



Alfa Laval ATMOSPHERA® malaxer

Malaxers for olive oil extraction in batches

Introduction

ATMOSPHERA® malaxers are covered and jacketed holding tanks in which the olive paste is continuously agitated at a controlled temperature.

Application

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.

Benefits

- Heat transfer configuration that protects oil quality.
- Mechanical reliability that keeps operating costs down.
- Designed for easy cleaning.

Design

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.

ATMOSPHERA® malaxers are fitted with an anti-fog, heated sight glass and LED light (cold light) installed in a door for inspection. Quick access to the inside of the malaxer if needed, via a cover fitted with quick-release clamps.

ATMOSPHERA® malaxers are designed for full control with PLC and touch screen for complete traceability of process data as well as control system with sensors for maximum and minimum levels.

All parts of the jacket vessel that come in contact with the product are made of stainless steel.



Working principle

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 a horizontal decanter centrifuge. The malaxing temperature and time are both carefully controlled.

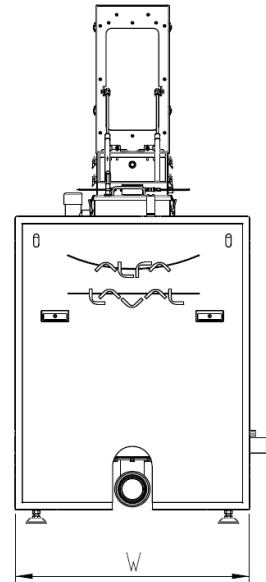
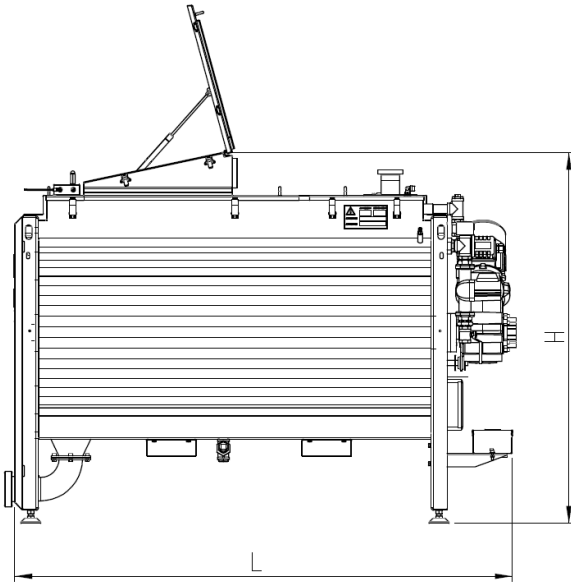
The number and size of malaxers to be used is decided based on capacity requirements and desired malaxing time. Two to five malaxers are normally used, although it is possible to use more, and a single malaxer can be used to upgrade an existing extraction line.

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.

Options

- 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 data	ATMOSPHERA® module 1300		ATMOSPHERA® module 650	
	mm	inches	mm	inches
Length (L)	3,428	135	1,928	76
Width (W)	890	35	890	35
Height (H)	1,402	55.2	1,402	55.2
Sound pressure level	< 70 dB		< 70 dB	
Power Rating	2.47 kW		2.07 kW	
Capacity	1,300 liters		650 liters	

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