

Soap finishing line (automatic version)

1) The project

Is to create a soap finishing line which is using semi-worked raw materials (noodles), fragrance, cream, softener, ...
The capacity of the line is about 200 to 2000 kg/h with soaps weighing 15 to 400 grams.

2) Our proposal

For a capacity not exceeding 300 kg/h

This way of production (automatic) is less manual than the other (semi-automatic). So, for a low capacity, we recommend the use of our machine MONOBLOC (comprising a mixer, a mill and a plodder) which is an economic solution.



MONOBLOC

To complete the line, you have to use an automatic cutter located next to the plodder, where the soap goes out. It's going to be cut by a stainless steel knife actuated by a servo motor. You also can adjust the length of the soap with a digital display.



Automatic cutter

The final shape of the soap is given by a horizontal automatic stamping machine REVOLVER type for banded soap or vertical type for bandless soap.



REVOLVER type stamping machine and its banded die set



Vertical type stamping machine and its bandless die set

We will develop the difference between the die sets later (*) but we can already point out that for bandless die set, a returning conveyor transports the soap flash from stamper to plodder.



Returning conveyor

For a capacity between 300 and 2000 kgs/h

At least, you need two chillers: one chiller for plodder cooling jacket and a negative cooler for the stamping machine. The first is here to bring water at a temperature about 18°C in close circuit to the plodder barrel ; the second, is used to re-circulate a mix of water and glycol at a temperature of about -5°C or even less to avoid soap sticking to the mold and ease the work of suction cups.



Cooler

For biggest productions, it's necessary to make some changes in your finishing line. So, instead of MONOBLOC machine you will use three separate machines with a biggest capacity.

First, we propose you a mixer which is going to mix soap noodles with various additives like cream, perfume, water or others.



Mixer

Then, mixed soap noodles are transferred to a three roll mill in which they will be laminated in order to be transformed in a soap film perfectly homogeneous similar to tagliatelle.



Three roll mill (from behind)

*So, soap appearance gives an easy explanation of the difference between banded and bandless molds In fact, banded soaps which have a wide band have been formed by a banded mold and those which have a small band have been formed by banded die sets With bandless mold we can produce soap of any shape (flowers, animals, ...) while banded molds are specially designed to give a parallelepiped shape to the soap.

BAND AND BANDLESS TOILET SOAP



Bandless= ceinture fine/ Banded=ceinture large



Three roll mill (from ahead)

After milling process, you will have to bring the soap to the plodder. It's a two stages processing machine: on the first stage, the soap goes through a refiner from where it is extruded as noodles colored and perfumed; on the lower stage, noodles are compressed and extruded as a compact and homogeneous bar. The shape of the bar can change according to the shape of eye-plates used at the outlet of the cone. Between the two stages, a vacuum chamber is used to take out the air from the soap in order to avoid blisters and bubbles.



Plodder

After extrusion, the manufacture of soap follows exactly the same principle as the one for less than 300 kg/h production with the same stamping and cutting machine that we saw on page 1. But, from 1500 kg/h (so for very big productions), it's necessary to use a stamping machine which allows molding of six soaps at the same time and therefore able to keep pace required.



Stamping machine HST with 6 footprints (or more)