

Aquatic and Industrial Wastewater

Smart BOD Plus

BOD & COD Reduction | Solids Reduction

Advanced biological treatment designed to reduce influent organic load, improve biodegradation of soluble and particulate organics, and assist MLSS management.

Influent load reduction strategy

Smart BOD Plus is positioned upstream of the biological process to help break down incoming BOD/COD before it accumulates as excess mixed liquor solids. The result is a more stable load profile, better process resilience and a more manageable solids inventory.



REDUCES
BOD & COD



ENHANCES
SOLIDS REDUCTION



SUPPORTS
MLSS CONTROL

Built for aerated ponds, lagoons, balance tanks, aeration basins and high-strength process wastewater



BOD/COD removal support

Accelerates the conversion of organic carbon fractions that drive biochemical and chemical oxygen demand.



Solids reduction assistance

Helps reduce the particulate organic load that contributes to excess sludge formation and high TSS.



MLSS management via load control

Supports operators by reducing incoming organic pressure rather than relying only on sludge wasting.



Resilience during load events

Provides biological support during food processing surges, FOG carryover and variable wastewater quality.

Treatment pathway

Influent
BOD/COD



Hydrolysis +
bio-oxidation



Lower organic
solids pressure



Improved MLSS
control

Technical Operating Framework

A practical engineering framework for deploying Smart BOD Plus as an influent-load reduction program that supports downstream biological stability, solids control and operational decision-making.

Mode of action



1. Hydrolysis

Enzymatic and biological activity helps split complex proteins, fats, starches and suspended organics into more biodegradable fractions.



2. Bio-oxidation

Aerobic organisms convert soluble organics into CO₂, water and controlled biomass under suitable DO, pH and temperature.



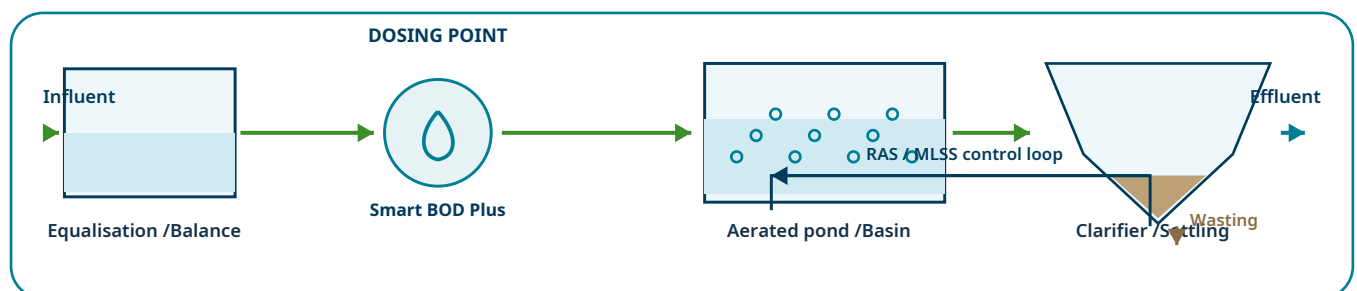
3. Stabilisation

Lower influent organic pressure can reduce excess solids formation and assist sludge age / MLSS control.

MLSS management logic

Lower incoming BOD/COD and particulate organics -> lower solids pressure -> more stable F:M ratio -> improved settling behaviour -> more controlled wasting and sludge inventory.

Preferred treatment position



Program setup and operating guidance

Control area	Recommended operating approach	Trend to watch
Baseline	Capture 2-4 weeks of flow, BOD/COD, TSS, FOG, MLSS and SVI.	kg BOD/day
Dose point	Apply to high-mixing influent, balance tank, aerated pond or basin inlet.	load reduction
Optimisation	Adjust to HRT, DO, pH, temperature and shock-load behaviour.	MLSS / SVI



Important note

Smart BOD Plus is a biological process aid. Site outcomes depend on wastewater chemistry, hydraulic stability, aeration, pH, temperature and retention time; maintain normal compliance monitoring.