HUBER TECHNOLOGY

HUBER BioMem®
Complete Plant

The complete solution for wastewater treatment of small units
Decentralized Treatment / Reuse

– Decentralized wastewater treatment for 150 to 500 PE
– Separation of all bacteria and virtually all germs
– Ideal for hotels, residential estates and mobile applications
– Minimum space demand
– Suitable for reuse as service water

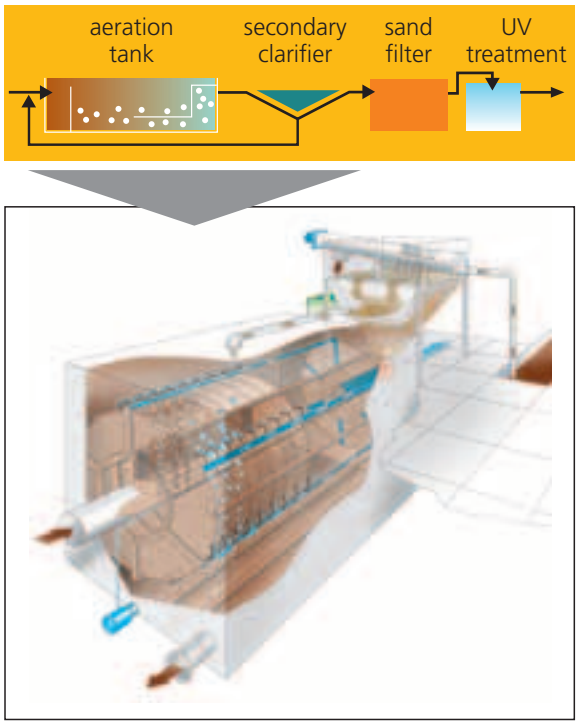
The Quality Company – Worldwide

The situation:

Centralized wastewater treatment plants ensure reliably wastewater disposal on all continents of the world. But also thinly populated areas must in future be provided with the possibility for reliable disposal of their wastewater. Since building and operating costs of sewer systems are frequently uneconomical, small compact systems – stationary or mobile – are gaining increasing importance.

Protection of existing eco-systems and water scarcity in many regions additionally demand future-oriented solutions, such as reuse of wastewater as service water for irrigation and thus reliable load reduction of heavy polluted receiving water courses.

Wastewater treatment of small or decentralized units – stationary or mobile



The HUBER BioMem® System replaces the conventional solution (aeration, secondary clarification, sand filtration, disinfection)

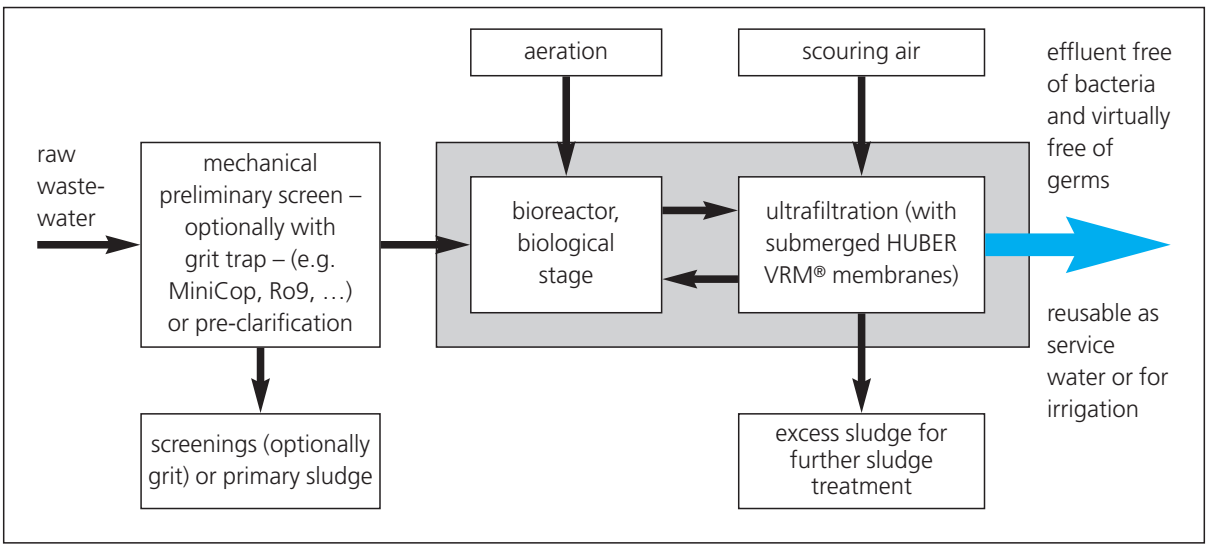
The solution:

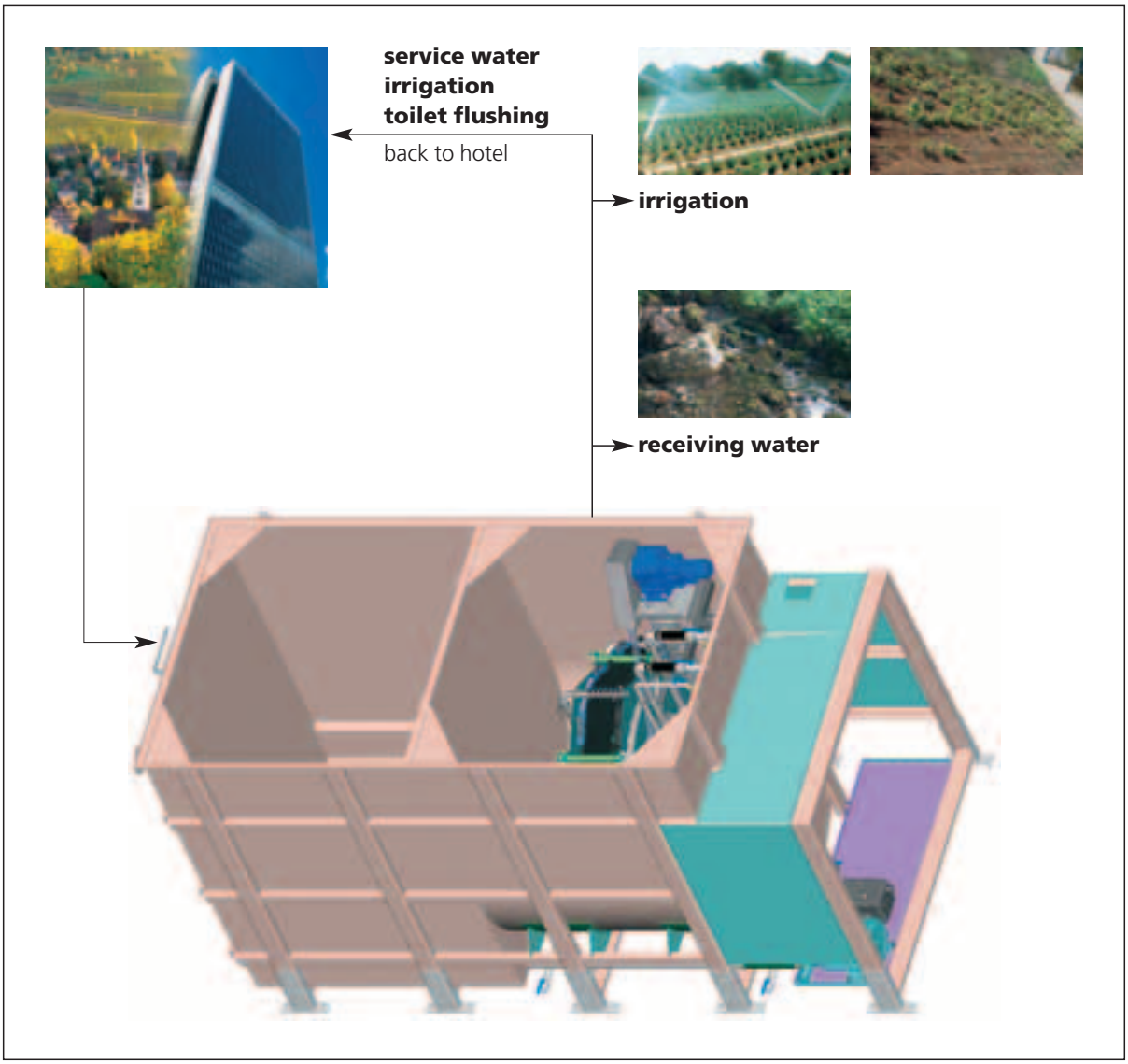
The HUBER BioMem® System is a complete clarification plant for decentralized applications, consisting of mechanical preliminary treatment, bio-stage and a filtration chamber with HUBER VRM® Unit.

The submerged HUBER VRM® ultrafiltration membranes retain all solids, bacteria and germs bigger than approx. 38 nm separation size and guarantee thus a maximum effluent quality. Compliance with latest legal effluent standards and reuse of the water as service water is possible without the need for additional treatment stages.

The modular design allows for realisation of various system sizes for municipal applications.

HUBER BioMem® Process





System specification:

In many countries wastewater disposal and treatment are still underdeveloped. Wastewater is often discharged into nearby rivers or the sea, or infiltrated without prior treatment. The negative effects are pollution of potable water reservoirs, eutrophication of waters and pollution of beaches with washed ashore material. An additional problem in arid and semi-arid areas is water shortage.

For improved environmental protection and the need to close the water cycle, special technologies are becoming increasingly important, such as the HUBER BioMem® that is based on the most advanced technology presently available for treatment of municipal and industrial wastewater.

The wastewater of connected residential estates, or directly from a complete hotel for example, flows into a buffer tank. Then the flow is passed through a preliminary screen (HUBER fine screens) to remove coarse material before it enters the bioreactor of the HUBER BioMem® Complete Plant where the pollutants contained are decomposed biologically. A submersible pump delivers the wastewater then into the filtration chamber where the activated sludge and clarified water are separated. Due to the low separation size of 38 nm not only all solids but also all bacteria and virtually all germs are retained and remain in the sludge that has to be removed regularly.

The effluent can directly be reused for irrigation or infiltration (groundwater recharge) or as service water, or may be discharged into a receiving water course.

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Benefits of HUBER BioMem® Systems:

- Modular and compact design
- Virtually unlimited combination of filtration and aeration units (grey and black water treatment)
- Effective treatment and utilization of small wastewater flows
- No expensive sewer building costs
- Separation of all bacteria and virtually all germs
- Reuse of clarified wastewater as service water, cleaning water, toilet flushing water or for irrigation
- Effective removal of covering layers with a minimized energy demand through sequential cleaning of the membrane surfaces
- Frost-proof design for optional outdoor installation
- Suitable for optional underground installation

Applications:

- Treatment of wastewater of small municipalities, residential areas or housing estates
- Hotel wastewater treatment plants
- Towns without sewer systems – wastewater treatment for individual districts
- Decentralized circulation of water and nutrients (DeSa/R®, EcoSan)
- Numerous applications for various filtration purposes
- Separate grey and black water treatment, if requested
- Special applications

System sizes:

- For treatment of municipal wastewater of 150 to 500 residents, optionally adjusted to meet prevailing specific requirements
- Bigger sizes are available in combination with customer-provided biological systems

Mechanical preliminary MiniCop screen prior to HUBER BioMem®

VRM® 20/120 Unit Membrane Bioreactor

Membrane Bioreactor pilot plant (Netherlands)

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Subject to technical alteration

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