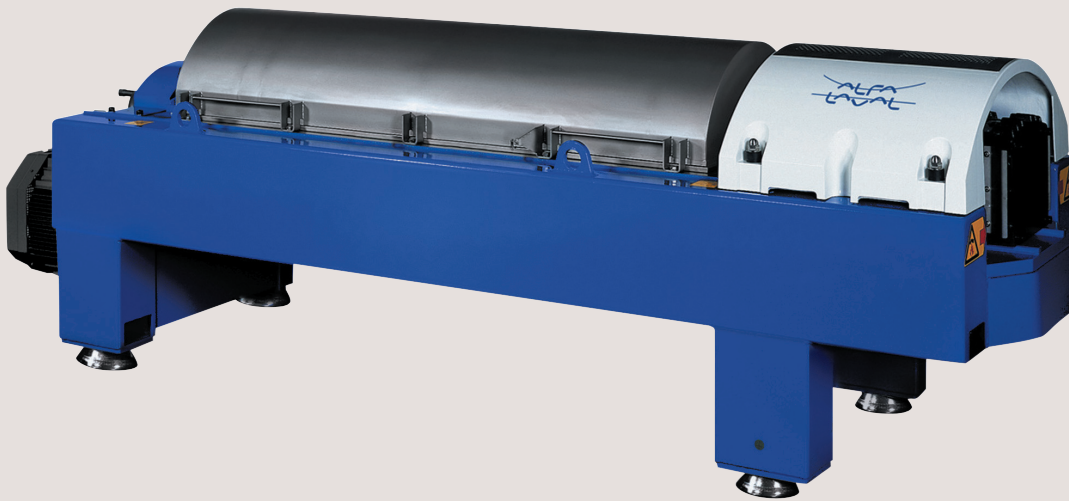




WS 40, 60

High-performance decanter



Applications

The WS design is used for sludge dewatering in a wide range of industrial paint waste, surface treatment and waste oil applications.

Ideal for medium-capacity installations

WS 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 WS range features

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

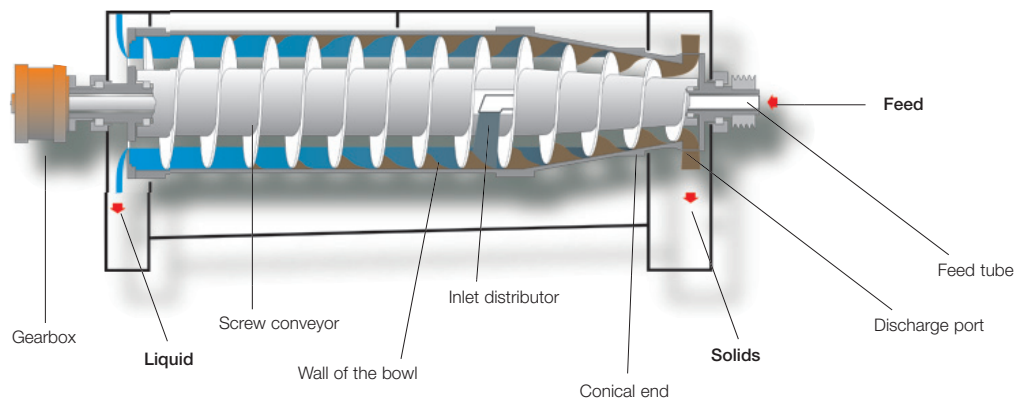
Benefits

- recycling of liquids
- 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

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

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. 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.

Direct Drive is a unique system developed by Alfa Laval for the automatic control of conveying speed. This maintains the ideal balance between liquid clarity and solids dryness, irrespective of any variations in the feed.

The Direct Drive comprises a new type of gearbox and variable frequency drive that prevent the bowl drive from exposure to parasitic braking power. This simplifies the electrical installation as well as minimizing power consumption. In addition, the Direct Drive provides accurate



Close-up of screw conveyor (optional with tiles).

control within a wide range of differentials, with no need to change belts and pulleys.

Materials

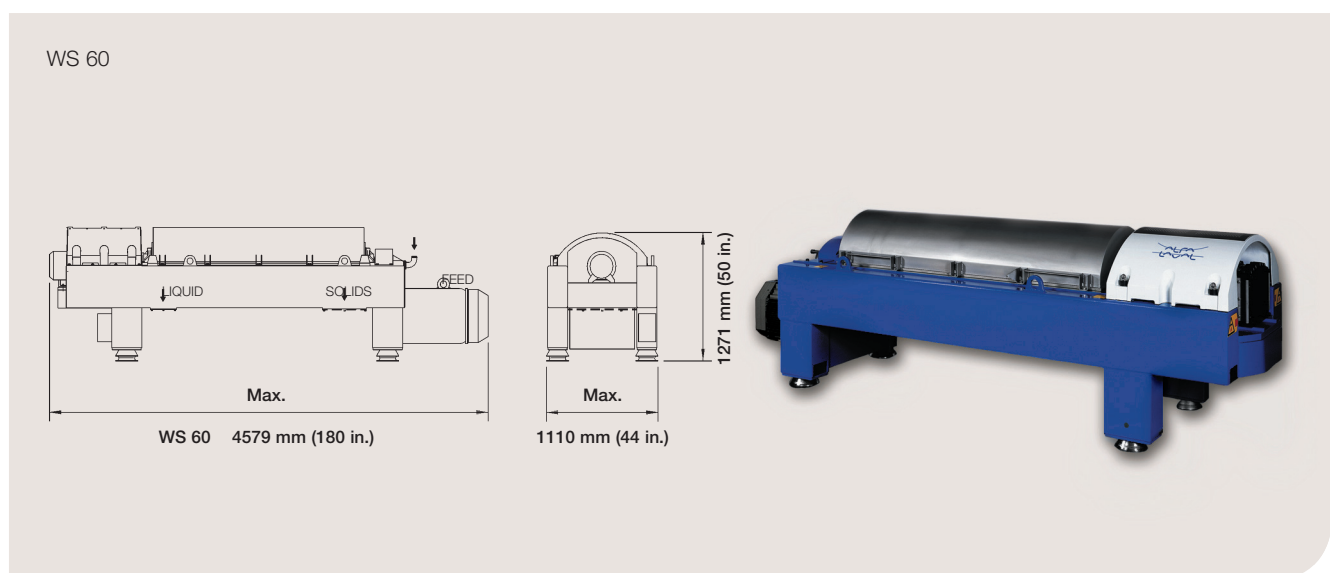
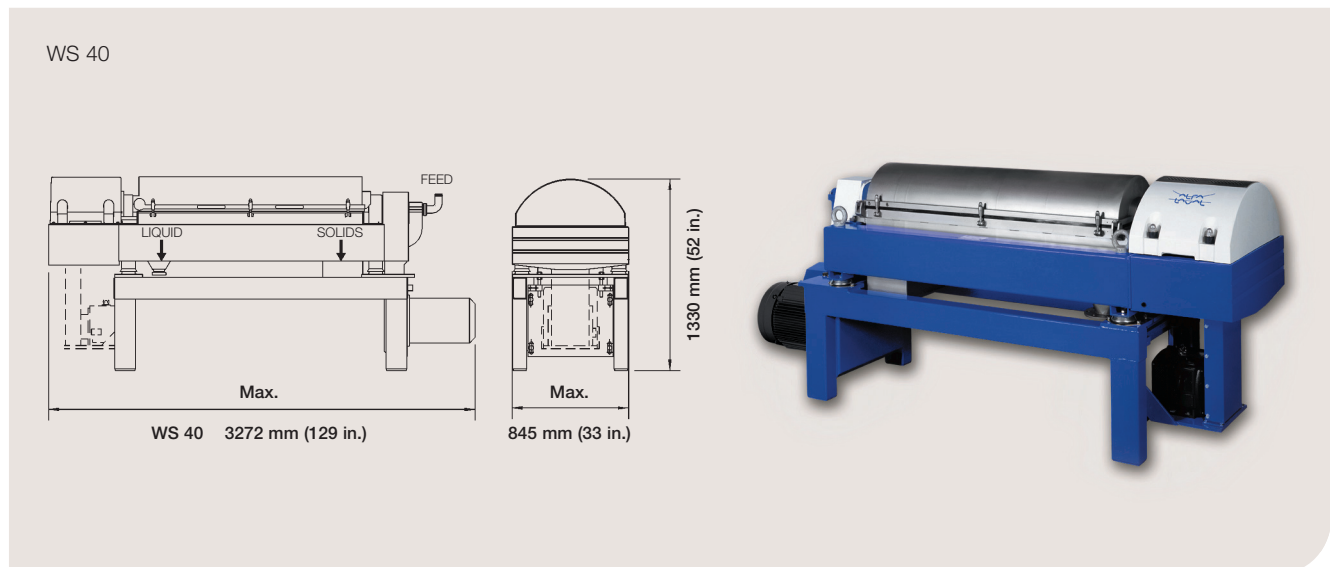
The bowl, conveyor, inlet tube, outlets, cover and other parts in direct contact with the process media are all made of stainless steel. The discharge ports, conveyor flights and feed zone are protected with materials that are highly resistant to erosion. The frame is made of mild steel with an epoxy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

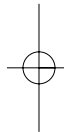
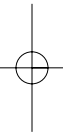
Technical data

	WS 40	WS 60
Bowl diameter	353 mm (13.9 in.)	450 mm (17.7 in.)
Bowl length	1460 mm (57.5 in.)	1910 mm (75.2 in.)
Bowl speed max.	4000 rpm	3250 rpm
G-force max.	3157	2657
Weight	2200 kg (4850 lbs)	3800 kg (8380 lbs)
Installed power	22–56 kW (30–75 hp)	50–80 kW (67–107 hp)
Sound pressure level*	82 dB(A) re. 20 µPa	79 dB(A) re. 20 µPa

* Declared A-weighted emission sound pressure level in free field over a reflecting plane at 1 metre (39.4 inches) distance from the decanter operating at maximum bowl speed, tested with water and closed outlet.

Dimensions





EFU00030EN 0609

Alfa Laval reserves the right to change specifications without prior notification.

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

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