Innovative Chemical Free Solution for Bio-refactory Wastewater Treatment

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TECHNOLOGY SUMMARY

To tackle the challenges in the current conventional wastewater treatment processes such as large quantities of chemicals consumption and massive volume of sludge disposal, CLP EnviSystems together with the Environmental & WaterTechnology Centre of Innovation (EWTCOI),Ngee Ann Polytechnic co-develop a chemical-free technology, Membrane Sonophotacatalyst Reactor (MSPR) for recalcitrant wastewater treatment with lower sludge production. Figure 1 shows the lab-scale MSPR system.



Figure 1. Lab-scale MSPR system

Features:

- Chemical free
- •Less sludge production
- Low membrane fouling
- •Good treatability for bio-refractory wastewater
- Compact and scalable

APPLICATIONS

MSPR can integrate with various pre-treatment or post-treatment processes to reduce chemical usage and sludge production according to actual requirements for different treatment options. It also has great potential in the application of wastewater reclamation by reducing COD to very low level (<40 mg/L) which is favourable for the subsequent membrane process such as RO treatment.

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