



BOX4WATER®



Clean Water out of the box.

Cleantech for efficient wastewater treatment.

Awards

WORLD ECONOMIC FORUM



Technology
Pioneers
2010



A product of  Epuramat



Consortium

Epuramat
Together WE can more!

02-03

Impressum
Konzeption & Design
propeller
Agentur für Neue
Kommunikation, Trier
www.propeller.de

*Access to
clean water
becomes
a problem.*



BOX4WATER®



Adherence to standards and directives

WHO drinking water standards

EU Directive (98/83/EU)

National regulations

(e.g. German drinking water ordinance of 2001, requirements for direct discharge)

Irreplaceable: clean water.

There is no other resource that is so much taken for granted and carelessly used as water. But what is thought to be so easily available is becoming more and more precious. The freshwater reserves of the earth are becoming scarcer and pollution is ever growing. The provision of clean water drinking water, however, remains a key condition for life in civilised communities. In this context, the treatment of used water is gaining an increasingly important role. To clean and process it to turn it into drinking water again is one of the big challenges of the future that can only be mastered using state-of-the-art technology. The [Box4Water®](#) is the result of an outstanding engineering achievement that rises exactly to this challenge – with a small form factor.

04-05



Unhandy.



BOX4WATER®



Box4Water® – key features:

20' version:

municipalities – 1.250 l/h

industries – 5.450 l/h

40' version:

municipalities – 3.125 l/h

industries – 16.000 l/h

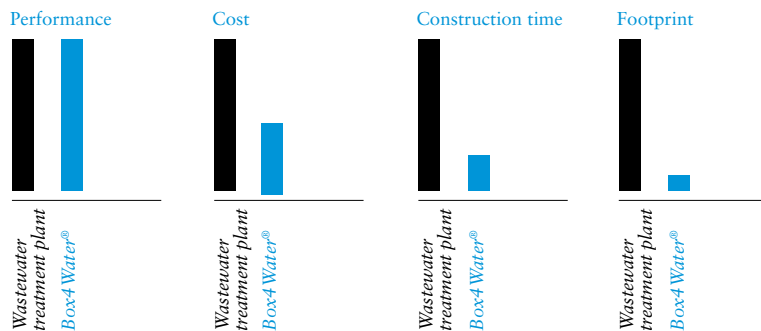
Power supply: 32 A or

power generator

Reliability: continuous remote monitoring ensures the adherence to limit values.

Certification: meets the requirements of the applicable standards, CE certificate.

Fields of application: municipal and industrial wastewater treatment.



Handy: small-form-factor cleaning solution.

The global high-tech societies gradually understand that the current approaches used in wastewater treatment are not sustainable. Abnormalities witnessed in fish and other river creatures confirm the suspicion that medical drugs and hormones survive conventional wastewater treatment. Conventional wastewater plants with their large sedimentation basins occupy lots of space and the extension of their capacities requires considerable effort. The Box4Water® applies a space-saving technology and clears wastewater almost completely.

06-07

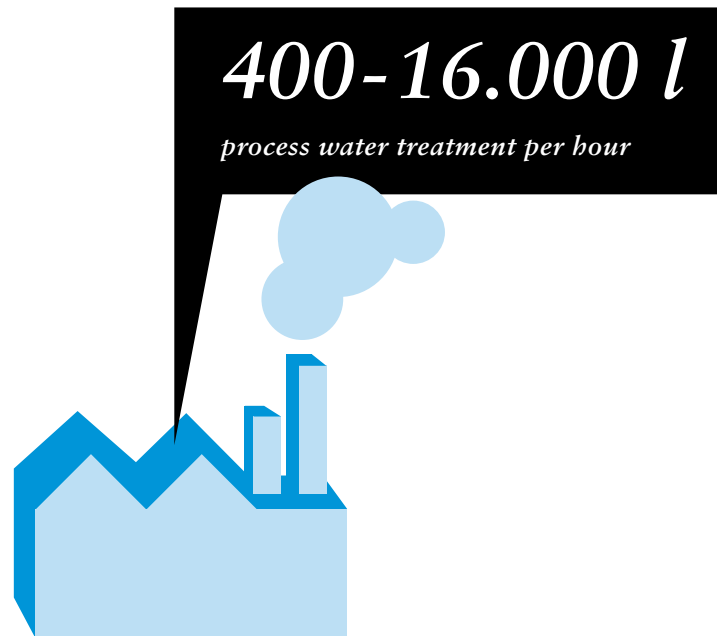
100-500

inhabitants





BOX4WATER®

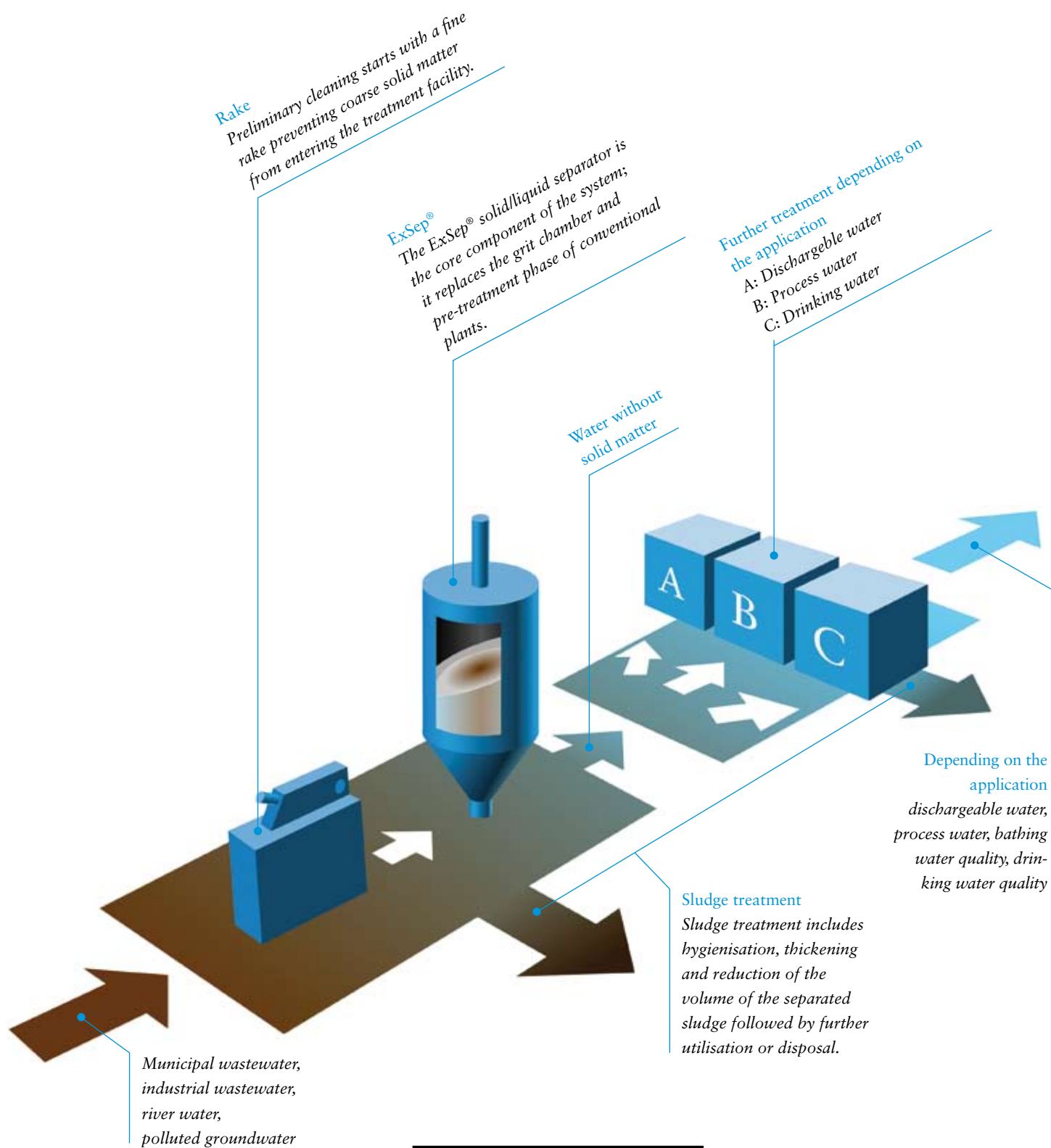


Economical: closed cycles for industrial applications.

The industry is a big consumer of water: industrial undertakings quench their thirst with fresh water. After the fresh water has been used in production processes, it is let off as wastewater. A costly approach. The [Box4Water®](#), however, establishes a closed cycle that starts with the dirty water that has been used for production processes. After treatment it is available as cleaned water and can be fed back in the production process again. This will reduce costs and help protect the environment. Instead of high charges for the use of big amounts of fresh water, the costs will be reduced to the replacement of evaporated amounts of water.

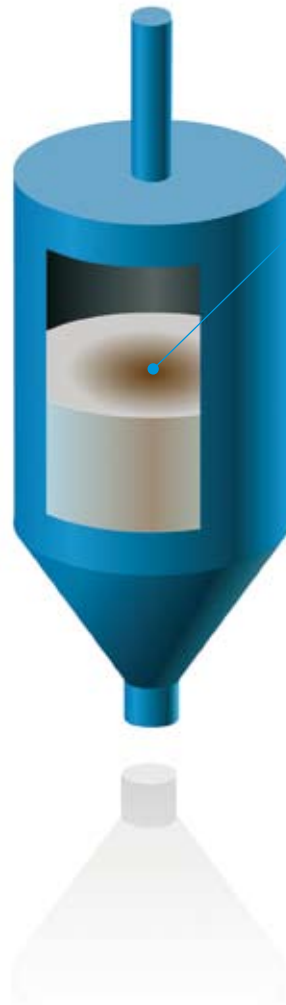
Practical: suitable solutions for municipalities.

The binding implementation of the EU Water Framework Directive until 2015 forces municipalities to take action. Now, even small communities must act to provide for a better treatment of their wastewater. The standard solution: investing in the construction of pumping stations and sewers to reach the next wastewater plant including the cleaning and maintenance of the same over many years. The smart solution: [Box4Water®](#). With a delivery time of 8-12 weeks, the container-size wastewater treatment plant is ready for use in a very short time. The water processed by it fulfils the requirements of the applicable water protection regulations and directives of the EU.

**Flow rate***Municipalities: 625-3.125 l/h**Industries: 400-16.000 l/h*



BOX4WATER®



Flow without current.

The ExSep® is a highly efficient module for the pre-treatment of wastewater. It is based on the use of hydraulic flows that exclusively develop from gravitation forces inside the module's cylindrical body. The result is an almost complete separation of solids from liquids in the course of a single treatment step.

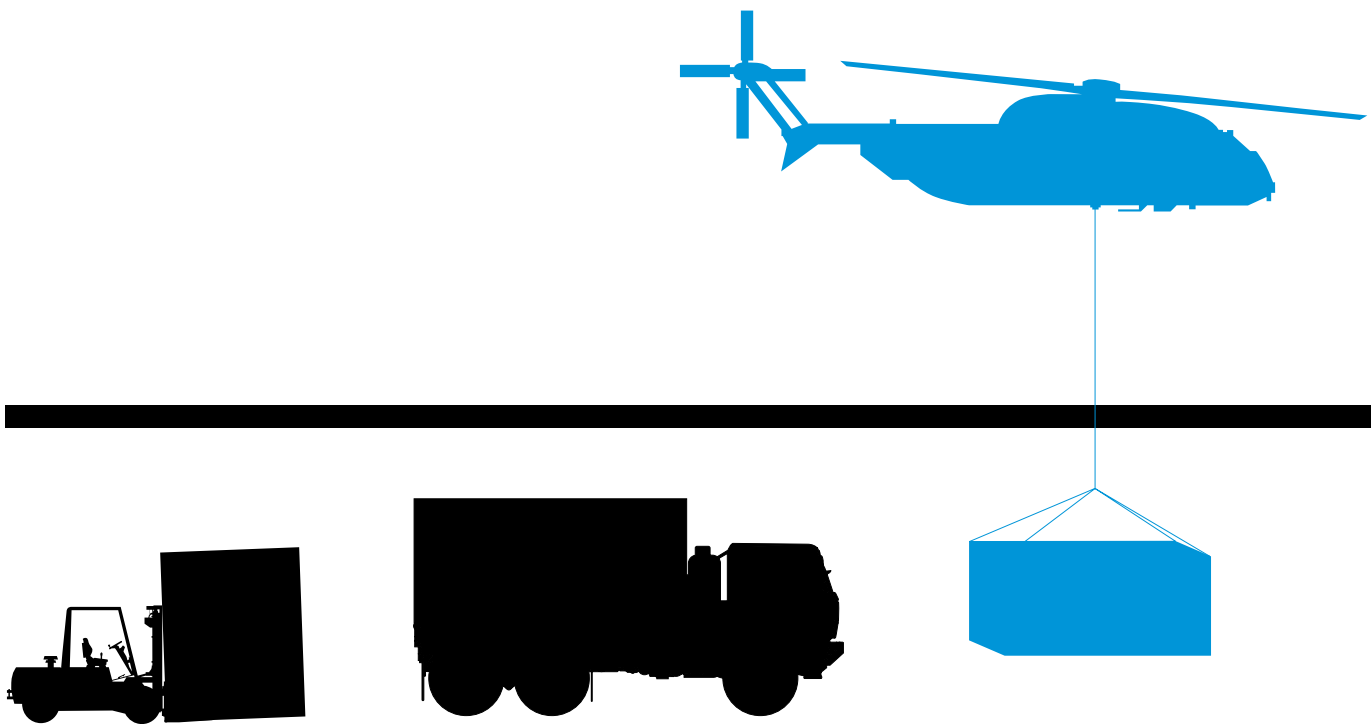
Efficient: highly intensive pre-treatment.

Nature knows several methods to free water from contaminants. One method is the cleaning of evaporating water on its way up within the atmosphere. On its way down into the ground, water is cleaned by passing through different layers of rock and earth that act as filters. Whirls and currents support the self-cleaning powers of running waters. The Box4Water®'s highly effective pre-treatment system combines the power of running water with the braking effect of a controlled redirection of the flow that makes solids sink down. This principle provides for outstanding pre-treatment results – the subsequent treatment phases can focus on the remaining small and smallest particles.





BOX4WATER®



Mobile: easy transport, easy installation.

The highly efficient technology fits into a standard sea container and allows the transport of the complete unit by container vessel, truck or even helicopter. This is what makes the [Box4Water®](#) so flexible, easy to handle and attractive for everyone who needs wastewater technology "on the spot". Other than conventional wastewater plants, the [Box4Water®](#) offers a completely mobile solution. The only fixed connections required are fresh water, sewage and power connections. And, if so desired, even the power supply can be replaced by an included power generator. The system is independent and can be flexibly used wherever there is a need for clean water.





BOX4WATER®



For all climatic zones.

From arid to sub-arctic climates, the Box4Water® demonstrates its superior features. It works both under permafrost conditions and under tropic sun. Equipped with an optionally available power generator the unit can be continuously operated for up to two weeks.

Reliable: emergency relief for disaster areas.

Contaminated, non-potable water is the cause of diseases as diarrhoea, dysentery and cholera. Especially in refugee camps where many people gather within short periods of time and without proper preparation these diseases spread very quickly. This problem is particularly severe, when there is not enough clean water available. In most cases, the direct use of the existing groundwater is excluded as the groundwater and wells are contaminated. One of the Box4Water®'s great strengths is its ability to produce drinking water even from contaminated groundwater. And if there is one resource that is urgently needed in disaster areas it is clean drinking water.

14-15

*“We’re about to enter the age of Cleantech. The **Box4Water**® is our contribution.”*

Achim Kopmeier, CTO





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Technical Data

The purification results of the Box4Water® are in compliance with the EU minimum requirements (according to EU directive 91/271/EEC) for a direct discharge.

Influent wastewater characteristics

The design of the Box4Water® is based on the following influent wastewater characteristics:

Wastewater intake: 150 Lt / person / day

Suspended solids: 90 g / person / day

Biochemical oxygen demand load: 60 g / person / day

Nitrogen: 12 g / person / day

Phosphorus: 1 g / person / day

Box4Water® standard dimensions

Population Equivalent	Water flow (m ³ /hour)	Container size	Used power (without heater for negative temperatures) [kW]
up to 100	0.625	20'	1.4
up to 200	1.25	20'	1.7
up to 300	1.875	40'	1.9
up to 400	2.5	40'	2.5
up to 500	3.125	40'	2.8



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A product of  Epuramat