



BLACKMANS BAY WWTP

New Build

The Blackmans Bay WWTP, an Acciona / BMD Joint Venture in Tasmania, was designed with the IDEA (Intermittently Decanted Extended Aeration) process, in order to enable wastewater treatment capacity beyond the year 2040, at the daily flow rate of 8,500 m³/d.

Challenge

To increase the daily flow rate of the WWTP and improve the effluent quality including nitrogen removal in order to abide by EPA regulations.

Solution

The solution was to provide thirty six retrievable Fine Bubble aeration units. Twenty eight units were installed in the bio-reactor. Each unit was equipped with tubular diffusers with a stainless-steel inner tube and EPDM membranes, all designed, manufactured and supplied by Mapal. The additional eight aeration units, manufactured from 316 SS with EPDM fine bubble membranes were installed in the aerobic digester. Each aeration unit was equipped with a purge system that uses the positive air pressure to continually remove any condensate or water penetrating the unit.

Results

The aeration units in both the bioreactor and the aerobic digester, were designed for the maximum airflow rate for 2040, with the number of diffusers required up to 2025. This was done to accommodate the future possibility of attaching additional diffusers for increase in the oxygen demand, providing future cost savings to the client.