

Cyclone Cleaners



Prior to the widespread arrival of cyclone cleaners (centrifugal cleaners) in the 1950's, the paper industry removed pulp contaminants such as sand and dirt solids by passing the pulp through a 'riffler' which was basically a settling trough. These units were bulky, inefficient and required frequent manual cleaning.

Although the centrifugal cleaning apparatus was patented in 1891, the device was slow to gain acceptance.

All three Shoalhaven paper machines receive pulp from these devices which provide a final cleaning stage in the preparation of the stock. The device consists of a conical pressure vessel configured to accept the stock being pumped at pressure in from the side of the cylinder. The inlet scroll guides the flow to create a rotating motion. As the stock flows inward the velocity increases resulting in centrifugal forces near the centre which carry the dense particles outward and away from the accepted stock. The cleaned stock flows inward and upward to the outlet at the top of the cylinder. The dirt held in the downward current continues to the tip of the conical end of the cylinder to be rejected.

Reject stock is passed through the cleaning process again in a similar fashion to ensure all wood fibres are retained where possible for the papermaking process. These cleaners usually require little attention as their operation is quite simple and they have no moving parts. However, they require constant pressures and consistent flows to work efficiently over a longer period of time.

