

Alfa Laval Aldec G3 Decanter Centrifuges

Highest performance and minimum environmental impact



Application

The Aldec G3 range of decanter centrifuges from Alfa Laval is designed with a focus on state-of-the-art performance, effectiveness, easy reliability and sustainable operation. These units are particularly suitable for thickening and dewatering sludges from municipal or industrial wastewater. Aldec G3 decanter centrifuges are capable of handling a wide range of flow rates. They are designed to be efficient, simple to install, easy to maintain and straightforward to operate. They provide the lowest cost for installation, operating and service.

Benefits

Aldec G3 decanter centrifuges provide customers with multiple benefits, including:

- Reduced sludge volume, which cuts transport and disposal costs.
- Compact, modular design that saves space, providing high capacity with a small footprint.
- High performance, with up to 40% lower energy consumption.
- Significant reduction in CO2 emissions.
- Greater capacity, with excellent dewatering and thickening performance.

Key features



SuperPond

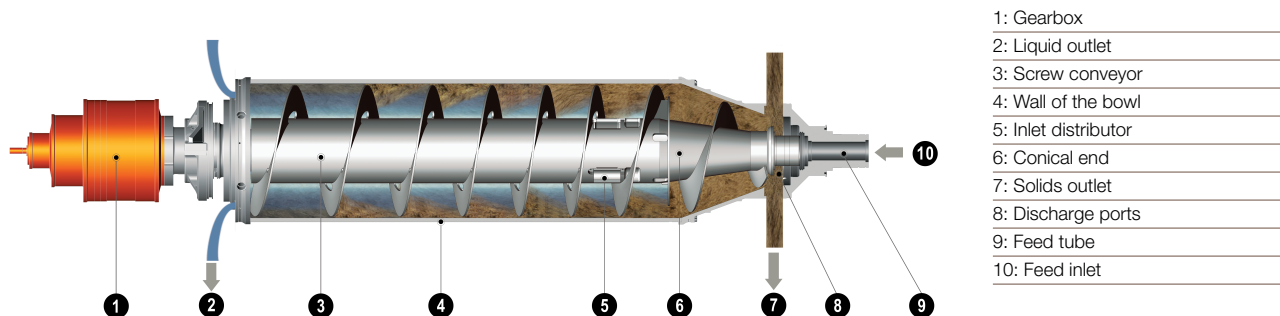
Increased separation performance and energy efficiency.



PowerTubes

Energy recovery minimizes power consumption.

Decanter design and functionality



Cross section of the interior of the decanter-the rotating assembly

Design

The rotating part of Aldec G3 decanter centrifuges is mounted on a compact, in-line frame with main bearings at both ends and vibration dampers under the legs. It is enclosed in a casing with a stainless steel cover and integrated outlets for solids and liquid discharge. The super pond design enhances separation performance and reduces energy consumption. Power Tubes reduce power consumption still further, and also make it easy to adjust pond levels.

Working principles

Separation occurs in a horizontal cylindrical bowl with a slimline screw conveyor. The feed enters through a stationary inlet tube and is smoothly accelerated by an inlet distributor in the feed zone. Centrifugal force causes solids to sediment on the bowl wall. The conveyor, rotating slightly slower than the bowl, moves solids to the conical end. The cake exits through discharge openings into the casing. Separation takes place along the entire cylindrical bowl, and the clarified liquid exits through adjustable outlet tubes.

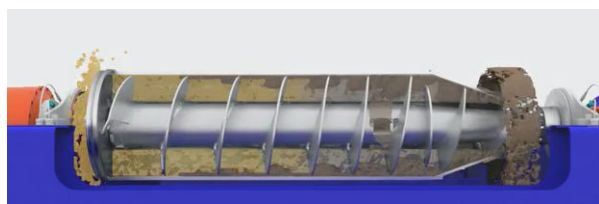


Figure 1. Steep cone configuration



Figure 2. Shallow cone configuration

Process optimization

Aldec decanter centrifuges can be adjusted to suit specific requirements by varying:

- Bowl speed to ensure the G-force required for most efficient separation
- Conveying speed and pond depth in the bowl to ensure the most effective balance between liquid clarity and solids dryness

Drive system

In all Aldec G3 decanter centrifuges, the bowl is driven by an electric motor and V-belt transmission. Power is transferred to the conveyor via a Direct Drive gearbox. Operation can be pre-set to specific parameters, or the speed difference between the bowl and conveyor can be controlled automatically, without changing belts or pulleys.

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

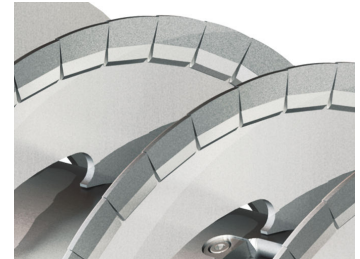
Decanter centrifuges equipped with automation can be fitted with IoT hardware to streamline data-driven decisions that ensure more uptime and lower cost of ownership. You can then quickly and easily access key Alfa Laval expertise, along with condition monitoring and process optimization. Please refer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

Selected features

FlightGuard



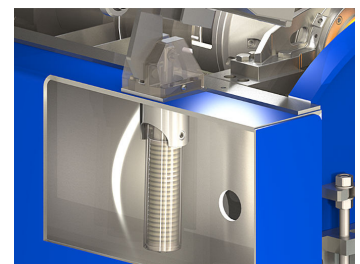
Advanced wear protection for conveyor flights
Replaceable tiles, welded to the conveyor flight, provide wear resistance in highly abrasive applications, thus ensuring reliable uptime.



EasyLift



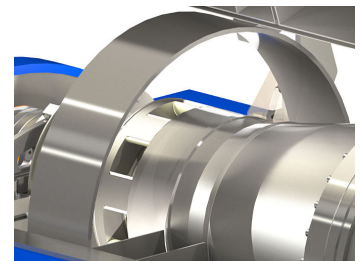
Spring-loaded cover simplifies servicing The patented spring system makes it easy to open even the heaviest decanter covers, ensuring quick, safe access for service and maintenance.



Solids Protect



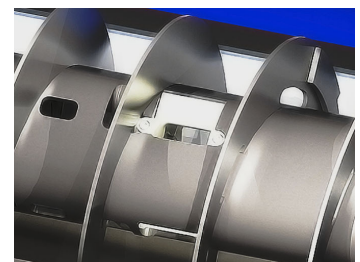
Flow-optimized solids discharge with wear protection Free-flowing exit of the solids, featuring exchangeable wear protection for reliable uptime and low maintenance costs.



FeedProtect



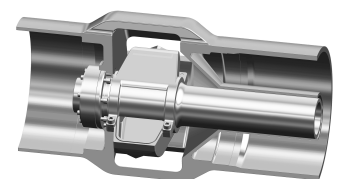
Feed zone with wear protection Easily replaceable wear inserts protect against abrasion and erosion, ensuring low service costs and long uptime.

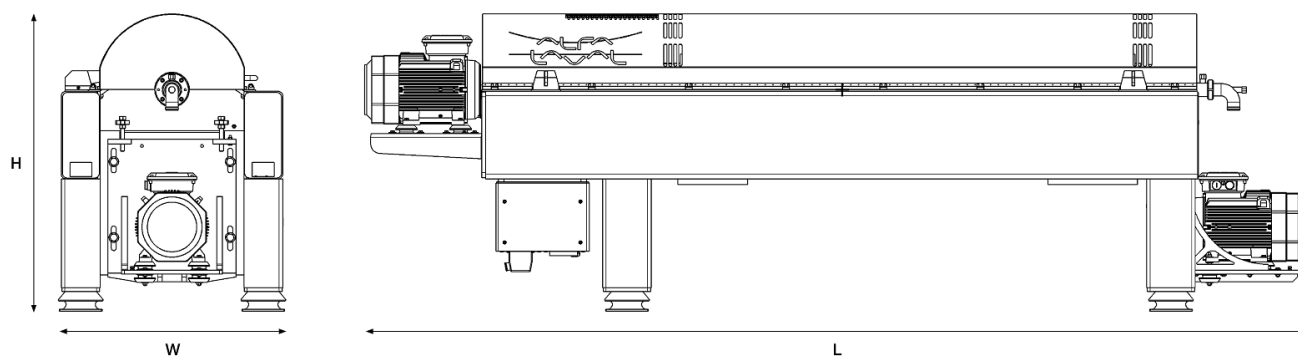


Vecflow



Low turbulence in the decanter bowl is essential for high separation performance and low power consumption. The VecFlow™ rotating feed zone gives you maximum performance with minimal turbulence.





Technical specifications

Designation	Aldec 36 G3	Aldec 44 G3	Aldec 50 G3	Aldec 55 G3	Aldec 65 G3
Length (L)	3998 mm	4749 mm	5076 mm	5842 mm	6502 mm
Width (W)	990 mm	1060 mm	1190 mm	1300 mm	1450 mm
Height (H)	1304 mm	1376 mm	1534 mm	1696 mm	1791 mm
Maximum weight	2300kg	3200 kg	4900 kg	5000 kg	6500 kg
Main drive size	11-22 kW	11-45 kW	22-75kW	30-110 kW	37-160 kW
Back drive size	5.5-11 kW	5.5-15 kW	5.5-22 kW	15- 30 kW	15-30 kW
Back drive control	CS* or VFD**	CS* or VFD**	VFD**	VFD**	VFD**
*Countershaft fixed differential speed					
**Variable frequency drive					

Designation	Aldec 72 G3	Aldec 100 G3
Length (L)	6901 mm	8672 mm
Width (W)	1510 mm	2040 mm
Height (H)	1852 mm	2248 mm
Maximum weight	8600 kg	19000 kg
Main drive size	55-250 kW	132-355 kW
Back drive size	22-37 kW	37-55 kW
Back drive control	VFD**	VFD**
**Variable frequency drive		

Additional info

For information about service space and cover with hinge info:

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

Drain zone:

For individual/specific connections, please consult the dimensional drawing

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