

# Alfa Laval Lynx Endurance Decanter Centrifuges

## Mining and mineral applications

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### 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.

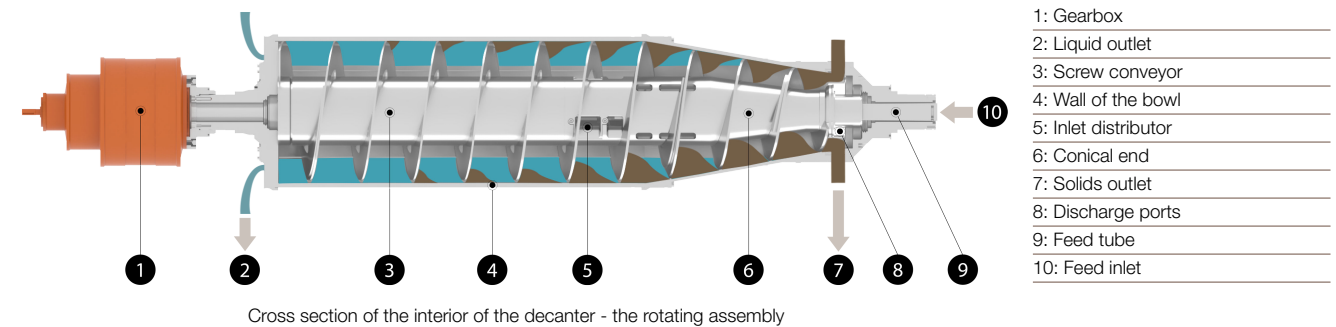


#### SolidsGuard

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

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## 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 decanter 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 decanter 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 decanter 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 decanter centrifuge best suited for separation duties within your particular operations.

### Service

Investing in an Alfa Laval decanter 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

Decanter centrifuges equipped with variable frequency drives (VFD) are available with control solutions to meet specific operating requirements, from basic decanter operations to advanced functionality. Alfa Laval decanter automation can also help you achieve specific process performance goals, along with easy, automated process adjustments, real-time status feedback and automated cleaning cycles.

### Connected Services

Decanter centrifuges equipped with automation can be fitted with IoT hardware to streamline data-driven decisions that ensure more uptime and lower cost of ownership. You can then quickly and easily access key Alfa Laval expertise, along with condition monitoring and process optimization. Please refer to the Alfa Laval website for more information.

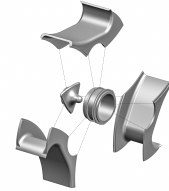
## Selected features

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### FeedGuard



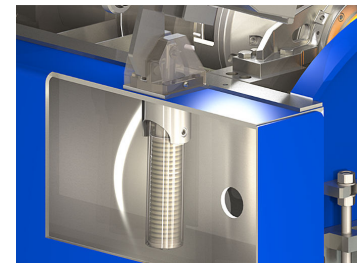
The fully covered FeedGuard feed zone ensures gentle product acceleration and minimal turbulence, resulting in low wear and tear. The FeedGuard design provides outstanding reliability and uptime in abrasive applications, as well as easy on-site replacement, reducing downtime.



### EasyLift



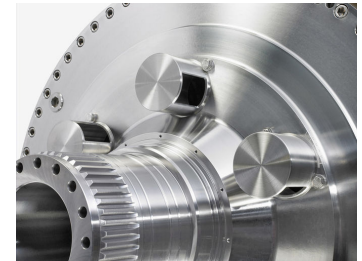
The patented, spring-loaded, hinged design makes it easy to open even the heaviest cover by hand. Offering safe and quick access for maintenance and service.



### PowerTubes



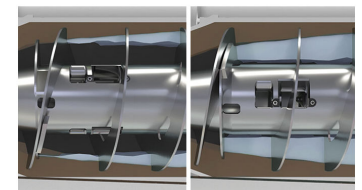
Adjustable outlets are designed to release the liquid tangential to the rotational direction. This supports the bowl rotation and thereby recovering energy and minimizing power consumption



### DeepPond



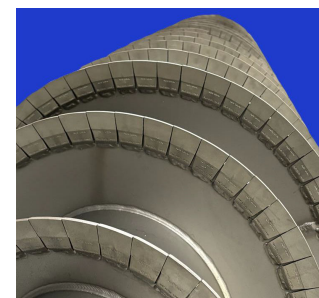
Increasing the pond depth inside the bowl creates a larger volume, leading to longer retention time and improved separation performance. The DeepPond design delivers high solids dryness and clean centrate, even at high flow rates.

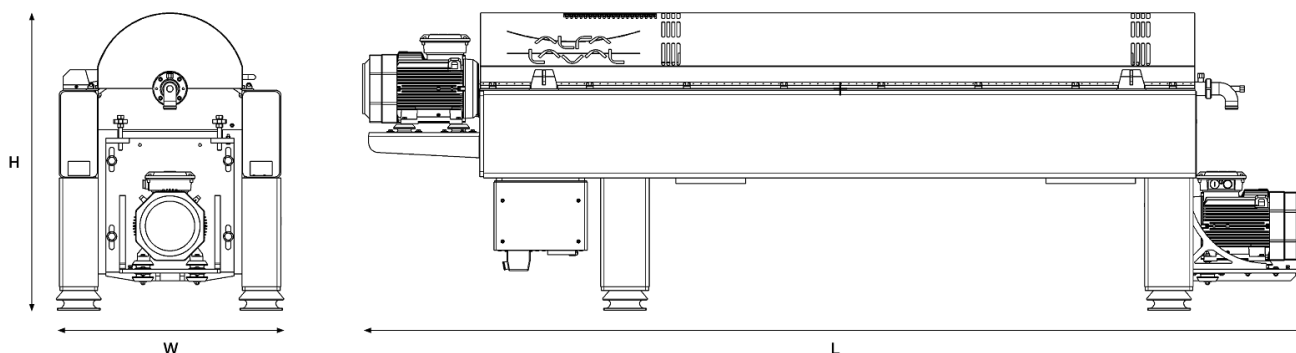


### FullyTiledConveyor



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 / 16750 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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