



LIMA, A WORLD OF SEPARATION

Company profile abstract

Since the time of its incorporation in 1981, LIMA is a company which has specialized itself in the design, manufacturing and sales of meat-bone separators, deboning and desinewing machines for the poultry, pork, lamb, beef and fish industries.

The company is located in the town of Quimper in Brittany region, in the western part of France. Equipped with the most up-to-date machine tools and facilities, LIMA keeps on innovating new mechanical separation technology. Its factory, in addition to manufacturing, offers testing facilities in its modern laboratory.

Numerous LIMA machines models, with separating capacities ranging from 100 to 20.000 kg/hr (220 – 44,000 lbs), corresponding to the highest EU and US quality standards are at 95 % exported worldwide through a team of distributors servicing over 100 countries on the 5 continents.

For those not evolving in the poultry or meat industry, the word LIMA would certainly evoke the magnificent capital city of Peru.

However, since its modest beginnings in the 80's, LIMA which literally in French goes as *Les Innovations Mécaniques Alimentaires*, The Mechanical Innovations for the Food industry, rapidly made a name for itself to become today one of the most acknowledged world leaders' in its field.

We may say that mechanical separation is their life at LIMA as they are 100% dedicated to this. Their job is to separate the hard from the soft using a mechanical means.

The purpose is to maximize the value of co-products, such as, typically: wings, necks, drumsticks as well as poultry carcasses after automatic cut-up lines, which would otherwise be discarded or sold at a very low price as it would be virtually impossible to recover all this meat from the bones manually. The separation of the meat from the bones is performed by using a rotary auger into a filter. The machine gently pre-crushes the bones and as the auger pushes the raw material through the filter, the pressure is easily regulated by adjusting the distance between two conical parts at the bone exit of the machine. A graduated device enables the operator to know exactly in which pressure adjustment the machine is. As the pressure increases on the raw material, it enables to extract through the openings of the filter, the soft part, the meat whereas the hard parts, the bones continue their way to the exit of the machine. The first and most common use of such separated meat, referred to as Mechanically Separated Meat (MSM) is the production of fine paste sausages such as Frankfurters for instance.

This is avoiding a considerable amount of non-desired side effects of the animal production.



This is a very significant amount of meat protein which is transformed into sausages or other meat products and offered on the market, generally at a very affordable price. In this sense, LIMA machines are serving a "green oriented" attitude.

LIMA has always been a prime mover in the development of new separation technology and filed several international patents.

Among the developments which were made by LIMA, only to quote a few:

- **1984** : Original one-piece slotted filter / auger patent on its LIMA S meat-bone separators for the production of excellent quality MSM at high yield.
- **1994** : Low pressure deboning head (filter + auger) patent with the manufacturing of its first low pressure deboners which enables to separate meat from the bones with a better texture and consistency, closer to a minced meat.
- **1999** : Very low calcium deboning head development.
- **2006** : First pork skin / fat separators even for the hardest pork skins.
- **2011** : First BSP beef meat bones separators with incorporated bones pre-breaker for a high quality beef structured MSM.
- **2015** : New very large capacity LIMA RM 2 000 S separator for chicken bones up to 20 000 kg / hr (44 000 lbs/hr), with very low maintenance cost features.

These developments enable LIMA to propose their customers with a full range of:

- **Meat-bone separators type S** for the production of excellent quality MSM at high yield, sometimes referred to as "LIMA meat" by their customers.
- **Deboners** for the production of very high quality separated meat in terms of **Structure, Color** and a **low Calcium content**, less than 1 000 ppm, commonly also referred to as "3 mm MSM" or "structured MSM" on the market. The mechanically deboning applications are quite numerous such as for poultry raw materials : necks, V-bones, drumsticks, front carcasses, wings as well as for pork such as : back bones, necks, ribs.
- **Desinewers** for the separation of tendons, sinews, cartilages, bone chips of meat cuts without bones such as trimmings, aponeurosis, shank meat at a very high yield, from 80 to 96%, so as to recover an excellent desinewed meat while C/P ratios remain under controlled values and the temperature hardly increases during the process.

LIMA machines benefit from the following advantages :

- No pre-breaking needed,
- Single stage operation,
- Low maintenance cost,
- Optimum high yields,
- Quick use and operator friendly

LIMA in its daily endeavour to develop equipment which actually fit its customers various separation needs, has standardized its range of equipment in order to enable most separators to be changed over into deboners or desinewers and vice versa in a quick, easy and effective way.

Other specific applications have been developed throughout the years with its customers and not only for the human food industry but also the pet food industry or collagen industry with for instance:

- Pork fat – skin separation, the good quality fat being reused in the formulation of further processed meat products and the defatted skin being used by collagen manufacturers.
- Cartilage separation out of pork tracheas or beef gullets, such cartilage having various applications in the cosmetic and pharmaceutical industries.

Other soft bones coming from fish central bones after filleting or fish flaps can also be separated from the fish pulp, such fish pulp being used for the formulation of further processed products for human or pet food consumptions.

LIMA's expertise and experience has enabled the company to develop and propose his customers with deboners for much harder bones such as pork or beef.

These participates even more to the already established reputation of robust, user friendly and efficient separation equipment LIMA has.

It would take a very long article to enumerate all the separation capabilities of LIMA and what LIMA's customers actually separate, some animals being sometimes more exotic than those already mentioned. LIMA had estimated back in 2014 that more than 1 500 000 metric tons of separated meat were processed every year on LIMA separators, and this number keeps growing on. Definitely, LIMA has a world of separation!

LIMA actively participates to more than 35 different tradeshowes a year, many of them being specialized in the poultry, meat and fish industries such as IFFA in Frankfurt, ANUGA in Cologne, IPPE in Atlanta, SIAL in Paris, SEAFOOD PROCESSING shows in Brussels or Boston and many VIV shows in Europe, Asia and in the Middle East. So, please feel free to come and meet them to discuss about your separation needs.



LIMA S.A.S.
456, route de Rosporden
Z.I. Guelen
29000 QUIMPER - FRANCE
Tel. : + 33 (0) 298 948 968 - Fax : + 33 (0) 298 948 969
www.lima-france.com - lima@lima-france.com
