

Case Study

MBR Case Study Marine Sewage Treatment



MEMROD® LT Wastewater Treatment Plant will operate on Board of three new Celebrity Cruise Vessels

The German ship builder Meyer Werft in Papenburg has ordered three MEMROD® wastewater treatment plants, which will operate on board of three large cruise vessels. These ships belong to the new Challenger class of the American cruise operator Celebrity Cruises. The size of each ship will be 315m long and 36.8m wide with 118,000 gt. The ships are so-called “post-PanMax-class”, which means that they can no longer pass the locks of the Panama Canal due to their length and width. These ships will be able to accommodate 2,850 passengers in 1,425 cabins. The first ship, named “Celebrity-Solstice” will be delivered in 2008 this will be followed by “Celebrity-Equinox” which will be completed in 2009. The remaining third ship will be delivered in 2010.

The designed biological load of each wastewater treatment plant amounts to 1,450 kg per day at a hydraulic load of 1,540 m³ per day.

For the reason of process optimisation oil and grease contained in the galley water will be removed before entering the biological treatment plant. The MEMROD® process that is a combination of the low-pressure membrane technology and the activated sludge process will ensure permanent compliance with the specifications of the IMO-International Maritime Organisation (MARPOL, Annex IV) and USCG/Alaska rules. The MEMROD® System also fulfils the future standards of MEPC.159(55).