

CYCLONES

THE FLOATEX CYCLONE

Floatex have manufactured cyclones since 1965, building a wealth of experience in their design and operation. Our current range of cyclones are designed to provide advanced, cost effective, high efficiency cyclones.

Through careful selection of the cyclone configuration the correct performance characteristics can be achieved to produce a simple and effective process device to meet the requirements of a wide range of applications.

DEWATERING

◆ FEED PREPARATION

To regulate feed densities prior to processes such as Attrition Scrubbers, Froth Flotation and Gravity Concentration.

◆ GROUND STOCKPILING

A Floatex Cyclone fitted with a Floatex moisture control system for direct ground stockpiling.

DESLIMING

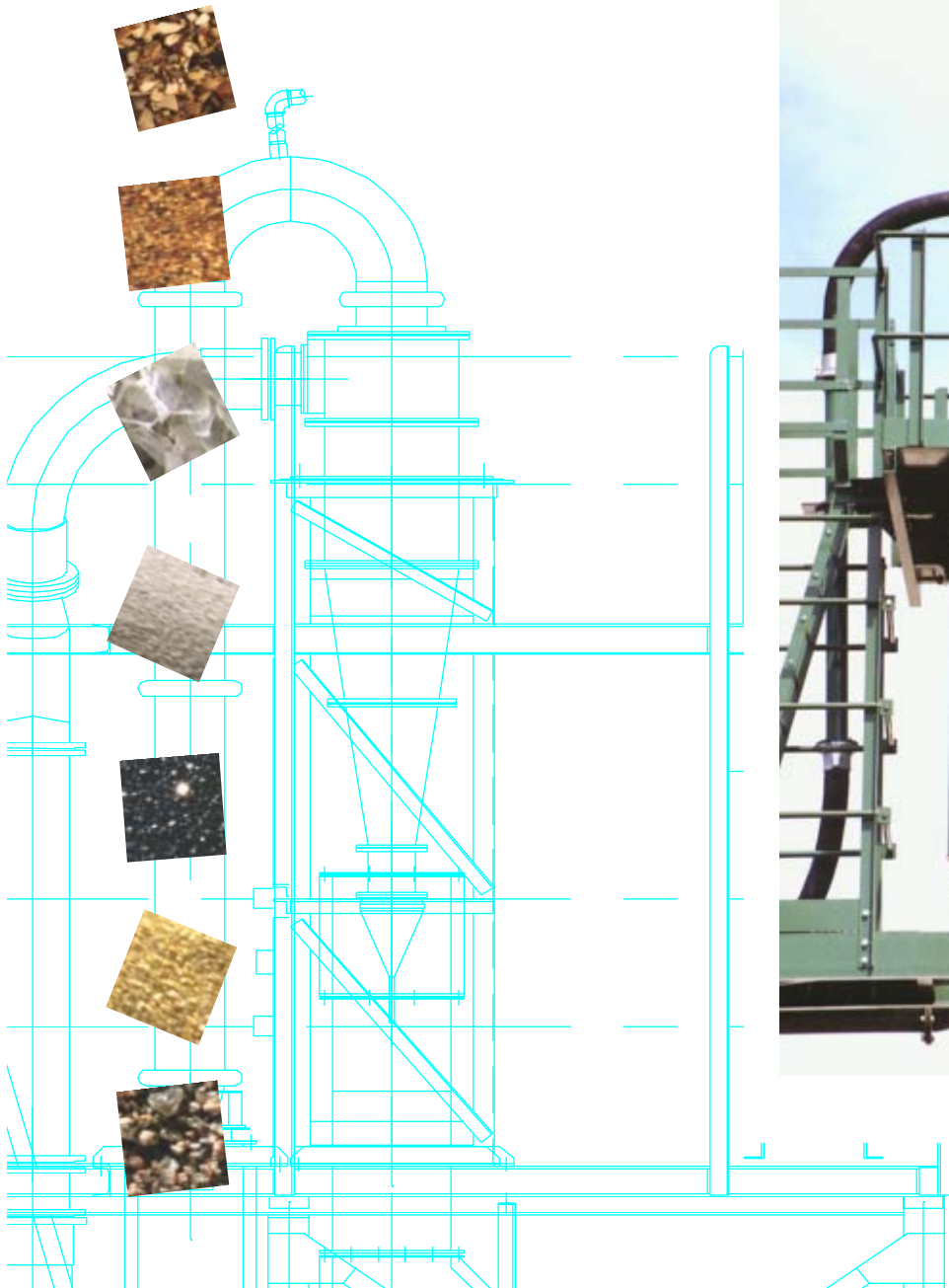
A Floatex Cyclone is a simple and effective device for the removal of silt/slimes.

CLASSIFICATION

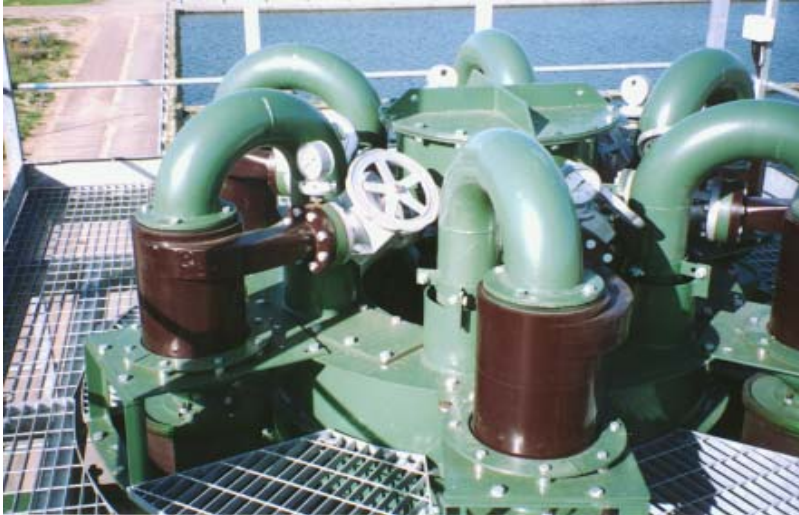
A Floatex Cyclone is a highly efficient classifier for cut points between 20 and 100 microns.

GRAVITY FED CYCLONES

Floatex Gravity Fed Cyclones can be used under as little as 3 meters of water head (4psi). As gravity fed cyclones do not require any additional pumps, they are particularly useful when slurries have to be partially dewatered prior to subsequent processes.



C380 Cyclone



C250 Stub Cyclones

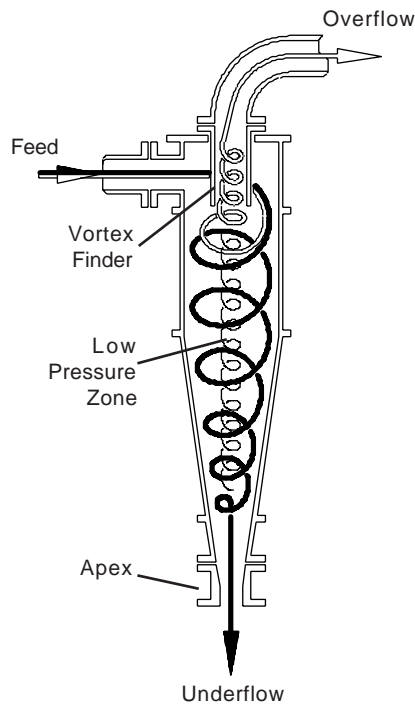
HYDROCYCLONES EXPLAINED

The feed is introduced under pressure along the wall of the cyclone, which imparts a rotating motion to the slurry. The particles in the feed are subjected to two opposing forces. An outward centrifugal force and an inwardly acting drag.

The centrifugal force accelerates the settling rate of the particles thereby separating according to their size and/or specific gravity. Faster settling particles move to the wall of the cyclone and migrate to the apex opening.

Slower settling particles, due to the action of the drag force, move towards a spiralling zone of lower pressure along the axis of the cyclone, and are carried upwards through the vortex finder to the overflow.

The cut size of a cyclone is dependant upon its diameter, the larger the cyclone the coarser the separation. Therefore if a large feed volume is to be classified at a fine cut point several small diameter cyclones would be installed in parallel.



C500 Gravity Fed Cyclones

HOW DOES THE FLOATEX CYCLONE ACHIEVE HIGH EFFICIENCY ?

INVOLUTE FEED ENTRY

The Floatex Cyclone has an involute feed entry which preclassifies the solids so that they are injected along the wall of the cyclone. Thus minimising turbulence normally experienced at the point of entry with traditional tangential entry cyclones. This results in higher capacities and sharper separations.

SMOOTH INTERNAL SURFACES

Floatex Cyclones are manufactured under tight quality control to ensure there are no irregularities in the lining that might cause turbulence, that will interfere with the separation.

CYCLONE VARIABLES

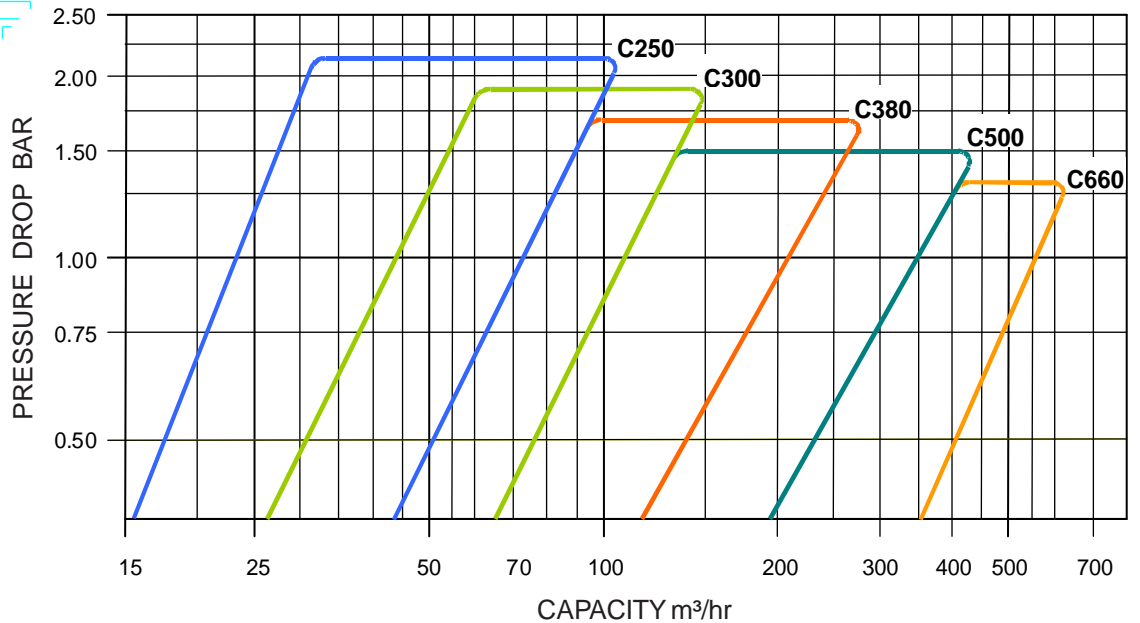
Through careful selection of the following variables the correct cyclone can be installed to suit the required duty:

- Diameter of the cyclone.
- Length of the cyclone.
- Inlet area.
- Vortex finder diameter.
- Apex diameter.
- Pressure drop across the cyclone.



CYCLONE CAPACITIES

Floatex Cyclones are manufactured in a range of sizes from 250mm (10") to 660mm (26"), classifying from 20 to 140 microns (635 to 100 mesh).



* The cyclone performance chart is for guidance purposes only, for accurate sizing of cyclones consult Floatex.

CONSTRUCTION

Floatex Cyclones are manufactured to close tolerances from mild steel and lined with soft abrasion resistant rubber. The rubber thickness is increased in areas of high wear.

Each cyclone consists of a number of bolt together sections, so that as wear takes place only the relevant section needs to be replaced. The whole of the range of cyclones are assembled from common sections, so if several different units are installed at one site, the number of spare parts held is kept to a minimum.

Feed adapters are available to connect the cyclone to a range of feed pipe sizes, complete with pressure gauge connections. The majority of cyclones are manufactured so that they can be assembled for either left or right hand feed entry.

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