

Alfa Laval Lynx Decanter Centrifuges

Drilling and construction site applications



Application

Alfa Laval Lynx decanter centrifuges are designed and built for handling large amounts of feed solids, as well as coping with abrasive and small fine particles.

The Lynx decanters are used for dewatering and clarification processes in oil and gas drilling, for solids removal within exploration drilling, horizontal directional drilling (HDD), tunnel boring (TBM) and construction site wastewater treatment.

Benefits

The Alfa Laval Lynx range of decanter centrifuges optimizes the slurry treatment in drilling processes and thereby reduces disposal costs and increases the liquid recycle rate by

- Handling larger process volumes due to the specially designed decanter geometry
- Achieving lower cut point thereby improving fines removal to obtain higher fluid clarity
- Having consistent and easy-to-use interfaces that improve operating reliability saving manpower and training cost



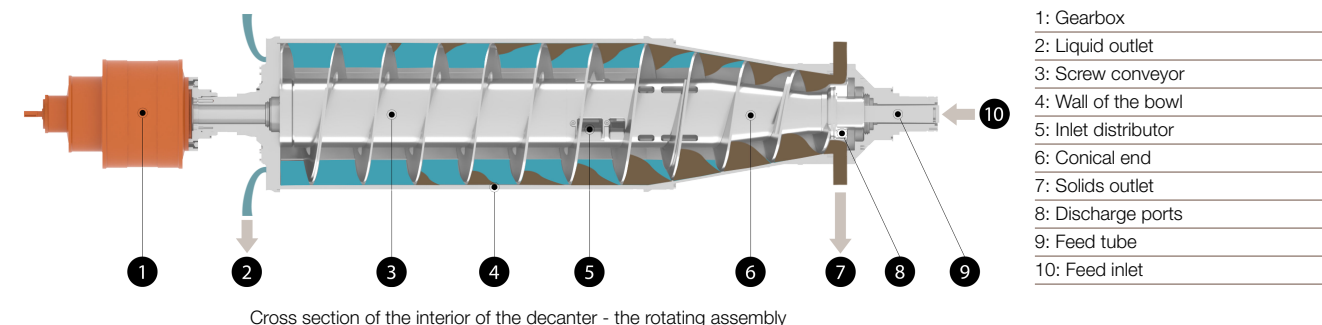
FlightGuard

Protection tiles, welded to the conveyor flight, providing wear resistance in highly abrasive applications and securing high uptime.



FeedGuard

Fully protected feed zone with replaceable wear inserts, providing high uptime in highly abrasive applications.



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.

Process optimization

The Lynx dekanter centrifuges can be adjusted to suit specific requirements by varying the

- bowl speed to obtain the required G-force for optimized separation
- conveying speed to optimize the balance between liquid clarity and solids dryness
- pond depth in the bowl to optimize the balance between liquid clarity and solids dryness
- feed flow – the Lynx design can handle a wide range of flow rates

Drive system

Direct Drive is a unique system developed by Alfa Laval for automatic control of the differential speed between the bowl and the conveyor. This makes it easy to maintain the best

possible balance between liquid clarity and solids dryness, irrespective of variations in the feed.

Direct Drive comprises a new type of gearbox and variable frequency drive, which do not expose the bowl drive to parasitic braking power loss. The electrical installation is straight forward, power consumption is kept to a minimum, and accurate control is achieved within a wide range of differentials.

Hazardous locations

Alfa Laval offer decanters for operation in Hazardous locations. The decanters can be delivered for use in Zone 1 or 2 and marked with ATEX equipment category II 2G Ex h IIB T3 Gb or HazLoc Class1, Div. 1, Group C&D T3.

Service

Investing in an Alfa Laval dekanter 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

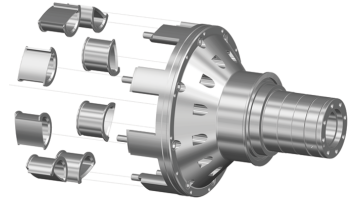
Decanters come with control solutions for various operating needs, from basic to advanced functions. Alfa Laval's automation helps achieve specific process performance goals with easy adjustments, real-time feedback, and automated cleaning. Decanters can also be connected online with IoT hardware, offering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

Features

SolidsGuard



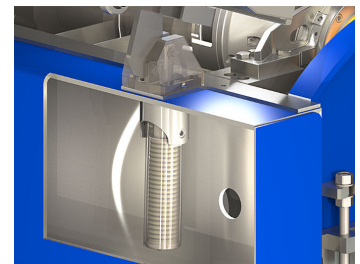
The innovative 360° outlet design ensures an even discharge of solids and minimal resistance. The outlet can handle high flow rates without risk of blockages. SolidsGuard outlets feature patented, replaceable wear saddles designed for highly abrasive applications, ensuring high uptime and reliability.



EasyLift



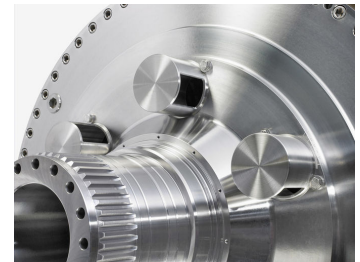
The patented, spring-loaded, hinged design makes it easy to open even the heaviest cover by hand. Offering safe and quick access for maintenance and service.



PowerTubes



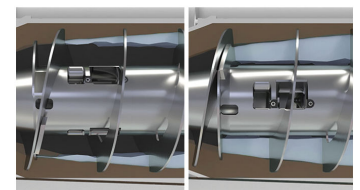
Adjustable outlets to regulate the pond level are designed to release the liquid tangential to the rotational direction. This supports the bowl rotation and thereby recovering energy and minimizing power consumption.



DeepPond



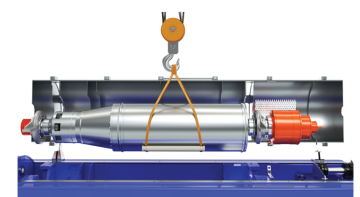
Increasing the pond depth inside the bowl creates a larger volume, leading to longer retention time and improved separation performance. The DeepPond design delivers high solids dryness and clean centrate, even at high flow rates.

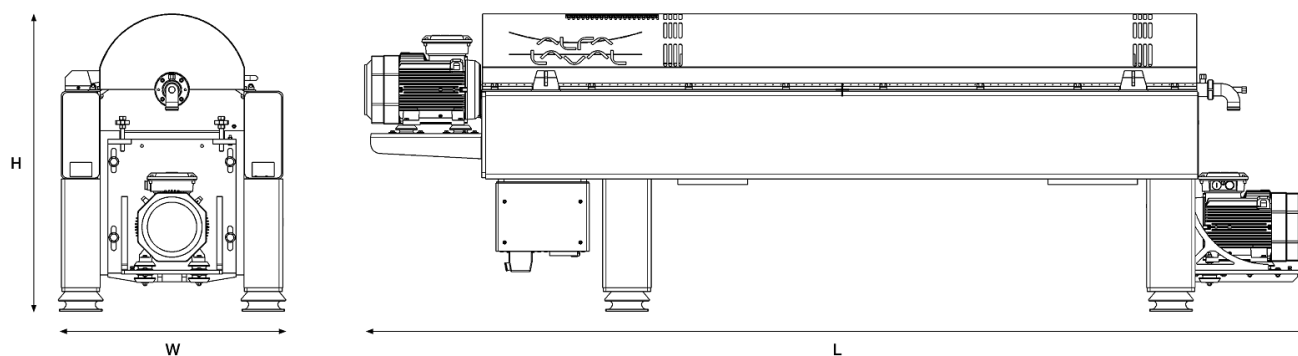


EasyMaintenance



Easy maintenance is essential when designing new equipment, to improve the service life of the product. The focus includes all relevant procedures, from opening the cover, greasing and changing bearings to replacing wear liners and bushings.





Technical Specification

Designation	Lynx 20	Lynx 28	Lynx 36	Lynx 44
Typical solids capacity	0.5 t/h	1.5 t/h	5 t/h	8 t/h
Bowl diameter	200 mm / 8 inches	280 mm / 11 inches	360 mm / 14 inches	440 mm / 17 inches
Bowl speed (maximum)	5300rpm	4400rpm	4200rpm	3800rpm
G-force (maximum)	3146G	3036G	3556G	3558G
Gross weight	600 kg / 1323 lbs.	1400 kg / 3080 lbs.	2250 kg / 5322 lbs.	3600 kg / 7937 lbs.
Length (L)	2154 mm / 85 inches	2936 mm / 116 inches	4154 mm / 164 inches	4708 mm / 185 inches
Width (W)	570 mm / 22 inches	780 mm / 31 inches	990 mm / 39 inches	1060 mm / 42 inches
Height (H)	762 mm / 30 inches	930 mm / 37 inches	1239 mm / 49 inches	1382 mm / 54 inches
Back drive control	CS or VFD	CS or VFD	VFD	VFD

Designation	Lynx 50	Lynx 65	Lynx 72	Lynx 100
Typical solids capacity	15 t/h	20 t/h	40 t/h	60 t/h
Bowl diameter	500 mm / 20 inches	650 mm / 26 inches	720 mm / 29 inches	1000 mm / 40 inches
Bowl speed (maximum)	3600rpm	3100rpm	2900rpm	1875 rpm
G-force (maximum)	3629G	3498G	3391G	1969 G
Gross weight	4900 kg / 10803 lbs.	6500 kg / 14300 lbs.	8600 kg / 18959 lbs.	18500 kg / 37700 lbs.
Length (L)	4985 mm / 196 inches	6450 mm / 254 inches	6900 mm / 272 inches	8822 mm / 347 inches
Width (W)	1190 mm / 47 inches	1450 mm / 57 inches	1510 mm / 60 inches	2050 mm / 81 inches
Height (H)	1534 mm / 60 inches	1834 mm / 72 inches	1850 mm / 73 inches	2248 mm / 89 inches
Back drive control	CS or VFD	CS or VFD	VFD	VFD

Technical information

Back drive control

CS: Countershaft Machine with fixed differential speed (The belts and pulleys can be manually changed during shutdown)

VFD: Variable frequency drive

Cover with hinge

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

Gross weight

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

Size

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

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