

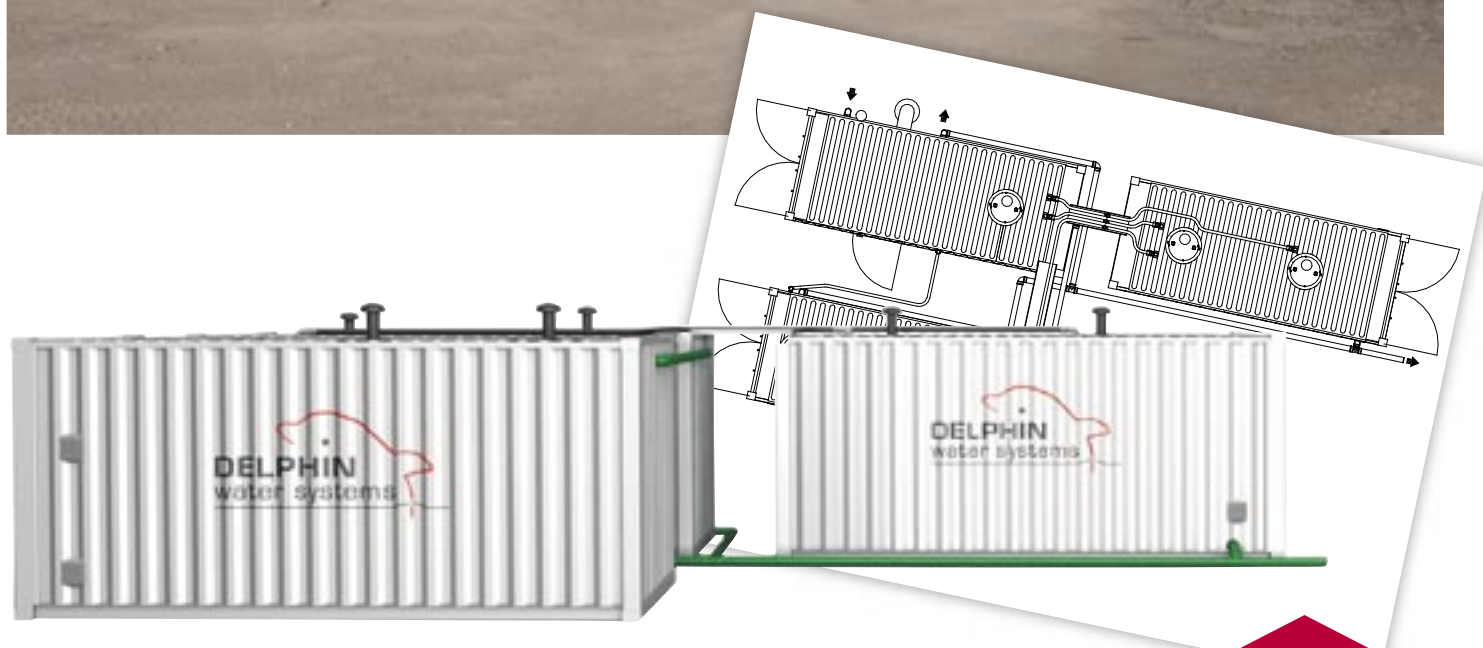
DELPHIN[®] container

Mobile wastewater treatment plants



www.delphin-ws.de

DELPHIN Water Systems GmbH & Co. KG
The experts for fixed-bed technology



**Quality
for Your
Project**

Made in Germany

Mobile wastewater treatment plants for remote locations



The **DELPHIN® container** wastewater treatment plants are fully pre-assembled biological systems for the purification of domestic wastewater or wastewater of similar composition. The connection size and the technical equipment of the plants are adjusted to the specific needs of our customers by our engineering department.

Fields of application

- Worker camps of the mining and oil exploration industry
- Construction sites
- Refugee camps and disaster operation
- Research stations
- Permafrost regions, deserts and other locations with extreme climate



The basic concept of our containerized treatment plants is the ready-to-operate installation of the plant inside the ISO container; to allow the fastest possible installation on site. Plants in one or several 20 and 40 foot ISO containers are available – also in insulated construction with additional heating for arctic regions or ventilated and chilled for hot areas.



The internal tanks of the container plants are manufactured entirely out of wastewater-resistant PE plastic.

Beside the simple transport of the plant to any place in the world, the ISO container also serves to protect the internal self-supporting tanks and technical installations against external influences. Therefore, even the most challenging conditions do not affect the service life of the plant. This ensures repeated fast installation – year in, year out.



Pic 1: 40' treatment plant for 160 man oil exploration camp in Siberia

Pic 2: 3x20' treatment plant for 300 man oil exploration camp in Kenya with water reuse in irrigation

Pic 3: 3x20' treatment plant for micro brewery in England

Pic 4: 2x40' treatment plant for domestic sewage of oil refinery in North Iraq

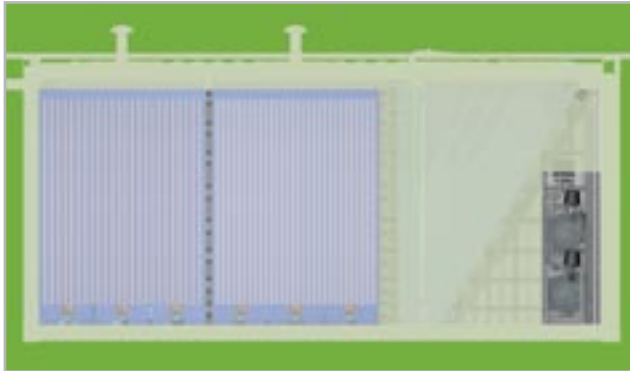
It's what's inside that counts!



Primary treatment

The primary treatment stage consists of an automatic screen followed by a settlement tank in plants for up to 500 PE or by a drum filter in plants above 500 PE.

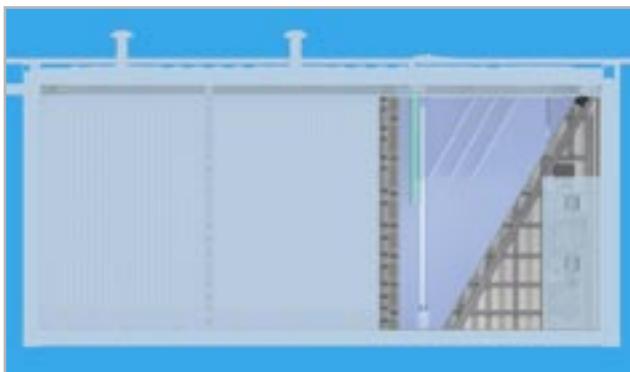
- Safe removal of solids
- Hygienic discharge of dewatered and compacted screenings



Biological stage

The biological stage consists of the submerged and aerated fixed-bed with a flexible aeration hose system for oxygen entry.

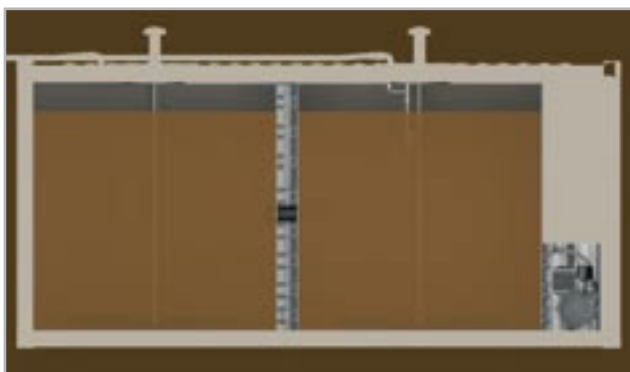
- Stable treatment performance also under varying inlet conditions
- Easy exchangeable aeration hose via pull-out system without interruption of operation



Secondary clarifier

The secondary clarifier contains a lamella separator and a hopper base for settlement and removal of excess biomass from the biological stage.

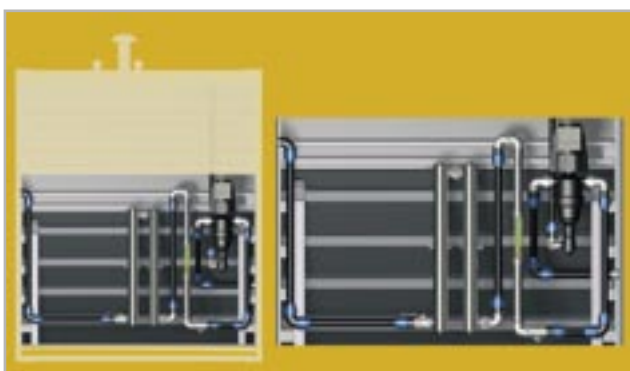
- Low suspended solids content (≤ 25 mg/l) in the outlet without filtration
- Homogenized outlet rate by gravity flow through the entire plant



Sludge treatment

The sludge treatment stage receives the settled sludge from the primary treatment and the secondary clarifier. The sludge is stabilized by oxygenation.

- Reduction of odors and fouling processes by aeration
- Possibility of easy sludge dewatering with optional filter bag system




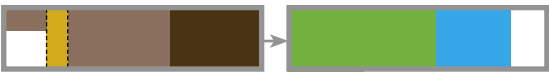
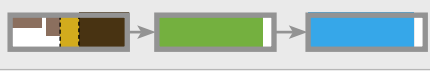

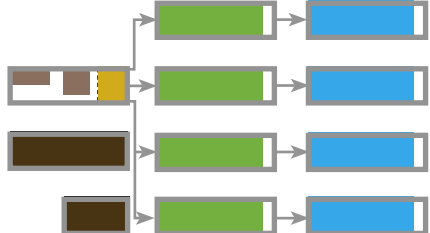


Tertiary treatment

By an optional tertiary treatment with filtration, UV treatment and/or a phosphate adsorber system a higher effluent quality is achieved.

- Reuse of treated water in irrigation systems
- Safe phosphorous removal without chemical precipitation

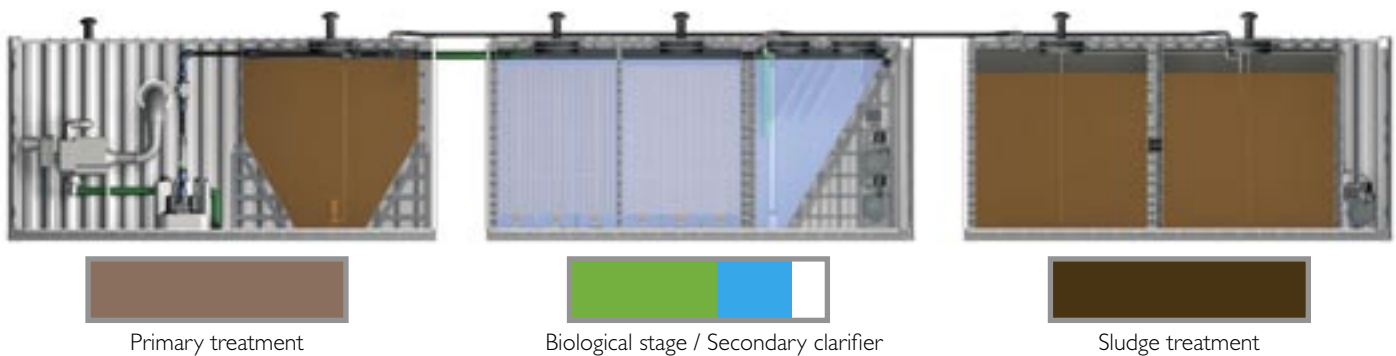
Standard product range

Configuration	Container type	PE	Modules	DELPHIN® container	Footprint
	1 x 40'	150	All-in-one	BF150	12.20 x 2.45 m
	1 x 40'	200	All-in-one	BF200	12.20 x 2.45 m
	1 x 40'	250	All-in-one	BF250	12.20 x 2.45 m
	2 x 40'	500	1 x PT40ST 1 x BF40SC	BF500	25.40 x 2.45 m
	3 x 40'	1000	1 x PT40ST 1 x BF40 1 x SC40	BF1000	38.60 x 2.45 m
	5 x 40' + 1 x 20'	2000	1 x PT40ST 2 x BF40 2 x SC40 1 x ST20	BF2000	38.60 x 5.90 m
	8 x 40'	3000	1 x PT40 3 x BF40 3 x SC40 1 x ST40	BF3000	38.60 x 9.35 m
	10 x 40' + 1 x 20'	4000	1 x PT40 4 x BF40 4 x SC40 1 x ST40 1 x ST20	BF4000	38.60 x 12.80 m

PT40ST: Primary treatment and sludge treatment in a 40' container; **BF40SC:** Biological treatment and secondary clarifier in a 40' container

PT40: Primary treatment in a 40' container; **BF40:** Biological treatment in a 40' container; **SC40:** Secondary clarifier in a 40' container

ST20: Sludge treatment in a 20' container; **ST40:** Sludge treatment in a 40' container



DELPHIN® container BF250 with extended sludge treatment stage in 3 x 20' containers

All our mobile wastewater treatment plants are available in project-specific dimensioning.

Feel free to contact us – we're looking forward to help you!

Benefits



Easy to transport

Due to the worldwide harmonized ISO standard for sea containers, our mobile treatment plants can be moved and transported with all carriers which are able to handle sea containers.



Easy to set up

Our systems are completely pre-fabricated in our production facility in Hamburg. After intense testing the plants are packed for road and/or sea transport. Fast coupling systems and the supplied perfectly fitting installation material like pipes, hoses and cables allow a fast setup and immediate service after positioning the containers at their place of operation. **Plug-and-play!**



Easy to operate

The fixed-bed process and the chosen robust technical equipment allows an easy operation without demand for specialized operation staff. A basic training in our facility in Hamburg prior to delivery or during set-up on site in coordination with our detailed manuals allows even non-wastewater experienced technicians to operate and maintain our systems.



Clean water for your environment

No matter if you want to avoid pollution of your environment or benefit from treated water for irrigation or service water – **DELPHIN® container** treatment plants are tailor made solutions for your project and fulfill highest environmental requirements.

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Your specialist dealer

DELPHIN Water Systems GmbH & Co. KG · Rubbertstraße 46 · 21109 Hamburg, GERMANY
Phone: +49 40 766 146-70 · Fax: +49 40 766 146-99 · info@delphin-ws.de · www.delphin-ws.de