



## Microlab400: THE PERFECT HOMOGENIZER FOR ICE CREAM SMALL BATCH PRODUCTION

The homogenizers play a primary rule in the industrial production of the ice cream, but they are often too expensive, far oversized and not so easy to be used when it comes to non-industrial small batch duties.

With a flow rate of 400 l/h and a working pressure of 120 Bar our MICROLAB 400 perfectly suits the small batch applications. It could be used in both ways: with a single pasteurizer (recirculation duty) or with two pasteurizers (in line installation between the two pasteurizers).

The objective of the homogenizing process is a positive effect on the ice cream's taste and flavour, furthermore **it make the ice cream more creamy and with a less cold feeling**. The ice cream, thanks to the homogenizing process, will benefit of a longer overrun, a higher storage stability, a better dissolution and an increased digestibility.

### How the MICROLAB 400 works

The pumping pistons push the product through the homogenizing valve at a pressure of 120 Bar.

Into the homogenizing valve, due to a quick increase of the speed (up to a 9.300 cm/sec), a strong cavitation and due to the friction among the cells, the product is subject to a micronization process which reduces the average diameter of the solid fat particles to a few micrometers in diameter (< 0.0035 mm). The micronization process removes the fat cell's external coating, increases the area in contact with the emulsifiers, favours the water-oil phase, makes the ice cream texture more soft and gives a dry taste which makes the ice cream a quality product.

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 English version





Technical Features		
Flow rate	l/h	400
Working pressure	bar	120
Pumping pistons	No.	2
Net weight	kg	120
Dimensions	cm	45x49x77



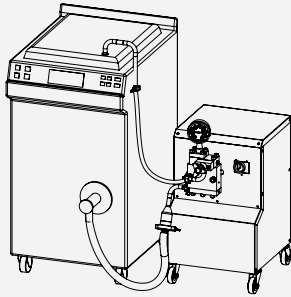
**Included equipment:**

Suction filter, lubricant oil, set of seal kit, O&MM.

**Optional equipment:**

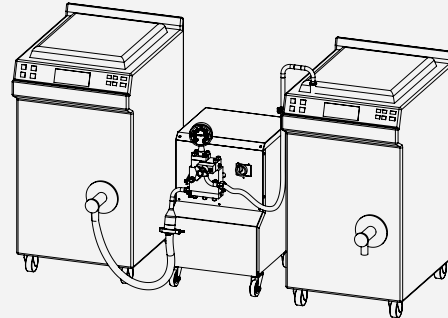
Food grade hose c/w fittings.

**Use of the MICROLAB 400 with a single pasteurizer (recirculation duty)**



Once the product in the pasteurizer reaches the temperature of 50°C and the sugar has been fully solubilized, the homogenizer starts recirculating the batch in a loop (5 times approx), to make sure the ice cream is fully homogenized.  
The recommended process time is calculated by the following formula: batch size in litre divided by 1.33 (i.e a batch of 30 litres will required 23 minutes of recirculation process).

**Use of the MICROLAB 400 with two pasteurizers (in line installation)**



When the product in the first pasteurizer reaches the pasteurization temperature of 85-90°C, then the homogenizer transfers the product into the second pasteurizer to accomplish the cooling duty.

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