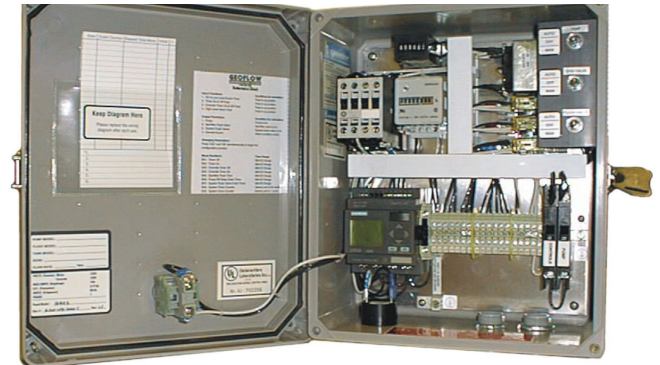


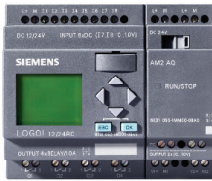
**Geoflow's controllers** are the brain in the subsurface drip system, utilizing a programmable logic controller (PLC) to activate the pump(s) cycles, zone valves and flush valves when needed. They will operate your drip system



## Features

### Features

- Interface: 1-inch Logo with arrows



- Programmable Logic Controller PLC
- Programmed for 4 Floats
- Manual or Automatic Field Flushing
- Manual or Automatic Filter Flushing
- Enclosure: Nema 4X fiberglass
- HOA switch - pump 3 way toggle
- HOA switch - solenoids - toggle
- Accepts Remote Alarm
- Lightning Arrestor

### Log Functions

- Elapsed time meter (ETM)
- Pump events
- Filter Flush Counter
- Field Flush Counter
- Peak timer events
- High level alarm events
- Power failure events

### Programmable Parameters

- Primary run and rest time
- Secondary run and rest time
- Filter Flush time & frequency
- Field Flush time & frequency
- Manifold Drain Back Time

### Panel voltage

- |                          |   |
|--------------------------|---|
| - Incoming power         | 110V                                      |
| - Contactors and sensors | 24V DC                                    |
| - Solenoid valves        | 24V AC                                    |
| - Pumps                  | 110V- 1Hp 1 phase or<br>220V- 3Hp 1 phase |

Telephone Geoflow directly for control panels for our self backwash cleaning BioDisc filter batteries.

# Geo Logo Controllers

Choose a GEO Logo controller from the table below:

**Column 1**

- Identifies you have selected the standard Geoflow Logo Control panel.

**Step 1. No. of Zones**

- If the zones are activated by the controller with solenoid valves, find the row that covers the number of zones in the project.
- If the zones are activated with index or Hydrotek valves, then choose a single zone controller. The single zone controllers do allow for index or Hydrotek valves.
- Zones activated with index & solenoid valve combinations can be special ordered.
- If the zones exceed the choices below, larger controllers can be special ordered.

**Step 2: Number of pumps**

- Choose one pump (simplex) or two pumps (duplex).





**Step 3: Flushing operation**

- Choose manual or electronic field and filter flushing. Geoflow requires all direct septic systems use electronic flushing.
- Manual flushing only available on the Geo 1 controllers. Geoflow recommends using Auto flush panels where maintenance is not mandatory.

**Step 4: Part number based on selections in steps 1-3**

	Step 1 Zones	Step 2 Pumps	Step 3 Flushing	Step 4 Part Number
GeoL	1	Simplex	Manual	GEO-L1-SIM-MAN
			Automatic	GEO-L1-SIM-AUT
		Duplex	Manual	GEO-L1-DUP-MAN
			Automatic	GEO-L1-DUP-AUT
	2 - 4	Simplex	Automatic	GEO-L4-SIM-AUT
		Duplex	Automatic	GEO-L4-DUP-AUT
	5 - 8	Simplex	Automatic	GEO-L8-SIM-AUT
		Duplex	Automatic	GEO-L8-DUP-AUT

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Floats	Functions
	Float raised – Alarm enable. Activates the audible and visual alarm when raised. Audible alarm may be silenced by pressing the illuminated “PUSH TO SILENCE” button.
	Float raised – Peak Timer enable. The secondary timer will cycle the pump(s) more frequently. The secondary timer function will remain active until the Primary Timer enable float lowers. When the Peak Timer function has been completed and the Primary Timer enable float is reactivated, normal timer operation will resume.
	Float raised – Timer enable. The Primary Timer will control pump cycles, beginning with the off cycle. Note: On duplex panels the pumps will alternate with each timer cycle. The Primary float resets the secondary on/off float when in the down position.
	Float raised – Pump enable. Float lowered – Pump disable. Flashing visual & audible alarm enable. This is a secondary off float that will prevent the operation of the pump if the water level in the tank gets too low. Geo pump will be disabled in both the automatic and manual modes. GeoTS will allow you to run the pump for a short burst regardless of float position. This bottom float also activates the visual and audible alarms. Audible alarm may be silenced by pressing the illuminated “PUSH TO SILENCE” button.

Note: ETM and pump events are recorded whenever contactor is energized.

## **GEO-L1 MANUAL CONTROLLERS**

The Primary Timer (float 2-activated) controls the pump dose cycle during normal operating conditions. During high flow conditions the pump dosing cycles will be controlled by the Peak Timer (float 3 - activated). The Peak Timer off is typically set to trigger more frequent flow than the Primary Timer off setting.

If *duplex pump* option is chosen, the pumps are alternated every pump cycle and never operate simultaneously. There is a selection switch for pump 1, pump 2 or alternation. This allows one pump to be taken out of service for maintenance without affecting the operation of the system.

*Pump dosing cycles* are controlled by the timers when the H-O-A switch is in the auto position. Under normal conditions the Primary Timer (float 2) will control the pump(s). During high flow conditions, the Peak Timer (float 3) will control the pump(s). The Peak Timer will cycle the pump more frequently than the Primary Timer (field adjustable). The pump will dose for the same amount of time as it does when operated by the Primary Timer but the time in between doses, or the Peak timer “off time”, will be 75 % of that of the Primary Timer “off time”. Factory settings (operator adjustable) are 1 hr 55 minutes off and 5 minutes on for Primary Timer and Peak Timer is set to 1 hr 25 minutes off (1 hr 55 mins x 75%) and 5 minutes on. Consequently peak doses are more frequent than primary doses.

*Hydraulically activated zone valve(s)* will index each time the PLC calls for a dose. Each time the pump is turned on another zone is dosed. The controller does not dose all zones sequentially as “one” dose. For example if the Primary Timer is programmed

# Geo Logo Controllers

to be off for 1 hour on for 5 minutes and there are four zones, each zone will get 6 doses - five minutes in length –in a 24-hour period. The controller will dose a single zone every hour and will not dose all zones every hour.

In the event of a *power outage* the Geo-TS controller continues the program where it left off, even if it was in the middle of an event. The Geo-1 resets itself and begins with a flush cycle in field 1.

## GEO L AUTOMATIC CONTROLLERS

The Primary Timer (float 2 activated) controls the pump dose cycle during normal operating conditions. During high flow conditions the pump dosing cycles will be controlled by the Peak Timer (float 3 activated).

If *duplex pump* option is chosen, the pumps are alternated every pump cycle and never operate simultaneously. There is a selection switch for pump 1, pump 2 or alternation. This allows one pump to be taken out of service for maintenance without affecting the operation of the system. *The Vortex Filter flush valve* will open for 15 seconds (operator adjustable) at the end of the pump cycle to allow the filter to self-flush.

*Pump dosing cycles* are controlled by the timers when the H-O-A switch is in the auto position. Under normal conditions the Primary Timer (float 2) will control the pump. During high flow conditions, the Peak Timer (float 3) will control the pump. The Peak Timer will cycle the pump more frequently than the Primary Timer. The pump will dose for the same amount of time as it does when operated by the Primary Timer but the time in between doses, or the Peak Timer “off time”, will be 75% that of the Primary Timer “off time”. Factory settings (field adjustable) are 1 hr 55 minutes off and 5 minutes on for Primary Timer and Peak Timer is set to 1 hr 25 minutes off (1 hr 55 mins x 75%) and 5 minutes on.

*Zone valve(s)* will open when the PLC calls for a dose or flush. These can be electrically operated solenoid valves (requires any controller other than the Geo-1 or GeoTS-1) or hydraulically activated index valves (used with Geo-1 or GeoTS-1). If hydraulically activated index valves are used in combination with a solenoid field flush valve, a field setting for number of zones and number of zone valves is available. With Geo controllers the total doses of all zones in a 24-hour period must be considered when setting the “off” timer(s). After the pump is deactivated the solenoid valve will remain open to allow for drainage of the supply line. If hydraulically activated index valve is used, be sure to drain the supply line in freezing climates.

*Field flush valve* will open at the end of the dosing cycle. The pump will continue to run for 5 seconds (field adjustable) to accommodate the opening of this valve. After the pump is deactivated the field flush valve will remain open for five minutes (field adjustable) to allow for drainage of the return line in freezing conditions. It is best to clock the length of time it takes the return flush line to drain and use this to set your drain time.

The activated zone valve remains open at the end of the dose for same “#” minutes as return flush and filter flush valves to accommodate drainage of supply line.

To periodically *flush the dripfield*, after 10 dosing cycles (operator adjustable) the pump will operate for # minutes (field adjustable) with the field flush valve open. The field flush cycle will repeat until all zones have been flushed.

In the event of a *power outage* the Geo-TS controller continues the program where it left off, even if it was in the middle of an event. The Geo-1 resets itself and begins with a flush cycle in field 1.