

RBC WwTP for Le Bignon, FRANCE

NiFAS® Technology

GROUPE STURNO



**EWwS NiFAS® RBC treatment plant for full
Nitrification & Denitrification for TN
reduction**



**Environmental
Wastewater
Solutions (EWwS)**

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YES, EWwS TEAM CAN SUPPLY ENERGY EFFICIENT RBC PROCESS SOLUTIONS TO

- ACHIEVE FULL NITRIFICATION
- CONFIGURE THE PROCESS FLOW DIAGRAM FOR DE-NITRIFICATION
- RECOVER ENERGY
- PROVIDE NUTRIENT NEUTALITY TO PROTECT THE ENVIRONMENT

24 hr composite samples

Analysis	22-May-24		01-Aug-24		Concent
	Inlet	Outlet	Inlet	Outlet	
Flow (m³/d)	235	210	110	100	
BOD ₅ (mg/L)	700	4.1	645	1.4	25
COD (mg/L)	1270	39	1520	33	90
TSS (mg/L)	420	12	500	9.6	20
TKN (mg/L)	65	2.1	71	2.4	20
NH ₄ - N(mg/L)	12.4	0.2	41	0.1	
NO ₂ - N(mg/L)	0.28	0.28	0.18	0.44	
NO ₃ - N(mg/L)	0.65	1.6	0.2	3.6	
TN (mg/L)	65.93	3.98	71.39	6.44	
TP (mg/L)	17.9	0.26	13.7	0.27	2

800 PE PLANT LAYOUT

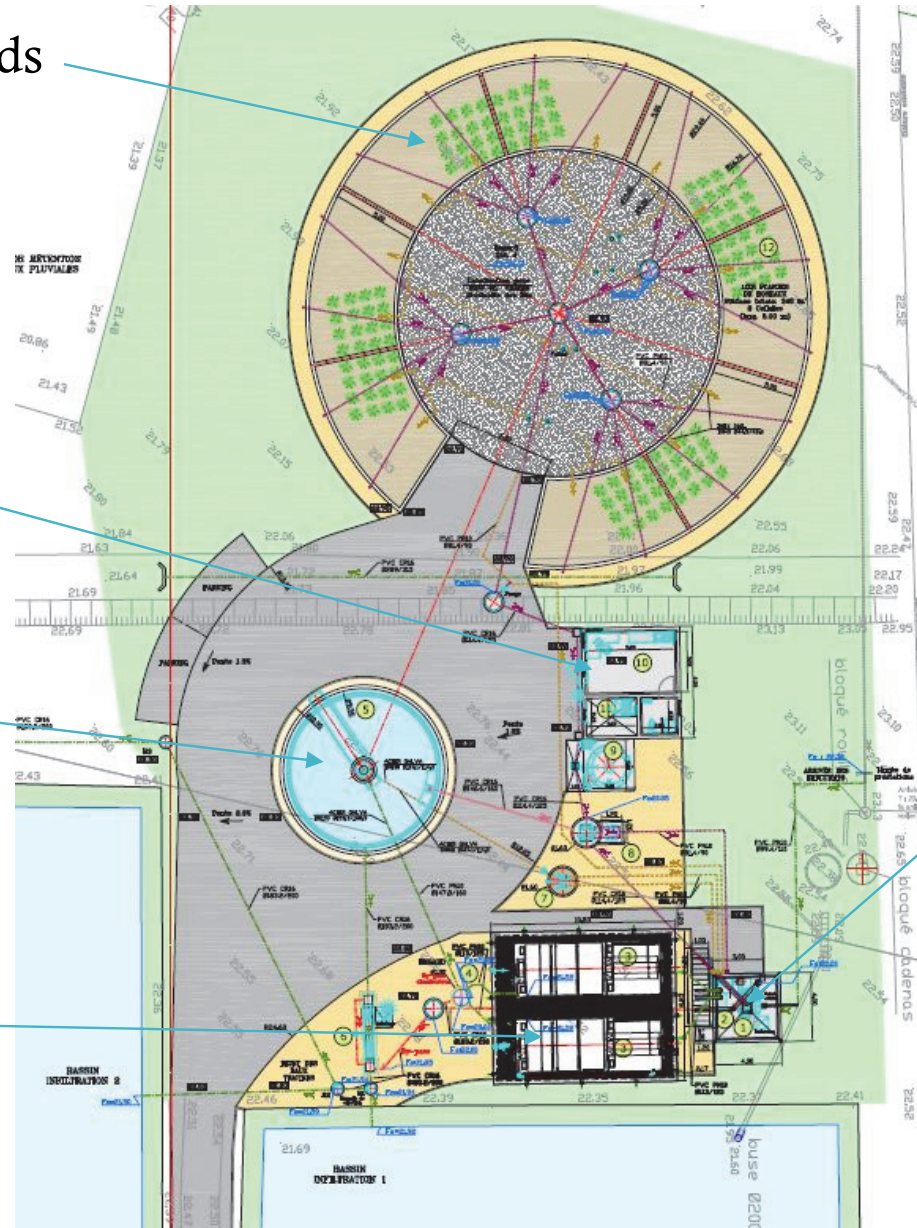
Sludge drying beds

Office

Final
settlement
tank

2 EWwS
NiFAS®
RBCs

2mm
Rotating
drum screen



Two EWwS NiFAS® RBC units installed above ground – without PST



800 PE WwTP – Two EWwS NiFAS® RBC units installed above ground



NiFAS® Technology explained :

Wastewater treatment technology with exceptional quality discharge thresholds !

With **NiFAS®** technology EWwS has combined the advantages of two biological treatment processes for wastewater : Biological discs (fixed film technology) for BOD reduction and nitrification with low energy requirements and activated sludge, for denitrification and energy recovery.

NiFAS® technology can be configured to achieve the following or better effluent thresholds:

BOD₅ < 10 mg/l, TSS < 10 mg/l, COD < 50 mg/l, NH₄-N < 1 mg/l, TNK < 1.5 mg/l, TN < 15 mg/l.

When such high effluent quality is not required, NiFAS® technology will enable the use of smaller RBC with energy recovery and consistently good effluent quality.

- ☐ Simple operation with stable & consistent process performance.
- ☐ Reduced carbon footprint - reduced energy consumption by RBC technology and energy recovery.
- ☐ Lower land footprint for a similar discharge quality.

NiFAS[®] Technology

Benefits



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- ◊ Negligible Capital Cost (CAPEX) increase and in most cases reduction in CAPEX.
- ◊ Lower Operating cost from lower Energy use, lower Sludge production rate and lower Operating Labour and Energy (OPEX) cost.
- ◊ Above two CAPEX & OPEX costs leads to **Lowest Life Time Costs of ownership (TOTEX) of £ 1,150 per PE over 20 years at 2024 energy costs and sludge management / disposal costs. This is a saving of 30% per PE over 20 years compared to conventional suspended growth system. At 2020 energy costs, the savings with EWwS NiFAS[®] RBC system would be higher**
- ◊ Simplicity of Operation, stable and consistent process performance.
- ◊ Lower Carbon Foot Print from lower Energy use – energy recovery
- ◊ Lower foot print from less Land Area required for similar discharge quality.