Winter 2022
HYTEM NEWS

In this issue, introducing 2. Ultimate Zero crack and the most efficient Egg Collecting system in the industry

1. EFA (Egg Farm Automation) targeting Rats and AI Free
2. **Ultimate Zero crack and the most efficient Egg Collecting system in the industry**
3. The most advanced manure handling in the industry
4. 24 hours real-time computer system and ventilation control system to support precise automated egg farm management

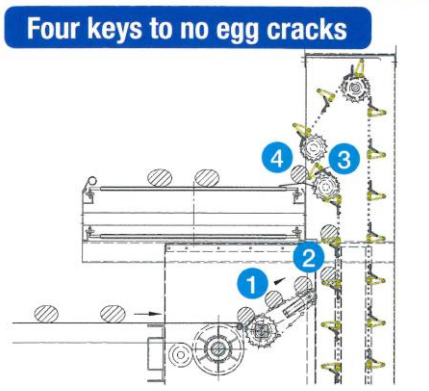
Ultimate Zero crack and the most efficient Egg Collecting system in the industry

The system is consisting of 3 parts.

Part 1

New GC Gentle & Clean series Elevator

Points of Gentle, that is, ultimate Zero Crack Elevator is following 4 keys explained in the catalogue.



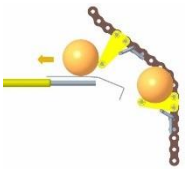
① **Control Conveyor**
Aligns eggs sideways to transfer eggs smoothly to the Gentle Bar and 100% Transfer Control for Each tier discharging

② **Air-cushion Gentle Bar**
Receives eggs softly with an air-cushioning effect.

Patented

③ **Feather Touch Bar**
Reliably ejects the eggs on the gentle bar. The feather touch bar especially demonstrates its full ability with small eggs laid in the hens' initial egg-laying period and when there is condensation on the gentle bar in a cooling pad layer house in summer.

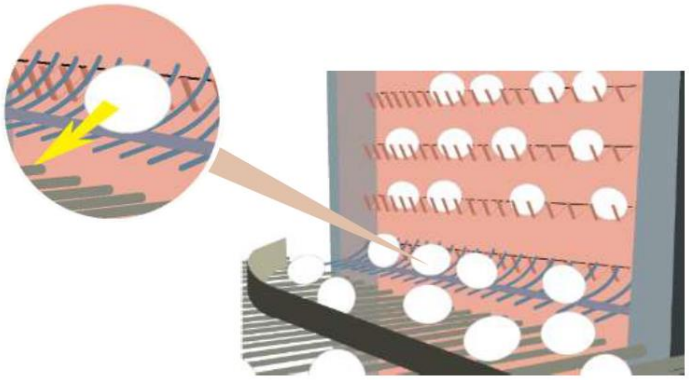
④ **Each tier Horizontal discharge**



Discharges eggs gently and slowly horizontally from each tier, without increasing rolling out speed Not by sloped discharging from multiple tiers

Among 4 keys, the most important feature is ④ "Each tier discharging" and " Horizontal discharging" . The most common discharging by our competitors is "Multiple tiers simultaneous discharging" and "Sloped discharging" as explained by the following diagram in 3 Points in the brochure set.

Multiple tiers simultaneous
wide width sloped discharging



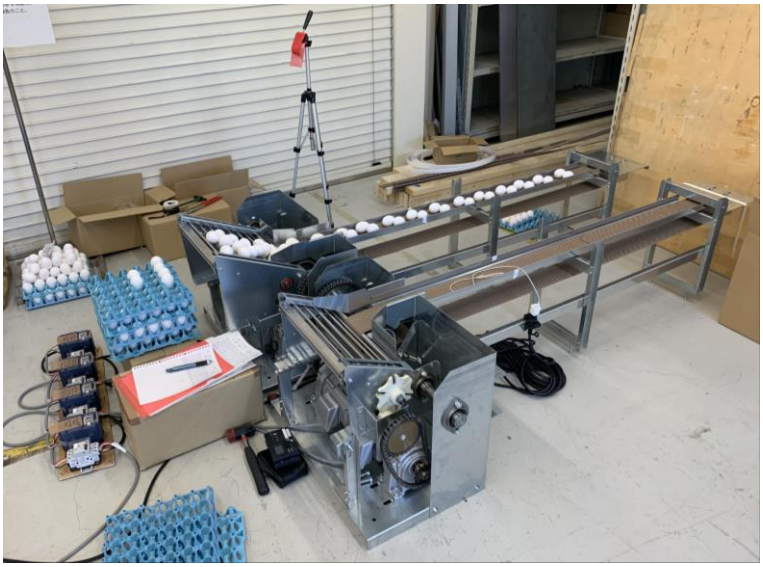
Egg cracks are unavoidable due to the accelerated slope simultaneous discharging from multiple tiers in wide area (around 60cm)

For the each tier discharging, 100% traffic control of Control Conveyor is incorporated, to which timing adjustment is required few months after the installation. Some competitors talk this point as disadvantage of HYTEM Elevator. But the labor cost for this work is so minimal compared to Profit No.2, getting from the ultimate Zero crack as explained in HYTEM EFA Advantage at 3rd page of the brochure set.

High Capacity Elevator

Besides HYTEM Elevator's the Ultimate Zero crack feature, in some cases, the higher capacity of Elevator was desired. The standard capacity of HYTEM Elevator is 12,000 eggs/row. When by 4 rows house, the maximum egg collecting capacity is 48,000 eggs/hour, which may be not enough when a cross conveyor is connected to a grader. Or, at 2 rooms house where 2 rows for each room, 24,000 eggs/hour may be not enough for a farm packer.

To comply with this demand, High Capacity Elevator has been developed, which now available as Option. The standard capacity is 20,000 eggs/row, and 22,000 eggs/row is possible when required.

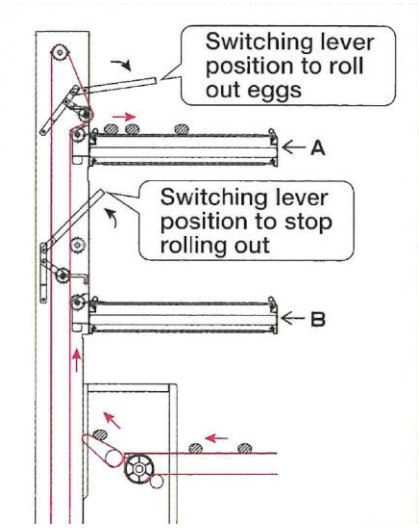


One of experiments in the course of the development

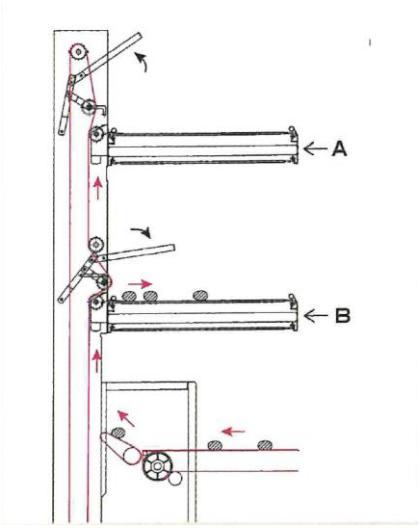
Part 2

Multi Transfer System

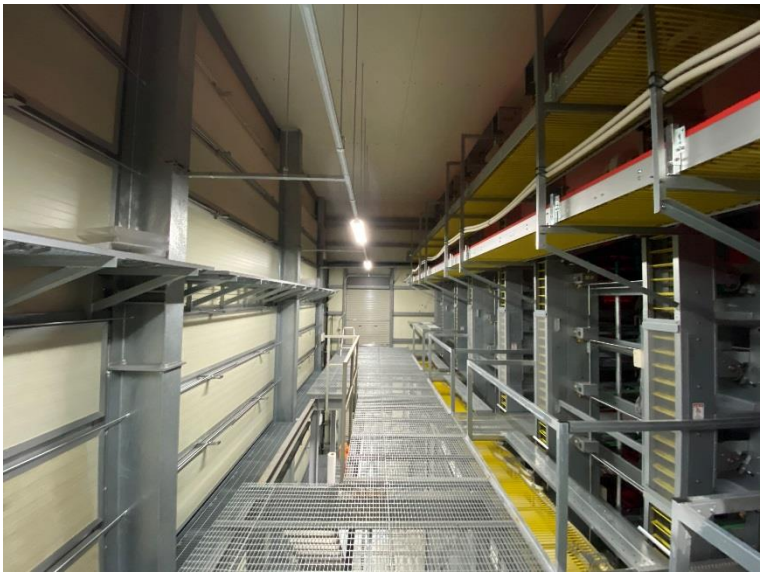
The patented feature, eggs can be selectively sent to multiple rod conveyors, which offer systematic egg collection at the sizable egg farm.



Rolling out to Conveyor A



Rolling out to Conveyor B



Part 3

Egg Flow Control

The system is becoming essential at sizable egg farms in Japan and China.

1. Even numbers of eggs are flowing into an egg room

A preset number of eggs are continually sent to the packer and the grader through the automatic control of the inverter, regulating egg belt speeds based on the egg counter information.

The advantages of Egg Flow Control include reducing cracks of eggs on rod conveyors, eliminating eggs' jamming on the rod conveyor. Since Egg Flow Control was created in U.S.A., HYTEM has been making continual efforts to efficiently collect a variety of eggs for egg farms in Japan for more than twenty years. According to each daily egg collection plan, a predetermined number of eggs are now collected along the plan.

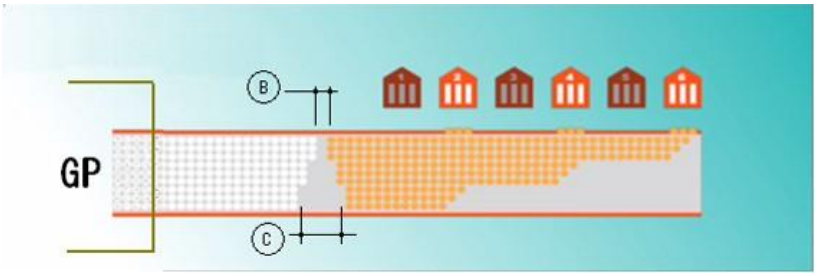
2. The line is full to capacity from start of egg collection.

The gap A is, for example, 1.1 minutes. When the conveyor speed is 8m/min and the width of house is 8.8m, A is 8.8/8=1.1 minutes.

3. Minimized empty spots

Efficient egg collection is possible by minimizing empty spots.

1) Interval B can be set as desired.
2) C is A x 2 when B set by 0.
3) Empty spot C will be removed by allowing mixture of groups.



4. The most efficient egg collection will be completed in full capacity until end of egg collection.