

WASTE WATER
TREATMENT PLANT

MBBR-TECH



Technol's beginnings date back to 1990. Today, the company has its own development and production sites throughout Europe, Russia and the Middle East. Its principal activity is water purification, from pool water and industrial water to municipal wastewater and drinking water.

Technol is a proud holder of the ISO 9001/14001 certification.

DESCRIPTION

Waste water treatment plant Technol type MBBR-TECH are horizontal or vertical cylindrical tanks made of reinforced polyester and dimensioned in accordance with standard EN 12225. They are manufactured and delivered with equipment produced by quality and reliable manufacturers. Biological wastewater treatment plants are shipment-ready for connecting to the electricity grid. Our professional staff will handle the smooth running of the plant and, if you wish, its maintenance.

Technol wastewater treatment plants are used for the treatment of wastewater from settlements and villages, larger tourist facilities, business complexes, educational institutions and other larger facilities.

Depending on the required purification efficiency, the plant uses different tank lengths and settings during each purification process.

If greater capacity than 750PE is required, contact us.

BENEFITS

1. They are made of a **STRONG AND DURABLE MATERIAL**, reinforced polyester.
2. Ensuring **100% water-tightness** and preventing the possibility of groundwater pollution.
3. Long service life and low maintenance costs.
4. Excellent **CHEMICAL RESISTANCE**.
5. The plant does not impair the visual appearance of the environment because it is embedded in the ground.
6. Quick and easy installation, slight space interventions.
7. Simple operating system.
8. **Our plant is the most suitable solution for wastewater with fluctuations of hydraulic and organic load.**
9. Low costs on the removal biomass because the **CONCENTRATION OF BIOMASS** is at least **10 times lower**.
10. Cleaning and maintenance through an opening with a polyester cover.
11. Ventilation inlet opening.
12. Possibility of **REMOTE CONTROL VIA PLC**.

MBBR CLEANING

The MBBR process is a biological treatment process where biomass is grown on moving biofilm carriers under optimal mixing and oxidation conditions. Moving biofilm carriers are made of HDPE plastic with a large specific surface area of 704 m²/m³ and a density of 0.95 kg/dm³.

Compared to the activated sludge treatment process, this technology has the following advantages:

- Effective decomposition process of organic matter.
- **SMALLER BIOREACTOR VOLUMES**.
- Possible **ADJUSTMENTS OF PURIFICATION EFFECTS** by adding or removing carriers.
- Improved secondary deposition.

The aeration system maintains carriers made of a plastic material and provides the oxygen required for the development of microorganisms. The system consists of small diffusers located at the bottom of the reactor in order to improve the aeration and mixing process.

The middle wall has adequate protection against the passage of plastic brackets into other chambers.

The wastewater treatment plant consists of **primary treatment-septic tank**, a **biological reactor** with a movable carrier, a **lamella tank** for sedimentation and **sludge tank**.

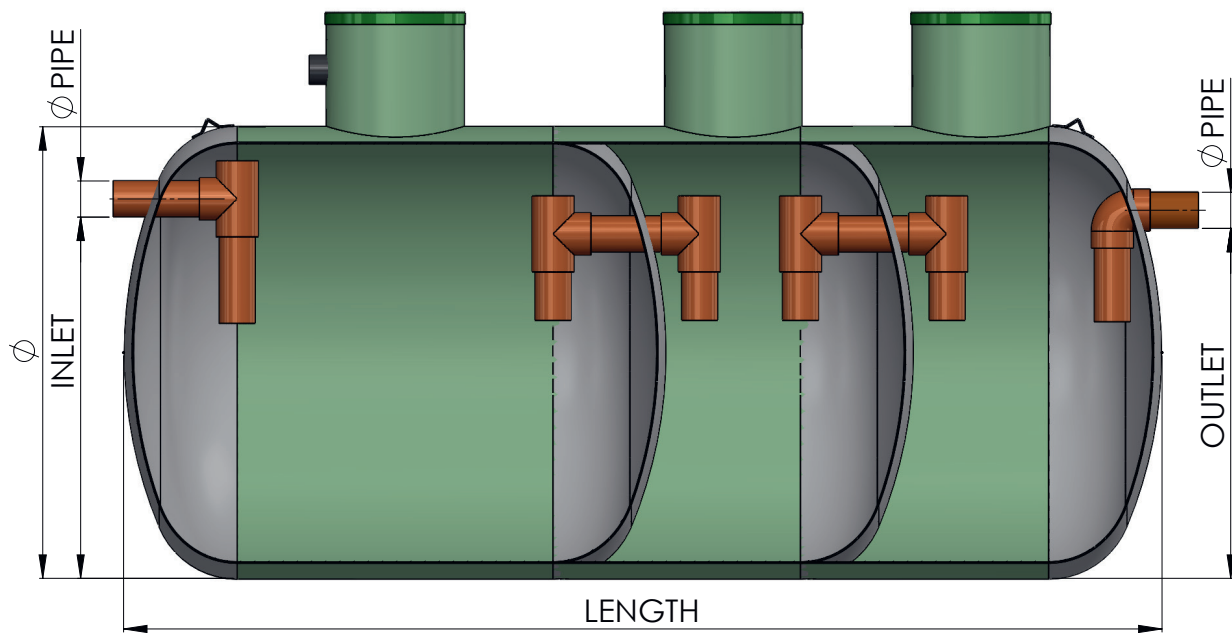
SEPTIC TANKS - PRIMARY CLEANING

USE

Removal of suspended solids from wastewater.

OPERATION

The septic tank is divided into three inner chambers. Sedimentation takes place in the lower part of the tank. In order to stabilize the water flow or to prevent turbulence, a longer joint is placed at the inlet and outlet of the septic tank. Wastewater flows into the settling tank, where oil, grease and particles that are lighter than water float to the surface, while larger and heavier substances sink and settle at the bottom.



PE	VOLUME [l]	Ø [mm]	LENGTH [mm]	Ø PIPE [mm]	INLET [mm]	OUTLET [mm]
50	11000	2000	4600	160	1600	1550
75	16600	2000	6760	160	1600	1550
100	22300	2400	5800	160	2000	1950
125	27800	2400	7600	160	2000	1950
150	33000	2400	9000	160	2000	1950
200	44000	2400	11800	225	2000	1950
250	55000	2400	14900	225	2000	1950
300	22000	2400	6100	225	2100	2050
400	28000	2400	7800	225	2100	2050
500	35000	2400	9500	225	2100	2050
550	22000	2400	6200	225	2100	2050
600	24000	2400	6600	250	2115	2065
700	28000	2400	7800	250	2115	2065
750	30000	2400	8200	250	2115	2065

BIOLOGICAL TREATMENT

DEVICE OPERATION

Wastewater treatment process, in which the biomass grows adhered to mobile supports under optimal agitation and oxidation conditions.

C – cleaning parameters:

BPK5, limit value of 30 mgBPK5/L

KPK, limit value of 150 mg KPK/L

PE	VOLUME [l]	Ø [mm]	HEIGHT [mm]	Ø PIPE [mm]	INLET [mm]	OUTLET [mm]
50	2400	1400	2000	160	1600	1600
75	2900	1400	2300	160	1900	1900
PE	VOLUME [l]	Ø [mm]	LENGTH [mm]	Ø PIPE [mm]	INLET [mm]	OUTLET [mm]
100	3800	2000	1750	160	1600	1600
125	4700	2000	2050	160	1750	1750
150	5700	2000	2450	160	1600	1600
200	7600	2000	3150	225	2050	2050
250	9500	2000	3850	225	1600	1600
300	11400	2000	4550	225	2450	2450
400	15200	2000	5950	225	1600	1600
500	19000	2400	5100	225	3150	3150
550	20800	2400	5550	225	1600	1600
600	22700	2400	6030	250	3850	3850
700	26500	2400	6980	250	1600	1600
750	28400	2400	7450	250	4550	4550

CN – cleaning parameters

BPK5, limit value of 25 mgBPK5/L

KPK, limit value of 150 mg KPK/L

NH4+, limit value of 10 mgNH4+/L

PE	VOLUME [l]	Ø [mm]	LENGTH [mm]	Ø PIPE [mm]	INLET [mm]	OUTLET [mm]
50	5900	2000	2500	160	2000	2000
75	8600	2000	3530	160	2000	2000
100	11570	2000	4600	160	2000	2000
125	14400	2000	5680	160	2000	2000
150	17360	2000	6750	160	2000	2000
200	23170	2400	6140	225	2400	2400
250	29000	2400	7600	225	2400	2400
300	34800	2400	9050	225	2400	2400
400	46300	2400	11920	225	2400	2400
500	57800	3000	9340	225	3000	3000
550	63600	3000	10230	225	3000	3000
600	69500	3000	11120	250	3000	3000
700	81000	3000	12890	250	3000	3000
750	86800	3500	10160	250	3500	3500

CNDN – cleaning parameters

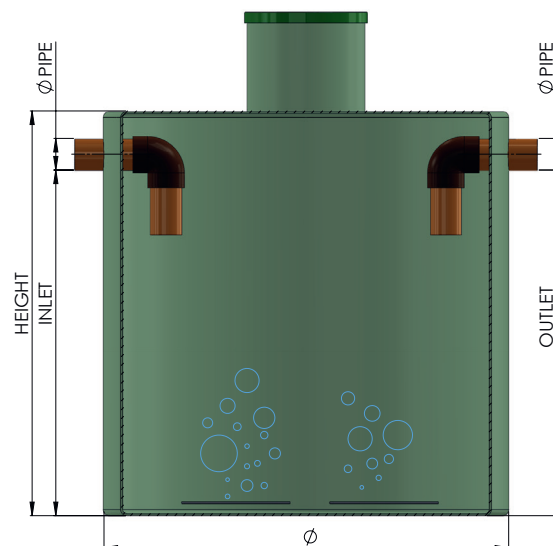
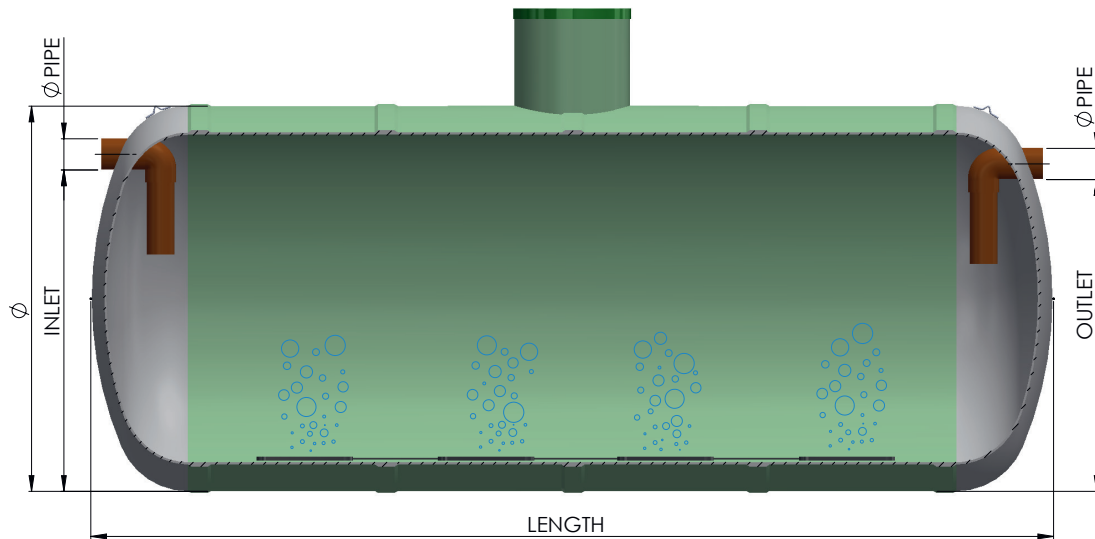
BPK5, limit value of 25 mgBPK5/L

KPK, limit value of 150 mg KPK/L

NH4+, limit value of 10 mgNH4+/L

TN, limit value of 15 mgTN/L

PE	VOLUME [l]	NUMB. OF TANK	Ø [mm]	LENGTH [mm]	Ø PIPE [mm]	INLET [mm]	OUTLET [mm]
50	11850	1	2000	4760	160	2000	2000
75	17370	1	2000	6810	160	2000	2000
100	23140	1	2000	8950	160	2000	2000
125	29000	1	2400	7660	160	2000	2000
150	34760	1	2400	9100	160	2000	2000
200	46300	1	2400	11990	225	2400	2400
250	58000	2	2400	7600	225	2400	2400
300	69700	2	2400	9050	225	2400	2400
400	92700	2	2400	11920	225	2400	2400
500	115760	2	3000	9340	225	3000	3000
550	127380	2	3000	10230	225	3000	3000
600	138900	2	3000	11120	250	3000	3000
700	162000	2	3000	12890	250	3000	3000
750	173690	2	3500	10160	250	3500	3500



LAMELLA TANK

USE

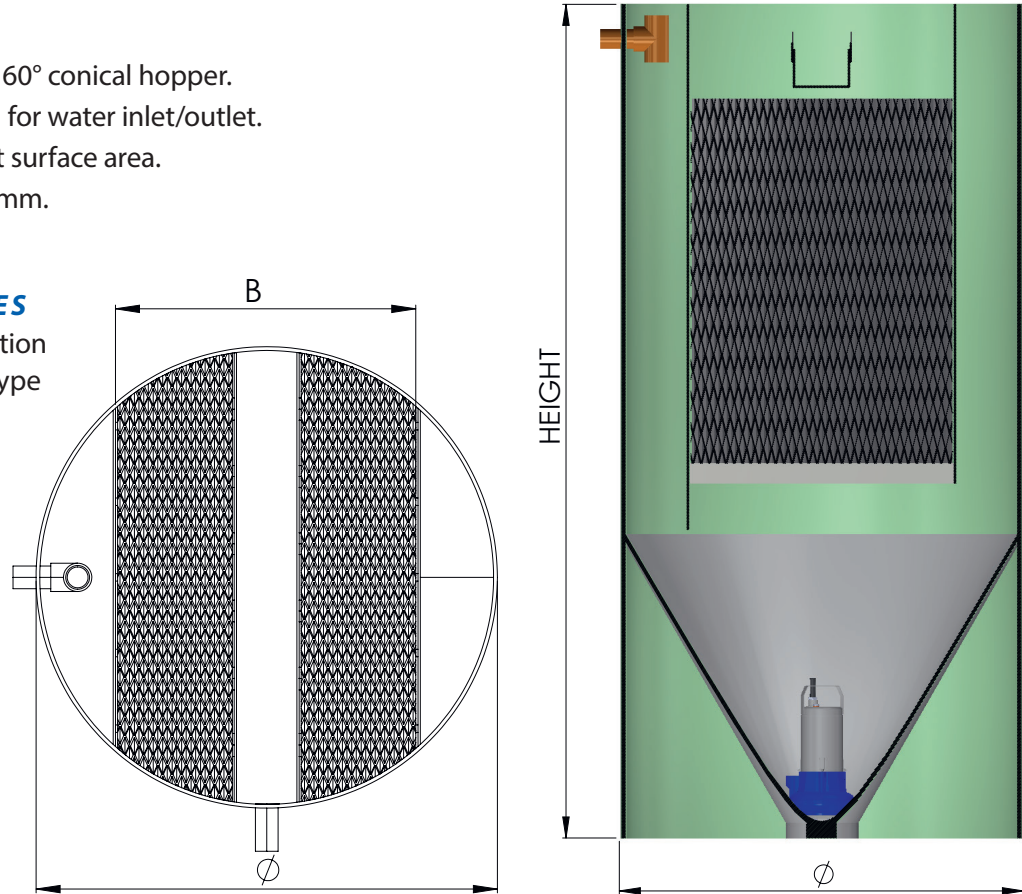
Our lamella tank is designed so that the inflow or removal of sludge does not interfere with settling. With inserting the parallel plate, the sedimentation in this tank is the most economic process to remove sludge, sand and silts in surface water, chemical precipitation and flocculation form solids.

DESCRIPTION

- Sludge thickening in 60° conical hopper.
- PVC pipe connection for water inlet/outlet.
- 5 - 50 m² of sediment surface area.
- Lamella height 1000mm.
- Produced from GRP.

PRODUCT FEATURES

- Projected sedimentation area depending on type of used lamellas.

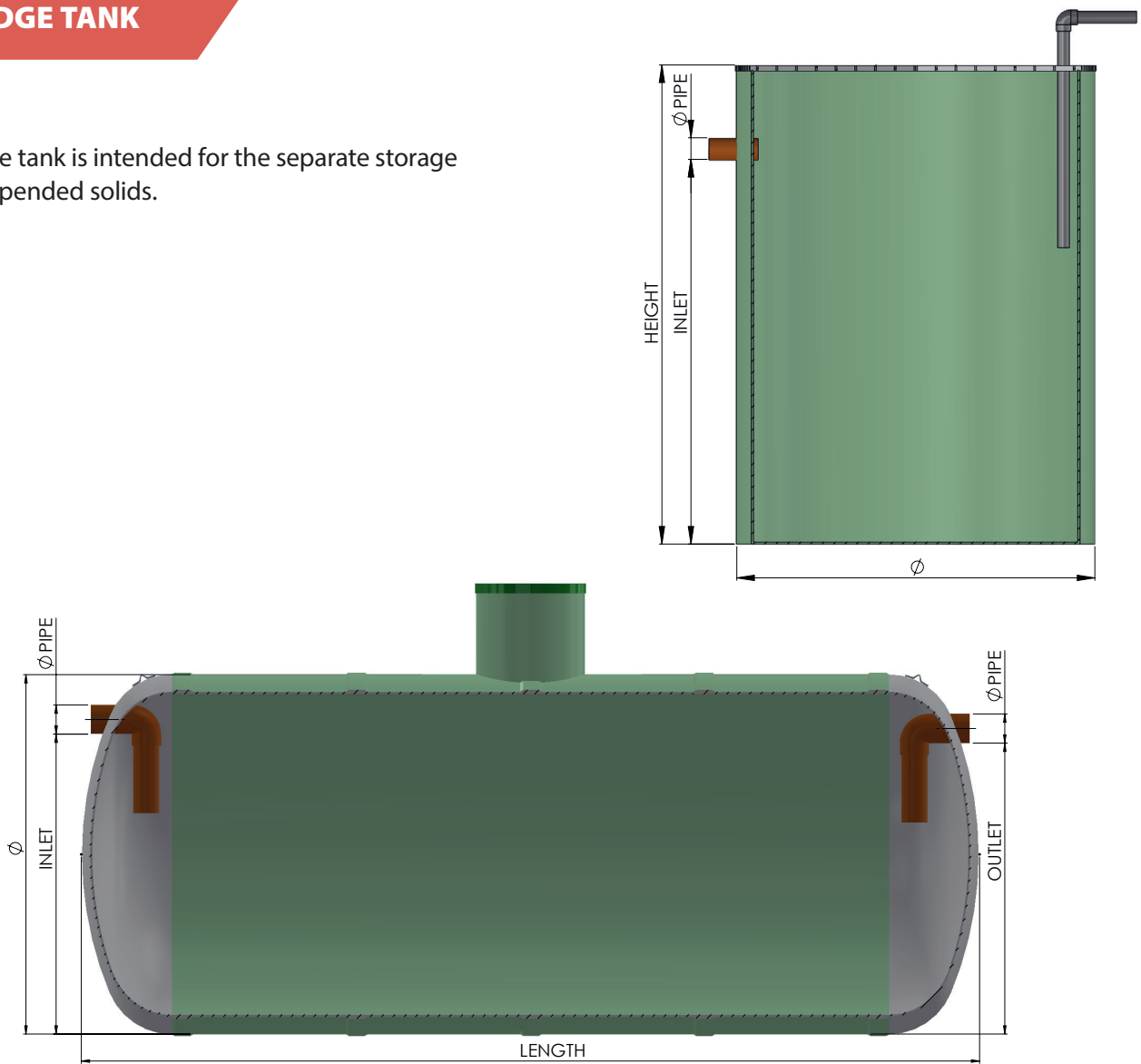


PE	VOLUME [l]	Ø [mm]	HEIGHT [mm]	LAMELLAS [m ² /m ³]	B [mm]	Projected sedim. area [m ² /m]
50	2110	1200	2530	6,25	800	3,11
75	2920	1400	2700	6,25	1000	5,14
100	2920	1400	2700	6,25	1000	5,14
125	3940	1600	2910	6,25	1200	7,67
150	3940	1600	2910	6,25	1200	7,67
200	5140	1800	3180	6,25	1300	9,93
250	6520	2000	3350	6,25	1500	13,34
300	8120	2200	3520	6,25	1700	17,24
400	9970	2400	3700	6,25	1900	21,64
500	12080	2600	3870	6,25	1900	24,02
550	14370	2800	4040	6,25	2100	29,17
600	14370	2800	4040	6,25	2100	29,17
700	16930	3000	4220	6,25	2300	34,82
750	19700	3200	4390	6,25	2500	40,98

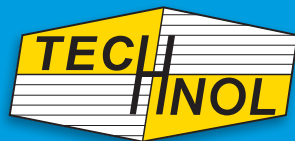
SLUDGE TANK

USE

Sludge tank is intended for the separate storage of suspended solids.



PE	VOLUME [l]	Ø [mm]	HEIGHT [mm]	INLET [mm]	OUTLET [mm]
50	5000	1800	2400	2050	2000
75	8000	2000	3400	1600	1550
100	10000	2000	4200	1600	1550
PE	VOLUME [l]	Ø [mm]	LENGTH [mm]	INLET [mm]	OUTLET [mm]
125	13000	2400	3700	2000	1950
150	15000	2400	4200	2000	1950
200	20000	2400	5500	2000	1950
250	25000	2400	6800	2000	1950
300	30000	2400	8100	2000	1950
400	40000	2400	10600	2000	1950
500	50000	3000	8300	2600	2550
550	55000	3000	9100	2600	2550
600	60000	3000	9900	2600	2550
700	70000	3000	11500	2600	2550
750	75000	3000	12200	2600	2550



Manufacturer:

TECHNOL, Portorož d.o.o.

Industrijska cesta 6e, 6310 Izola, Slovenia

Tel: +386 5 662 53 40 • Fax: +386 5 662 53 41

info@technol.si • <http://www.technol.si/komunalne-vode/>