NX 400 Series Decanter

High-Performance Decanter



Application

The NX 400 series is a high-performance decanter design that is optimized for clarification, extraction, dewatering and classification applications in the food, biotech and chemical industries.

Working principle

Separation takes place in a horizontal cylindrical bowl equipped with a screw conveyor. The feed is led into the bowl through a stationary inlet tube and smoothly accelerated by an inlet rotor. Centrifugal forces cause 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, and conveys the solids to the conical end. These solids are lifted clear of the liquid, and the capillary liquid is then drained centrifugally before being discharged through the solids outlet port into the casing. Separation takes place over the entire length of the cylindrical part of the bowl, and the clarified liquid leaves the bowl by overflowing adjustable plate dams into the casing.

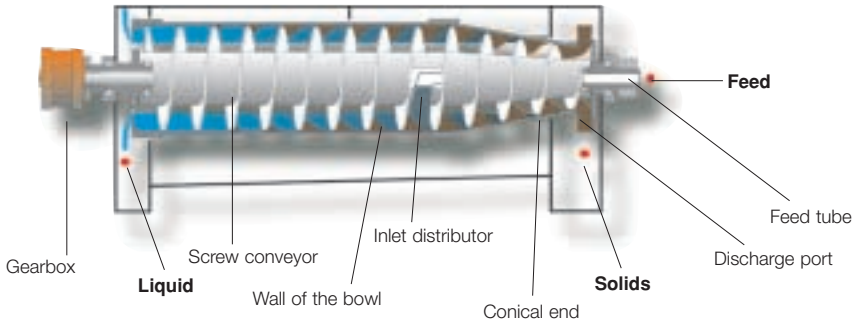
Process optimization

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

- bowl speed, to ensure the exact G force required for optimized separation.
- conveying speed, for optimized balance between liquid clarity and solids discharge capacity.
- pond depth in the bowl, for the ideal balance between liquid clarity and solids dryness.
- feed flow – Alfa Laval decanter centrifuges are designed to deal with a wide range of flow rates.

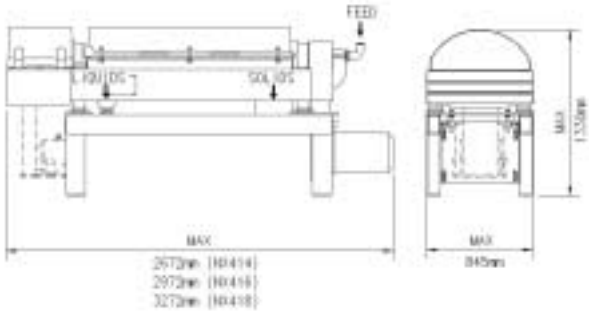
Design

The Alfa Laval decanter is designed with a focus on easy access, reliability and low noise levels. The rotating assembly is mounted on a compact welded box beam frame with main bearings at both ends. The cover is hinged to ensure easy access. The in-line motor is flange-mounted on the decanter, with adjustable brackets for belt tension adjustment. The bowl is driven at the conical end by an electric motor and V-belt transmission.



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

Dimensions



Backdrive

The differential speed between the bowl and conveyor is controlled by a Backdrive system. This comprises a planetary gearbox and optional drive system with overload protection device. Optional Backdrive systems include:

- Variable frequency drive (VFD)
- Eddy current brake
- VAR-Spe
- Hydraulic
- Countershaft transmission
- Torque arm

Technical data

	NX 414	NX 416	NX 418
Bowl diameter	353 mm	353 mm	353 mm
Bowl speed max.	4000 rpm	4000 rpm	4000 rpm
G force max.	3157	3157	3157
Bowl length	860 mm	1160 mm	1460 mm
Weight	1900 kg	2050 kg	2200 kg
Installed power	22–56 kW	22–56 kW	22–56 kW
Sound pressure level	81 dB(A) re. 20µPa	82 dB(A) re. 20µPa	82 dB(A) re. 20µPa

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

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