

LEVAPOR IFAS UPGRADE

A Sustainable And Cost Effective Solution



LEVAPOR IFAS Upgrading of Existing Biological Wastewater Treatment Systems: An Economical, Sustainable, Efficient upgrade of Existing Activated sludge for Nutrient Removal (BNR), Higher Removal Efficiencies and higher treatment capacity.

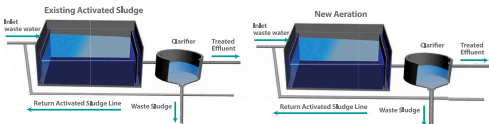
Due to continuous changes in the discharge standards related to nutrient removal, most of the municipal wastewater treatment plants based on suspended growth process require upgradation to increase the treatment capacity to meet the stringent Ammonia/TN requirement in the treated wastewater. Also due to exponential urban growth, majority of the old suspended growth based WWT within urban areas require additional treatment capacity to cater the higher flows.

For industries too, due to new zero liquid discharge (ZLD) standards coming in effect, it is imperative to reduce the organic load as much as possible prior to tertiary treatment, so that overall treatment costs can be reduced. The higher reduction in organic pollutants require upgradation of existing biological process for better removal efficiency.

TRADITIONAL APPROACH

- The Traditional approach to upgradation involves addition of new Aeration basins and clarifiers to compensate for higher MCRT or higher Organic Loading capacity requirement. However, this approach has its own pitfalls.

ACTIVATED SLUDGE SYSTEM



Traditional Approach: Add New Aeration and Clarifier

DISADVANTAGES OF TRADITIONAL APPROACH

- Additional Civil Construction Requirement
- Additional Land and Space Requirement

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Upgrading existing Suspended Growth/Activated Sludge System into Levapor IFAS process offering economical, efficient, resilient and performance oriented upgradation of the plant which ensures stringent biological nutrient removal (BNR) requirement achieving lowest possible Ammonia/TN levels for municipal effluents.

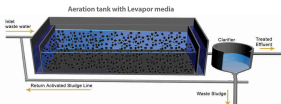
Due to specific advantages of PACT and MBBR combination in a single IFAS solution, biological process efficiencies of industrial activated sludge system are improved drastically achieving biodegradation of refractory COD and Nitrification of Industrial effluents under harsh Wastewater matrix conditions.

A SIMPLIFIED UPGRADATION PROCESS

- Add Levapor Carriers at 13-15% filling
- Add Retention Screens
- Rearrange diffuser grid

LEVAPOR IFAS ADVANTAGE: IMPROVED PROCESS BENEFITS

- Higher MCRT without increasing MLSS
- Improved Sludge settling properties
- Lower sludge production
- Better COD degradation
- Higher level of Nitrification at shorter HRTs Simultaneous Nitrification and Denitrification



WHAT ARE THE BENEFITS OF LEVAPOR IFAS BNR UPGRADATION TO MUNICIPAL WASTEWATER TREATMENT PLANTS?

- Plant Capacity can be doubled with higher Nitrification capability.
- Simultaneous Nitrification and Denitrification reduces Denitrification Recycle flows and associated energy costs
- Can be Configured with Any Activated Sludge Process alternative including SBR, CMAS, Plug Flow basins.



HOW INDUSTRIAL ACTIVATED SLUDGE SYSTEMS CAN BENEFIT FROM LEVAPOR IFAS UPGRADE?

- Increase Process stability against toxic shock load
- Biodegradation of refractory COD achieving lowest possible COD levels
- Nitrification of Toxic and Inhibitory substance containing effluent possible
- Reduced Post Treatment and Sludge handling costs
- Improved settling properties and clarifier performance

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