



ALDEC 10, 20 and 30

High Performance Decanter



Applications

The ALDEC range of decanter centrifuges was developed with a focus on cost-efficiency, reliability and easy operation. ALDEC is used for sludge dewatering in a wide range of industrial wastewater treatment applications, as well as smaller-scale municipal wastewater treatment plants.

Ideal for small-capacity installations

The ALDEC 10, 20 and 30 decanter centrifuges are designed to be efficient, simple to install, easy to maintain and straightforward to operate. Installation, operating and service life costs are minimal. The ALDEC range features

- fully enclosed process sections
- critical parts made of wear-resistant material
- high performance combined with low energy consumption.

Benefits

- reduces sludge volume, which cuts down on transport and disposal costs
- continuous operation
- compact, modular design saves space
- low installed power reduces electricity consumption.

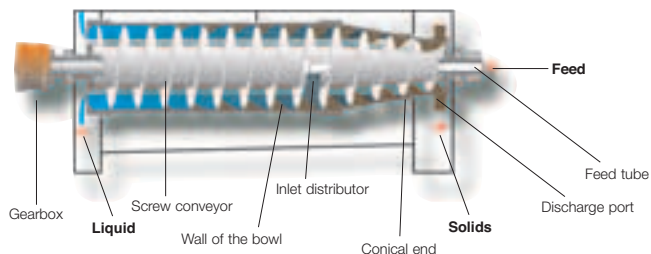
Working principle

Separation takes place in a horizontal cylindrical bowl equipped with a screw conveyor (see drawing on page two). The feed enters the bowl through a stationary inlet tube and is accelerated smoothly by an inlet distributor. The centrifugal force that stems from the rotation then causes sedimentation of the solids on the wall of the bowl.

The conveyor rotates in the same direction as the bowl, but at a different speed, thus moving the solids towards the conical end of the bowl. The cake leaves the bowl through the solids discharge openings into the casing. Separation takes place throughout the entire length of the cylindrical part of the bowl, and the clarified liquid leaves the bowl by flowing over adjustable plate dams into the casing.

Drive system

The bowl is driven by an electric motor and a V-belt transmission drive. The start method is the Direct On Line system, using a mechanical clutch. Power is transferred to the conveyor by means of a planetary gearbox, while an efficient backdrive system regulates the difference between the speeds of the bowl and the conveyor.



Materials

The bowl, conveyor, inlet tube, outlets, cover and other parts in direct contact with the process media are all made of AISI 316 stainless steel. The discharge ports, conveyor flights and feed zone are protected with materials that are highly resistant to erosion. The frame is made of mild steel with an epoxy enamel finish.

Design

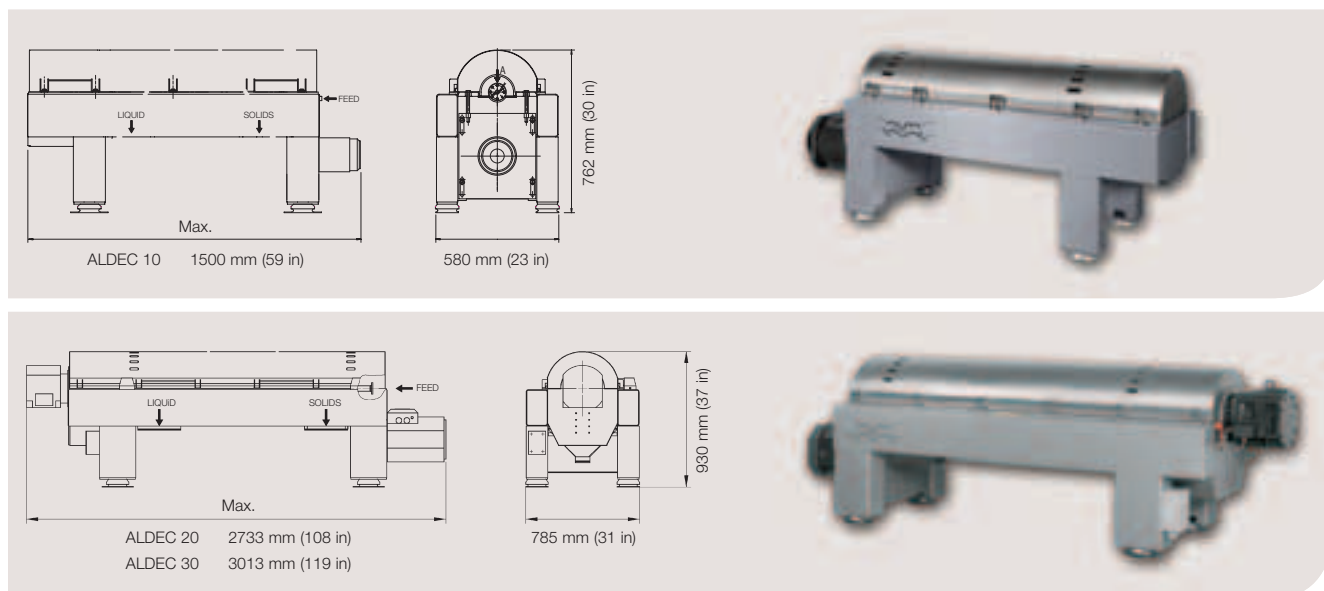
The rotating part of these decanter centrifuges is mounted on a compact, in-line frame, with main bearings at both ends. Vibration dampers are placed under the frame. The rotating part is enclosed in a casing with a cover and a bottom section with integrated outlets for both solids and the liquid being removed.

Process optimization

The decanter centrifuge can be adjusted to suit specific requirements by varying the

- bowl speed to obtain the required G force for optimized separation
- conveying speed for optimized balance between liquid clarity and solids dryness
- pond depth in the bowl for optimized balance between liquid clarity and solids dryness
- feed rate – the Alfa Laval decanter centrifuge is designed to handle a wide range of flow rates.

Dimensions



Technical data

	ALDEC 10	ALDEC 20	ALDEC 30
Max. weight	350 kg (770 lbs)	1125 kg (2495 lbs)	1200 kg (2660 lbs)
Bowl material	AISI 316 stainless steel	AISI 316 stainless steel	AISI 316 stainless steel
Material for other parts in contact with sludge	AISI 316 stainless steel	AISI 316 stainless steel	AISI 316 stainless steel
Typical main drive size	4 kW (5 HP)	11 kW (15 HP)	11 kW (15 HP)
Start method	Direct On Line (DOL)	Direct On Line (DOL), Star-delta, VFD	