BIOKUBE

BioContainers

Technical Brochure

Mobile Containerized Sewage Treatment Plants

BioContainer 20’ Combi IB

Configuration

Product Description

The BioContainer ”20’ Combi IB” version has all cleaning steps integrated and is hence regarded as a fully transportable system.

BioContainer Systems are containerized Sewage Treatment Plants, most commonly used for treating waste water at camps, oil rig sites & remote locations. BioContainer comes in different versions of integration of cleanings steps, trans-portability and capacity. The systems are typically installed above ground for non-permanent installations.

Integrated Treatment Steps

External pump well	Septic tank	Buffer tank w. inlet pump	Bio Zone	Clarifier
✗	✓	✓	✓	✓

Treatment Concept

External Pump Well: The raw sewage water is transferred from the lifting station which is equipped with an inlet pump to the BioContainer’s buffer tank.

Buffer Tank: The integrated buffer tank evens out fluctuating of the incoming volume of wastewater from the source. It allows a stable timed inflow to the Biological Treatment Chamber.

Septic Tank: The septic tank is used as pre-treatment for settling the suspended solids and storage of the sludge. The septic tank is an integral part of the BioContainer product.

Biological Zone: In the Biological Treatment Chamber microorganisms perform degradation of the organic load of the in-coming wastewater to the required levels. The treatment chambers consist of submerged aerated filters where wastewater flows through. The air is distributed by diffusers positioned underneath the bio-filters.

Clarifying Zone: The Clarifier Zone is allowing for the continuous removal of solids (bio-sludge) by sedimentation. From the clarifying zones the bio-sludge is recirculated frequently to the septic tank.

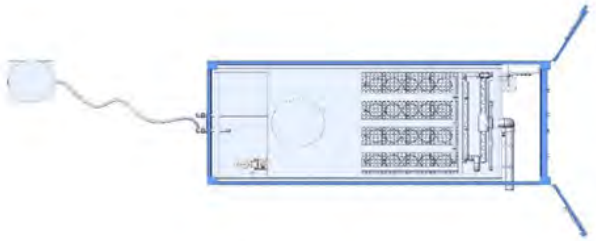
Control Room: The control panel, blowers and secondary treatment equipment are secured inside the control room part of the BioContainer.

UV Treatment: The UV lights disinfect the harmful bacteria (E-coli), allowing for a safe re-use by irrigation or other means. This equipment is optional and can be included upon request.

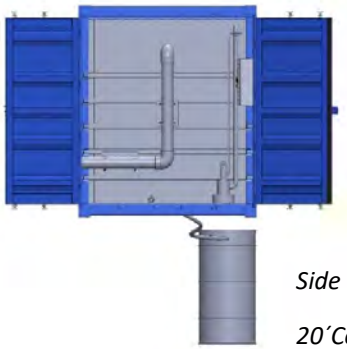
BioContainer 20’ Combi IB

Key specifications

Dimension	Value
Height (mm)	2,900
Width (mm)	2,440
Length (mm)	6,060
Weight (kg)	4,800
Weight with water (kg)	19,000
Power consumption (kw/day)	39.4
Inlet Pipe connection	Flex pump hose
Outlet height (mm)	1,000
Inlet/oulet pipe diametre (mm)	110/110
Tank Material, inner tank	PP, UV-stabl.
Air piping material	Stainless Steel
Outlet & sludge return pipe (mm)	110
Power requirement	3 Phase
Capacity* at effluent Class Normal**	240 PE
Capacity* at effluent Class High***	85 PE



Top View of BioContainer 20´Combi IB



Side View of BioContainer 20´Combi IB

* 1 PE = 60g BOD, 12 g N-total, 2.5 g P-total, 150L/day
** Effluent Class Normal : BOD < 25 mg/liter
*** Effluent Class High: BOD < 10 mg/liter, NH4 < 5 mg/liter, 50 % TN reduction.

Reference Case: Remote Camp– Papua New Guinea

This BioContainer is used in various remote sites around Papua New Guinea and is transported by truck / barge.
The BioContainer treats wastewater from the entire camp and the treated water can safely be released out to the environment

BioContainer 40’ Combi IB

Configuration

Product Description

The BioContainer ”40’ Combi IB” version has all cleaning steps integrated and is hence regarded as a fully transportable system.

BioContainer Systems are containerized Sewage Treatment Plants, most commonly used for treating waste water at camps, oil rig sites & remote locations. BioContainer comes in different versions of integration of cleanings steps, transportability and capacity. The systems are typically installed above ground for non-permanent installations.

Integrated Treatment Steps

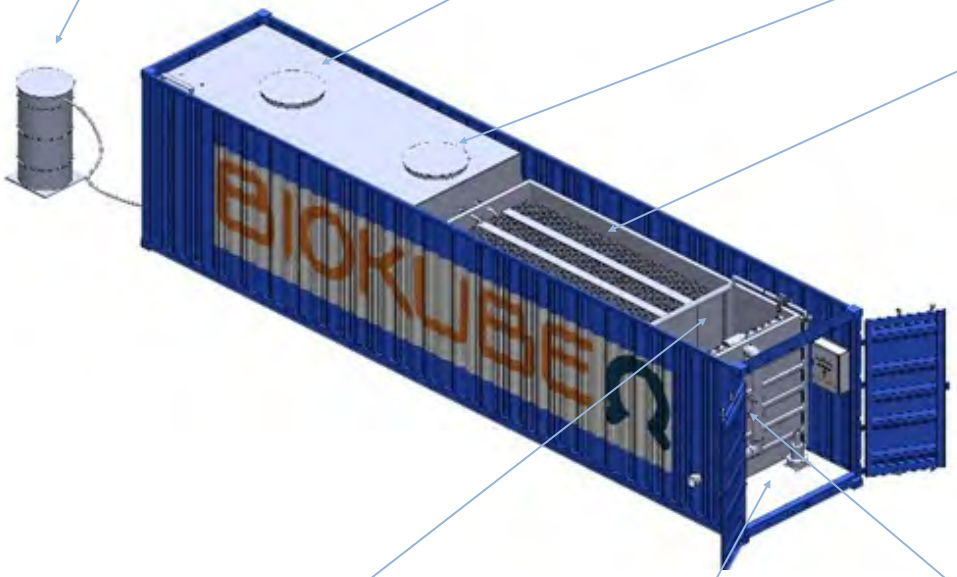
External pump well	Septic tank	Buffer tank w. inlet pump	Bio Zone	Clarifier
✗	✓	✓	✓	✓

Treatment Concept

External Pump Well: The raw sewage water is transferred from the lifting station which is equipped with an inlet pump to the BioContainer’s buffer tank.

Buffer Tank: The integrated buffer tank evens out fluctuating of the incoming volume of wastewater from the source. It allows a stable timed inflow to the Biological Treatment Chamber.

Septic Tank: The septic tank is used as pre-treatment for settling the suspended solids and storage of the sludge. The septic tank is an integral part of the BioContainer product.



Biological Zone: In the Biological Treatment Chamber microorganisms perform degradation of the organic load of the in-coming wastewater to the required levels. The treatment chambers consist of submerged aerated filters where wastewater flows through. The air is distributed by diffusers positioned underneath the bio-filters.

Clarifying Zone: The Clarifier Zone is allowing for the continuous removal of solids (bio-sludge) by sedimentation. From the clarifying zones the bio-sludge is recirculated frequently to the septic tank.

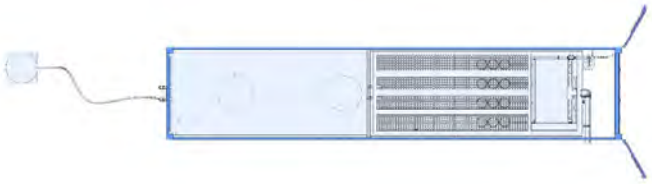
Control Room: The control panel, blowers and secondary treatment equipment are secured inside the control room part of the BioContainer.

UV Treatment: The UV lights disinfect the harmful bacteria (E-coli), allowing for a safe re-use by irrigationor other means. This equipment is optional and can be included upon request.

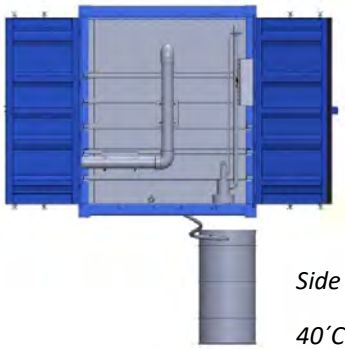
BioContainer 40’ Combi IB

Key specifications

Dimension	Value
Height (mm)	2,900
Width (mm)	2,440
Length (mm)	12,190
Weight (kg)	9,500
Weight with water (kg)	58,000
Power consumption (kw/day)	57.7
Inlet Pipe connection	Flex pump hose
Outlet height (mm)	1,000
Inlet/oulet pipe diametre (mm)	110/110
Tank Material, inner tank	PP, UV-stabl.
Air piping material	Stainless Steel
Outlet & sludge return pipe (mm)	110
Power requirement	3 Phase
Capacity* at effluent Class Normal**	480 PE
Capacity* at effluent Class High***	170 PE



Top View of BioContainer 40´Combi IB



Side View of BioContainer 40´Combi IB

* 1 PE = 60g BOD, 12 g N-total, 2.5 g P-total, 150L/day
** Effluent Class Normal : BOD < 25 mg/liter
*** Effluent Class High: BOD < 10 mg/liter, NH4 < 5 mg/liter, 50 % TN reduction.

Reference Case: Japanese Army, Djibiti

The 40’ BioContainer Combi IB is been installed at a Japanese Army Camp in a remote desert of Djibouti

BioContainer 20' Combi EB

Configuration

Product Description

The "20' Combi EB" version requires an externally installed buffer tank. The system is hence regarded a semi-transportable system, allowing parts of the cleaning chain to be transported to alternative locations. BioKube can supply transportable buffer tanks in reinforced plastic material.

BioContainer systems are containerized Sewage Treatment Plants, most commonly used for treating waste water at camps, oil rig sites & remote locations. BioContainer comes in different versions of integration of cleanings steps, transportability and capacity. The systems are typically installed above ground for non-permanent installations.

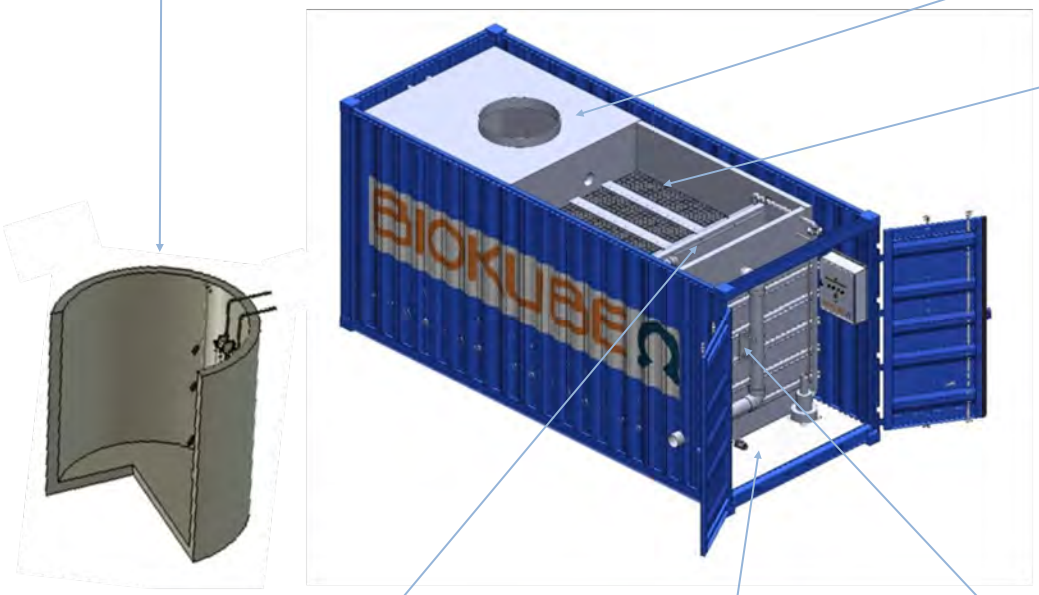
Integrated Treatment Steps

External pump well	Septic tank	Buffer tank w. inlet pump	Bio Zone	Clarifier
✗	✓	✗	✓	✓

Treatment Concept

External Buffer Tank / Pump Well: The raw sewage water is transferred from the External Buffer Tank or lifting station which is equipped with an inlet pump to the BioContainer's buffer tank.

Septic Tank: The septic tank is used as pre-treatment for settling the suspended solids and storage of the sludge. The septic tank is an integral part of the BioContainer product.



Biological Zone: In the Biological Treatment Chamber microorganisms perform degradation of the organic load of the in-coming wastewater to the required levels. The treatment chambers consist of submerged aerated filters where wastewater flows through. The air is distributed by diffusers positioned underneath the bio-filters.

Clarifying Zone: The Clarifier Zone is allowing for the continuous removal of solids (bio-sludge) by sedimentation. From the clarifying zones the bio-sludge is recirculated frequently to the septic tank.

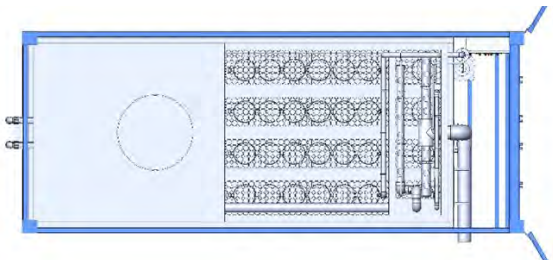
Control Room: The control panel, blowers and secondary treatment equipment are secured inside the control room part of the BioContainer.

UV Treatment: The UV lights disinfect the harmful bacteria (E-coli), allowing for a safe re-use by irrigation or other means. This equipment is optional and can be included upon request.

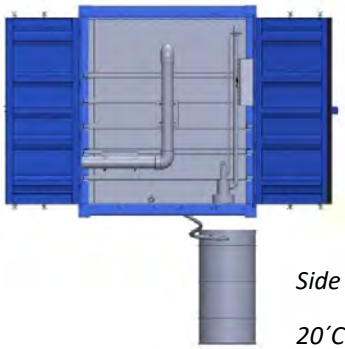
BioContainer 20’ Combi EB

Key specifications

Dimension	Value
Height (mm)	2,900
Width (mm)	2,440
Length (mm)	6,060
Weight (kg)	4,800
Weight with water (kg)	19,000
Power consumption (kw/day)	39.4
Inlet Pipe connection	Flex pump hose
Outlet height (mm)	1,000
Inlet/oulet pipe diametre (mm)	110/110
Tank Material, inner tank	PP, UV-stabl.
Air piping material	Stainless Steel
Outlet & sludge return pipe (mm)	110
Power requirement	3 Phase
Capacity* at effluent Class Normal**	280 PE
Capacity* at effluent Class High***	100 PE



Top View of BioContainer 20´Combi EB



Side View of BioContainer 20´Combi EB

** 1 PE = 60g BOD, 12 g N-total, 2.5 g P-total, 150L/day*
*** Effluent Class Normal : BOD < 25 mg/liter*
**** Effluent Class High: BOD < 10 mg/liter, NH4 < 5 mg/liter, 50 % TN reduction.*

Reference Case: Viking Drilling, Northern Iraq

A total of 7 x BioContainer(s) were installed at Viking Drilling’s sites in Northern Iraq. They were delivered as so-called BioContainer 20’ Combi, EB units, leaving a complete wastewater treatment solution to treat the wastewater from the camps’ personnel consisting of approximatively 300 people.

Trouble free operations

The BioContainers have been running smoothly for years and several of the plants have been relocated to other sites with very simple and hazard free operations. The easy relocation has allowed their drilling activities to be in operation quickly, while at the same time giving the opportunity to use the treated sewerage water for flushing toilets as well as washing and maintaining mining tools.

BioContainer 40’ Combi EB

Configuration

Product Description

The ”40’ Combi EB” version requires an externally installed buffer tank. The system is hence regarded a semi-transportable system, allowing parts of the cleaning chain to be transported to alternative locations. BioKube can supply transportable buffer tanks in reinforced plastic material.

BioContainer systems are containerized Sewage Treatment Plants, most commonly used for treating waste water at camps, oil rig sites & remote locations. BioContainer comes in different versions of integration of cleanings steps, transportability and capacity. The systems are typically installed above ground for non-permanent installations.

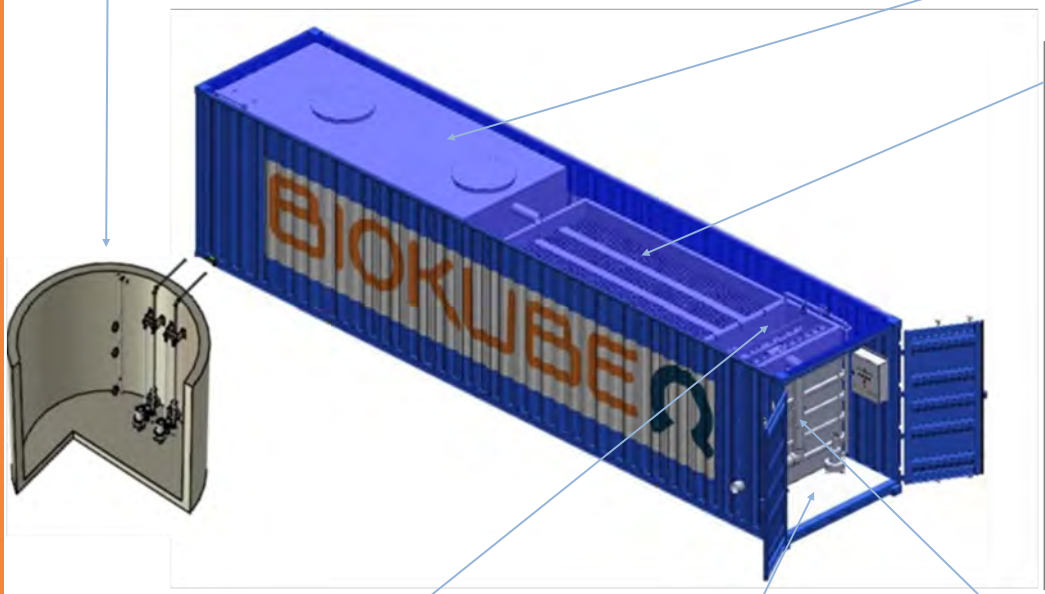
Integrated Treatment Steps

External pump well	Septic tank	Buffer tank w. inlet pump	Bio Zone	Clarifier
✗	✓	✗	✓	✓

Treatment Concept

External Buffer Tank / Pump Well: The raw sewage water is transferred from the External Buffer Tank or lifting station which is equipped with an inlet pump to the BioContainer’s buffer tank.

Septic Tank: The septic tank is used as pre-treatment for settling the suspended solids and storage of the sludge. The septic tank is an integral part of the BioContainer product.



Biological Zone: In the Biological Treatment Chamber micro-organisms perform degradation of the organic load of the in-coming wastewater to the required levels. The treatment chambers consist of sub-merged aerated filters where wastewater flows through. The air is distributed by diffusers positioned underneath the bio -filters.

Clarifying Zone: The Clarifier Zone is allowing for the continuous removal of solids (bio-sludge) by sedimentation. From the clarifying zones the bio-sludge is recirculated frequently to the septic tank.

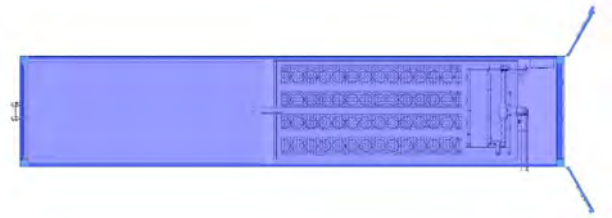
Control Room: The control panel, blowers and secondary treatment equipment are secured inside the control room part of the BioContainer.

UV Treatment: The UV lights disinfect the harmful bacteria (E-coli), allowing for a safe re-use by irrigation or other means. This equipment is optional and can be included upon request.

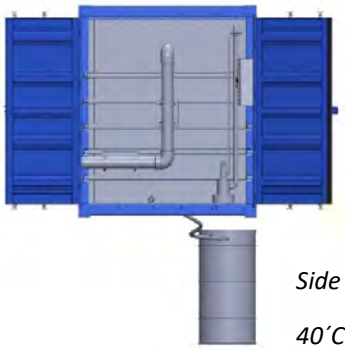
BioContainer 40’ Combi EB

Key specifications

Dimension	Value
Height (mm)	2,900
Width (mm)	2,440
Length (mm)	12,190
Weight (kg)	9,500
Weight with water (kg)	58,000
Power consumption (kw/day)	57.7
Inlet Pipe connection	Flex pump hose
Outlet height (mm)	1,000
Inlet/oulet pipe diametre (mm)	110/110
Tank Material, inner tank	PP, UV-stabl.
Air piping material	Stainless Steel
Outlet & sludge return pipe (mm)	110
Power requirement	3 Phase
Capacity* at effluent Class Normal**	560 PE
Capacity* at effluent Class High***	200 PE



Top View of BioContainer 40´Combi EB



Side View of BioContainer 40´Combi EB

* 1 PE = 60g BOD, 12 g N-total, 2.5 g P-total, 150L/day
** Effluent Class Normal : BOD < 25 mg/liter
*** Effluent Class High: BOD < 10 mg/liter, NH4 < 5 mg/liter, 50 % TN reduction.

Reference Case: Commissioning of Plant and Training

BioContainer installation in Papua New Guinea where mobility for the plant is an essential requirement. This plant can moved around to various sites. The BioContainer can easily be lifted and carried by a truck. BioKube technician was onsite to ensure the installation was successful and training of local staff was completed. Local staff are deemed competent for the on-going maintenance of the plant

BioContainer 20' BioMax

Configuration

Product Description

The "20' BioMax" version requires an externally installed buffer tank and septic tank. The system is hence regarded a semi-transportable system, allowing parts of the cleaning chain to be transported to alternative locations.

BioContainer Systems are containerized Sewage Treatment Plants, most commonly used for treating waste water at camps, oil rig sites & remote locations. BioContainer comes in different versions of integration of cleanings steps, transportability and capacity. The systems are typically installed above ground for non-permanent installations.

Integrated Treatment Steps

External pump well	Septic tank	Buffer tank w. inlet pump	Bio Zone	Clarifier
✗	✗	✗	✓	✓

Treatment Concept

Septic Tank: The septic tank is used as pre-treatment for settling the suspended solids and storage of the sludge. The septic tank is not part of the 20 ' BioMax and can be provided locally underground or inside a container which can be provided by BioKube.

Buffer Tank: The raw sewage water is transferred from the External Buffer Tank to the BioMax treatment Zone. The Buffer tank is not part of the BioMax unit and can be provided locally or in a container which can be provided by BioKube.

Biological Zone: In the Biological Treatment Chamber microorganisms perform degradation of the organic load of the in-coming wastewater to the required levels. The treatment chambers consist of submerged aerated filters where wastewater flows through. The air is distributed by diffusers positioned underneath the bio-filters.

Clarifying Zone: The Clarifier Zone is allowing for the continuous removal of solids (bio-sludge) by sedimentation. From the clarifying zones the bio-sludge is recirculated frequently to the septic tank.

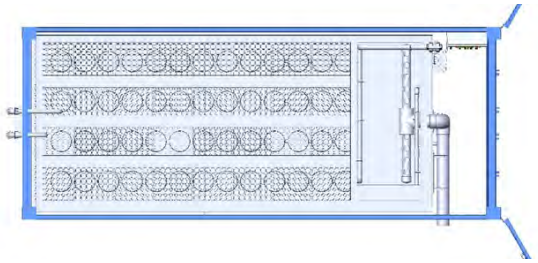
Control Room: The control panel, blowers and secondary treatment equipment are secured inside the control room part of the BioContainer.

UV Treatment: The UV lights disinfect the harmful bacteria (E-coli), allowing for a safe re-use by irrigation or other means. This equipment is optional and can be included upon request.

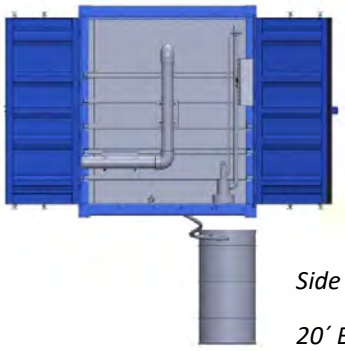
BioContainer 20’ BioMax

Key specifications

Dimension	Value
Height (mm)	2,900
Width (mm)	2,440
Length (mm)	6,060
Weight (kg)	4,800
Weight with water (kg)	19,000
Power consumption (kw/day)	39.4
Inlet Pipe connection	Flex pump hose
Outlet height (mm)	1,000
Inlet/oulet pipe diametre (mm)	110/110
Tank Material, inner tank	PP, UV-stabl.
Air piping material	Stainless Steel
Outlet & sludge return pipe (mm)	110
Power requirement	3 Phase
Capacity* at effluent Class Normal**	550PE
Capacity* at effluent Class High***	130 PE



Top View of BioContainer 20´ BioMax



Side View of BioContainer 20´ BioMax

* 1 PE = 60g BOD, 12 g N-total, 2.5 g P-total, 150L/day
** Effluent Class Normal : BOD < 25 mg/liter
*** Effluent Class High: BOD < 10 mg/liter, NH4 < 5 mg/liter, 50 % TN reduction.

Reference Case: Newcastle Airport, England

BioContainer 20´BioMax in operation

BioContainer 40’ BioMax

Configuration

Product Description

The ”40’ BioMax” version requiires an externally installed buffer tank and septic tank. The system is hence regarded a semi-transportable system, allowing parts of the cleaning chain to be transported to alternative locations.

BioContainer Systems are containerized Sewage Treatment Plants, most commonly used for treating waste water at camps, oil rig sites & remote locations. BioContainer comes in different versions of integration of cleanings steps, transportability and capacity. The systems are typically installed above ground for non-permanent installations.

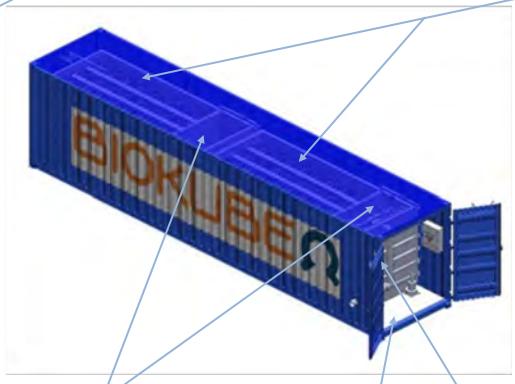
Integrated Treatment Steps

External pump well	Septic tank	Buffer tank w. inlet pump	Bio Zone	Clarifier
✗	✗	✗	✓	✓

Treatment Concept

Septic Tank: The septic tank is used as pre-treatment for settling the suspended solids and storage of the sludge. The septic tank is not part of the 40 ‘ BioMax and can be provided locally underground or inside a container which can be provided by BioKube.

Buffer Tank: The raw sewage water is transferred from the External Buffer Tank to the BioMax treatment Zone. The Buffer tank is not part of the BioMax unit and can be provided locally or in a container which can be provided by BioKube.



Biological Zone: In the Biological Treatment Chamber microorganisms perform degradation of the organic load of the in-coming wastewater to the required levels. The treatment chambers consist of submerged aerated filters where wastewater flows through. The air is distributed by diffusers positioned underneath the bio-filters.

Clarifying Zone: The Clarifier Zone is allowing for the continuous removal of solids (bio-sludge) by sedimentation. From the clarifying zones the bio-sludge is recirculated frequently to the septic tank.

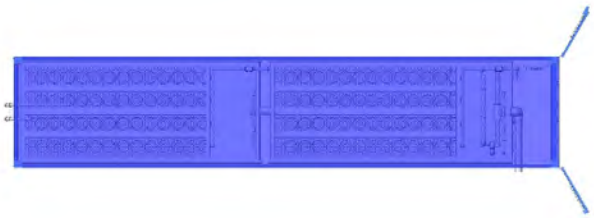
Control Room: The control panel, blowers and secondary treatment equipment are secured inside the control room part of the BioContainer.

UV Treatment: The UV lights disinfect the harmful bacteria (E-coli), allowing for a safe re-use by irrigation or other means. This equipment is optional and can be included upon request.

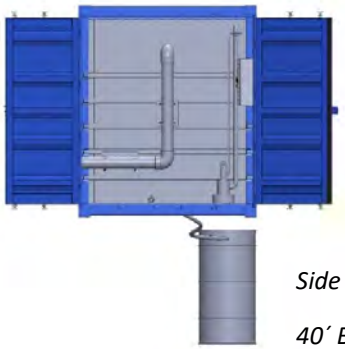
BioContainer 40’ BioMax

Key specifications

Dimension	Value
Height (mm)	2,900
Width (mm)	2,440
Length (mm)	12,190
Weight (kg)	9,500
Weight with water (kg)	58,000
Power consumption (kw/day)	57.7
Inlet Pipe connection	Flex pump hose
Outlet height (mm)	1,000
Inlet/oulet pipe diametre (mm)	110/110
Tank Material, inner tank	PP, UV-stabl.
Air piping material	Stainless Steel
Outlet & sludge return pipe (mm)	110
Power requirement	3 Phase
Capacity* at effluent Class Normal**	1,100 PE
Capacity* at effluent Class High***	260 PE



Top View of BioContainer 40´ BioMax



Side View of BioContainer 40´ BioMax

* 1 PE = 60g BOD, 12 g N-total, 2.5 g P-total, 150L/day
** Effluent Class Normal : BOD < 25 mg/liter
*** Effluent Class High: BOD < 10 mg/liter, NH4 < 5 mg/liter, 50 % TN reduction.

Reference Case: Labour Camp, Carillion Alawi, Oman

Labour Camp, Carillion Alawi LLC, in Oman. There are 2 x BioContainer BioMax 40’ near a beach resort.

FACT SHEET

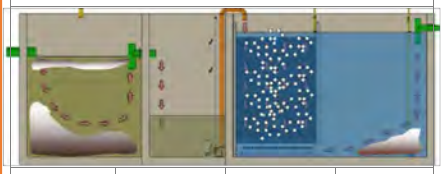
BIOKUBE

BioContainer

Product Description

BioContainer Systems are containerized Sewage Treatment Plants, most commonly used for treating waste water at camps, oil rig sites and remote locations. BioContainer comes in different versions of integration of cleanings steps, transportability and capacity. The systems are typically installed above ground for non-permanent installations.

Integrated Treatment Steps



Septic tank	Buffer tank	Bio Zone	Clarifier
1	2	3	4

BioContainer - Guinea, Africa

BioContainer, BioMax

BioContainer, Combi EB

BioContainer, Combi IB

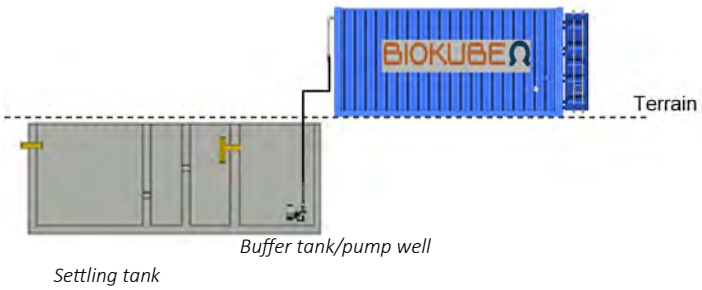
	BioContainer Specifications					
	20' BioMax	40' BioMax	20' Combi EB	40' Combi EB	20' Combi IB	40' Combi IB
Height (mm)	2,900	2,900	2,900	2,900	2,900	2,900
Width (mm)	2,440	2,440	2,440	2,440	2,440	2,440
Length (mm)	6,060	12,190	6,060	12,190	6,060	12,190
Weight (kg)	4,800	9,500	4,800	9,500	4,800	9,500
Weight with water (kg)	19,000	58,000	19,000	58,000	19,000	58,000
Power consumption (kw/day)	39.4	57.7	39.4	57.7	39.4	57.7
Inlet Pipe connection	Flex pump hose	Flex pump hose	Flex pump hose	Flex pump hose	Flex pump hose	Flex pump hose
Outlet height (mm)	1,000	1,000	1,000	1,000	1,000	1,000
Inlet/outlet pipe diameter(mm)	110/110	110/110	110/110	110/110	110/110	110/110
Tank Material, inner tank	PP, UV-stabl.	PP, UV-stabl.	PP, UV-stabl.	PP, UV-stabl.	PP, UV-stabl.	PP, UV-stabl.
Air piping material	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Outlet & sludge return pipe (mm)	110	110	110	110	110	110
Power requirement	3- Phase	3- Phase	3- Phase	3- Phase	3- Phase	3- Phase

Installation Principles

BioContainer

BioContainer, BioMax

External buffer tank & septic tank

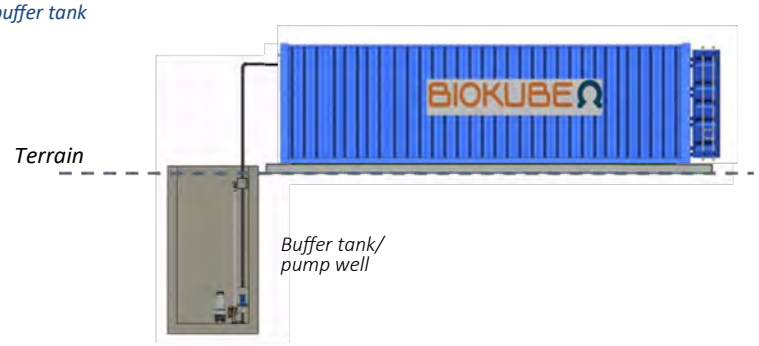


*The BioContainer "**BioMax**" must be placed on a load bearing horizontally leveled surface with a maximum variation of +/- 1 cm per 4 mtrs.*

The surface must consist of either stable compressed gravel or 200 mm cast concrete slab built on stable soil. The "BioMax" version requires an externally installed buffer tank and septic tank. The system is hence regarded a semi-transportable system, allowing parts of the cleaning chain to be transported to alternative locations.

BioContainer, Combi EB

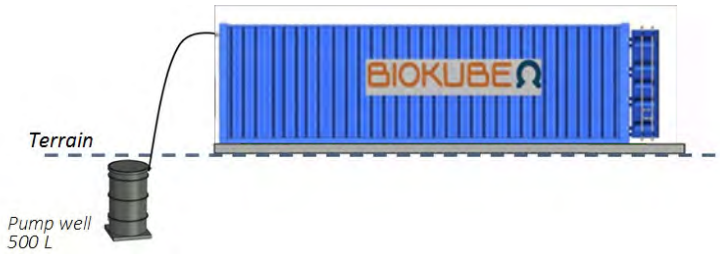
External buffer tank



*The BioContainer "**Combi EB**", must be placed on a load bearing horizontally leveled surface with a maximum variation of +/- 1 cm per 4 mtrs.*

The surface must consist of either stable compressed gravel or 200 mm cast concrete slab built on stable soil. The "Combi, EB" version requires an externally installed buffer tank. The system is hence regarded a semi-transportable system, allowing parts of the cleaning chain to be transported to alternative locations. BioKube can supply transportable buffertanks in reinforced plastic material.

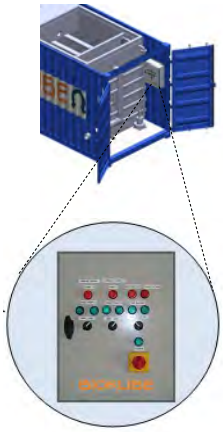
BioContainer, Combi IB



*The BioContainer, "**Combi IB**", must be placed on a load bearing horizontally leveled surface with a maximum variation of +/- 1 cm per 4 mtrs.*

The surface must consist of either stable compressed gravel or 200 mm cast concrete slab built on stable soil. The "Combi, IB" version has all cleaning steps integrated and is hence regarded a fully transportable system.

Control of electrical components



All electrical component in the BioContainer system; e.g. blowers, pumps, UV units , are integrated and connected to the integrated control box, from where the power is distributed and controlled.

The plant is normally powered with 400 Volt, 3 phase power supply.

Inlet Principles

The BioContainer units are delivered with a 10 metre flexible inlet pump hose allowing trouble free initial transfer of the waste water to the system.

Depended on system type, the inlet pumps can be placed on e.g. guidelines or in a specially constructed transfer pump well.

Reference & Contact

BIOKUBE

How much water can a BioContainer system treat per day
Each person using 150 l/day or 200 l/day or 300 l/day

BioKube system (all models - typical cleaning demands)	150 l/day/PE	200 l/day/PE	300 l/day/PE
20 ft Combi IB Effluent class normal (BOD<25)	36 m3/day	48 m3/day	72 m3/day
20 ft Combi IB Effluent class high (BOD < 10, NH4<5, 50 % TOT N reduction)	13 m3/day	17 m3/day	26 m3/day
40 ft Combi IB Effluent class normal (BOD<25)	72 m3/day	96 m3/day	144 m3/day
40 ft Combi IB Effluent class high (BOD < 10, NH4<5, 50 % TOT N reduction)	26 m3/day	34 m3/day	52 m3/day
20 ft Combi EB Effluent class normal (BOD<25)	42 m3/day	56 m3/day	84 m3/day
20 ft Combi EB Effluent class high (BOD < 10, NH4<5, 50 % TOT N reduction)	15 m3/day	20 m3/day	30 m3/day
40 ft Combi EB Effluent class normal (BOD<25)	84 m3/day	112 m3/day	168 m3/day
40 ft Combi EB Effluent class high (BOD < 10, NH4<5, 50 % TOT N reduction)	30 m3/day	40 m3/day	60 m3/day
20 ft Combi BioMax Effluent class normal (BOD<25)	83 m3/day	110 m3/day	166 m3/day
20 ft Combi BioMax Effluent class high (BOD < 10, NH4<5, 50 % TOT N reduc.)	20 m3/day	27 m3/day	40 m3/day
40 ft Combi BioMax Effluent class normal (BOD<25)	165 m3/day	220 m3/day	330 m3/day
40 ft Combi BioMax Effluent class hign (BOD < 10, NH4<5, 50 % TOT N reduc)	40 m3/day	54 m3/day	80 m3/day

Selection of Companies who have choosen BioContainer Systems

TOTAL COMMITTED TO BETTER ENERGY · Chevron · HYUNDAI · BHP · InterOil · SPIECAPAG ENTREPOSE · INTEGRATED CAMP SERVICES · VIKING DRILLING · Kuwait Oil Company · British Gas · KHARAFI NATIONAL · carillion · CNOPC BGP · Burgan Company · xylem Let's Solve Water · REPSOL · ExxonMobil · Ezy House · JSDF NAKAGAWA - MAEDA JV Japanese Army · UNITED NATIONS

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