

## ADVANTAGES OF THE EP-UF MEMBRANE MODULE DESIGN

- The hybrid sandwich configuration combines the advantages of capillary and flat-plate module designs.
- Full-surface membrane lamination enables:
  - full backwashing,
  - extended membrane regeneration intervals,
  - longer membrane service life,
- self-sealing of the membrane in the event of minor mechanical damage.
- High packing density of thin self-supporting plates.
- Low pressure drop.
- The unique frameless design of the EP-UF module eliminates clogging and sludge build-up in the corners.
- Easy to clean.
- Simple operation.

### Treated effluent parameters

Parameter		BC MBR
BOD <sub>5</sub>	(mg/l)	< 10
COD <sub>cr</sub>	(mg/l)	< 50
TSS	(mg/l)	< 2
Turbidity	(NTU)	< 1
E. coli (bacteria)	(CFU / 100 ml)	0
Viruses (removal rate)		99.99 %

### Membrane cleaning

Number of PE	6 - 30	50 - 150	200+
Air cleaning	●	●	●
Backwash		○	●
Chemical Enhanced Backwash (CEB)		○	●
Chemical regeneration	●	●	●

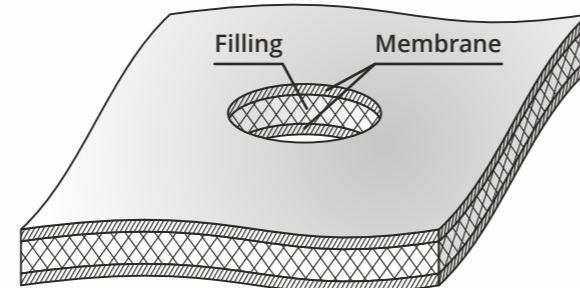
- standard equipment
- can be supplemented at the customer's request

## CONTACT US

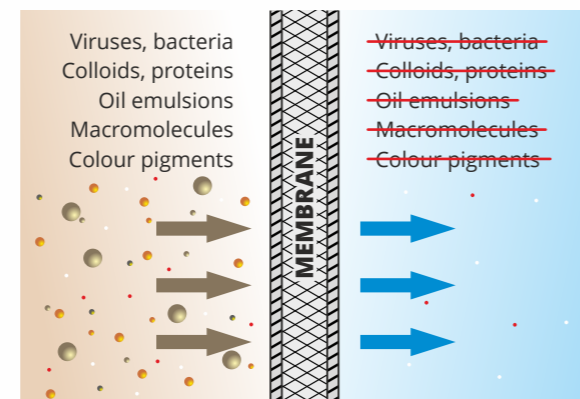
We have a full team of specialists, who will take care of everything from design documentation to final implementation.



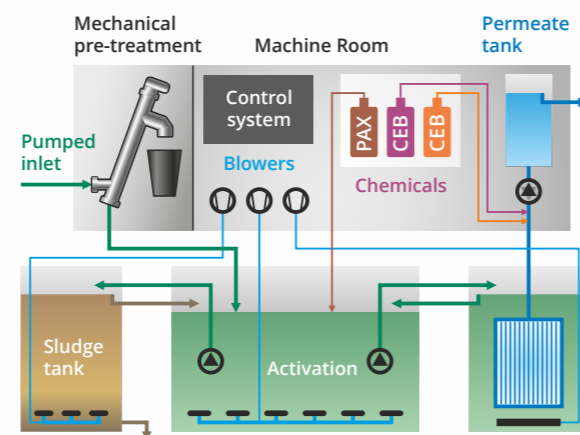
Installation of membrane modules



Detail of the membrane structure



Overview of filtered particles



Simplified WWTP scheme with MBR

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# MEMBRANE WASTEWATER TREATMENT PLANTS

## BC biocleaner® TECHNOLOGY

The **BC biocleaner®** with a **membrane bioreactor** (BC MBR) utilises state-of-the-art technology for treating wastewater from residential properties, municipalities, leisure facilities and industry.

### The principle of BC MBR technology

The **BC MBR** system combines traditional biological with advanced membrane separation, replacing the gravitational settling of sludge in secondary tanks.

### Advantages of BC MBR technology

#### Superior water disinfection

Membrane filtration effectively removes residual organic pollutants, nitrogenous substances, bacteria, and viruses, ensuring a high standard of hygienic safety.

#### Recycling and reuse

The quality of the treated water allows for its safe reuse for:

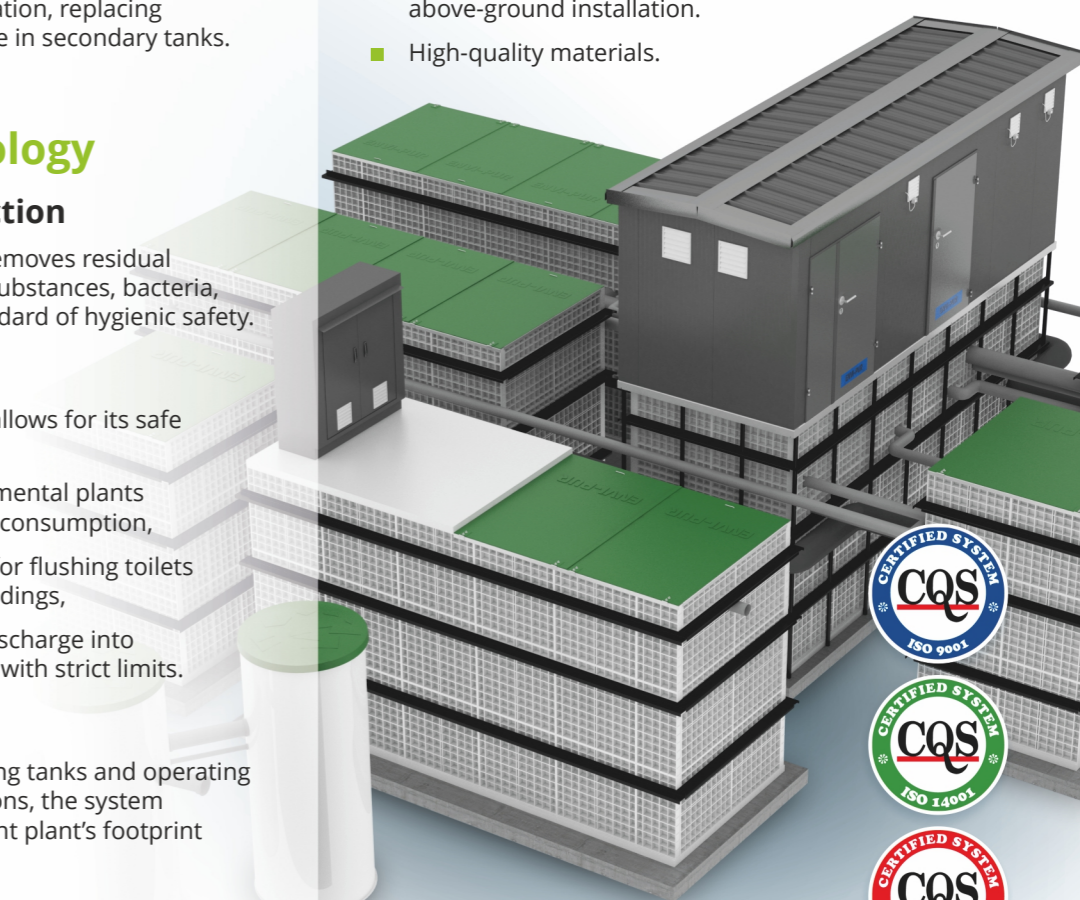
- **irrigation** – suitable for ornamental plants and crops intended for direct consumption,
- **non-potable applications** – for flushing toilets or as service water within buildings,
- **infiltration** – problem-free discharge into groundwater even in location with strict limits.

#### Space-saving

By eliminating the need for settling tanks and operating with higher biomass concentrations, the system significantly reduces the treatment plant's footprint and overall construction costs.

## Advantages of BC MBR configuration

- Modular plug & operate design.
- Easy scalability by adding membrane modules or containers.
- Minimal site preparation and transport requirements.
- Specially developed software and control system.
- Suitable for both underground and above-ground installation.
- High-quality materials.



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rethinking water

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CUTTING-EDGE TECHNOLOGY



MODULAR DESIGN



COMPACT DESIGN



MAXIMUM EFFICIENCY

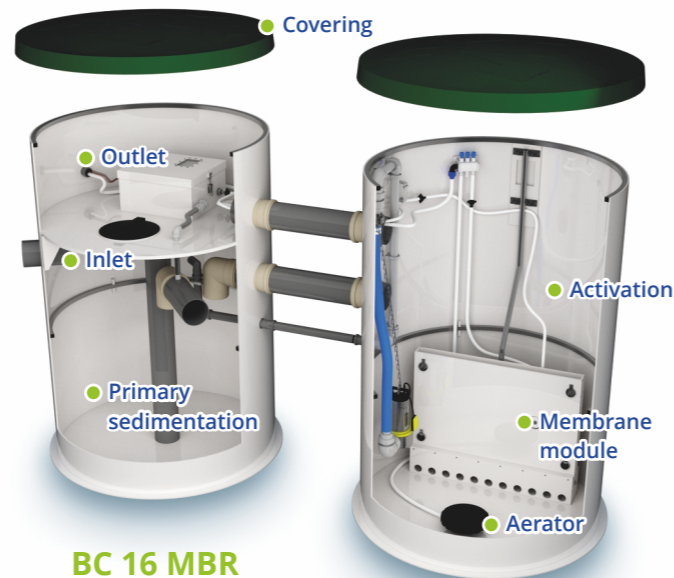
## BC 6 – 30 MBR

The BC 6 – 30 MBR series comprises two cylindrical tanks, the first serving as a primary sedimentation and sludge storage, while the second tank is an aerobic activation tank with an integrated membrane module.

- Optional to order: phosphorus precipitation.

### Parameters of BC 6 – 30 MBR WWTP

Type	Capacity (PE)	Q <sub>a</sub> max* (m <sup>3</sup> /day)	BOD <sub>5</sub> load (g/day)
BC 6 MBR	6	1.4	360
BC 8 MBR	8	1.8	480
BC 12 MBR	12	2.7	720
BC 16 MBR	16	3.6	960
BC 20 MBR	20	4.5	1 200
BC 30 MBR	30	6.8	1 800



BC 16 MBR

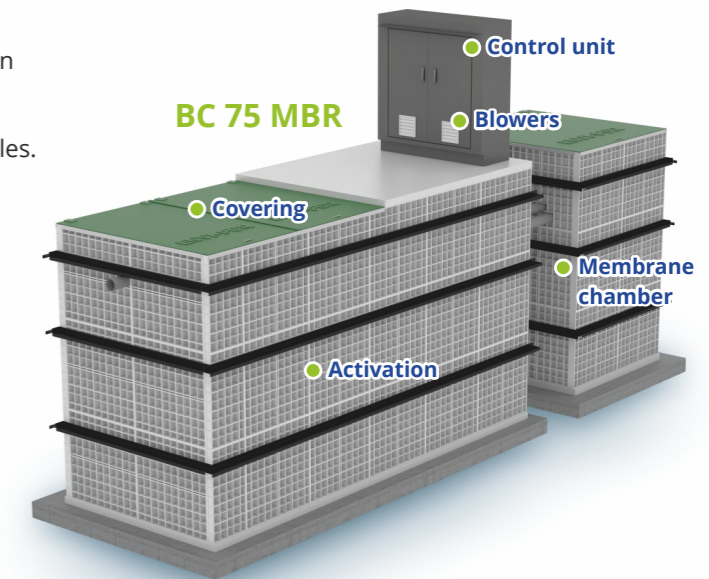
## BC 50 – 150 MBR

The technology of the BC 50 – 150 MBR series is housed in two rectangular containers. The first container is divided into a sedimentation tank (mechanical pre-treatment) and an aerobic activation zone. The second tank serves as a separate membrane chamber equipped with integrated membrane modules.

- Optional to order: chemical backwash system, phosphorus precipitation, dual-line configuration.

### Parameters of BC 50 – 150 MBR WWTP

Type	Capacity (PE)	Q <sub>a</sub> max* (m <sup>3</sup> /day)	BOD <sub>5</sub> load (kg/day)
BC 50 MBR	50	11.3	3
BC 75 MBR	75	16.9	4.5
BC 100 MBR	100	22.5	6
BC 150 MBR	150	33.8	9



## BC 200 – 1 100 MBR

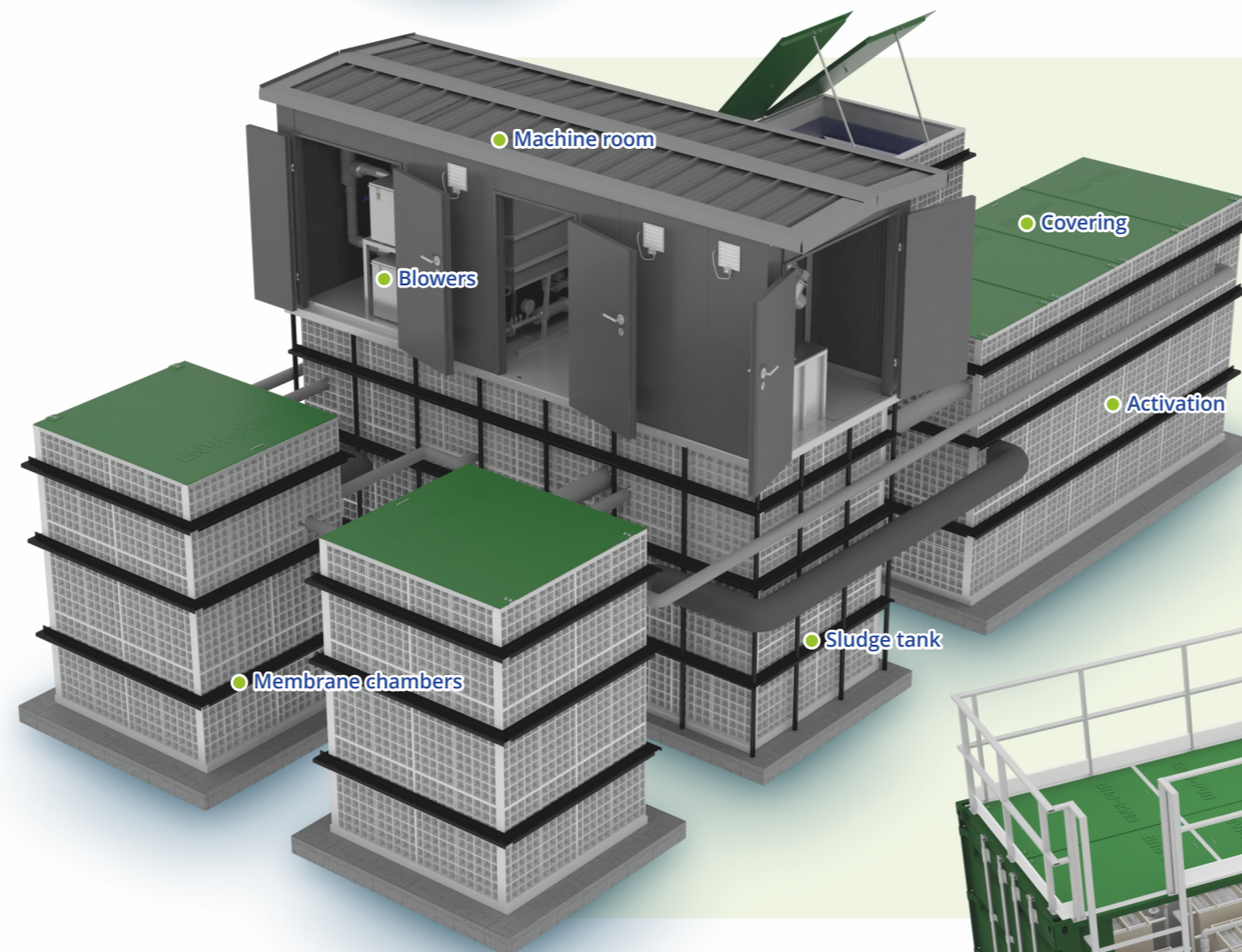
The technology of the BC 200 – 1 100 MBR series is housed in rectangular tanks. Mechanical pre-treatment is ensured by automatic screens, processing the incoming pumped wastewater. The number of activation tanks depends on the size of the treatment plant. The membrane chamber is a separate tank containing membrane modules.

The standard material of the containers is plastic; alternatively, concrete or steel. Steel 20' and 40' HC containers are designed for above-ground installation.

- Optional to order: sludge tank, automatic screens, machine room, phosphorus precipitation, dual-line configuration.

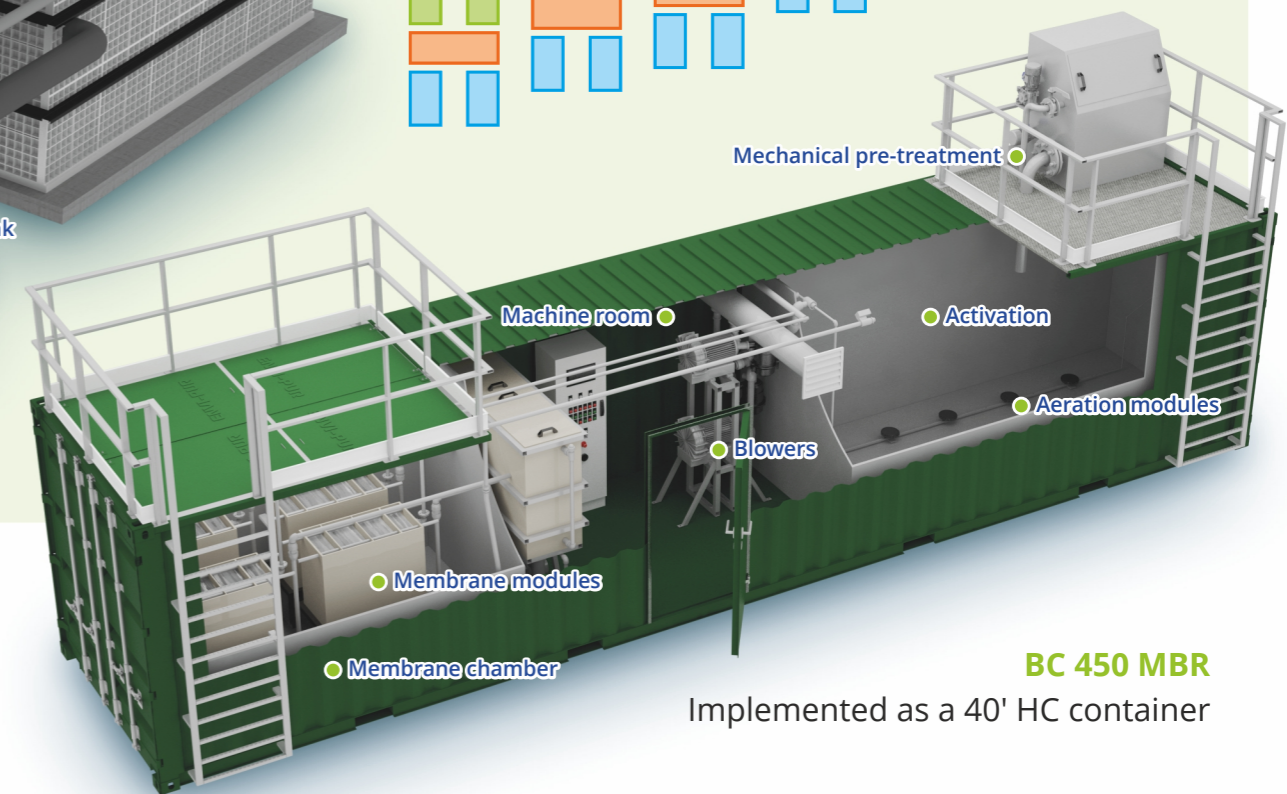
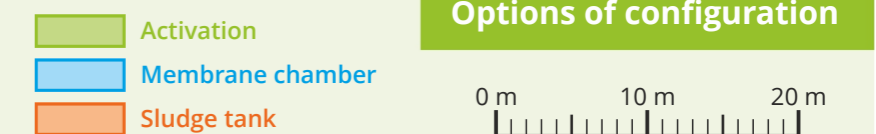
### Parameters of BC 200 – 1 100 MBR WWTP

Type	Capacity (PE)	Q <sub>a</sub> max* (m <sup>3</sup> /day)	BOD <sub>5</sub> load (kg/day)	
BC 200 MBR	200	45.0	12.0	1
BC 2×100 MBR	200	45.0	12.0	2
BC 300 MBR	300	67.5	18.0	1
BC 2×150 MBR	300	67.5	18.0	2
BC 400 MBR	400	90.0	24.0	3
BC 2×200 MBR	400	90.0	24.0	3
BC 600 MBR	600	135.0	36.0	4
BC 2×300 MBR	600	135.0	36.0	4
BC 900 MBR	900	202.5	54.0	5
BC 2×450 MBR	900	202.5	54.0	6
BC 1 100 MBR	1 100	231.0	66.0	7
BC 2×550 MBR	1 100	231.0	66.0	7

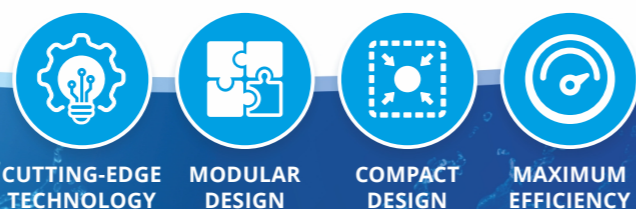


BC 2×200 MBR  
Dual-line configuration

\* Maximum daily water consumption assumed to be 225 l/person/day.



BC 450 MBR  
Implemented as a 40' HC container



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