



# ATTRITION SCRUBBER

# THE FLOATEX ATTRITION SCRUBBER

## ATTRITION SCRUBBING

Attrition Scrubbing is a process where a mineral is scrubbed by the action of one high speed slurry flow impacting on another. The advantage of this type of attrition is that as it is being provided by two slurry flows there is little wear on the machine itself.

Two opposed, shaft mounted, turbine type impellers generate opposing slurry flows that provide high particle on particle impact. The ideal solids concentration is 70 to 80%, dependant on the mineral, this giving the maximum particle on particle contact.

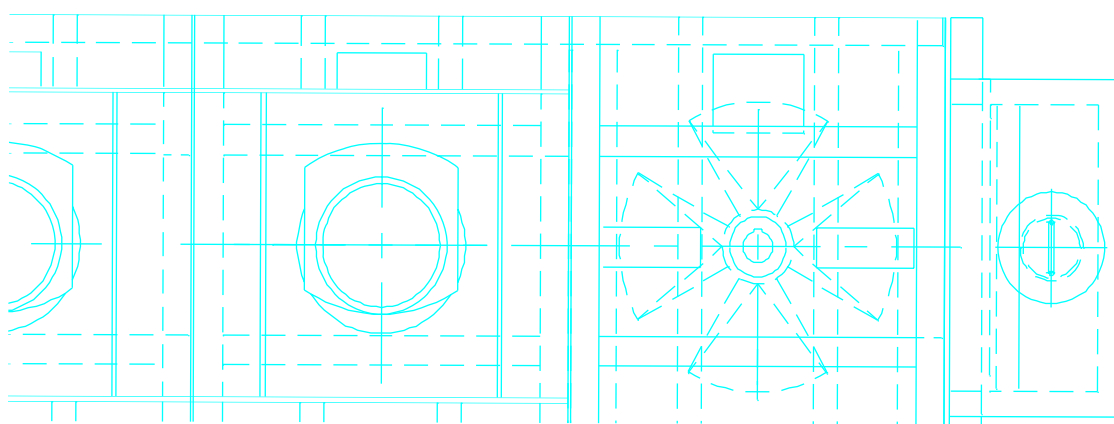
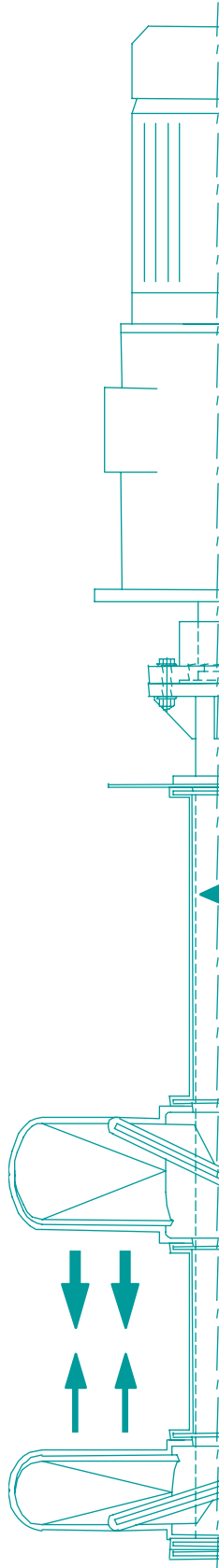
A scrubber consists of a series of inter connected cells. A differential pitch between the impellers causes the slurry to be pumped from one cell to another through the scrubber.

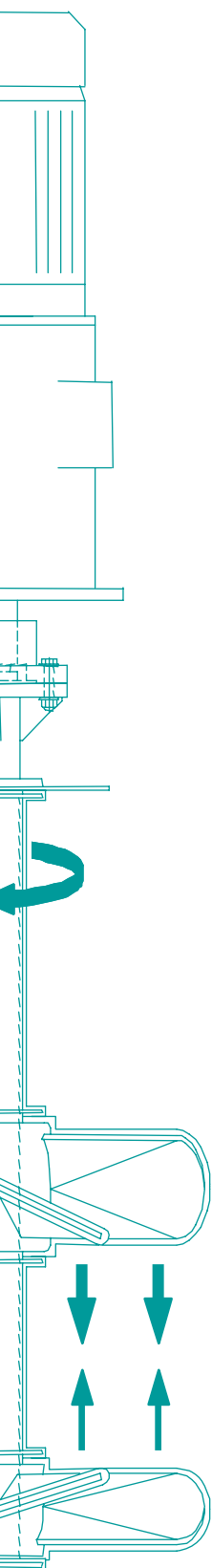
## TYPICAL APPLICATIONS

- Surface cleaning of particles.
- Sand particle polishing.
- High-intensity conditioning.
- Liberation of valuable minerals from clay matrix.
- Washing plastic chips for recycling.
- Reaction vessels
- Soil washing - liberation of contaminants.
- Delamination or blunging of clays.



4 Cell '1000' Floatex Attrition Scrubber with optional covers for gas purging





## CONSTRUCTION

The impellers are driven by heavy duty geared motor units that give long and trouble-free life.

The drives are supported by a ridged super structure and direct coupling from the motor through the gearbox to the impellers allows the motors to be started, in the majority of cases, with the scrubber full of settled sand. This obviates the need to drain down when the process is stopped.

The tank, impellers and shaft sleeves are covered with abrasion resistant rubber. Other linings such as neoprene and hypalon are available to suit particular application.

## OPTIONS

### REMOVABLE LINERS

For particularly abrasive materials additional wear protection can be provided by removable, reversible rubber covered wear plates. These provide an extra heavy duty unit that eliminates down time relining the tank walls.

### ACID/ALKALINE RESISTANT

The scrubbers are also available with a range of lining material to suit particular chemical requirements. These machines are suitable as reaction vessels in leaching plants, as the attrition effect can reduce the overall retention time required.

### GAS PURGING

The scrubbers can be sealed with submerged feed and discharge points to allow for gas purged operation preventing the oxidation of process chemicals .

### EASY CLEANING

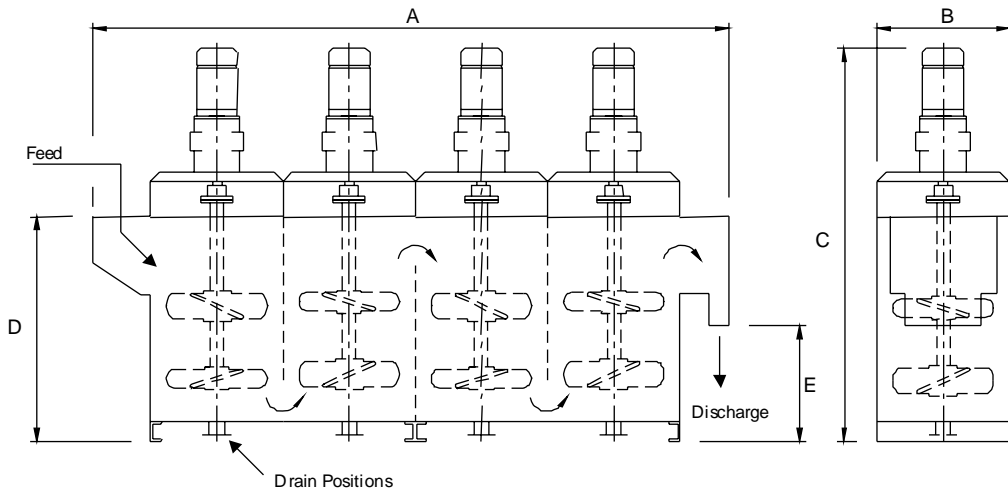
Optional sloped cell bottoms allowing for easy cleaning between different types of products.



'800' Floatex Attrition Scrubber.



'1300' Floatex Attrition Scrubber showing the rubber covered impellers and optional wear plates.



| Cell Size Ref. | Effective Cell. Vol. m <sup>3</sup> | Dimensions Metres |        |        |      |      |      |      | Motor Size Kw/Cell |
|----------------|-------------------------------------|-------------------|--------|--------|------|------|------|------|--------------------|
|                |                                     | A                 |        |        | B    | C    | D    | E    |                    |
|                |                                     | 2 Cell            | 3 Cell | 4 Cell |      |      |      |      |                    |
| 450            | 0.10                                | 1.04              | 1.49   | 1.95   | 0.60 | 1.66 | 0.90 | 0.50 | 5.5                |
| 600            | 0.27                                | 1.95              | 2.55   | 3.15   | 0.79 | 2.31 | 1.35 | 0.95 | 7.5                |
| 800            | 0.65                                | 2.25              | 3.05   | 3.85   | 0.99 | 2.69 | 1.55 | 0.95 | 11.5               |
| 1000           | 1.30                                | 3.05              | 4.05   | 5.05   | 1.17 | 3.05 | 1.75 | 1.05 | 18.5               |
| 1300           | 2.60                                | 3.65              | 4.95   | 6.25   | 1.47 | 3.73 | 2.15 | 1.45 | 37.0               |

\* Dimensions are approximate and are for guidance purposes only

## LABORATORY MACHINES

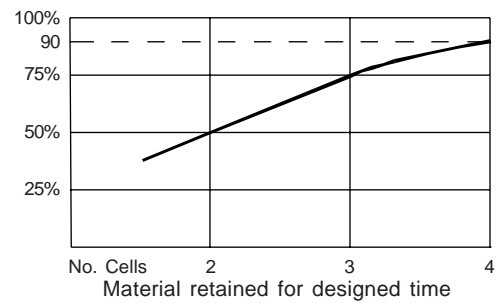
Laboratory scrubbers are available with a capacity of 15 litre per cell.

- Single cell for batch operation.
- Twin cell for continuous operation

The results in most cases being directly comparable to those achieved by production units.

## MACHINE SELECTION

Floatex Attrition Scrubbers are available in 2, 3 and 4 cell standard configurations. Research has shown that the number of cells in series has a direct effect on the percentage of material that is retained for the required duration. The most popular selection is 4 cells achieving the maximum efficiency.



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