

“LIGHT HAM”

Description of VEMAC technology
for the production of a light raw ham



Industrial automation since 1989

VEMAC

 **MIDDLEBY**
FOOD PROCESSING

Line for the production of VEMAC light raw

The aim of the VEMAC project called, **CRUDO LIGHT** is to obtain a ham to be sliced with characteristics (taste, color, texture, appearance of the slice), in line with those of a foreign ham (salted in the traditional way and with a curing time of about 9-10 months), but with less labor and a decidedly lower production cost. This considerable saving is achieved through a method/system that allows a considerable simplification of the production process, industrializes production and shortens the curing time, passing from 10 months, of the product salted in a traditional way, to a complete cycle of about 60 days.

Crudo Light VEMAC is an innovative product healthier than raw hams salted in bone, thanks to a lower salt content in the finished product and a lower percentage of fat.

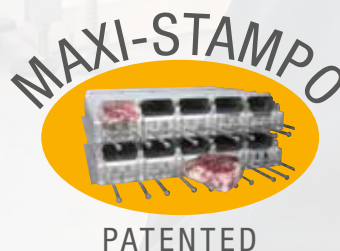
A further advantage of this product is its extreme flexibility on the international market as the taste can be customized with different aromatic shades depending on the customer's needs. Normally this ham is sold sliced or sliced and for this reason it is very convenient both for the slicer and for catering.

Technical Details

For the production of this ham we start from a leg cut hebe or a quartino. The starting weight must be more than 12 Kg. After trimming it is between 9 and 9.5 Kg. The pH should be in a range between 5.6 and 5.8 the temperature at the time of salting of +2-3°C.

Indicative production cycle

- 1 unsod hams
- Brining
- Cold drying
- Seasoning up to the desired weight loss which can vary from 34 to 41%
- Washing
- Grooming
- final pressing/forming in the VEMAC MAXI-STAMPO
- Vacuum or thermoformed
- Storage and hardening in a cell at negative temperature by slicing
- Total production cycle:
8 weeks for the version without grease and rind.
12 weeks for the version without fat and rind



Advantages del VEMAC process:

DEBONING

- Lower costs in boning fresh ham and recovery of waste that can then be reused for other products. (in traditional raw ham it is boned at the end and the waste must all be thrown away, nothing can be recovered);
- Facilitates in the boning (it's much easier and faster to boning a fresh product than a seasoned one);
- Savings on the purchase of machinery for boning, (no need for stem saw and butt cutter, boning machine);
- Preparation of the ad hoc cut as required by the process.

RIPENING

- With the VEMAC system, considering 60 days as a production cycle, you can plan 6 cycles in a year, which if compared with the technology of traditional raw ham, give a considerable economic advantage compared to the single cycle that is obtained in a year of production of raw ham seasoned with bone. The process is also highly standardized thanks to the help of dedicated machinery and requires less handling / handling and therefore a lower economic cost of production due to the lower work of the operators involved and certainly also a lower contamination of the product.

PRODUCT UNIFORMITY

- Thanks to VEMAC technology, the final product is standardized in weight and color classes homogeneous, a healthy product with a low amount of salt compared to ham is obtained traditional, the distribution of salt between the products is perfectly homogeneous in the producer or finished, reducing waste at the final selection between products that diversify by much from the standard, as it happens in the process of salting raw ham traditional with bone.



Production technology

1. Preparation of the raw material

Preparation of pork ham with an initial weight of 12- 13 Kg

Product de-extracted, degreased and prepared for the salting phase



New technologies for old traditions

2. Salting - rest - drying and seasoning on special VEMAC shelves

After in-line weighing and salting, the products are loaded on special VEMAC scales that guarantee excellent air circulation between the hams and the products are never discharged from the salting phase until the weight loss suitable at the end of the process is reached. The permanence of the products on the bilancelle takes place for at least 8 weeks on scales at different degrees of T° and RH%.



Production technology

3. Washing of hams before final preparation



4. Finishing and molding in the VEMAC MAXI-STAMPO

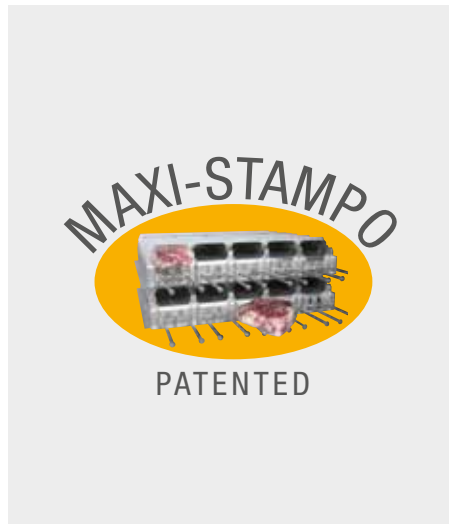
In-line product trimming phase



Arrival of hams to the MAXI-STAMPO line with connecting belts



4D Press of the MAXI-STAMPO system

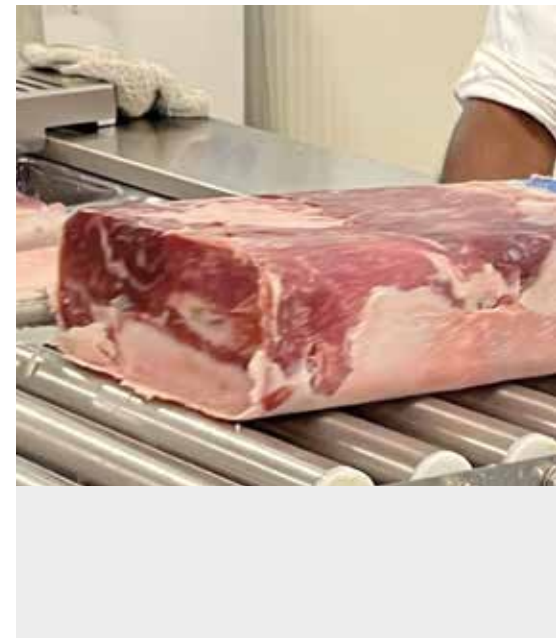


5. Preparation of the maxprint, rubber, freezing, expulsion from totems after 48 h

Loading and unloading station of the totems of the MAXI-STAMPO system



Ham formed and pressed for slicing (single ham or possible bar of two hams)



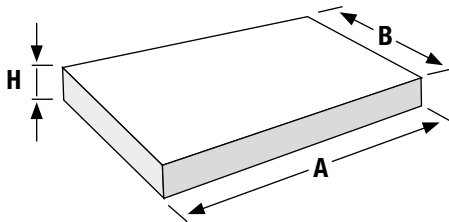
6. Thermoforming products

Tile ready for the sliced meat



FINAL PRODUCT DIMENSIONS

A = 40/50 cm variable according to weight
B = 16/18 cm variabile
H = 6/8 cm



Example of the differences between traditional ham (foreign / parma) and VEMAC tile.

VEMAC tile process flow

- Ham with HEBE cut bone
- Bone-off and trimming
- Salting in line and loading on special shelves VEMAC scales
- Restdrying, pre-seasoning, seasoning without unloading the product from the scales
- Washing
- Trimming and forming in the VEMAC MAXI-STAMPO
- Vacuum or thermoforming

Total cycle time: 2 months

Process ham with traditional bone

- Trimming
- First salting and loading on scales
- Second salting unloading from scales first salt and refill on scales and second salt
- Discharge from salting type scales with horizontal products for vertical hanging on scales with rope
- Pre-rest and rest +2°/+5°C
- Drain from scales pr toiletteira and washing
- Drying and pre-seasoning
- Discharge from bilancelle for sugnatura phase
- Ripening final
- Bone-off, trimming and forming
- Vacuum or thermoforming

Total cycle time: 9/10 months

Characteristics of la mattonella VEMAC

- Total production time: 8 weeks
- Loss of weight finished product: 35-38%
- Sale nel prodotto finito: 4%, very sweet compared to a traditional ham with an averagesalinity of 5.7- 6.0%.
 In our product the salt is evenly distributed in the mass; such a result is difficult to achieve in a traditional foreign ham.
- Chemically and bacteriologically it is the same as ham produced with traditional technology aged 10 months. (scientifically proven!).
- Totally sliceable.
- Starters and aromas are customized for the customer and sent exclusively.

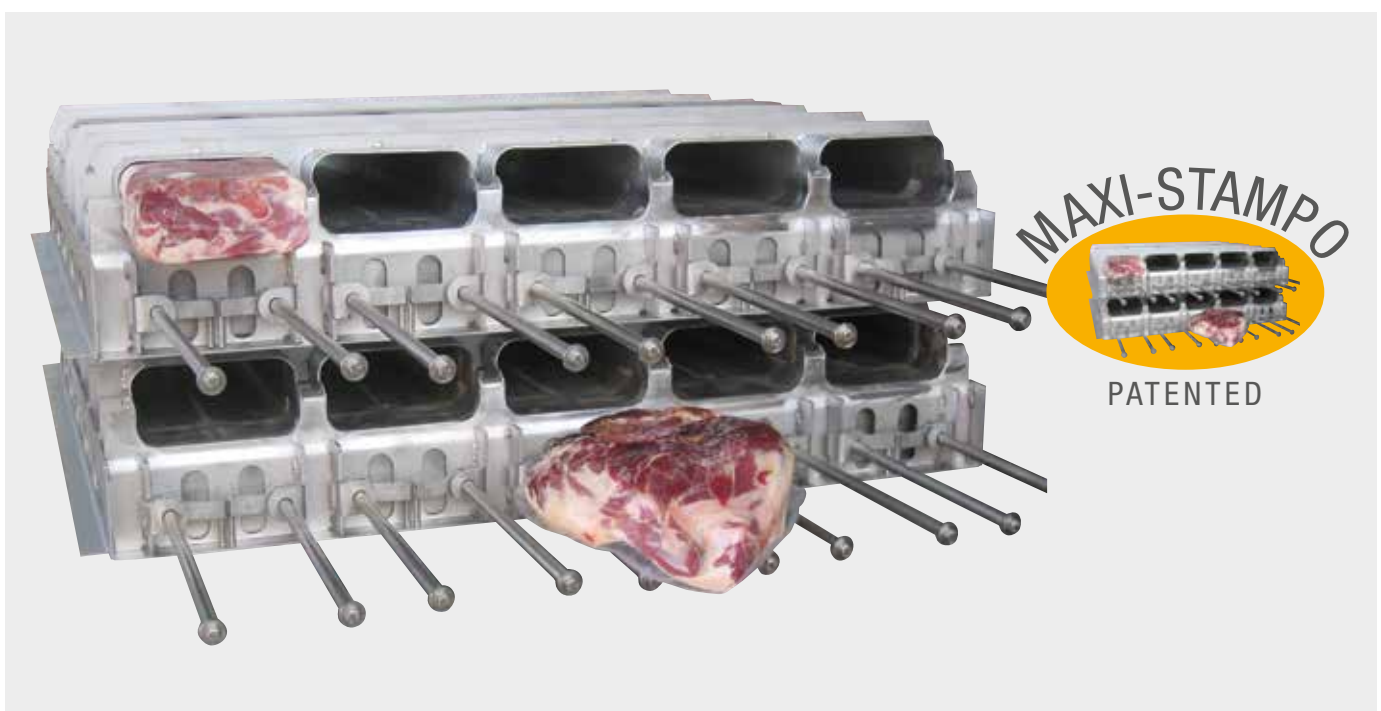
Verification of product drops %

Example of table

Bone-in weight	Pulp weight	Pulp	Shin weight	Shin	Bones weight	Bones	Mince weight	Mince	Rind weight	Rind
13,80	9,90	71,74%	0,80	5,80%	0,90	6,52%	0,17	1,23%	1,98	14,35%
12,80	9,39	73,36%	0,80	6,25%	0,98	7,66%	0,18	1,41%	0,40	10,94%
12,90	9,32	72,25%	0,75	5,81%	1,02	7,91%	0,16	1,24%	1,68	13,02%
13,35	9,78	73,26%	0,72	5,39%	0,97	7,27%	0,18	1,35%	1,70	12,73%
13,05	9,51	72,87%	0,75	5,75%	0,92	7,05%	0,18	0,14%	1,65	12,64%
12,90	9,41	72,95%	0,76	5,89%	1,02	7,91%	0,05	0,39%	1,75	13,57%
12,80	9,43	73,67%	0,70	5,47%	0,93	7,27%	0,12	0,94%	1,66	12,97%
12,55	8,81	70,20%	0,75	5,98%	0,92	7,33%	0,17	1,35%	1,93	15,38%

Economic comparison between foreign bone-in ham and VEMAC ham

Process phase	Foreign bone.in ham	VEMAC fast brick without fat
Quarter raw material	13,50 Kg	13,50 Kg
Trimming and preparation for salting	11,88 Kg	19,90 Kg
Weight loss for resting, ASC and seasoning	7,95 Kg	6,43 Kg
Deboning	5,00 Kg	5,70 Kg
Difference		700 gr extra salable
Price of brick/Kg	7,5 euro/Kg	7,5 euro/Kg
Gain		+ 5,25 euro per ham





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