



BALDWIN

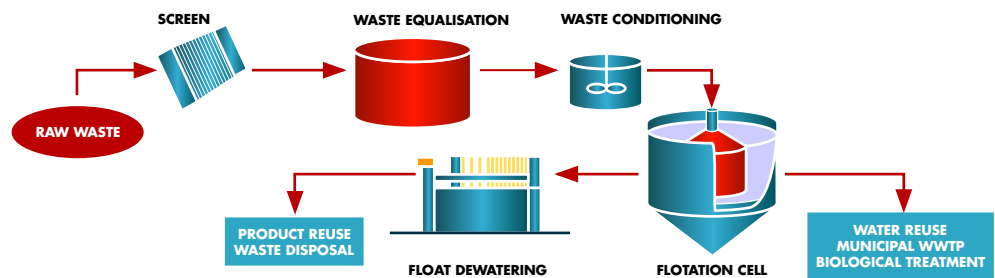
WASTEWATER MANAGEMENT

DISSOLVED AIR FLOTATION

Dissolved Air Flotation is a liquid/solid separation process in which microscopic air bubbles (10-100µ) become attached to solid particles suspended in liquid, causing the solid particles to float. In a DAF system air is dissolved into liquid under pressure. The dissolved air remains in solution until the pressure is released to atmospheric pressure, causing the air to come out of solution in the form of microscopic air bubbles. The bubbles are mixed intimately with the wastewater and become attached to the solids in the waste stream causing the air solids agglomerate to float to the liquid surface where a solids (float) blanket is formed. Surface skimmers then remove the float blanket.



Typical Flowsheet of DAF Clarification



BENEFITS OF THE BALDWIN DAF

Air Dissolving System

The Dissolving System provides an air dissolving efficiency of approximately 80%. The key to the consistently high dissolving efficiency is the proprietary, non-clogging spray cone inside the unit, which ensures excellent air/liquid contact, thus a high mass transfer. The efficiency of the air dissolving system permits lower recycle rates and hence allows higher wastewater feed rates.

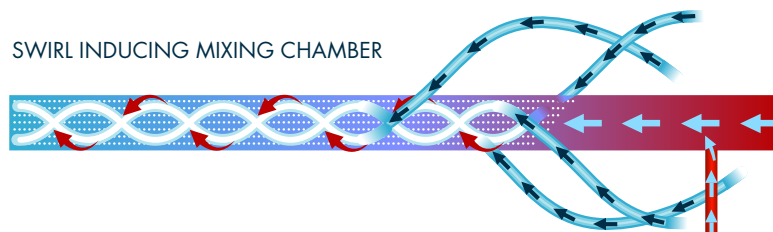


Air Release System

The Air Release System is designed to maximise (greater than 95%) the conversion of air into bubbles appropriately sized for flotation (10 - 100µ).

Air/Solids/Polymer Mixing Chamber

The Swirl inducing mixing chamber provides intimate mixing for the air bubbles, solids and polymer. This allows for optimum air/solids bond formation.



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Quiescent Flotation Cell

The addition of vertical baffles, called Lamellas, allows laminar flow conditions to be maintained at unusually high hydraulic loading. To ensure the float blanket remains undisturbed, a free air venting system has also been included.

Baldwin's standard range of DAF units are designed with capacities from 1m³/hr to 100m³/hr.

For larger applications custom designs are available to suit site conditions.



Process Optimisation

Baldwin's service, know-how and experience are unparalleled in the industry. A bench scale test unit allows troubleshooting or optimising of existing units in a quick and professional manner without interrupting the full-scale DAF process.

The same bench scale unit is utilised in our Feasibility Studies to assess the suitability of DAF as a treatment method and to accurately size and determine various design parameters including the hydraulic loading and air/solids ratio.

Pilot Unit Available

Although the bench scale unit almost eliminates the need to conduct site trials, pilot scale units are available to prove performance and generate a "float" for dewatering trials.



Performance Guarantee

Baldwin's commitment to solving your waste water problem starts with a thorough evaluation of your process, the components contributing to the generation of waste water, and continues through equipment selection and design to the final commissioning and operator training phases.

Selecting a **Baldwin DAF** unit is your way of ensuring your wastewater problems are solved.



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