



TESLA ECO SYSTEMS

DIGESTATE TREATMENT & NUTRIENT RECOVERY SYSTEM

Digestate is a nutrient rich substance produced by anaerobic digestion that can be used as a fertilizer. It consists of left over indigestible material and dead micro-organisms. The volume of the digestate will be around 90-95% of what was fed into the digester.

All the nitrogen, phosphorous and potassium present in the feedstock will remain in the digestate as none is present in the biogas. However, the nutrients are considerably more available than in raw slurry, meaning it is easier for plants to make use of the nutrients.



The digestate is treated through a biological process using Membrane Bio Reactor (MBR) technology. After extracting the solids from the digestate, the liquid portion will be further treated until it meets the discharge standard.

The containerized 40 feet digestate treatment & nutrient recovery system is the solution to excess slurry, ground water pollution and regulatory issues. It not only eliminates the digestate's nitrate/nitrogen component and provides non-polluting grey water or (at a higher purchase price) even drinking water, it also recovers the digestate's nutrients (solid as well as liquid) which can be applied for private use or sold to third parties.

PRODUCT RANGE

The digestate treatment & nutrient recovery system is available in different processing capacity (kgs/24 hours) models:

Grey water

DTS-G 3000
DTS-G 6000
DTS-G 9000
DTS-G 12000

Drinking water

DTS-D 3000
DTS-D 6000
DTS-D 9000
DTS-D 12000



in cooperation
with



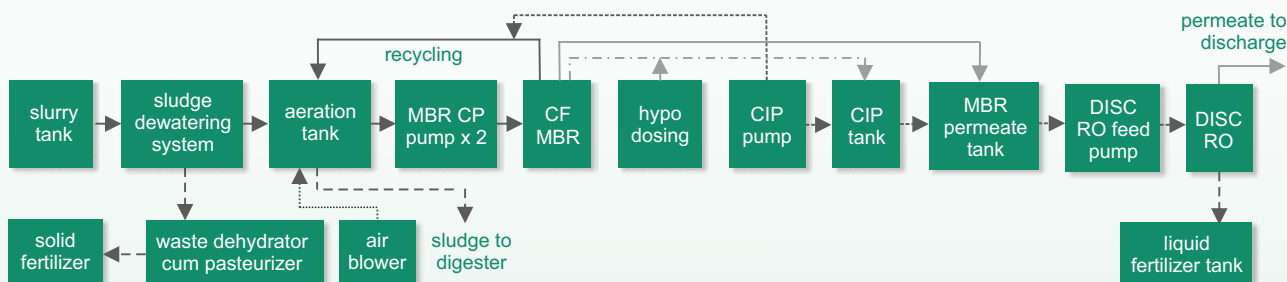
ADVANTAGES

- ✓ Zero discharge
- ✓ Compact
- ✓ The output residue is a high-grade fertilizer which can replace expensive mineral fertilizers
- ✓ Solid & liquid fertilizer recovery



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THE DIGESTATE TREATMENT & NUTRIENT RECOVERY PROCESS



Inlet parameters

Biochemical oxygen demand (BOD): 3750 mg/ltr
Chemical oxygen demand: 17500 mg/ltr
Total nitrogen (TN): 1756 mg/ltr
Total Phosphorus (TP): 625 mg/ltr

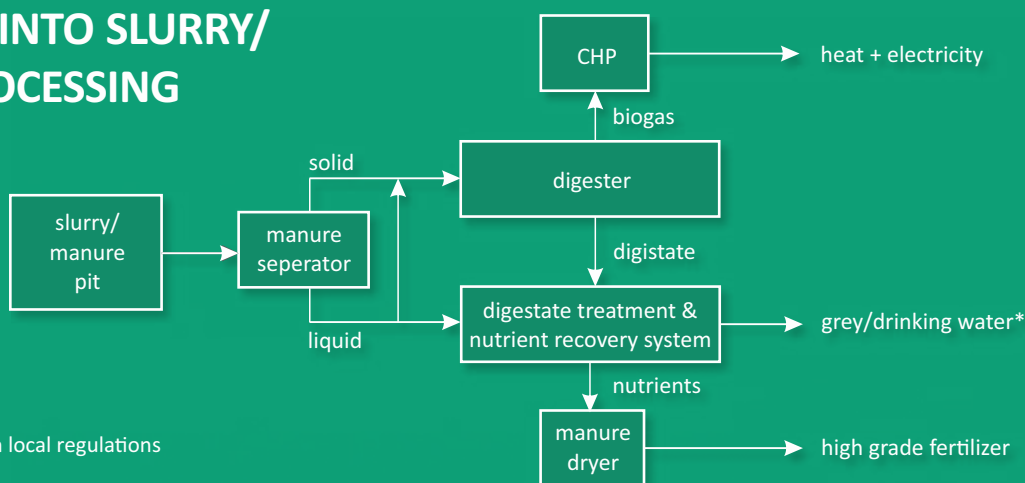
Abbreviations

DISC RO: Circular disc reverse osmosis
CIP: Cleaning in place
CF: Cross flow CP: Cross flow pump
MBR: Membrane bio reactor

Outlet parameters

BOD : <10 mg/ltr
Total suspended solid: nil
TN: <10 mg/ltr
TP: <1 mg/ltr

INTEGRATED INTO SLURRY/ MANURE PROCESSING



*Quality in compliance with local regulations

FACTS

MODEL	DTS 3000-G/D	DTS 6000-G/D	DTS 9000-G/D	DTS 12000-G/D
Power consumption (kW/24h)	167	236	288	301
Chemical consumption (kgs/month)	NaClO: 5.0 Citric Acid: 125* HCL: 5	NaClO: 5.5 Citric Acid: 130* HCL: 5	NaClO: 6.0 Citric Acid: 135* HCL: 5	NaClO: 7.0 Citric Acid: 140* HCL: 5
Solid fertilizer (kgs/24h)	100	200	300	400
Liquid fertilizer (ltrs/24h)	1500-2000	3000-4000	4500-6000	6000-8000
Area required for installation (L x W)	14.0m x 4.0m	14.0m x 4.0m	28.0m x 4.0m	28.0m x 4.0m

*Only when processing large amounts of substrates that require adding citric acid