



## PASX 710

### High reliability, maximized uptime Palm Oil Separator

For several decades Alfa Laval has been a reliable supplier of separation equipment to the palm oil industry. Compared to its predecessors the PASX 710 provide improved reliability and improved wear protection. This provides longer uptime to maximize the yield. The operators interface has been improved to facilitate service. As before the oil loss is kept to a minimum.

#### Applications

The PASX 710 separator is intended for the separation of sludge water from the underflow of the settling tank. It can also be used for further oil recovery after a decanter centrifuge or from sterilizer condensate.

#### Minimal oil losses

Separation takes place in the disc stack mounted inside the centrifuge bowl. The patented disc stack consists of conically shaped discs placed on each other. This special design increases the separation efficiency and minimizes the oil losses. Evenly spaced nozzles are placed at the periphery of the bowl. Their function is to continuously discharge sludge containing solids. To save power, the nozzles are tangentially placed, thereby utilizing the energy of jet ejection from the sludge as they discharge.

#### Optimized wear protection

The separator is protected against excessive erosion by a number of improved and replaceable wear liners. The nozzles are designed in wear resistant material in order to increase the life time and the selection is made to optimize the performance with crude palm oil. The machine top part is larger and has a bigger outlet which facilitates quick disposal of nozzle flow. This will minimize wear on the outside of the bowl body.

#### Reliability

The vertical bowl spindle, supported near the top and at the bottom by ball bearings, is gear driven by a flange mounted motor. The gear transmission is splash lubricated from an oil bath. The gear concept is a proven and sturdy design with high reliability. The ball bearings are specially designed for use in high speed separators.



PASX 710 complete with motor

#### Ease of use

*Easily replaceable nozzles* – The nozzles can be reached from the outside of the machine through a hatch in the frame hood allowing change of nozzles without opening the frame hood.

*Cleaning in place* – A 2 stage automatic CIP program will first flush the solids collected at the periphery of the bowl and then clean the disc stack.

*Cleaning without dismantling* – By removing the nozzle holders from the outside and subsequently flushing the bowl with water running at low speed the separator can be cleaned without dismantling it. In this way uptime is maximized.

#### Standard supply

The separator is delivered with a built-in paring disc at the light phase outlet, which eliminates the need for an external pump. Starter and control panel, flow-meter, pneumatic actuators for CIP, service kit, a set of tools and manuals for most efficient operation are included in the supply.

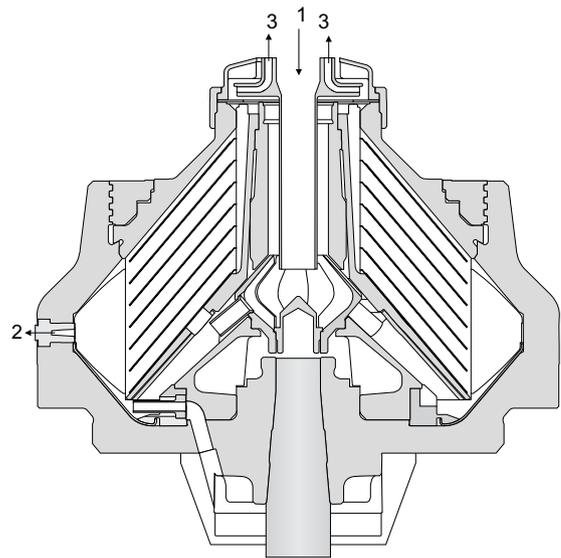
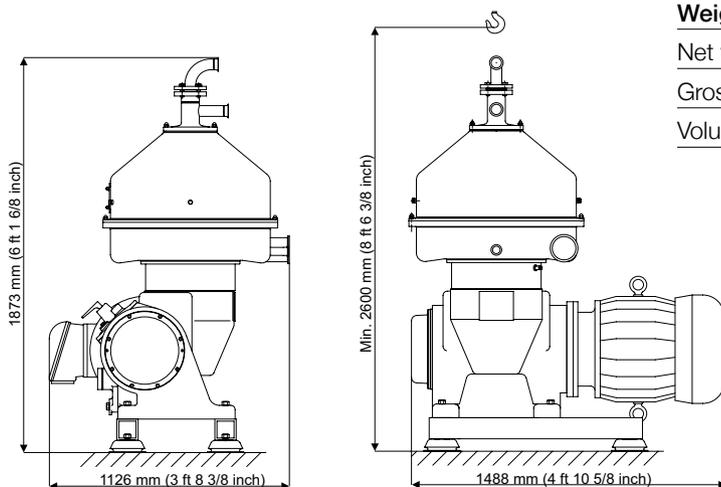
## Operating principles

The separator is a nozzle type disc stack separator. Its rotating bowl is driven by an electric motor via a worm gear drive. Sludge is fed into the bowl through a stationary feed pipe (1) and separated sludge (water and solids) are continuously discharged through the peripheral nozzles (2). Recovered oil is discharged under pressure through the paring disc (3) located at the top of the bowl. As the nozzles are continuously discharging the bowl must always be filled with liquid when in operation. A safety or balance water connection is provided via a second paring disc located at the bottom of the bowl. Solids will always accumulate in the space between the nozzles. If the feed is stopped without any balance water to compensate the bowl will run dry. The accumulated solids will then stay in the bowl often unevenly distributed. This will create an unbalance condition which leads to severe vibrations which can potentially damage the equipment. With an installation done according to Alfa Laval's recommendations balance water will always be supplied during start up and shut down in case of sudden stop in feed. During normal operation balance water will flow into the bowl at a minimum rate of 500 liters/hour.

## Service is never far away

Based in all the major palm oil producing countries Alfa Laval is more than just a supplier of equipment. Our strategically placed resources with extensive experience from palm oil separation will help you generate cost savings through efficient maintenance management. Fast guaranteed service, expert advice, supply of genuine spare parts or customized total service contracts are some of the services we have to offer. We also have fully equipped workshops that can undertake major repair situated strategically to service our CPO customers.

## Dimensions



Typical bowl drawing for a nozzle centrifuge. Drawing details do not necessarily correspond to the centrifuge described.

## Capacity of Nozzle Discharge (on palm oil sludge)

Nozzle size 1.6mm	up to 12 m <sup>3</sup> /h (53 US gpm) <sup>1)</sup>
Nozzle size 1.8mm	up to 15 m <sup>3</sup> /h (66 US gpm) <sup>1)</sup>
Nozzle size 2.0mm	up to 18 m <sup>3</sup> /h (79 US gpm) <sup>1)</sup>

<sup>1)</sup> Capacities may vary depending on amount of oil in the feed and the amount of water carried back with the reclaimed phase.

## Motor

Power installed	45 kW (60 HP)
Power consumption, at start-up	54 kW (72 HP)
Power consumption, idling/operation	4.6/15 kW (6/20 HP) <sup>2)</sup>
Starting time	2–3 min
Stopping time	3–4 min

<sup>2)</sup> Depending on flow rate.

## Bowl

Bowl speed	5,500 rpm
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## Weights (standard cope)

Net weight	1,450 kg (3,200 lbs)
Gross weight	1,650 kg (3,640 lbs)
Volume	5.5 m <sup>3</sup> (194 cuft)

## 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](http://www.alfalaval.com).