High performance with low operating costs
Outotec Larox® CC filters help minerals processing plants around the world to achieve outstanding process performance and with low operating costs.

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 and filter media, as well as a durable plastic frame instead of a conventional filter cloth. Capillary action in the micropores creates high suction without the need for large vacuum pumps, which consume large amounts of energy. The ceramic disc’s micropores also ensure an extremely clear filtrate. Ancillary equipment is integrated into the CC filter, making it simple to install, operate, and maintain.

BENEFITS
- High vacuum and dry filter cakes
- High filtration rates
- Very low energy consumption
- Extremely clear filtrates
- Simple installation, operation, and maintenance
- Integrated filter and ancillaries system
- Continuous, efficient cake discharge
- High availability
- No filter cloths
- Increased safety with closed-circuit monitoring system
PRODUCT FEATURES

Compact design
The Outotec Larox CC has a compact and simple design. The filter unit includes 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 the large vacuum installations and complicated filtrate handling systems that are required with a conventional vacuum filter system.

Efficient and durable
The filter discs are made out of Outotec Hybrid CC sectors that have a membrane with uniform micropores, which 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 in 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 filter plates under normal operating conditions. Good corrosion resistance and high durability allow the use of highly effective cleaning methods that ensure the consistent high performance of the ceramic discs.

Low energy consumption
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 with scrapers, eliminating the need to use compressed air for discharge.

Long-lasting scrapers
The filter is equipped with long-lasting ceramic scrapers made of high-grade aluminum oxide. The scraper blades are fitted on rigid, adjustable arms. The scrapers are adjusted to leave a thin residual cake in order to prevent wear on the filter media itself. The scrapers have a lifetime of over 12 months in normal operating conditions.

Automatic regeneration
The filter plates are regenerated by continuous backwash as well as periodic chemical and ultrasonic treatment to ensure maximum productivity. This eliminates the need for additional auxiliary equipment, which in turn minimizes the filter unit’s footprint and simplifies maintenance.

Applications
The Outotec Larox CC dewatering system is an exceptionally versatile solution for mineral and mining applications. 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, such as base metal concentrates, iron ore, chromite and ferrochrome, as well as tailings. Example applications include:

- Copper
- Gold
- Cobalt
- Chromite
- Iron
- Nickel
- Zinc
- Lead
- Pyrite

New innovative Hybrid CC filter plate design improves profits through an increase in capacity, easier, safer maintenance and reliability.
**KEY BENEFITS**

**High operational availability**
The dependable, low-maintenance system ensures high availability. The durable materials and simplified design mean the unit requires only occasional maintenance and can run continuously without the need for operator intervention.

**Environmentally safe**
The CC filter has been designed with the safety of the environment and personnel in mind. The filtrate has exceptionally low suspended solids content and can therefore be recycled without further treatment. Furthermore, there is no filter cloth to dispose of.

As an option, CC filters can be equipped with a recycling system that reduces consumption of the filter media regeneration agent by 90%.

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

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

**Low process costs**
CC filters produce extremely dry filter cakes that meet the requirements for transportation. In iron and chromite pelletizing, the consistent low moisture levels reduce the need for binder addition and create stronger pellets.

**Minimal maintenance**
The robust disc construction and low number of wear parts help keep maintenance to a minimum. The simple construction with low dependency on auxiliary equipment makes the CC filter one of the most reliable dewatering technologies available.

**Fast delivery and simple installation**
Thanks to our reliable in-house manufacturing processes, 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 to enable quick and simple installation.
Outotec Larox CC range
Outotec Larox CC filters are available in a wide range of capacities, from test-filter size (CC-1) with a filtration area of 1 m² to the CC-240 with a filtration area of 240 m². Outotec Larox CC Capillary Action filters are suitable for a variety of different process and throughput requirements.

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

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<th>OUTOTEC LAROX CC</th>
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<th>CC-30</th>
<th>CC-45</th>
<th>CC-45 HILOW</th>
<th>CC-60</th>
<th>CC-60 HILOW</th>
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Technical data is subject to change without notice.