



**BALDWIN**

WASTEWATER MANAGEMENT

# OIL & SOLIDS SEPARATORS

## LARGE DESIGNED SYSTEMS

### Design Performance Guaranteed

System performance is simulated through the use of a proprietary computer program. This enables the effluent quality to be accurately predicted which means that we can meet discharge limits 100% of the time – GUARANTEED!

### Above Ground Systems



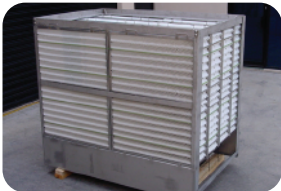
- Pumped (or gravity flow)
- Stainless steel or painted mild steel
- Discharges to sewer, stormwater or recycle
- Standard designs or custom configurations
- Treatment rates from 1KI/hr to over 100 KI/hr

### In Ground Systems



- Gravity Flow (or pumped)
- Concrete pits or G.R.F. Tanks
- Silt hoppers and oil skimmers
- Drive in sumps
- First Flush, storm by-pass arrangements

### Retrofits



- Upgrading inefficient API Pits and Triple Interceptor Traps
- Very efficient and cost effective
- Modular cages for large installations
- Unlimited configurations and orientations

### Maximum Efficiency

Baldwin 'V-Plate' Coalescing Plate Separators provide maximum efficiency at minimal cost. The system consists of series of polypropylene plates, stacked vertically and housed in a fabricated tank or concrete pit. There are no cartridges or filters that need replacing. The only maintenance requirement is a quick, easy, once-a-year cleaning of the plates with pressurised water.

### Stokes' Law

Under laminar flow conditions the oil droplets attach to the oleophilic (oil attractive) plates. Stokes' Law, the physical law governing the rise and fall rate of a droplet or particle in a fluid stream, can predict the settling time of solid particles and the rise time of oil droplets, which have specific gravities higher or lower than that of the main fluid.

$$V_R = \frac{(P_W - P_O)gd^2}{18\mu}$$

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### Proven Performance

Baldwin separators effectively intercept oil droplets from a water/oil mixture, bringing droplets to the surface as a separated layer. Suspended solids are also intercepted, dropping to the bottom as sludge.

During recent testing programs we used a laser particle counter to accurately measure the size and number of oil droplets in various water mixtures. From this data we were able to produce a series of oil droplet distribution curves for:

- Gravity Flow
- Diaphragm Pump
- Progressive Cavity Pump
- Centrifugal Pump

Our tests confirmed the superior performance of the Baldwin "V-Plate" Coalescing Plate Separators in removing free oil droplets **as small as 20 microns** in diameter.

**Effluent levels of 10ppm and below were easily achieved.**



### Key Benefits

- Each system is individually designed for each application based on proven design principles and is guaranteed to meet the stringent new discharge laws being imposed by local authorities.
- Modular construction ensures that retro fitting outdated triple interceptors and API systems are efficient and cost effective methods of upgrading.
- Baldwin 'V-Plates' are assembled in a vertical configuration, such that "clogging" or "silting up" is virtually eliminated.
- Unique proprietary design enables the corrugated plates to be uniformly spaced at either 6mm or 12mm
- Injection moulded Polypropylene Plates are highly "oleophilic" and extremely resistant to most chemicals.

### Applications

#### Petroleum Industry:

- Refineries
- Terminals/Depots
- Service Stations
- Workshops

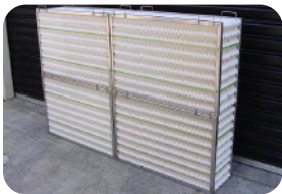
#### Mining:

- Heavy Vehicle Washpads
- Lube Bays
- Workshops

#### Power Stations:

- Storm Water Runoff
- Process Recycling
- Solids Settling
- API/TIT Upgrades

Baldwin specialises in the supply of oil and solids separators for a wide variety of industry. We attribute our continued success to the professional approach with which we design each system to meet the individual's particular needs.



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