



POULTRY

In ovo vaccination technology

VINOVO

In ovo vaccination

Today, *in ovo* vaccination is a proven method for application of various vaccines in a hatchery. It offers many advantages over other (manual) post-hatch treatments, such as:

- Earlier immunity
- Uniform vaccine delivery
- Reduced stress for day old chicks
- Lower labor costs
- Single point of control

These advantages combined with the development of many new *in ovo* vaccines, capable of protecting the birds against various diseases for their complete lifespan, promises a great growth potential for this technology. The process and technique used to deliver vaccines *in ovo* is essential, as the injection and delivery must be made to the precise location within the egg



and requires the highest possible level of hygiene. Based on these challenges, Viscon HatcheryAutomation has developed the new standard in safe *in ovo* vaccination. This product line carries the new Viscon brand VINOVO and offers hatcheries a bio-secure solution that will improve health and welfare of chicks, starting from the earliest stage in the hatchery.



Live Embryo Detection

Select Inject

Select Transfer

The next generation in safe *in ovo* vaccination

- ✓ Optimum Hygiene
- ✓ Superior Vaccine Delivery
- ✓ Performance Reliability

Better protected
& healthier birds



Production lines



Vinovo Flex inject

Vinovo Flex Inject is developed as a diverse alternative to the already existing Vinovo Select Inject. The Vinovo Flex carries with it the advanced features of Vinovo while offering **greater flexibility**. The Flex is diverse in nature due to the ability to handle **any setter tray configuration** on the market. A dynamic setup means that the Flex can act as a **mobile** and standalone solution or can be integrated into a fixed transfer line. Hatcheries of any size and age are able to benefit from *in ovo* vaccination with the use of the Vinovo Flex.



Vinovo Select inject

Advanced features within the Vinovo Select Inject allow greater confidence when it comes to the effective vaccination of the embryo. Through the **fully integrated setup** created with the Live Embryo Detection Unit, Vinovo Select Inject and Select Transfer unit, a highly advanced transfer process is achieved. The Vinovo Select Inject™ features patented re-alignment technology, ensuring that each egg is positioned straight whilst being injected, resulting in highest accuracy of vaccination.

Application:	Flex inject™	Select inject™
Fixed set-up	✓	✓
Mobile set-up	✓	
Setter tray types	No restriction	Selected types
Technology:		
Dual needle system	✓	✓
Automatic needle sanitation	✓	✓
Selective inject technology	✓	✓
Vaccine saving technology	✓	✓
Re-alignment technology		✓
Adjustable needle dept		✓
Compatible with:		
Candling technology	✓	
Live Embryo Detection™	Option	✓
Select Transfer	✓	✓
Pro-Vacc-Tive™	Option	Option
Tregg™ software	Option	Option

VINOVO

Technology



Dual needle system

A dual needle system, consisting of a punch to penetrate the eggs shell and an inside needle to dose the vaccine, ensures that each vaccination is given consistently and safe at the right location inside the egg. This is a proven technology that prevents damage or blockage of the needle and guarantees a durable and safe method of vaccine administration.



Automatic needle sanitation

Needles and injection tooling are automatically sanitized and disinfected after each injection. This ensures a bio-secure vaccine administration and reduces the risk of cross-contamination from egg to egg.



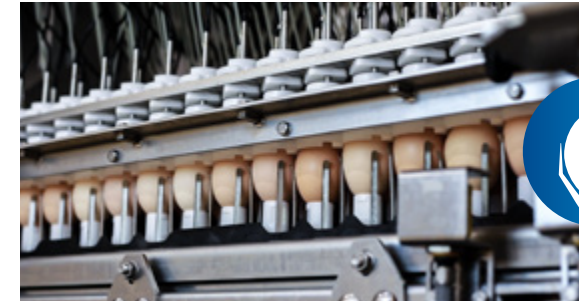
Selective Inject technology

Selective inject technology starts off with the highly intelligent Live Embryo Detection. With the accurate classification of eggs, the viable eggs only undergo the vaccination process which optimizes hygiene. The harmful, non-viable eggs remain untouched in the setter tray preventing the cross contamination across the surrounding viable eggs and vaccination equipment. This ensures a bio-secure *in ovo* vaccination process.



Vaccine saving technology

Accurate detection of living embryos ensures that only eggs with a living embryo receive an injection and not the non-viable eggs. In turn this means that vaccine is not wasted on the non-viable eggs, reducing vaccine wastage compared to traditional candling or egg remover systems.



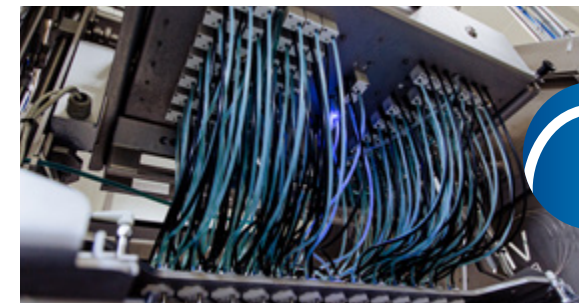
Re-alignment technology

A better accuracy of vaccination is achieved by repositioning the viable eggs in a perfect straight position prior to injection. This is done by means of patented egg holders, which lift only the viable eggs gently from the setter tray and re-aligns them individually underneath the injection tooling. This ensures that each viable egg is punched at the top and center of the egg and the needle is moved to the correct compartment inside the egg (amion cavity or embryo) to deliver the vaccine. Resulting in an effective vaccination.



Adjustable needle depth

With varying egg sizes per flock, so too can the injection tooling be configured to fluctuate with the flock egg size. The possibility to adjust the needle depth improves the accuracy of vaccine placement and thus protection of the birds.

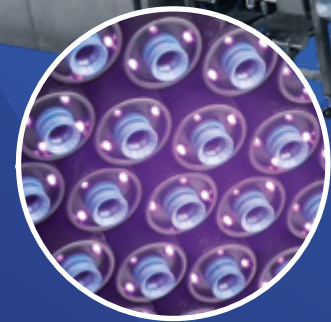


Pro-Vacc-Tive™

Pro-Vacc-Tive™ ensures that vaccine dosage is controlled and guaranteed and needle blockages are detected. This is all achievable through the means of real-time monitoring of each individual needle to quality control the vaccine, sanitation protocol and needle, overall improving on efficiency and productivity.

VINOVO

Fully integrated



Live Embryo Detection™

Identifies:

- ⊙ Living embryos
- ⊙ Infertile eggs
- ⊙ Early dead embryos
- ⊙ Late dead embryos and rotten eggs



Vinovo Select Inject™ / Vinovo Flex Inject™



Vinovo Select transfer™

By not transferring eggs that are rotten or have a dead embryo inside, the prevention of cross contamination of harmful bacteria over the healthy eggs or over the automation is achieved. This improves hygiene throughout the hatching process and chick processing, whereby health problems and use of antibiotics can be reduced.

VINOVO








Expertises

Live Embryo Detection™



Heartbeat & candling technology

Vinovo Select Inject™ / Vinovo Flex Inject™

-  Dual needle system
-  Automatic needle sanitation
-  Selective Inject technology
-  Vaccine saving technology
-  Re-alignment technology
-  Adjustable needle depth
-  Pro-Vacc-Tive™

Vinovo Select transfer™



Live embryo transfer

VINOVO

Optimum hygiene

Non-viable eggs are a biological hazard, especially when they contain a dead embryo or are rotten. In many cases these eggs hold pathogenic bacteria, which can be transmitted by contact (e.g. needles or vacuum naps) or airborne when these eggs break or explode during take-out, injection or transfer. Giving an increased risk of contaminating other eggs and creating an enormous health challenge for the newborn chicks later on.

To solve this problem Viscon has redesigned the complete transfer process. This started with the development of a more accurate detection system, Live Embryo Detection™.



The Live Embryo Detection™ accurately indicates which eggs contain a living embryo and classifies the non-viable eggs as infertile, early or late dead embryos. Exactly knowing the content of each egg, enables selective processing during *in ovo* vaccination, egg transfer and waste discharge. The Vinovo Select Inject™ *in ovo* vaccination machine and the Select Transfer™ machine will only process the eggs that contain a living embryo.

First only the viable eggs are vaccinated and transferred to the hatcher baskets. The non-viable eggs (infertile and eggs with dead embryos) remain untouched in the setter tray, which is moved to a separate waste room where the infertile eggs can be taken out for resource recovery and the remaining dead eggs for disposal. Because this procedure takes place in a separate room and eggs with dead embryos or “bangers” do not enter the hatchers anymore, the spread of pathogens is prevented. Creating a more hygienic and safer environment for the



Improved
biosecurity levels

4 progression points



1. Dual needle system

Vinovo offers a dual needle system which utilizes a punch needle and injecting needle to carry out the injection method. Firstly, a robust punch penetrates the egg shell, hygienically clearing a path for the injecting needle. Following from this, the injecting needle is lowered under a lower pressure to administer the vaccine in either the amnion or embryo. This is a proven technology that is both durable and hygienic. Compared to single needle systems, it prevents damage or blockage of the needle and ensures for reliable vaccine delivery.



2. Re-alignment technology

In a practical setting, eggs are never in a perfectly straight position in a setter tray. If these eggs are not corrected before injection, the possibility and risk for incorrect vaccine placement, egg breakage and/or damage to the embryo dramatically increases. This can result in lower efficacy rates of the vaccine and loss of hatchability. Vinovo Select Inject™ is unique in this matter in that only the viable eggs are gently lifted out of the setter tray and are repositioned in a perpendicular position underneath the injection tooling using re-alignment technology. By incorporating re-alignment technology, the top of the egg is penetrated allowing the tip of the injecting needle to be positioned in the correct compartment inside the egg (amnion or embryo) to deliver the vaccine.



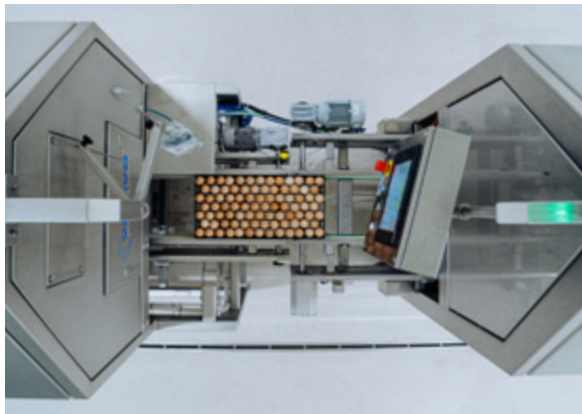
3. Adjustable needle depth

To accommodate for the varying egg sizes or embryonic development between flocks, the needle depth can be calibrated per flock.



4. Pro-Vacc-Tive™

This system has been specially designed to improve the quality of the vaccination process, monitoring in real time the vaccination and sanitation pathways of each individual needle. This integration improves on vaccine consistency, enhances quality control, increases machine up-time and allows for efficiency and responsive action to real-time issues.



POULTRY

Service & training

Scheduled servicing

By planning in scheduled maintenance, our engineers are able to support your hatchery performance by carrying out corrective and preventative maintenance.

This approach has been specially designed with you in mind to ensure that the hatchery equipment operates with minimal downtime to promote dependability and reliability. By subscribing to our improved initiative, you can be rest assured that our service engineers will be at your facility on a fixed basis to help you in your performance.

Training and support

Our specially designed training modules ensures a strategic balance between theory and practice is offered to your staff. The fundamentals learned in these modules allow for familiarity and appropriate accreditation to successfully operate the hatchery automation equipment.

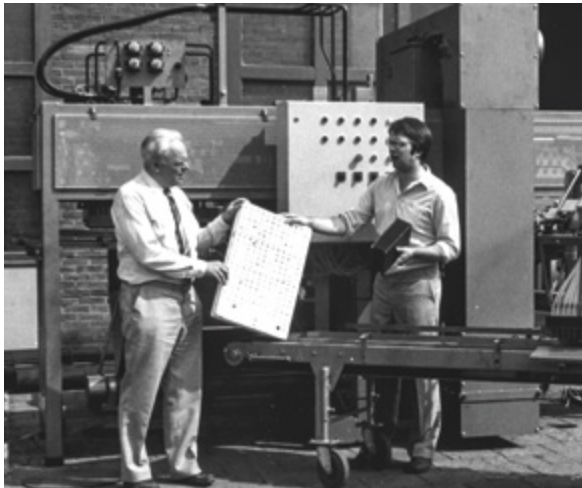
This results into not only ensuring that your staff can accurately identify and troubleshoot issues as they arise, but also that an indepth understanding is promoted, increasing the overall awareness of the in-ovo and hatchery operations.



TREGG information system

TREGG has been specially and specifically designed for you in that it gathers, manages and helps you analyse the processes in your hatchery.

Information relating to individual and group flock performance, automation processes and hatching results can be collated to help improve your understanding of your hatchery's overall performance. Further to this, the functionalities from TREGG can be utilized to aid the servicing and support aspect to your hatchery environment.



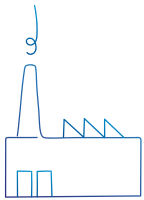
WHO WE ARE

Viscon Group

We are passionate about Agro and Food processes and the limitless possibilities technology has to offer. Our software, machinery, and solutions enable the world to produce, distribute and enjoy healthy fresh food, flowers and plants. Since its establishment in 1927, the family-owned company has grown into an international organization, active in various Agro & Food sectors.

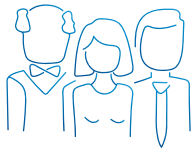
Our extensive experience in each market we operate in enables us to understand the operations, opportunities and challenges of our customers. This enables us to make the best production layouts for your company.

We design and build the entire process, combining Viscon automation with specific equipment sourced from carefully selected partners. This means you will always find the best solution. With Viscon you have access to a one-stop-shop. We design, we build and we fully integrate. We even add intelligent software to give you optimal control and management of your business.



2

Factories



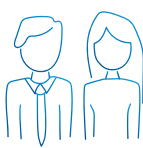
3

Generations of experience



77+

Countries with Viscon equipment



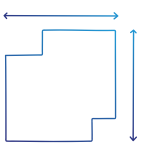
300

Colleagues



6,000

Cups of coffee a week



23,000

Square meters manufacturing facility

We keep innovating for the hatchery of tomorrow



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