Alfa Laval Prodec Oil Plus decanter centrifuges

For optimal oil extraction in industrial applications

Application

The Alfa Laval Prodec Oil Plus range of decanter centrifuges was developed specifically for the efficient extraction of oil and fat in industrial processes. Thanks to the unique design, a Prodec Oil Plus decanter enables you to recover virtually all the free oil available in the feed, ensuring maximal utilization of your raw material.

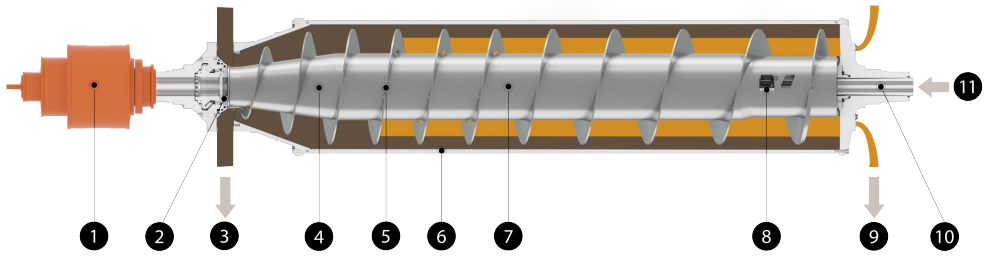
Benefits

Prodec Oil Plus decanter centrifuges are very robust with regard to varying flow conditions, and are able to deal with high levels of solids in the feed as well as high fluctuations in oil content – with no need for operator's intervention. They are very easy to operate, and the oil obtained is exceptionally clean, with very little further processing required. The Prodec Oil Plus decanter can be used as a single separation step or in combination with a second decanter to further reduce levels of fat in the final slurry, while also increasing cake dryness.

Key features

UltraOil	The unique configuration of Prodec Oil Plus centrifuges increases retention time

Decanter design and functionality



1: Gearbox
2: Discharge ports
3: Cleaned slurry/muck outlet
4: Conical end
5: Baffle arrangements not shown
6: Wall of the bowl
7: Screw conveyor
8: Inlet distributor
9: Liquid outlet
10: Feed tube
11: Feed inlet

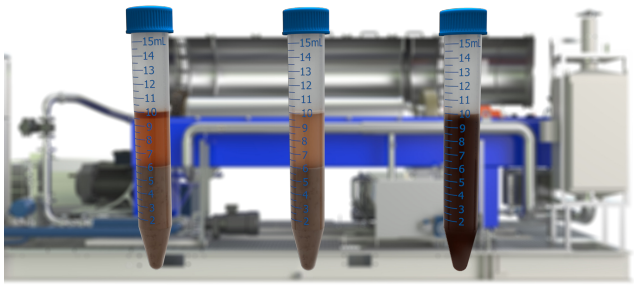
Cross section of the interior of the decanter - the rotating assembly

Working principles

The incoming feed is effectively separated into oil (9) and wet solids (3). The product is fed into the bowl through an inlet tube (10) and is accelerated by the inlet rotor (8). Separation takes place in a horizontal cylindrical bowl equipped with a screw conveyor (7)) that is purpose-built for efficient oil . Centrifugal force separates the oil from the feed slurry, making the (lower density) oil accumulate at the liquid surface, while the heavier solids settle on the inner wall of the bowl. Oil extraction takes place along the entire length of the cylindrical part of the bowl.

Operating results

The Alfa Laval Oil Plus decanter centrifuge extracts virtually every drop of free oil or fat, with purities of as high as 99.5%, with only tiny traces of solids. Skid-mounted test modules are available for renting. Ready to simply plug in and use, these are ideal for testing and demonstrating new operating concepts in an existing application as well as to explore potential new processes.

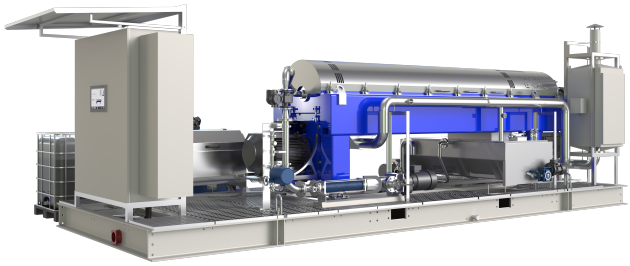


Example
From left: oily feed, oil-free slurry, clean oil

Where to install

The Prodec Oil Plus can be used in a single separation step or in combination with a second decanter. The former setup is recommended where the slurry is normally very wet, it and dry solids are not needed.

A double-step decanter is normally recommended when maximum oil extraction, cake dryness and low-fat content in the final dry solids are the main objective. The Prodec Oil Plus decanter units are easy to integrate into any existing process.



Test unit module

Service

Investing in an Alfa Laval decanter is the first step towards a unique partnership offered by Alfa Laval Service. Our strong Service presence in local markets combined with skilled Field Service Engineers gives you the support that you need to maximize uptime in your process. A Service Agreement takes this one step further in building a strong partnership. Contact your local Alfa Laval sales for more information.

Automation

Decanter centrifuges equipped with variable frequency drives (VFD) are also available with control solutions to comply with your specific operating requirement. Whether you are looking for a control system that operates the decanter only or for more advanced control systems with additional functionality. Alfa Laval decanter automation can help you achieve your specific process performance goals by easy process adjustments, real-time status feedback, automated process adjustments and automated cleaning cycles.

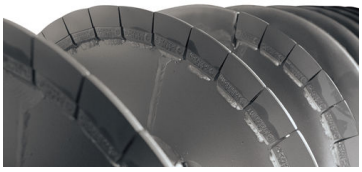
Connected Services

Alfa Laval decanter centrifuges with decanter automation can be fitted with IoT connectivity hardware that provides you with operating data at your fingertips, along with condition monitoring and process optimization. Please refer to the Alfa Laval website for more information.

Selected features

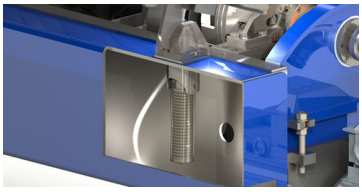
FlightGuard

Advanced wear protection for conveyor flights Replaceable tiles, welded to the conveyor flight, provide wear resistance in highly abrasive applications, thus ensuring reliable uptime.



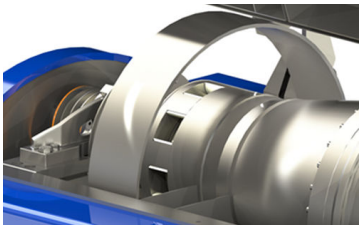
EasyLift

Spring-loaded cover simplifies servicing The patented spring system makes it easy to open even the heaviest decanter covers, ensuring quick, safe access for service and maintenance.



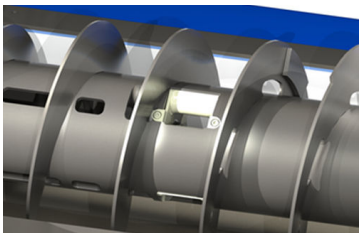
Solids Protect

Flow-optimized solids discharge with wear protection Free-flowing exit of the solids, featuring exchangeable wear protection for reliable uptime and low maintenance costs.



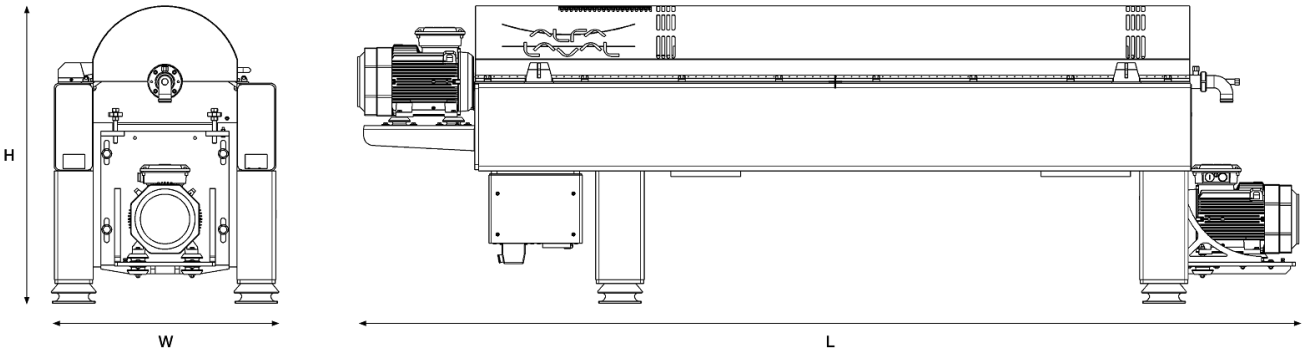
FeedProtect

Feed zone with wear protection Easily replaceable wear inserts protect against abrasion and erosion, ensuring low service costs and long uptime.



Test module for renting

Skid-mounted test modules are available for renting. Ready to simply plug in and use, these are ideal for testing and demonstrating new operating concepts in an existing application, as well as to explore potential new processes.



Technical Specification

Designation	Prodec Oil Plus 36	Prodec Oil Plus 44	Prodec Oil Plus 50	Prodec Oil Plus 55	Prodec Oil Plus 65
Bowl diameter	360 mm / 14.17 Inc.	440 mm / 17.3 Inc.	500 mm / 19.69 Inc.	550 mm / 21.65 Inc.	650 mm / 25.59 Inc.
Gross weight	2450 kg / 5401 lbs.	3700 kg / 8157 lbs.	4950 kg / 10913 lbs.	5400 kg / 11905 lbs.	7200kg / 15873 lbs.
Length (L)	4558 mm / 179.45 Inc.	5189 mm / 204.29 Inc.	5976 mm / 235.28 Inc.	5722 mm / 225.27 Inc.	6382 mm / 251.25 Inc.
Width (W)	990 mm / 38.98 Inc.	1060 mm / 42 Inc.	1140 mm / 44.88 Inc.	1300 mm / 51.18 Inc.	1450 mm / 57.08 Inc.
Height (H)	1304 mm / 51.34 Inc.	1376 mm / 54 Inc.	1528 mm / 60.16 Inc.	1693 mm / 77.28 Inc.	2381 mm / 93.74 Inc.
Gearbox size	DD 3.5 kNm	DD 3.5 kNm	DD 8 kNm	DD 12 kNm	DD 12 kNm
Total installed power	43 KW / 58 hp	52 KW / 70 hp	60or70 KW / 80or94 hp	77 KW / 103 hp	120or140 KW / 161or188 hp

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