Compreactor

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Umwelttechnologie

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* CASE STUDY *

TREATMENT OF WASTEWATER FROM THE SLAUGHTERHOUSE "G. STAIKOS S.A." DRAMA – GREECE

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WWTP «CompReactor»

A specific compact construction of Wastewater Treatment Plant (WWTP- «CompReactor») made by reinforced concrete, including all the necessary treatment stages for applications from medium to large plants.

- **Patented**

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WWTP TYPE

«CompReactor»

(Plant in Operation)

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WWTP TYPE

«CompReactor»

- New design
- New construction
- New application
- Operation in «Extreme» performance
- «Extreme» results

Brief reference to the Past / present WWTPs/STPs

«Problems - Defects»

- Large building area -“land” required.
- Excessive number of machines.
- Demand of great man-power and high maintenance requirements.
- Very long power wiring lines (underground-above ground).
- Scattered piping (including tanks, manholes, etc).
- Scattered tanks and wells.
- Wrong air distribution methods.
- In general, unstable and not efficient operation.

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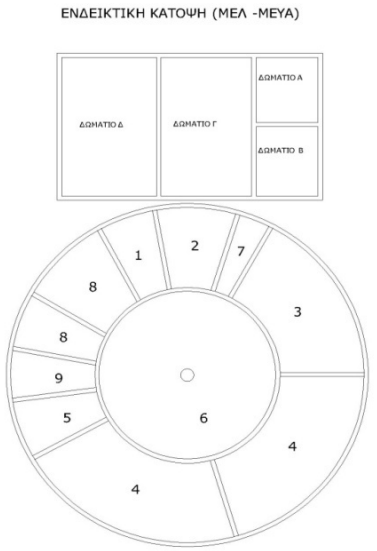
Basic Advantages of «CompReactor»

- Lower reinforced concrete and space/land demands.
- Central machinery control room attached to «CompReactor».
- With most equipment and the electrical panel inside.
- Less wiring, piping and pumping demands.
- Chemical dosing units and management inside the control room.
- One central panel for all machineries – Much less electrical.
- cables and fittings.
- Aeration unit via a “closed cyclical circuit” with air equipartition.
- Sludge treatment and feeding stages inside the control room.
- The same control odor system.



Quantity / Quality characteristics of Wastewater inflow – outflow

Design flow:	170 m^3 per day
Supply flow:	~120 m^3 per day
Average hourly flow:	~5 m^3

Inflow

- COD 4500 – 5500 mg/l
- BOD 2000 - 2500 mg/l
- TKN 150 - 200 mg/l
-

Outflow

- COD <30 mg/l
- BOD <10 mg/l
- TKN <5 mg/l

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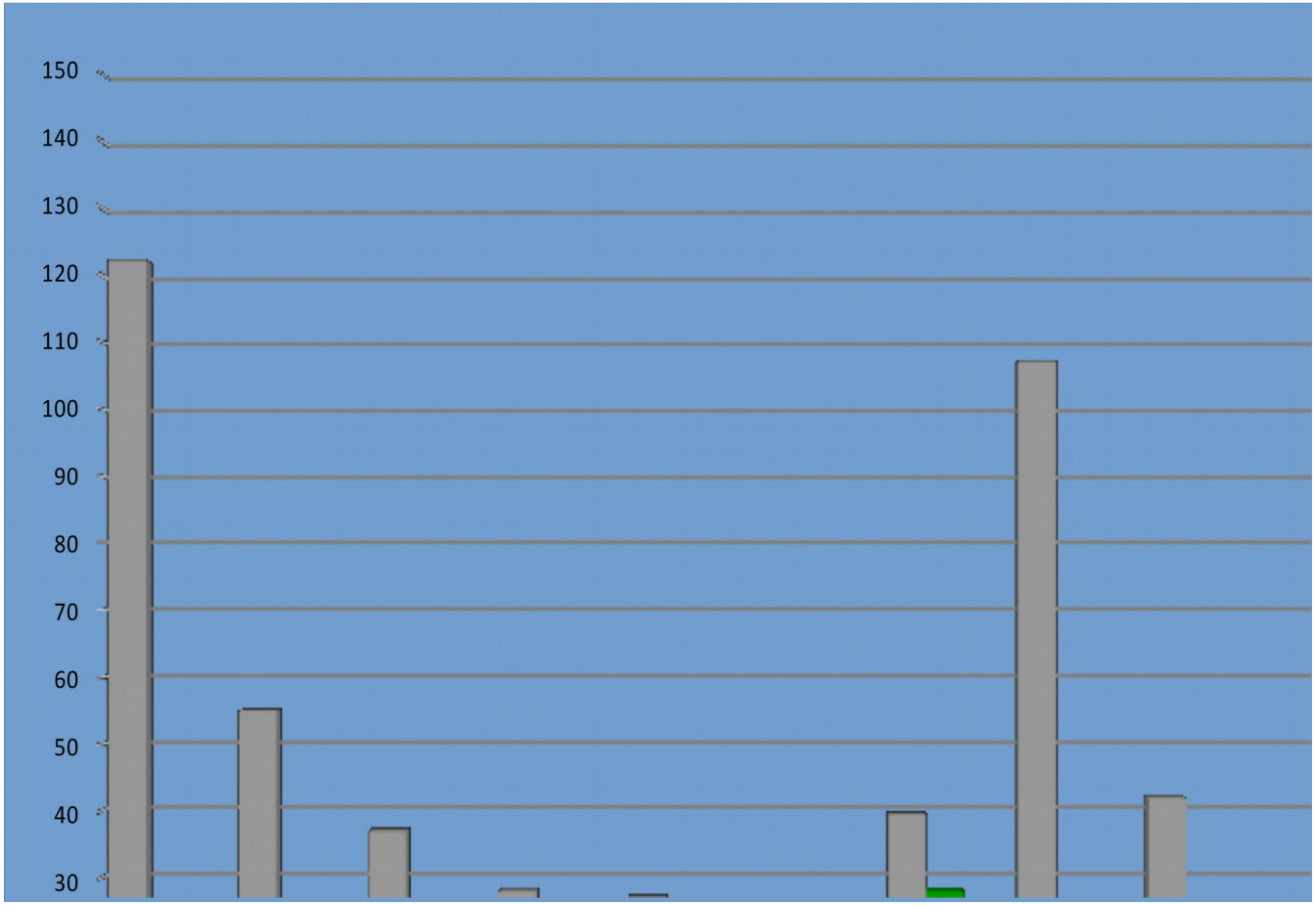
COD – BOD mg/L (Exit)



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BASIC OPERATION FEATURES OF «CompReactor»

- High concentration of solids MLSS (almost triple ~20.000 mg/l) in the aeration tank.
- Long hydraulic retention time in the settling tank.
- Very short retention time of solids in the settling tank.
- Operational “concurrency” of the aeration and settling tank (no thickening sludge zone).
- Very high rate of sludge recirculation (up to 1000%).
- The sludge age reaches «infinity» - very small quantities surplus sludge is produced.

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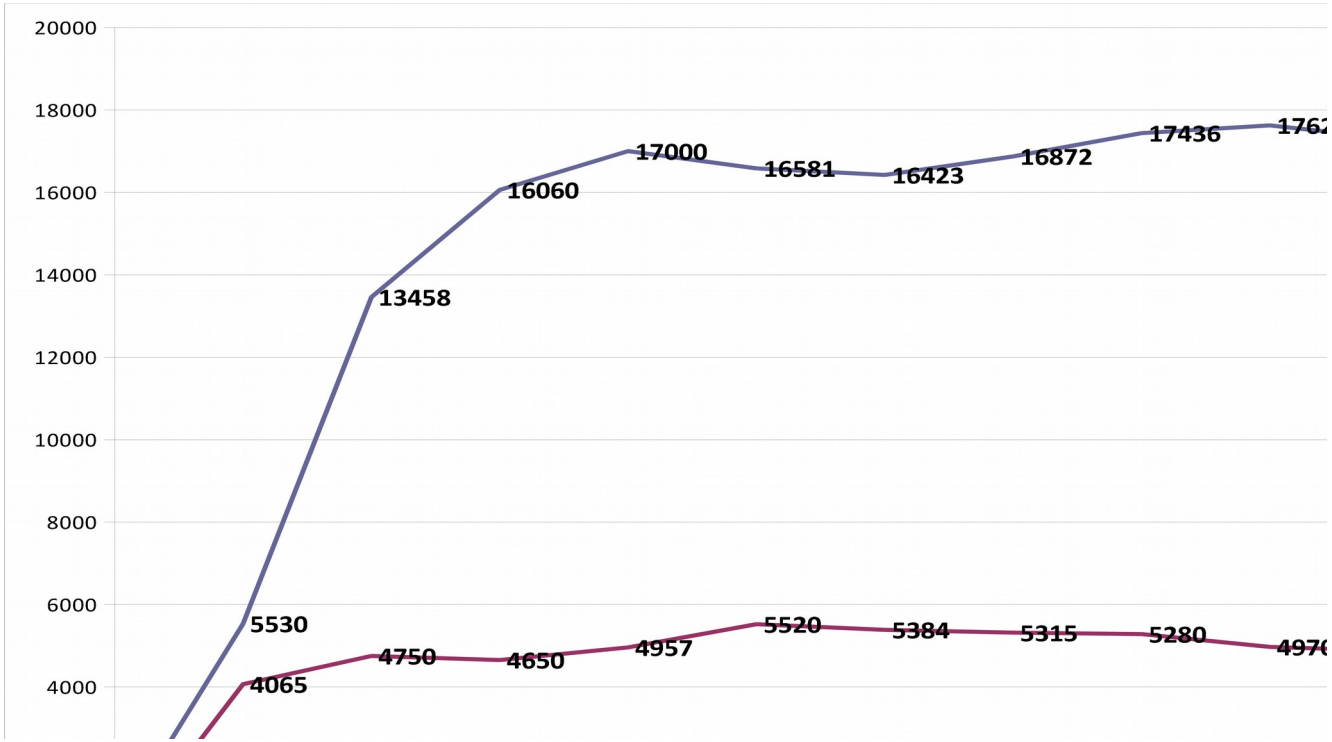
MLSS mg/L



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Indicative Samples: inlet - outlet

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APPLICATION OF «CompReactor»

- Small towns – Communities about ~25.000PE and up to 50.000PE with twin Compact «CompReactor».
- Effluents from BioGas digesters.
- Slaughterhouses including the Blood.
- Dairy Factories including the Whey “Total Waste”.
- Cheese Factories including the Whey “Total Waste”.
- Olive Mills “Total Waste”.
- Canning Factories (fruit, fish, etc).
- Pastry Factories & Workshops.
- Wineries – Distilleries.
- Dye house industries.
- In general, all kinds oforganic wastes/effluents with organic loads.

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