

CASE STUDY



PROJECT SEWAGE TREATMENT PLANT UPGRADE

PRODUCT Screw Screen in Tank (SSB-mK) and Rotating Biological Contactor (RBC)

INDUSTRY Municipal

LOCATION Imbil, Queensland

BACKGROUND

A regional council in South East Queensland required replacement of the rotating biological contactors (RBCs) installed at their sewage treatment plant as these had reached the end of their serviceable life. These RBCs were originally designed to treat unscreened settled sewage, but performance had deteriorated over time. MAK Water was selected to provide a mechanical inlet screen to treat raw sewage prior to primary settling, and to provide two RBCs to replace the existing six RBCs within the site's hydraulic and footprint constraints. This proved to be a cost competitive and fit for purpose approach whilst achieving the plant's licence conditions.

SOLUTION

Rotating Biological Contactor (RBC) and Screw Screen in Tank (SSB-mK)

DESIGN SPECIFICATIONS

- Packaged mechanical inlet screen with:
 - 108 m³/h treatment capacity,
 - 5 mm rounded holes screen element
 - Automated washing for screening and compaction zones
 - Integrated screenings bagging system
- RBCs with 1,000 EP treatment capacity to achieve maximum effluent BOD₅ of 20 mg/L
- RBCs achieving treatment performance within 15 days of start-up without any seeding
- RBCs capable of maintaining treatment capacity with low influent flowrate even when protracted over several days, and when normal load is reapplied, full performance is achieved within a few hours

RESULTS AND BENEFITS

- **Pre-assembled.** Equipment designed and manufactured off site minimising site installation works.
- **Compliance** RBCs achieve specified effluent quality resulting in licence compliance.
- **Low operating costs.** Very low average power consumption of 1 kWh per 3-4 kg BOD₅ removed. Minimal maintenance and low operator input required.



Rotating Biological Contactors



Screw Screen in Tank