



## P2 decanter centrifuge range

High-performance decanter centrifuge for process industries



### Application

Alfa Laval P2 decanter centrifuges are designed for slurries that are often extremely erosive and aggressive. The P2 range provides the most cost-effective, high-performance solution combined with the lowest power consumption and life cycle costs available.

### Design

Alfa Laval designed the P2 range of decanter centrifuges with a focus on performance, easy access, reliability and low noise levels.

The rotating assembly is supported on a compact welded box beam frame with main bearings at both ends. The in-line motor is flanged or foot-mounted on the decanter with brackets for belt tension adjustment. The bowl is driven at the conical end by an electric motor using a V-belt transmission.

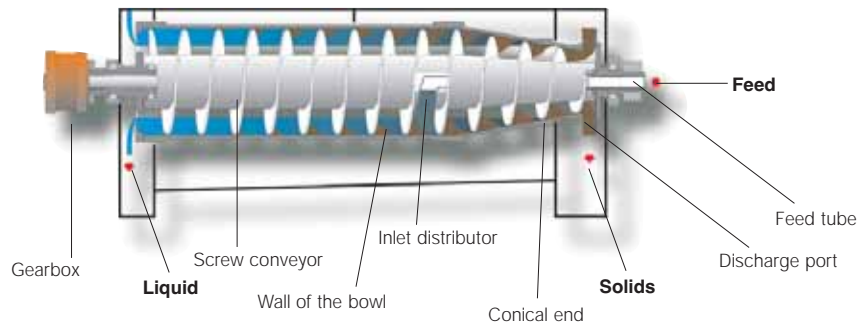
The bowl, conveyor, casing, inlet tube, outlets and other parts that come into contact with the process media are made of AISI 316 and Duplex stainless steel.

### Operating principles

Separation takes place in a horizontal cylindrical bowl equipped with a scroll conveyor. The product is fed into the bowl through a stationary inlet tube and is then smoothly accelerated in a full flow feed zone design. Centrifugal force deposits the solids on the inner surface 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 solids leave 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.



### Direct Drive

Direct Drive is a unique system developed by Alfa Laval for automatic control of the differential speed between the bowl and the conveyor. This makes it easy to maintain the best possible balance between liquid clarity and solids dryness, irrespective of variations in the feed.

Direct Drive comprises a new configuration of gearbox and variable frequency drive, which drive without braking power loss. The electrical installation is simplified, power consumption is kept to a minimum, and accurate control is achieved within a wide range of differentials.

### Decanter Core Controller (DCC)

The decanter is controlled by a dedicated control system with a central processor, featuring a graphic interface. The DCC controls the Direct Drive system, with reference to the solids load in the bowl. A number of parameters related to the decanter are also monitored in order to ensure easy, safe and reliable operation across the full operating range.

External bus options for major communication standards enable customers to integrate the decanter centrifuge into their own systems.

### Process optimization

The P2 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 to optimize the balance between liquid clarity and solids dryness
- pond depth in the bowl to optimize the balance between liquid clarity and solids dryness
- feed flow – the P2 design is capable of handling a wide range of flow rates.

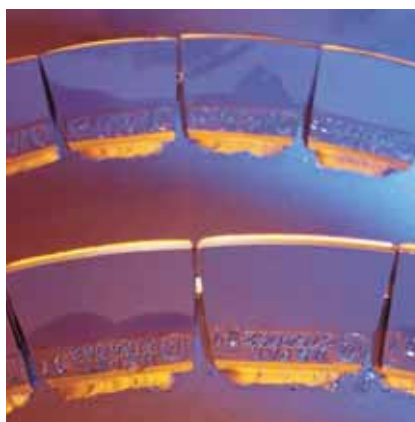
### Options

Alfa Laval P2 decanter centrifuges are available with a range of unique design options. These include full flow feed zone design, increased wear resistance and the 360° solids discharge, and different elastomers and seals.

All P2 decanter centrifuges are available in 2-phase and 3-phase versions and can be ATEX-compliant. They are also available for zones 1, 2 and 22. Sealed and purged decanter centrifuges are available for processing flammable feed.



Screen for Decanter Core Controller (DCC)

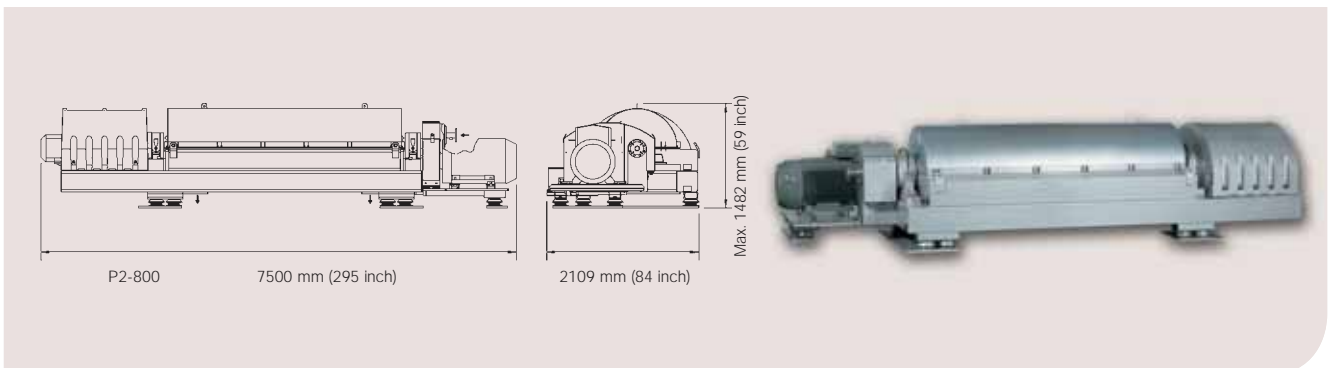
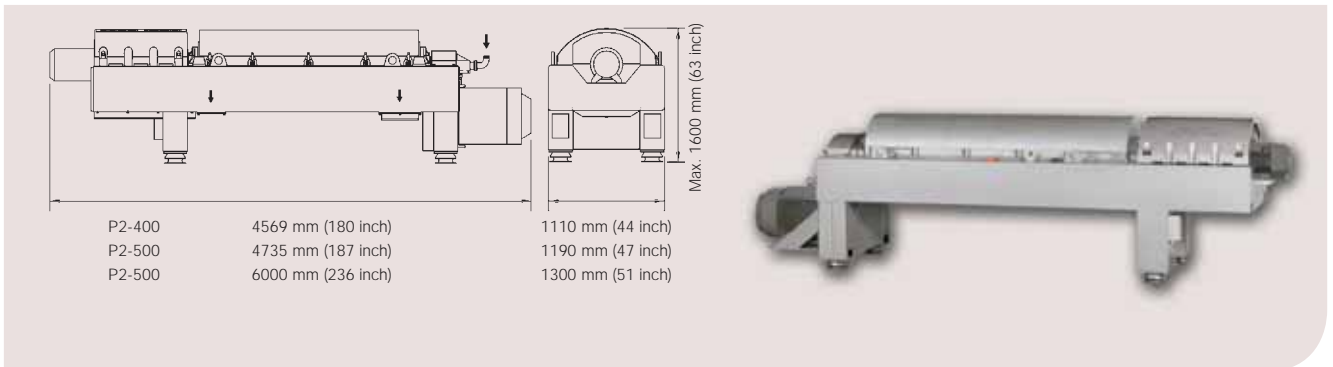
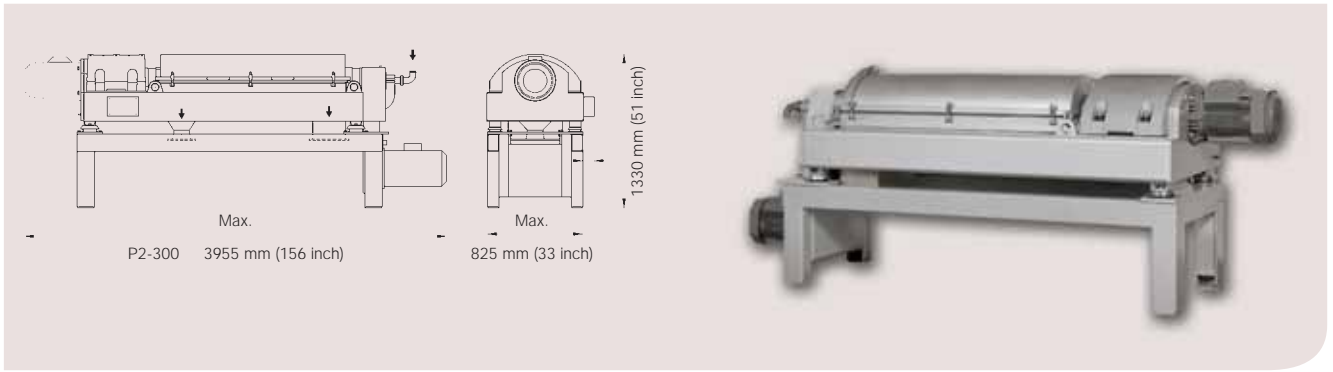


Tungsten Carbide tiles



Espey Seals for sealed decanters

## Technical data



## Technical specifications

		P2-300	P2-400	P2-500	P2-600	P2-800
Bowl Diameter	mm	353 (14 inch.)	450 (18 inch.)	480 (19 inch.)	575 (23 inch.)	740 (29 inch.)
Bowlspeed max.	rpm.	4000	3250	3650	3075	2800
G-force max.		3157	2657	3574	3039	3243
Weight	kg.	2200 (4840 lbs)	3800 (8360 lbs)	5000 (11000 lbs)	7000 (15400 lbs)	13000 (28860 lbs)
Installed Power	kW	15 – 37 (20 – 40 hp)	18,5 – 45 (25 – 60 hp)	45 – 110 (60 – 150 hp)	75 – 160 (100 – 200 hp)	132 – 250 (150-300 hp)
Sound Pressure Level <sup>1</sup>	dB(A) re. 20µPa	82	78	85	86	89

<sup>1</sup> Declared A-weighted emission sound pressure level in free field over a reflecting plane at 1 m. distance from the decenter operating at maximum bowl speed, tested with water and closed outlet.