

## Wastewater treatment

### T-MO - TERRA-Microorganisms

#### Product Specification

**T-MO** is a liquid that contains microorganisms (soil bacteria), used in wastewater treatment, agriculture,

**T-MO** does not contain any fertilising substances such as phosphorus, nitrogen and potassium.

The aerobic soil bacteria promotes the supply of the plant with nitrogen, phosphorus and potassium by the conversion of atmospheric nitrogen as well as phosphorus and potassium-containing compounds in the soil.

#### Procedure:

Our procedure is based on the transformation from anaerobic into aerobic processes. Anaerobic processes are putrefaction processes and are always accompanied by unpleasant, pungent and acrid odors, leachate, diseases and "contaminated environment".

This is due to the fact that during the transformation process of organic matter oxygen is being consumed instead of being build.

This leads primarily to degassing and the formation of hydrogen sulfide, which spreads the typical foul odor of rotten eggs.

The transformation from anaerobic into aerobic conditions does not only result in reduced smells and avoidance of odors, but also leads to a valuable product:

**Customs Tariff Number:** 30029050

The product is based on microorganisms and thus a soil additive. As a result, it does not fulfill conditions of a fertilizer according to Chap. 31 of cust. tariff.

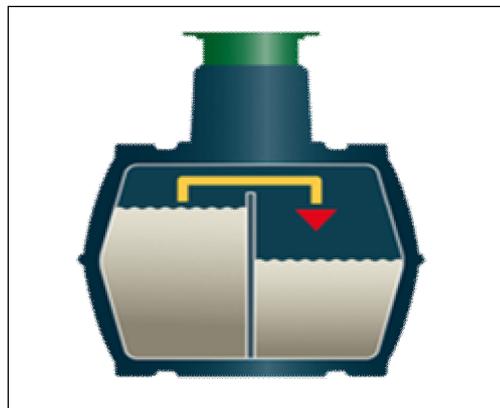


## How does a T-Mo-SBR wastewater treatment plant work?

In the T-Mo-SBR cleaning technique (sequential biological cleaning) there is a separate preliminary clarification for the mechanical support of the coarse materials and a biological revitalization and refinement basin, the so-called SBR basin.

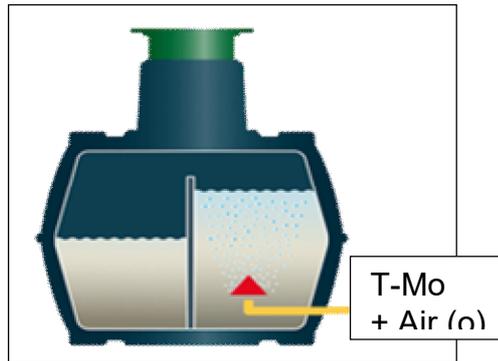
The T-Mo-SBR small sewage treatment plant cleans the waste water flow in several cycles. The cleaning capacity for T-Mo-SBR small sewage treatment plants is up to 99%, as a result, the T-Mo-SBR small sewage treatment plants remain well below the limits set by the legislator.

### Process of an T-Mo-SBR small sewage treatment plant:



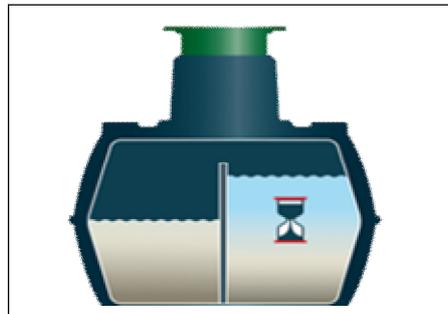
#### 1. Filling waste water:

The waste water first enters the preliminary clarification (1st chamber), in which most important components are retained. From there, the waste water is discharged into the SBR basin (2nd chamber).



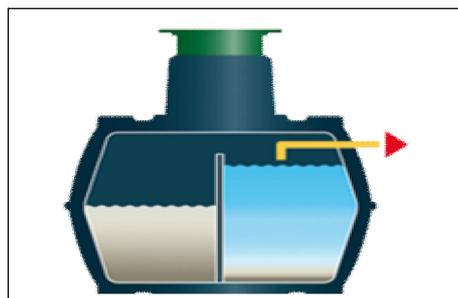
## 2. Aeration + Dosage T-Mo:

The actual biological cleaning takes place in the SBR basin. In this process, short ventilation and resting phase interchange in a controlled purifier's process, in addition, the T-Mo (TERRA microorganisms) are dosed here. Thus, the so-called activated sludge can be created with many millions of microorganisms and thoroughly clean the water.



## 3. Resting phase

Now follows a resting phase, in which the activated sludge sinks to the bottom of the plant. This creates a clear water zone in the upper part of the SBR basin.



## 4. Clear water extraction

The purified water is now discharged into a floodwater (bach, river or lake) or a discharge system. The sludge is then re-conveyed from the SBR basin to the first chamber.

## T-Mo – Retrofit kit /2 chambers:



No mechanical parts in the wastewater



No pumps in the wastewater



No electrical parts in the wastewater

### Scope of delivery

**T-Mo-Retrofit kit** incl. PE clear water lifter, desludging pipe and aeration units (disc or tube) incl. airhoses up to dividing wall. (without tank)



PE	Q	min. volume	max. waterlevel	com-pressor	airhoses (not included)	approx. packing	
						dimen-sions	NET weights
[PE]	[m <sup>3</sup> /d]	[m <sup>3</sup> ]	[m]	type	number	[cm]	[kg]
5	0,75	4,00	2,00	LA 60	2 x 13 mm 1 x 19 mm	1 pallet 60 x 80 x 200	40 / 45
10	1,50	6,50	2,00	LA 80			40 / 45
15	2,25	9,75	2,30	LA 120			60
20	3,00	13,00	2,50	LA 200			65

### Effluent values:

**BOD5 < 20 mg/l, COD < 90 mg/l, SS < 30 mg/l, NH4N < 10 mg/l, Ntotal < 25 mg/l**

- BOD5 - BIOCHEMICAL OXYGEN DEMAND
- COD - CHEMICAL OXYGEN DEMAND
- SS - Suspended Solids
- NH4N - Ammonium nitrogen
- Ntotal - Nitrogen total

With outdoor switch cabinet 360 x 1350 x 360 mm  
15 kg empty weight incl. controller, compressor and stepmotorvalves and a dosage unit for T-Mo (TERRA-microorganisms).

