



Raising the bar in the treatment of olive paste

Atmosfera malaxers for batch production



Atmosfera malaxers with new cylindrical shape and inspection glass

Malaxing is a crucial step in the olive oil extraction process, because it plays a major role in determining the quality and quantity of the product obtained.

The combination of time and temperature affects the enzymatic activity responsible for the release of the oil. Together with the amount of oxygen in contact with the paste, this greatly influences the product obtained from the olives.

Application

The malaxing process consists of a slow stirring of the paste while it is being heated. This combination causes the microscopic oil and water drops to coalesce, forming increasingly larger drops, which can then be successfully

recovered in the horizontal decanter centrifuge. The malaxing temperature and time are both carefully controlled.

Design, features and benefits

The second generation of Alfa Laval Atmosfera batch malaxers is designed with even higher quality and efficiency in mind and made entirely of stainless steel.

The vessel containing the olive paste has an innovative cylindrical shape that optimizes the malaxing process by eliminating dead spaces and maximizing the heat transfer area, thus ensuring quicker heating of the paste, a reduced total malaxing time and less energy consumption. Each jacketed vessel has independent paste temperature measurement and control.

The elimination of dead spaces and the reduction of residence time both have a positive effect on the quality of the oil, while maintaining the same level of oil extraction – or better.

- Even paste treatment and improved extraction due to cylindrical shape and elimination of dead zones
- Reduced malaxing time and less impact on paste due to increased heat transfer area and shorter heating time.

Working principles

The number and size of malaxers to be used is decided based on capacity requirements and desired malaxing time. Two to five malaxers are normally used, although it is possible to use more, and a single malaxer can be used to modify an existing extraction line.

The malaxers are placed beside each other and are connected to a common feed manifold and a common discharge manifold. Each malaxer has its own shaft with a specially designed agitator that constantly blends the paste while continuously removing paste from the vessel wall to prevent overheating.

Hot water is circulated through the jacket of each malaxing vessel to control the temperature of the paste.

The Atmospha malaxer has the following key features and benefits:

- Effective internal spraying system to dilute paste and clean the malaxer with no need to open the machine.
- Easy to monitor the process through an anti-fog, heated sight glass and LED light (cold light).
- Full control with PLC and touch screen for complete traceability of process data
- Control system with sensors for maximum and minimum levels.

- Reduced exposure to oxygen and maximum volatile retention due to closed design.
- Quick access to the inside of the malaxer if needed, via a cover fitted with quick-release clamps.

Options available for the Atmospha malaxer:

- Closed covers or sealed covers allowing the injection of inert gas.
- Special cleaning system with rotating sprayhead for minimum water consumption
- Hermetic seals and double acting valves to limit oxidation
- Pneumatic actuators to help manage different batches.

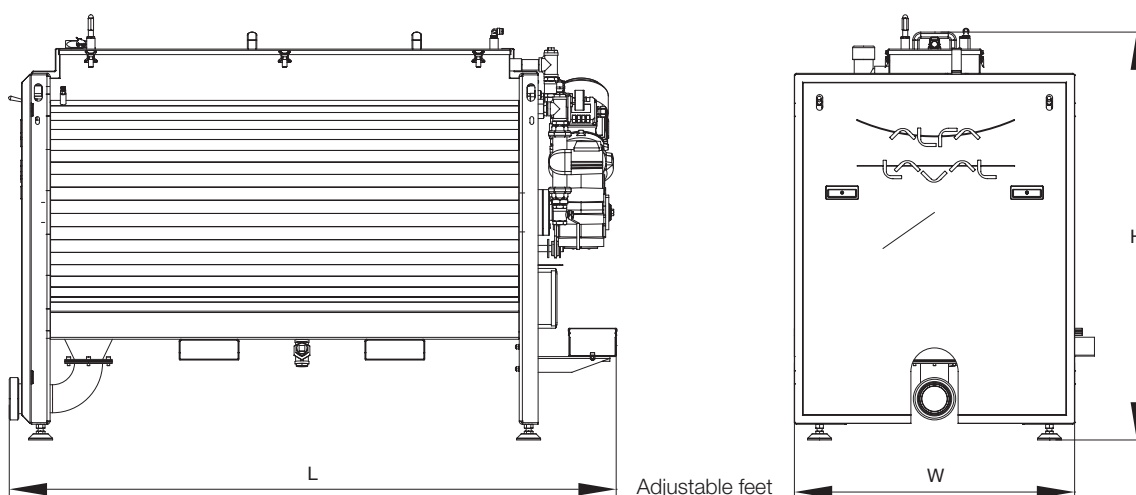
Technical specifications

Atmospha Module 1300

	mm	inches
Length (L)	3,428	135
Width (W)	890	35
Height (H)	1,296	51
Sound pressure Level		< 70 dB
Power Rating		2.47 kW
Capacity		1,300 liters

Atmospha Module 650

	mm	inches
Length (L)	1,928	76
Width (W)	890	35
Height (H)	1,296	51
Sound pressure level		< 70 dB
Power rating		2.07 kW
Capacity		650 liters



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.