



EGG BREAKERS & SEPARATORS

PROCESSING EQUIPMENT



Pelbo[®]
Egg Processing Equipment

MOBA



INTEGRATED TOTAL SOLUTIONS TO BENEFIT YOUR BUSINESS

The Moba Group is the world's leading manufacturer of egg grading, packing and processing equipment. Our head office is in Barneveld, the Netherlands. With development, manufacturing, sales and service in multiple locations, we aim to offer global total solutions and remain close to our customers at the same time. We use an extensive network of agents to support our branch offices in maximising effective dialogue with our customers. We have a competence centre for breaking and processing in Brugherio, Italy. There we manufacture our famous breaking and processing machines.



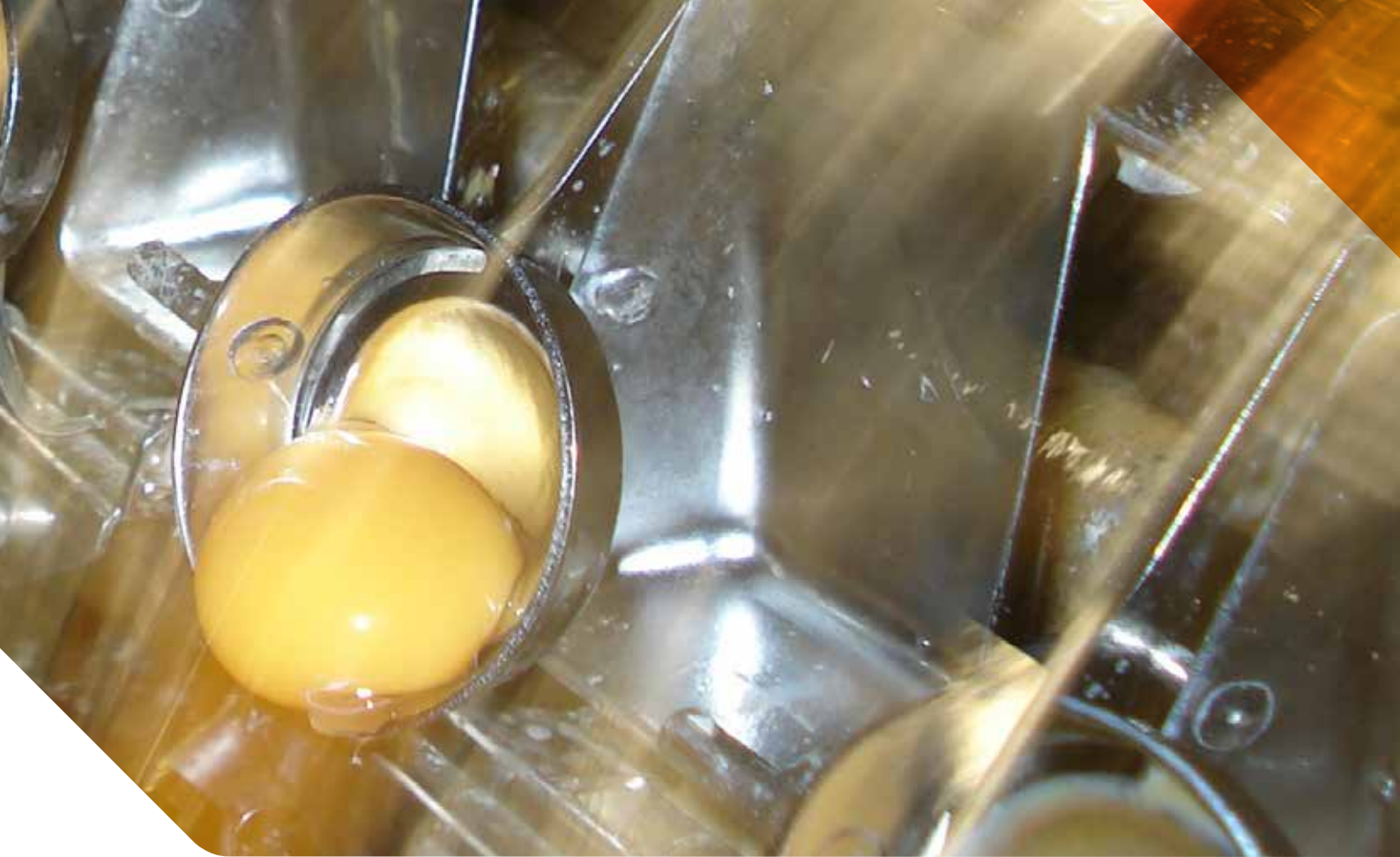
Pelbo's dedication to the egg industry goes back to the early 70s when the first parallel lines egg breaker/separator was designed, patented and launched in the market. Since those days, Pelbo energies have been addressed to provide innovative products and systems based on the most advanced technologies to support egg industry profitability and production efficiency. Pelbo products and systems portfolio includes a complete range of egg breaking

and liquid egg processing plants based on components and technologies developed and tested internally and supported by a team of highly skilled engineers. Worldwide presence with own staff, business partners and a widespread Service Network guarantees constant connection with customers and most significant players in the industry. Pelbo R&D develops innovative solutions turned into standalone products, fully integrated egg processing plants and customised solutions.

Synchro Egg Breakers & Separators

Synchro egg breakers/separators represent the state-of-the-art of Pelbo egg breaking systems and are the result of many years spent on R&D and many tests performed in the main egg processing facilities worldwide. Synchro breakers are available in four models from 54,000 eggs/hour up to 225,360 eggs/hour.

Synchro breakers use the unique and innovative self-synchronisation system offering unmatched performances compared to other machines in the market, combined with a design that simplifies all the cleaning operations integrated with the CIP system for a smooth, fast and inexpensive cleaning.



THE HIGHEST YOLK DRY MATTER



Synchro626 > 225,360 eph / 626 cph

A TOUR THROUGH THE MACHINE



1 The Best Egg-Cracking Head

The egg-cracking head is the core of every egg-breaking machine, and the Pelbo egg-cracking head is the result of the long-standing experience and strong commitment of Pelbo engineers towards perfection. Made of stainless steel and with specially developed alloys, the Pelbo cracking head guarantees high standards of efficiency. The exclusive inclination angle of cracking head guarantees that the eggs coming from the infeed conveyor are received and picked up, whatever their dimension and shape are, while the knives hit the egg's surface accurately and keep opened to guarantee the maximum drain. The knives unique materials and configuration guaranteeing a perfect and smooth breaking of the shell; this, combined with the knives opening angle, which is larger than the opening found on



any other type of egg-breaking system, allows the liquid egg to expel from the shell without damage. Moreover, the breaking group was designed to hold the shell in its cradle precisely, thus preventing the shell from falling into liquid products. Egg breaking groups are mounted on robust stainless steel bars and are easy to remove when maintenance is needed.

2 Function of Self-Synchronization

High capacity, yield, performance and quality, are insured by precise alignment of each moving part of the breaker. Pelbo innovative Synchronization system manages the egg through its entire cycle, from the in feed conveyor until the transfer into separation cups. This is possible by the adoption of self-synchronization servo motors and a PLC control that keeps all the moving parts in perfect fine tune with each other. Sensors placed on each system perform this process continuously and Synchro breakers are always at their best conditions, eliminating any manual need for alignment, and with less moving parts consumption. High durability is turned into very low downtimes.

3 High Yield and Perfect Separation

3a Cleanest Egg White in the market

Pelbo egg breaker/separators are delivering highest Albumen quality, cleanliness and purity. With the Synchro breaking line, quality reaches its best with extremely clean egg whites with a fat content below 0,03%. This

quality is the result of combining the configuration of egg breaker separator, its separating cups, high efficiency of Albuchecker® Vision Scanning System and its unique high-resolution cameras for full-colour detection. The design of the separating cups, made entirely in stainless steel, prevents the egg yolk from breaking and leaking into the egg white cup. Furthermore, once inspected, the cups with clean egg white are immediately sent to the albumen tray, avoiding any further contamination.

3b Egg Yolk High Dry Matter

Synchro egg breakers/separators offer the longest separation time compared to any other breaking system in the market (up to 6 seconds), thus resulting in egg yolks with a very high dry matter.

3c Minimum quantity of Whole Egg

Thanks to the Pelbo servo drive technology, the superior opening angle of knives and extraordinary inclination, the accidental whole egg is kept to the minimum. Once broken, the egg's contents move with the maximum care from the cracking head to the separation cups. In case of an egg yolk drop leaking into the white, the egg white cup is immediately released into the "Whole Egg" tank and then washed by the zone water spray system. Any eventually broken yolk is not released into the Whole Egg tank but remains in its cup to proceed towards the "Yolk Tray" to be released.

4 Extended Draining Area for optimal yield

Synchro breakers are designed with a specific extended draining area. After the egg has opened, the liquid releases immediately into the separating cups. The breaking groups holding the leaking shells and separation cups with yolk and albumen run in parallel through the draining area until the draining process completes. Every possible drop of liquid is recovered and processed.

5 Smart Cup Washing System for reduced water consumption

When the breaker is equipped with the Albuchecker®, the operator can easily choose between a variety of cups washing programs. Each program allows choosing when to wash each cup based on several factors, such as egg yolk stain size, number of consecutive cycles in which a cup receives a broken yolk or preset washing frequency. This process significantly reduces the amount of water used, and all the associated water treatment costs while respecting sanitary standards.

6 CIP washing system for higher hygiene

All Synchro breakers are equipped with several washing stations across all zones of the machine. Pelbo's breakers are unique systems in the market that can wash only the desired part of the breaker, thanks to the separated washing system. The control system during the CIP washing session conveys the washing solutions to the various parts of the breaker concentrating the power of the CIP plant; first on the cracking heads and then on the separating cups. During this phase, the automatic washing system orients the water sprays precisely in the area where the cups need washing. This procedure allows rapid washing time and also a noticeable reduction of water and chemical solution.

7 Heavy Duty construction & easy maintenance

Synchro egg breakers are built to meet strict specifications to match the food industry demands. All key components are the result of long experience and tests in most severe conditions. Everything is "heavy duty designed", built to guarantee extended operating time and minimum maintenance. Robust body and stainless steel components are ensuring high efficiency and continuous operations. The customer can do regular service and adjustments with easy access to the parts and components, performing simple setup in a short time, with minimum or even no downtimes.

8 Albuchecker® Egg White Inspection System

Based on a specially designed high-resolution Vision System, the Pelbo revolutionary Albuchecker® egg white inspection system uses ground-breaking and patented software to identify even the smallest egg yolk stain on the albumen separation cup. In this event, the software immediately activates the related area cylinder system to release the albumen cup into the whole egg tank below. The system can also provide statistics, egg counting, dirty cup washing and can be assisted by remote service, if connected to the LAN system. Pelbo Albuchecker® egg white inspection system can correctly identify even the smallest egg yolk stain on sturdy electro-polished stainless steel cups as the system is insensitive to any reflection or interference caused by light and material. The system is capable of detecting even the smallest egg yolk stain, and the operator can easily set the maximum acceptable egg yolk stain through a simple user interface.





Highest performance

Pelbo Albuchecker® guarantees the best performance, built with the simplest and easiest components available in the market. The two main components of the Albuchecker® are the lamp and the Hi-Resolution Cameras. They are positioned at a preset distance above the egg flow, because everything positioned under the egg flow is subject to pollution, thus causing downtime due to the need to clean the soiled parts.

Complete Egg-breaker supervision

A 17" LCD monitor provides information such as total eggs processed and whole egg percentage that can be assigned to each production lot and even exported in

various file formats for further analysis via LAN or WiFi. Our helpdesk, with skilled technicians, can provide you with assistance. To simplify troubleshooting, we can directly make a connection with your system.

Reporting & Statistics

Using a standard Web browser each user can access to the statistical data of each single production batch such as Date, Eggs IN and OUT, Rejected Eggs, Egg Lost. This data enables the user to measure the efficiency of each production batch in comparison to the egg quality.



Pelbo Albuchecker®

THE CLEANEST EGG WHITE

SYNCHRO EGG BREAKERS & SEPARATORS



Synchro150 > 54,000 eph / 150 cph



Synchro200 > 72,000 eph / 200 cph



Synchro300 > 108,000 eph / 300 cph



Synchro400 > 144,000 eph / 400 cph



Synchro500 > 180,000 eph / 500 cph



Simplex Egg Breakers & Separators

The Simplex family consists of two models of egg breakers/separators with separation cups. These models offer high quality separated liquid egg being a real cost/performance advantage for those operators that need to process medium to high volume of high-quality liquid egg.

Simplex5S125

The Simplex5S125 incorporates all the features of highest class machines to guarantee its best production results being the most advanced cost/performance system for the production of high quality separated liquid egg. It may incorporate onboard the Albucheker® Vision Scanning System for superior separated products and labour saving.

Simplex3S75

The Simplex3S75 represents the best choice to start the production of separated egg Yolk / Egg White with capacity from 2,000 to 27,000 eph., and it can be upgraded up to 45,000 eph volume by upgrading with Albucheker® Vision scanning system and increasing its rows up to 5. It can be easily cleaned and sanitised by connecting it to a CIP line or by a high-pressure washer.

THE HIGHEST PROVEN
YIELD IN THE MARKET

SIMPLEX EGG BREAKERS & SEPARATORS

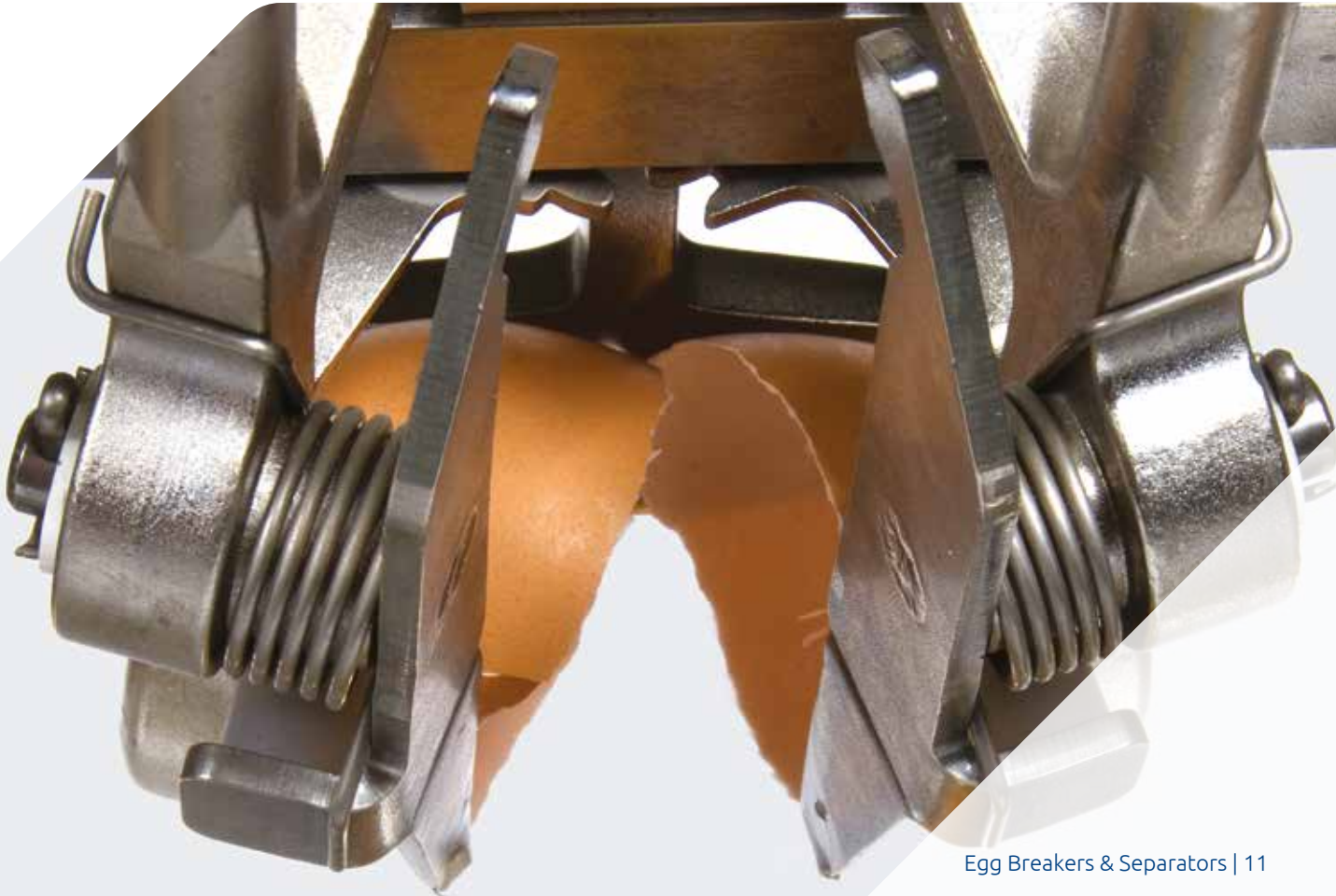


Simplex3S75 > 2,000 ÷ 27,000 eph / 5 ÷ 75 cph



Simplex5S125 > 18,000 ÷ 45,000 eph / 50 ÷ 125 cph

One Single Breaker that grows with your company, 27,000 eph to 45,000 eph





Simplex Whole Egg Breakers

We facilitate the egg processing industry with a wide range of Pelbo Simplex Whole Egg breakers. These egg breakers with various models and different capacities are designed to meet any customer request and expectation. Based on the Pelbo exclusive egg cracking head, they are built in solid stainless steel with first class components to ensure consistent performance through time. Easy to use and extremely reliable the Simplex systems are the ideal choice to start egg processing.

Mostly designed for whole egg production, they can also perform separation of liquid by the adoption of special inclined separation chutes. Ideal for the bakery industry but also egg-based noodles and mayonnaise industry, they can be used both in-line on site with farm laying hens and off-line by the adoption of manual or automatic egg loading systems. Simplex series is easy to operate, and it can be easily cleaned and sanitised by connecting it to a CIP line or by a high-pressure washer.

SIMPLEX WHOLE EGG BREAKERS



Simplex6M200 > 72,000 eph / 200 cph



Simplex12M400 > 144,000 eph / 400 cph



Nano3M75 > 5,000 / 27,000 eph

Upgradable to 5M125



Nano5M125 > 18,000 / 45,000 eph



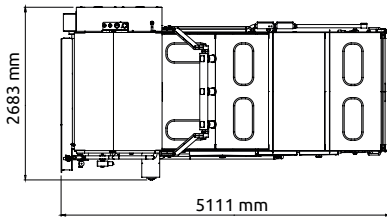
Micro25 > 9,000 eph / 25 cph

Egg Breaking System Portfolio Overview

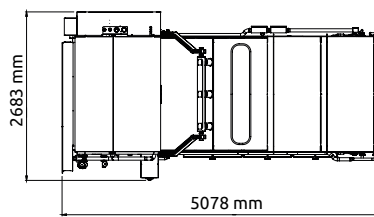
Model	Rows	Capacity range		Separation		Loader	Albuchecker® scanner	Hygienic CIP Sliding cover
		eggs / hour	cases / hour	cups	chutes			
Micro25	2	900 ÷ 9,000	2.5 : 25	-	standard	manual	-	-
Nano3M75	3	5,000 ÷ 27,000	14 ÷ 75	-	option	manual	-	-
Nano5M125	5	18,000 ÷ 45,000	50 ÷ 125	-	option	manual ZB100	-	-
Simplex6M200	6	72,000	200	-	option	Crono2	-	-
Simplex12M400	12	140,000	400	-	option	Crono4	-	-
Simplex3S75	3	2,000 ÷ 27,000	5 ÷ 75	standard	-	manual	option	-
Simplex5S125	5	18,000 ÷ 45,000	50 ÷ 125	standard	-	ZB100 Crono2	option	-
Synchro150	6	54,000	150	standard	-	Crono2	standard	-
Synchro200	6	72,000	200	standard	-	Crono2	standard	standard
Synchro300	12	108,000	300	standard	-	Crono4	standard	standard
Synchro400	12	144,000	400	standard	-	Crono4 Dual Crono2	standard	standard
Synchro500	15	180,000	500	standard	-	Crono6 Crono4+2	standard	standard
Synchro626	15	225,360	626	standard	-	inline	standard	standard

Synchro - Simplex Egg Breakers / Separators Footprint

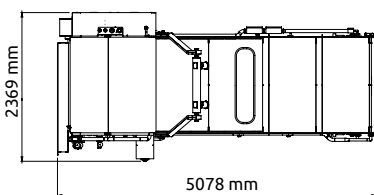
Synchro626



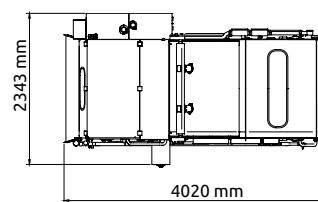
Synchro500



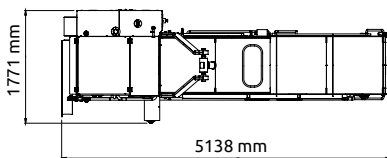
Synchro400



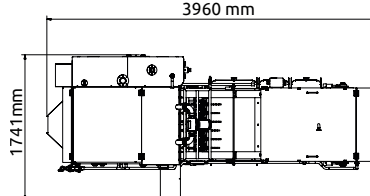
Synchro300



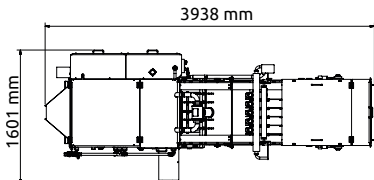
Synchro200



Synchro150

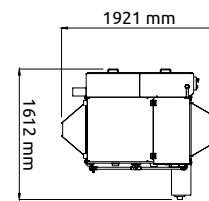


Synchro125/75

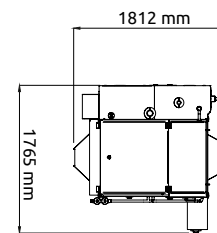


Simplex - Whole Egg Breakers Footprint

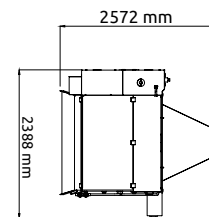
Nano3M75/Nano5M125



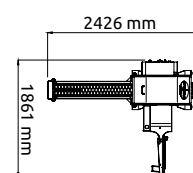
Simplex6M200



Simplex12M400



Micro25



THE COMPANY

In the '70s in Milan, Italy, Mr Giorgio Pellegrinelli founded Pelbo. Very active in the pharmaceutical and food industry, Pelbo introduced its innovative patent in 1982 and revolutionised the egg industry with the first egg breaking machine based on parallel lines and capacity of 54,000 eph. Today Pelbo produces egg breaking machines with capacity from 900 to 225,360 eggs per hour and also egg loaders, centrifuges, egg washers and other critical egg processing systems and components including liquid egg fully automated pasteurising plants. Pelbo always manufactures machines in compliance with the most severe and strict International sanitary standards for the egg processing industry. All Pelbo egg breaking machines and Liquid Egg Handling lines are USDA approved. Pelbo R&D is continuously involved in new development projects and studies with the commitment to provide the egg processing industry always with new machinery and solutions to increase performances and productivity. In 2016 Pelbo became a member of Moba Group.

Service & Customer Support

Pelbo Service Network supports customers around the world, providing advice and solutions to optimise customer's machines and performances. Spare Parts warehouse is always ready to provide needed parts and services either based on planned maintenance or even satisfying last minute requirements with fast deliveries worldwide. "Total Customer Service" guaranteed by the Pelbo brand has always been one

of the most important goals of our company: complete service during all operating phases, from fabrication to installation, problem-solving, spare parts availability and technical service. We have a team of experienced technicians to install and service our systems all over the world. We produce dedicated training sessions for our customers, providing an accessible overview of systems and operations. Besides, we provide information sheets with recommendations for proper parts inventory and cost-effective alternatives of retrofit sets. A piece of equipment should operate at peak performance through its lifecycle and not only when the equipment is new. Through high-quality spare parts, on-site training, online access to your system by our experts, and preventive maintenance programs, Pelbo can help you maintain equipment performance through its life and beyond. From a product pump or valve to a complete breaking and egg processing system, Pelbo is committed to your success. Contact us to learn more about the different ways Pelbo can make a difference.



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