



JETOX NEWS

JETOX aeration and mixing technology for Food Processing Membrane Bioreactor (MBR)



Aquabio has designed and supplied a JETOX aeration and mixing system for a new MBR plant in the food processing industry. The system, in the UK, is designed to provide up to nearly 4.3 tonnes of oxygen per day at standard conditions into a single stainless steel 1,000m³ bioreactor tank. To achieve necessarily high rates of oxygen mass transfer into the highly concentrated biomass (MLSS) in the bioreactor, 2 No. separate 6 nozzle JETOX jet aeration & mixing manifolds have been applied. With constant biomass 'turnover' and high relative alpha factor performance in the concentrated biomass, the JETOX system is able to significantly out-perform other aeration technologies in

this application. As with all JETOX systems, there is independent control of the mixing and aeration functions for significant process benefits. The two JETOX blower assisted multi-nozzle jet aeration and mixing manifolds (rated at a maximum SOTR of 89kgO₂/hr each) are provided with an air supply from a common air main and three air blowers housed in a nearby building.



JETOX Operation

The mixed liquor from the tank is recirculated, using a dry mounted centrifugal pump, through specially designed stainless steel JETOX nozzles. The pump is installed at ground level, outside of the tank, so that it can be easily isolated for routine maintenance.



At the nozzles, air arrives from the two speed blowers and bubbles are created as intimate mixing occurs with the recirculating liquid. The operating pressure of the air blower is much lower than in 'conventional' diffused air and coarse bubble aeration systems due to the entrainment 'draw down' effect at the JETOX nozzles.

For further information about this, and other, JETOX aeration and mixing systems and other products and processes, please contact us at Aquabio Limited, Worcester, UK, either by e-mail or fax.

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