

Puralinity™

Passive pH Biobuffer



Puralinity is a preassembled basin containing natural materials for pH buffering. The passive system boosts alkalinity with minimal operational oversight and low life cycle costs. Applications include wastewater treatment plants, denitrification systems, and fish ponds.

Sufficient alkalinity is essential for controlling the pH in biological treatment systems. The zero-energy Puralinity system incorporates submerged marble rock or seashells and a hard limestone base in an upflow configuration. The calcium carbonate substrate provides a readily available source of alkalinity and acts as a catalyst for pH neutralization. The passive unit is highly advantageous where denitrification performance suffers or will be limited due to low alkalinity. Expensive or hazardous chemicals are not required.

Five Steps of the Puralinity Process

1. Treated effluent or filtered water enters the basin through the inlet pipe.
2. The effluent or water is directed to the bottom of the basin.
3. The bottom of the basin contains a perforated pipe nested in hard limestone.
4. Effluent or water flows up through the limestone and marble rock or seashells.
5. The natural materials are rich in available calcium carbonate and act as a catalyst for pH neutralization.
6. The effluent exits the top of basin through the gravity outlet pipe.
7. The media can be replenished as needed by removing the access lid and refilling.

Technical Specifications

Parameter	Specifications	
HDPE basin Diameter	26"	30"
HDPE basin Height	38"	66"
Inlet/Outlet pipe diameter	4"	4"
Passive alkalinity control media	Marble rock or Quahog shells	
Underdrain media	#57 hard limestone	
Available CaCO ₃	150 to 300 kg/m ³	

