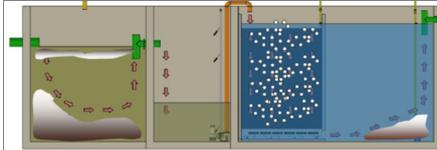


Mars Systems

Product Description

Biokube' Mars systems are small STP plants most commonly used for single households or smaller residential groups treating up to 30 m³ wastewater a day. The Mars systems must be installed after a septic tank either under - or above ground.

Integrated Treatment Steps

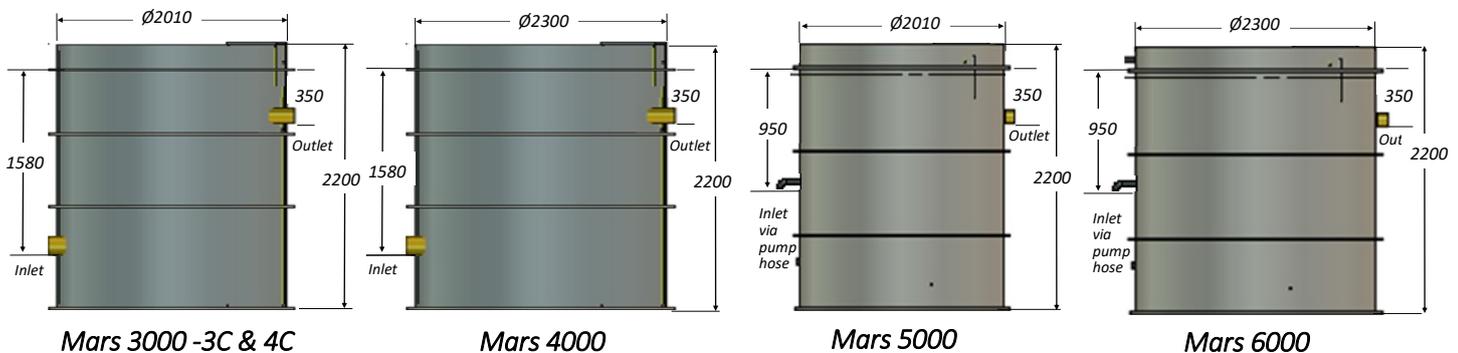


	Septic tank	Buffer Tank	Bio Zone	Clarifier
Mars 3000 / 4000	✗	✓	✓	✓
Mars 5000 / 6000	✗	✗	✓	✓



Mars system installed at a Boarding School

Dimensions & Pipe Placement



MARS SYSTEMS	3000-3C	3000-4C	4000	5000	6000
Height (mm)	2,220	2,220	2,220	2,220	2,220
Diametre (mm)	2,010	2,010	2,300	2,010	2,300
Weight (kg)	570	590	700	630	700
Weight with Water	5,970	5,990	7,350	5,990	7,350
Power consumption (kwh/year)	2,400	3,100	5,200	2,650	4,190
Integrated buffertank / pump well	Yes****	Yes****	Yes	No	No
Size of Internal Pump well (L)	1,200	1,200	1,600	NA	NA
Number of Blowers (pcs)	3	4	4	1	2
Tank Material	Polypropylene	Polypropylene	Polypropylene	Polypropylene	Polypropylene
Piping Material	PVC	PVC	PVC	PVC	PVC
Outlet & Sludge Return Pipe (mm)	110	110	110	110	110
Capacity (PE) at Effluent Class Low**	55 PE	60 PE	80 PE	90 PE	120 PE
Capacity (PE) at Effluent Class High*	30 PE	40 PE	60 PE	NA	NA
Capacity (volume) at Effluent Class Low**	8.25 m ³	9.00 m ³	12.00 m ³	13.50 m ³	18.00 m ³
Capacity (volume) at Effluent Class High*	4.50 m ³	6.00 m ³	9.00 m ³	NA	NA
Recommended Septic tank size Class Low*	≥ 8.25 m ³	≥ 9.00 m ³	≥ 12.00 m ³	≥ 13.50 m ³	≥ 18.00 m ³
Recommended Septic tank size Class High*	≥ 4.50 m ³	≥ 6.00 m ³	≥ 9.00 m ³	NA	NA

* 1 PE = 60g BOD, 12 g N-total, 2.5 g P-total, 150 L/day

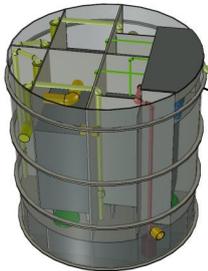
** Effluent Class Low: BOD < 25 mg/liter

*** Effluent Class High: BOD < 10 mg/liter, NH4 < 5 mg/liter, 50 % TN reduction.

**** Available without internal buffertank as Mars 2000, on request.

Mars Systems

Control Components



Mars



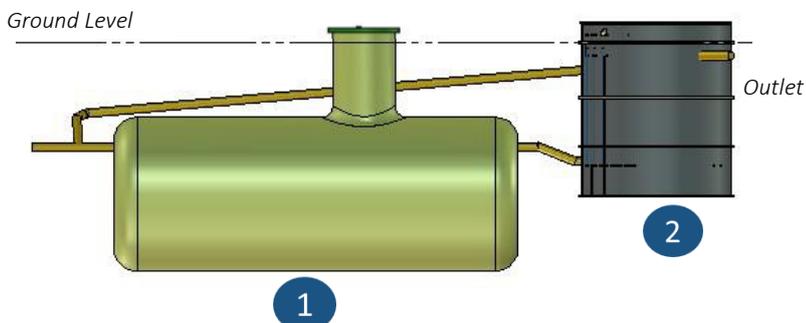
BioKube E-III Control Unit

BioKube E-III Control Unit

All electrical component in the Mars Unit; e.g. Blowers, pumps, UV Units (optional) , are integrated and connected to the BioKube E-III control unit, from where the power is distributed and controlled. The Control Unit is placed in the internal control room (see drawing).

The plant is normally powered with 230 Volt, 1 phase power supply. The maximum currency is 2.5 Amperes depending on the number of pumps installed. Systems for 110V power supply regions can be supplied upon request.

Full Installation Principles Mars 3000 & 4000



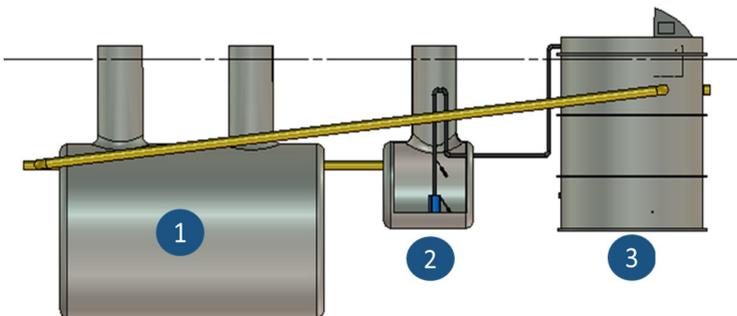
Installation Components

The Mars 3000 & 4000 systems are typically installed in ground after a septic tank. The septic tank should be supplied locally from one of many standard suppliers, or from BioKube, or casted on-site in concrete.

- 1 Septic tank
- 2 Mars 3000 or 4000

For more information see the installation manual

Full Installation Principles Mars 5000 & 6000



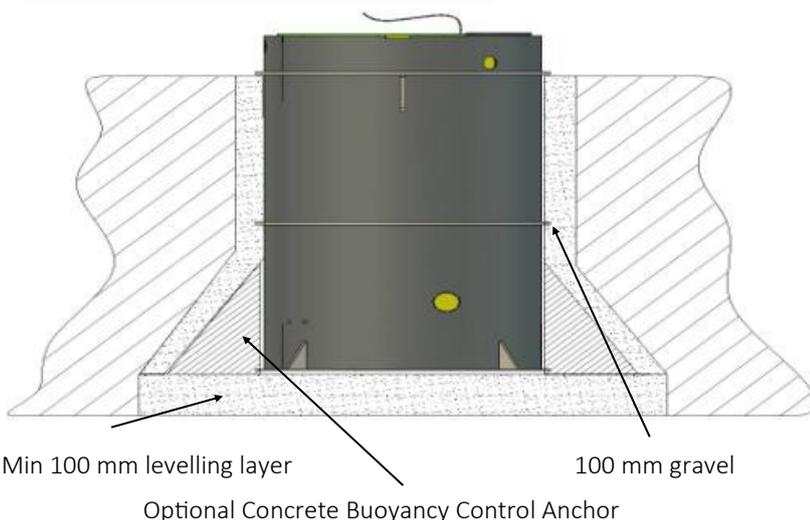
Installation Components

The Mars Systems is typically installed in ground after a septic tank and a buffer tank . These tanks should be supplied locally from one of many standard suppliers, or BioKube or alternatively casted in concrete.

- 1 Septic tank
- 2 Buffer tank
- 3 Mars 5000 or 6000

For more information see the installation manual

Construction Principles - Backfilling



Backfilling

The system requires to be installed on a level and compressed surface (e.g. gravel layer).

When back-filling a 100 mm layer of gravel must be placed around the plant.

In case of high ground water levels it is recommended to cast a buoyancy control concrete anchor around the bottom of the Mars plant.

The Mars can also be installed above ground without any additional equipment.

For more information see the installation manual.