

Alfa Laval Lynx Endurance Decanter Centrifuges

Mining and mineral applications



Applications

Alfa Laval Lynx Endurance decanter centrifuges have been specially developed to deal with tough, demanding solid-liquid separation duties throughout mining and mineral extraction operations.

Lynx Endurance decanters are ideal for use in tailings treatment and mineral recovery as well as many other mining industry processes that require high cake dryness for the easy transport and safe deposit.

Benefits

Lynx Endurance decanter centrifuges are built to be robust and reliable. Key benefits include:

- High separation efficiency and effective solids transportation due to special decanter geometry.
- Careful material selection and protection with replaceable wear parts to withstand erosion and corrosion.
- Variable G force and large gearboxes for high cake dryness.
- Continuous operation and compact design compared to other separation technologies.

Key features



FlightGuard

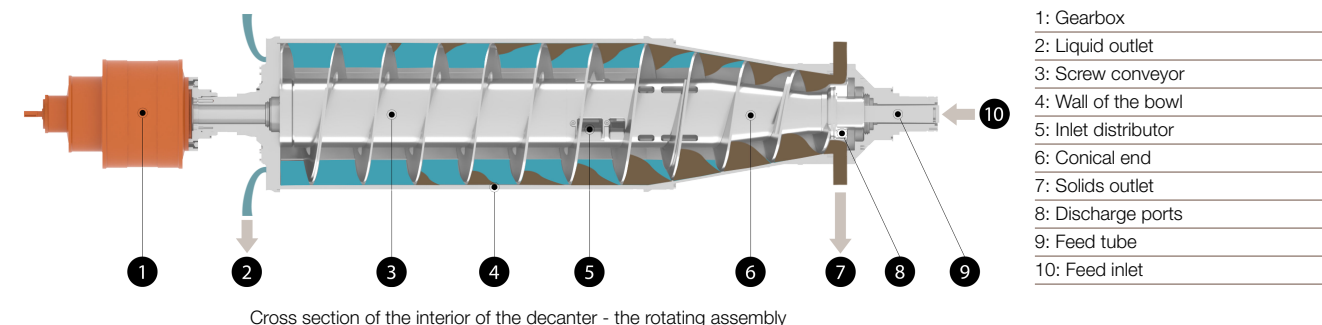
FlightGuard wear protection consists of tiles welded to the conveyor, providing robust wear resistance and prolonged uptime in highly abrasive applications.



SolidsGuard

360° outlet design with enhanced, replaceable wear protection for highly abrasive media, ensuring high uptime

Decanter design and functionality



Working principles

Separation takes place in a horizontal, cylindrical bowl equipped with a screw conveyor. The feed is led into the bowl through a stationary inlet/feed tube [10/9] and smoothly accelerated by an inlet distributor [5]. Separation takes place over the entire length of the cylindrical part of the bowl and the clarified liquid leaves the bowl by flowing over an adjustable weir into the casing [2].

Centrifugal force causes sedimentation of the suspended solids inside the bowl [4]. The conveyor [3] rotates in the same direction as the bowl, but at a different speed – called the differential speed. This difference moves the solids to the conical end [6], where these solids are lifted out of the liquid level (pond) into a dry zone (beach), where the residual liquid can be drained back to the pond. The solids (cake) exit through the discharge ports [8] into the casing.

Where to use

Lynx Endurance decenter centrifuges are well suited for dewatering fine tailings to produce dewatered solids that are suitable either for dry stacking or for co-disposal along with coarse rejects. If site-specific requirements make it necessary, the technology can also be adapted to produce a thickened discharge that is pumpable. This results in dual benefits of recovering process water, chemicals or minerals while also addressing environmental concerns.



Dry cake ready to be transported to deposit

On-site testing

Alfa Laval is leading the development of decenter centrifuges aimed at the mining and mineral industry, and we are keen to show you how we can help cut costs, increase performance and reduce power consumption.

We offer you a unique opportunity to test a Lynx Endurance decenter centrifuge at your site, enabling you to experience its outstanding separation efficiency when working on your specific slurries. Experienced Alfa Laval Field Service Engineers will guide you through the test runs.

Such site tests give you the best possible basis for selecting the model of decenter centrifuge best suited for separation duties within your particular operations.

Service

Investing in an Alfa Laval decenter centrifuge gives you access to a Service Agreement that helps boost reliability and maximize uptime when dealing with feed stocks containing particles that cause wear on the bowl and conveyor. We provide service kits that make it easy to carry out service tasks, with skilled Field Service Engineers supporting your exact needs.

Automation & Connected Services

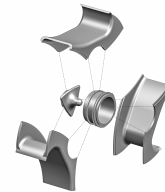
Decenters come with control solutions for various operating needs, from basic to advanced functions. Alfa Laval's automation helps achieve specific process performance goals with easy adjustments, real-time feedback, and automated cleaning. Decenters can also be connected online with IoT hardware, offering remote support and condition monitoring features for data-driven decisions, ensuring more uptime and lower ownership costs.

Selected features

FeedGuard



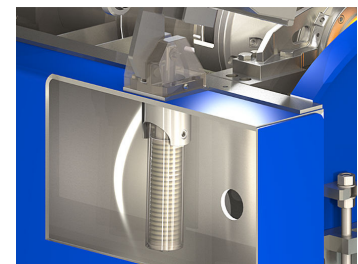
The fully covered FeedGuard feed zone ensures gentle product acceleration and minimal turbulence, resulting in low wear and tear. The FeedGuard design provides outstanding reliability and uptime in abrasive applications, as well as easy on-site replacement, reducing downtime.



EasyLift



The patented, spring-loaded, hinged design makes it easy to open even the heaviest cover by hand. Offering safe and quick access for maintenance and service.



PowerTubes



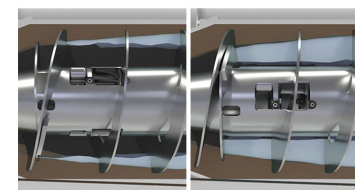
Adjustable outlets are designed to release the liquid tangential to the rotational direction. This supports the bowl rotation and thereby recovering energy and minimizing power consumption



DeepPond



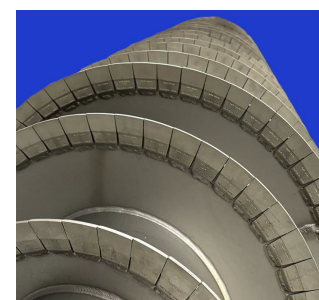
Increasing the pond depth inside the bowl creates a larger volume, leading to longer retention time and improved separation performance. The DeepPond design delivers high solids dryness and clean centrate, even at high flow rates.

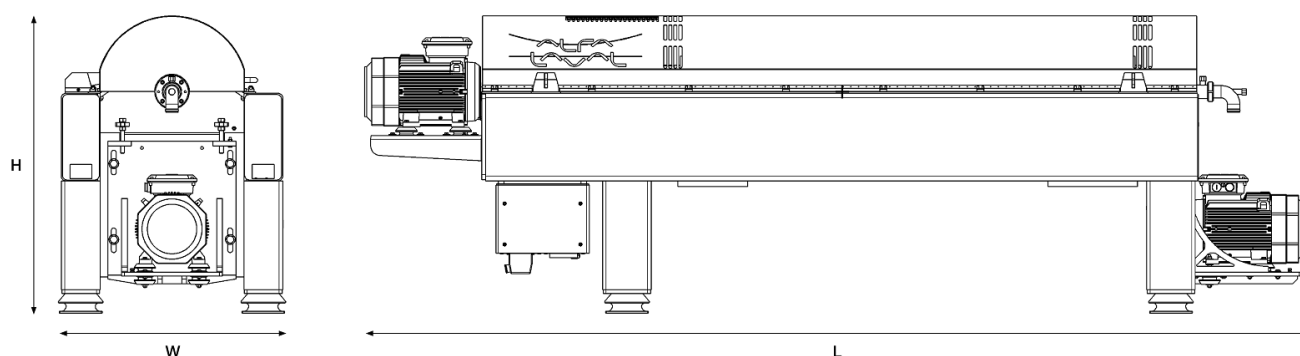


FullyTiledConveyor



A fully tiled conveyor provides the decanter with best possible protection, right from the solids end to the liquid end. Tiles can be designed to meet specific operating requirements associated with pH values, temperatures and abrasive solids.





Technical specifications

| Designation | Lynx44 Endurance | Lynx65 Endurance | Lynx72 Endurance | Lynx100 Endurance |
|---------------------|------------------------|------------------------|------------------------|------------------------|
| Bowldiameter | 440 mm / 17.3 inches | 650 mm / 25.6 inches | 720 mm / 28.3 inches | 1000 mm / 39.4 inches |
| Bowlspeed (maximum) | 3800rpm | 3100rpm | 2900rpm | 1875rpm |
| G-force (maximum) | 3558G | 3498G | 3391G | 1969G |
| Gross weight | 3600kg / 7937 lbs. | 7600kg / 167550 lbs. | 9800kg / 21605 lbs. | 20000kg / 44092lbs. |
| Length (L) | 4869 mm / 189.1 inches | 6071 mm / 250.2 inches | 6695 mm / 257.6 inches | 8867 mm / 361.6 inches |
| Width(W) | 1100 mm / 43.3 inches | 1500 mm / 59.1 inches | 1560 mm / 61.4inches | 2050 mm / 80.7 inches |
| Height (H) | 1500 mm / 59.0inches | 1900 mm / 74.8 inches | 2032 mm / 80.0inches | 2339 mm / 92.1inches |
| Back drive control | VFD | VFD | VFD | VFD |

Information about coverwith hinge

Please consult the dimensional drawing when defining the area needed around the decanter unit for opening the cover

Information about grossweight

The gross weight refers to the weight of the empty decanter centrifuge, including the largest available gearbox and motor

Information about size

The sizes provided in the table should be considered as typical. For specific cases, please contact Alfa Laval

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