GROWONIX

TUNED FOR GROWING

EX600 DELUXE
EX1000 DELUXE
OWNERS MANUAL

WWW.GROWONIX.COM

1:1

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.

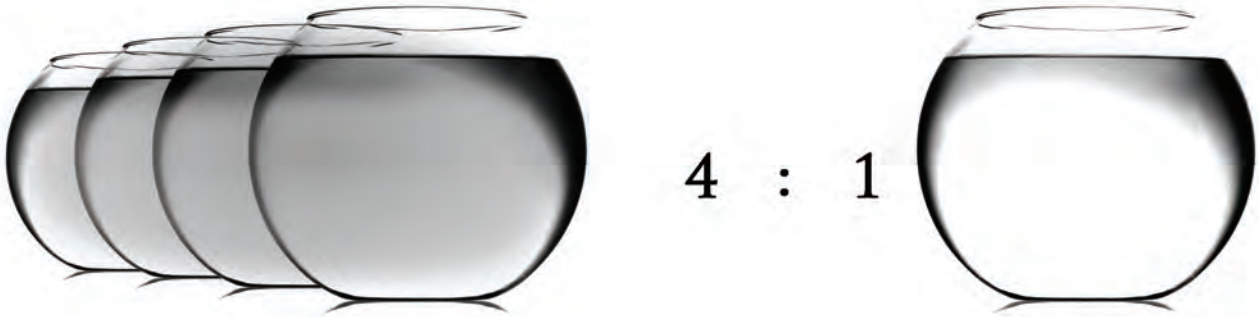
TUNED FOR GROWING - IN TUNE WITH OUR CUSTOMERS

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 the EX100 through GX400 and an astounding 1:1 ratio with the GX600 and GX1000.

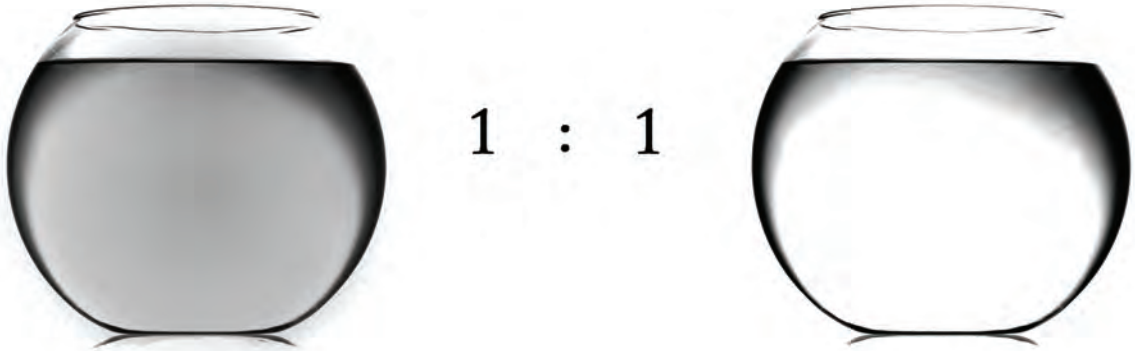
GrowoniX has created a complete product line that will address the needs of hydroponic operations of all sizes. Our filters will significantly reduce your water use while dramatically increasing your yields.

THE TRADITIONAL WAY

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



THE GROWONIX WAY



REPLACEMENT PARTS

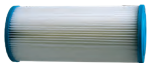
MEMBRANE INDEX

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.

KDF85/CATALYTYIC ACTIVATED CARBON FILTER
PREMIUM CARBON FILTER USING THE BEST ACTIVATED CARBON WITH A BED OF KDF85 MEDIA. THERE'S NO BETTER CARBON AVAILABLE.

SEDIMENT SPUN
SPUN POLY SEDIMENT FILTERS WITH HUGE DIRT HOLDING CAPACITY.



SEDIMENT PLEATED
HIGH FLOW SEDIMENT FILTERS WITH ULTRA LOW PRESSURE DROP.

GXM INDUSTRIAL MEMBRANES
HIGHEST FLOWING DOW SHEET MEMBRANES ON THE PLANET, WITH THE LOWEST WASTE RATIO.

GXM HIGH FLOW COLD WATER MEMBRANES
HIGHEST FLOWING RESIDENTIAL SIZED MEMBRANES.
ALWAYS 2:1 RATIO.

ALKALINE INLINE
INLINE FILTER ADDS CALCIUM & MAGNESIUM TO FILTERED WATER, RAISES THE PH.

ALKALINE CARTRIDGE
CARTRIDGE ADDS CALCIUM & MAGNESIUM TO FILTERED WATER, RAISES THE PH.

REMINERALIZING INLINE
INLINE FILTER ADDS CALCIUM & MAGNESIUM TO FILTERED WATER,

REMINERALIZING CARTRIDGE
CARTRIDGE ADDS CALCIUM & MAGNESIUM TO FILTERED WATER,

UV STERILIZATION
KILLS 99.9% BACTERIA AND VIRUSES.

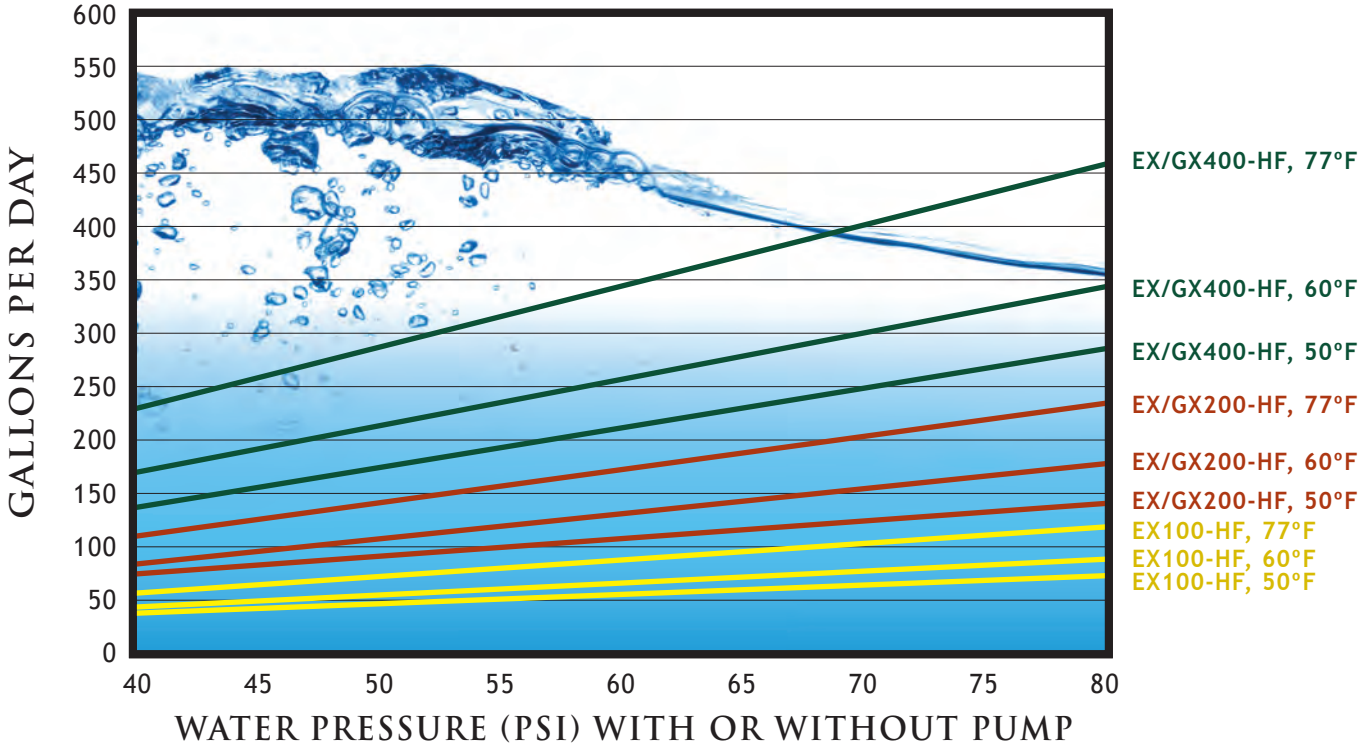
DI INLINE
DE-IONIZATION FILTER REMOVES LAST BIT OF PPM.

SPECIALTY FILTRATION, ACCESORIES & REPLACEMENTS			
PRODUCT	TYPE	SYSTEM	NOTES
ALK-Inline	Alkaline	All RO systems	Raises ph, adds cal/mag mineral.
ALK-Cart	Alkaline	All RO systems	Raises ph, adds cal/mag mineral.
RM-Inline	Re-Mineralize	All RO systems	Adds cal/mag minerals.
RM-CART	Re-Mineralize	All RO systems	Adds cal/mag minerals.
DI-Inline	De-Ionization	All RO systems	Removes remaining TDS after RO (aquarium, lab)
DI-Cart	De-Ionization	All RO systems	Removes remaining TDS after RO (aquarium, lab)
UV-1530	Ultraviolet	All RO, Scrubber systems, tank storage	Kills 99.9% bacteria
UV-6010	Ultraviolet	All RO, Scrubber systems, tank storage	Kills 99.9% bacteria / viruses
UV-LB	Ultraviolet	All RO, Scrubber systems, tank storage	Kills 99.9% bacteria / viruses
UV-XL	Ultraviolet	All RO, Scrubber systems, tank storage	Kills 99.9% bacteria / viruses

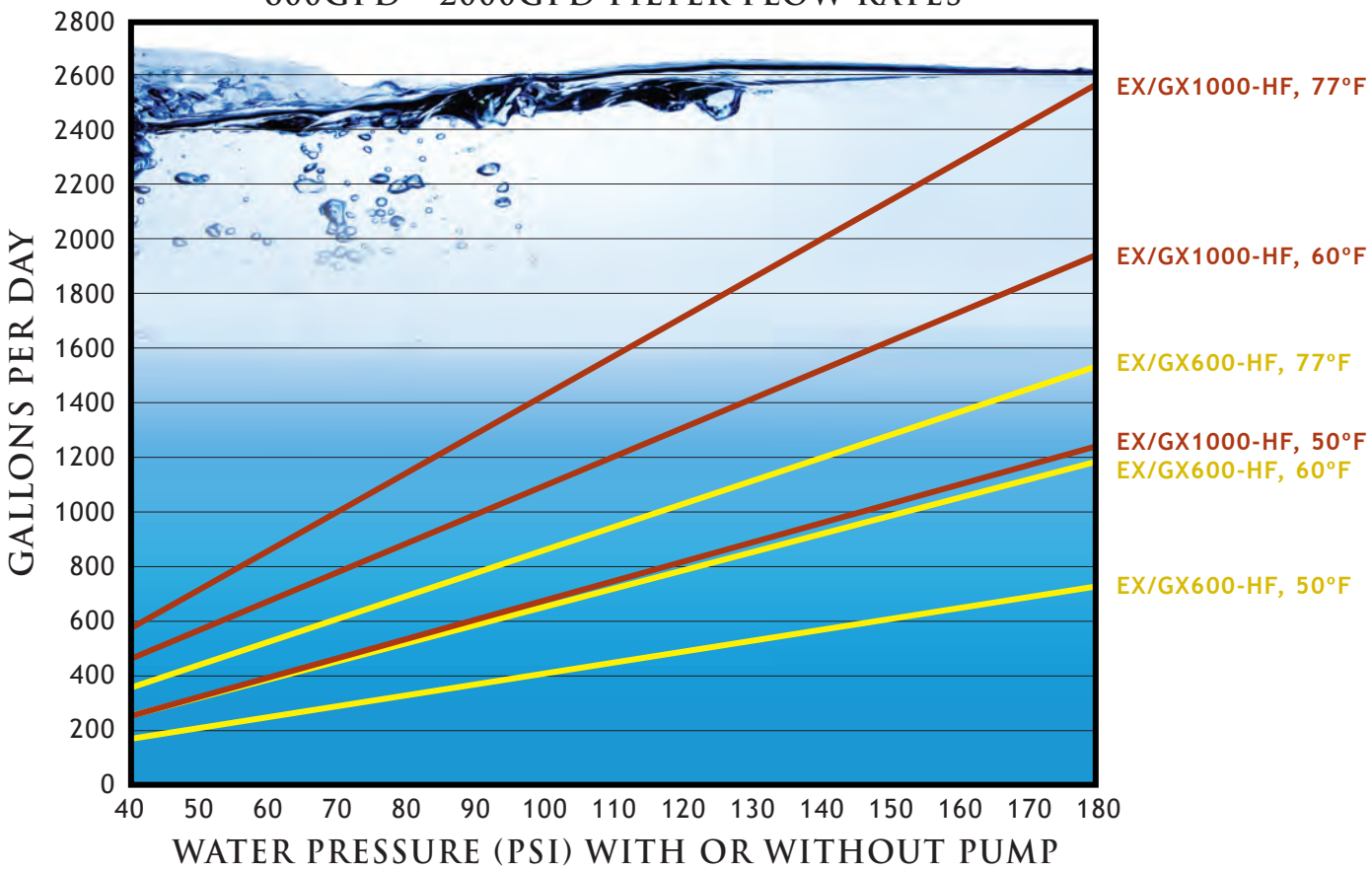
REPLACEMENTS FOR ALL WATER FILTERS 600 GPD AND OVER				
PRODUCT	SEDIMENT	CARBON	MEMBRANE	ULTRAVIOLET
EX4000	SF-4520-SP	CF-4520-CC	GXM-1000-HF	UV-XL
		CF-4520-GB	GXM-1000-HR	
		CF-4520-KDF		
GX1000	SF-4510-PL	CF-4510-CC	GXM-1000-HF	UV-6010
	SF-4510-SP	CF-4510-GB	GXM-1000-HR	
		CF-4510-KDF		
GX600	SF-4510-PL	CF-4510-CC	GXM-600-HF	UV-6010
	SF-4510-SP	CF-4510-GB	GXM-600-HR	
		CF-4510-KDF		
EX1000-T	SF-4520-SP	CF-4520-CC	GXM-600-HF	UV-6010
		CF-4520-GB	GXM-600-HR	
		CF-4520-KDF		
EX1000	SF-4510-PL	CF-4510-CC	GXM-1000-HF	UV-6010
	SF-4510-SP	CF-4510-GB	GXM-1000-HR	
		CF-4510-KDF		
EX600-T	SF-4520-SP	CF-4520-CC	GXM-600-HF	UV-6010
		CF-4520-GB	GXM-600-HR	
		CF-4520-KDF		
EX600	SF-4510-PL	CF-4510-CC	GXM-600-HF	UV-6010
	SF-4510-SP	CF-4510-GB	GXM-600-HR	
		CF-4510-KDF		

Flow Rates

100GPD—400GPD Filter Flow Rates



600GPD—2000GPD Filter Flow Rates

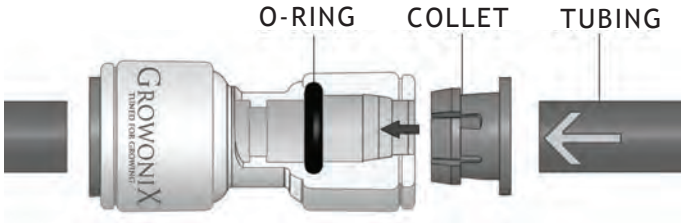


INFORMATION ON QUICK CONNECT FITTINGS

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

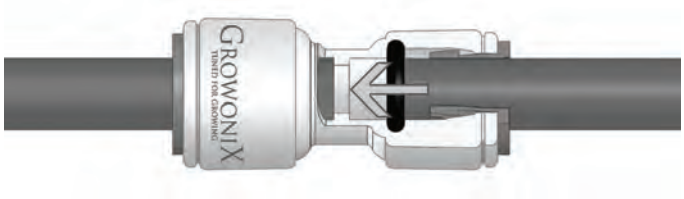
MAKE A CLEAN TUBE CUT

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.



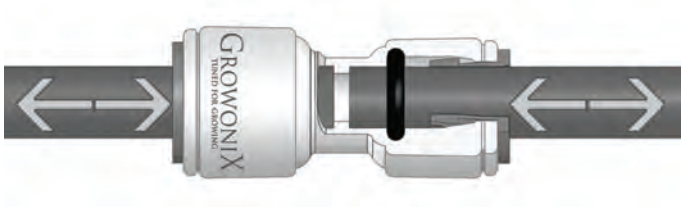
INSERT TUBE INTO FITTING

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.

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. Regulators and pressure limiters are available at www.Growonix.com or your local plumbing supply.
- 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.

- GrowoniX EX Series RO water filters are rated using supply water that is 77°F, 475ppm, at 70psi. Slower performance may be noted in areas with colder temperatures, higher water salinity, or lower inlet water pressure.
- A minimum of 40psi is recommended to operate GrowoniX water filters. If your inlet water pressure is too low, booster pumps can be used to increase pressure.
  Pumps are available at www.Growonix.com.
- Do not use a flow restrictor other than the one included with your unit.
- Flow restrictors help tune the unit for proper waste ratio.
- Using bigger flow restrictors, or using the unit in areas with exceptionally dirty water, will decrease membrane performance and longevity.

EX 600/1000 SERIES

The strategy behind the EX Series is simply to 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 EX Line is the Dow Membrane element, delivering a consistent rejection of 98.5% at a 1:1 ratio.

No matter how big or small your water production needs are, the EX Line has a solution for you.

NO ADDITIONAL PRE-FILTERS NEEDED

FEATURES

- 600 TO 1000 GALLONS PER DAY
- 25 TO 42 GALLONS PER HOUR
- 1:1 WASTE RATIO
- GROWONIX HIGH FLOW MEMBRANE
- ECO GREEN CARBON BLOCK
- HIGH FLOW WASHABLE SEDIMENT FILTER
- STAINLESS STEEL LIQUID FILLED PRESSURE GAUGES
- CAN USE A BOOSTER PUMP TO DOUBLE FLOW RATES
- MEMBRANE VESSELS RATED FOR 300/250 PSI
- PATENTED METAL HOUSING
- AUTO SHUTOFF VALVE
- EZ HOOKUP KIT
- WALL MOUNTABLE
- 75% LESS WATER THAN TRADITIONAL RO SYSTEMS

Deluxe Series

EX1000 Deluxe

1:1 RATIO

Designed to flow 83 GPH (EX1000 Deluxe) or 50 GPH (EX600 Deluxe) with an astounding 1:1 ratio. The BP-6010 Booster Pump delivers the full flow rate with only 30 psi of feed water— No more low water pressure issues. The deluxe system includes our electric shutoff kit consisting of a float switch and feed water solenoid valve.
The solenoid valve cuts feed water to the whole system when not in use.

DELUXE SYSTEM SPECIFICATIONS:

Flow Rate	2000GPD (EX/GX1000 Deluxe) 1200GPD (EX/GX600 Deluxe)
Minimum Feed Pressure	approx. 25 psl
Recommended Feed Pressure	35 psi—80 psi
Recovery (system ratio 1:1)	50%
Operating Temperature	40°F—105°F
Operating pH	3-11
Nominal % Rejection	98.5%
Maximum TDS	2000 ppm
Minimum NACL Rejection	96%
Maximum Hardness	15 gpg
Feed / Drain / Product connection	3/8”
Volts/Amps	110V/5.5A
Dimensions LxWxH (in)	27x11x30
Weight	70 lbs.

Test Conditions: Permeate flow and salt rejection based on 550 ppm, 150 psi, 77°F (25°C), pH 7, and 50% recovery.

Note: Higher TDS and/or lower temperatures will reduce the system’s production.

(Chloramine removal requires KDF85/CAT carbon filter.)

EX1000-T Deluxe

TALL pre-filters allow for twice the prefiltration, handling up to 34,000 gallons of chlorine or chloramine removal.

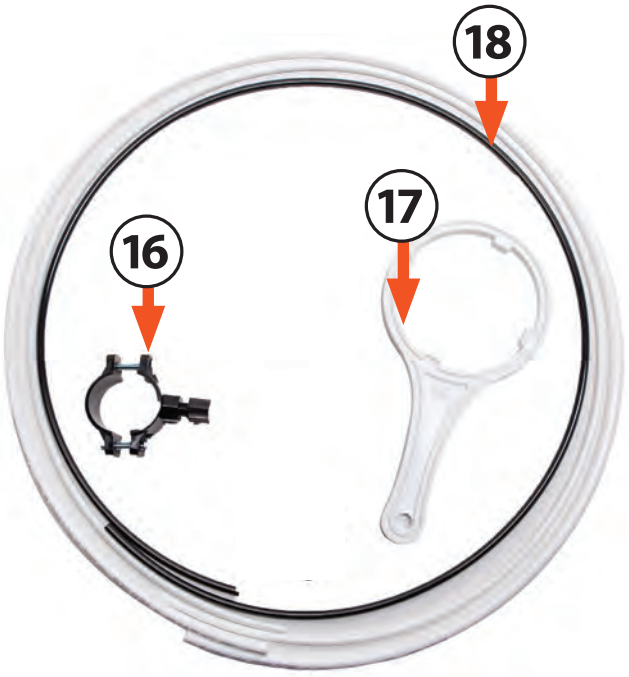
Utilizing the best membrane technology in the world, high flow-rates and water savings never before seen in a package so affordable and durable. A pair of liquid-filled stainless steel pressure gauges inform you when it’s time to change the pre-filters. A manual flush valve allows you to clean the membrane, purging out pollutants that could otherwise add buildup to the system—considerably extending membrane life.

EX Deluxe Features

- High Flow Cold Water membrane element
- Electric Shutoff Kit with solenoid Valve and float switch
- Stainless Steel liquid filled Gauges
- Wall mountable Electrogalvanized steel brackets
- Ultraviolet Filter

Part #	Carbon Capacity	Flow Rate
EX1000-T Deluxe	34,000 gallons	2000 GPD
EX1000 Deluxe	16,000 gallons	2000 GPD
EX600-T Deluxe	34,000 gallons	1200 GPD
EX600 Deluxe	16,000 gallons	1200 GPD

COMPONENT DIAGRAM



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

SETUP INSTRUCTIONS

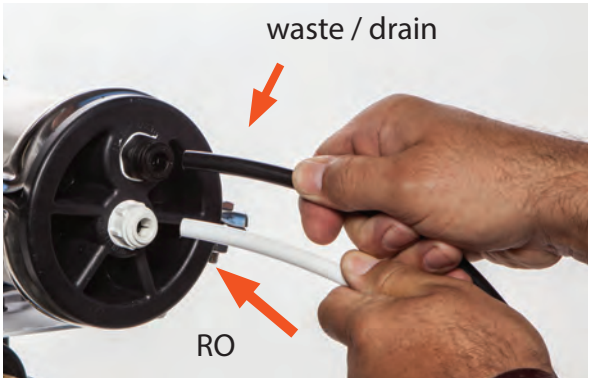
Important Tips:

- 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 GX600 and 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 membrane upon initial startup. (see: Flushing Membrane Element)

1

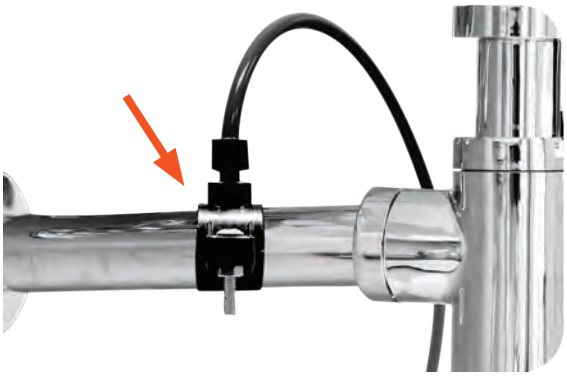
Connect inlet water supply.
This example shows 3/4" garden hose connected to supplied hose union.
Hose fittings can be removed to allow for 3/4" NPT pipe connections.

2



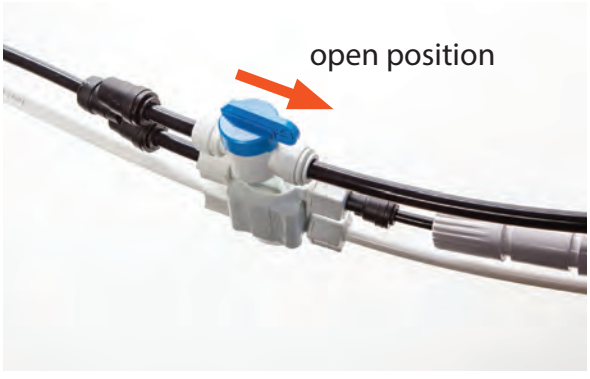
Connect RO and waste / drain assembly to membrane housing as shown.
Make sure tubing is seated completely

3



Mount drain clamp to available drain pipe. Connect other end of drain tubing to included drain clamp.

4



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

5

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

SOLENOID PLUMBING CONNECTION

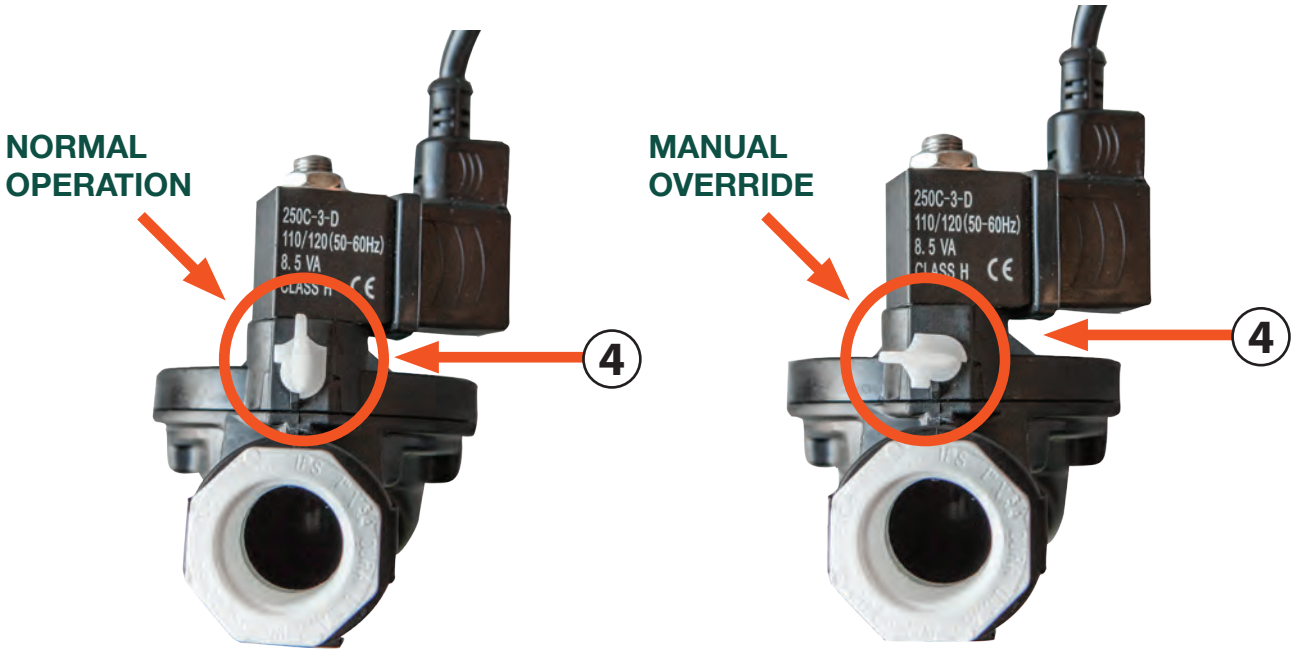
It's recomended to remove garden hose fittings from water filter input and attach supplied SCH80 PVC as shown below.

Solenoid installed on EX Series Filter systems.

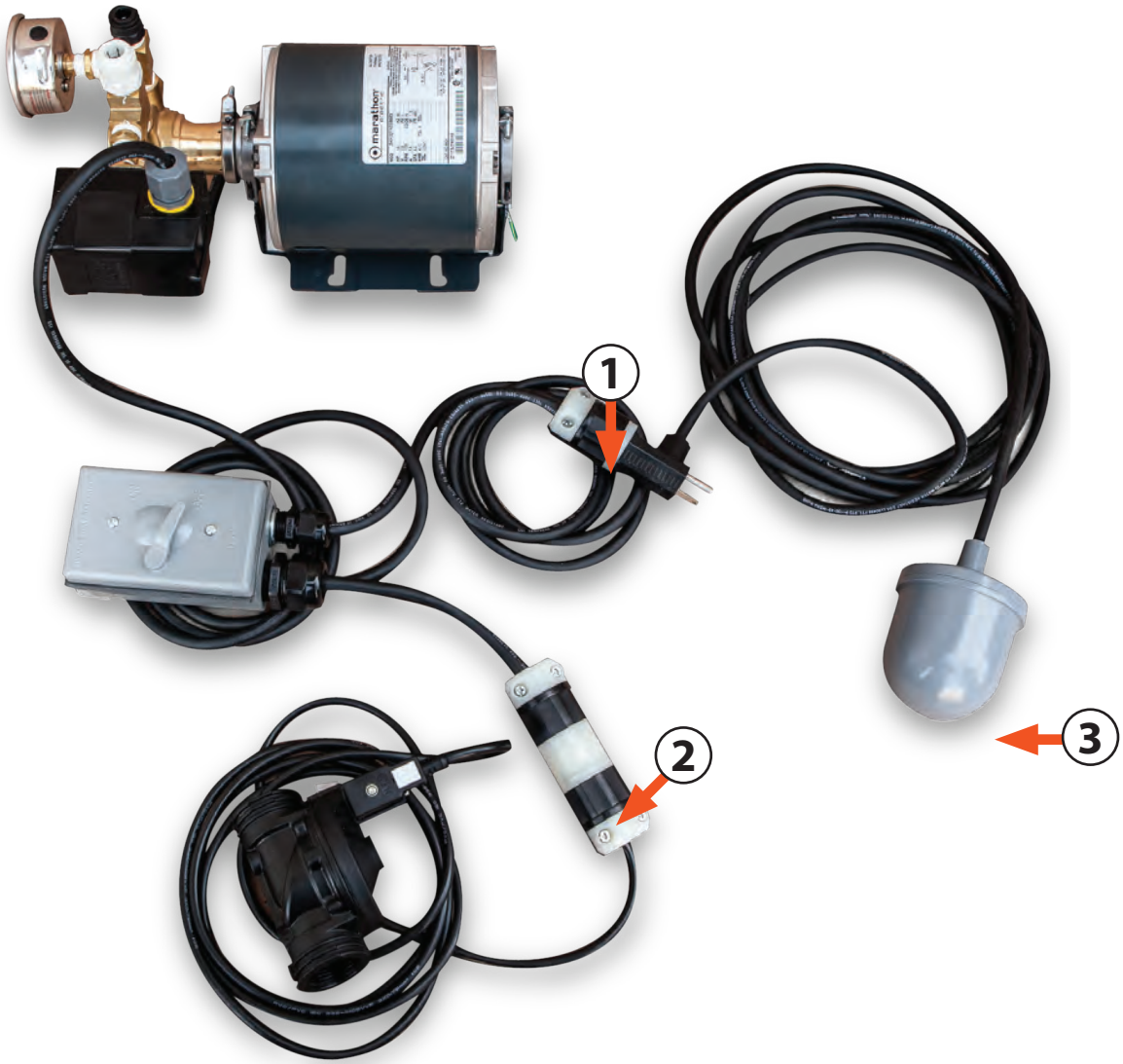
ELECTRIC SHUT OFF KIT COMPONENT DIAGRAM

1. **SOLENOID VALVE**
2. **FLOAT SWITCH**
3. **FLOAT SWITCH PIGGYBACK CORD**
4. **SOLENOID VALVE MANUAL OVERRIDE SWITCH**
5. **SOLENOID VALVE DIRECTION OF FLOW**

SOLENOID MANUAL OVERRIDE SWITCH



ELECTRIC SHUT OFF KIT CONNECTION



DISCONECT PUMP AND ALL COMPONENTS FROM ELECTRICAL SUPPLY, AND TURN OFF FEED WATER SUPPLY BEFORE CONNECTING THE ESOK.

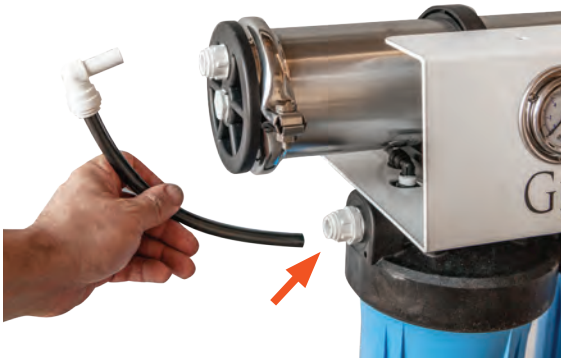
1. Install float switch in tank. (refer to page 21)
2. Attach float switch piggyback cord to male plug end from pump control box.
   - The float switch will now govern whether current will flow to the pump control box or not.
   - Float ball facing up=current does not flow (pump off).
   - Float ball facing downwards-current flows (pump on)
3. Plug solenoid valve into female plug end extending from pump control box (3).
   - When pump control switch is “ON”, current will flow to the solenoid valve, and the valve will open.
   - If being used in conunction with the float switch, current will not flow to pump control box or solenoid valve until float ball faces downward.

SOLENOID VALVE

4. Install solenoid valve on the input of the GX600/GX1000, making sure valve is installed in the correct direction of flow. (see arrow stamped on valve housing).
5. Make sure override switch is in the Normal Operation position (see: page 18).
6. Turn on feed water supply and check for leaks in solenoid water connections.
7. Turn on Booster Pump manualy or with Float Switch.
8. Adjust output pressure (see page 16-17)

SETUP INSTRUCTIONS FOR EX SERIES

1



Slide locking clip off of carbon filter output fitting and remove the short length of 1/2” tubing feeding the membrane input.

2

Insert supplied 1/2” tubing into carbon filter output. Install locking cip.

3

Cut tubing to appropriate length (ensure no kinks or flow restrictions) and insert into the 1/2” pump input. Install locking clip.

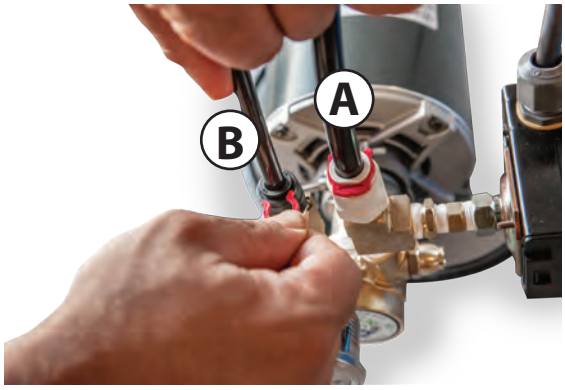
4

Insert supplied 3/8” tubing into pump high pressure output. Install locking cip.

5

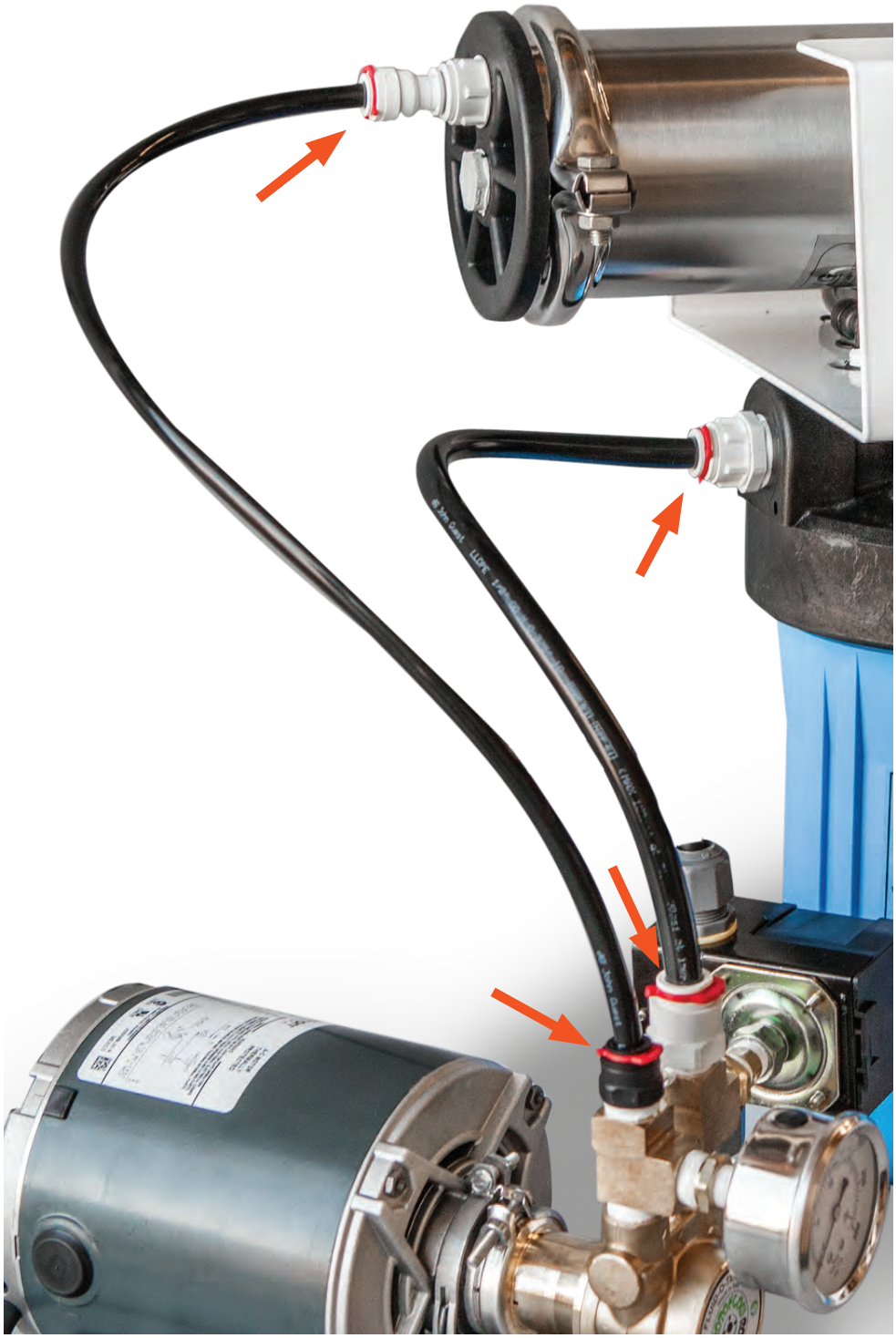
Cut tubing to appropriate length (ensure no kinks or flow restrictions) and install the 1/2” x 3/8” stem reducer onto tubing. Insert the stem reducer into the 1/2” membrane input fitting. Install locking clip.

6



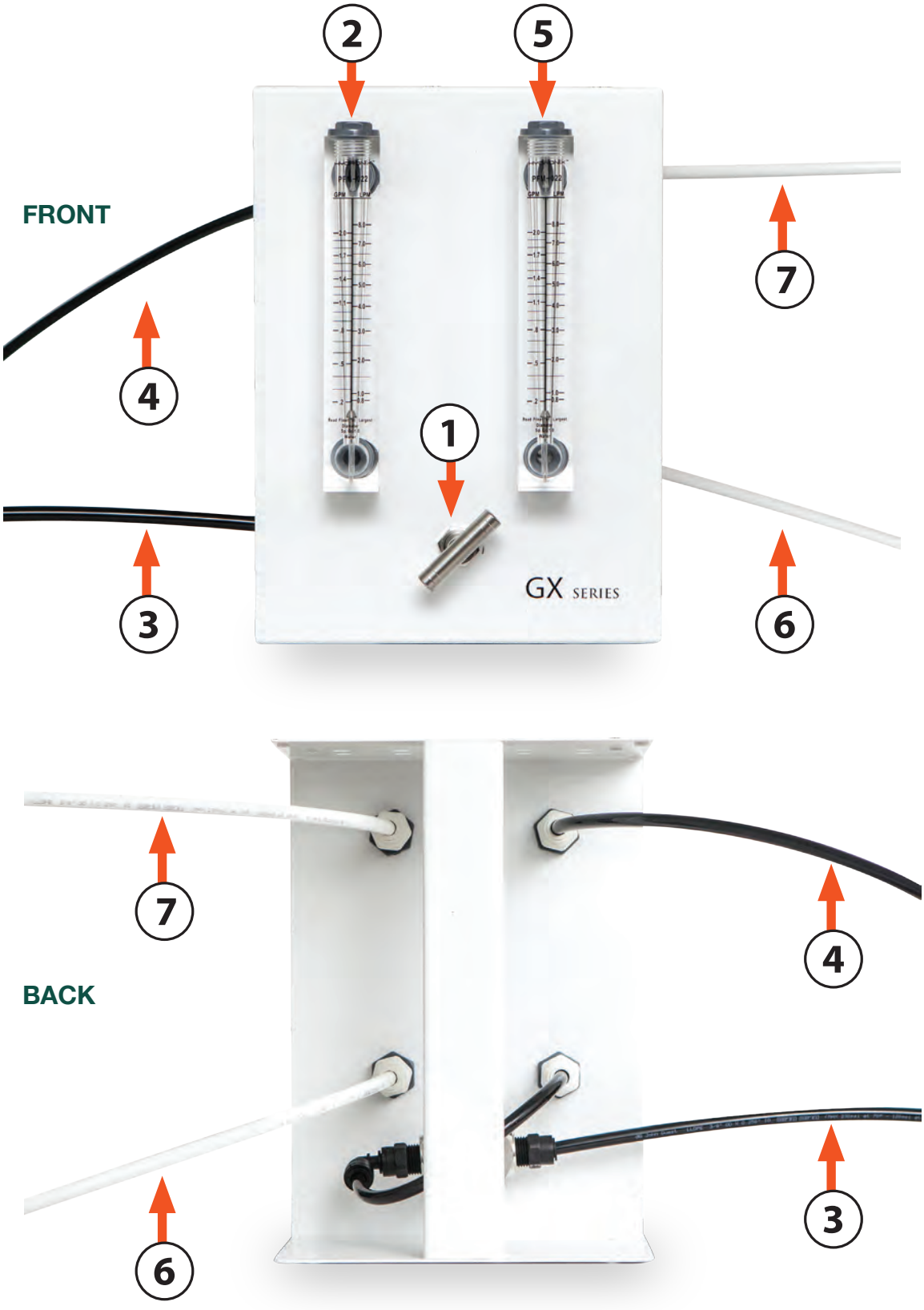
A) From output of carbon filter housing to pump input.
B) From high pressur pump output to input side of membrane housing.

7



Reconnect all locking clips as shown

FLOW BOX COMPONENT/CONNECTION DIAGRAM



1. DRAIN WATER NEEDLE VALVE
2. DRAIN FLOW METER
3. DRAIN WATER IN FROM MEMBRANE
4. DRAIN WATER OUT TO DRAIN
5. RO PRODUCT WATER FLOW METER
6. RO PRODUCT WATER IN FROM MEMBRANE
7. RO PRODUCT WATER OUT TO TANK

RECYCLE FLOW BOX CONNECTION DIAGRAM

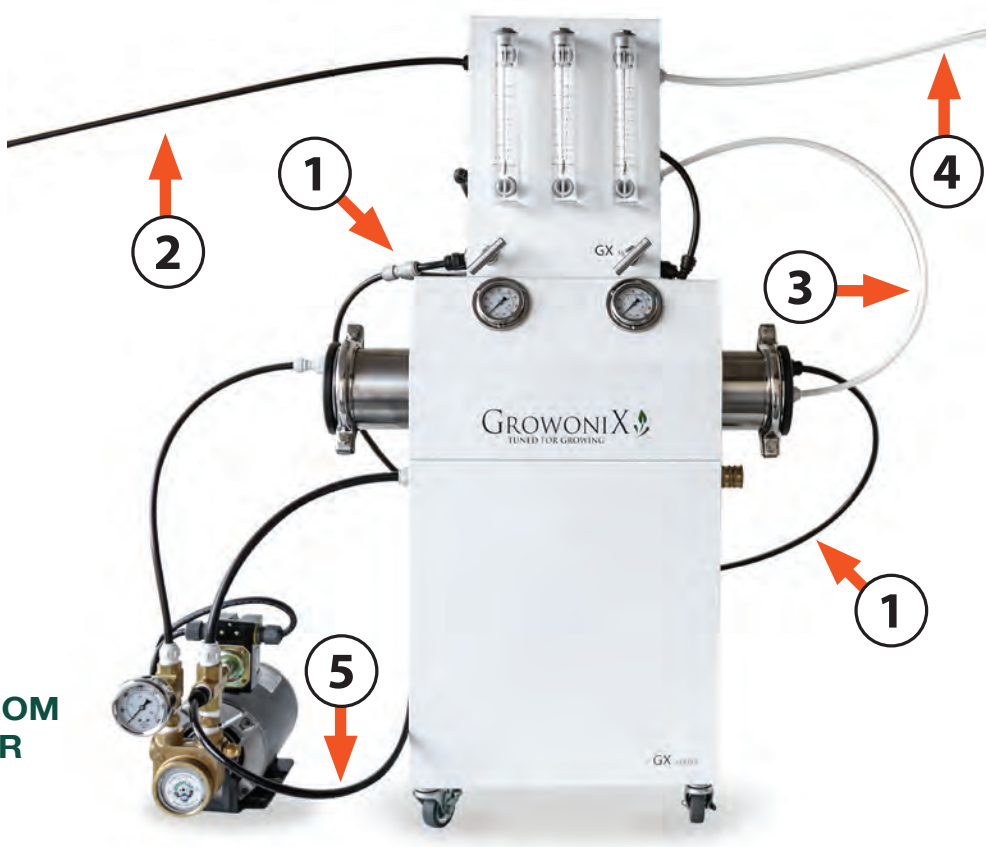
1. DRAIN WATER
   IN FROM MEMBRANE

2. DRAIN WATER
   OUT TO DRAIN

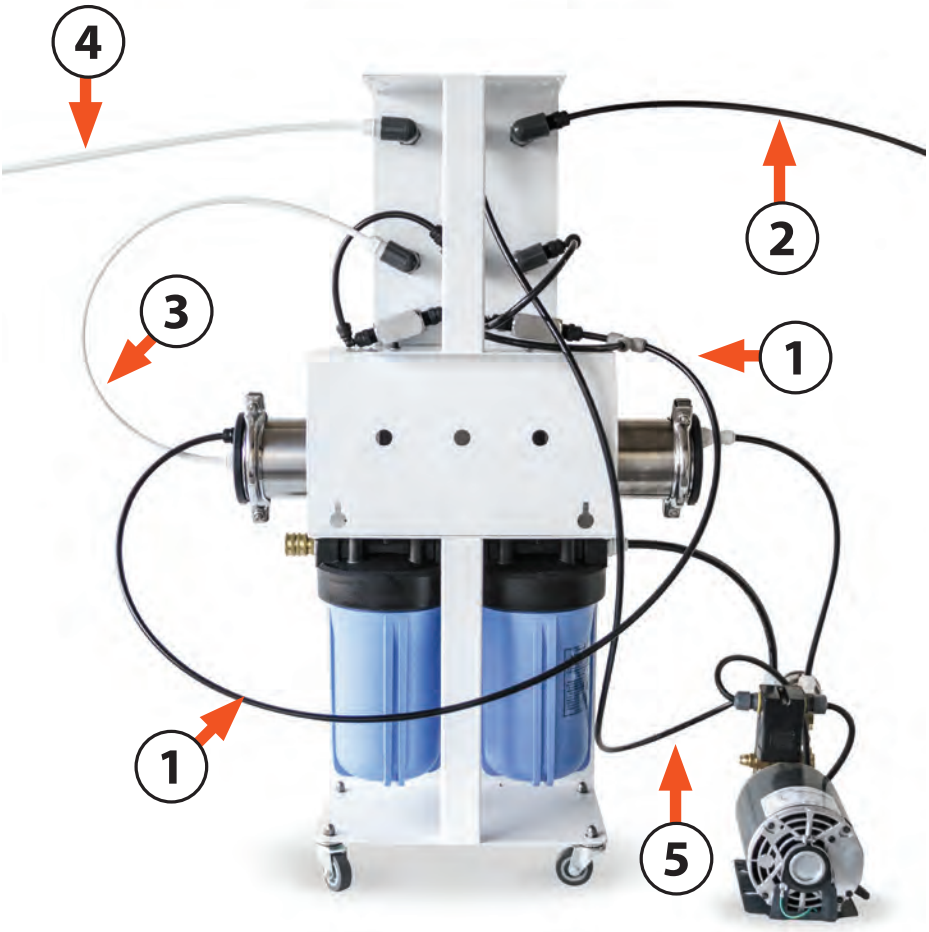
3. RO PRODUCT WATER
   IN FROM MEMBRANE

4. RO PRODUCT WATER
   OUT TO TANK

5. RECYCLED WATER FROM
   RECYCLE FLOW METER



CLOSE-UP OF 10



FLUSHING THE KDF85 CARBON FILTER

Growonix EX600 and EX1000 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 ten 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 system OFF and depressurized, disconnect fitting from membrane input.

2

Position fitting over drain or bucket and slowly turn on incoming water pressure. Allow ten gallons of water to flush through carbon before reconnecting to membrane input.

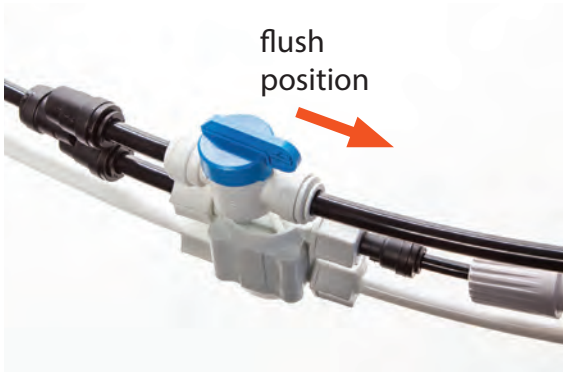
MAKE SURE WATER IS FREE FROM CARBON FINES & DEBRIS BEFORE RECONNECTION TO MEMBRANE INPUT

FLUSHING THE MEMBRANE ELEMENT

Growonix GX600 and 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.

1

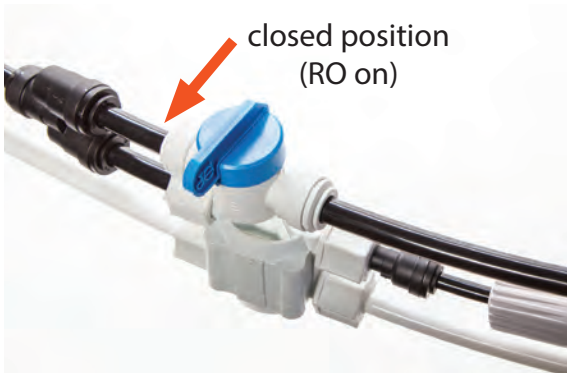


While the system is running, turn the flush valve to the OPEN position.

2

Let system run for 3-5 minutes.

3



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

IN-TANK FLOAT SWITCH INSTALLATION

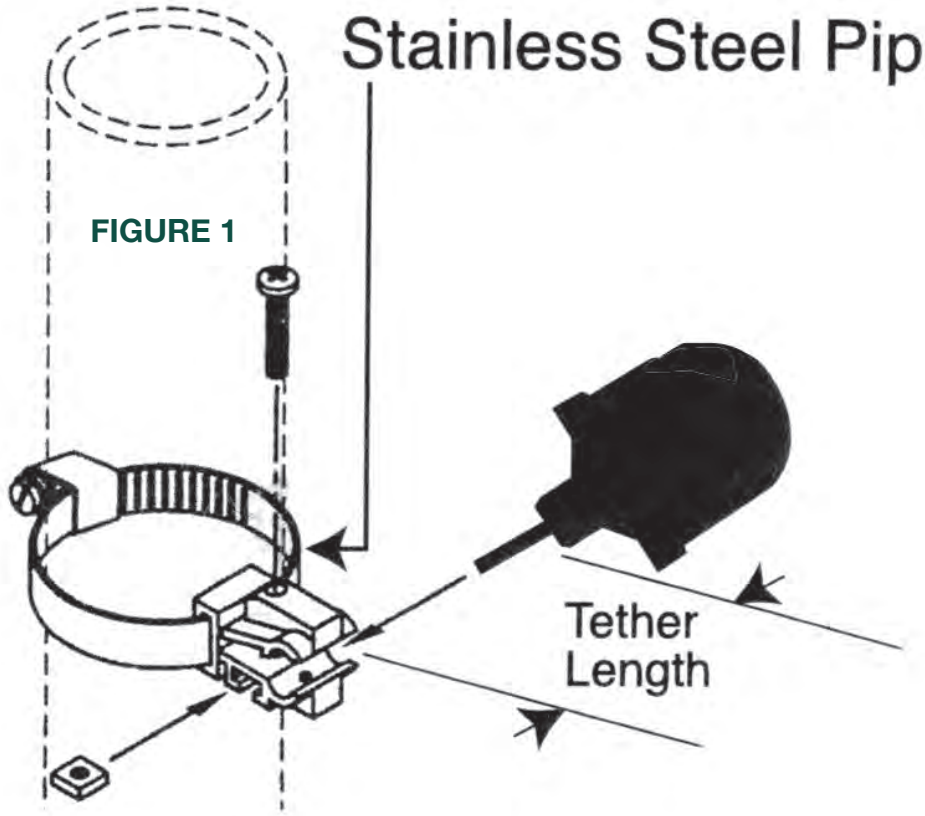


FIGURE 1

FIGURE 2	
Tether Length	Pumping Range
4"	8"
5"	9"
6"	10"
7"	11"
8"	12"
9"	13"
10"	14"
11"	15"
12"	16"
13	17"
14"	18"
15"	19"
16"	20"
17"	21"
18"	22"

NORMALLY CLOSED FLOAT SWITCHES ARE CLOSED WHILE HANGING "DOWN" AND WILL OPEN ON A RISING LIQUID LEVEL. TYPICALLY USED FOR "FILLING TANK" APPLICATIONS.

1. Determine desired cord tether length . See Figure 2.
2. Attach the Pipe Clamp at the desired location. See Figure 1.
   Adjust the tether length to achieve the desired pumping range.
   Use Figure 2 as a guide and test system by filling tank and cycling the system to achieve actual desired pumping range.
3. Tighten the clamp
4. Electrical outlet must not be located in pump chamber.
   Electrical outlet voltage, piggyback plug voltage, and pump voltage must match.
5. Insert switch's piggyback plug into outlet.
6. Plug pump into piggyback plug and check the system by allowing the system to cycle to insure proper operation.

WARNING:

Turn off all power when installing or adjusting unit.
Failure to turn off all power could result in serious injury or death!
Warning: End user to provide overcurrent protection rated at 240VAC minimum, 15 Amps maximum.
Read instructions thoroughly. Check local codes and install to meet requirements.

REPLACING SEDIMENT AND CARBON PRE-FILTERS

GrowoniX EX600 and EX1000 pre-filters should be changed regularly to ensure maximum membrane element life and system performance. When a 30% — 40% differential between the gauges is reached and output water pressure gauges is reached, pre-filters should be changed (i.e., when input gauge reads 80 psi and output gauge reads approximately 50 psi, you have a 30% differential—time to change pre-filters).
The pressure differential is really "pressure drop" caused by dirty pre-filters.

IMPORTANT TIPS

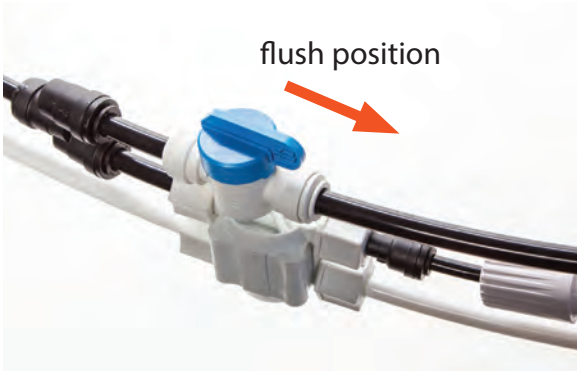
- After changing filters, always turn incoming water pressure on slowly, allowing air to be discharged before full water pressure is restored.
- Be careful not to lose the O-ring when removing each filter housing bottom.

The table below displays pressure gauge readings that will assist you in knowing when to change EX Series pre-filters. Pre filters should be changed when the output pressure gauge reads 30% lower than input pressure gauge (30% pressure differential).

Input Pressure Gauge	Output Pressure Gauge	Pressure Differential
80	56	30%
75	53	30%
70	49	30%
65	45	30%
60	42	30%
55	54	30%
50	35	30%
45	31	30%
40	28	30%

REPLACING SEDIMENT AND CARBON PRE-FILTERS

1



Turn off incoming water supply. Open flush valve to relieve system pressure.

2

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

3

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

4

Grease O-rings with food grade silicone grease

5

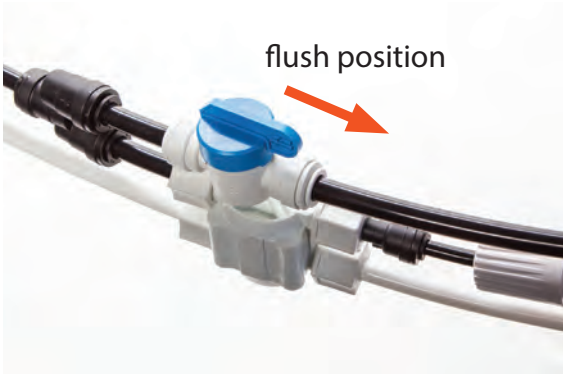
Tighten housings with supplied filter wrench. Close flush valve and begin normal usage. If KDF85 carbon filter is being used, make sure to flush carbon filter before connection to membrane input (see section : Flushing The KDF85 Carbon FIlter)

REPLACING MEMBRANE ELEMENT

IMPORTANT TIPS

- Before servicing membrane element system must be de-pressurized. To de-pressurize the EX600 and EX1000, 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 incoming water supply OFF and open flush valve to depressurize the system.

2

Make sure to depress collet while pulling stem outward.

3

Remove stem elbow from input side of membrane housing.

4

On the input side of the membrane housing, remove the end-cap retaining bolts.

REPLACING MEMBRANE ELEMENT
INPUT SIDE

5

Remove end clamp.

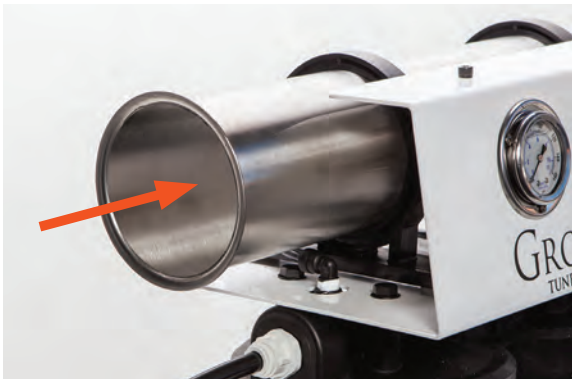
6

Remove the end-cap
and slide membrane out.

7

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

8



Clean inside of membrane housing
to remove buildup or debris.

9

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

10

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

REPLACING MEMBRANE ELEMENT
INPUT SIDE

11

Newly seated membrane element.

12

Grease brine seal and endcap center hole with food grade silicone grease.

13

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

14

Replace end-clamp on input side of membrane housing.

15

16

Tighten end-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.

GROWONIX

TUNED FOR GROWING

BP-6010
BP-6010-CH
ESOK
BOOSTER PUMP
OWNERS MANUAL

WWW.GROWONIX.COM

WHY USE A GROWONIX BP6010 ?

Membranes love pressure! In general, more pressure allows for better emembrane rejection, longer membrane life, and increased membrane flow rate. GrowoniX BP-6010 Series Booster Pumps allow for the full potential performance of the RO membrane to be acheived—with only 35 PSI of incoming water pressure. The perfect solution for those with low feed water pressures, and those who want to receive the maximum performance from their GrowoniX water filter.

BP-6010 SYSTEMS FEATURES

- Continuous duty cycle
- Adjustable output pressure
- Controllable manually or with ESOK (electric shutoff kit)
- Patented electrogalvanized bracket on BP-6010-CH

DELIVERY PUMP SAFETY PRECAUTIONS

READ ENTIRE MANUAL THOROUGHLY
BEFORE INSTALLING THIS HIGH PRESSURE-BOOSTER PUMP.

The Safety section of this User's Manual outlines the carious safety headings used throughout and this manual's text and are enhanced and defined below:

NOTE:
INDICATES STATEMENTS THAT PROVIDE FURTHER INFORMATION & CLARIFICATION

CAUTION:
INDICATES STATEMENTS THAT ARE USED TO IDENTIFY CONDITIONS OR PRACTICES THAT COULD RESULT IN EQUIPMENT OR OTHER PROPERTY DAMAGE.

WARNING:
INDICATES STATEMENTS THAT ARE USED TO IDENTIFY CONDITIONS OR PRACTICES THAT COULD RESULT IN INJURY OR LOSS OF LIFE. FAILURE TO FOLLOW WARNINGS COULD RESULT IN SERIOUS INJURY OR EVEN DEATH.

PLUMBING

The membranes and high pressure pumps used on all GrowoniX water filters 600GPD and greater (EX600, EX1000, GX600, GX1000) require a continuous flow of water with a minimum feed pressure of 35psi, and which does not exceed 105°F.

The plumbing for the feed line for the RO is 3/4" MHT for quick setup and convenience. If the water filter is to be installed in a permanent place, it is recomended to remove the garden hose fittings and plumb with 3/4" SCH80 piping certified for drinking water.

The tubing for the waste line is 3/8" and and should be run to an open drain in a free and unrestricted manner (no back pressure)

The tubing used for the permeate line is 3/8" and can be run to the holding tank or directly to the point-of-use application with PVS fittings, or other FDA approved materials. This is so the material being used does not dissolve into the permeate water. Be certain that all of the components of the feed water are soluble at the concentrations attained in the system.

CAUTION:
ANY RESTRICTIONS OR BLOCKAGE IN THE DRAIN LINE CAN CAUSE BACK PRESSURE, WHICH WILL INCREASE THE SYSTEMS OPERATING PRESSURE. THIS CAN RESULT IN DAMAGE TO THE SYSTEM'S MEMBRANES AND COMPONENTS.

ELECTRICAL

The motor is a carbonator motor. It is available in 110/220 and 50/60 hertz 1 phase. Please ensure that the electrical circuit supplying the system is compatible with the requirements of the BP-6010 Series Delivery Pump. Each BP-6010 Series Delivery Pump is equipped with an 8" electrical cord.

NOTE:
WE RECOMMEND THAT A LICENSED ELECTRICIAN WIRE YOUR SYSTEM IN ACCORDANCE WITH LOCAL AND NATIONAL ELECTRICAL CODES (NEC).

WARNING:
TO REDUCE THE RISK OF ELECTRICAL SHOCK, THE INCOMING POWER SUPPLY MUST INCLUDE A PROTECTIVE EARTH GROUND.

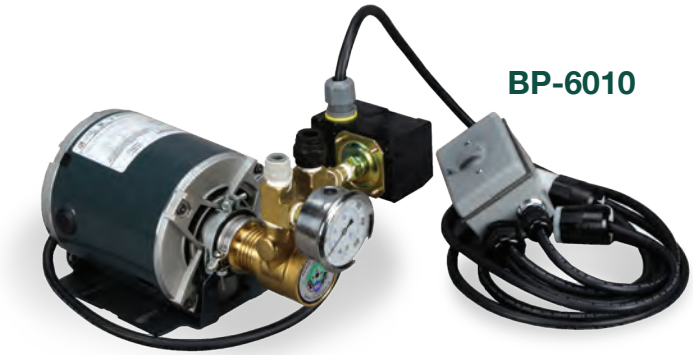
BP-6010-CH

DOUBLES pure water production for the GX600 and GX1000 water filters. Splash Guard™ chassis connects directly to the GX600/GX1000. The pump only needs 30psi of incoming water pressure to produce the full flow rate! Low pressure cutoff to safeguard the pump against a loss of incoming water pressure. Stainless steel liquid filled 300 psi system pressure gauge. Can be controlled manually or with our electric shutoff kit.

BP-6010-CH

BP-6010

DOUBLES pure water production for the GX600,GX1000, EX600, EX1000 water filters. The pump only needs 30psi of incoming water pressure to produce the full flow rate! Low pressure cutoff to safeguard the pump against a loss of incoming water pressure. Stainless steel liquid filled 300 psi system pressure gauge. Can be controlled manually or with our electric shutoff kit.



BP-6010

ELECTRIC SHUT OFF KIT

An essential add-on to almost any water filter! Shuts down feed water before the water filter. Controls on/off cycling of high pressure booster pumps. The electric shutoff kit consists of a float switch and solenoid valve.

ELECTRIC SHUT OFF KIT

BP6010 DELIVERY PUMP COMPONENT DIAGRAM

1. MOTOR
2. PUMP INLET (CONNECT TO PRE FILTER HOUSING OUTPUT)
3. PUMP OUTLET (CONNECT TO MEMBRANE INPUT)
4. OUTLET PRESSURE GAUGE
5. LOW PRESSURE SWITCH
6. PUMP ADJUSTMENT
7. PUMP POWER ON/OFF SWITCH
8. AC IN CORD
9. PIGGYBACK CORD FOR SOLENOID VALVE (OPTIONAL)

PUMP

The pump is a low-lead brass rotary vane pump.
This pump is also available in stainless steel.
Follow these guidelines to ensure proper operation of the pump:

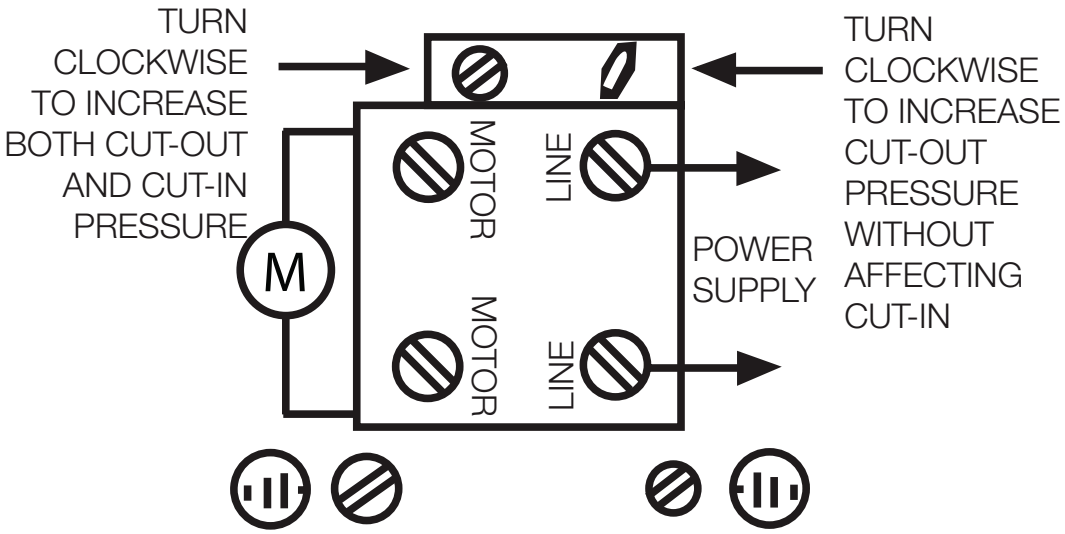
- The pump must NEVER be run dry. Operating the pump without sufficient feed water will damage the pump.
- ALWAYS feed the pump filtered water. The pump is susceptible to damage from sediment and debris.
- If any damage occurs to your system's pump, a re-build kit may be available. Contact your local dealer or distributor and inform them of your system's model and pump size.

WATER PUMP PRESSURE SWITCH

The low pressure switch shuts off the system when the feed water pressure drops too low for the system to function properly. This prevents damage to the pump. The system restarts automatically when the pressure is restored. If you notice the pressure fluctuating, and the system cycling off and on repeatedly, turn the system off and ensure that proper feed flow and pressure are available to the system.

WATER PUMP PRESSURE SWITCH ADJUSTMENT

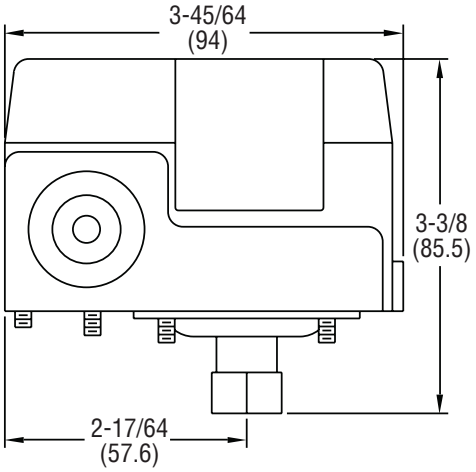
The water pump pressure switch is adjusted at the factory to cut out when incoming pressure falls below 10 psi, and cut in when incoming pressure reaches 25 psi. Pressure switch should not need adjustment.
If for some reason pressure switch should fall out of adjustment, follow instructions below.

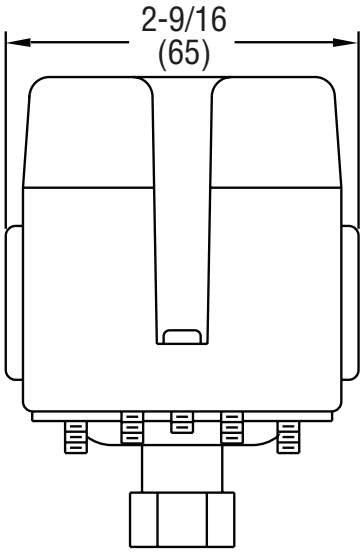


WIRING DIAGRAM

SPECIFICATIONS

WATER PUMP PRESSURE SWITCH





CAUTION: No lubrication or periodic servicing is required. Mount the control securely. Never exceed the electrical rating for the switch. Use the control only with compatible medias.

SPECIFICATIONS

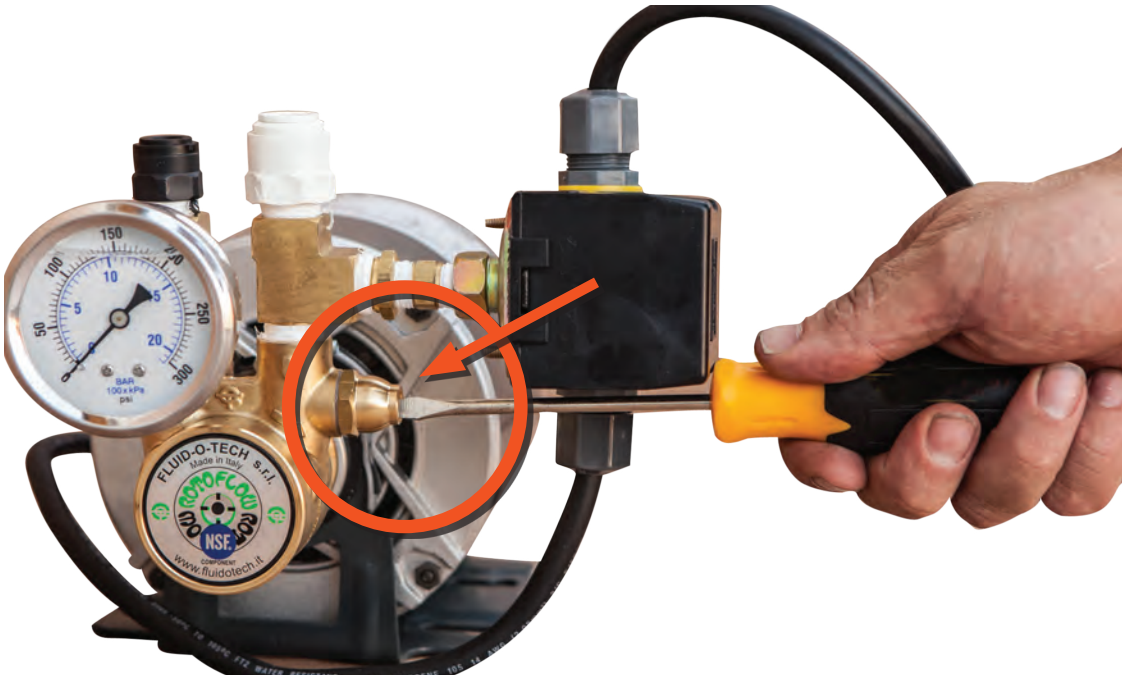
Service: Compatible liquids and gases.
Wetted Materials: Silicone, steel, and SS.
Temperature Limits: 140°F (60°C).
Pressure Limits: See model chart.
Enclosure Rating: General purpose.
Repeatability: ±5 psig (±0.3 bar).
Switch Type: SPST snap action (see model chart).
Electrical Ratings: 20A @ 120 VAC, 12A @ 240 VAC, 9.6A @ 240 VAC (3 phase), 8.6A @ 32 VDC, 3.1A @ 120 VDC, 1.6A @ 240 VDC.
Electrical Connections: Screw terminal.
Conduit Connection: 7/8˝ hole for 1/2˝ conduit hub (2 places).
Process Connection: 1/4˝ female NPT.
Mounting Orientation: Switch can be installed in any position.
Setpoint Adjustment: Internal screws.
Weight: 0.75 lb (0.34 kg).
Deadband: See model chart.
Agency Approvals: CE, UL pending

MAINTENANCE

Upon final installation of the water pump pressure switch, no routine maintenance is required.
A periodic check of the system calibration is recommended. The pressure switchis not field serviceable and should be returned if repair is needed (field repair should not be attempted and may void warranty).
Be sure to include a brief description of the problem plus any relevant application notes.
Contact customer service to receive a return good authorization number before shipping.

PUMP TUNING

TUNING THE BP-6010 PUMP



1. The bypass valve, located on the input side of the pump can be used to regulate pump output pressure. It is adjustable with a flat head screwdriver.

2. While referencing pump pressure gauge,
turn screw clockwise to increase system pressure.

3. Turn screw counterclockwise to decrease system pressure.

4. Set system pressure at maximum 150 psi. Running the system at higher pressure could result in failure of fittings, and possible injury.

GROWONIX 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 du e 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	2-11	2000 ppm	40-100 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.

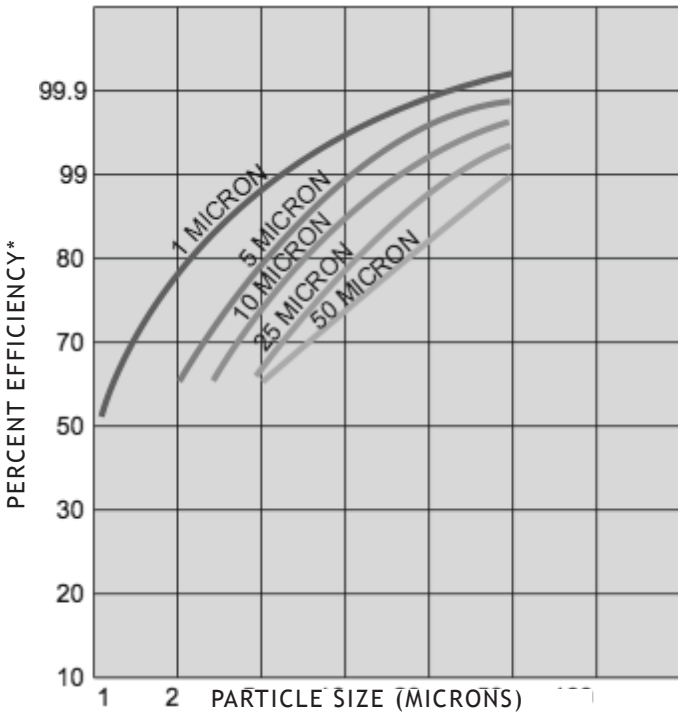
ADDITIONAL SPECIFICATIONS CHARTS

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:
- 4.5" X 10"

Initial AP (PSI) @ Flow Rate (GPM):
- 1 PSI @ 10 GPM (.01 bar @ 38 L/min)

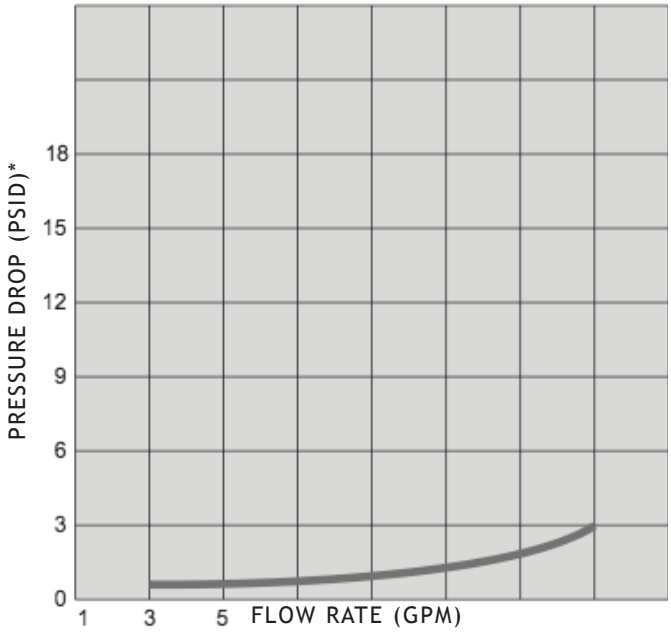


Filter Housings

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 Approved PVC Material
- NSF Approved GTX Material
- NSF Approved EPR O-Rings
- Available with 3/8", 1/2", 3/4", & 1" Port Sizes

Specifications:
- Maximum Operating Pressure: 225 PSI
- Maximum Operating Temperature: 110˚F
- Minimum Operating Temperature: 35˚F

ADDITIONAL SPECIFICATIONS CHARTS

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: 3-11
- 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)
- 600 GPD: 8.0 (5.52)
- 1000 GPD: 8.0 (5.52)

Maximum Pressure PSI (BAR)
- 600 GPD: 400 (27.58)
- 1000 GPD: 400 (27.58)

Permeate Flow rate GPD
- 600 GPD: 600
- 1000 GPD: 1000

Nominal Salt Rejection
- 600 GPD: 600
- 1000 GPD: 1000

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:
- 4 1/2” X 9 1/4”

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)