Robotic Automation

Improve Factory Performance

AGV - Tray Palletizing - De-Palletizing - Case Packing - Case Palletizing
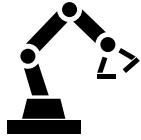
SANOVO
TECHNOLOGY GROUP

Content

Maximizing machine performance and efficiency around the world

In a modern egg factory, you can avoid manual operations by automating the time-consuming elements of the production such as palletizing, de-palletizing, case packing, and tray palletizing.

Our robotic automation program offers a number of efficient and flexible robots that are a vital part of any modern egg handling and processing factory. However, robotic automation is not only a question of reducing labor. It relates just as much to increasing biosecurity, product quality, and maximizing yield.

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The SANOVO automation solutions are an investment that brings you one step closer to the automated future where you will quickly experience increased competitiveness and an improved bottom line.

SANOVO AGV

Optimize egg handling logistics with Automated Guided Vehicles

Automating in-house transport in egg handling centers does not have to be difficult, costly, or time-consuming – we have made it simple!

Regardless of the size and type of your business, you now have the option to automate simple pallet transfers from A-B with the flexible and innovative driverless forklifts referred to as the AGV.

The AGV is a standard product with a short delivery time and payback period. Ready for installation in the existing environment in less than one week.

By automating manual pallet transports, you release time and employee resources for other value-adding tasks inside an egg processing or grading operation. By utilizing AGVs, you will make better use of your company's resources, increase efficiency and improve productivity. The proven AGV technology enhances your company's safety by minimizing damage and accidents in the warehouse, ensuring optimized internal logistics.

SANOVO offers 2 versions:
- AGV L-12
- AGV L-14

AGV L-14

This model handles
EUR-pallets short-sided.

The numbers below refer to both models.

1	Red spot (warning light)	**6**	Fork sensors	**11**	Blue spot (warning light)
2	Warning signal (side)	**7**	Lithium charger, plate	**12**	Emergency stop
3	Pallet sensor	**8**	Topscanner	**13**	Tiller for manual operation
4	Safety scanner (rear-facing)	**9**	Warning signal (light and sound)	**14**	Safety sensor (side)
5	Marshalling detection scanner	**10**	Touchscreen	**15**	Safety scanner (front)

AGV L-12

This model handles US, UK, and sea-pallets.

www Go to website

TECHNICAL DATA	L-14	L-W12
Capacity:	1,400 kg	1,200 kg
Lifting height standard*:	Max. 1000 mm	Max. 1000 mm
Lifting height**:	Max. 2844 mm	Max. 2844 mm
Fork dimensions:	60 x 180 x 1150 mm	40 x 100 x 1200 mm
Center spacing between forks:	Fixed at 380 mm	Variable from 225 to 540 mm
Motor:	1.5 kW AC motor	1.5 kW AC motor
Transmission:	Linde LAC transmission	Linde LAC transmission
Max. speed:	1.2 m/s	1.2 m/s

* Without extra safety requirements
** With additional safety requirements

Features

Automate the time consuming elements of your production

AVOID MANUAL OPERATIONS

With the user-friendly touch interface, you can access the full overview of the AGV's workflow and system information. Whether you access the AGV's interface via your computer, tablet, or phone, you will always encounter the same simple interface, making your work more efficient and flexible.

Using a natural feature-based navigation system, the area is scanned and mapped, allowing the AGV to easily navigate the existing environment. It is very simple to map the AGV yourself – you or your colleague simply pull it around the environment and the route will be determined.

The AGV navigates with a 2D Lidar scanner at a 360° field of view, which detects the surroundings so it can continually manoeuvre according to the planned routes. Should your logistics flow change, the high flexibility allows you to change and map the route according to your new flow.

Store De-Palletizing

The AGV is capable of feeding and communicating with SANOVO De-Palletizer. Once the De-Palletizer is about to finish the stack of pallets, it can simply request the AGV to deliver more pallets. For this reason, no operator is needed for looking at the buffer status of the De-Palletizer or for manually delivering the pallets with a standard forklift. This eliminates the risk of the De-Palletizer running empty and creating a drop in yield.

Palletizing to Specific Location

Once the product has been processed, packed, and ready to be delivered to the customer, it is particularly important that the box and egg are being gently treated in transportation. The AGV is equipped with sensors and learns the floor layout of the facility which ensures safe and efficient movement of the product. Customers who are using the AGV have seen a noticeable reduction in the cost of building maintenance due to traditional forklift damage as well as a reduction in forklift caused accidents.

Internal Logistics

Simple transportation in the internal logistics of a facility can be configured in the AGV. When the AGV is not needed to transport pallets of egg products, it can be used for simple transport of items such as boxes. However, the AGV always prioritizes the transport of egg products when required. Moreover, at the end of the work day when there is no demand for the AGV to transport, it can be setup so that the next day's production is lined up and ready to go ensuring a smooth production start.

SANOVO Tray Palletizing

Improve Factory Performance with Tray Palletizing

Our tray palletizing program offers a number of efficient and flexible robots that are a vital part of any modern egg handling and processing factory.

Our solutions can handle ECS and EPS according to the most used dimension standards.

Beginning with our Stack Palletizer for the smaller farm, with a stacking capacity of up to 200 cases per hour and with our high-capacity tray palletizer we can cover capacities up to 540 cases per hour. If the production has the requirements for a 2-line tray palletizer, this is also an option.
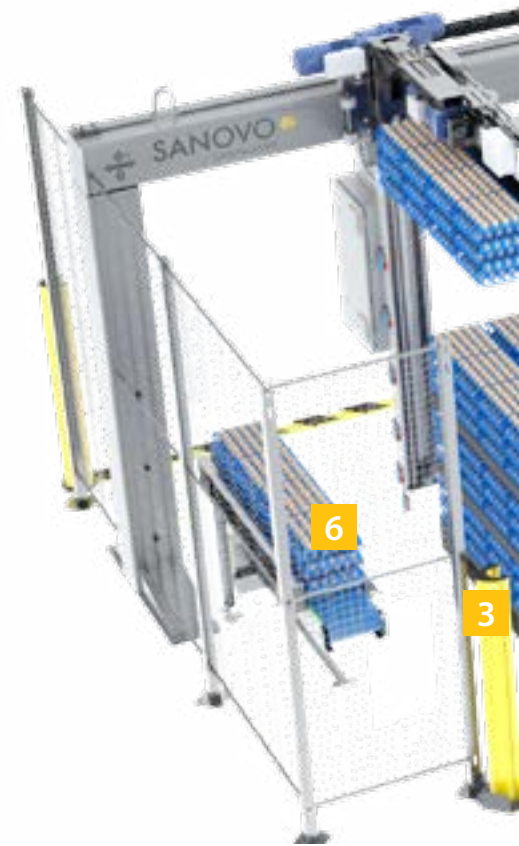
With our many varieties of tray palletizing solutions, you will secure clean and safe pallet stacking.

Stack Palletizer

TECHNICAL DATA	
Max. capacity	up to 72,000 eggs/hour (200 cases/hour)
Empty pallet maximum capacity	12
Interlayer maximum capacity	50
Power consumption	3.7 kW
Weight	1400 Kg
Minimum height of ceiling	2,4m (5 layers) 3m (6layers)
Certifications	CE

1 Interlayer & pallet storage

This interlayer storage can handle up to 50 interlayers and 12 empty pallets, which the machine will utilize as going forward with the tray stacking

2 Palletizing tool

The palletizing tool is a simple tool, which handles ECS tray stacks, pallets and interlayers.

3 Automatic pallet scanner

Shows where the stacks with egg trays can be placed. If the Stack Palletizer has multiple pallet loading positions, you can process different types/origin of eggs. The maximum optional loading positions could go up to 5 pallet positions.

4 Safety

The safety fencing consists of both a painted iron fence and shielded with mirror columns, to uphold a safe working environment.

72,000 eggs/hour (200 cases/hour)

i   Open layout

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5 Stacking

The height of stack palletizer is by default suitable for 5 stack heigh pallets (2,4 meters) optional the stack palletizer could be made suitable to create a 6 heigh stack pallet (3 meters)

6 Conveyor belts

The special conveyor belts at the pick-up position ensure that the four stacks lift is always precisely positioned. The head of the gripper moves the empty pallets and intermediate layers into the correct position to automatically load a full pallet.

Optional is an extra Pick-Up position to connect e.g. a second farmpacker.

Tray Palletizer

TECHNICAL DATA	
Max. capacity	up to 194,400 eggs/hour (540 cases/hour)
Empty pallet maximum capacity	10
Interlayer maximum height	1,500 mm
Power consumption	6 kW
Air pressure	6 bar
Weight	1,700 kg
Minimum height of ceiling	3.5 meters
Certifications	CE – UL - CSA

1 Infeed conveyor

The infeed conveyor can be connected to a farmpacker with a traystacker. The traystacks will be counted and delivered in the correct position for the palletizing tool to make a gentle pick-up and handling of the product. The infeed can happen from both sides of the configuration.

2 Palletizing tool

The palletizing tool for this 6-axis robot is a more technically advanced tool, which makes it possible to reach i palletizing capacity of up to 540 cases/hour, depending on the chosen layout.

3 Building station

The empty pallets are loaded onto this position when picked from t pallet storage. Up to 6 layers can be built on this station by the robo

4 Interlayer storage

This interlayer storage can handle up to 50 interlayers, which the ma chine will utilize as going forward with the tray stacking.

5 Safety fencing

The safety fencing can be supplied as a painted- or stainless-steel fe which is supplied with the necessary safety features, such as door switches to uphold a safe working environment.
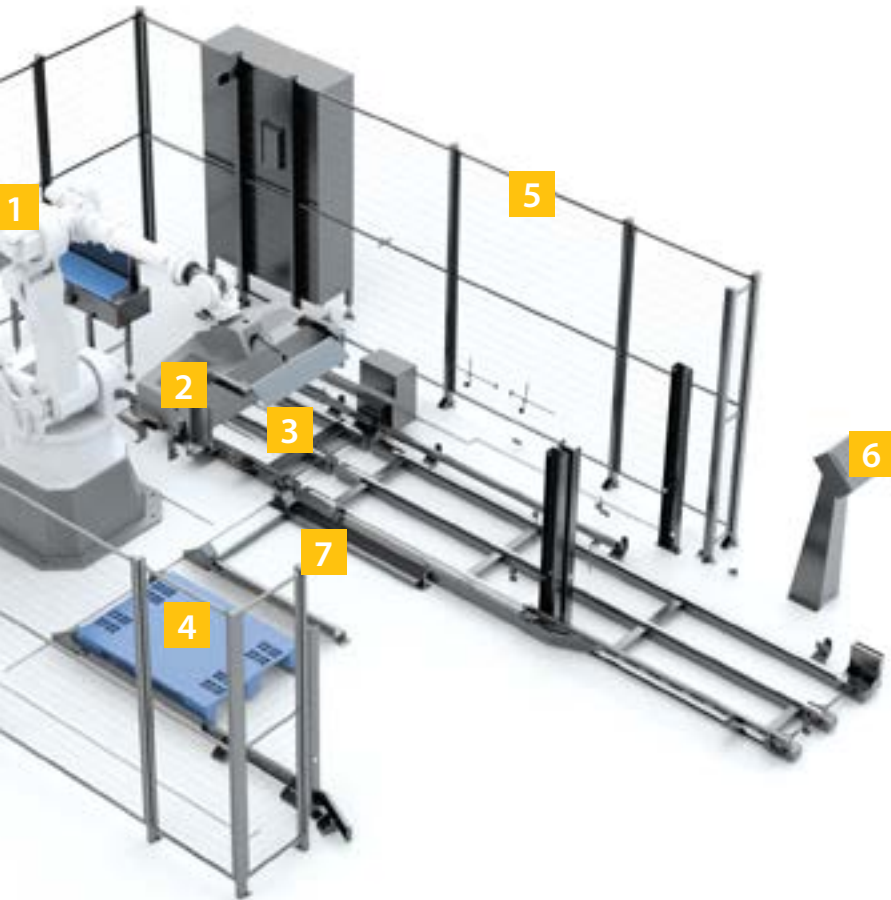
**194,400 eggs/hour
(540 cases/hour)**

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www   Go to website

6 HMI

The HMI is intuitive and easy to use for everyone. Easy functions as START, STOP, RESET but does also have the possibility to make technical changes to the speed, motors, and general fine tuning.

7 Pallet storage

This is the pallet storage, which has to be loaded manually by the operator. The stack of pallets has to be available to the robot in order to start building.

SANOVO De-Palletizing

Full Speed De-palletizing Guaranteed at Any Time

The De-palletizing system can be installed upstream of any kind of loader solution.

The De-Palletizer is equipped with an advanced vision system able to recognize and compensate pallet misalignment up to 100 mm. Four tray stacks at a time are picked up and then loaded onto a conveyor.

The standard De-Palletizer system has been developed to guarantee that the loader will never run out of product, as the high De-Palletizer capacity can "catch up" with the product. On request, it can also be supplied with a stainless-steel washable option.

We recommend using EggsCargoSystem® by GI-OVO.
Send us a sample of your trays to test and adjust the machine prior to investing.
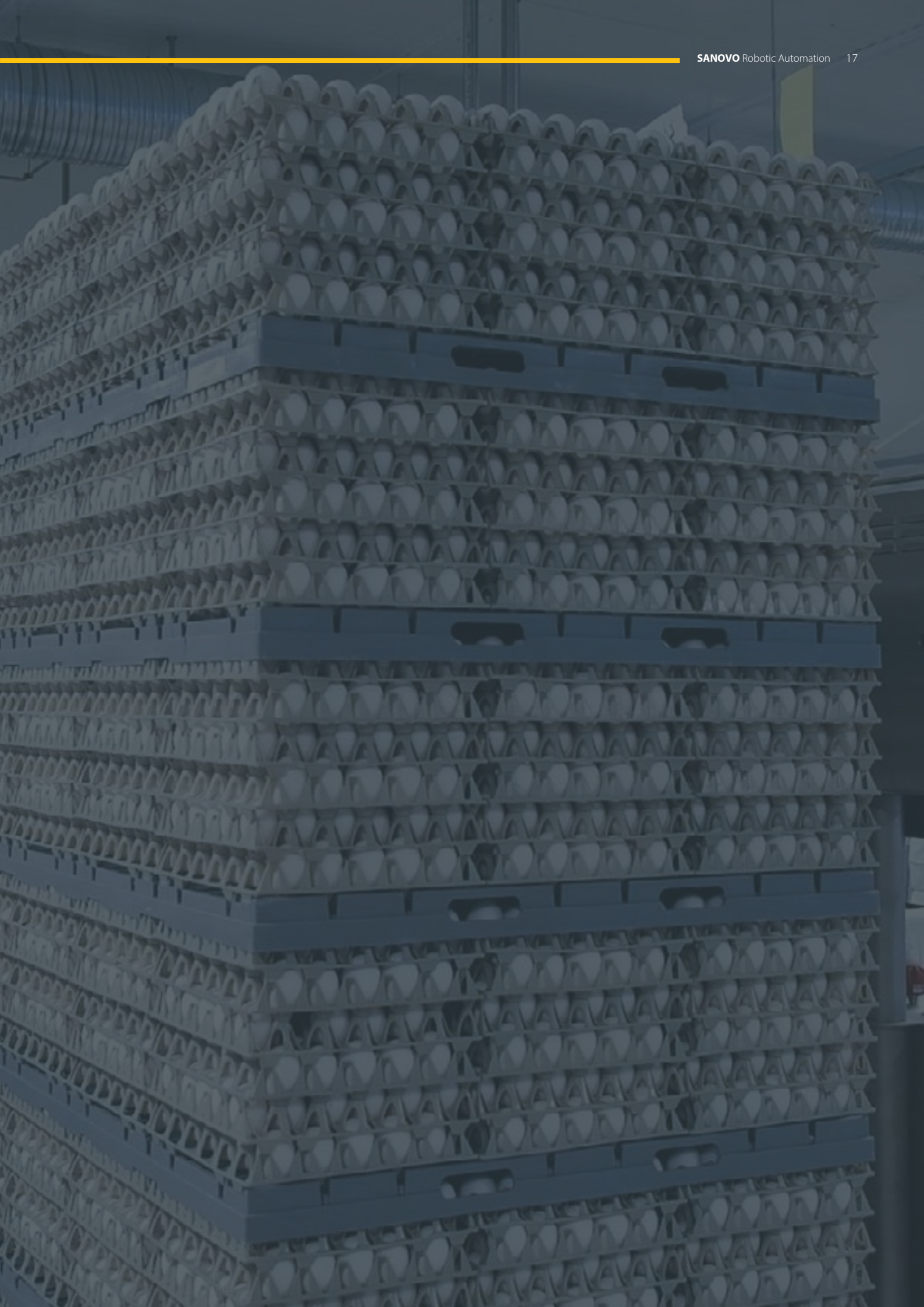
De-Palletizer 220

TECHNICAL DATA

Max. capacity	up to 90,000 eggs / hour (220 cases / hour)
Empty pallet maximum capacity	12
Interlayer maximum capacity	60
Power consumption	12 kW
Air pressure	6 bar
Weight	800 Kg
Minimum height of ceiling	2.9 meters
Certifications	CE - UL - CSA

1 Fully stainless steel

This piece of equipment is fully developed with stainless steel. Its components allow simple cleaning and maintenance.

2 High flexibility

Customer can choose the pallet infeed either on left- or right-hand side. Optionally, automatic pallet outfeed can be added. The system is designed in a modular way to allow several possible pallet and buffer positions for maximum space-efficiency.

3 Safety light curtains

Choosing safety light curtains over a safety fence ensures space-effici lower material cost, and an open working environment that makes it to collaboratively work with the equipment.

4 HMI

The HMI is designed in an operator friendly way. Customers can choo a decentralized solution to be able to control the machine from somewhere else.

90,000 eggs/hour (220 cases/hour)

i   Open layout

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5 Proven De-Stacking system

The alignment system of the de-stacking unit fixates the interlayers before picking the egg tray stack. This ensures simple and safe de-stacking onto the loader conveyor.

6 Supported cargo systems

We support EggsCargoSystem® by GI-OVO, Eco Plastic System (EPS). Other types of trays/pallets/interlayers can be tested in our facility.

De-Palletizer 600

TECHNICAL DATA	
Max. capacity	up to 216,000 eggs / hour (600 cases / hour)
Empty pallet maximum capacity	10
Interlayer maximum height	1,500 mm
Power consumption	15 kW
Air pressure	6 bar
Weight	2300 Kg
Minimum height of ceiling	3.5 meters
Certifications	CE – UL - CSA

1 Infeed

The infeed is done with chain conveyors, which handles full pallets of tray stacks. Up to 6 layers can be handled by this de-palletizer. As a standard it comes with three conveyors 1. drop of station 2. buffer/waiting station 3. de-palletizing station.
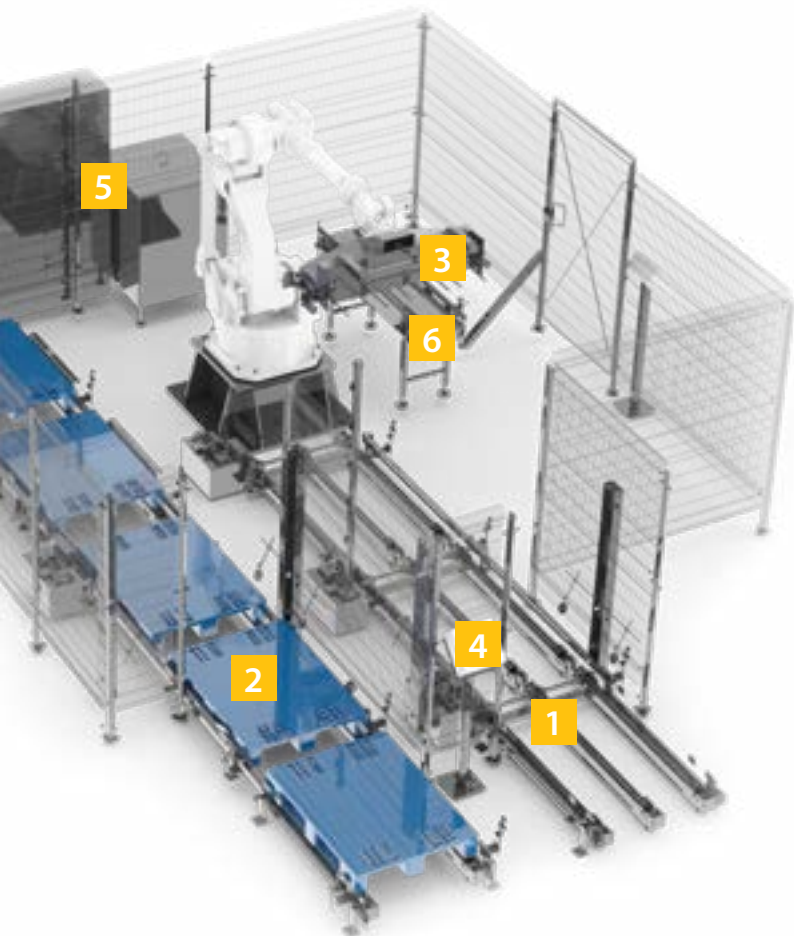
2 Outfeed

The outfeed consists of to building positions one for pallets and one for interlayers. When either of these are full, they will both be discarded out of the robotics area and can be picked-up by and operator or an AGV.

3 Robot tool

The robot tool is supplied with gripping units for pallets and interlaye forks for trays stacks. Furthermore, it is equipped with two cameras wh will measure the location, height and misplacement of the trays stack order to make a successful pick.

4 HMI

The HMI is the operator's way of communicating with the full robot se In the HMI there are several setup opportunities which can customize control the production.

216,000 eggs/hour (600 cases/hour)

ℹ Open layout

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5 Stack falling detection

The stack falling detection comes into play in case that the robot will make a mis-pick and push the trays over instead of lifting them. The machine will come to a halt before the trays end up on the floor.

6 Product outfeed

The product will be placed on a outfeed conveyor which can be connected to a loader.

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SANOVO Case Packing

Reduce Labor Cost with Case Packing Solutions

The SANOVO Case Packing Solutions are placed at the end of the packing lanes to automatically pack cartons and trays of eggs into either cardboard cases or plastic crates.

The Case Packing Solutions are designed to efficiently integrate into your existing production environment. and can be configured to fit on all types of grading systems and packing lanes. Moreover, it can handle every variety of egg packs and see no limits with packing packs with sizes from 2x4 to 30 packs.

Case Packer Twin

The Case Packer Twin uses a two-lane system with individual packing robots on each lane and can handle two different packed cartons or trays at the same time without compromising packing speed.

The Case Packer incorporates an open-lid detection system that identifies cartons with open lids and discharges them to be manually closed and re-routed into the packer. This detection system prevents egg damage and downtime which occurs in this situation.

1 Empty case infeed
The empty cases can be manually or automatically conveyed into the machine.

2 Open design
The Case Packer Twin has an open design that enables full accessibility to the conveyors and robots for maintenance and cleaning when the machine is turned off.

3 Outfeed
The discharged, packed cases can be configured to be conveyed as required to meet the layout requirements of the production facility.

4 Ergonomic construction
The Case Packer Twin is ergonomically designed to ensure worker comfort to reduce operator fatigue.

5 Base conveyors
You can choose between two types of conveyors: the common base conveyor and the split base conveyor. The first is the simplest conveyor configuration, which is recommended when running the same product on both lanes, and where the use of highest packing capacity is not required. The split base conveyor offers higher flexibility and improved performance when reaching the highest case packing capacities.

6 Gripping tool
This Case Packer is built specifically to the customers' demands. The tools are chosen during the sales process and comes with the machine, ready to use.

7 Built-In open lid removal
When an egg package with an open lid is detected, the Case Packer Twin will automatically sort it out for manual closing.
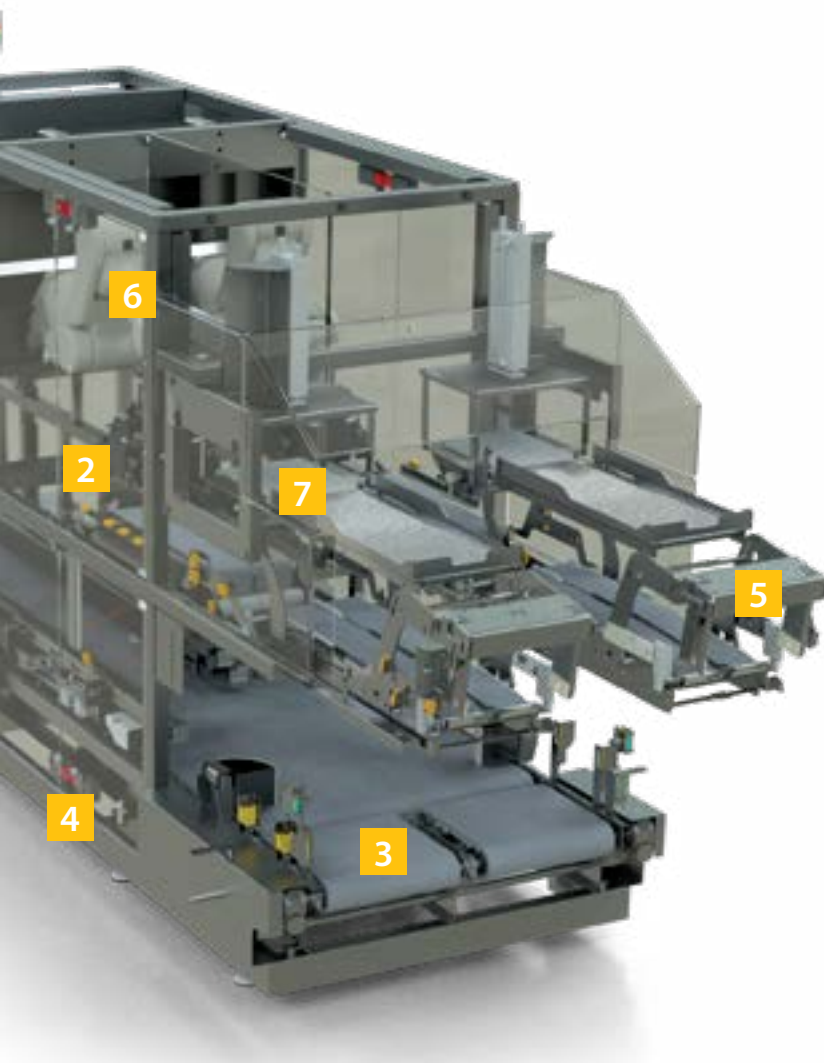
57,600 eggs/hour (160 cases/hour)

i Open layout

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TECHNICAL DATA	
Capacity:	up to 57,600 eggs / hour (160 cases / hour)
Footprint dimensions	4464 x 1247 mm
Minimum height of ceiling:	2400 mm
Robot weight:	1650 kg
Nominal voltage:	220-240VAC +N+PE
Full load current:	29A
Frequency:	50/60 Hz
Certifications:	CE - UL - CSA
Air pressure:	6.0 bar
Air consumption basic machine:	2900L/hr
Air consumption basic machine + RPC kit:	4090L/hr

Case Packer Twin

Modular Production Opportunities

The Case Packer Twin can handle multiple set-ups. In fact, it is designed with two infeed lines and two outfeed lines. These two lines can run the same product set-up or run two different product set-ups.

For instance, it is possible to pack 30 egg trays into full-size cases on line 1 and pack 12 egg cartons into half-size cases on line 2, simultaneously.

The compact design of the robot tool ensures safe packing of the eggs, even in narrow cases. This makes the implementation of the Case Packer Twin in a manual packing line very simple.

These individual robots in this Case Packer also make it possible to stop line 1 for maintenance or tool change, while line 2 is still in production. This will avoid downtime and shorten the return of investment time.

Enhance the Functionalities with Multiple Options

Pass-through conveyor

The pass-through conveyor can be chosen to expand the modularity of the Case Packer Twin even more. Thanks to this option, the operator can choose to by-pass the robot and send all cartons on one line towards the rear of the machine, where they will be handpicked and packed.

This is usually a feature that some customers require if they are packing an odd size egg carton in limited numbers, which cannot be handled by the Case Packer Twin robot standard tool. The Pass-through conveyor can be used on both lines simultaneously and on one line only.

Reusable Plastic Case (RPC) kit

The RCP kit is a simple kit that configures the Case Packer Twin to be able to pack egg packs into RPC cases.

This can be done on both lines simultaneously or on one line only. An example could be that line 1 is packing egg packs into RPC crates while line 2 is packing into regular cardboard cases.

Traceability

You have the opportunity to choose an integrated Ovotrack traceability system.

This traceability option will make sure that the barcode or QR code on the case, will match the egg product type which are being packed into the case. Please note that this traceability system is not suitable for a stand-alone option but needs to be a part of a larger traceability setup. This option relates to a larger traceability management system.

Wide range of Tools

This Case Packer has a large range of different tools. This is in order to be able to handle a large rage of customer requirements. With this Case Packer you get a tool per product per robot. This means that when you are not using a specific tool, it can be renovated/serviced without down time.

Case Packer CoFlex
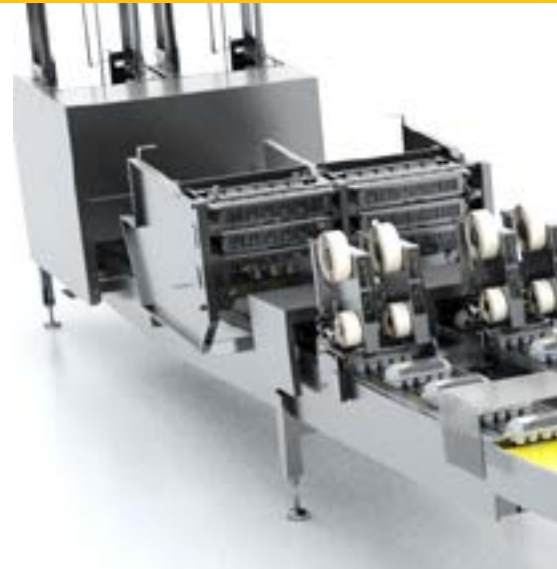
The Case Packer CoFlex offers a cost-effective and versatile solution. It provides an answer to labor shortages, ensures continuous production, and adapts to various operational scales with easy tool changeovers.

The robot's design optimizes space utilization and enhances efficiency, making it a valuable asset for packing stations looking to modernize and streamline their packing processes.

1 Gripping Tool
Various gripping tool options ensure the right fit to your specific packing patterns. Talk to us about your pattern requirements.

2 Quick change tool
Running a different packing pattern now? No problem. With the optional quick change tool you can change the gripping tool in seconds.

3 Safety Shield
Depending in how fast you prefer to run your CoFlex a safety shield can be installed, ensuring the safety of your workplace.

4 Positioning Options
The CoFlex can be installed between a pair of packing lanes for maximum space efficiency, but if desired and more fitting to the production setup it can also be placed behind the lanes.

5 Missing Tray Detection Sensors
5 sensors ensure the robot always knows when it is time to continue the packing operation.

6 Optical Status Lights
When the case is fully packed and filled, a status light indicates your operators to replace the full with a new case.

7 Robot Cover
Enable your CoFlex for wash-down cleaning with an optional cover and ensure a clean plant anytime (not shown in the image).
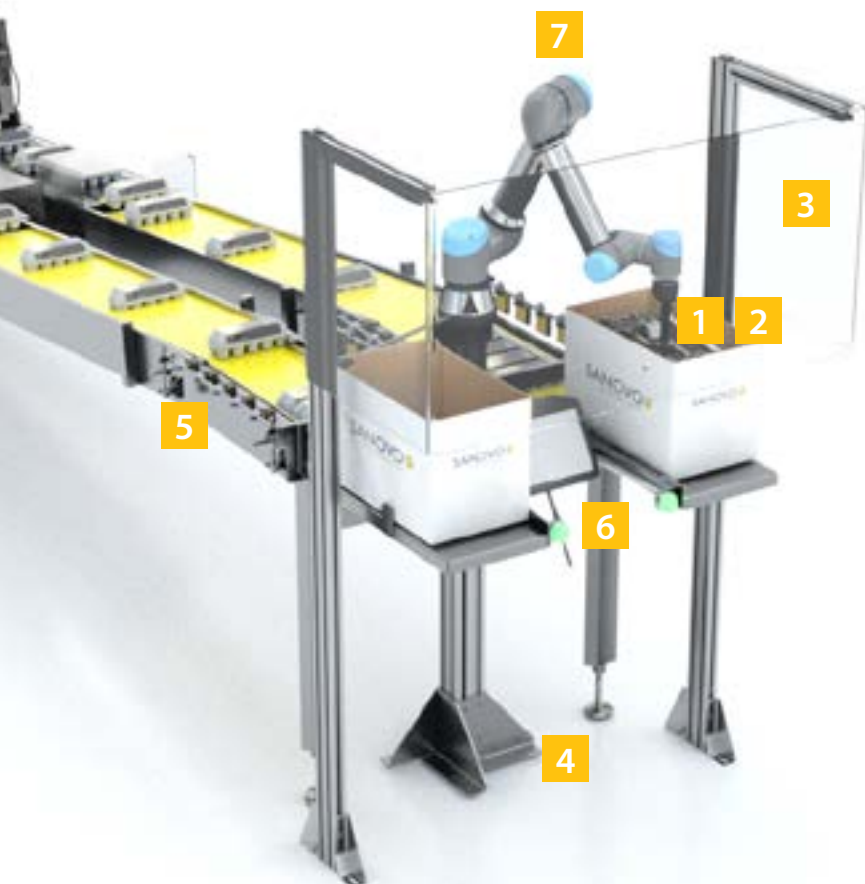
20,520 eggs/hour (57 cases/hour)

i Open layout

▶ Play video

www Go to website

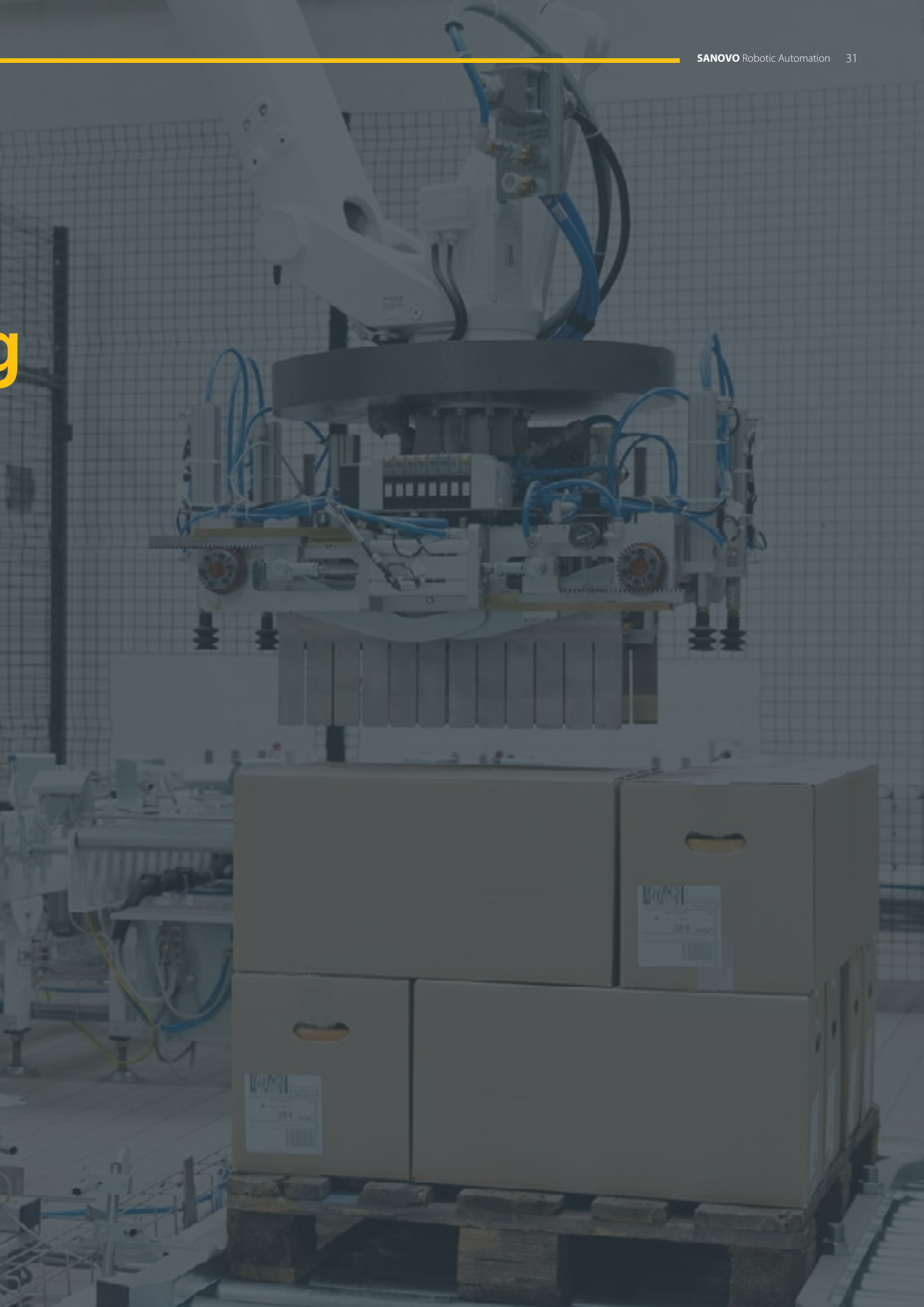| TECHNICAL DATA	
Capacity:	up to 20.520 eggs / hour (57 cases / hour)
Minimum height of ceiling:	2,500 mm
Robot weight:	35 kg
Nominal voltage:	100-240VAC
Frequency:	50/60 Hz
Air pressure:	6.0 bar

SANOVO Case Palletizing

High flexibility and increased palletizing speed

Suitable for a wide range of cases and crates, our Case Palletizing solution offer high flexibility and an increased palletizing speed and accuracy. Reducing operator fatigue, the robots have a small footprint, can be fully operated from the outside and will always ensure a gentle handling of egg stacks.

With a barcode reader, the integrated sorting function makes sure that the cases are quickly and efficiently sorted towards the right pallets. Moreover, an egg tracing system can be provided in order to keep track of every single case unit, in every moment.
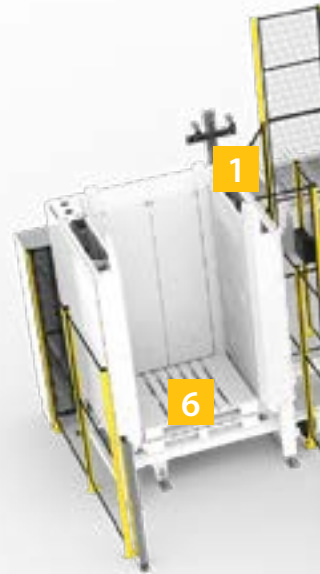
The most common pallet types can be handled by the SANOVO Case Palletizer, no matter if the material is wood or plastic.

Case Palletizer

TECHNICAL DATA	
Max capacity	Up to 800 units pr. robot, depending on the size of the case
Number of lines for each robot	up to 6 per robot
Power consumption	20 kW
Air pressure	6 bar
Robot weight	2,500 kg
Certifications	CE - UL - CSA

1 Product infeed

The product will by this infeed be delivered into the palletizing unit. The product will be identified by barcode or similar and delivered to the sorting station.

2 Product sorting

The product will, at this point, be sorted to the assigned pick-up station. Between 3 and 8 different products can be sorted at the same time, depending on the size of the palletizing robot chosen.

3 Product rejection conveyor

Products which cannot be identified by any reason will be delivered to the reject conveyor for manual handling. Issues could be, missing barcode, unreadable barcode or unknown barcode due to wrong product setup.

4 Infeed for sorted products

This model has four infeeds of sorted product. Every infeed line has its corresponding outfeed line aligned. For example, all products arriving on infeed line 1 will also be built onto pallet outfeed line 1 and so forth.

5 4-axis robot with palletizing tool

The Kawasaki 4-axis robot with its mounted gripping tool, will carry the cases from the infeed to the outfeed, placing the cases in many different patterns, demanded by the customers' request. This gripping tool can handle cases in various sizes and materials, with and without lid and also RPC cases. Furthermore, it handles the pallets and slipsheets also.
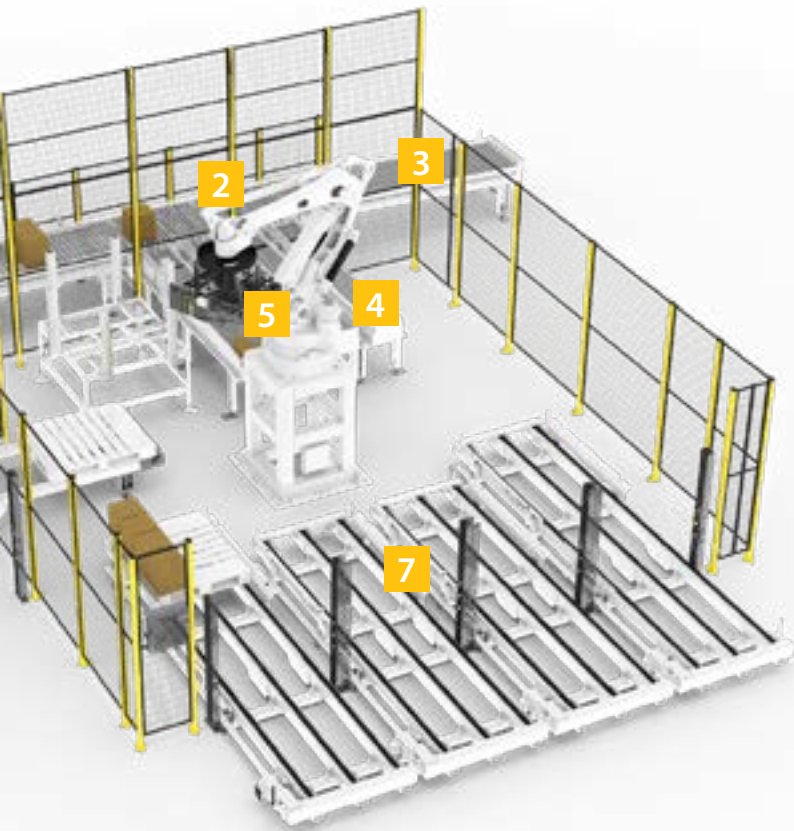
216,000 eggs/hour (600 cases/hour)

ℹ Open layout

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6 Pallet denester and infeed
The pallet denester and infeed can handle a stack of pallets, in the most common measures and building materials. The denester will separate a single pallet at a time and insert it into the robot's picking area. From this point the pallet will be picked and placed onto either of the outfeed conveyors.

7 Palletizing station
On these outfeeds the pallets are built after customer's requirements. When a pallet has been built it will be transported towards the end where the pallet can be picked up by a truck operator, transfer car system or even an AGV.

SANOVO Washing Soluti

## Full in-line washing with robotic automation

After a long day of production, there might be a number of un-cleaned pallets/interlayer from other parts of the plant.

Our inline pallet/interlayer washing setup can also be working as a off-line washer. This means that you take your stack of clean pallets and interlayers and place them into the de-palletizing buffer zones, start the "washer mode" and the pallets will be taken apart, washed and re-stacked in the Cargo Palletizer. It couldn't be easier.

We offer a De-Palletizer and a Cargo Palletizer which can work together with pallet washers and tray washers.

With this kind of setup, you insert a pallet of eggs in one end of the production and in the other end of the production the cleaned trays and interlayer/pallets are stacked are the customers demands. Ready to be shipped back to the farm.
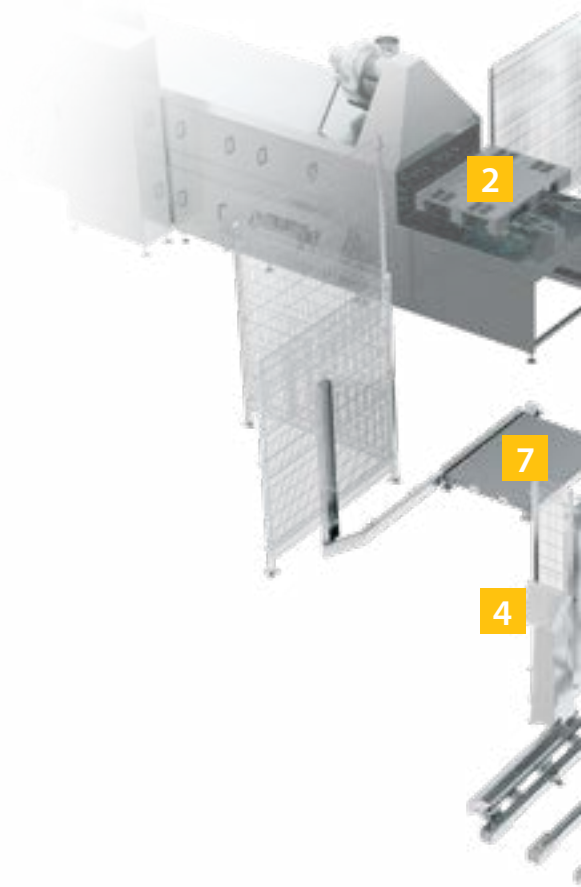
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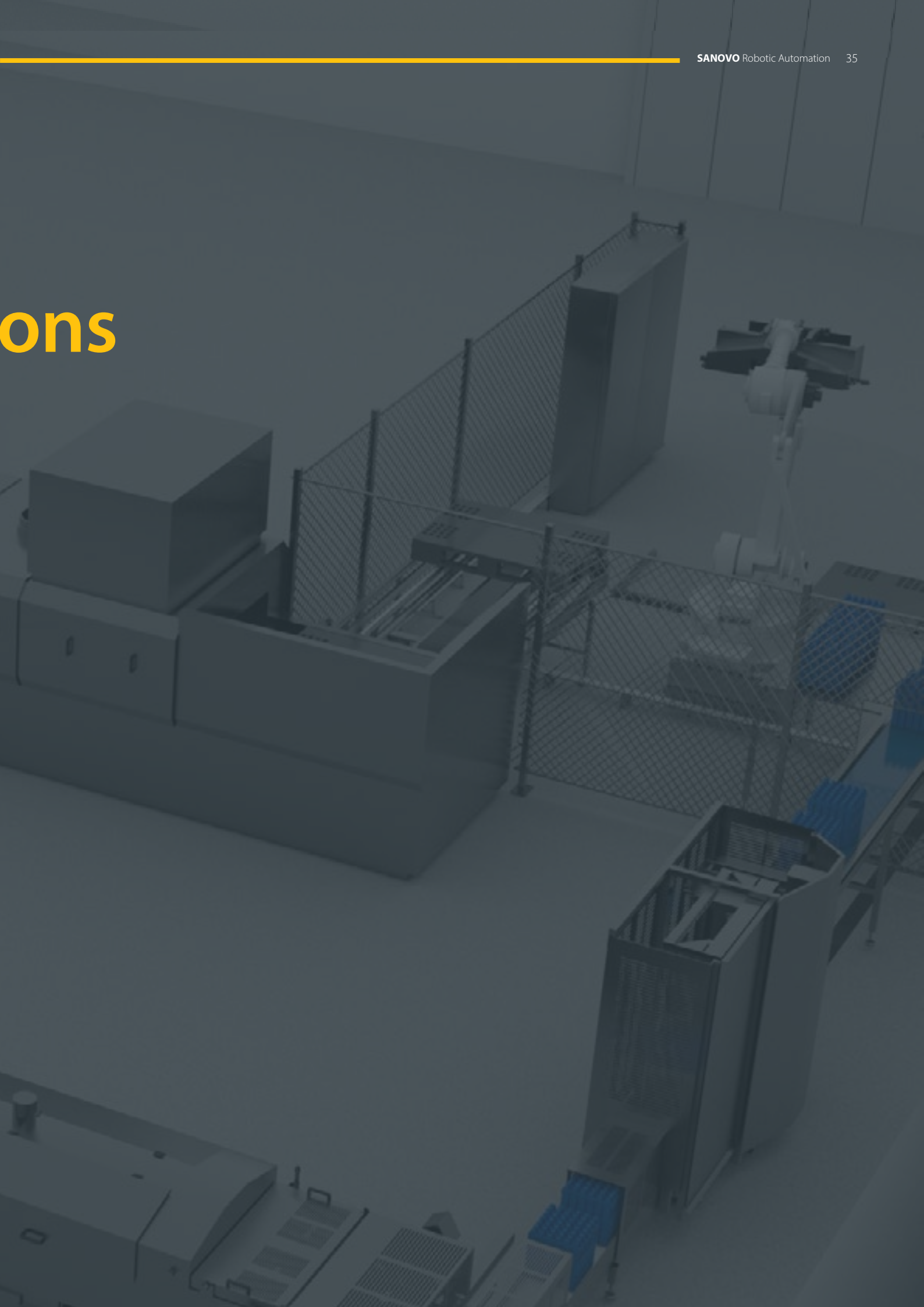
De-Palletizer

TECHNICAL DATA	
Max. capacity	up to 216,000 eggs / hour (600 cases / hour)
Empty pallet maximum capacity	10
Interlayer maximum height	1,500 mm
Power consumption	15 kW
Air pressure	6 bar
Robot weight	2300 Kg
Minimum height of ceiling	3.5 meters
Certifications	CE – UL - CSA

1 Infeed

The infeed is done with chain conveyors, which handles full pallets of tray stacks. Up to 6 layers can be handled by this de-palletizer. As a standard it comes with three conveyors 1. drop of station 2. buffer/waiting station 3. de-palletizing station.

2 Outfeed

In this configuration the pallets and interlayers are delivered onto the pallet washer infeed. If the washer is not running the pallets and interlayers will be placed on the buffer locations for later pick-up and washing.

3 Robot tool

The robot tool is supplied with gripping units for pallets and inter-layers and forks for trays stacks. Furthermore it is equipped with two cameras which will measure the location, height and misplacement of the trays stack in order to make a successful pick.

4 HMI

The HMI is the operator's way of communicating with the full robot setup. In the HMI there are several setup opportunities which can customize and control the production.
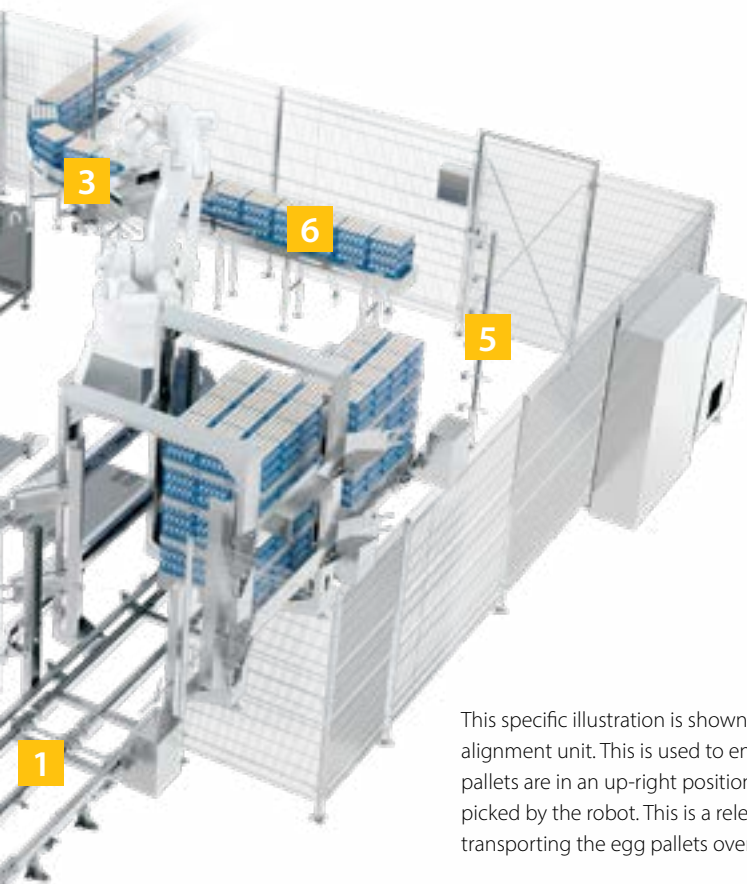
This specific illustration is shown with a pallet alignment unit. This is used to ensure that the pallets are in an up-right position before going to be picked by the robot. This is a relevant solution after transporting the egg pallets over long distances.

216,000 eggs/hour (600 cases/hour)

i   Open layout

▶   Play video

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5 Stack falling detection

The stack falling detection comes into play in case that the robot will make a mis-pick and push the trays over instead of lifting them. The machine will come to a halt before the trays end up on the floor.

6 Product outfeed

The product will be placed on a outfeed conveyor which can be connected to a loader.

7 Buffer

Pallet and interlayer buffer positions.

Cargo Palletizer

TECHNICAL DATA	
Max. capacity	up to 216,000 eggs / hour (600 cases / hour)*
Empty pallet maximum capacity	10
Interlayer maximum height	1,500 mm
Power consumption	15 kW
Air pressure	6 bar
Weight	2300 Kg
Minimum height of ceiling	3.5 meters
Certifications	CE – UL - CSA

* Can support stacking of cleaned cargo ,which corresponds to the amount of 360.000 eggs/hour.

1 Infeed

The cleaned pallets and interlayers will be delivered continuously from the washer which is connected to the de-palletizer.

2 Tray Infeed

The trays are stacked in stacks of maximum 50 trays after they have been washed in the SANOVO tray washer. The robot will pick from here to build the required pallet pattern in combination with pallets and interlayers.

3 Robot tool

The robot tool which contains the latest technology handles all components to a high-level precision and safe production.

4 HMI

The HMI is the operator's way of communicating with the full robot setup. In the HMI there are several setup opportunities which can customize and control the production.

5 Pallets

The pallets are ready for pick-up. Usually every set of finished pallets contains what corresponds to a set of 4. (4 pallets, 16 interlayers, 1.440 trays.)

6 Buffer Position

Pallets coming from the washer and is not immediately required for the pattern building process. Will be stored on these buffer positions for later availability.

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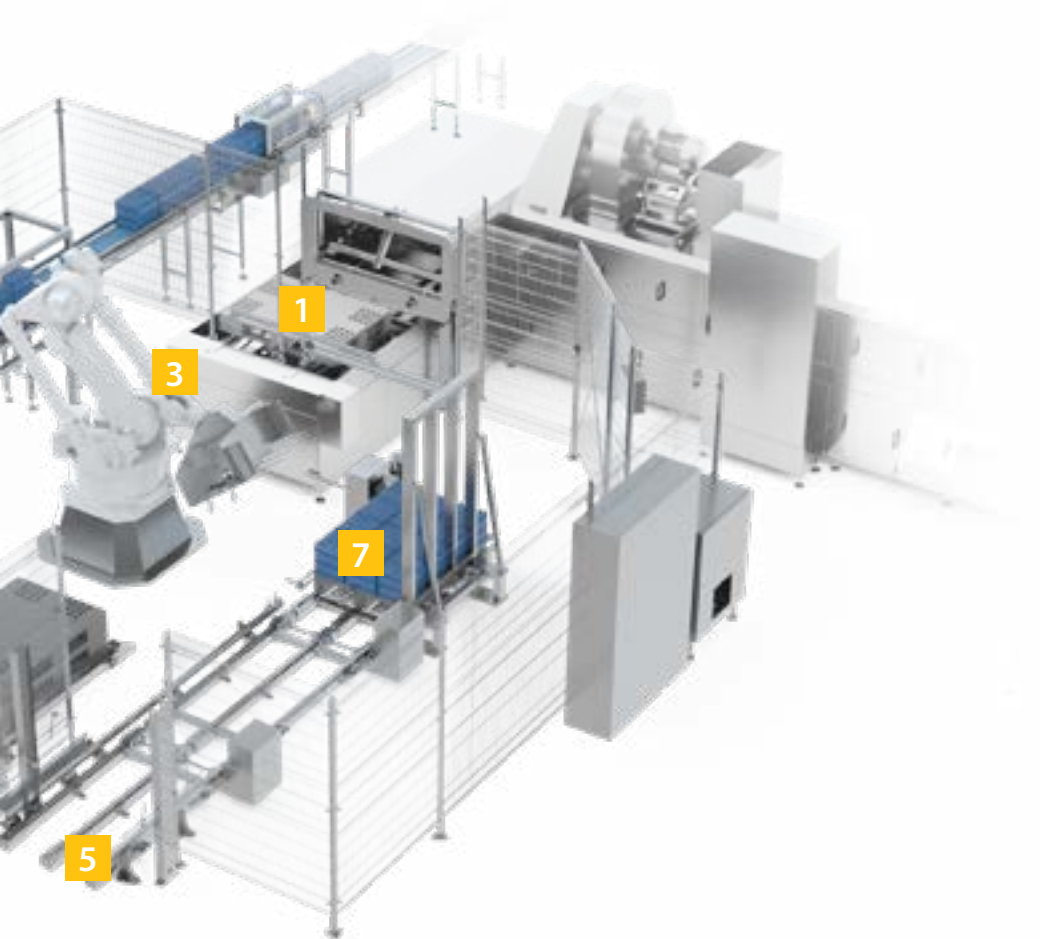
216,000 eggs/hour (600 cases/hour)

i   Open layout

▶   Play video

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7 **Building Position Cleaned Cargo**

The SANOVO Cargo Palletizer can build patterns after various requirements from different production sites. The building pattern can be chosen on site by the operator due to a simple HMI interface.

Worldwide service & support anywhere at anytime

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Our team of specialists is here to help if you have any trouble with your equipment, need technical support, ordering spare parts, training of your local staff or if you need an upgrade or maintenance of your machine.
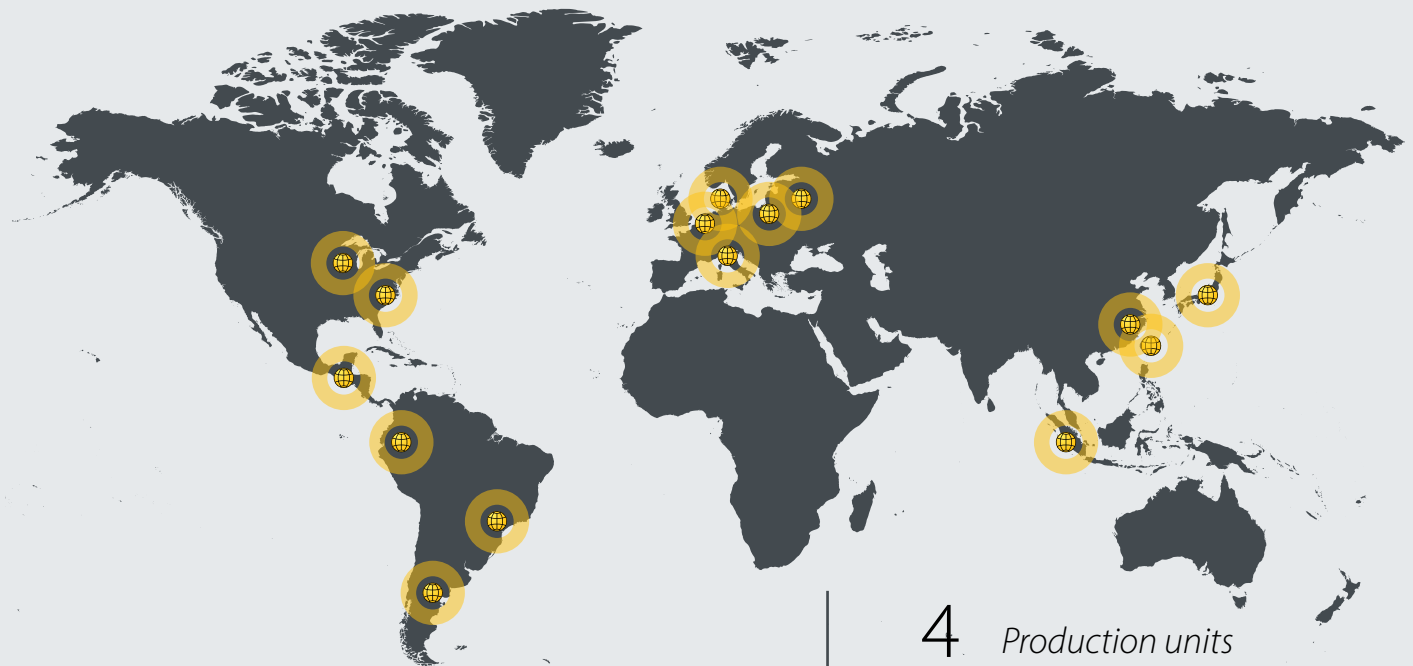
4 *Production units*

15 *Sales & service offices*

+50 *Distributors*

SANOVO CARE

Our contracts make it easier for you to choose a service that fits your needs

We believe that no matter how similar two facilities are, their maintenance needs are never the same.

This is why we specialize in customized SANOVOCare Agreements, which are designed specifically to maximize the return of your investment while minimizing your risks and break downs.

TRAINING PROGRAMS

It is our experience that a well-trained staff is more capable of performing essential and correct daily maintenance which minimizes downtime and ensures that the equipment operates smoothly.

We offer a balance between theory and practice in our state-of-the-art training facilities that are fully equipped with operating machines.

SPARE PARTS

We stock more than 10,000 parts, and our intelligent, global storage and logistics system makes it possible to operate with short delivery times.

Original spare parts from SANOVO have the advantage of fitting quickly and easily. They have a long service life and can be supplied many years after the machine was first purchased.

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Learn more about customer care

TECHNICAL SUPPORT

In Technical Support we have invested in digital technologies to facilitate more effective communication and interaction - all to keep our equipment running and up-to-date every day all year. With Microsoft Hololense we are ready to assist you on the spot.

AFTERSALES

Keep your existing equipment up-to-date with our aftersales.

Upgrading, remodeling of your existing equipment or integration of new installations - we are here to assist you.
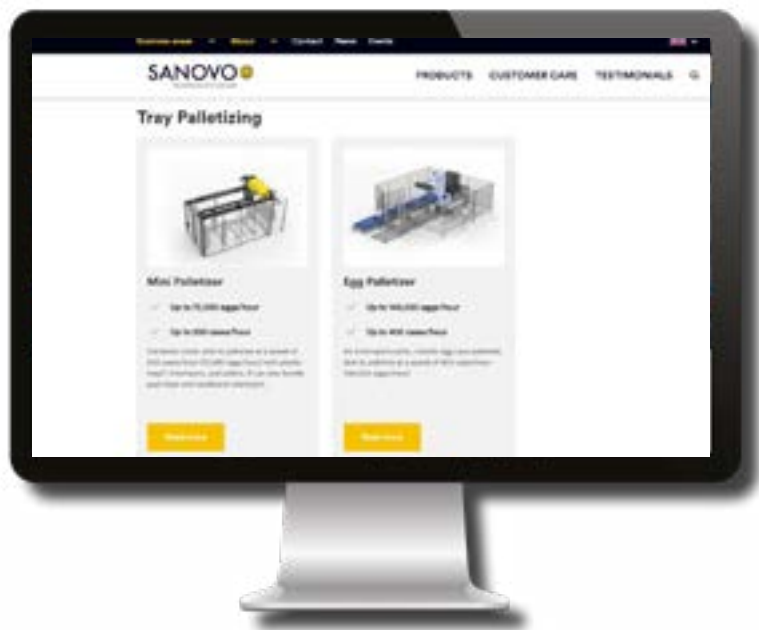
**Go to www.sanovorobotics.com
to learn more on our robotic solutions**

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