



Egg Grading

More output with higher egg quality

Food safety, hygienic design and user-friendly machines are an absolute must in today's egg grading market, and at SANOVO TECHNOLOGY GROUP we keep on setting higher standards.

With a capacity ranging from 40 to 800 cases per hour, we cover everything from small and agile units to grading stations with the largest grading capacity in the world.



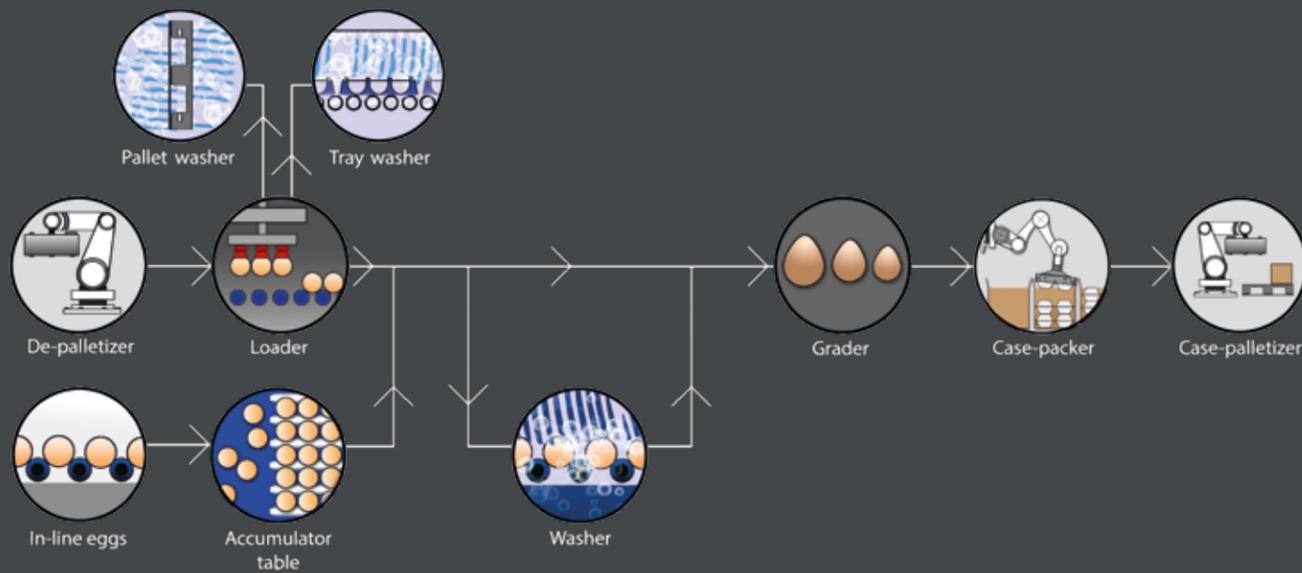
Designed to meet your requirements

At SANOVO TECHNOLOGY GROUP we have designed a wide range of mechanical and electronical graders with the flexibility to meet individual customers' requirements. This includes small and flexible low capacity grading units up to dedicated grading stations with the highest capacities in the market.

Choosing an egg grader from SANOVO TECHNOLOGY GROUP ensures your eggs will be treated in the gentlest way – all the way from loading and until they are safely positioned in the carton. This is secured through a simple design that makes sure each individual egg is handled as gently as possible. The simple design has the added advantage of less wear and tear, along with low maintenance costs and superior labor efficiency.

Our egg graders handle all types of popular packaging throughout the world.

Functions in the grading process



Performance you can depend on

The modular and flexible grader design allows you to configure the lanes to match the logistic flow. The configuration can include egg washers and egg dryers, and it can be equipped with UV disinfection, different types of cleaning systems, color sorting and of course, dirt, leak and crack detection.

Our graders have the world's highest number of standard parts and the lowest number of wear parts compared to anyone else, and the open design allows daily cleaning with water, as even the weighing scales and the crack detector are water-resistant. The mile-long feature list also includes self-calibrating scales, the most sophisticated and yet user-friendly software, overhead monitors and, of course, the smallest possible footprints.

Grader families optimized to your needs

The SANOVO TECHNOLOGY graders are all the result of many years of continuous development and have proven their efficiency at many production sites. Each family has been optimized to meet the requirements in their particular working environment.



Alpha

The Alpha is a robust and reliable egg grading and packing system designed for egg producers with low capacity. With their simple design, the Alpha machines incorporate most of the hygienic features available. Alpha configuration possibilities make every logistic flow possible and can be configured to fit any existing packing site.



Ardenta

The Ardenta series is recognized for its efficiency, which is comparable to the biggest grading stations. The proven design and technology significantly reduce the time required for cleaning and maintenance, realizing a very competitive cost per graded and packed egg.



OptiGrader

Developed and launched in 2011, the OptiGrader has quickly become the preferred choice for high volume grading. This is due to the understandable and hygienic design, which makes the grader extremely reliable in a challenging seven-days-a-week in-line or double shift operation.



GraderPro

The GraderPro has the highest grading capacity ever seen in the market. Combined with its small footprint, low maintenance and full automation, this makes it the most efficient grader available.

	ALPHA	ARDENTA	OPTIGRADER	GRADERPRO
Capacity	25,200 - 45,000 eggs/hour (70-125 cases/hour)	61,200 - 108,000 eggs/hour (170 - 300 cases/hour)	144,000-216,000 eggs/hour (400-600 cases/hour)	144,000-288,000 eggs/hour (400-800 cases/hour)
Electronic weighing	✓	✓	✓	✓
Simple hygienic design	✓	✓	✓	✓
CIP	-	-	Semi-Automatic	Full-Automatic
Cleaning / Washing				
Infeed	Wash-down	Wash-down	CIP (option)	CIP
Removal gates	Wash-down	Wash-down	CIP (option)	CIP
Detection systems				
Scale	Wash-down	Wash-down	CIP (option)	CIP
Crack	Wash-down	Wash-down	CIP (option)	CIP
Inserter	-	-	Wash-down	CIP
Main track	-	-	-	CIP
Packers	-	-	Wash-down (option)	Wash-down
Packinglane	-	-	Wash-down (option)	Wash-down
Removable reservoir brush	✓	-	-	-
Detachable conveyor belt	✓	✓	✓	✓
Minimum usage of specialized parts	✓	✓	✓	✓
Detection systems				
Scale	✓	✓	✓	✓
Crack	✓	✓	✓	✓
Leak	✓	✓	✓	✓
Dirt	✓	✓	✓	✓
Blood	✓	✓	✓	✓
Color	✓	✓	✓	✓
Printing	Side	Side	Side	Top + Side
Reduced track speed*	-	-	-	✓
Individual egg control	-	-	-	✓

*Possible due to the horizontal position of the eggs in the main chain.

Easy cleaning and low maintenance

Easy to maintain and service

The graders are designed with many standard parts that are often locally available: reducing your operational costs and potential downtime. Need a hand changing a setting or making an adjustment? Our global service network is always available by phone, Skype or email.

Faster and easier cleaning

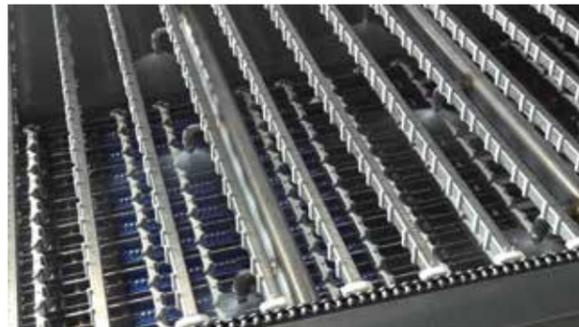
The graders feature a long list of design optimizations that significantly reduce cleaning time. Traditionally cleaning of the infeed section is a manual process using wet cloths, scrapers and compressed air. Today most of the manual work has been eliminated or dramatically reduced – depending on the grader family.



Washable scales



CIP cleaning of orientator and maintrack (GraderPro)



CIP of infeed (GraderPro)



Wash down of packing lane

Easy to Operate

The graders are equipped with the EGG-it Touch program, which allows the operator to monitor the entire operation and make alterations when needed. The program continuously returns statistics on efficiency and performance and includes a diagnostic feature in case of a malfunction. The EGG-it Touch program is a valuable source of information for everybody at the facility – from owner to operator to service engineer. The graders can also be monitored and diagnosed remotely by our customer care team.

It all begins with loading

In many egg grading plants, the production begins with the loading of eggs. In order to run an efficient plant, it is therefore absolutely vital to have efficient and stable loading of eggs.

SANOVO specializes in supplying loading solutions to ensure optimum handling of different types and qualities of eggs, whatever paper, plastic or combination of trays is used.

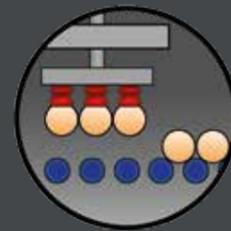
The SANOVO Loaders are available in capacities matching the capacity range of the SANOVO Technology graders. All loaders are constructed from several symmetric modules, which can be put together in various layouts according to the layout requirements. Limitation in grading plant layout is no longer an issue. All of our loaders are designed to handle all kinds of hen eggs and trays.



De-Palletizer

The SANOVO De-Palletizer gently handles plastic trays, interlayer and pallets.

An automated de-palletizing system removes the manual loading of the OptiLoader and reduces any heavy lifting for the operators at the OptiLine. SANOVO TECHNOLOGY GROUP offers De-Palletizing solutions covering the capacities of the graders.



OptiLoader

The SANOVO OptiLoader concept has been optimized for handling the 'daily' change of egg quality, tray size and shape. The SANOVO OptiLoader can handle very small to large eggs, without any loading complications. The loader handles any type of tray available on the market.

Using the latest technology, the SANOVO OptiLoaders use a servo-controlled gear motor, making the mechanical system reliable and easy to maintain as the electronic system is self-adjusting. The rotary design of the loader has made it possible to reduce process speed by 50% compared to other machinery available on the market

FlexLoader

The SANOVO FlexLoader 5-6 is a robust and highly flexible egg loader in the lower capacity range. The FlexLoader is available with a destacker for higher capacities and without for lower capacities.



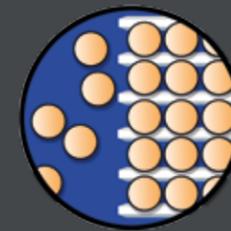
Egg Washing

The challenge of egg washing is to clean the eggs efficiently without further damaging the eggs. The SANOVO SW washers satisfy this demand with a Double-Action Washing System with a combination of brushes and spray nozzle.

The modular washers are available in different lengths and wash times with a variable number of brush and spray modules for maximum washing performance for different qualities of eggs.

The SANOVO SW Washers offers

- Removable brush & spray modules
- Slanted brushes for maximum egg -to-brush contact and gentle washing
- Adjustable brush system for different egg sizes
- Different brush types (soft or hard)



Accumulator

In inline operations, with the eggs arriving to the grader randomly positioned on a conveyor, the eggs need to be gently guided into the number of lines on the grader. It is of great importance that a minimum number of eggs are damaged during this process.

The SANOVO OptiAccumulator ensures:

- Highest filling rate on the grading line
- Optimal egg distribution
- Easiest cleaning, manual or CIP



Robotic Automation

At SANOVO TECHNOLOGY GROUP we are able to deliver a complete product line that takes care of the eggs coming directly from the layer house or from the suppliers to the grading station and all the way until the eggs are packed in boxes and stacked on pallets.

The SANOVO De-Palletizer in combination with a SANOVO Loader will bring the eggs safely and without the involvement of any people in the grader.

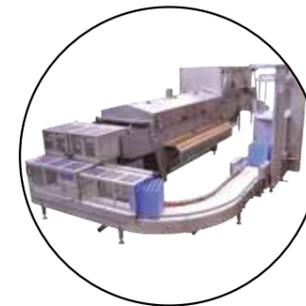
The SANOVO Case Packer will reduce the number of staff needed by packing the cartons into boxes and can operate two packing lanes at the same time with a total maximum capacity of 57.600 eggs/hour (160 cases/hour).

The SANOVO CasePalletizer stacks the boxes coming from the grader automatically, and again, without the involvement of any people. It can be proposed in different standard configurations able to handle up to 8 different inlets and outlets at the same time with a capacity up to 216,000 eggs/hour (600 cases/hour).

Cleaning of plastic trays & pallets

The increasing use of plastic trays and plastic pallets brings a lot of benefits regarding safe transportation of eggs with limitation of the number of broken eggs and safer loading of the eggs to grading or breaking lines.

As the plastic trays and pallets are returned to the egg production, facilities' effective cleaning of the trays and pallets is essential in order to avoid spreading of diseases.



Tray washing

By focusing greatly on reducing the number of staff required to operate the machinery, we have become the first company to develop a fully automatic spin dryer. This means that only one operator is required to handle the entire operation.

- Safe destacking of dirty trays
- Reducing operation costs
- Washing with power nozzles
- Dry trays mean improved hygiene



Pallet washing

For hygienic reasons, stacking of egg trays is today mainly distributed on plastic trays. SANOVO offers pallet washers for a great variety of capacities, from low capacity manually loaded washer to high capacity automated washing machine with destacking and stacking of the plastic pallets.

- Hygienic design, smooth surfaces and corners.
- Entire machine made of stainless steel with superior finish.
- Unique cleaning system with pivoting nozzles for improved wash results.
- Easy removal of clip nozzles without tools for cleaning purposes.
- Nozzles can easily be adjusted and pointed in different directions.
- Filter tray is easy to remove and clean.

A global player but close to you

Our objective is to contribute to the ongoing success of your business, and whether you are a small, medium or large sized, we turn your eggs into valuable business.

Complete solution for the egg processing industry has been our main activity for more than 60 years and it still is. However, we specialize in many other business areas such as enzymes, pharma, hatchery and spray drying which give us the opportunity to interact and build relationships with various prospering industries.

We believe in personal relations and know that our team of skilled professionals is the key to mutual success and trust. Gathered from all over the world they provide knowhow and deliver the right service and solutions in close cooperation with you as a customer.



SANOVO 
TECHNOLOGY GROUP

SANOVO TECHNOLOGY GROUP
Odense - Denmark
TEL +45 66 16 28 32
info@sanovogroup.com

 **THORNICO**
Company

www.sanovogroup.com