

**ECS**

**EGGS CARGO SYSTEM<sup>®</sup>**

# **TRAY INSPECTOR<sup>®</sup>**



## Introduction

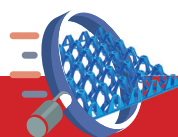
The EggsCargoSystem<sup>®</sup> has been around for more than 20 years and over 300 million trays with associated pallets and dividers have been produced and delivered to customers. From the very beginning, our goal has been to provide a high-quality system that provides optimum protection for the eggs during their journey from production site to processing.

## Case Explanation

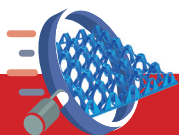
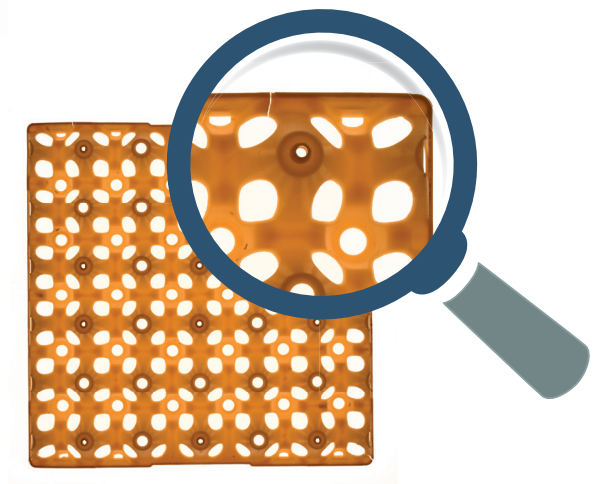
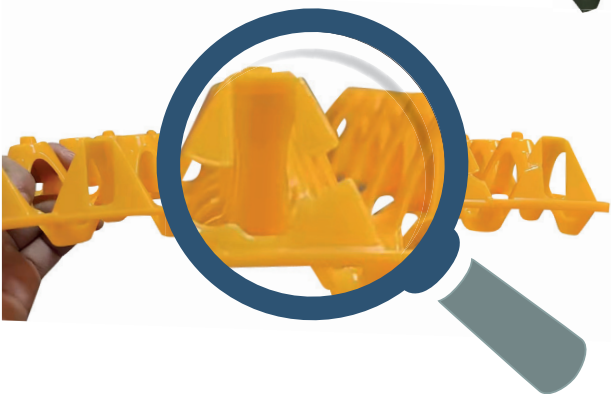
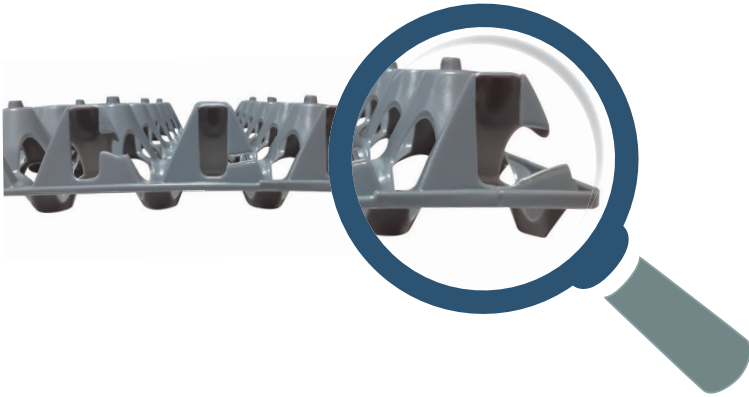
All parts of the EggsCargoSystem<sup>®</sup> are made from new plastic, which in turn is provided with UV protection that greatly slows down the aging mechanism of plastic. Despite the fact that our trays have a very long service life for which we have designed them, there comes a time when they break. You can often see this in the corners that crack and/or break on the sides. Of course this is a nuisance, but on the other hand it is inherent to the year in and year out intensive use of the trays in combination with industrial cleaning. It is inevitable that the trays will break at some point, but the damage that broken trays can cause in the operational chain is of a different order. After all, because the trays are broken, they can get caught in conveyors, get stuck in other stacks on the robot, get stuck in washers and, last but not least, excessive breakage of the eggs because the tray no longer provides structure. This can lead to major direct and indirect damage to eggs and machines.

## Solution

To solve this problem in an adequate and efficient way, Giordano has developed the Tray Inspector. A simple yet ingenious device that can detect the broken trays and remove them from circulation in literally a split second by using vision technology. The Tray Inspector can be set up as a stand-alone setup or can be integrated into existing machines such as washing machines and sorting machines. The set-up and dismantling is literally child's play and can be carried out by the customer himself. Also the maintenance of the mechanical parts is very simple and can be easily carried out by the engineers of the user. Service and updates to the software are done remotely via PLCs and usually take very little time. Apart from regular and thorough cleaning, the Tray Inspector hardly requires any maintenance. The Tray Inspector Basic consists of a machine equipped with a conveyor line, a re-packer and unpacker, a pusher for the sorted trays and of course the vision technology. At the request of the customer and at an additional cost, the Basic can be expanded with a stacker for the sorted trays and, if desired, extended loading and unloading belts. The Basic can also be equipped with an extra camera to read the plastic clock, which each tray is fitted with. This has the great advantage that the user has a real-time picture of the average age of the trays and the amount in use.



## POSSIBLE DAMAGE TO TRAYS



# MACHINE SPECIFICATIONS

## Technical information

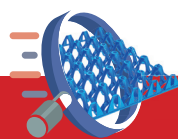
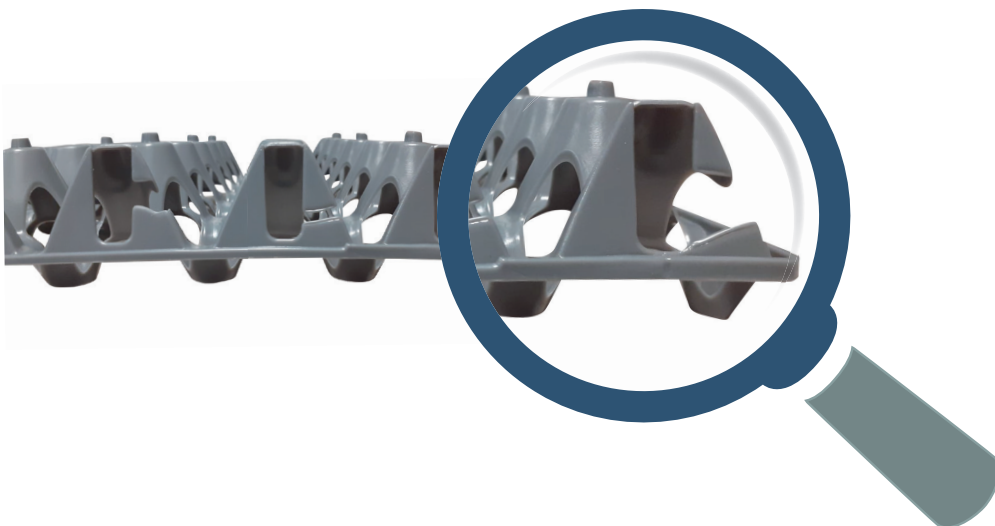
Capacity	2000 trays/h
Weight	500 kg
Material	Clean design. Stainless steel construction finished with food-grade PA plastic
Dimensions	2250 x 1750 x 1500(min)mm
Tray stack input height	Min. 900 mm to max. 1150 mm (adjustable)
Ambient temperature	Max. 45°C
Type no.	G-2103-41

## Connections

Electricity	3 X 400V + N + PE
Protection	3 x 16A
Pneumatic pressure	6-8 bar
Pneumatic volume	2500 l/h
Internet	By Ethernet cable or WIFI

## Control system and software

A PLC is used to operate the machine. It is connected to a separate computer running visual inspection software, which determines whether the tray is good or damaged. The PLC then determines where the tray is and stacks it in the good or bad stack.

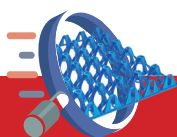
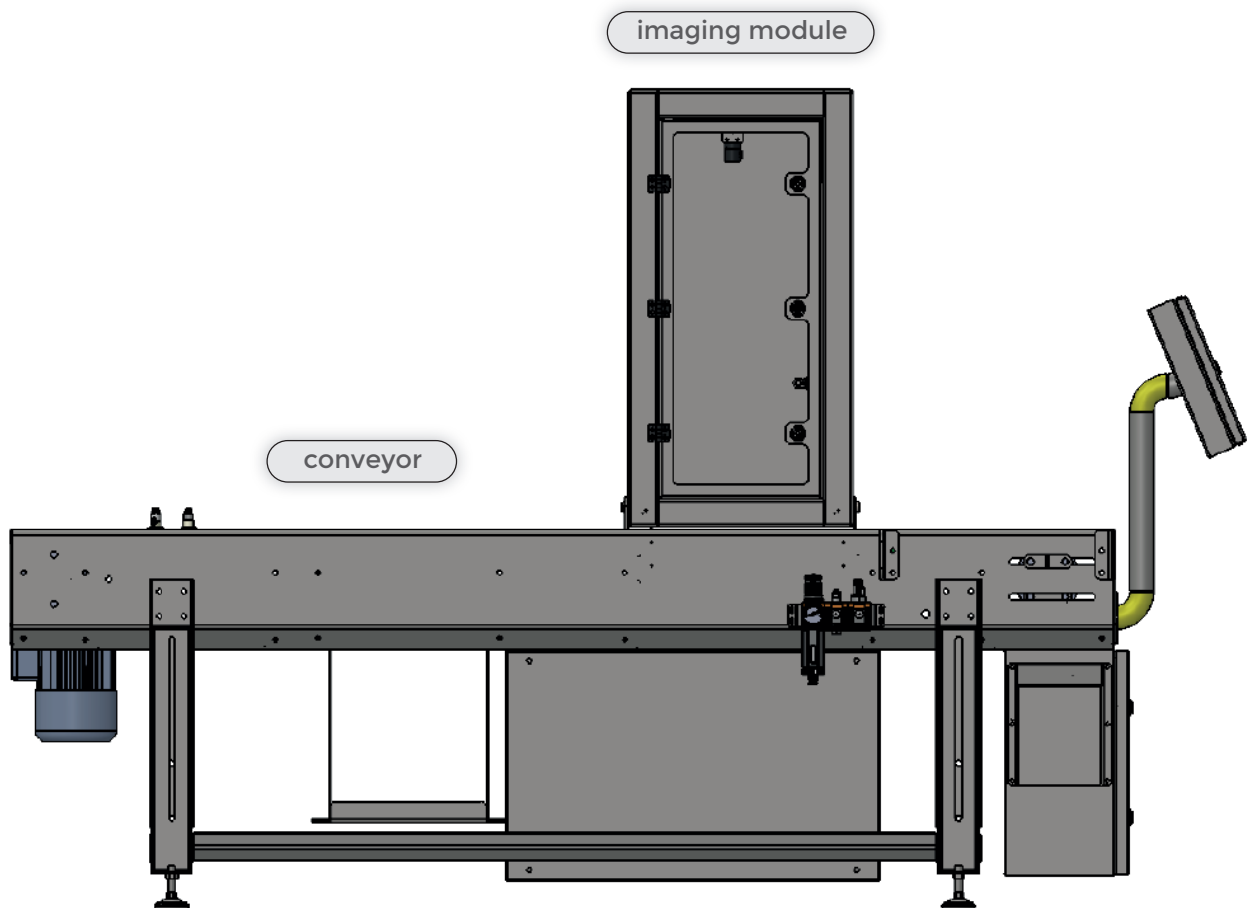


## MODULAR DESIGN OF THE MACHINE

### Basic machine

The tray detection machine has a modular design. It is consequently possible to build the machine in various configurations. The basic machine consists of the following modules:

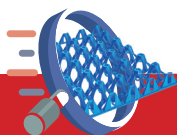
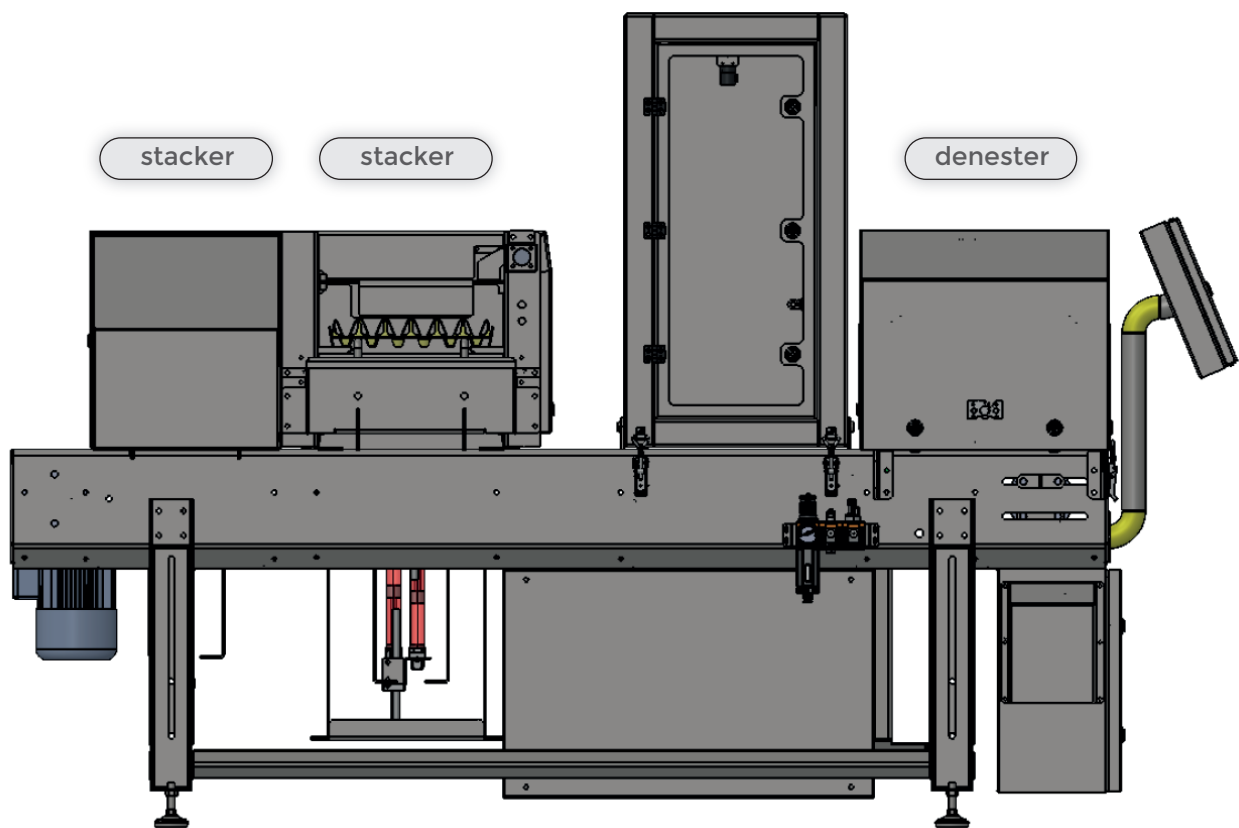
- Conveyor: This component constitutes the core of the machine to which all optional modules are connected.
- Imaging module: This unit makes photographs of trays that the software will use to determine whether the trays are good or broken.



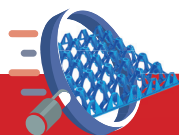
## Optional modules

The following optional modules may be selected:

- Denester: A denester can be supplied to handle trays delivered in stacks.
- Bad-tray stacker: This module can be supplied to stack broken trays.
- Good-tray stacker: This module can be supplied to stack good trays.
- Extra camera: An extra camera can also be added in order to read the age of the trays.
- Connection to or from existing machines within the process: Since the machine often has to operate within an existing process, it is important to ensure a proper transition from the already existing machines within the process to the tray detection machine.



## Photos of the Tray Inspector



## Buy or Rent

Giordano offers you the possibility to buy or rent the ECS Tray Inspector.  
For our conditions, see the website

[www.giordanoglobal.com/](http://www.giordanoglobal.com/)

