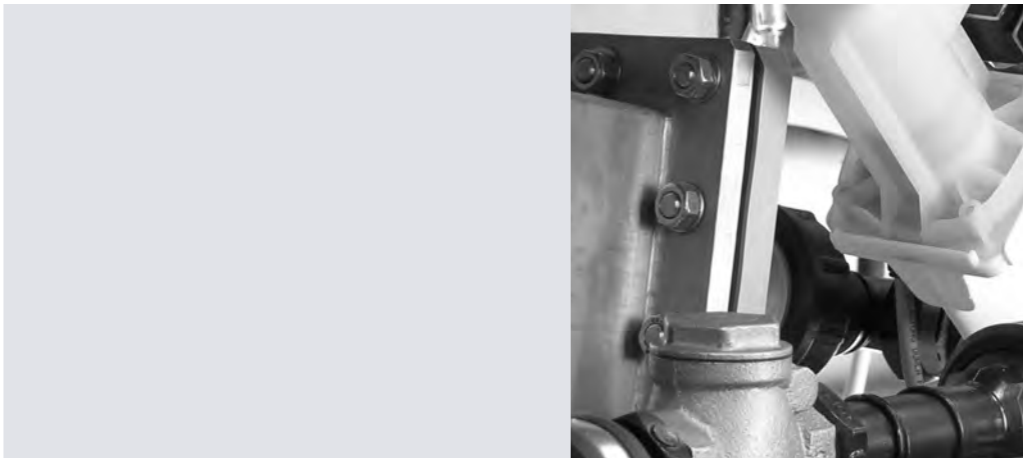


# EVAC SEWAGE TREATMENT SYSTEM – STS



EVAC GmbH - Feldstr. 124 - 22880 WEDEL - GERMANY  
Tel.: +49 4103 9168 0 - Fax: +49 4103 9168 90  
mail@evac.zodiac.com - www.evac-train.com



EVAC TRAIN DIVISION

## EVAC ON-BOARD WASTE WATER TREATMENT SYSTEM

- No organic deposit
- Low fresh water consumption
- Significant weight reduction
- Higher train availability
- Lower operating costs
- Environment friendly

### HOW IT WORKS

- Once foreign objects are separated by a mesh in the collecting tank, the working surface of the particles is enlarged by a „mincing“ process of the black water in the macerator.
- Then the waste water is pumped through the process unit, which is equipped with coated electrodes. The advanced electrolytic oxidation process produces highly reactive hydroxyl radicals (oxidizing agent), thus removing all organic contaminants. Developing foam during the process is continuously reduced down and fed back. After the treatment cycle within the process unit the process output is released into the water tank.
- There are two possible modes of operation of the system:  
 STS mode: the system releases completely neutralized water with insignificant fibre content in a controlled way.  
 STS+ mode: the treated water is being reused for flushing the vacuum toilet on the train.
- The process does not require any chemical additives or bacteria and can be stopped at any time and for any length of period without consequence to the process efficiency.
- The waste water treatment process is very stable, not sensible to a variation of the ambient temperature.
- The system replaces a standard waste water tank and can be installed under the coach frame or inside the train, without requiring any additional space.

## NO ORGANIC DEPOSIT

- The system destructs all organic contaminants. If operated in STS mode, only clean water with insignificant fibre content is being released. The treated waste water is completely disinfected.
- With the water treatment system the drainage of sewage to a community treatment plant becomes obsolete.

## LOW FRESH WATER CONSUMPTION

- When operated in STS+ mode the cleaned waste water can be re-used to flush the lavatory.

## SIGNIFICANT WEIGHT REDUCTION

- When operated in STS+ mode, fresh water will only be needed for the wash basin, so the fresh water tank can be laid out much smaller. With the use of the sewage treatment system a standard waste water tank becomes obsolete. This leads to a significant weight reduction.

## HIGHER TRAIN AVAILABILITY

- Higher train availability due to less time and effort required for the train care.

## LOWER OPERATING COSTS

- Low water consumption for toilet operation, when operated in STS+ mode
- No cost for waste water tanks
- No cost for sewage extraction infrastructure and personnel along the track and no cost for maintenance thereof
- No delivery and treatment cost to treat sewage in community treatment plants
- Less time for train care required leads to higher train availability
- Fuel / energy savings due to weight reduction

