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# AquaKlear

WASTEWATER TREATMENT SYSTEMS

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## OWNER'S MANUAL CLASS I

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COMMERCIAL & RESIDENTIAL  
WASTEWATER TREATMENT SYSTEMS



REVISED 10-01-05

Certified to NSF/ANSI Standard 40

## **PRODUCT DESCRIPTION**

The “AquaKlear” Wastewater Treatment system is an economical alternative for use in treating domestic wastewater generated by normal household activities. The system consists of a single tank extended aeration activated sludge system which is capable of producing a clear odorless effluent which meets applicable state discharge standards. This system has been successfully tested and listed by NSF International in accordance with NSF/ANSI Standard 40.

Raw wastewater flows into the aeration zone of the extended aeration system. Here, the oxygen supplied by the aeration system, along with the organic matter in the waste stream, creates an ideal environment for the growth of aerobic micro-organisms. These organisms convert the waste organic materials into gases and additional micro-organism cell material. In addition to supplying oxygen, the aeration system keeps the contents of the aeration zone well mixed to provide optimum exposure to the micro-organisms to the waste material. The action of the beneficial micro-organisms also result in a significant reduction in pathogenic bacteria.

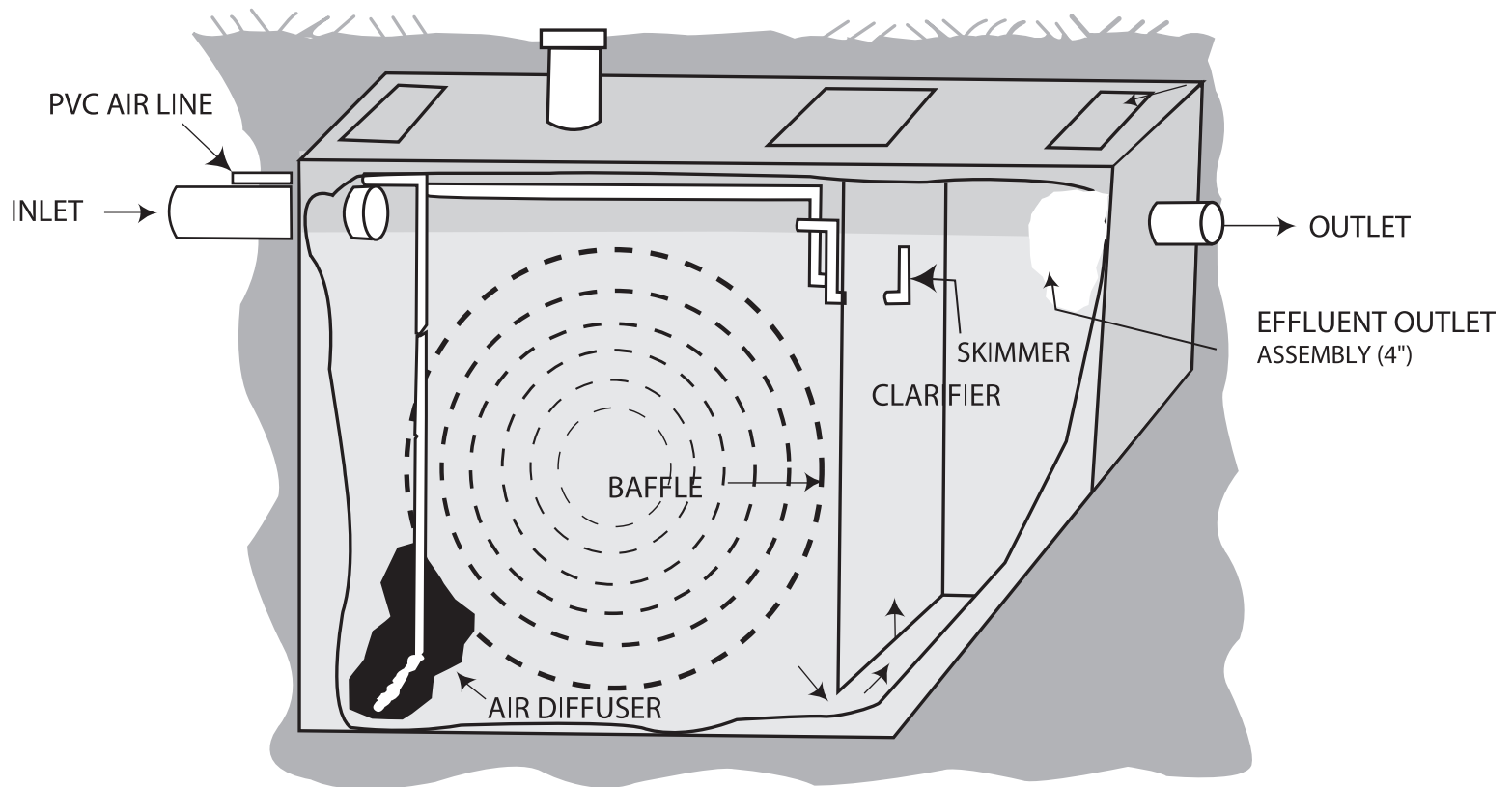
After approximately 24 hours of detention in the aeration zone, the mixture enters the clarifier where quiescent conditions enable separation of the micro-organisms which are returned to the aeration zone and discharge of clear treated wastewater through the launder assembly. At the surface of the clarifier there is a skimmer which removes any floating solids and returns them to the aeration zone automatically, while not disturbing the quiescent conditions of the clarifier. Effluent may be discharged to an accepted discharge point that is in compliance with all state and local laws and regulations.

The “AquaKlear” Wastewater Treatment System exceeds all effluent water quality requirements for Class 1 designation (25 mg/L CBOD5 and 30 mg/L TSS) as set forth by NSF/ANSI Standard 40. The six month daily average for the AquaKlear, Inc. system is 10 mg/L CBOD5 and 11 mg/L TSS.

## Model Numbers

<input type="checkbox"/> AK500C	<input type="checkbox"/> AK600FP5
<input type="checkbox"/> AK500CC	<input type="checkbox"/> AK750C
<input type="checkbox"/> AK500F	<input type="checkbox"/> AK750F
<input type="checkbox"/> AK500FC	<input type="checkbox"/> AK750FF
<input type="checkbox"/> AK500FF	<input type="checkbox"/> AK800C
<input type="checkbox"/> AK500C3P	<input type="checkbox"/> AK800F
<input type="checkbox"/> AK5B1	<input type="checkbox"/> AK800FF
<input type="checkbox"/> AK5B2	<input type="checkbox"/> AK1000C
<input type="checkbox"/> AK5B3	<input type="checkbox"/> AK1000F
<input type="checkbox"/> AK600C	<input type="checkbox"/> AK1000FF
<input type="checkbox"/> AK600CC	<input type="checkbox"/> AK1500C
<input type="checkbox"/> AK600F	<input type="checkbox"/> AK1500F
<input type="checkbox"/> AK600FF	<input type="checkbox"/> AK1500FF
<input type="checkbox"/> AK600F3P	<input type="checkbox"/> AK365F

**Note:** suffix C denotes Concrete  
suffix F denotes Fiberglass  
suffix FF denotes Fiberglass Flattop  
suffix P denotes Trash or Pump Tank  
suffix CC denotes Concrete with attached Chlorinator  
suffix FC denotes Fiberglass with attached Chlorinator  
suffix C3P denotes Concrete with 300 gal attached pretreatment  
suffix F3P denotes Fiberglass with 300 gal attached pretreatment  
suffix FP5 denotes Fiberglass with 500 gal pump tank



**FLOW PATH OF SYSTEM**

## OPERATING INSTRUCTIONS

Once installed, the blower will run continuously and the system will operate with a minimal amount of attention. It will take from 6 to 12 weeks after startup to develop an optimum population of micro-organisms. To insure proper operation and minimize maintenance requirements, the following materials should not be permitted to enter the system.

### **Items to Avoid**

Strong disinfectant or bleaches (other than small amounts normally used in laundry and house cleaning - be conservative).

Oils, greases and chemical waste

Disposable diapers, tampons, sanitary napkins, cigarette butts and similar items.

Discharge from water softener.

The AquaKlear Wastewater Treatment System has been designed and tested to treat common and ordinarily expected wastewater and sewage from commercial and residential sources.

## ROUTINE SYSTEM CHECKS

### **Checking Pump**

Check air pump daily to be sure it is operating. Once accustomed to the soft humming sound of a properly operating unit, any unusual noise is an indication of a malfunction. If any unusual noise is detected, or if alarm signals, call dealer for service.

### **Checking Access Port**

Check access port weekly for sour or "rotten egg" odor. If odor develops, call dealer for service. Always reference the system data plate when calling for service.

**Checking Inlet Filter**

Check inlet filter on air pump every three months and change or wash, if necessary. Filter should be cleaned or changed more often if conditions warrant.

**Checking Effluent**

Check effluent pipe weekly. Effluent should be clear and odor free. Effluent samples should be collected after treated wastewater has been discharged from the end of the pipe for several minutes. Care should be taken to insure that there is no algae growing in the pipe end which may be collected in the effluent sample.

**Residential Removal**

While the accumulation of residuals is largely dependent upon the characteristics of the wastewater treated, it is recommended that residuals be removed every 5 years, by a state certified removal service. The service should remove the lower (bottom) 1/2 of the liquor in both chambers and then refill with clear water.

**Intermittent Operation**

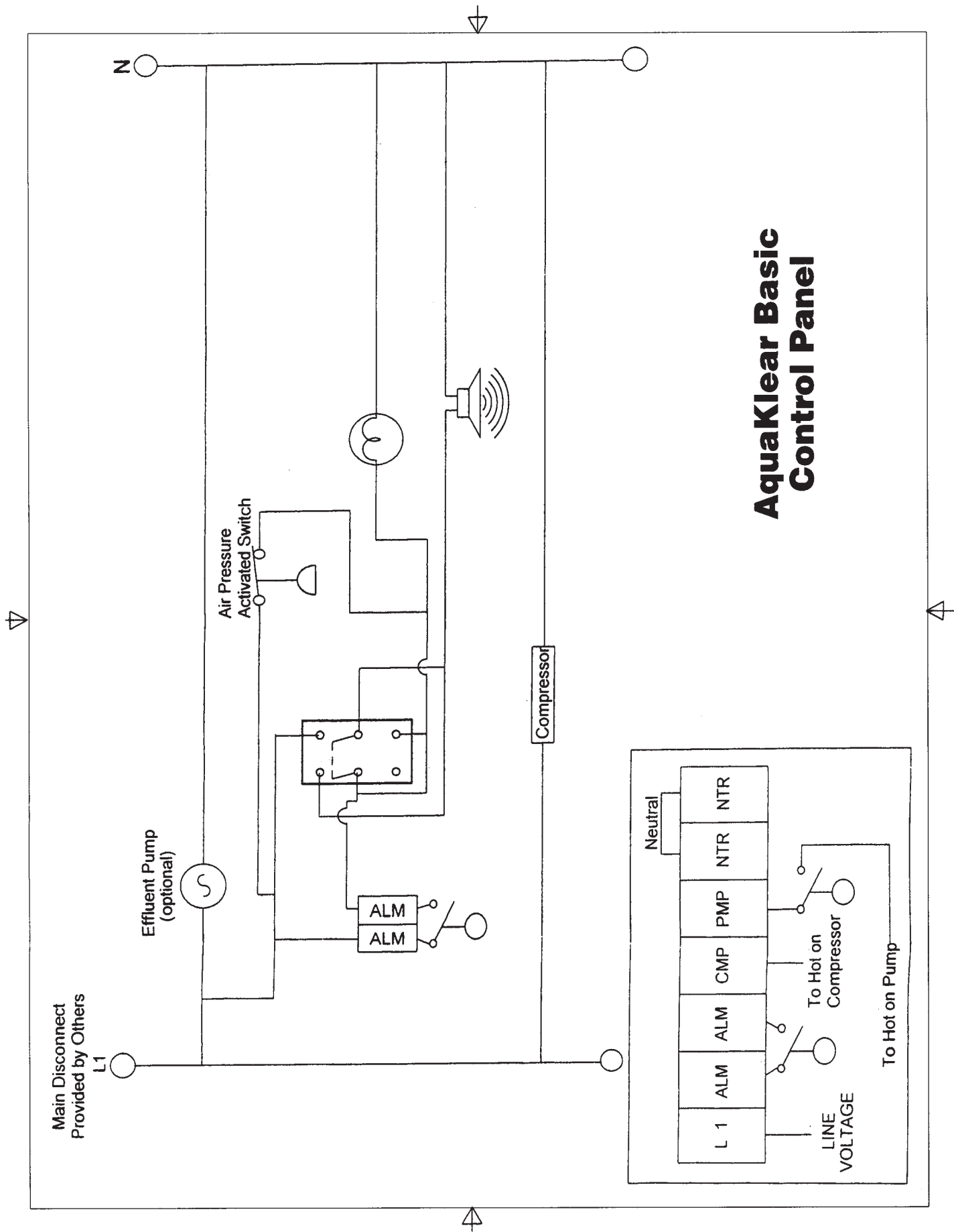
The air pump should always be operating during intermittent use of the treatment system.

**Electrical Wiring**

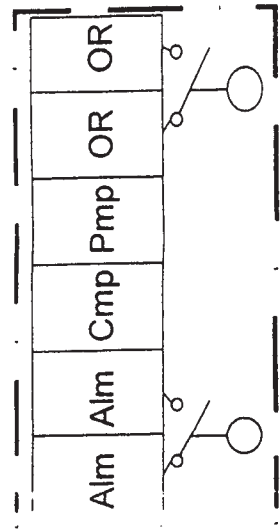
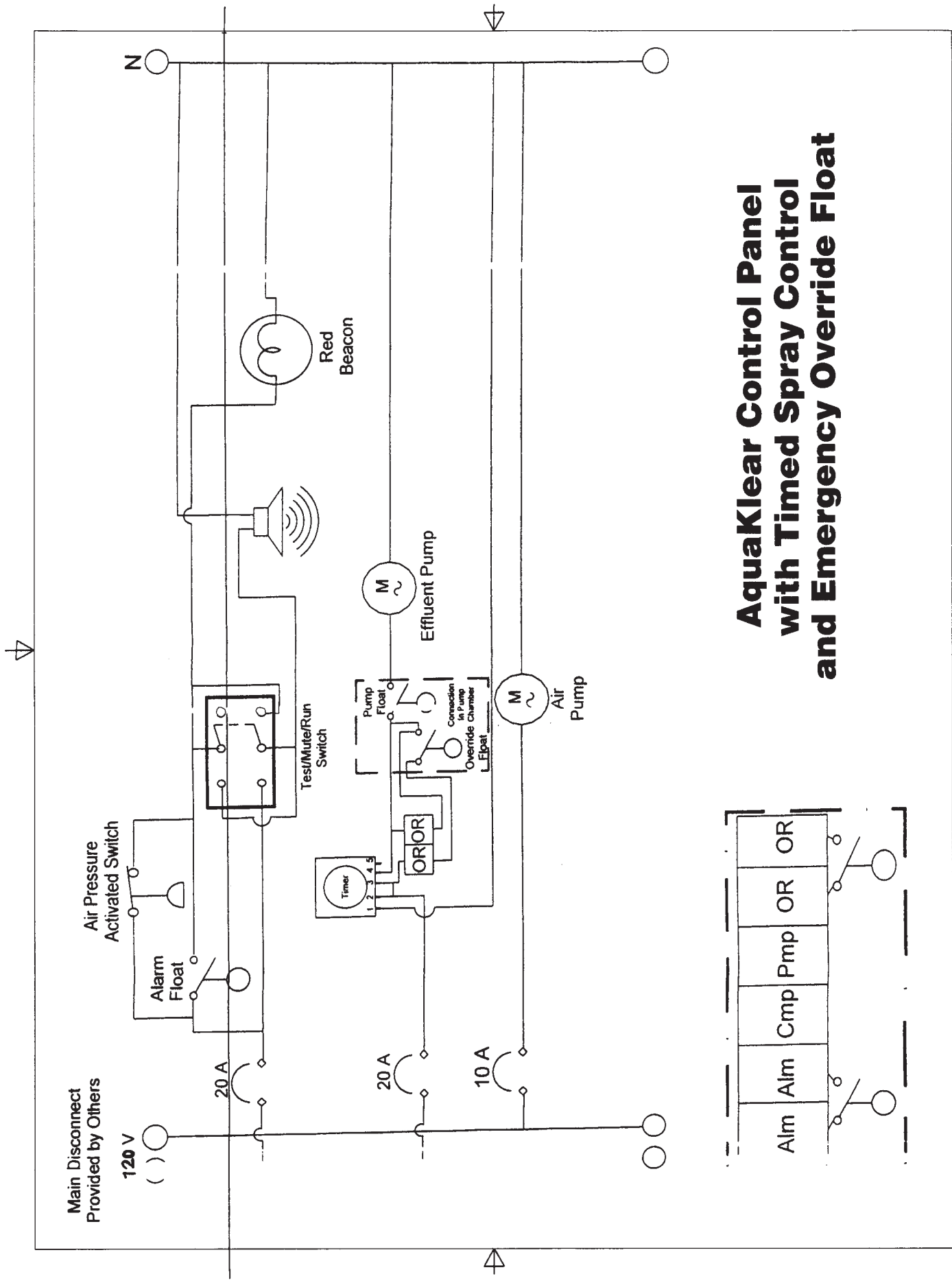
An electrical wiring diagram is included in this manual.

**Effluent Collection**

When collecting an effluent sample, the sample should be taken at the closest point to the clarifier as possible. The water should have been flowing for two minutes before collecting the sample.



## AquaKlear Basic Control Panel



# AquaKlear Control Panel with Timed Spray Control and Emergency Override Float

## SERVICE POLICY

<b>Service Calls</b>	The purchase price for the system includes an initial two year service policy which includes all service calls as needed due to equipment failures or manufacturers' defect. These service calls will be made by the installing dealer or his authorized representative and shall cover the following:
<b>Adjustment</b>	Adjust and servicing of air pump, including replacement or cleaning of inlet filter if necessary.
<b>Examination</b>	Examination of the aeration zone to detect mixing regime and presence of sour or rotten egg odor.
<b>Notification</b>	Immediate notification of owner in writing of any improper operation observed which cannot be immediately remedied. Notice shall advise owner of problem and if covered by warranty, the estimated date for correction of the problem.
<b>Inspection</b>	The unit is to be inspected every six (6) months during the initial 2 year service policy period. Servicing should include a check of the filter in the air compressor for proper air flow, and inspection of all electrical connections. Check for effluent quality including a visual check for color, turbidity and scum overflow, and check for odors.

If a problem arises or service is required, please reference one of the two system data plates.

## **REPLACEMENT POLICY**

### **During Warranty**

There shall be no charge to the owner for the service calls, nor for repair or replacement of components covered by warranty, during the initial 2 year period.

### **Post Warranty**

A continuing service policy is available from dealer to system owners whose initial service policy has expired.

## DIRECTIONS FOR START UP/SHUT DOWN FOR AQUAKLEAR SYSTEMS

Due to the many different situations which give cause for shut down and start up of AquaKlear wastewater treatment systems, the following addresses a worst case situation for both.

### **Shut Down For Extended Period: (water supply to building shut off)**

The air compressor should be disconnected and removed, air line capped and compressor stored in a safe place (for protection from theft). Unit should be left in this condition (all tanks full) until start up.

### **Start up Procedures After Extended Shut Down:**

Replace and reconnect air compressor, pump empty the aeration zone, clarifying zone, and refill with potable water. Turn air compressor on, check for proper air flow, and allow homeowner to begin using system.

### **For Intermittent Use:**

Unit should be in full operational mode at all times.

## LIMITED WARRANTY

AquaKlear, Inc. warrants the parts in each treatment process/device to be free from defects in material and workmanship for a period of three years from the date of installation for treating household wastewater. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply. Sole obligation under this warranty is as follows: AquaKlear, Inc. shall fulfill this warranty by repairing or exchanging any component part, F.O.B. factory, that in AquaKlear, Inc.'s judgment shows evidence of defects, provided said component part has been paid for and is returned through an authorized dealer, transportation prepaid. The warrantee must also specify the nature of the defect to the manufacturer.

This warranty does not cover treatment processes/devices that have been flooded by external means, or that have been disassembled by unauthorized persons, improperly installed, subjected to external damage or damage due to altered or improper wiring or overload protection.

This warranty applies only to the treatment process/device and does not include any of the house wiring, plumbing, drainage, or disposal system. AquaKlear, Inc. is not responsible for any delay or damages caused by defective components or materials, or for loss incurred because of interruption of service, or for any other special or consequential damages or incidental expenses arising from the manufacture, sale, or use of this process/device.

AquaKlear, Inc. reserves the right to revise, change or modify the construction and design of the treatment process/device for household wastewater or any component part or parts thereof without incurring any obligation to make such changes for modifications in previously sold equipment. AquaKlear, Inc. also reserves the right, in making replacements of component parts under this warranty, to furnish a component part which, in its judgment, is equivalent to the company part replaced.

Under no circumstances will AquaKlear, Inc. be responsible to the warrantee for any other direct or consequential damages, including but not limited to lost profits, lost income, labor charges, delays in production, and/or idle production, which damages are caused by a defect in material and/or workmanship in its parts. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty is expressly in lieu of any other expressed or implied warranty, excluding any warranty or merchantability or fitness, and of any other obligation on the part of AquaKlear, Inc.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

## DATA PLATE



### **AQUAKLEAR, INC.**

876 N. Bierdeman Rd. • Pearl, MS 39208

Model No. AK500 (Applicable Suffix)

Capacity: 500 g.p.d.

Serial Number:

Performance Rated: Class I



Certified to NSF/ANSI Standard 40

## SERVICE LABEL

DO NOT OIL COMPRESSOR  
FOR FACTORY SERVICE CALL:

### **AQUAKLEAR, INC.**

876 N. Bierdeman Rd. • Pearl, MS 39208

601-936-7711

For Local Service Call:

## Warranty Registration Certification

**Mail Certificate** - Complete certificate, detach and mail to the AquaKlear address within thirty (30) days of purchase.

Serial Number:		Model Number:			
Date of Installation:					
Purchaser's Name:					
Address:					
City:		State:		Zip:	
Dealer's Name:					
Address:					
City:		State:		Zip:	

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### HOMEOWNER'S COPY - Please retain for your records

Serial Number:		Model Number:			
Date of Installation:					
Purchaser's Name:					
Address:					
City:		State:		Zip:	
Dealer's Name:					
Address:					
City:		State:		Zip:	

**AQUAKLEAR, INC.**  
**876 N. BIERDEMAN ROAD**  
**PEARL, MS 39208**  
**(601) 936-7711**