WASTEWATER

inDENSE®

Activated sludge densification system for biological wastewater treatment

Boost activated sludge for optimized treatment capacity and more sustainable plant

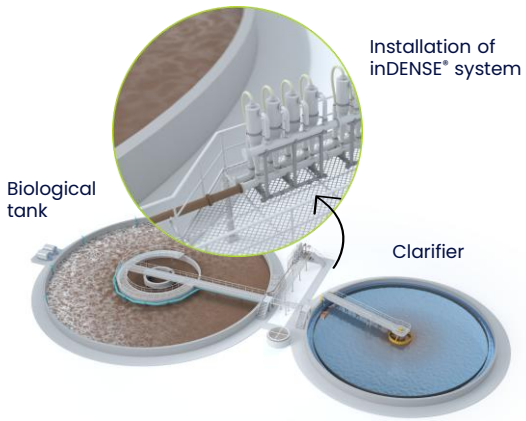
- **Robust and resilient treated water quality**
- **Environmental footprint reduction**
- **Easy installation**

Doing more treatment in less volume with less energy and chemicals

inDENSE® system allows the densification of biomass through an external gravimetric selector.

Biomass densification aims to intensify biological treatment and improve sludge settleability. This allows to accelerate the clarification steps, thus reducing the environmental footprint of biological wastewater treatment while ensuring a high quality of treated water.

This system can extend capacity for plants at nominal capacity needing to handle increased organic load and/or flow, and for plants needing to manage storm events to limit wastewater discharge into the environment.



The hydrocyclones are placed on the excess sludge extraction line

Up to **+30%** **organic load treatment capacity** with the same structures

Up to **+60%** **hydraulic capacity** during raining weather

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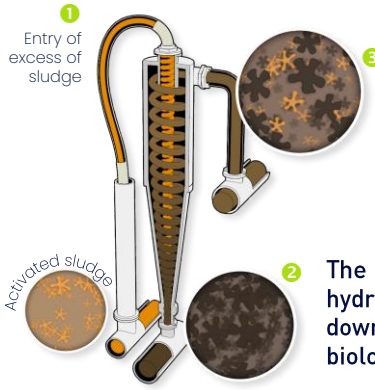
The inDENSE® system...

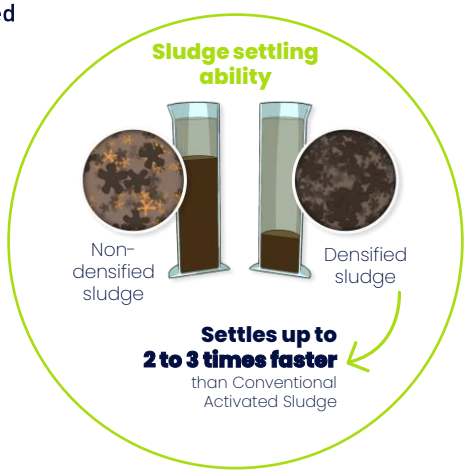
inDENSE® is a system that enhances conventional activated sludge by converting it into densified biomass.

The system operates by selectively extracting less dense fractions from the activated sludge using the centrifugal force of hydrocyclones.



3 The **lighter sludge**, less affected by the centrifugal force, migrates towards the center of the hydrocyclone and then upwards with the water flow towards the sludge treatment process line.

2 The **denser sludge**, push against the walls of the hydrocyclone by the centrifugal force, is driven downwards to be collected and reinjected into the biological tank.



This process progressively increases the quantity of the most efficient organisms in the biological reactor at the expense of the less efficient forms that are extracted. This densified biomass has a superior settling ability compared to Conventional Activated Sludge, maintaining a stable and low Sludge Volume Index (SVI) throughout the year, regardless of adverse weather conditions. It limits also the escape of suspended solids, thus improving the quality of the treated water.

... what can it do for you

Secures the reliability of discharges regardless of weather conditions

- Allow up to **30%** increase in organic load treatment capacity by increasing MLSS*

OR

- Up to **60%** increase in hydraulic treatment capacity in wet weather

*Mixed Liquor Suspended Solids

A compact and economic system

- Installs easily and quickly in an existing plant whatever its size
- **In rehabilitation:** alternative to the construction of new structures
- **In new construction:** more compact structures

Energy & reagent savings

- The optimization of sludge recirculation flow reduces energy consumption
- The consumption of ferric chloride may be reduced in case of additional phosphorus removal

Among our references

Dijon Eau Vitale, France
400,000 PE - Brownfield plant
Performance improvement

Montbarrey, France
2,700 PE - Greenfield plant
Hydraulic capacity increase

Soissons, France
90,000 PE - Brownfield plant
Hydraulic capacity increase

K&C Valley, India
1,000,000 PE - Brownfield plant
Performance & hydraulic capacity improvement

Silkeborg, Denmark
95,000 PE - Brownfield plant
Hydraulic capacity increase

Czernica, Poland
17,000 PE - Greenfield plant
Performance improvement

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