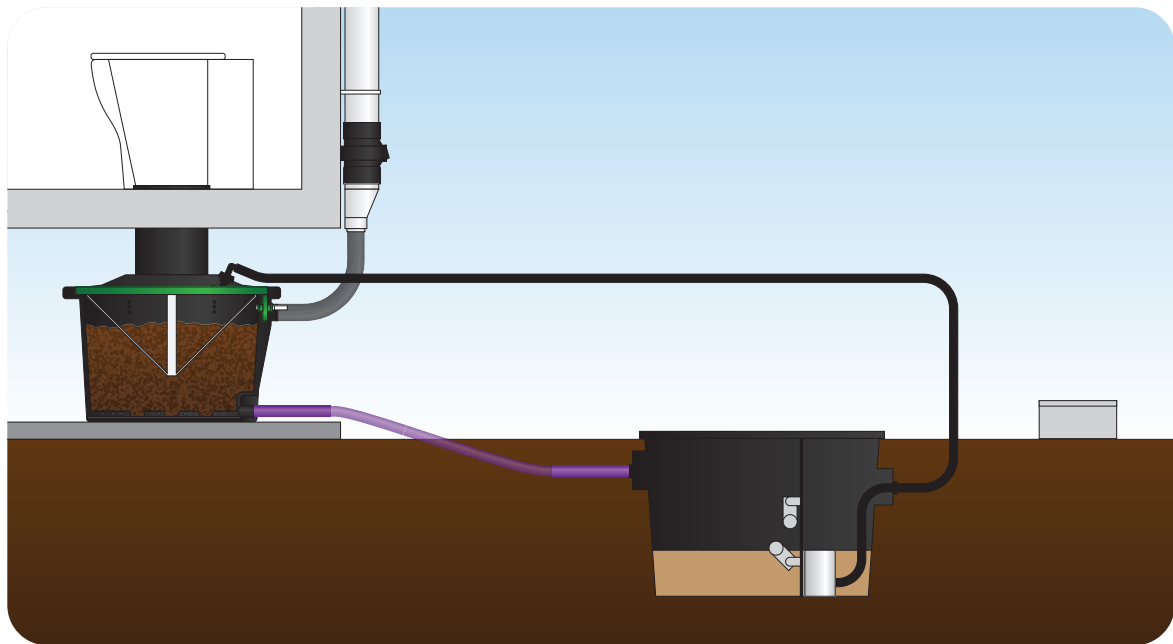


# 80L ZERO DISCHARGE AUTO

## USER MANUAL

Suitable for all domestic split system toilets including the:  
Nature Loo Alectura, Clivus Multrum High Profile, CM8 and CM14



**ecoflo**  
wastewater management

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# HOW IT WORKS

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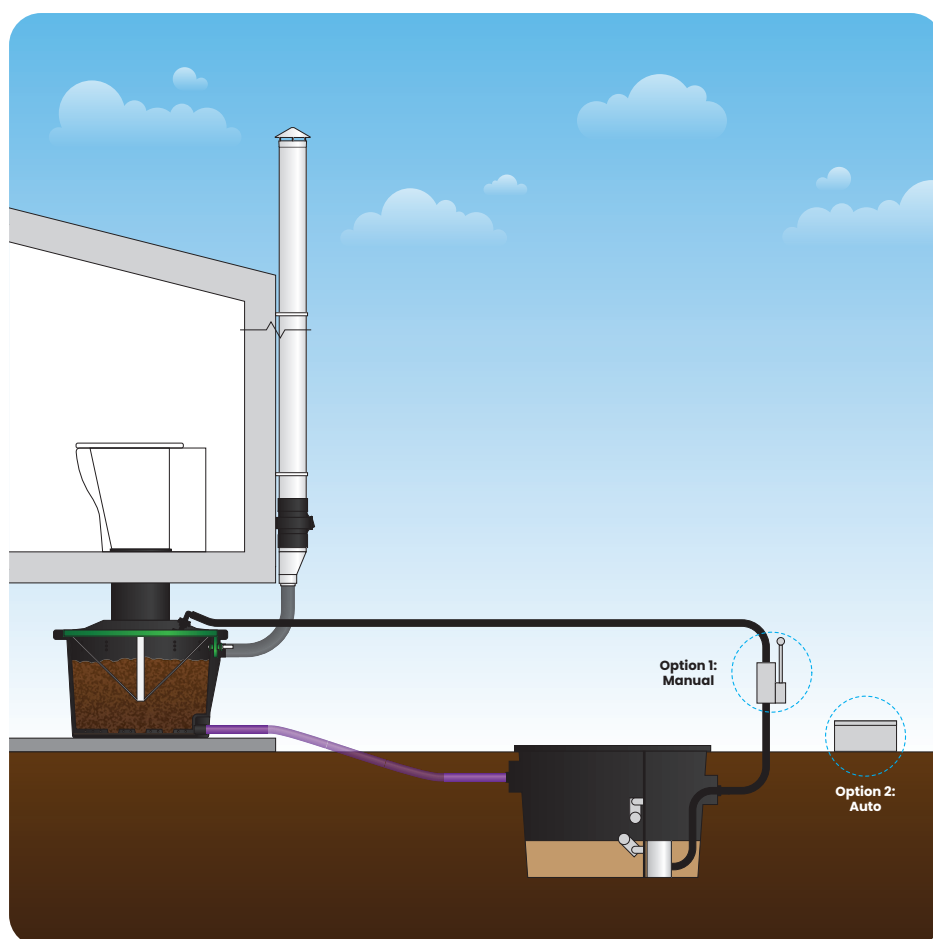
The zero discharge system is a liquid storage tank that collects leachate from composting toilet chambers. This system is implemented in areas where absorption trenches are not permitted by local authority.

Liquid from the composting chamber drains into the zero discharge storage tank via gravity feed.

When the liquid reaches a certain level, the float switch will trigger a pump to transfer leachate from the zero discharge tank back to the composting chamber, discharging on top of the pile in the vicinity under the chute.

This system of recirculation will assist the evaporative process and control the level of excess liquid in the toilet system. If the system has excessive amounts of leachate, it may be necessary to pump the zero discharge tank into a container and dispose of in an approved manner.

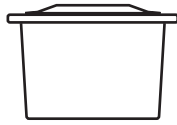
Alternatively, manual pumping may be required depending on the type of zero discharge system installed.



# COMPONENTS



Collection Well



Any Compost Chamber



Control Box



Wiring Instructions



19mm Return fittings



25mm Lilac sullage hose



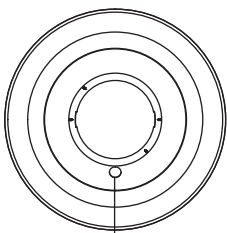
19mm Spiral flex hose

# INSTALLATION

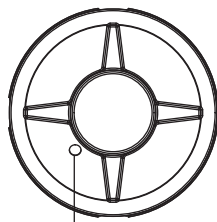
Step 1: Cut a  $\text{\O}35\text{mm}$  hole into the lid of your 'in-service' compost chamber Lid, as close to the chute as possible. Ensure the hole and spout location does not interfere with any mixing gears if applicable. Refer to illustrations below.

Fit the 19mm return fittings to the chamber lid; the outlet spout should be facing the centre of the pile.

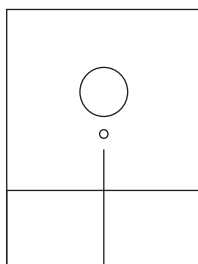
Fit the 25mm male barb camlocks to the liquid outlet of your compost chamber.



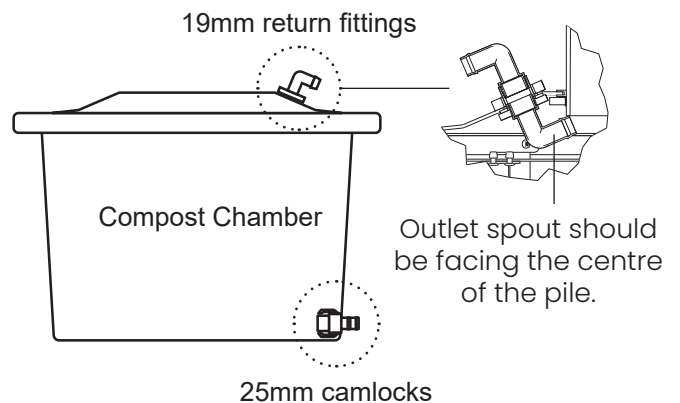
Alectura  
Hole location



CMLP/NL650  
Hole location



CM8/CM14  
Hole location



Step 2: Remove lid from control box.



Step 3: Connect marked wires to control box as per wiring diagram provided.

### Pump Controller

Red 12 or 24v [+]

White [-]

Loop

Yellow

Orange

Blue

Loop

Green



### ZDU Components

12 or 24v + Power Supply

[-] Power Supply

Top Float

Top Float

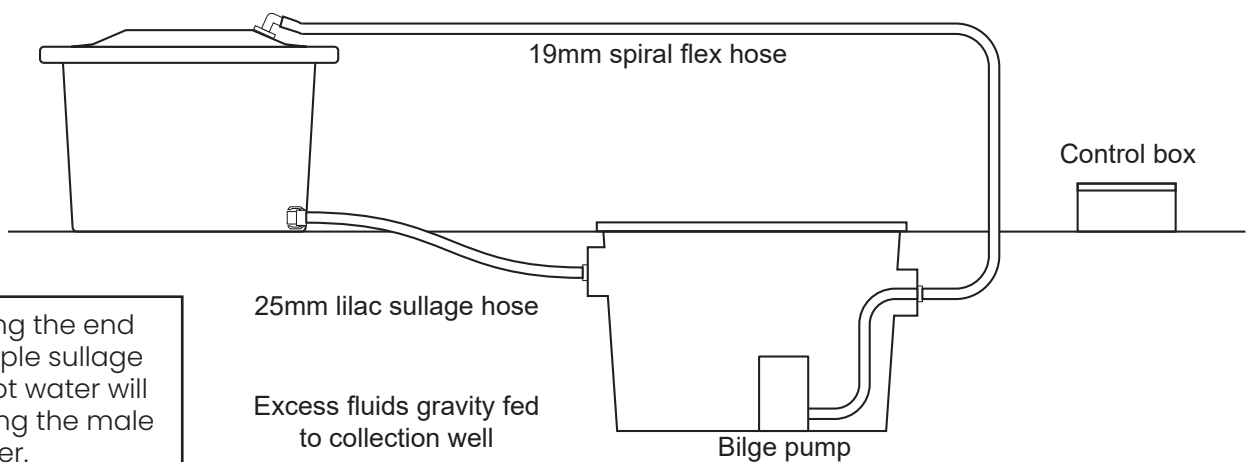
[+] Pump

[-] Pump

Bottom Float

Bottom Float

Step 4: Connect 19mm spiral flex hose and 25mm lilac sullage hose to the collection well and compost chamber. Connect control box to mains or solar power.



Tip: Heating the end of the purple sullage hose in hot water will make fitting the male barb easier.

# MAINTENANCE

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The pump and control system does not need any regular maintenance, but should be checked at least monthly for proper operation. The Alarm (audio/visual) on the control box will indicate failure of the pump or bottom float switch before the liquid level builds up and causes other toilet operation problems. It may also indicate that there is too much leachate in the tank and may need to be emptied. The operation of the pump should be checked monthly by briefly using the manual override switch.

## TROUBLESHOOTING

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### NO FUNCTIONS WORK

- Check that the low voltage disconnect light on the solar controller is not on if lit the battery will need charging until this light goes off.
- Check battery fuse, switch panel fuse, pump fuse and connections from power supply.

### LIGHTS WORK, PUMP WON'T RUN.

- Check fuse in pump switch panel and the cable to pump.
- Check operation of bottom float switch and its wiring.

### "HIGH LEVEL" LIGHT IS ON

- Check pump operates
- Check hoses and spray nozzle/s are not blocked.
- Remove cover from pump-well and check operation of the top float switch.
- Check toilet system is not getting excessive use and that vent fan is functioning.
- May require pumping out of leachate as system is unable to evaporate the amount.

### PUMP MOTOR RUNS BUT IT WON'T PUMP

- Check suction hose is below liquid level in well.
- Check for hose/nozzle blockages or air leakage into the suction hose.
- Check pump diaphragm for damage - refer pump maintenance.

### PUMP-WELL HAS OVERFILLED WITH LIQUID (NORMAL LIQUID LEVEL IS WITHIN THE TILT RANGE OF THE BOTTOM FLOAT SWITCH)

- Check if this is due to an extended power failure; check the solar power system is charging correctly and the battery is functional and charged to at least 12V.
- Check items above.
- If system has been functioning correctly check that toilets are not being over-used or too much water used for cleaning the pedestals.
- If volume of extra liquid is excessive it will cause the pump to run continuously and drain the battery. They may also over-wet the compost pile - check the pile is not too wet. If necessary remove excessive liquid from the pump-well and dispose of appropriately before restarting automatic operation of the pump.
- If problem occurs, contact Ecoflo.

# COMMISSIONING

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1. Re-check all installation instructions are correctly completed.
2. Check pump function switch is in "OFF" position, and pump control panel is connected to the solar power controller. Now connect the solar panel, battery and toilet vent fan as per the instructions supplied with the solar charge controller.
3. Dry-test operation of the pump system as follows. The pump will not be damaged by short periods of dry running.

A	Switch pump control briefly to MANUAL	The pump will run continuously
B	Switch pump control to AUTO, then raise the tilt arm of the bottom float switch in the pump-well	Pump motor will switch on and off, controlled by the float switch.
C	Raise the tilt arm of the top float switch in the pump-well	The "Alarm" lamp & pump will come on and off, controlled by the float switch.

4. Wet-test the system by adding clean water to the pump well up to the suction hose level. Switch pump to MANUAL and it will run, self-priming after a few seconds and pumping water to the composting chamber.
5. Check the spray pattern in the composting chamber. Spray should cover the maximum surface area possible of the compost pile, but NOT spray towards the inspection door or into the vent-pipe connection.
6. Check hoses for security and fix any leaks.
7. Replace the access cover on the pump-well.

## CONTACT US

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