



ALDEC

High-performance decanter



Applications

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

Ideal for both small and medium-capacity installations

ALDEC 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.

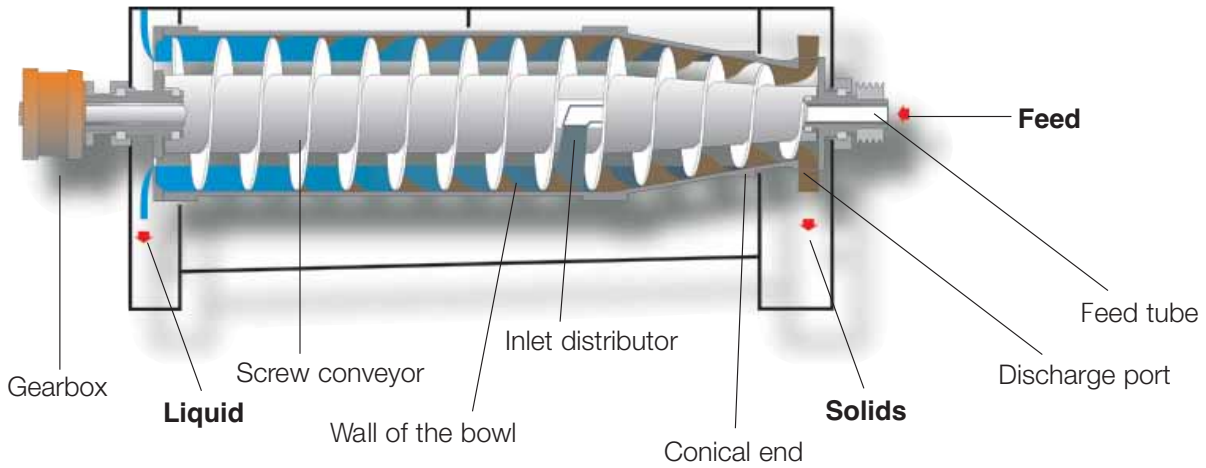
Benefits

- 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.



Process optimization

ALDEC decanter centrifuges 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 – ALDEC decanter centrifuges are designed to handle a wide range of flow rates.

Materials

The bowl, conveyor, inlet tube, outlets, cover and other parts in direct contact with the process media are all made of 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.

Drive system

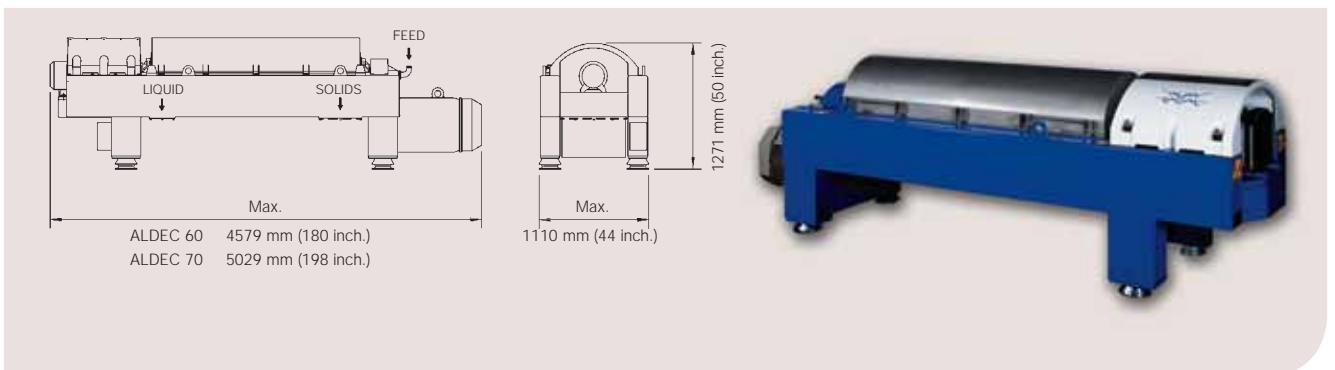
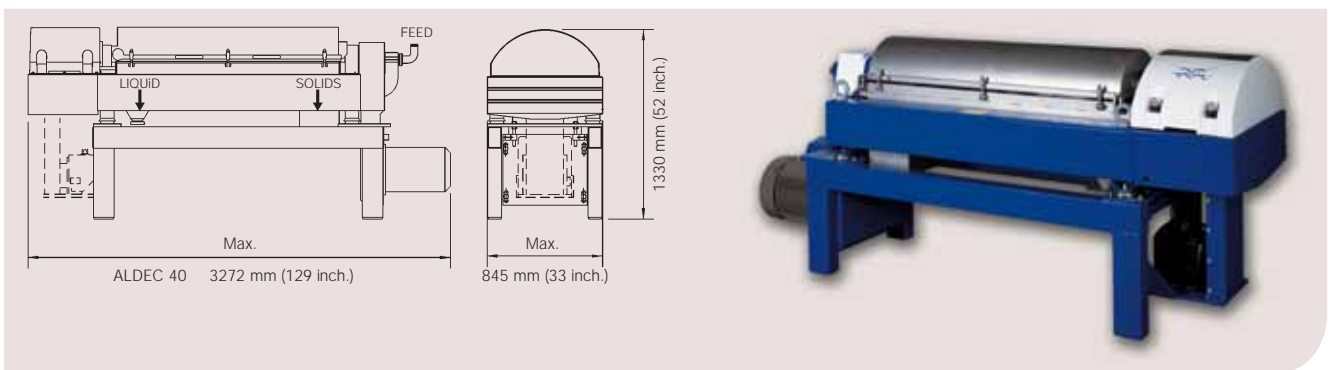
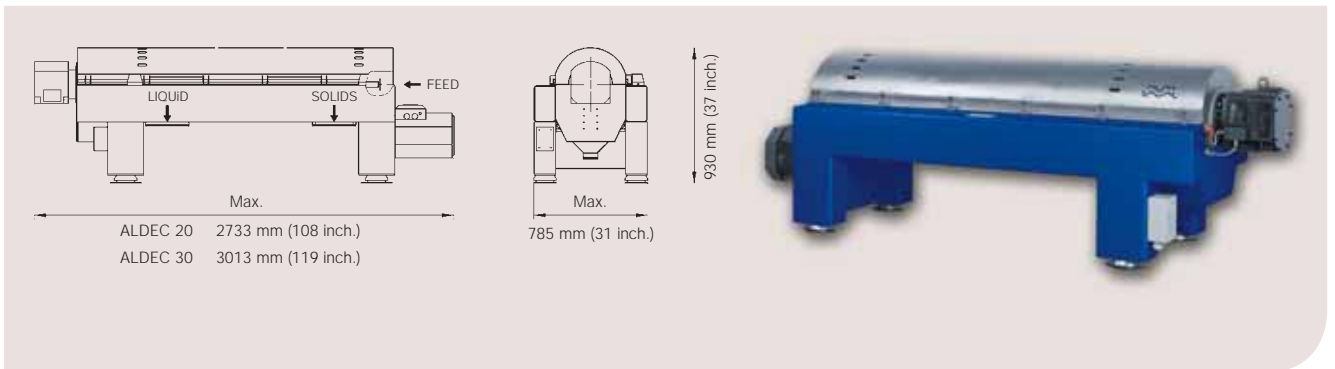
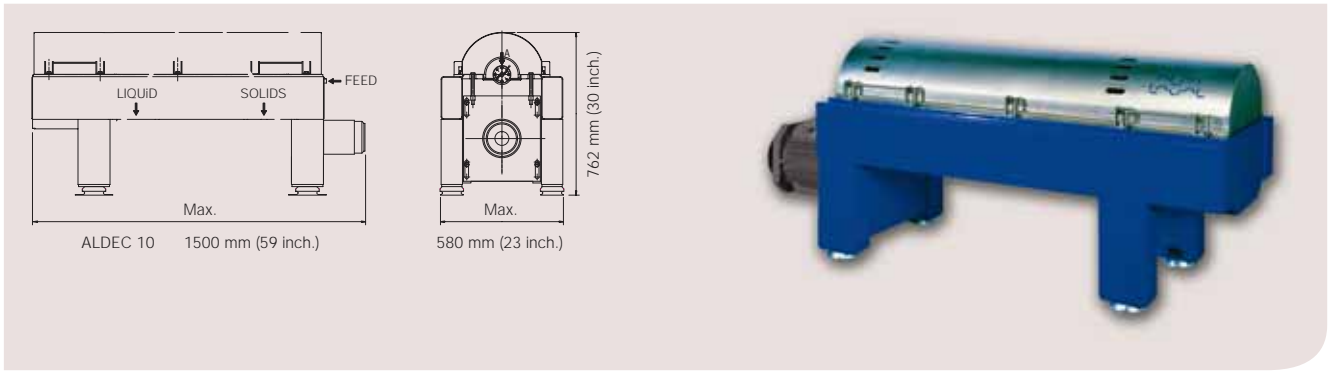
The bowl is driven by an electric motor and a V-belt transmission drive. The start method is the Direct On Line system or a similar, yet simpler system, using a mechanical clutch. Power is transferred to the conveyor by means of a planetary gearbox, while an efficient backdrive system regulates the difference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



Technical Data

Designation	Max. weight kg (lbs)	Bowl material	Material for other parts in contact with sludge	Typical main drive size kW (HP)	Start method
ALDEC 10	350 kg (770 lbs)	AISI 316/304	AISI 316	4 kW (5 HP)	DOL/Star-delta, VFD
ALDEC 20	1125 kg (2495 lbs)	AISI 316/304	AISI 316	11 kW (15 HP)	DOL/Star-delta, VFD
ALDEC 30	1200 kg (2660 lbs)	AISI 316/304	AISI 316	11 kW (15 HP)	DOL/Star-delta, VFD
ALDEC 40	2200 kg (4850 lbs)	AISI 316/304	AISI 316	22 kW (30 HP)	DOL/Star-delta, VFD
ALDEC 60	3800 kg (8379 lbs)	AISI 316/304	AISI 316	37 kW (50 HP)	Star-delta, VFD
ALDEC 70	4200 kg (9259 lbs)	AISI 316/304	AISI 316	37 kW (50 HP)	Star-delta, VFD

Dimensions



How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com