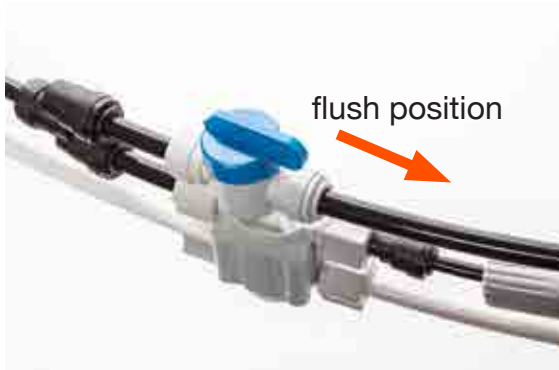


**When using a BP-6010 booster pump,** the table below displays pressure gauge readings that will assist you in knowing when to change pre-filters. Pre-filters should be changed when the output pressure gauge reads 30% lower than input pressure gauge (30% pressure differential). The pressure differential is really “pressure drop” caused by dirty pre-filters. Just another method aside from gallon counting to know when a filter change is needed.

INPUT PRESSURE GAUGE	OUTPUT PRESSURE GAUGE	PRESSURE DIFFERENTIAL
80	56	30%
75	53	30%
70	49	30%
65	45	30%
60	42	30%
55	38	30%
50	35	30%
45	31	30%
40	28	30%

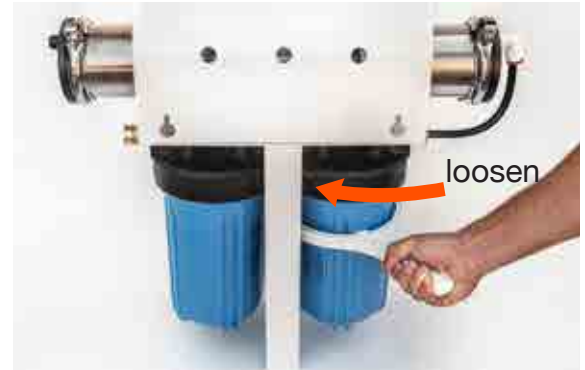
# REPLACING THE PRE-FILTERS

1



Turn off the incoming water supply. Then open the flush valve to relieve system pressure.

2



Loosen the pre-filter housings using the supplied filter wrench. Empty standing water and remove the old pre-filters. Clean the interior of the housings to remove sediment and debris.

3



Install the new sediment and carbon cartridges, making sure the sediment cartridge is installed into the housing closest to the input-side of the unit.

4



Grease the O-rings with food grade silicone grease.

5



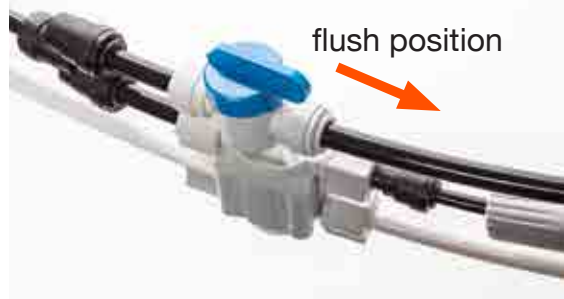
Tighten the housings with the supplied filter wrench. Close the flush valve and begin normal usage. **If a KDF85 carbon filter is being used, make sure to flush the KDF carbon filter before connecting to the membrane input.** (see section: Flushing The KDF85 Carbon Filter)



# REPLACING THE MEMBRANE ELEMENT

- Before servicing membrane element system must be de-pressurized. To de-pressurize the GX1000, turn incoming water supply completely OFF and open the flush valve.
- It is suggested that you replace sediment and carbon pre-filters as well when replacing membrane element.
- After replacing membrane turn incoming water pressure on slowly, allowing all air to be discharged before full water pressure is restored.
- End-caps can be difficult to re-install. To aid in installation, apply continuous pressure to end cap. Do not strike the end cap.

1



Turn the incoming water supply OFF and open the flush valve to depressurize the system.

2



Make sure to depress the collet while pulling the stem outward.

3



Remove the stem elbow from the input side of the membrane housing.

4



Using a socket or wrench, remove the end clamp retaining bolts.

# REPLACING THE MEMBRANE ELEMENT



Remove the stainless clamp.



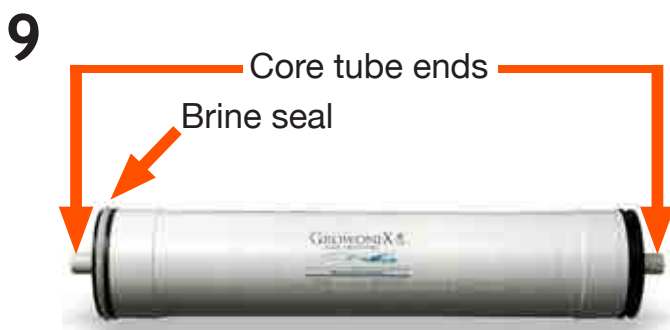
Remove the end-cap and slide the membrane out.



Pull the old membrane element out towards the input side of the membrane housing.



Clean the inside of the membrane housing to remove buildup and debris.



Prepare the new membrane element by applying food grade silicone grease to the membrane brine seal, and both ends of the core tube.



Insert the membrane element into membrane housing, making sure that the brine seal goes in last.

# REPLACING THE MEMBRANE ELEMENT

11



Newly seated membrane element.

12



Grease the brine seal and end-cap center hole with food grade silicone grease.

13



Seat the end-cap back into the input side of the membrane housing.

14



Replace the stainless clamp on the input side of the membrane housing.

15



Tighten the stainless clamp retaining bolts evenly.



17 Turn incoming water supply ON slowly, allowing air to be discharged, before full water pressure is restored. Let system run in "Flush Mode" for 30 minutes to clear new membrane element. After 30 minutes, close flush valve and begin normal usage. Enjoy.

# SPECIFICATIONS CHART

## PLEATED SEDIMENT FILTER 4.5 " DIAMETER

### Materials of Construction:

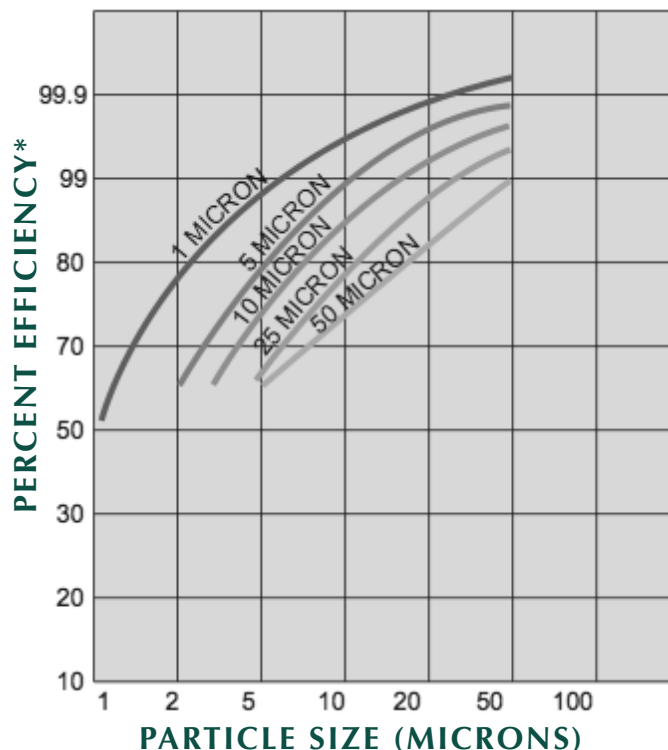
- Filter Media
- End Caps
- Core
- Temperature Rating
- Non-woven Polyester
- Vinyl Plastisol
- Polypropylene
- 40°F to 125°F (4.4°C to 51.7°C)

### Size Description:

- EX1000 4 1/2" X 10"
- EX1000-T 4 1/2" X 20"

### Initial AP (PSI) @ Flow Rate (GPM):

- 1 PSI @ 10 GPM (.01 bar @ 38 L/min)



## FILTER HOUSINGS

### Materials of Construction:

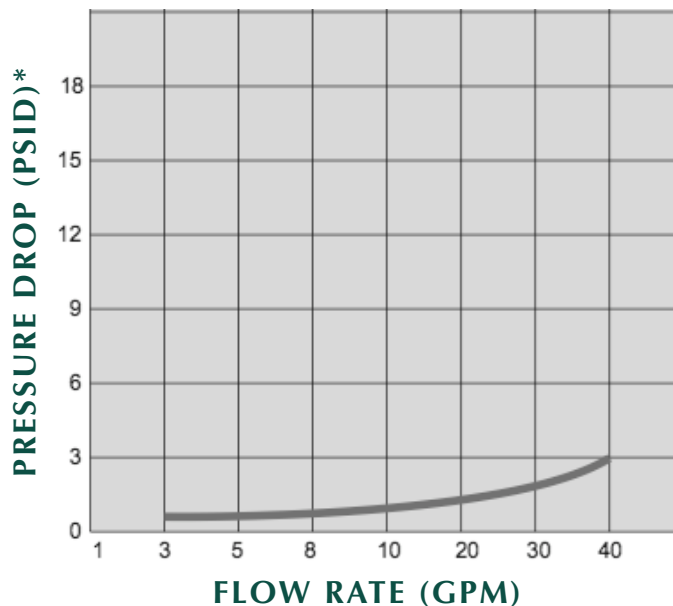
- Housing: Polypropylene
- Cap: Polypropylene
- Button Assembly: Stainless Steel, EPDM & Polypropylene
- O-Ring: Buna-N

### Maximum Dimensions:

- 13-1/2" X 7-1/4"

### Initial AP (PSI) @ Flow Rate (GPM):

- 1 PSI @ 30 GPM



## MEMBRANE HOUSINGS

### Materials:

- NSF Stainless Steel
- NSF Approved EPR O-Rings
- 1/2" Ports

### Specifications:

- Maximum Operating Pressure: 150 PSI
- Maximum Operating Temperature: 110°F
- Minimum Operating Temperature: 35°F



# SPECIFICATIONS CHART

## MEMBRANE ELEMENT

### Operating Limits:

- Membrane Type: Thin film composite
- Maximum Operating Temperature: 110°F (43°C)
- Minimum Concentrate Flow Rate: 5:1
- pH Range, Continuous Operation: 3-10
- pH Range, Short term cleaning (30 min): 1-12
- Maximum Feed Water Turbidity: 1 NTU
- Maximum Feed Silt Density Index (SDI): 5 SDI
- Chlorine Tolerance: 0 PPM

### Features:

- High Flow (HF) Ultra Low Pressure Membrane Material
- Tape Over Wrap
- Available Wet Tested
- Made in the U.S.A

### Applied Pressure PSI (BAR)

- 1000 GPD: 8.0 (5.52)

### Maximum Pressure PSI (BAR)

- 1000 GPD: 400 (27.58)

### Permeate Flow rate GPD

- 1000 GPD: 1000

### Nominal Salt Rejection

- 97%

## CARBON FILTER CARTRIDGE

### Materials:

- Filter Media: Granular activated carbon
- Outer Shell: Polyethylene
- End Caps: Polypropylene
- Gasket: Buna-N
- Inner Wraps/Core: Polypropylene
- Temperature Rating: 40 - 125°F (4.4 - 51.7°C)

### Maximum Dimensions:

- EX1000 4 1/2" X 10"
- EX1000-T 4 1/2" X 20"

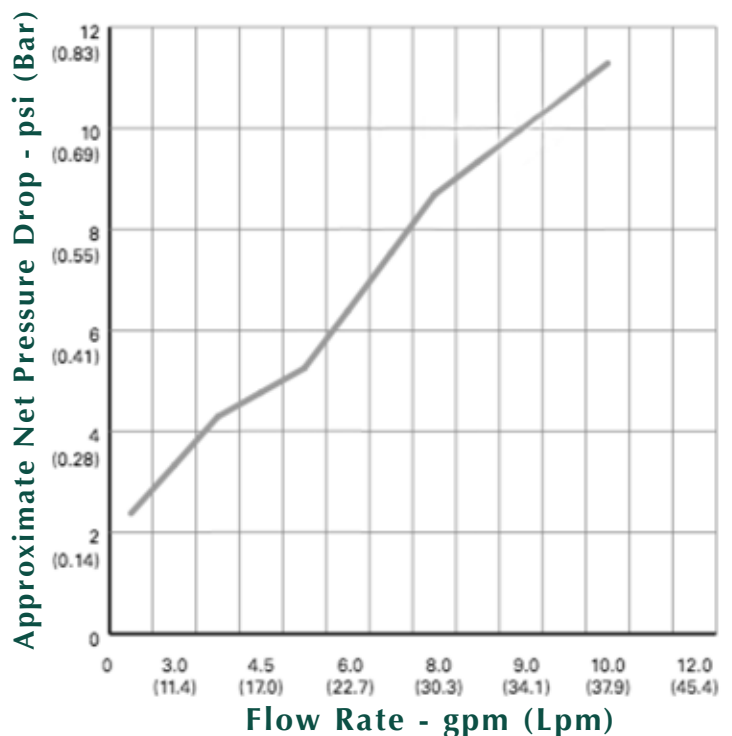
### Initial AP (PSI) @ Flow Rate (GPM):

- 0.90 PSI @ 4 GPM (.06 bar @ 15.1 L/m)

### Chlorine, Taste, Odor

### Reduction Capacity Flow

- >70,000 gallons @ 4 GPM (265,000L @ 15.1 LPM)



# REVERSE OSMOSIS SYSTEM WARRANTY

For a period of one year from the date of original purchase, we will replace or repair any part of the GrowoniX reverse osmosis water system that we find to be defective in operation due to faulty materials or workmanship with the exception of the replaceable filters and membranes.

## GENERAL CONDITIONS

Damage to any part of this reverse osmosis system because of misuse; misapplication; negligence; alteration; accident; installation; or operation contrary to our instructions, incompatibility with accessories not installed by GrowoniX, or damage caused by freezing, flood, fire, or Act of God, is not covered by this warranty. In all such cases, regular charges will apply. This limited warranty does not include service to diagnose a claimed malfunction in this unit. This warranty is void if the claimer is not the original purchaser of the unit or if the unit is not operated under normal municipal water or well water conditions.

GrowoniX assumes no liability in connection with this reverse osmosis system. GrowoniX assumes no liability for any damages incurred through the use of this product. It is the responsibility of the end user to gauge the safe use of this product in the environment where it is applied. We do not authorize any person or representative to assume for us any other obligations on the sale of this reverse osmosis system. The information given out in the manual we believe to be true, but are offered to you in good faith without guarantee because each application of this product is different and beyond our control.

THE FOLLOWING STANDARD OPERATING CONDITIONS FOR RESIDENTIAL/COMMERCIAL REVERSE OSMOSIS SYSTEMS MUST BE MET FOR WARRANTY TO BE VALID.

	Water Pressure	pH Range	Maximum TDS	Water Temp
Standard System	40-80 psi	3-10	2000 ppm	40-110 F

## GROWONIX RETURN POLICY

### MERCHANDISE RETURN DETAILS AND PROCEDURE:

If any merchandise was defective —we will refund the full purchase price upon receiving and reviewing the merchandise returned in undamaged condition.

### RMA NUMBER:

You must first obtain a Return Merchandise Authorization (RMA) number from GrowoniX.com. Any products sent to GrowoniX without an RMA number will not receive a refund and may be returned to the sender at their expense.

All refund amounts will be based on the manufacturer's warranty and GrowoniX return policy. Refunds will be issued back using the payment method you used when you placed your order. Refunds take up to 3-5 business days to process once we receive the return.

### PACKAGING:

Please kindly re-pack the product in its original box, or a box of equivalent strength. The unit should be packed in the same manner as it came to prevent damage in shipping. Please return everything that was in the original box, including any free items if applicable. Be sure to drain out all water from wet systems and parts and wrap them in plastic bags before packing.

### RETURN TO:

We will provide you with an GrowoniX warehouse address for return merchandise when we issue the RMA number.



# GROWONIX

TUNED FOR GROWING



## GX1000 OWNERS MANUAL

[WWW.GROWONIX.COM](http://WWW.GROWONIX.COM)



Built in the U.S.A.