



Alfa Laval Crushers and depitters

Olive paste preparation for olive oil extraction plants



Introduction

The crusher breaks the olives into small pieces to allow for easy release of the oil in the malaxer and eventual recovery in a horizontal decanter.

Alfa Laval supplies the following equipment for paste preparation:

- Hammer crusher (30 hp, 50 hp, 60 hp, 75 hp)
- Disc crusher (30 hp)
- Depitter for paste (25 hp)

Application

Paste preparation is one of the critical steps in determining both the quantity and quality of oil obtained from an olive oil extraction line. The way the crushing is done affects the quantity of oil released, the taste of the oil and the oxidative stability of the oil.

Hammer crusher benefits

- Robustness and reliability
- High throughput
- Easy adjustment by changing grid size
- Low spare part costs

Disc crusher benefits

- Minimal risk of paste overheating
- Production of green, spicy olive oil
- Easy adjustment of disc spacing
- Continuous throughput

Depitter benefits

- Production of harmonic oil with high resistance to oxidation
- Minimal risk of paste overheating
- Opportunity to use unbroken stones for other purposes
- Good throughput

Design

Standard configuration	Hammer crusher	Disc crusher	Depitter
Interchangeable grid (5, 6 and 7 mm available as standard)	Included	-	-
Safety microswitch on the cover to prevent opening while in operation	Included	Included	Included
Discs with adjustable gap	-	Included	-



Working principle

Hammer crusher: Olives are fed to the crusher through a short screw-conveyor assembly that leads the olives into the zone where rotating hammers equipped with wear-resistant metal plates crush the olives against a stationary grid. The diameter of the holes in the interchangeable grid determines the thickness of the paste.

After passing through the grid, the paste drops into a hopper or directly into a pump, from where it is transported to the malaxing section.

Disc crusher: Olives are fed to the crusher through a short screw-conveyor assembly that leaves the olives between two toothed discs, one stationary, one rotating. The discs tear the olives apart and the resulting paste drops into a hopper or directly to a pump from where it is transferred to the malaxing section.

Depitter: Olives are fed to the depitter through a short screw-conveyor assembly that leads the olives into a special chamber fitted with bores. A rotating mixer moves the olives towards the periphery where the pulp is separated from the pit, which is ejected – unbroken and clean – at the end opposite to the feed.

The pulp passes through the basket holes in the chamber and drops into a hopper beneath, from where it is sent to the malaxing stage.

Technical data

Hammer crusher

Shipping data	kg	lbs
Tare weight type 30	415	915
Tare weight type 50	470	1.036
Tare weight type 60	647	1.426
Tare weight type 75	854	1.883

	Type 30	Type 50	Type 60	Type 75
Sound pressure level	88.0 dB	61.1 dB	92.3 dB	90.9 dB
Main drive size	22.4 kW	30.0 kW	44.7 kW	60.0 kW
Speed	2,800 rpm	2,800 rpm	3,000 rpm	1,500 rpm

	Type 30		Type 50		Type 60		Type 75	
Dimensions	mm	inches	mm	inches	mm	inches	mm	inches
Length (L)	1,351	53.2	1,400	55.1	1,469	57.8	1,681	66.2
Width (W)	900	35.4	900	35.4	720	28.4	870	43.3
Height (H)	457	18.0	280	11.0	462	18.2	538	21.2
Height (H1)	-	-	280	11.0	276	10.9	333	13.1

Disc crusher

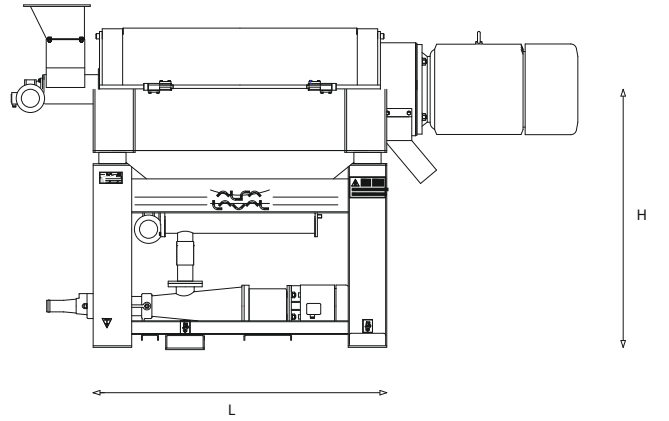
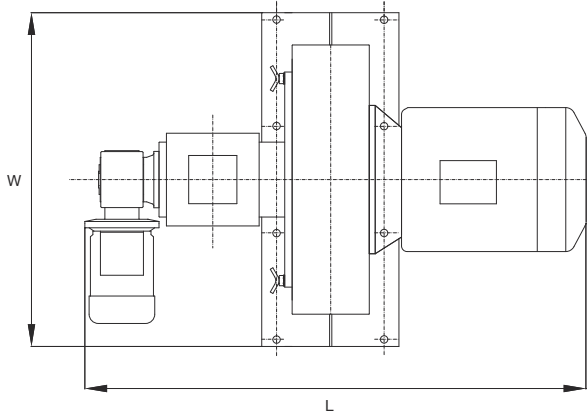
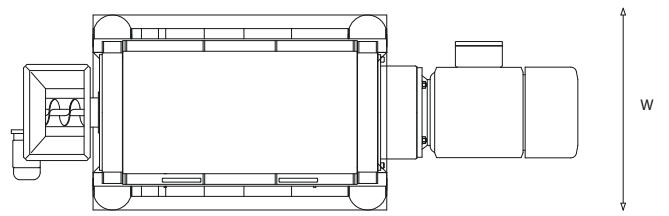
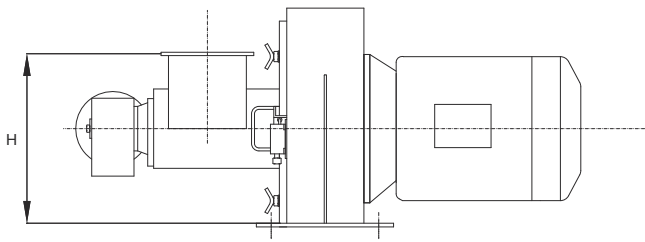
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Tare weight	380	838
Sound pressure level	85.1 dB	
Main drive size	22.4 kW	
Speed	1,400 rpm	

Dimensions	mm	inches
Length (L)	1,414	55.7
Width (W)	705	27.8
Height (H)	717	28.2

Depitter

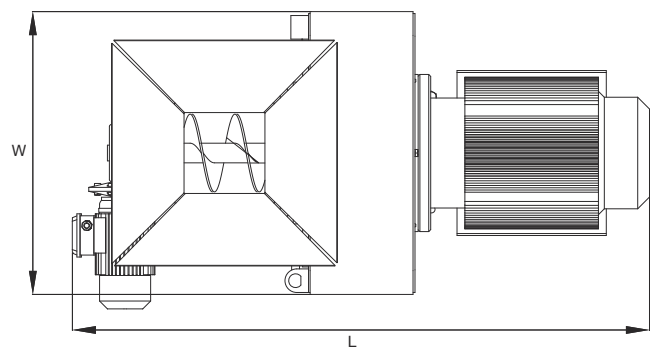
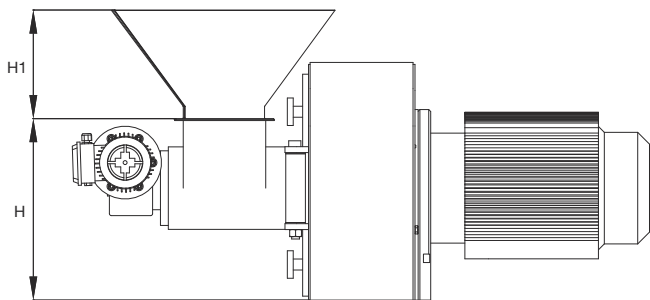
Shipping data	kg	lbs
Tare weight	370	815.7
Sound pressure level	61.0 dB	
Main drive size	18.7 kW	
Speed	920 rpm	

Dimensions	mm	inches
Length (L)	2,395	94.3
Width (W)	840	33.1
Height (H)	1,460	57.5



Hammer crusher type 30

Depitter



Hammer crusher type 60

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