



*Leaders in environmentally friendly wastewater management*

## COMMERCIAL WASTEWATER TREATMENT SYSTEM

# CE-4200 CE-6000

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### Operation & Maintenance Manual



**FOR SERVICE PERSONNEL ONLY**

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# 1 SAFETY PRECAUTIONS

Read the safety precautions carefully before operating the plant.

The contents of this section are important to ensure safety. Please pay special attention to the following symbols.

 **WARNING:** This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.

 **CAUTION:** This symbol refers to a hazard or unsafe practice which can result in personal injury and/or the potential for product or property damage.

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## WARNING

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### Handling chlorinating agents

- There are two main types of chlorinating agents;
  - inorganic chlorinating agents such as calcium hypochlorite, lithium hypochlorite, sodium hypochlorite; and
  - organic chlorinating agents such as trichloroisocyanuric acid, potassium dichloroisocyanurate, sodium dichlorocyanurate.
- Organic and inorganic chlorinating agents are not compatible with each other. Mixing or cross-contamination of these chemicals can form an explosive mixture.
- Chlorinating agents are highly corrosive and very damaging to exposed body tissue. Always wear protective clothing and protective equipment such as gloves, safety glasses, etc.
- Dispose of the material according to manufacturer instructions and according to local regulations.
- Read the chemical label before opening the package. Understand the directions for use and safety information before starting an application.

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### Working in confined spaces

- Personnel required to enter and carry out maintenance work in the unit must comply with confined space regulations.

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### Electrical safety

- Do not touch any components in the blower box with wet hands.

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## CAUTION

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### Preventing overload on the tank

- Maintain the area where the system is installed free of all vehicle traffic.

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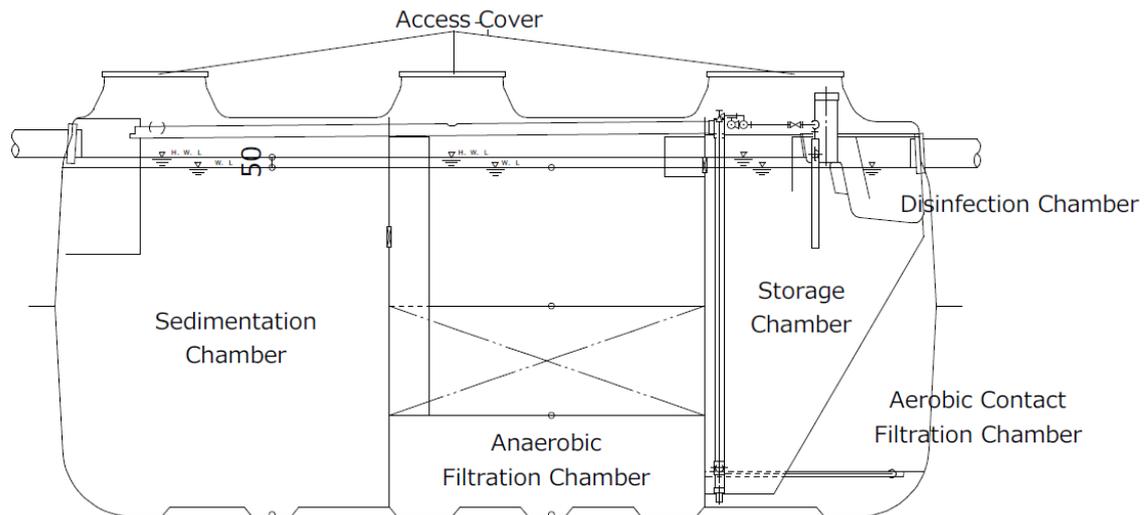
### Prevention of public health risk

- Do not use treated water for human consumption, livestock watering or irrigating edible crops.

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## 2 PROCESS DESCRIPTION

### System Components



#### **Sedimentation Chamber**

This chamber is designed to physically separate the solids from the incoming water.

#### **Anaerobic Filtration Chamber**

This chamber contains a spherical-skeleton type of filter media. Through bacterial growth processes on the surface of the filter media, biological anaerobic treatment thrives while suspended solids are captured. The bacteria in this chamber convert nitrates in the recirculated water returning from the aerobic chamber to gaseous nitrogen. The nitrogen then escapes to the atmosphere.

#### **Aerobic Contact Filtration Chamber**

The aeration chamber consists of an aeration upper section with contact media plates and a filter media lower section. In the upper section, the board contact media adjusts inflow from the anaerobic filtration chamber and organic matters are decomposed by micro-organism/bacteria on the contact media surface. Also, organic matters are decomposed by micro-organism/bacteria on the filter media surface while suspended solids are captured in the lower section. Suspended solids accumulated on the bottom are constantly transferred to the sedimentation chamber by a recirculation air-lift pump.

#### **Storage Chamber**

This chamber is designed to temporarily store the treated water coming out of the aeration chamber. The treated water is pumped out to the disinfection chamber by an air-lift pump.

#### **Disinfection Chamber**

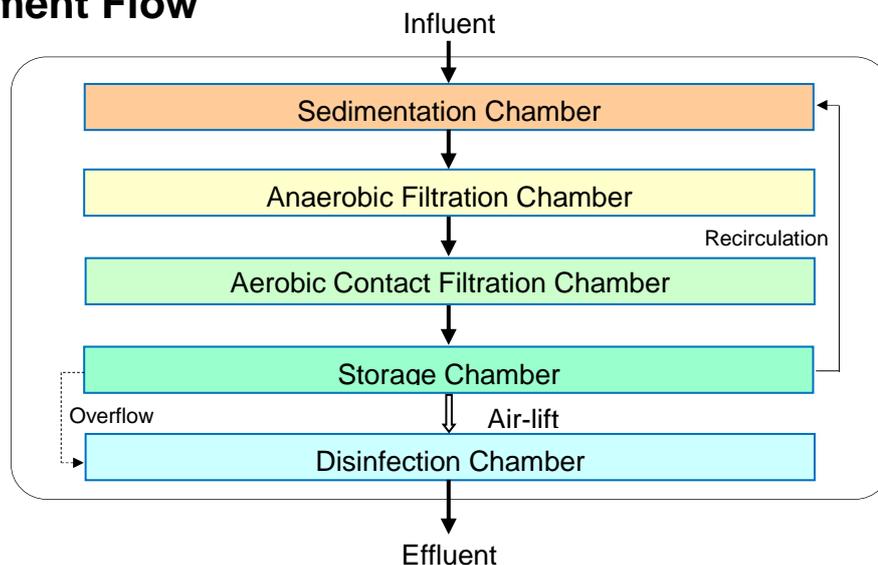
The treated water from the storage chamber passes through the chlorinator for final disinfection. After disinfection, the treated effluent is stored in the disinfection chamber.

## Hydraulic Loading and Effluent Quality

CE Commercial System is designed to treat the commercial wastewater from the kitchen, bathroom, toilet and laundry and capable of producing Advanced Secondary Quality Effluent as specified below. The daily design flow rate of CE-4200 is 4,200L/day and CE6000 is 6,000L/day.

- BOD equal to or less than 10mg/L
- Suspended Solids equal to or less than 10mg/L
- Total Nitrogen equal to or less than 20mg/L
- Total Phosphorus equal to or less than 2mg/L
- Thermotolerant coliforms less than 10cfu/100ml

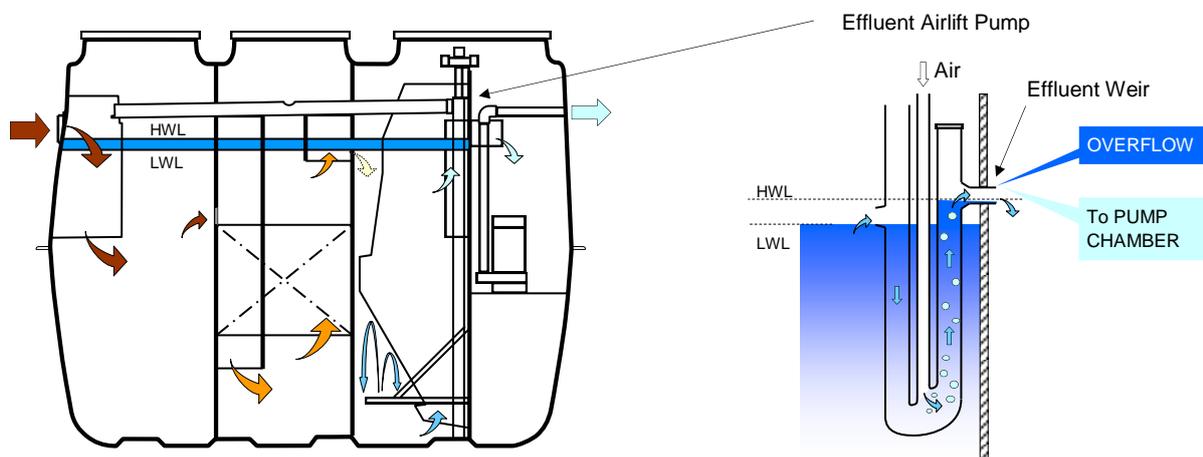
## Treatment Flow



## Peak-cut System

Despite its compact size, CE Commercial System can effectively cope with shock loading. The system has a buffer capacity of 252L for CE4200 and 301L for CE6000. The water level in the system varies whether there is any inflow or not.

When the water level exceeds the Low Water Level (LWL), the treated water is pumped out to the pump chamber through the chlorinator by the effluent airlift pump. If the water level exceeds the High Water Level (HWL), the treated water overflows through the effluent weir to the pump chamber. When there is no inflow, it takes 15 - 30 minutes for the water level to drop from HWL to LWL.



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## 3 MAINTENANCE PROGRAM

### Scheduled Maintenance

The effective operation of the system is dependent on regular maintenance. The system must be serviced **EVERY 3 MONTHS** by a qualified service professional. Regular maintenance involves periodic removal of excessive sludge and scum build-up from the plant. The frequency of removal depends on the system's loading.

Consumable parts for the blower such as air filter and diaphragms need to be replaced as required.

### Pre-operational Inspection

Inspect and ensure the following requirements:

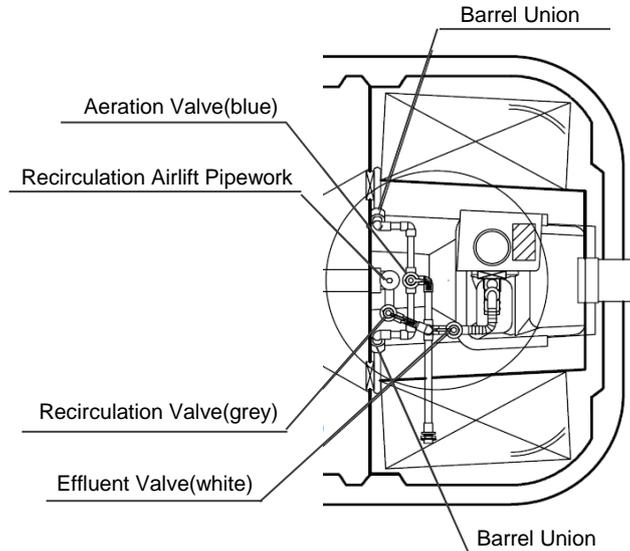
- The plant is accessible and nothing inhibits maintenance.
- Surface water is draining away from the plant.
- The plant is filled with water, is level, and each component functions properly.
- There is no damage to the tank, piping, or other components.
- There are no air leaks in the air piping and the air piping is connected correctly.

### Regular Maintenance Procedures

1. Check for the following signs of trouble:
  - Any obvious signs of physical damage to the plant.
  - Surface ponding or muddy soil around the plant or disposal area.
  - Unusual smells around the plant.
2. Open the blower box and inspect all components and vents to ensure they are clean and dry.
3. Make sure the blower operates properly and clean the air filter or replace it, if necessary. Turn off the blower for a few moments to check that the alarm is triggered.
4. Open all access covers and secure the area around the access openings.
5. Collect a sample of treated effluent from the pump chamber and check the condition.
6. Check if the high water float switch and the pump float switch are operating freely. Lift up the pump float switch to check that the pump operates properly and lift up the high water float switch to check that the alarm is triggered.
7. Make sure that the inflow pipe is not blocked and check scum level of each chamber. If any scum appears in the storage chamber or pump chamber, scoop and transfer it into the sedimentation chamber.
8. Measure the sludge accumulation depth of each chamber. Any sludge built up in the pump chamber needs to be transferred to the sedimentation chamber.
9. Agitate the anaerobic media gently to prevent blockage as described in "(1) Degassing / Agitating Anaerobic Media" on page 8.
10. Measure the recirculation rate as described in "(3) Measuring Recirculation Rate" on page 5.
11. Check if the bubbles are evenly distributed throughout the aeration chamber.
12. Perform a backwash operation as described in "Backwash and Sludge Transfer" on page 6.
13. Check if the effluent airlift pump is operating properly and flush the airlift pump as described in "Servicing the Effluent Air-lift Pump" on page 7.
14. Adjust the recirculation rate as described in "(2) Adjusting Recirculation Rate" on page 5.

15. Refill the chlorinator and adjust the dissolve rate if applicable.
16. Close the blower box and lock all access covers.

## Adjusting Valves



### (1) Adjusting Aeration Balance

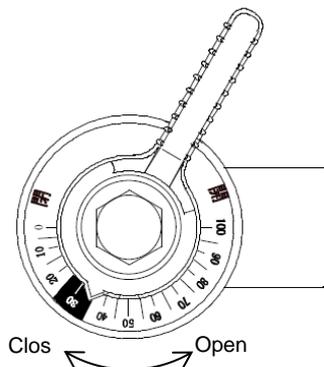
The aeration system is divided into two parts. The airflow balance between right and left part is adjustable by the Aeration Balance Control Valve, which is normally set to 50. The bubbles should be evenly distributed throughout the aeration chamber.

Visually observe the airflow rates on each side of the plant to verify equal flow. If there is an obvious discrepancy in airflow between the two sides, adjust the Aeration Balance Control Valve so that the airflow is equal.

### (2) Adjusting Recirculation Rate

The recirculation rate should be approximately 2 to 4 times as much as the inflow rate. If the daily inflow volume is obtainable, calculate the appropriate recirculation rate accordingly. Otherwise use the table below to set the recirculating rate.

	CE4200	CE6000
Recirculation Rate (L/minute)	6.0 - 12	8 - 17
Valve Reading (%)	30 - 35	15 - 20



**Recirculation Control Valve**

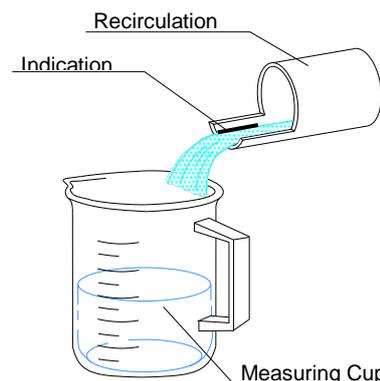
### **Important!**

Too much recirculation can cause stirring or agitation in the sedimentation chamber and solids to flow into the anaerobic chamber. Also, treatment performance could be deteriorated and this could cause odour.

### (3) Measuring Recirculation Rate

When measuring the recirculation rate, make sure there is no inflow to the system and the water level is at Low Water Level (LWL). If the water level is higher than that, wait until it drops to LWL. The recirculation rate is increased considerably when the water level is above LWL.

Although the recirculation rate can be adjusted to some extent by the Recirculation Control Valve, measure the actual flow rate at



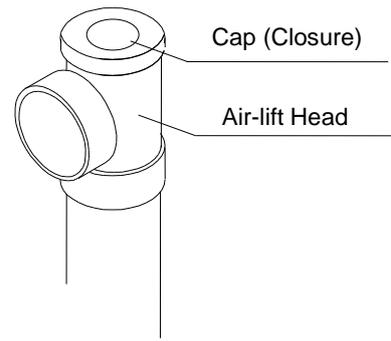
the end of the recirculation pipe in the Sedimentation Chamber by using a measuring cup.

The upper part of the end of the Recirculation Pipe is cut off as shown in the drawing on the previous page. Adjust the Recirculation Control Valve so that the water level in the pipe is between the horizontal edge of the pipe end and the Indication Line.

If the recirculation rate has increased considerably since the last maintenance, this could indicate a clogged aeration pipe.

#### (4) Cleaning Recirculation Air-lift Pump

Excessive biofilm build-up in the recirculation air-lift pump could affect the recirculation rate. Remove the cap on the air-lift head, clean inside the pipe with a pipe cleaning brush and water hose.



## Backwash and Sludge Transfer

Excessive biofilm growth on the contact and filter media may cause partial clogging or short circuiting and deteriorate the performance of the system. It is important to carry out a backwash operation and sludge transfer at every maintenance visit.

- Step 1.** Shut off the Effluent Air-lift Pump by turning the Effluent Control Valve (white valve) clockwise until it won't turn any more.
- Step 2.** Transfer the sludge on the bottom of the aeration chamber by turning the Recirculation Control Valve (grey valve) to 70 – 80 and wait for one minute.
- Step 3.** Reset the Recirculation Control Valve (grey valve) to the original position.
- Step 4.** Aerate one side of the chamber by turning the Aeration Balance Control Valve (blue valve) fully one way. Wait for one minute, and then turn the valve fully to the opposite direction. Wait for another minute, and then reset the valve to the original position.
- Step 5.** Repeat **Step 2 – 4** a few times.
- Step 6.** Perform **Step 2**.
- Step 7.** Reset the Recirculation Control Valve (grey valve) and the Effluent Control Valve (white valve) to the original position. Make sure that the aeration is working properly.
- Step 8.** Adjust the recirculation as described in “(2) Adjusting Recirculation Rate” on page 5.
- Step 9.** Poke the anaerobic filtration media with a thin pipe (PVC pipe 15mm or smaller diameter pipe) gently and evenly throughout Anaerobic Filtration Chamber for degassing and preventing short-circuiting.

## Cleaning Aeration Pipes

The following symptoms indicate that the aeration pipes may be partially clogged and the pipes need to be flushed or cleaned with a pipe brush.

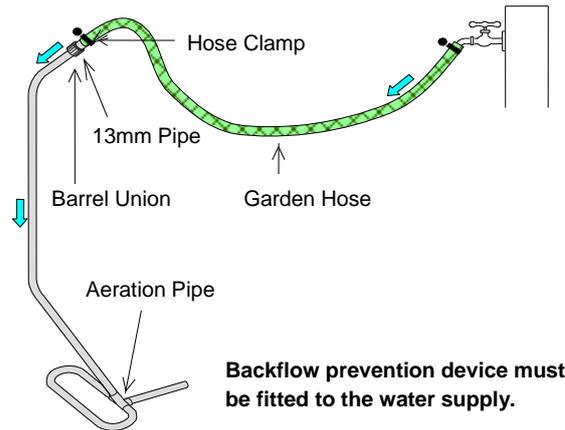
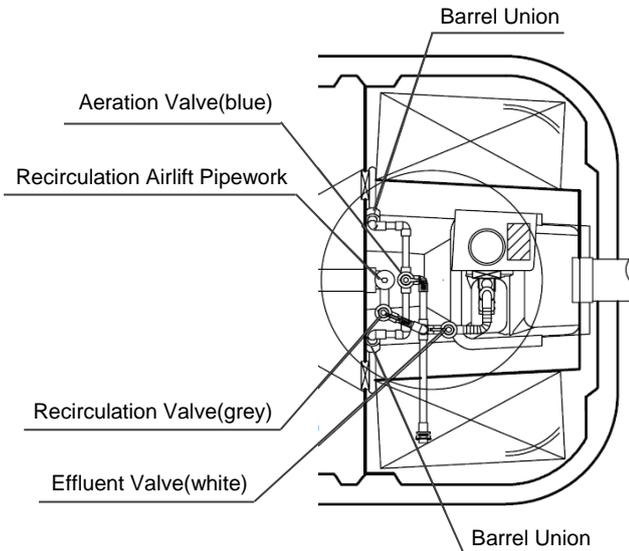
- Bubbles are not evenly distributed throughout the chamber even after adjusting the aeration balance.
- Recirculation rate has increased considerably although the recirculation valve setting has not been changed.

#### (1) Flushing with Pressure Water

\*This method must not be used unless an appropriate backflow prevention device is fitted to the tap.

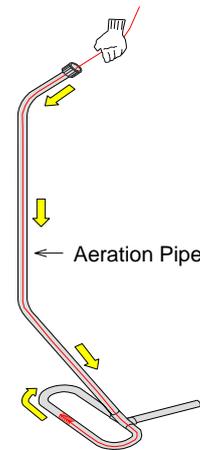
- Step 1.** Close the Recirculation Control Valve (grey valve) and the Effluent Control Valve (white valve).
- Step 2.** Turn off the blower.
- Step 3.** Disconnect a barrel union.

- Step 4.** Attach a piece of 13mm PVC pipe to the end of a garden hose with a hose clamp, and then connect the pipe with the barrel union.
- Step 5.** Connect the other end of the hose to a tap and run water through it.
- Step 6.** Turn off the tap and disconnect the barrel union.
- Step 7.** Connect the hose to the barrel union in the other side of the aeration chamber.
- Step 8.** Turn off the tap and reconnect the aeration pipework.
- Step 9.** Turn on the blower and adjust all the valve settings.



## (2) Cleaning with Pipe Brush

- Step 1.** Close the Recirculation Control Valve (grey valve) and the Effluent Control Valve (white valve).
- Step 2.** Turn off the blower.
- Step 3.** Disconnect a barrel union.
- Step 4.** Insert a pipe cleaning brush into the aeration pipe to clean it (Wire length of approx 4,500mm is required to reach the end of the pipe for CE Commercial System).
- Step 5.** Reconnect the aeration pipework.
- Step 6.** Turn on the blower and adjust all the valve settings.

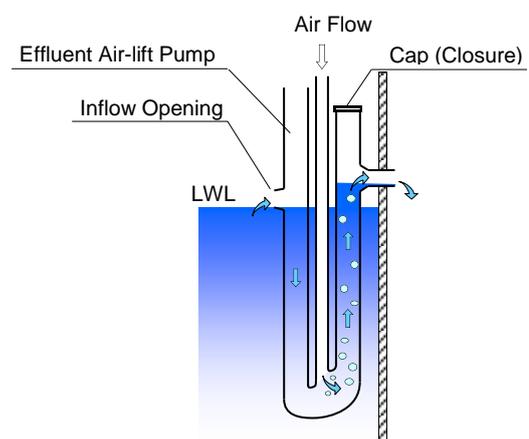


## **Servicing the Effluent Air-lift Pump**

The Effluent Air-lift Pump can be checked even while the water level is at the Low Water Level (LWL). Push down the air-lift pump so that the water flows into the inflow opening (or pour water directly into the air-lift pump) and see if the water is discharged to the disinfection chamber.

### (1) Setting the Effluent Control Valve

The Effluent Control Valve is initially set to 40% and there is no need for it to be adjusted normally. However, if the air-lift pump does not work while the water level exceeds LWL, the valve needs to be adjusted accordingly.



## (2) Flushing the Effluent Control Valve

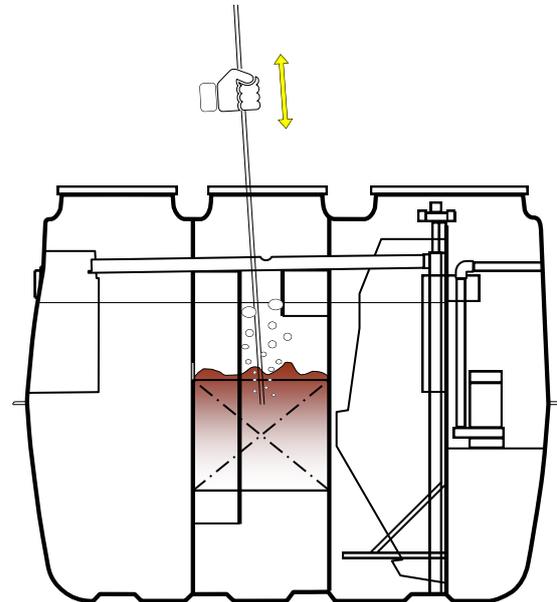
Rotate the valve back and forth from 0 to 100 several times to flush and reset the valve.

## **Preventing Blockage of Anaerobic Filtration Media**

### (1) Degassing / Agitating Anaerobic Media

Accumulated sludge on the anaerobic media could cause a complete or partial blockage.

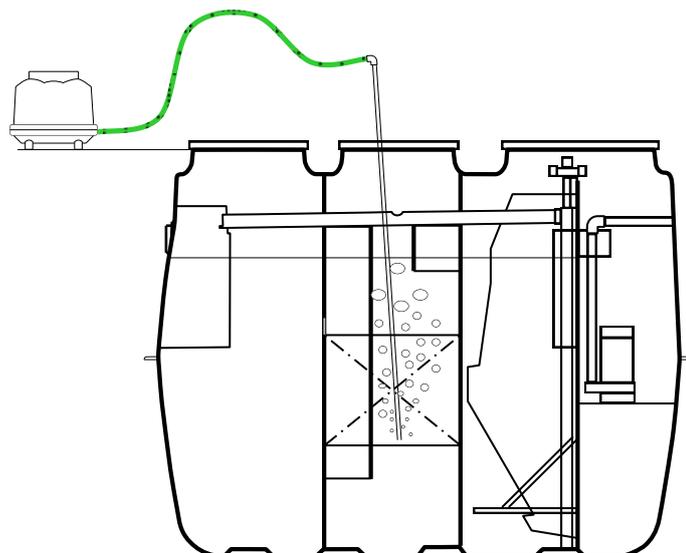
Agitate the filtration media gently by using PVC or stainless steel pipe with less than 20mm outside diameter. Nitrogen gas trapped in the media will be released during this process.



### (2) Backwashing Anaerobic Media

If the anaerobic media is blocked, connect pipe with a blower to backwash the media as shown below. The end of the pipe should be above the bottom of the media so that the accumulated sludge at the bottom of the tank is not disturbed.

For your information, the distance from the water level to the bottom of the media is 1,050mm for CE4200 and 1,250mm for CE6000.



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## 4 DESLUDGING

### When do you need to pump out the plant?

Desludging is required to remove accumulated solids when one or more of the following conditions are present:

- Biological treatment performance is severely deteriorated due to excessive amounts of oil or chemicals which interfere with the bacterial activity.
- Excessive scum or sludge builds up in the sedimentation chamber.
- Abnormal rise of the water level
- Excessive scum builds up in the anaerobic filtration chamber and large amounts of solids flow into the aerobic contact filtration chamber.
- Sludge layer at the bottom of the anaerobic filtration chamber builds up to reach the bottom of the filtration media and the sludge flows into the next chamber.
- Excessive suspended solids are observed in the aerobic contact filtration chamber and the symptoms do not improve even after performing a sludge transfer.

### Desludging Procedures

**Step 1.** Turn off all electrical components.

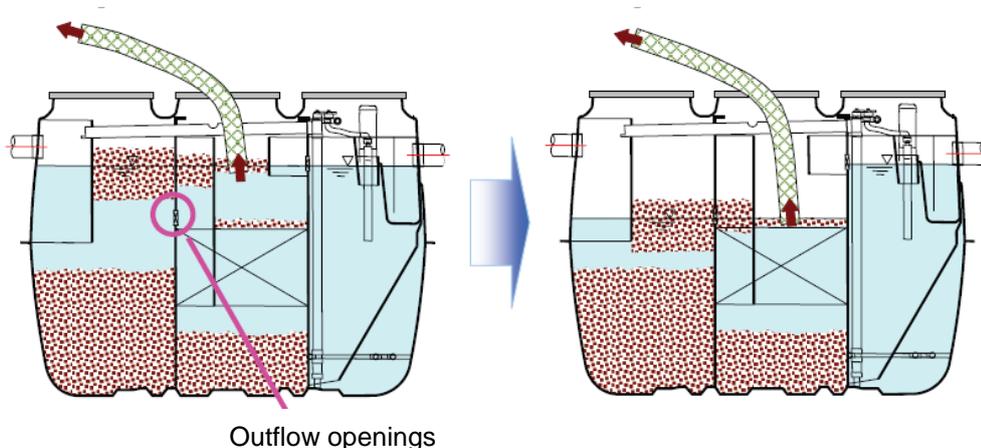
**Step 2.** Clean the inlet and outlet pipe.

**Step 3.** Transfer suspended solids in the aerobic chamber and scum / sludge in the storage chamber to the sedimentation chamber.

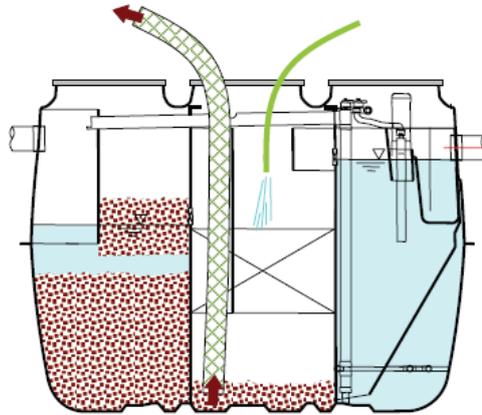
**Step 4.** Remove scum and sediment build-up on the filtration media in the anaerobic filtration chamber.

#### **IMPORTANT!**

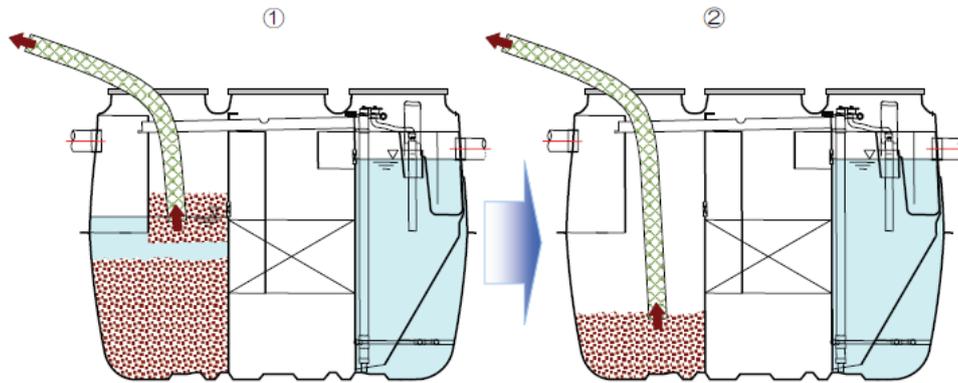
If sludge in the sedimentation chamber is pumped out before scum / sediment on the media is removed, scum is drawn into the filtration media as the water level drops.



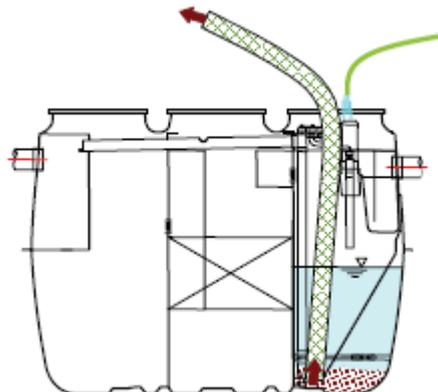
**Step 5.** Insert suction hose into the baffle. Remove sludge from the bottom of the anaerobic filtration chamber while washing the filtration media and chamber wall with high pressure water.



**Step 6.** Remove scum and sludge in the sedimentation chamber.



**Step 7. (optional)** Although it is unnecessary to vacuum the aerobic contact filtration chamber, it is possible to do so by inserting the suction hose into the storage chamber and sucking water from the bottom while washing the media and chamber wall with high pressure water.



**Step 8.** Fill the plant with water to LWL.

**Step 9.** Turn on all electrical components.

## 5 TROUBLESHOOTING

### Sedimentation Chamber

Symptom	Solution
Inlet pipe is blocked.	<ul style="list-style-type: none"> <li>Remove the blockage.</li> </ul>
Strong and unusual odour persists even with the manhole lids closed.	<ul style="list-style-type: none"> <li>During the first few weeks of operation there may be some odour from the system. This should cease once the bacteria are established.</li> <li>Improper operation may generate odours. Add seeding material to both anaerobic and aeration chambers, and/or adjust the operational conditions such as recirculation rate.</li> </ul>
Excessive scum accumulations. (Scum layer reaches the top of the influent baffle.)	<ul style="list-style-type: none"> <li>If the depth of sludge accumulation is less than 300mm and the anaerobic chamber still has the remaining sludge holding capacity, break the scum layer, otherwise have the plant pumped out.</li> </ul>
Excessive sludge accumulations. (Depth of sludge layer exceeds 1,200mm (CE4200) and 1,350mm (CE6000) )	<ul style="list-style-type: none"> <li>Check the sludge accumulations in the anaerobic chamber. If the sludge exceeds the holding capacity, have the plant pumped out.</li> </ul>
Foreign materials, excessive oil or fat entering the system.	<ul style="list-style-type: none"> <li>Remind the homeowner to refrain from disposing prohibited substances and limited-use substances.</li> </ul>

### Anaerobic Filtration Chamber

Symptom	Solution
Excessive scum accumulations. (less than 100mm)	<ul style="list-style-type: none"> <li>If the sedimentation chamber still has the remaining sludge holding capacity, transfer the scum to the sedimentation chamber, otherwise have the plant pumped out.</li> </ul>
Excessive scum accumulations. (more than 100mm)	<ul style="list-style-type: none"> <li>Have the plant pumped out.</li> </ul>
Excessive sludge accumulations.	<ul style="list-style-type: none"> <li>If the bottom sludge layer is thicker than 400mm and excessive sludge has accumulated on the filtration media, have the plant pumped out.</li> </ul>
Filtration media is blocked up. (The water level in the anaerobic chamber is lower than that in the baffle.)	<ul style="list-style-type: none"> <li>Perform a degassing operation on the filtration media.</li> <li>If the problem still persists even after the degassing operation, backwash the filtration media by using a blower.</li> </ul>

### Aerobic Contact Filtration Chamber

Symptom	Solution
Bubbles are not evenly distributed throughout the chamber or there are no bubbles at all.	<ul style="list-style-type: none"> <li>Adjust the aeration control valve.</li> <li>Check to make sure that there is no leakage from the aeration pipework.</li> <li>Check to make sure that the blower operates properly.</li> <li>Flush the aeration pipe.</li> </ul>

	<ul style="list-style-type: none"> <li>• Perform a backwash operation.</li> </ul>
Dissolved Oxygen is less than 1.0mg/L.	<ul style="list-style-type: none"> <li>• Check to make sure that the blower operates properly.</li> <li>• Perform a backwash operation.</li> </ul>
Recirculation rate is unable to be adjusted or no recirculation at all.	<ul style="list-style-type: none"> <li>• Adjust the recirculation control valve.</li> <li>• Check to make sure that there is no leakage from the aeration pipework.</li> <li>• Check to make sure that the blower operates properly.</li> <li>• Clean the recirculation airlift pump.</li> </ul>
Excessive foaming.	<ul style="list-style-type: none"> <li>• Some foaming may occur during the early stage of operation. This should cease once the bacteria are established. Seeding may also be effective.</li> </ul>
Excessive suspended solids.	<ul style="list-style-type: none"> <li>• Perform a backwash operation.</li> </ul>
Abnormal water level. (50mm above LWL when there is no inflow)	<ul style="list-style-type: none"> <li>• Clean the effluent airlift pump and the effluent weir.</li> <li>• Flush the effluent control valve.</li> <li>• If the problem still persists, backwash the filtration media by using a PVC pipe.</li> </ul>

### Storage Chamber

Symptom	Solution
Scum forming.	<ul style="list-style-type: none"> <li>• Transfer the scum to the sedimentation chamber.</li> </ul>
Excessive sludge accumulations.	<ul style="list-style-type: none"> <li>• Transfer the sludge to the sedimentation chamber.</li> </ul>
Ph is too low or too high. (Ph < 5.8 or Ph > 8.6)	<ul style="list-style-type: none"> <li>• Check to make sure the recirculation rate is appropriate.</li> <li>• Remind the homeowner not to dispose any prohibited substances.</li> </ul>
Excessive biofilm on the chamber wall.	<ul style="list-style-type: none"> <li>• Clean the wall and transfer solids to the sedimentation chamber.</li> </ul>
Effluent airlift pump is not working.	<ul style="list-style-type: none"> <li>• Clean the airlift pump.</li> <li>• Flush the effluent control valve.</li> <li>• Check to make sure there is no leakage from the blower pipework.</li> <li>• Check to make sure that the blower operates properly.</li> </ul>
Effluent weir is blocked.	<ul style="list-style-type: none"> <li>• Remove the blockage.</li> </ul>

### Pump Chamber

Symptom	Solution
Excessive biofilm on the wall. (more than 5mm thick)	<ul style="list-style-type: none"> <li>• Clean the wall.</li> </ul>
Chlorine tablets dissolve too fast or too slow.	<ul style="list-style-type: none"> <li>• Adjust the chlorinator.</li> </ul>
Poor water clarity with scum or sediment forming.	<ul style="list-style-type: none"> <li>• Have the plant pumped out.</li> </ul>

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Irrigation pump is not working.	<ul style="list-style-type: none"><li>• Ensure the power plug is firmly plugged into AC outlet.</li><li>• Check to make sure the circuit breaker is not tripped.</li><li>• Check to make sure the pump float switch is not stuck or entangled.</li></ul>
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High water float switch is not working.	<ul style="list-style-type: none"><li>• Check wiring connections.</li></ul>
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## **Blower**

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<b>Symptom</b>	<b>Solution</b>
Blower is not working.	<ul style="list-style-type: none"><li>• Ensure the power plug is firmly plugged into AC outlet.</li><li>• Check to make sure the circuit breaker has not tripped.</li><li>• Send the blower to authorised service personnel.</li></ul>
Air pressure is too low.	<ul style="list-style-type: none"><li>• Rectify air leaks.</li></ul>
Abnormal noise or vibration.	<ul style="list-style-type: none"><li>• Ensure the blower is not touching the wall.</li><li>• Ensure the mounting legs of the blower firmly contact the base.</li></ul>
Dirty or clogged air filter.	<ul style="list-style-type: none"><li>• Clean or replace the filter.</li></ul>

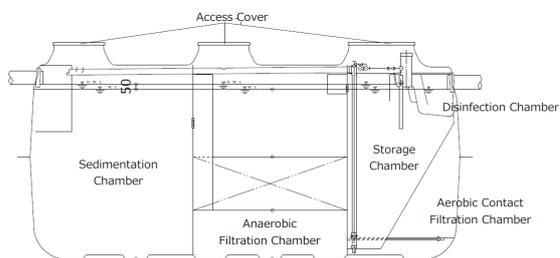
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In the event that the system requires repair or the components need to be replaced, please contact Fuji Clean Australia.

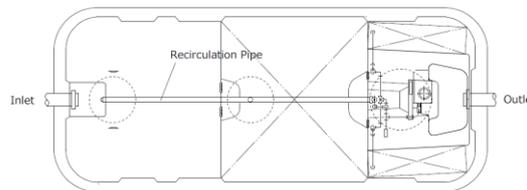
FUJI CLEAN AUSTRALIA PTY. LTD.  
ABN 74 129 181 317  
PO BOX 1230 Oxenford QLD 4870  
Ph: 1300 733 619 Fax: 07 5580 0790  
[www.fujiclean.com.au](http://www.fujiclean.com.au)

# 6 SPECIFICATIONS

## TREATMENT UNIT



Horizontal Sectional View



Vertical Sectional View

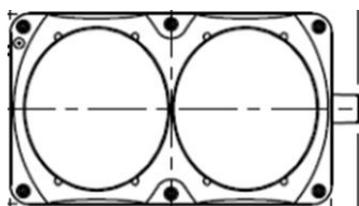
### CE4200

Volume (L)		Dimensions (mm)	
Sedimentation Chamber	3,169	Max. Width	1,840
Anaerobic Filtration Chamber	3,177	Max. Length	3,880
Aerobic Contact Filtration Chamber	1,431	Max. Height (No riser)	2,065
Storage Chamber	703	Max. Height (with 300mmH risers)	2,365
Pump Chamber	44	Inlet Invert (No riser)	400
Total Volume	8,524	Inlet Invert (with 300mmH risers)	700
<b>Weight (kg)</b>	530	Inlet Pipe Nominal Size	dia.125
<b>Correspondent Blower Type</b>	MAC150N	Outlet Pipe Nominal Size	dia.125

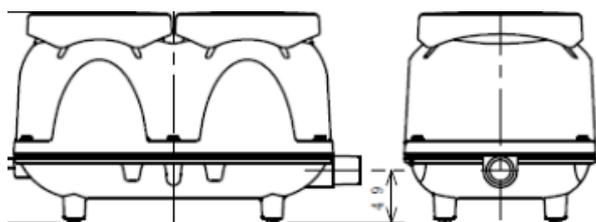
### CE6000

Volume (L)		Dimensions (mm)	
Sedimentation Chamber	4,520	Max. Width	1,990
Anaerobic Filtration Chamber	4,511	Max. Length	4,665
Aerobic Contact Filtration Chamber	2,006	Max. Height (No riser)	2,215
Storage Chamber	1,009	Max. Height (with 300mmH risers)	2,515
Pump Chamber	64	Inlet Invert (No riser)	400
Total Volume	12,110	Inlet Invert (with 300mmH risers)	700
<b>Weight (kg)</b>	700	Inlet Pipe Nominal Size	dia.125
<b>Correspondent Blower Type</b>	MAC200N	Outlet Pipe Nominal Size	dia.125

## BLOWER



Top View



Side View

Model	MAC150N	MAC200N
Air Flow Volume	150L/min	80L/min
Normal Pressure	18kPa	18kPa
Outlet Pipe Size (diameter)	20mm	20mm
Rated Voltage	AC240V	AC240V
Frequency	50Hz	50Hz
Power Consumption	110W	160W
Weight	9.0kg	9.0kg

### MONITOR UNIT

The monitor unit is installed at the treatment system and provides connections for the blower, pump and sensors, along with power and signal to the remote alarm. The monitor unit has three local LED indicators for easy verification of the power input states:

- Power: This LED is lit whenever power is present.
- High Water: When the High Water alarm is activated this LED will begin to flash. After 1 minute the High Water alarm is sent to the remote alarm panel, at which time the LED will remain lit.
- Air Fault: When the Air Pressure alarm is activated this LED will begin to flash. After 1 minute the Air Fault alarm is sent to the remote alarm panel, at which time the LED will remain lit.

### REMOTE ALARM PANEL

The remote alarm is an electrical switch plate styled unit that informs the owner of the treatment system to its status at a location remote to the system (i.e. in the house). It uses a non-polarized 2-wire system to transfer both power and data to the remote alarm unit.

Care must be taken to ensure that the connection between the monitor unit and the remote alarm are kept tidy and sealed as factors such as moisture and bad connections can cause erratic behaviour. It is also advised to avoid joins in the cable.

NB: If the 2-wire alarm cable is to be run in the same conduit as the mains supply to this unit from the house, the alarm cable must be 240VAC rated. Caution needs to be exercised when connecting this alarm wiring, as inadvertent connection to the mains voltage will irreversibly damage both the alarm plate and the control unit.

### Muting and Resetting

The mute button can be pressed at any time to stop the remote alarm from beeping. This mute condition will last for 24 hours (modified from the previous 12 hour setting) before the mute will expire and the remote alarm will begin beeping again. Note that the mute timeout period will reset whenever the mute button is pressed so the user can press mute before going to bed to ensure that it does not wake them during the night.

Once an alarm condition exists, the associated alarm LED will be flashing. Pressing the "Mute" button will only silence the alarm. If the "Fault" condition still exists then the fault will continue to be indicated. However, should the fault clear then the alarm condition will automatically reset and both audible and visual alarms will be cleared.

If at any stage a new alarm condition occurs the mute will also expire and the unit will begin beeping again.