

CHEMPLANT ROTARY PAN VACUUM FILTERS FOR ALUMINA REFINERIES

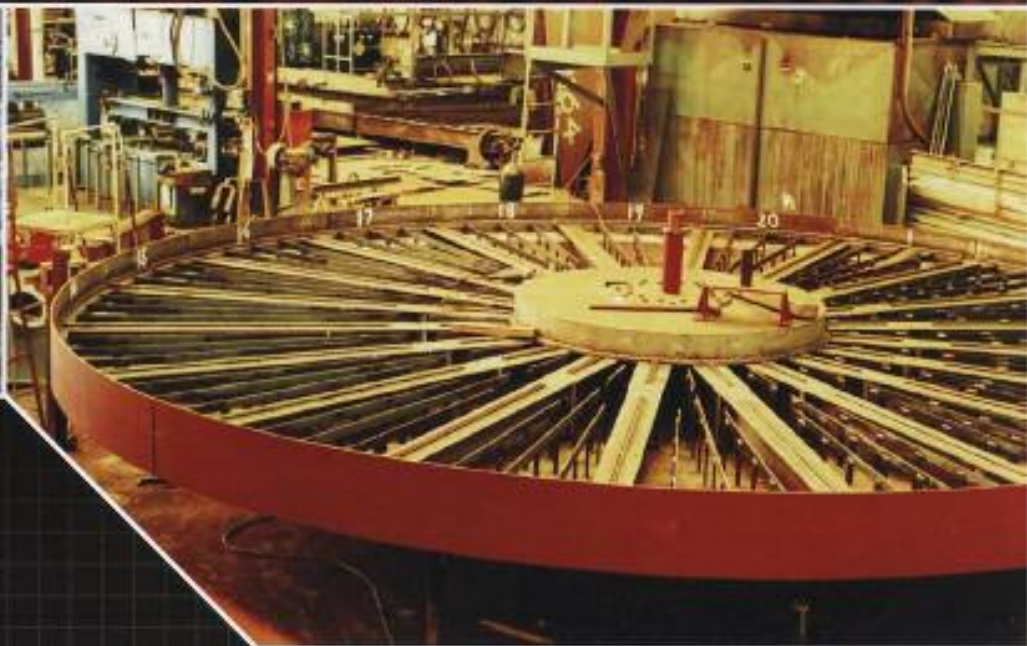
Introduction

Chemical Plant and Engineering (Chemplant) is a specialist engineering company involved in the design and manufacture of process equipment for over 50 years. Our product lines include filters (vacuum and pressure), agitators and powder mixers.

Chemplant has a long history supplying pan filters to the alumina industry. The history began in 1973 with the manufacture of the pan filters to Alcoa Pinjarra. Since that day 29 units have been supplied to the Alumina Industry in Australia and 2 units are currently under manufacture for Chalco (Henan Branch) in China.



Filter in operation for over 20 years



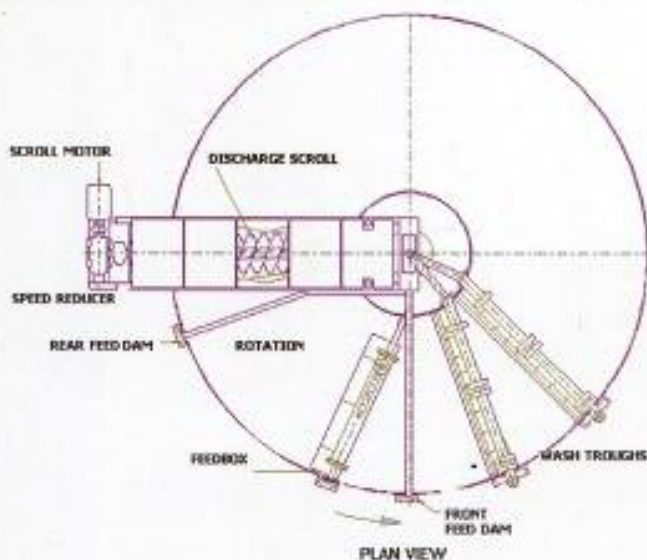
Pan deck support structure

Product Features

Chemplant has developed many features during the last 30 years to ensure we provide the best performance for Alumina Refineries.

Examples of these features include:

- Flexible Operation
 - Variable Speed Main Drive
 - Ability to alter positioning of feed, wash and discharge devices on the pan deck
- Efficient Vacuum System
 - Designed to minimise vacuum losses
- Ease of maintenance
 - Centre Hub Design for easy main bearing changeovers
- High Efficiency
 - Superior pan flatness
- Long Life
 - Wear resistant materials of construction



Operation

The pan is divided into wedge shaped segments and rotates at a speed from 0.1 to 2.0 rpm. All segments are covered with filter media appropriate to the slurry and evacuated through an automatic valve which separates the mother liquor from the wash liquor when wash operations are required.

The feed slurry enters the top mounted feed box which distributes the slurry evenly across the pan and the mother liquor is quickly removed under the combined forces of gravity and vacuum.

Following the removal of the mother liquor, one or more wash operations can be performed as required using flood, spray or drip wash techniques depending on the particular application.



After the final dewatering has been accomplished, the cake is automatically removed from the pan by a scroll and deposited into the discharge chute. Low pressure blow-back air and backwash water sprays are then applied to clean the cloth and reslurry the cake heel just prior to the feed box.

■ Three 51m² units under construction

References

Chemical Plant has supplied many of the world's leading Alumina refineries.

• Chalco Henan, China	2 units	Supplied in 2005	Application is Alumina hydrate
• Alcoa Pinjarra, Australia	8 units	Supplied between 1973 - 2005	Application is Alumina hydrate
• Alcoa Wagerup, Australia	11 units	Supplied between 1980 - 1998	Application is Alumina hydrate
• Alcoa Kwinana, Australia	3 units	Supplied between 1974 - 1991	Application is Alumina hydrate
• Worsley, Australia	7 units	Supplied between 1981 - 1998	Application is Alumina hydrate

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