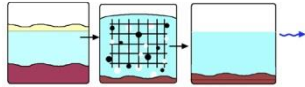


Firm: Delta Environmental/ Pentair Ltd.
www.deltaenvironmental.com

System: EcoPod-N

Category:



**EXTENDED AERATION
SUBMERGED FIXED FILM
BIOREACTOR**

Process: Wastewater first enters a fully sized septic tank or chamber for primary treatment and sedimentation. The effluent then travels by gravity directly to the treatment pod, which is an open-bottomed box on legs, containing PVC media. The pod sits in a larger tank, typically sized to hold 700 – 1,000 gallons. The treatment tank has a minimum of four feet of liquid depth. From six sources, air is pumped continuously from just beneath the media, facilitating circulation and supporting aerobic bacteria attached to the media. Entering and treated wastewater are not mixed. Sloughed solids drop to the bottom of the tank, which is as an anoxic zone where denitrification occurs. Clarified water then exits the tank to the dispersal field by hydraulic displacement.

System: Pretreatment is required. The EcoPod is a separate unit that is housed in any properly sized tank. A blower is the only mechanical component. The system does not replace the discharge components.

Flow Range: 500-1,500 gpd

Tests: NSF/ANSI 245 for denitrification;

Cost: The EcoPod unit is \$3,800. Estimated cost installed is between \$10,000 to \$12,000, depending upon the tank configuration.

Energy: 3.84 kWh/day, estimated cost is \$21 per month

Tanks: Concrete or polyethylene, sourced locally

Venting: Direct, can be in chip trench

Footprint: Adds a tank similar in size to the septic tank

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Depth: The tank depth varies, but needs roughly 5-7 feet plus clearances.

Life Cycle: Air compressor: 5-7 years (Cost: \$400)

Warranty: 2 years; 3 years for the compressor; 20 years for the media

Maintenance: Semi-annually; pump-outs as needed (3-5 years). The air filter and steel mess screen need checking, as well as the sludge level, which should not be deeper than 15 inches in the treatment tank.

Notes: The system is appropriate for seasonal use, as no equipment removal or special care is required for the shutdown. A vacation option will keep the blower running 6 hours/day instead of 24. The system recovers quickly after start-up (week).

When the electricity is off, the system continues to operate, with treatment continuing for roughly two days, after which it acts as a septic system.

The media is self-cleaning.

Installations: Roughly 2-3,000 have been installed in CA, FL, MI, MN, ON, VA, WI

Treatment: 50% nitrogen reduction

Advantages:

- Relatively inexpensive
- Simple system
- During a power outage, can function as a simple septic system

Disadvantages:

- Blower noise
- Energy use is moderately high