



WS 10, 20, 30

High-performance decanter



Applications

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

Ideal for both small and 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.

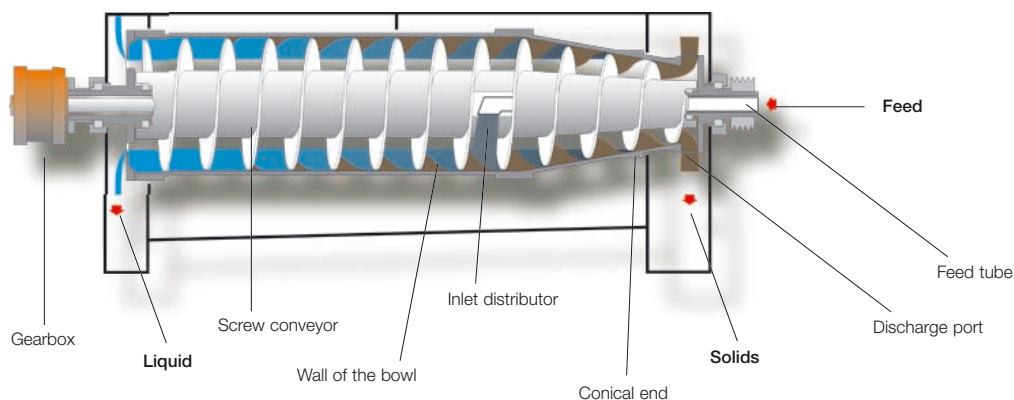
Benefits

- 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

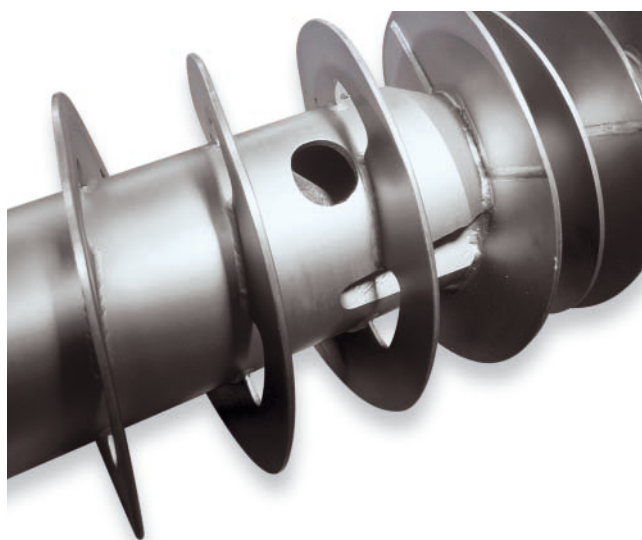
The rotating part of these decanter centrifuges is mounted on a compact, in-line frame, with main bearings at both ends. Vibration dampers are placed under the frame. The rotating part is enclosed in a casing with a cover and a bottom section with integrated outlets for both solids and the liquid being 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 with countershaft transmission. As an option on WS 20 and WS 30 you can select an efficient backdrive system that 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 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.



Close-up of screw conveyor.

Technical data

	WS 10	WS 20	WS 30
Bowl diameter	200 mm (7.9 in.)	280 mm (11 in.)	280 mm (11 in.)
Bowl length	709 mm (27.9 in.)	980 mm (38.5 in.)	1260 mm (49.6 in.)
Bowl speed max.	5300 rpm	4400 rpm	4400 rpm
G-force max.	3140	3030	3030
Weight	350 kg (772 lbs)	1125 kg (2495 lbs)	1200 kg (2660 lbs)
Installed power	4 kW (5 hp)	11 kW (15 hp)	11 kW (15 hp)
Sound pressure level*	78 dB(A) re. 20 µPa	78 dB(A) re. 20 µPa	78 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

