Technical Specification

Moba Omnia PX 350

fully automatic egg grading and packing machine with a max capacity of 126.000 eggs/hour.

General features:

A highly efficient wash-down egg grading machine of the latest hygienic technology. The system includes:

 - Individual egg handling system.

 - Full stainless-steel frame construction.

 - Parts that come into contact with eggs are manufactured of industrial food approved materials.

 - A foam able and high pressure cleanable infeed system.

 - Cleaning In Place system for weighing carriers.

 - Cleaning In Place system for egg carriers in main transport frame.

 - Wash-down transfer system. - Cleaning Out Place cassette system for receiver sets.

 - Cleaning out Place system for buffer sets in easy to remove drawer-concept.

 - Cleaning out Place drop sets.

 - Downwash packing lanes.

 - Master control system (running Linux) for reliable performance.

 - Information center with Man Machine Interface computer (running Windows) and printer.

 - One touch screen on each side of the machine per block of packing lanes for easy monitoring.

 - Provision for positioning inkjet printer cabinets, which is protected during machine downwash.

 - UPS system for central computer functions, timing and weighing system.

 - Surge protection for spikes in mains supply caused by lightning.

<u>**Infeed side**</u>

FL Loader

A loader of the FL series to unload eggs from both plastic and paper trays on to the rollers of the infeed conveyor. By means of "common speed loading" technology, where the loader head momentarily moves in the same speed and direction as-the the rollers during the moment of transferring eggs, this is done in the most gentle way. The loader is easy to clean thanks to its open, foam-able and high pressure cleanable food-tech construction.

Standard features:

- A pre-loader to load the stacks of 6 trays.

- Supplier shift system to indicate the start of a new supplier batch of eggs.

- A turning unit to orientate the stacks.

- Off-grade box to count off-grade eggs if removed manually from the loader.

- Suction grip heads to unload the trays from the stacks.

- A suction head that loads eggs from trays on to the rollers using "common speed loading".

- 2 reject conveyors for wet trays and/or trays with stuck eggs.

- 2 empty tray stackers.

- Control panel.

- Suitable to handle pulp and plastic trays.

Infeed conveyor

Row wide infeed conveyor, with low-impact Hygienic rollers.

Egg Inspector

By means of camera's and special lighting, an advanced vision computer program detects leaking and dirty eggs on the infeed system of the Omnia. Leaking eggs can immediately be rejected in the ''Multi Drum'' and dirty eggs can be sorted on an off-grade lane.

Orientator

To orientate the eggs on the infeed conveyor, placing all air cells in same direction.

Crack Detector

Magneto-acoustical system located above the egg flow, to detect even the smallest hairline cracks. The smart link to the OMNIA enables you to easily produce different output qualities, if necessary. This system is also capable to remove eggs with very poor shell quality.

UV Disinfection

In Omnia PX multiple UV-disinfection systems are integrated. By means of Ultra Violet light, growth of micro-organisms caused by recent contamination is reduced significantly during the operation of the machine. In this way cross-contamination is kept to a minimum. Following systems are integrated:

- UV on infeed for disinfecting the surfaces of both the egg shells and the transport rollers.

- UV on weighing system for disinfecting the weighing rollers.

- UV on transfer system for disinfecting the egg carrying transfer arms.

- UV on the main transport frame for disinfecting the carriers.

Weighing system

The weighing system, with loadcells placed above the egg flow to prevent pollution, ensures very accurate results combined with almost no maintenance. In the weighing system an outlet for critical eggs has been incorporated.

Transfer

A continuous transfer system is integrated in the Omnia. Continuously forward moving arms with egg holders transport the eggs from the weighing carriers gently into the carriers of the 4 main transport tracks. The transfer system can be foamed and down-washed and is easy accessible for cleaning.

Machine frame

Once the eggs are placed in the carriers of the machine frame, the eggs will be transported to the final destination - the packing lanes. A drop gate is integrated to release (programmable) off-grades.

Blood Detector

By means of a spectrum analysis of the egg contents, bloodspots in brown as well as in white eggs are detected. Blood eggs can be programmed either to a packing lane or to an outlet of the machine. This system is also capable to detect rotten, non-transparent eggs, The downwash system is based on the latest high power LED technology and is self-calibrating during production.

Brown Detector

This function, integrated in the blood detector, is capable of sorting eggs based on the shade of brown' This feature can be used to separate white and brown eggs from one mixed flow or select eggs on a packing lane with one uniform color brown, to be sold as premium product.

Printing - Inkjet system

A Videojet 1620, Inkjet system has been included incl. accessories. The text will be printed on the egg from pole to pole.

Release units

Arriving at the position of the designated packing lane, the eggs will be released from the carriers by highly reliable release units.

Open Block

For future expansion with packing lanes, 2 open block positions have been included in the transport frame.

End-conveyor

At the end of the transport frame a foam-able and high pressure cleanable motor driven end conveyor will be installed.

Take away Side

Packing lanes

- 14 High-speed servo-controlled packing lanes with pin conveyors, 14 universal tray/consumer pack denesters, and 14 missing pack sensors.

 - The receiver, buffer and dropset are removable for easy cleaning.

 - On all automatic packing lanes, <u>eggs can be packed into egg trays and into consumer packs.</u> Consumer packs can be closed on 12 packing lanes.

 - Box stamping is possible on 12 automatic packing lanes.

 - 5 block of automatic packing lanes have been installed as front block.

 - On 14 automatic lanes, missing-egg has been installed.

 - 10 Take away conveyors have been extended with 8O0 mm.

 - 1 single handpack unit, suitable for 1 grade output, is included in the frame.

 - 4 Tray stackers have been included to stack the trays 6 layers high.

Pack print

After the closing-unit, all information about origin and destination of the eggs is available on the packs with ''Pack-Print''. It is possible to automatically print the exact total weight of all eggs in the pack. 6 blocks of packing lanes are prepared for "pack-print".

<u>Control system and software</u>

MMI

Windows based control system with standard integrated functions:

Product based programming of the machine; For grades, weight logistics and packing lane functions, complete with a library of all known pack types.

Counting of eggs in many ways; Per input batch (also batch weight distribution for statistical purposes), detection systems, per packing lane etc.

Performance data; A feature that registers machine stops and tells you your day to day efficiency.

Diagnostic information; Numerous messages for operational- and service purposes.

Mobacom via Internet

 The egg-grader wilt be equipped with a network connection for remote service assistance via the internet. This system enables full support from the Moba helpdesk in advising in operational and trouble shoot matters. Also in many cases, future software updates (if required) -can be performed via the internet. A professional firewall ensures an easy and safe installation on to your local area network. Your network will have to take care of the necessary broadband connection (ADSL,DSL or cable network) to the internet as specified below: Minimal requirements:

Download speed   1500 KBits/sec.

Upload speed   612 KBits/sec.

This MMl-control system will is written in the Lithuanian language.

Touch screens above packing lanes

Above each block of packing lanes, 2 Touch Screens are mounted, one on each side of the machine. This screen holds all lane control functions and shows the current status of the machine, the status per packing lane and can additionally display variable information related to the product, such as for instance best-before date, pack type etc. During setup of the packing lane, all setting related to the new product will be available on the display.

Capacity Control

The Omnia uses given-priorities in grades to optimize a certain pre-defined flow of eggs to go to a certain output, for instance a case packer or an egg breaker.

Chessboard

The possibility to place the eggs in an egg-tray like a chessboard pattern.

- 1 PC with Windows-based user-interface.

 - 1 user PC Cabinet.