



Matrix Solutions Wastewater Clarification System

Introduction

The Matrix Solutions Clarifying Technology is a compact, low maintenance engineered system that treats domestic or industrial wastewater. The Matrix Clarifier-MC5 or Matrix Clarifier MC-50 can be installed as a permanent solution, as a temporary treatment system for emergencies, or as part of a maintenance program. Eliminating odors and the reduction of noise makes it usable anywhere, including urban and populated areas.

OUR C50 Clarifier

& SCALABLE!



Advantages

Traditional systems rely on a large footprint, large settling ponds and extensive amounts of piping and equipment. Decentralizing the treatment process can be accomplished by taking advantage of the reduced footprint of the clarification system. The simple design, and quick deployment, make these machines an ideal addition to existing systems or can be the core piece of a new installation.

Our system has the ability to remove virtually all TSS, heavy metals and microplastics, while providing discharged water under the regulatory requirements for BOD and COD. The effluent can be re-used for irrigation, fire suppression or other uses. The operational costs of the clarification system are very low when compared to traditional systems. It is automated via UT Scada technology, allowing remote and local control, and has low energy requirements.

Currently there are two different sizes in operation, a 5000 gallon per day as well as a 50000 gallon per day. The systems are identical and the design allows for multiple systems deployed at one location, or the design allows for scalability up to 200,000 gallons per day with a larger footprint.



The technology has been approved by the CSA (Canadian Standards Association) and the NRC (National Research Council) in Canada. Patents are registered in Canada, USA, and Europe.

Comparing technologies

Decentralized treatment systems can replace the majority of the equipment needed for a traditional wastewater system, with a much smaller footprint, lower energy needs, lower impact on the community by offering odor and noise reduction and have a lower capital cost. They are modular and can be scaled up over time on a as-needed basis and offer superior performance to traditional systems. This allows developers to defer upfront capital deployment until the need is there.

When looking at decentralized systems such as Clarification systems and membrane type systems, the benefits of a clarification system become clear. Ongoing maintenance of membrane systems is crucial for their continuous efficient operation. Routine monitoring of membrane integrity, periodic cleaning to prevent fouling, and the management of the biological process is necessary to ensure the performance of the system. Clarification systems offer far lower maintenance costs due to the nature of the process.

Water Reclamation Opportunities

Decentralizing the wastewater treatment with a modular, mobile system offers opportunities for water reclamation and re-use in the near vicinity without having to truck long distances or provide infrastructure to move clean water from one area to another. Landscaping, golf courses , fire suppression, and water supply to industries are a few possibilities.



Demonstration/Rental Options

Matrix Solutions will be making available a MC-5(5000 gpd) Clarifier for demonstrations and/or short- or long-term rentals. This is a fully mobile unit, enclosed and moved easily with light duty trucks. This is an ideal option for proof of concept, bridging construction projects, and other temporary solutions.

Larger MC-50 units will be available for short and long term rentals, lease to own options or purchase. Matrix Solutions would provide delivery, installation, start-up and ongoing support.

Summary

Decentralizing wastewater treatment, such as the Matrix Clarifier, is a viable alternative to expensive large traditional treatment plants. It would be ideal for small towns, industrial users who are not located near existing infrastructure, new developments who want to scale up as development phases are completed , or existing treatment systems that are in need of costly upgrades or refurbishments.

Factors such as lower up-front costs, scalability, low maintenance costs need to be considered by developers and current wastewater plant operators.

