



Separating oil from olives

Y2, Y8, Y9 and Y10 high-performance decanters for 2-phase operation



The Y10 decanter centrifuge

Application

Alfa Laval Y series decanter centrifuges are designed to provide cost-effective operation in the olive oil chain, specifically for two phase operation. The compact, efficient decanters are optimized for olive oil applications that include clarification, extraction, dewatering and classification on first and second extraction (re-milling).

Design features and benefits

The decanters feature a special design for two phase operation. The geometry of the conveyor allows a good performance through:

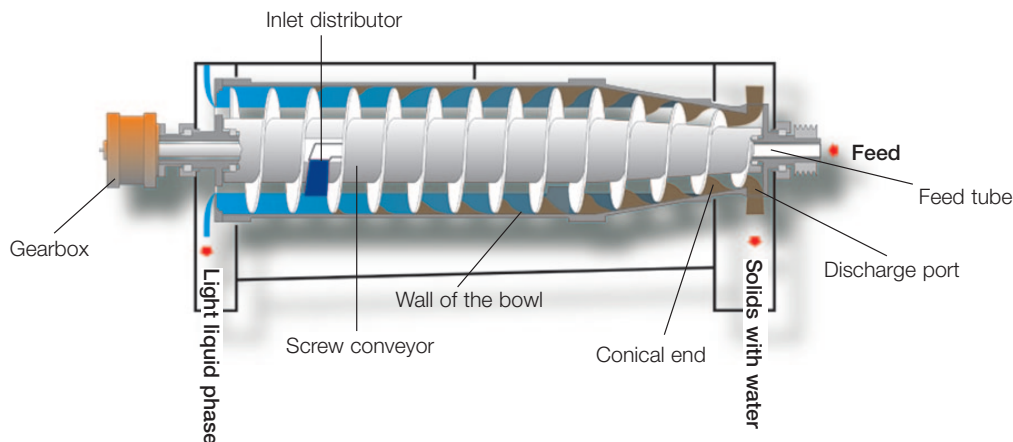
- Open and gentle feed zone design “Esbjerg” able to give maximum performance and wear resistance
- special flight for oil migration to the liquid outlet able to optimize yield and oil clarification avoiding turbulence
- Special conveyor design to improve solids transportation and liquid separation

- Tungsten carbide tiles on conveyor for Y9 and Y10. Optional for Y8. Special and exclusive wear protection able to significantly reduce maintenance cost of conveyor.

Through the electronic control of the conveyor speed (differential speed) the retention time can be adjusted and set to obtain the required degree of oil clarification. Electronic control of differential speed is done through a variable frequency drive (VFD) directly connected to Alfa Laval's exclusive direct drive gearbox. This new setup makes it possible to reduce power consumption and wear due to transmission.

High quality stainless steel is used throughout, including hinged casings for easy opening, maintenance and cleaning. The decanters also have an electronic overload protection system.

Two-phase operation



Standard equipment

The decanter centrifuges include the following as standard equipment:

- built-in pumps for water and/or oil displacement to the separating unit
- set of spare parts
- set of tools for disassembly and maintenance
- lubricant oil and food grade grease with the appropriate guns
- tank equipped with vibrating filter suitable for collection of the liquid phases (water, oil)
- 360° solids discharge outlet in tungsten carbide for high protection against wear

Operating principles

The decanter centrifuge design ensures separation of the incoming olive paste into two phases – oil and wet solids. The olive paste is fed into the bowl through a stationary inlet tube and is then smoothly accelerated by an inlet rotor. Separation takes place in a horizontal cylindrical bowl equipped with a screw conveyor. Centrifugal force causes instant sedimentation of the wet 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 wet solids to the conical end. Because it is lighter, the oil flows on the inside, and the wet solids move towards the outer perimeter. Separation takes place along the entire length of the cylindrical part of the bowl. The liquid phases pass to their outlet via a vibrating filter and is then discharged into collecting tanks.

Technical specifications	Y2	Y8	Y9	Y10
Bowl diameter in mm (inches)	200 (8)	450 (18)	510 (20)	650 (26)
Bowl length in mm (inches)	698 (27)	2,360 (93)	2,247 (88)	2,565 (101)
Bowl speed (rpm)	5,300	2,900	3,250	2,900
G-force max.	3,140	2,115	3,011	3,265
Weight in kg (lbs)	350 (780)	3,900 (8600)	4,500 (9900)	6,500 (14300)
Installed power kW (HP)	4 (5)	41 (55)	67 (89)	112 (149)
Length mm (inches)	1,725 (68)	4,975 (198)	5,712 (225)	6,542 (258)
Width mm (inches)	580 (23)	1,090 (43)	1,150 (61)	1,450 (57)
Height mm (inches)	762 (30)	1,391 (55)	1,647 (65)	1,720 (68)

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