

AQUADYNE

AD2000 - Model .60-B



*(Pump not included.)

Assembly and Owners Manual

*Dive in and see what the future offers in no hassles,
no complaints and low maintenance filtration.*

Never Clean Messy Filter Pads Again!

www.Aquadyne-Filters.com

Manufactured by Aquadyne Filtration Systems ~ Hartwell, GA 30643
Ph:(706)436-9041 ~ Fx:(706)377-4554 E-mail: Info@Aquadyne-Filters.com

Main Filter Body Assembly - AD2000 / Model .60B

Remove and Unpack All Filter Components

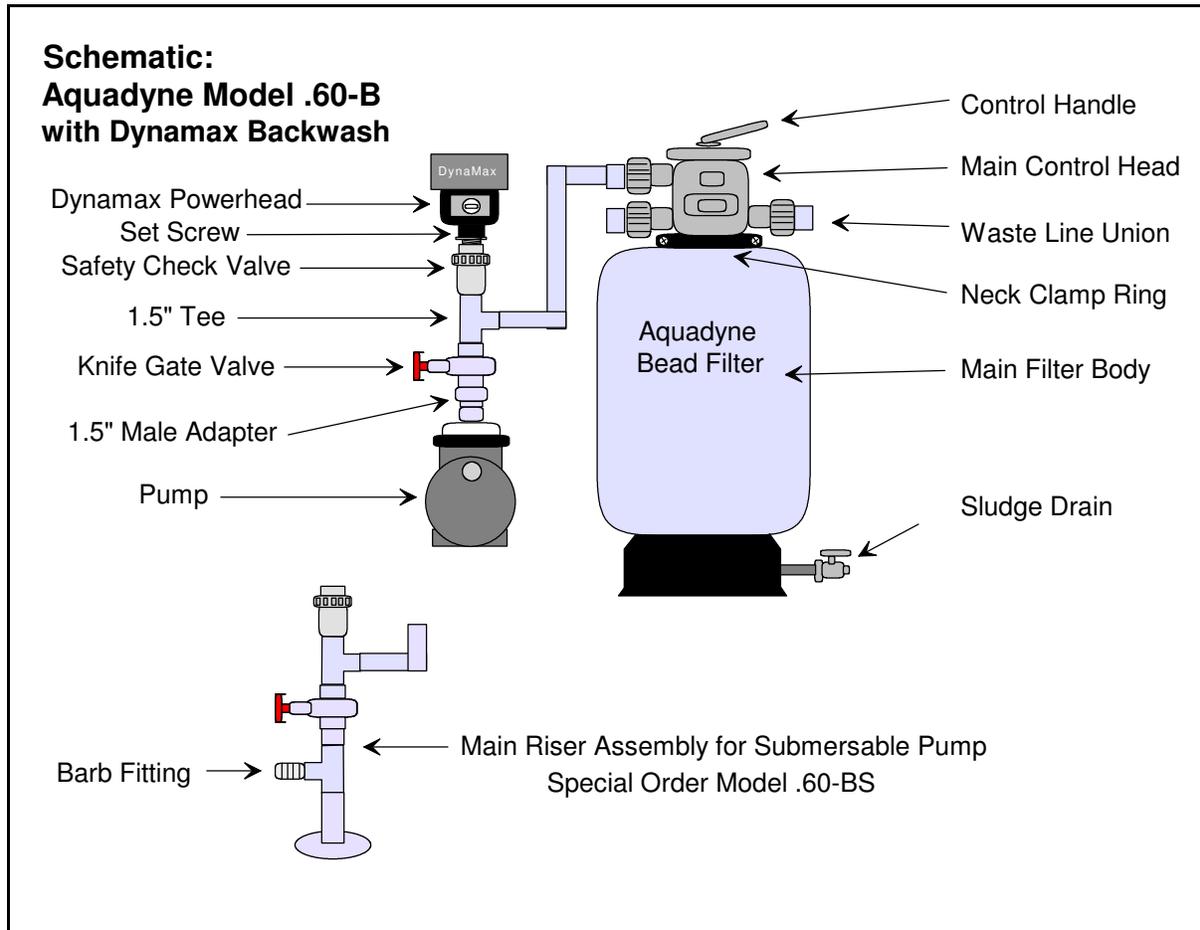
Main Tank Box: This box will contain the filter body and tank base, Aquadyne control head and diffuser column and 3 ea. 1.5" Control Head Unions installed.

Bead Media Box: This box will contain 20 pounds of Aquadyne bead media, the Air Blower riser, 2 pieces of attachment plumbing, and the sludge valve.

1. First unpack the main filter tank and remove the two bolts in the neck clamp ring.
2. Next Remove the control head and column.
3. Screw the sludge drain into the fitting in the bottom of the tank, through the hole in the base. Teflon tape has already been applied to the threads for you. Be sure the sludge valve is in the closed position. Hand Tighten Only!
4. Position the main filter body in a level location of your choosing. The AD2000 / .60B model fit well on 4 12 x 12 pave stones.
5. Fill the main tank almost half full of water and pour in all of the beads included in your filter. The water will float the beads enough for you to insert the head and column into the tank.
6. Lubricate the large neck O-ring that seals the control head to the tank with the included silicone lubricant and re-insert the control head and column into the tank and position the head to best suit your plumbing needs.
7. Reattach the neck clamp ring and tighten hand tight with a screwdriver. No power tools!
8. The drawing clearly indicates where you will attach the pump line, return line, and waste line. Be sure not to over tighten the union couplings, for easy removal later.
9. The waste line need not be glued in unless you prefer. Simply run a short section of pipe from the waste fitting several feet or further away from the filter to prevent washing around the filter. The bottom sludge drain need not be plumbed any further, as you will only be opening the drain for 5 seconds or so at a time.
10. Once you have completed the main tank assembly, install your pump next to your filter according to the visual diagrams provided. Install the blower riser onto the pump next to the filter using the plumbing pieces included in the box to attach the riser to the upper filter port of the control head. See page 3 for complete riser assembly instructions.
11. Once your filter is assembled and the pump is installed with its suction line under water, fill the suction basket of the pump with water and replace the lid. If you do not have a swing check valve installed somewhere in the suction line, the water will leak out of the basket through the suction line. This is not a problem with a self priming pump. The remaining water in the basket will assist the pump to self prime. As the pump primes you will hear a swishing sound inside the pump. This is the pump sucking the air out of the suction line to prime itself. If your pump is not self priming, a Swing Check valve will need to be installed for the pump to operate properly. See the pump operation literature on the pump section at www.Aquadyne-Filters.com for more information.

Blower Riser Assembly Instructions

1. Assemble the filter body and control head as instructed on page 2.
2. Screw the male adapter end of the special blower riser assembly into the 1.5" vertical pump discharge, making sure that the red handle on the riser valve is facing to the left of the pump and the open port in the riser T is facing the filter. The male riser threads have teflon tape pre-installed for your convenience. **Do not** over tighten the fitting into the pump.
3. Place the completed pump and blower riser assembly next to the filter body. Measure the length of pipe necessary to connect the riser to the filter valve. If necessary, cut the pipe to length and glue into the upper union with a 90 deg. L. (loosen the union and swivel the 90deg L to make alignment easier) then glue the lower end of the pipe into the Tee extension. Assembly is complete. Attach the suction line from the pond to the pump, and the return line to the pond return line. Refer to the operating instructions for operational procedures. Units are shipped with pre-assembled risers for your convenience.
4. Install the Air Blower power head onto the blower riser assembly. **DO NOT GLUE!** Follow the instructions included in the blower box for installing the set screw.



Aquadyne AD2000 / .60B Control Head Functions:

Get acquainted with the features of the main control head.

The **“Filter”** position is used for the normal flow of water through the filter system.

The **“Backwash”** position is used to backwash waste and debris from the filter.

The **“Rinse”** position is used to pre-rinse the bead media prior to returning to the filter mode, which prevents the return of any harmful debris back to the pond environment.

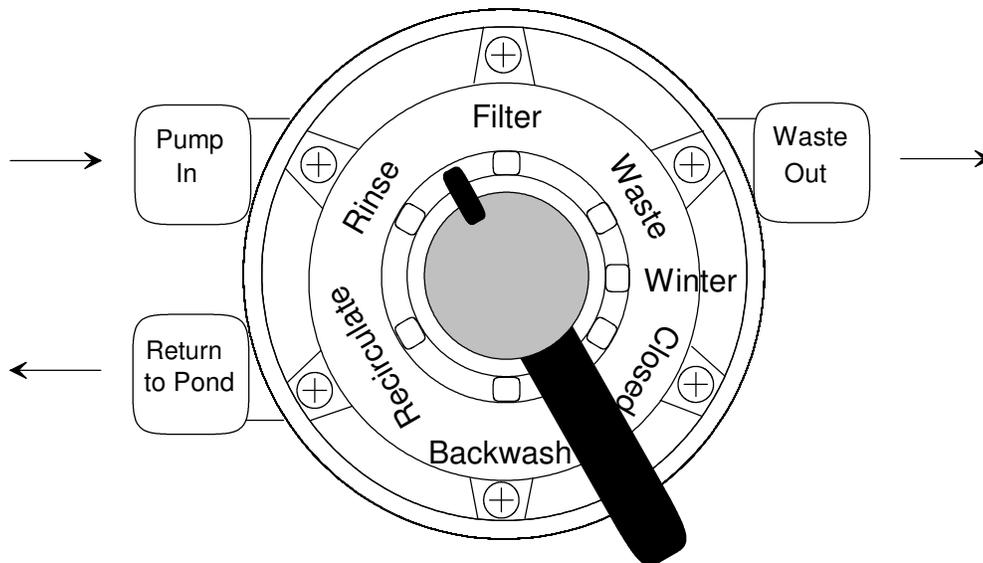
The **“Rinse”** position is also used to vent air from the Dynamax blower when it is in use.

The **“Recirculate”** position is used to bypass the normal flow of water away from the filter media while maintaining pond circulation. This is beneficial when medicating the pond with agents that may be harmful to the beneficial bacterial colonies which reside in the bead media.

The **“Waste”** position also bypasses the filter media. Water flows from the pump, through the control head and out to waste. This position can be beneficial to diagnose any water flow problems, or to simply drain the pond. It can also be used to vacuum water to waste by attaching a vacuum hose to your pump suction.

The **“Closed”** position stops all flow of water through the control head. This position has little use except in a case where the filter is installed below the water level, it will function as a shutoff valve to prevent water back flowing through the pump strainer basket if the lid is removed. **If you change control head positions while the pump is running, and the handle accidentally slips into the closed position, damage may result to your filter.** While it is acceptable to change the control handle position while the pump is running, always rotate the handle in a direction away from the closed position.

The **“Winter”** position is a raised notch which opens all ports of the control head and allows water to drain from the control head and column to prevent freezing and damage. The bottom sludge drain must also be slightly opened to allow water to drain from the main tank body and internal column.



Starting your Aquadyne AD2000 / .60B for the first time:

1. Be sure that the Knife Gate Valve is in the open position. (Handle Pulled Out)
2. Open the leaf trap and fill the reservoir with water. It is recommended that you install a “swing check valve” in the suction line to speed the priming process.
3. Set the “Main Control Head” on “Rinse” and wait for a steady stream of water from the “Waste Line”. This will rinse residual impurities such as manufacturing dust from the filter. Allow to run for about 30 seconds.
4. Then set the “Main Control Head” to “Filter”.
Allow your filter to run for a full week before backwashing for the first time.

It is hard to resist wanting to backwash your filter, especially for the first few times. However, it is important that fish waste and other debris be allowed to accumulate in the filter media so that the beneficial biological bacteria can establish a healthy colony.

Backwashing your Aquadyne AD2000 / .60B for the first time:

1. Unplug or switch off your main pump motor.
2. Set the “Main Control Head” on “Rinse”.
3. Push the Knife Gate Valve handle completely in to prevent blower air from escaping through the pump. If you have installed a swing check valve in your suction line, you can leave the valve open.
4. Plug in or turn on the Air Blower unit and allow it to run for 2 minutes. First there will be a small amount of water discharge from the “Waste Line”, followed by a steady stream of air. You can put your ear to the main tank body and you should hear a violent swishing of the bead media inside, as well as a noticeable vibrating of the main tank body.
5. Unplug or switch off the Air Blower and re-open the Knife Gate Valve.
6. Set the “Main Control Head” to “Backwash” and plug in or switch on the main pump. After a moment of hesitation (re-priming) there will be a discharge of waste from the “Waste Line”. Once the discharge begins to clear, set the “Main Control Head” to the “Rinse” position for 5 to 10 seconds, then return the control head back to the “Filter” position. This completes your first backwash! Future backwashing are always performed in the same manner, except after about 4 washings, you can loose the manual. It is recommended to always turn off the pump when switching back and forth between control head positions to extend the life of the internal gaskets.
7. After backwashing, and returning the control head to the filter position, always open the sludge valve located at the bottom of the filter for a few seconds to purge any heavy solids from the bottom of the tank. **Opening the sludge valve during the backwash cycle is not recommended. You may loose bead media through the sludge valve during the backwash cycle.** Backwashing is recommended weekly.

NOTE: If you do not have a large volume of air escaping the waste line from the Dynamax when running, or you can not hear a violent stirring of the bead media when placing your ear against the tank, try rotating the main control head back and forth between backwash and rinse 2 or 3 times with the main pump running, BEFORE switching to the Dynamax mode. This will free any debris that is stuck on the waste line slots of the main column and allow free passage of both air and waste.

Special Waste Line Considerations **DO NOT SKIP THIS SECTION!!!**

While the waste discharge line may seem to need no special attention, its configuration is actually quite important. The typical waste line simply needs to discharge down and away from the filter only a few feet from the tank, keeping the same rigid pipe diameter of the control head. You can extend the rigid discharge line up to 20 feet away from the tank with no problems. If you are discharging waste or air over 20 feet then you will need to use the next larger pipe size to avoid friction loss that can overheat your blower. For example, up-size from 1.5" to 2".

Pit mounted or below pond level filters

If your filter is mounted in a pit, and you will need to discharge your waste water up and out of the pit, you will need to consider the blowers ability to overcome the lift height. While the water pump will have no trouble with this lift the Dynamax air blower can lift the initial water discharge at the beginning of the blower cycle about 4 feet. If you attempt to use the blower to lift the air rinse water over 4 feet, you may over heat and damage your blower. If installing in a pit that needs a vertical lift for discharge always order a 1.5 HP blower for smaller filters that typically use 1.0 HP blowers. This will best prepare a smaller filter to discharge from a pit.

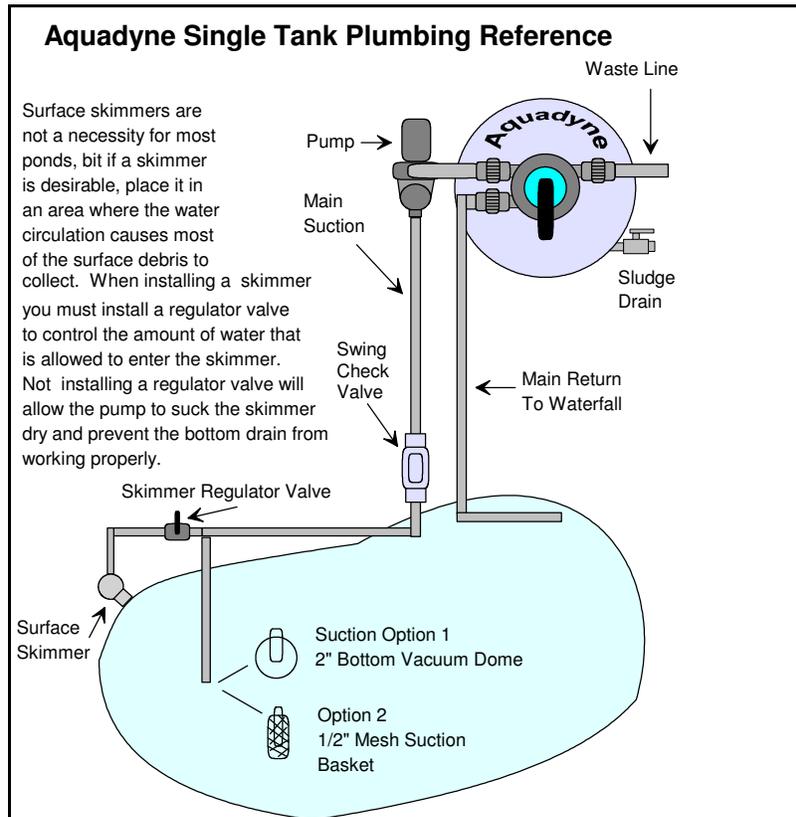
Installing an Aquadyne below pond grade or in a subfloor level.

If you are installing an Aquadyne below water level, in a basement or in a subfloor level in a commercial building you will also need to take into consideration additional head pressure that will occur on the vessel and blower safety valves. When installing a filter below water level (which is called flooded suction) you will need to add a separate valve between the pump and the filter that will need to be closed when using the Dynamax blower. When you use the blower to air-wash the filter, you will have the control head in rinse. This position closes off the return line from the tank, this prevents the water coming back towards the blower from the return line. When air washing the filter, you will also need to close a valve between the pump and the filter to prevent head water from entering the filter through the pump and preventing the air from the blower escaping the waste line. The head pressure will keep the spring check safety valve closed. The blower safety check valve will not open if there is head pressure on the tank. If the safety valve or blower ball valve fails, water can get into the blower housing whether the blower is mounted above the actual water level or not as the pump is pressing against the valve. In proper operation, this pressure purposely keeps the valve closed. As always, it is important to always install GFCI (ground fault circuit interrupter) to protect against accidental electrical shock. At least once per year, remove the blower from the blower riser and inspect the riser valves. Open the manual valve and look inside the riser with the pump running. There should be no water visible inside the valves. If there is, repair or replace the valves immediately.

Never Use Lay Flat Piping For Waste Lines

At no time should you ever use lay flat flexible discharge piping. This tubing is typically blue or green. Using lay flat waste lines will not allow your filter to air-wash or backwash properly. Typically blower damage will result from using this type of piping as the blower air is unable to overcome the friction and kinks of the lay flat line as well as a water pump can.

General Plumbing Layout



There are benefits of plumbing two or more Aquadyne systems on a single habitat. First, and most evident is the fact that you can double the filtration capacity of any system by running tandem units. Aquadyne can accommodate any size body of water by simply using multiple systems plumbed together. i.e.: single tandems, double tandems, triple tandems, or even quad tandems for facilities over 100,000 gallons capacity. The second benefit of running tandem systems is most beneficial for quarantine systems or holding facilities, where high fish loads can be supported, and medicated without the fear of losing total filtration. Also, when using tandems, there is mechanical redundancy. If for any reason one filter has a mechanical problem, the other can carry the system until repairs are made to the down system. For detailed information on tandem system plumbing you can visit the engineering section at Aquadyne-Filters.com

Draining Your Pond and Water Changes:

Typically, the backwashing process will discharge enough water over a couple of back washings to satisfy your water change needs. However, if you need to remove large sums of water from your pond for cleaning or other purposes, simply rotate the control head handle to the WASTE position and the pond water will be drained to waste without passing through the filter as long as the pump or suction line is under water. It is not a good idea to drain your pond in the backwash cycle, as it will cause excessive loss of beneficial bacteria from bead friction.

Medicating Your Pond:

At times it may be necessary to add medications to your pond that will harm the beneficial bacteria in your biological filter. In this case you will simply position the top control handle to the RECIRC. position. Always perform a BACKWASH cycle before closing off your filter from circulation. This will clear the filter of waste and prevent it from becoming septic. Before returning the filter to normal operation, backwash the filter again to discharge any septic water that may have formed in the filter while being bypassed. RECIRC. allows the water coming from the pump to bypass the filter completely and recirculate to the pond without passing through the filter media, and thus not killing the biological capacity of your filter. The beneficial bacteria should be able to survive in the closed system for many weeks. When you return your filter to normal operation after an extended period of medicating, the capacity of the filter may be stunted for a short time, but should catch back up with the demand of your pond within a couple of days. Always perform a 50% water change after medicating your pond.

Winterizing Your Filter:

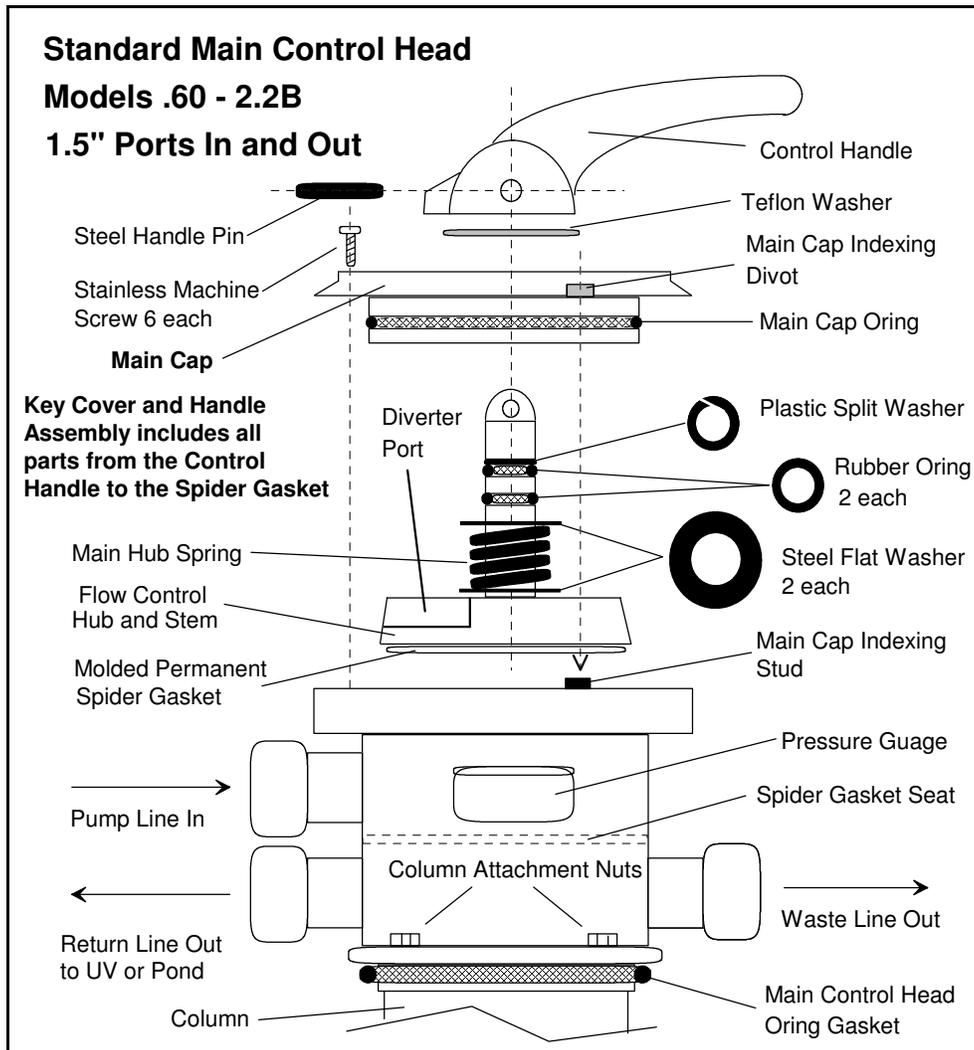
Many people find it necessary to shut their pumps off in the winter time. If this is the case you will need to winterize your pump and filter system. First, perform a complete backwash cycle and shut your pump off. Next, drain the main tank by placing the main control head in the "Winter" position and open the sludge drain and allow the water to trickle out. **Do not** open the sludge drain fully and leave the filter unattended or the bead media will surely run out of the tank. However, it is acceptable to open the sludge drain fully to accelerate the draining process if you are there to close the valve to a trickle at the first sight of beads escaping. You may remove the winterizing cap if you wish. However, due to the sludge drain being post factory installed lower than the original winterize cap, the cap no longer serves as a necessary component of the filter. Again, **do not** fully open the sludge drain valve to drain the tank water unattended as the beads will wash out by the hundreds. Once the tank is drained leave the valve cracked just a little to prevent any water from freezing in the pipe. Do not be alarmed if on occasion you loose a few beads from the sludge lower waste drain. This is normal as on occasion some beads will be trapped in clumps of waste that will discharge through the drain. You could loose several pounds of beads from most sizes before you ever affected the filters biological capacity. Replacement beads are available if you should ever want to top off your filter, but be cautious not to add more than the specified weight for your filter, as the filter has been designed to function properly with a specific quantity of beads.

Vacation

If you plan to be away from your pond for an extended period of time, there is no need to worry about backwashing your filter while you are away unless your pond is heavily stocked and requires more frequent cleaning. The filter is designed so that there is little resistance to water flow through the media and diffuser column. If you are normally backwashing once per week and not getting an extreme amount of dirt waste from the filter, you can leave you filter running for three to four weeks unattended, depending on the filter size and fish load, but you will want to perform a very good backwash upon returning to assure that the filter is clean.

Service Guide v1.5

Please refer to these part names when ordering parts. If you ever have service issues with your control head, this addendum will be very helpful in deciding on which o-rings that may need replacing. As with any product, there are parts that will need to be replaced due to normal wear. Below you will find a complete diagram and troubleshooting instructions for Aquadyne filter models .60 through 2.2B with standard 1.5" plumbing ports.

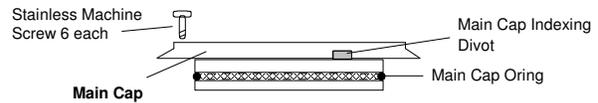


Control Head Trouble Shooting Guide

As with all mechanical things, after some years there are maintenance issues that become apparent and will need to be addressed. Below you will find step by step instruction on how to troubleshoot general maintenance issues.

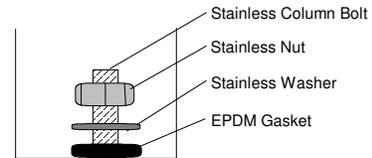
Water Leaking From Under Control Head Cap

1. Remove 6 machine screws from main cap.
 2. Remove Cover O-ring. Clean O-ring and O-ring groove. Lubricate and Reinstall.
- Do not over tighten the screws. Wrist tight only.
If leaking persists, replace o-ring.



Water Leaking From Waste Line (A)

1. Remove 6 machine screws from main cap.
 2. Use 7/16 extension socket and remove the stainless nut from the bottom of the waste line port in the inside of the control head body.
 3. Inspect or replace the EPDM o-ring on the bolt shaft then replace the washer and nut and re-tighten.
- *Do not over tighten. Tighten wrist tight only to compress the washer.



Water Leaking From Waste Line (B)

While disassembled, check the Molded Permanent Spider Gasket in the flow control hub. If the gasket is cut or deformed, the Flow Control Hub will need to be replaced. The Spider Gasket is not a separate replacement part. The Spider Gasket is molded into the Flow Control Hub. **Do not lubricate this gasket.**

Flow Control Hub Removal and Shaft Seal O-ring Replacement

Please refer to the Standard Main Control Head Diagram while following these directions.

1. Using a pin driver or Phillips screw driver, drive out the steel handle pin from one side and remove.
If the pin is difficult to drive out. Try driving the pin in the opposite direction.
2. Remove the control handle and nylon washer.
3. Next remove the 6 stainless machine screws from the cover. Loosen the screws in a circular pattern using 2 revolutions per screw until the screws can be removed. This method allows the release of the spring tension from the main hub spring.
4. Remove the cap and flow control hub from the control head. Twist the flow control hub back and forth and remove it from the center of the main cap.
5. Clean and lubricate or replace diverter hub o-rings. (you will need 2 shaft seal kits if replacing)

Re-assembly Instructions

1. Replace steel flat washers and hub spring on the diverter shaft as illustrated. Lubricate shaft o-rings and hole inside the main cap.
2. Insert the stem of the diverter hub into the bottom side of the main cap and press together as far as possible. Rotate the diverter hub until it's port is under the filter position on the cap label.
3. Replace the cap and diverter assembly into the control head body, assuring that the main cap indexing divot and the indexing stud on the body are aligned.
4. Replace the 6 stainless machine screws in the cap and re-tighten them in a circular pattern about 2 revolutions per screw until the cover is secured. This allows for the uniform re-compression of the main hub spring. Start the screws back into their original threads by hand then tighten, rather than forcing a new thread.
5. Replace the nylon washer and handle over the stem with the handle pointer towards the filter position.
6. Re-drive the steel handle pin into the handle and through the hub stem. **Insert the pin smooth end first.**
7. Press the handle down and rotate the pointer to the winterize position. Loosen the 6 screws slightly and re-tighten wrist tight. This will allow the newly lubricated o-ring to seek its center and properly seal.

Some o-rings may need replacing every 2 or 3 years. Others may last much longer.

Only lubricate with potable water o-ring lubricant. i.e.: silicone grease or other lubricant for o-rings.

Do not use Vaseline or petroleum grease. These will damage the O-ring rubber.

Never lubricate a spider gasket or spider gasket seat.

This will cause debris to stick to the gasket and seat and can cause the control head to leak.

Manufactured by Aquadyne Filtration Systems ~ Hartwell, GA 30643

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Filter is loading too quickly between backwash cycles
Water slows down hours after a fresh backwash

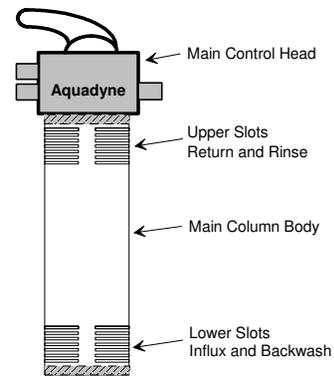
Typically, the reason for these occurrences is that the media depth is too low. This can occur as a result of excessive bead loss through the sludge valve, usually over a period of years. It is common to lose a few beads when opening the sludge drain. This loss usually amounts to no more than 1 to 2 pounds of media per year. Over time this adds up and the bead depth is reduced. The lower the bead media depth the less media there is to trap waste products therefore the media loads faster. Bead loss can also occur due to improper backwashing. Opening the sludge valve only when the filter is in filter position minimizes bead loss. In the filter position the media is floating and compacted towards the top of the filter and away from the sludge valve. The following are instructions on how to gain access to the media and measure the bead media depth. If your bead depth is sufficient the problem may be pump related.

Control Head and Column Removal

1. Turn off pump and attached equipment.
2. Detach all PVC lines from the control head. This is typically done by unscrewing union connectors.
3. Using a #2 Phillips head screwdriver, remove the 2 screws on either side of the neck clamp that attaches the black control head to the beige tank and remove the neck clamp from the tank.
4. Lift straight up on the control head and the entire head and column can be easily removed.

Note: When removing column from tank, always inspect it thoroughly. Remove any beads that might have become trapped in the upper slots. Typically, some media will become trapped in the upper slots over time, which if significant can cause the flow rate through the filter to decrease. The slots in both the upper and lower sections are engineered to maintain a flow even when 75% blocked.

Aquadyne Head and Column Assembly



The Aquadyne Flow Control System is a Patented Product
That is Protected under United States Patent Law.

Measuring the Bead Media Depth

Remove the control head and column as directed above. Fill the tank with water until the beads float 2 to 3 inches below the tank opening. Reach into the media and feel for the bottom of the floating media. Insert a tape measure to your fingers and take the bead depth reading from the surface of the media at the tank opening. It is not recommended to exceed the measurement capacity by more than 10% when adding media to the tank.

Bead Capacity by Depth Measure

- AD2000 / Model .60B --- 8.5 inches (3# of media per inch)
- AD4000 / Model 1.1B --- 10.5 inches (4# of media per inch)
- AD8000 / Model 2.2B --- 13.5 inches (6# of media per inch)
- AD16000 / Model 4.4C - 15.5 inches (10# of media per inch)
- AD30000 / Model 8.8C -- 16.5 inches (19# of media per inch)

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General Filter Care and Maintenance

Refer to the diagram on Page 13 when following instructions.

1. Rubber O-ring Lubrication may be necessary if the main control handle becomes difficult to reposition. Over the years the factory lubrication may dry out on the two small o-rings located on the flow control stem which require lubrication. To perform this procedure, first use a pin driver to remove the Steel Handle Pin from the Control Handle. (A pin driver can be any blunt steel rod which has a smaller diameter than the rod itself, which can be driven through the control handle.) Next remove the Stainless Machine Screws or bolts which hold down the Main Cap to the Control Head Body and remove the Main Cap assembly from the control head body. Grasp the Main Cap in one hand and the Flow Control Hub in the other and twist while pulling them apart from each other. This will expose the two rubber o-ring located on the Flow control Stem. Lubricate the two o-rings liberally with a silicone based or similar o-ring lubricant. It is not necessary to remove the o-rings from the stem unless they are leaking or broken. If it is necessary to remove the o-rings, remove the lower o-ring first, being careful not to scratch or gouge the inner surfaces of the o-ring seat with a sharp object. Then remove the upper o-ring and split washer. When reinstalling the o-rings, replace the upper o-ring and split washer first and the lower o-ring last. At this time, remove, clean, and lubricate the Main Cap O-ring before re-assembly. Re-insert the Main Stem and Hub assembly into the Main Cap and be sure that the Open Hub Port in the Main Hub is aligned with the Filter Position indicated in writing on the Main Cap label. Insert the reassembled Main Cap assembly into the Control Head Body, being sure to align the Main Cap Indexing Divot with the Main Cap Indexing Stud on the Control Head Body. Re-insert the Stainless Machine Screws or bolts into the Main Cap and hand tighten in a cross over pattern as you would the lug nuts on an automotive wheel. This will assure a uniformly seated Main Cap assembly. Place the Control Handle onto the Flow Control Stem with the Control Position Pointer facing the Filter Position indicated in writing on the Main Cap label. If the Open Hub Port and the Control Position Pointer are not aligned in this fashion the filter will not work properly when returned to service. Finally, re-insert the Steel Handle Pin into the Control Handle and drive it flush on both sides. If you ever experience a leak from between the main control head body and the filter tank it is likely that the Main Control Head O-ring Gasket either needs lubricating or replacing. The Flow Control Hub Main Seal is a permanent seal which is molded into the Flow Control Hub and Stem assembly on models .60 through 2.2-B with 1 ½ inch control heads. No lubrication or service is necessary on this seal. If this seal is ever cut or damaged, simply replace the Flow Control Hub and Stem Assembly.

2. Replacement Parts are available for all filter models factory direct by calling the phone numbers provided in the service manuals or online at Aquadyne-Filters.com. **It is our desire to make your Aquadyne experience as trouble free and future cost effective as possible.**

See Appendix for Maintenance Schedule

Appendix

Symptom: When running a blower, the blower blows air back through the pump and bubbles come out of the bottom drain or suction line in the pond.

Solution: The pathway to the pump remains open when the blower is running. If your pond is shallow the suction line or bottom drain may not be deep enough to counteract the pressure of the blower as it airwashes the filter. This condition needs to be resolved, because the air escaping from the pump needs to be used toward airwashing the filter. To resolve this condition, simply install a swing check valve in the suction line, preferably as far away from the pump as possible. Placing the valve farther away from the pump greatly assists in keeping the pump primed. However near the pump will work as well.

Symptom: After a backwashing a B model filter, the water slows down more quickly than normal.

Solution: The first step is to wait until the condition occurs in full. Do not backwash the filter. Turn the pump off. Remove the control head by following the instructions on page 15. Reach down through the center of the media and grab a fist full of media from the very bottom of the floating media.

If the media is a solid hard clumped mass, the filter is not airwashing properly.

If the media is dirty but not clumped, the media depth may be excessively low. Low media depth causes premature waste loading. See measuring the bead depth on page 15.

If the media is only mildly dirty, check the pump for a clogged impeller or faulty wear ring.

Also inspect the slots in the central diffuser column. Remove any beads that are lodged in the slots and discard them. The column is designed to operate normally even with many beads .

Symptom: There is a trickle of water coming out of the waste line when the filter control head is in the filter position.

Solution: This situation has one of two causes. Either the spider gasket on the diverter hub is damaged or the Waste Seal needs replacing. (Note: The Spider Gasket in a 2” ported control head is mounted inside the head and not on the diverter hub.) See page 13 for parts layout and descriptions. Page 14 contains disassembly instructions.

Symptom: Water will not flow through the sludge drain.

Solution: If water will not flow through the sludge drain when opened, there is heavy sedimentation that has stopped up the drain. It is necessary to open the sludge drain momentarily to evacuate sediment solids from the lower sedimentation area of the filter every time that you backwash your filter system. If the sludge drain of your Aquadyne system is not opened for extended periods of time, sediment waste products in the bottom of the filter can solidify and block the passage of water through the drain. You should open the sludge drain at least 2 times per month, whether or not you backwash your filter that often. Always open the sludge drain with the filter running in the filter position to drain solid waste from the filter system. There are three ways to clear the drain.

#1. Open the stopped up drain and insert a small diameter flexible shaft with an upturned end (hedge branch) into the drain pipe and force it past the elbow into the tank. If the obstruction is light, this should clear the drain easily.

#2. Acquire a hose fitting from the hardware store that will allow you to connect your garden hose to the 1” sludge drain fitting. With the pump off, and the control head set to rinse, apply pressure to the garden hose from the house spigot. The hose pressure should break the blockage loose.

#3. If the drain has not been opened in quite a while and you suspect a severe blockage then it is best to remove the control head and column from the tank as described on page 14 and reach down to the bottom of the tank and feel for the obstruction and physically remove it. If you cannot reach the bottom of the tank, or the sediment debris is very hard. Then use a small diameter rod or even a screw driver or scraper type device and wiggle it into the lower elbow from inside the tank with the sludge drain open. This will most definitely free the obstruction. If you still cannot get the drain to clear then remove the media so that you can physically see the obstruction to clear it.

Symptom: You have a new installation, the filter has been running for two to four weeks and the water quality has not visibly improved.

Solution: Initially a new pond will turn green before it is cycled and clears unless you have installed an ultraviolet sterilizer when first setting up the pond. The average time for a pond to fully cycle is between 6 and 8 weeks and possibly a little longer depending on biological conditions. This means that the naturally occurring nitrosomonas and nitrobacter bacteria that support the decomposition of fish waste and waste nutrients not only have to live but thrive and coat not only the bead media bed but also the solid surface area (the bottom) of the pond. New ponds tend to have a higher pH especially where concrete is used inside the water volume. Rocks and concrete and even concrete blocks used as plant stands can cause the pH to rise above 10 when a normal pH is 7.0. Concrete can cause the pH to remain high for months if not remedied. It is very difficult to cycle bacteria in a high pH environment, and often times the water quality will get much worse before it gets better. One remedy for high pH in a new pond with concrete is to add 1 Gallon of Muriatic Acid per 2500 gallons of pond volume. This will leach the alkalinity out of the surface of the concrete and lower the pH. Leave the pump running if there is concrete in a waterfall, and do not perform a water change for at least 5 to 7 days. After treatment test the pH. If it is still well above 7.0, then add an equal amount of Muriatic Acid for a second treatment. Once the pH will hold between 7.0 and 8.0 the leaching will be sufficient to allow the cycling of bacteria. Perform at least a 50% water change and let your filter system run normally. You can add Ammonium Chloride (this is like adding artificial fish waste) to the pond to help cycle the pond before adding any fish. Or you can add a small amount of fish stock to start the cycling naturally. Muriatic Acid is very inexpensive at Depot stores, but be very careful in handling any acid. Acid can cause extensive burns and blindness. When adding acid to the pond wear rubber gloves and protective clothing and pour the acid very close to the surface at arms length to avoid splashing and do not breathe the vapors. Read the cautionary label on the acid before use. Caution! Muriatic Acid will kill any fish in the pond, so remove them before treatment. You may need to add an ultraviolet sterilizer to your system if you do not have one. No filter will remove the green cellular algae from the water, however a properly cycled and balanced environment will consume the nutrients necessary for green water algae to grow, thereby naturally eliminating it. Remember, a pond is a living environment that naturally seeks to balance itself. If you have a little water circulating, a few plants, and a few fish, the pond will balance itself eventually. The trick is not to do anything drastic like adding 20 fish to a brand new environment with a swinging unbuffered pH and concrete in water and expect it to balance in 2 weeks and not loose half the fish and at least devastatingly stress out the other half. So create and enjoy a balanced pond, for all its inhabitants.

Thank you for purchasing an Aquadyne Filtration System.

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