Benefits

- High vacuum
- Dry filter cakes
- High filtration rates
- Very low energy consumption
- Extremely clear filtrates
- Simple installation, operation & maintenance
- Integrated filter and ancillaries system
- Continuous, efficient cake discharge
- High availability
- No filter cloths
- Closed-circuit system for improved OHS

Outotec Larox® CC filters are employed at many minerals processing plants around the world to achieve outstanding process performance and low operating costs. Outotec Larox CC filters ensure high productivity and superior process results for mining applications. Efficient dewatering and washing, competitive investment costs, low installation and operating costs, and high environmental and personnel safety protection ensure unrivalled customer value.

The unique design of the Outotec Larox CC filter utilizes microporous ceramic sectors instead of conventional filter cloth. Capillary action in the micropores creates high suction without the need for large, high energy vacuum pumps. The ceramic disc’s micropores also ensure an extremely clear filtrate. Ancillary equipment is integrated into the CC filters, making them simple to install, operate and maintain.
Outotec Larox CC product features

Compact design
The entire CC filter design is compact and simple. Included in the filter unit are a control panel, vacuum pump and filtrate tank, drum and agitator drives, and an integrated ultrasonic cleaning system. The compact design eliminates the need for large vacuum installations and complicated filtrate handling systems that are required with a conventional vacuum filter system.

The discs
Outotec Larox CC filter discs are made out of sintered alumina sectors that have a membrane with uniform micropores that create suction through capillary action. This microporous filter medium allows only liquid to flow through. The filtrate is drawn through the ceramic sectors as they are immersed into the slurry bath, and a cake forms on the surface of the discs. Despite an almost absolute vacuum on the filtrate side, no air penetrates the filter media.

The ceramic material is strong, hard and wear resistant, which guarantees a long lifetime for the CC filter plates under normal operating conditions.

Good corrosion resistance and high durability allow very effective cleaning methods that ensure the consistent high performance of the ceramic discs. CC filters can be equipped with different types of filter plates serving corrosive conditions, a to high volume application.

Since the durability characteristics are equal it makes the sectors fully interchangeable making the same unit suitable for a range of different process conditions.

Long lasting scrapers
The filter is equipped with long-lasting ceramic scrapers made of high grade aluminum oxide. The ceramic scraper blades are fitted on rigid, adjustable arms. The scrapers are adjusted to leave a thin residual cake and so eliminate wear on the filter media itself. The lifetime of the scrapers is over one year in normal operation.

Vacuum pumps
The Outotec Larox CC filters require only a small (i.e. 5.5 kW) vacuum pump on a 240 m² filter to transfer the filtrate from the discs to the filtrate receiver. The filter cake is removed from the ceramic discs by scraper, eliminating the need for compressed air snap blow for discharge.

Automatic regeneration
The filter plates are insitu regenerated by continuous backwash, periodical chemical and ultrasonic treatment ensuring maximum productivity. Eliminating the need for additional auxiliary equipment minimizing foot print and maintenance time.

Applications
The Outotec Larox CC dewatering system is exceptionally versatile for the mineral and mining industries. The disc material is inert, resistant to almost all chemicals and slurry temperatures, and has a long operational life. Outotec Larox CC filters are best suited to filter feed slurries with consistent, high solids concentration e.g. base metal concentrates, iron ore, chromite and ferrochrome.

- Copper
- Gold
- Cobalt
- Chromite
- Iron
- Nickel
- Zinc
- Lead
- Pyrite
Benefits of Outotec Larox CC

High operational availability
The dependable, low-maintenance system provides high availability. The long life sectors and simple construction require only occasional maintenance stops and the filters run continuously without the need of operator intervention.

Environmentally safe
The CC filter has been designed with the safety of the environment and personnel in mind. The filtrate is recyclable, has exceptionally low suspended solids content and can thus be recycled without further treatment. Frequent filter cloth disposal is not necessary.

Low energy consumption
Due to the capillary action in CC filters, energy consumption for dewatering is exceptionally low.

Continuous, automatic operation
The CC filter operating principle is based on continuous, automatic operation. The cake scrapers give a continuous, even discharge of dewatered solids.

Low process costs
CC filters produce extremely dry filter cakes meeting transportable limits. In iron and chromite pelletizing, the consistent low moisture levels reduce binder additions and create stronger pellets.

Minimal maintenance and high availability
The long life disc construction and few wearing parts keep maintenance to a minimum. The simple construction with little dependency on auxiliary equipment makes the CC filter operation the most reliable of any dewatering technology.

Fast delivery and simple installation
Due to reliable in-house manufacturing, use of standard components and modular construction, delivery time is only a few months. Outotec Larox CC filters with integrated auxiliary equipment are delivered fully assembled and tested for quick and simple installation.
Outotec Larox CC Filter range

The Outotec Larox CC product range from the smallest test filter CC1 with filtration area of 2 m² to the CC-240 taking the maximum filtration area up to 400 m².

Outotec Larox CC Filters

The CC filter range of Capillary Action filters covers different process and throughput requirements. In all cases, availability is higher and power consumption is lower than any other conventional process. This represents greater productivity for operational system.

CC HiFlow filters are used in applications where capacity and filtrate flow are high. In addition to higher performance, the HiFlow filters offer a higher degree of automation and control for plants, where constant residual moisture is crucial.

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The technical data is subject to change without notice.