

OPTIMAT

MULTIPHASE FEEDING SYSTEM



asserva
AUTOMATISMES EN ÉLEVAGE

digital farm_



THE MULTIPHASE FEEDING DESIGNED BY ASSERVA



Since 1978, Asserva designs and manufactures multiphase feeding systems.

Result of this long experience, the Optimat is a PLC whose base can be easily upgraded.

Compatible with satellites, the Optimat can be linked to the liquid feeding system. Several versions of the multiphase system are available according to the size or the technical level of your farm.

Our engineers develop programs that combine advanced technology with great ease of use. The different PLCs communicate with each other and can be controlled remotely, via tablet or smartphone with a Wi-Fi network.



IMPROVE YOUR RESULTS
WITH OUR SOLUTIONS FOR THE
MULTIPHASE FEEDING
OF YOUR ANIMALS



Close to the customers

The Asserva team is very close to the breeders and our reputation is the result of many years of experience.

Permanent contact with you refines our knowledge of your current and future needs, while taking into account your technical and economic constraints.

Your comments and requests for improvements, those of our installation and after-sales service teams are integrated into the design and optimization of our products.

The Optimat is the tool of tomorrow : it feeds your animals and, thanks to its complete and precise reports, it helps to improve decision making, for better performances of your farm.

The performance, adapted to all the physiological stages

Dry and gestating sows : a more diluted preparation is perfectly distributed in the collective trough of sows in group, ensuring a good water consumption for the pregnant sow.

Important asset for the lactating sows : the multiphase feeding can manage the feeding of each sow, according to the number of piglets, the feeding plan, and the sensor level. The pneumatic version allows to distribute liquid feeding, but also water only between meals.

Weaned and finishing pigs : with the Optimat, each pen can have a personalized distribution. The feed adapted for the younger animals evolves automatically to the finishing feed. It is distributed with precision, and transitions on several days can be set. The pneumatic version distributed the liquid feed without rests in the tanks or the pipes. Its injection system ensures an excellent precision of the dilution.

FEEDING PERFORMANCES



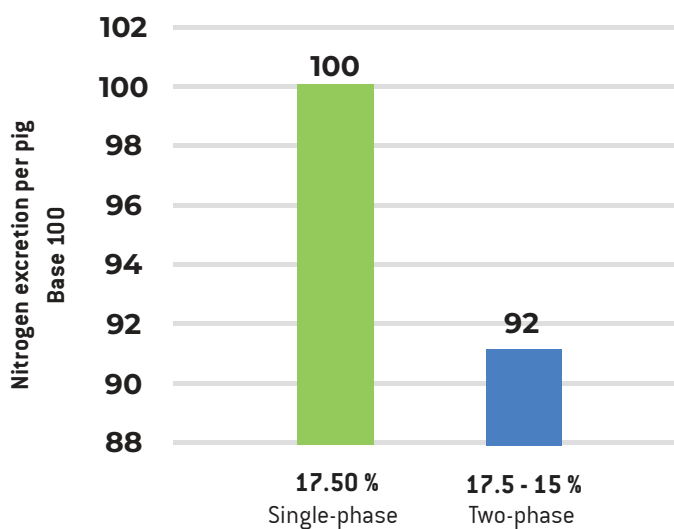
Phase feeding consists of feeding a group of pigs as close as possible to its nutritional needs, through the use of several diets over a relatively short time, defined by the evolution of age, weight and physiological stages of these animals. [Han et al., 2000 ; Jongbloed and Lenis, 1992].

Finishing pigs

Reduction of emissions, particularly nitrogen about 10% over the entire fattening phase by using two feed with decreasing concentrations of crude protein (17.5% of CP in growth and 15% of CP in finishing) without altering growth performance, compared with the use of a single feed (Figure 1).

[Latimier et Dourmad, 2003].

This feeding strategy can also contribute to improve the feed cost margin. [Quiniou et Espagnol, 2017]



Nitrogen excretion per pig in base 100 for a single and two-phase strategy [Latimier et Dourmad, 2003].

Weaned pigs

Help improve the intestinal health of piglets thanks to :

- A reduction in intensity and frequency of diarrhea: better adjustment of the content of crude protein in 1st age food

- Feed transitions on several days

- Reduction of nitrogen and phosphorus emissions.

[Dourmad et al., 2015].







INTERVIEW



PNEUMATIC OPTIMAT

Arnaud, farrow-to-finish farm, France

Equipped with a pneumatic Optimat, with water distribution

« I am a cereal producer, I have 140 hectares of cultivation and the objective was to value my wheat, my barley and possibly my corn for later with the possibility of dispensing a feed specific trough by trough.

With the incorporation of water into the distribution, the Optimat system ensures the manufacture and distribution of a hyper product appetizing approaching a porridge with a rate of very low dilution. Animals consume, without having to return to the drinker, they ingest at the same time food and plenty of drinking water Daily. **The growths are excellent.**

The Optimat system allows me to work in four distributions with small quantities improving availability food in the troughs. This helps reduce fights and food stress.

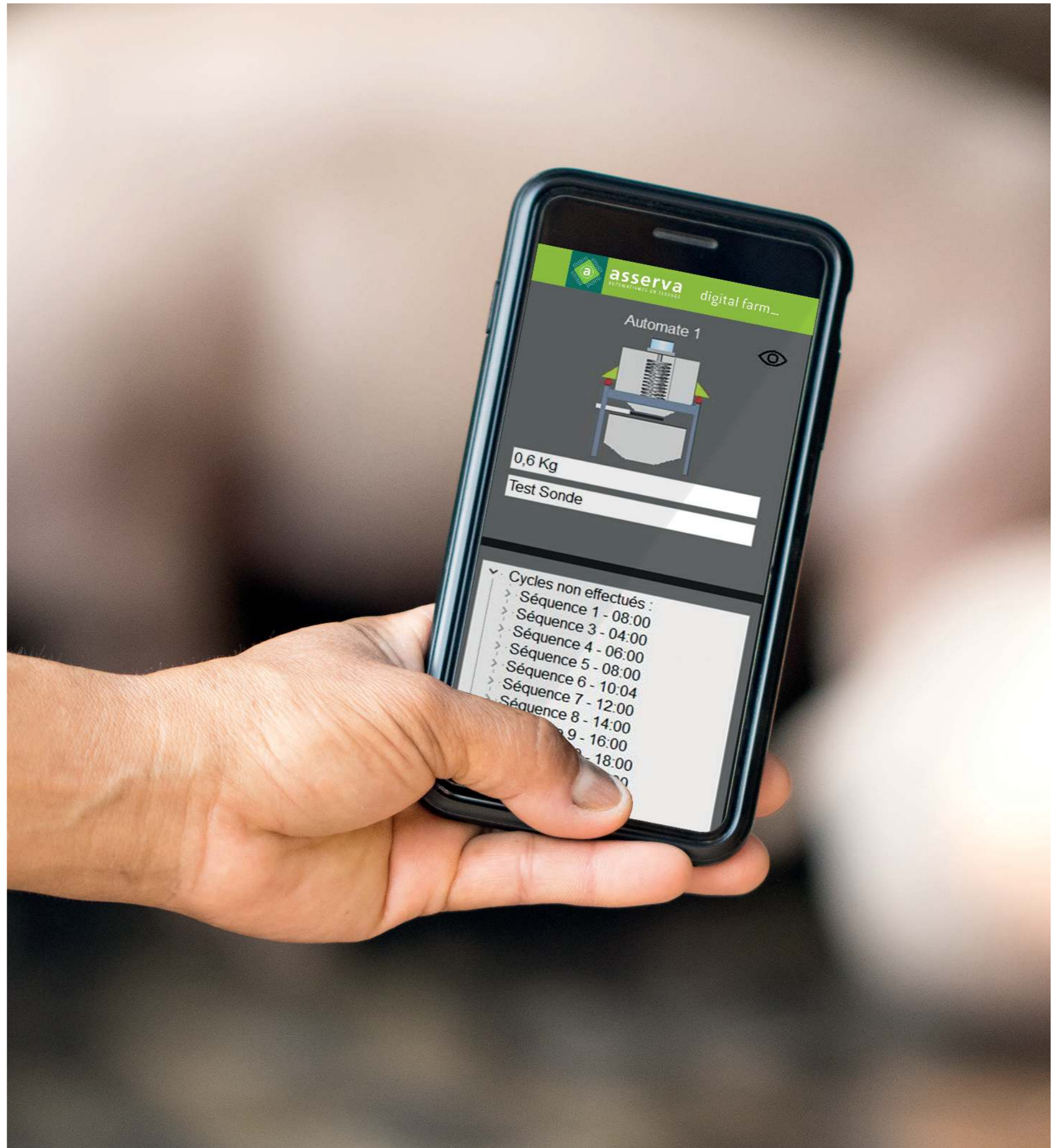
From the start we set up the feed curves. We observed animals of the same genetics rise to **rates of consumption of 200%** and no trough were less of 100%.

My employees are fully satisfied with the system, that is very simple in twenty minutes the first meal is delivered on immediately sees if the animals are in good shape or not. The

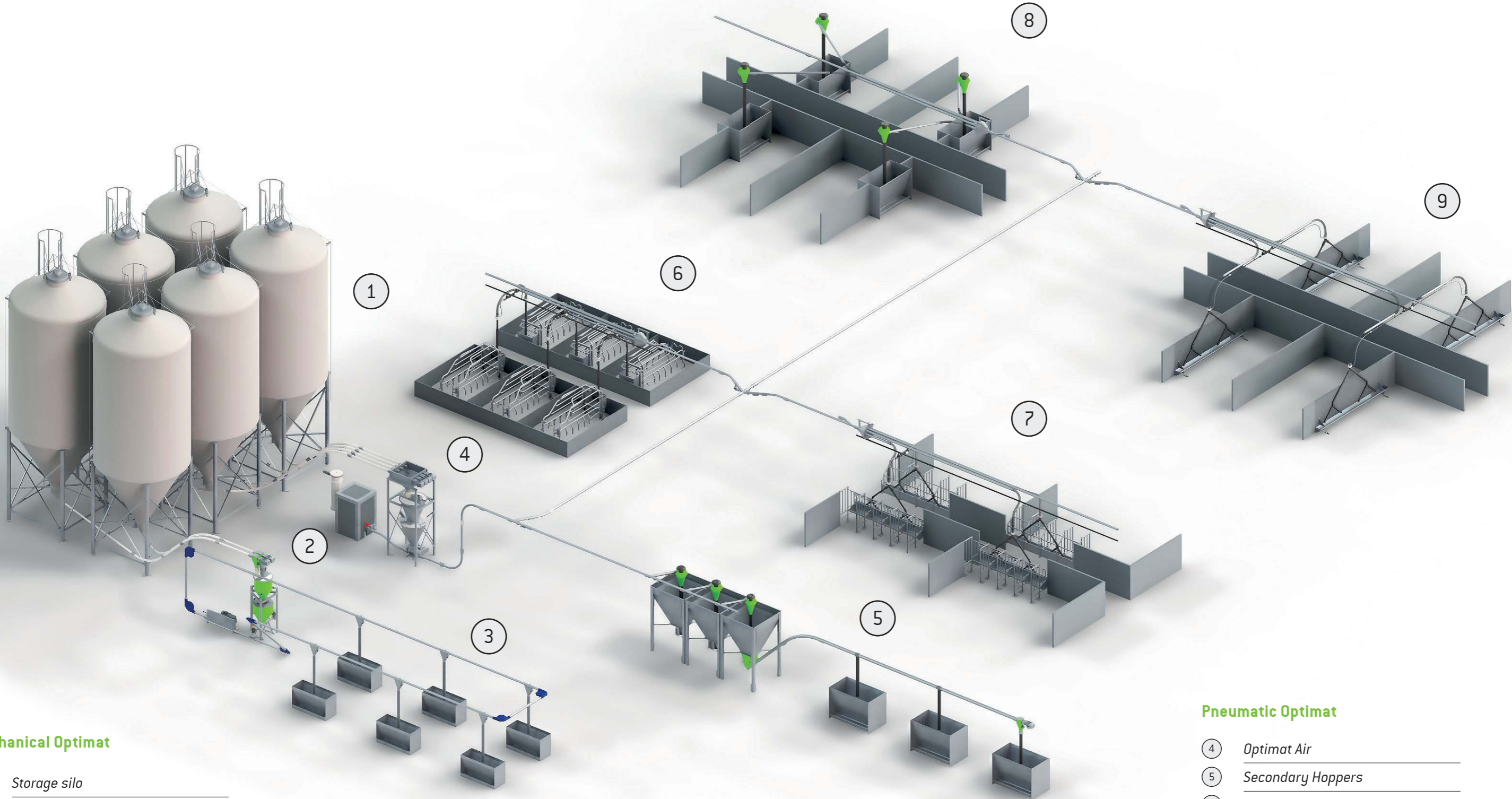
Optimat simplifies the work for an employee and that's a lot easier to follow on a daily basis. »



I CHOSEN OPTIMAT AIR AND WATER FOR ITS QUALITY MANUFACTURING AND DISTRIBUTION FEED MIX



THE OPTIMAT MULTIPHASE FEEDING SYSTEM BY ASSERVA



Mechanical Optimat

- ① Storage silo
- ② Mechanical Optimat
- ③ Automatic T piece

Pneumatic Optimat

- ④ Optimat Air
- ⑤ Secondary Hoppers
- ⑥ Pneumatic distribution - farrowing unit
- ⑦ Pneumatic distribution - gestating unit
- ⑧ Pneumatic distribution - feeders
- ⑨ Pneumatic distribution & water in troughs

THE DIFFERENT OPTIMAT CONCEPTS



CONCEPT 1

The simplest version, it feeds up to six raw materials. The feed is loaded with a screw unending. Hanging on the weighing electronic, the concept is simple to set up and inexpensive. The 95 liter tank is without mixer.



CONCEPT 2

The classical version, equipped with a weighed 80 liters preparation tank, and a distribution tank with a draining system. The feed is loaded with an endless auger. Easy, reliable, this version is acclaimed since more than 20 years !



CONCEPT 3

Designed for farms with separated buildings, this version offers a 80 liters mixing tank with an electronic weighing system. Two distribution tanks can manage two different circuits, which double the destination valves. The feed is loaded with an endless auger.



CONCEPT 4

The fastest version of the mechanical range, with a 110 liters mixing tank. It allows to feed a large number of animals, with an optimized flow that chain up preparations and distributions. The tanks are in stainless steel and the feed is loaded with an endless auger.



CONCEPT 5

The pneumatic version of the Optimat is entirely in stainless steel. Thanks to a very precise system, it can manage a large number of raw materials, mix and distribute them very quickly. This version can distribute up to 70% of wet corn. It is also possible to reconstitute liquid feeding in the trough at the feed drop pipe. A rotary valve after the tank, with a suppressor, ensures the loading, the air generated pushes the feed to the destination.

AUTOMATIC SYSTEMS FOR FEEDING



OPTIMAT CHAIN & OPTIMAT AIR

Optimat meets the expectations of small and large farms. Different versions are available: with or without mixing, with 1 or 2 circuits, and a mechanic or a pneumatic distribution, for a dry or wet feeding. The precision and the flexibility of the system remain optimal even with long circuits. Satellite microdosing machines ensure the incorporation of additives with an accuracy of ten grams.



① *Pneumatic Optimat
Proof Talpe - Belgium*

② *Pneumatic Optimat
Belloeil farm - France*



③ *Cyclone for the pneumatic
distribution
Belloeil farm - France*

PREPARATION AND DISTRIBUTION

Asserva conceives several type of tanks to answer all the technical needs of a modern farm, ensuring a good mixing quality and guaranteeing an excellent hygiene;

The standard version weighs and distributes the feed, feeder per feeder, with a feed adapted to the age and weight of the animals.

The mixing tank offers the possibility to incorporate different feed to spread the transitions over a few days.

The distribution tank can be equipped with two outlets to adapt to a more consistent installation.

The pneumatic version allows you to incorporate wet corn and adapts to long circuits, for dry or liquid distribution.

ASSERVA CONNECT



THE CONNECTION NETWORK

The connection of our PLCs is a permanent concern. It is possible to connect all the PLCs together through Internet, in order to make the maintenance easier, with a remote assistance. The Optimat has a smartphone or tablet application guaranteeing you permanent access, thanks to a wifi network on the farm. In addition, a network wired between the different Asserva PLCs allows you to manage them altogether very easily.

The Asserva company also offers you the possibility of backing up data to an encrypted and secured cloud in case of data loss or computer problem. You keep the possibility to load your data automatically and transfer them to different technical management or expertise applications.

You remain the owner of your data, nothing can be done without your authorization, we guarantee it.

ELECTRONIC PANEL

The standardization of our electronic panels has been for a long time one of our primary concerns.

Link between the PLC and the electrical controls, we ensure the quality of the contactors and materials to eliminate the risk of breakdown.

The sustainability of our systems is based on the quality and standardization of our wiring methods, drawings and the individual monitoring of these panels. Our development and after-sales service teams work as a priority on predictive analysis of the wear of our systems, in order to anticipate our interventions on site and reduce the maintenance costs.



① *Optimat PC controller*

② *Electronic panel with formula selection*



① *Weight display*

② *Manual controls*

③ *Keyboard and display of the PLC*

FEEDING QUALITY AND PRECISION

WEIGHING OF THE FEED

Entirely in stainless steel, our weighing range is fixed directly on the frame of the tank.

Each weighing is calibrated according to the load weight of each installation. Depending on the size of the tank, it is composed of 3 or 4 electronic gauges.

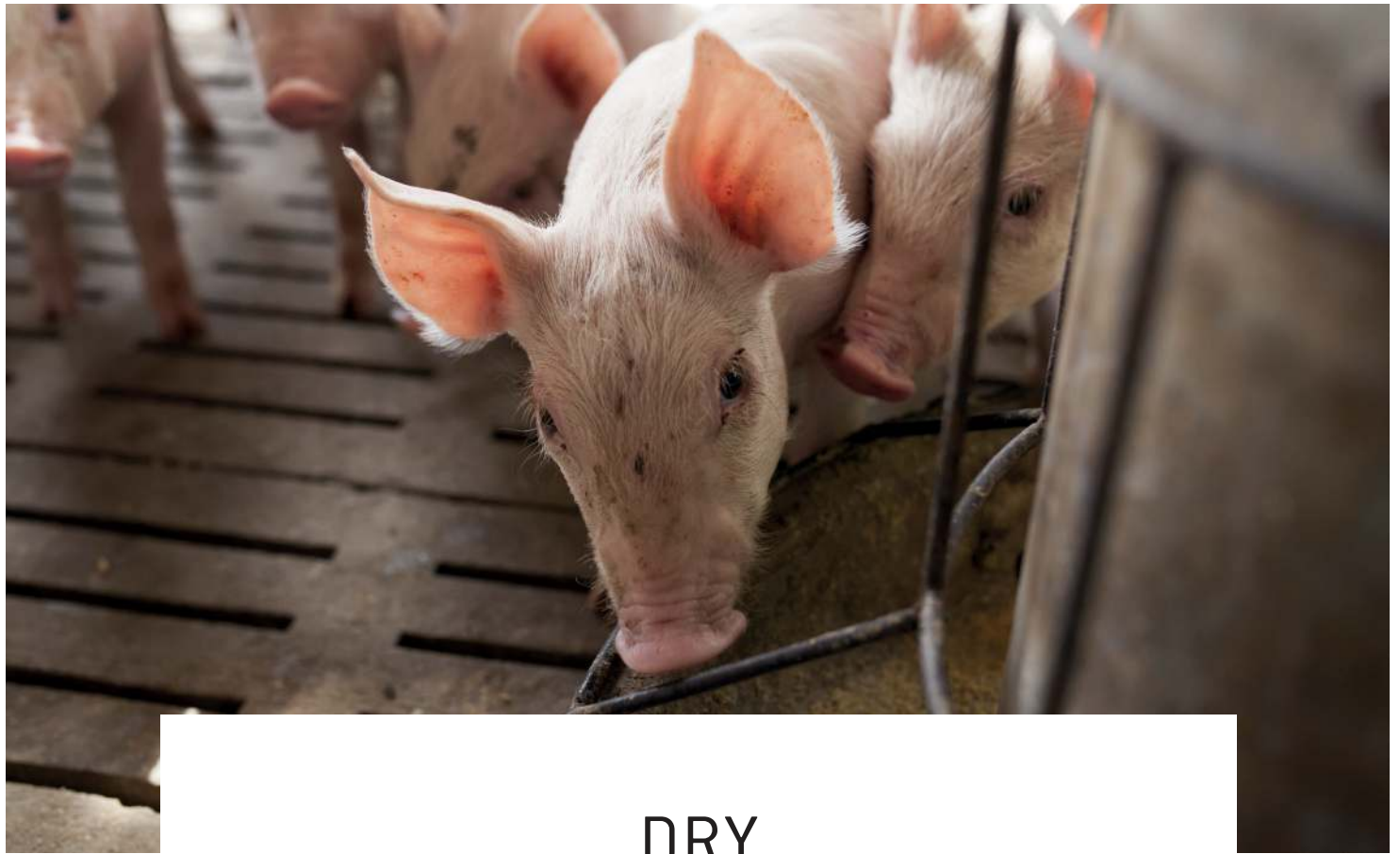
The level of precision is excellent, ranging from 50 grams to a few kilos, depending on the capacity of the tanks.



CONVEYOR SYSTEM

Pneumatic distribution is ensured by forced-air. The circuit is made up of multiple valves that serve as switches to the desired destination.

The outgoing switch valves are made up of double or triple outlets on ball valves spherical controlled by pneumatic cylinders. The society Asserva has been using them for more than 20 years, their reliability is no longer to demonstrate.



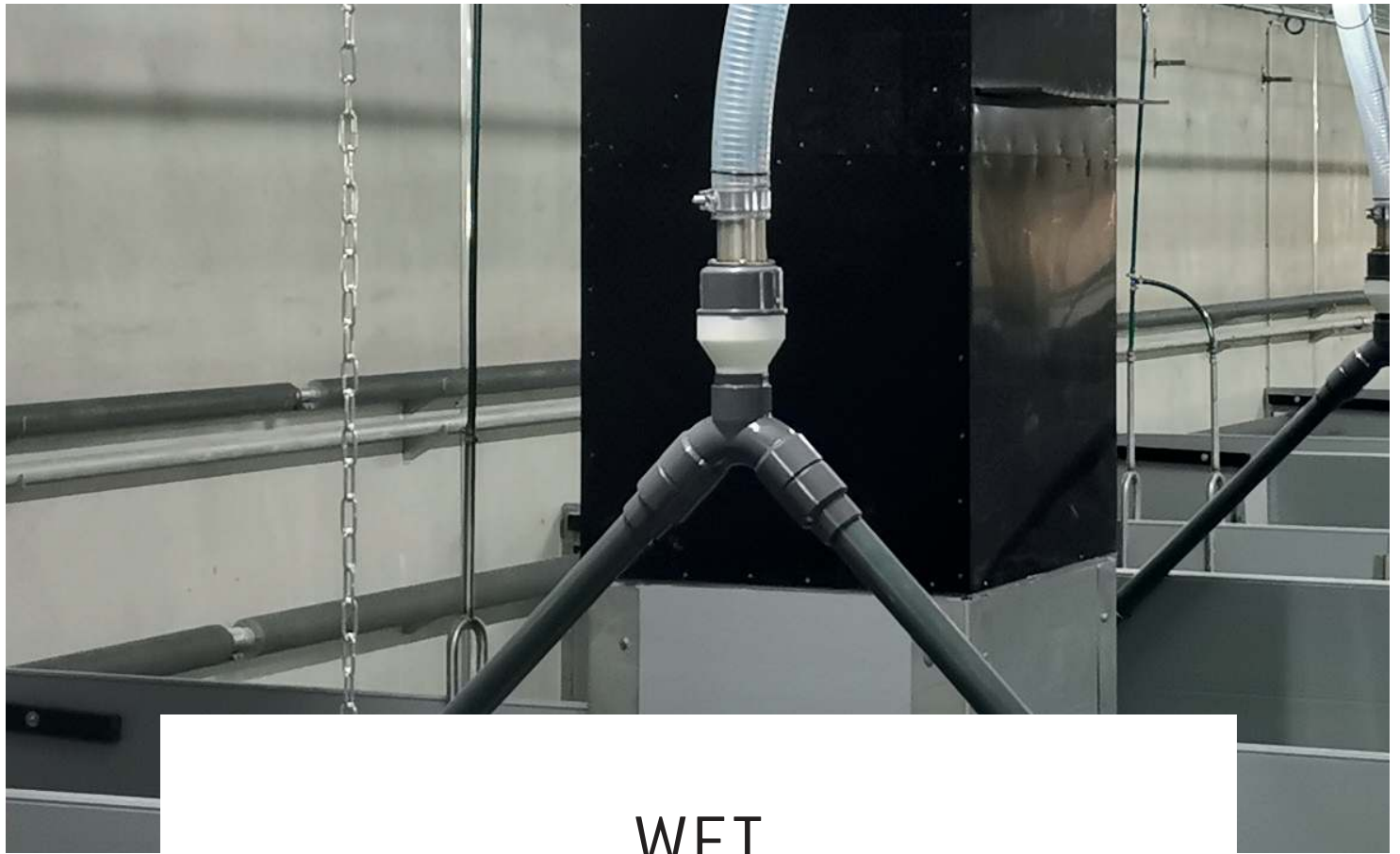
DRY DISTRIBUTION



WEANING AND FINISHING DISTRIBUTION

The Optimat system, a reference since more than 25 years for our customers, is constantly evolving. One of the main interests is the precision of the distribution which ensures a gentle and stress-free evolution of the feed formulas, according to the age or weight of the animals. The pneumatic version facilitates the incorporation of wet corn up to 70%, to optimize cost prices.

The Optimat can manage level probes in feeders to automatically manage the distribution. The level detected by the probe generates an alert, or activates the automatic modulation of the following distribution. The farmer has access to all distribution reports on his PC or smartphone.

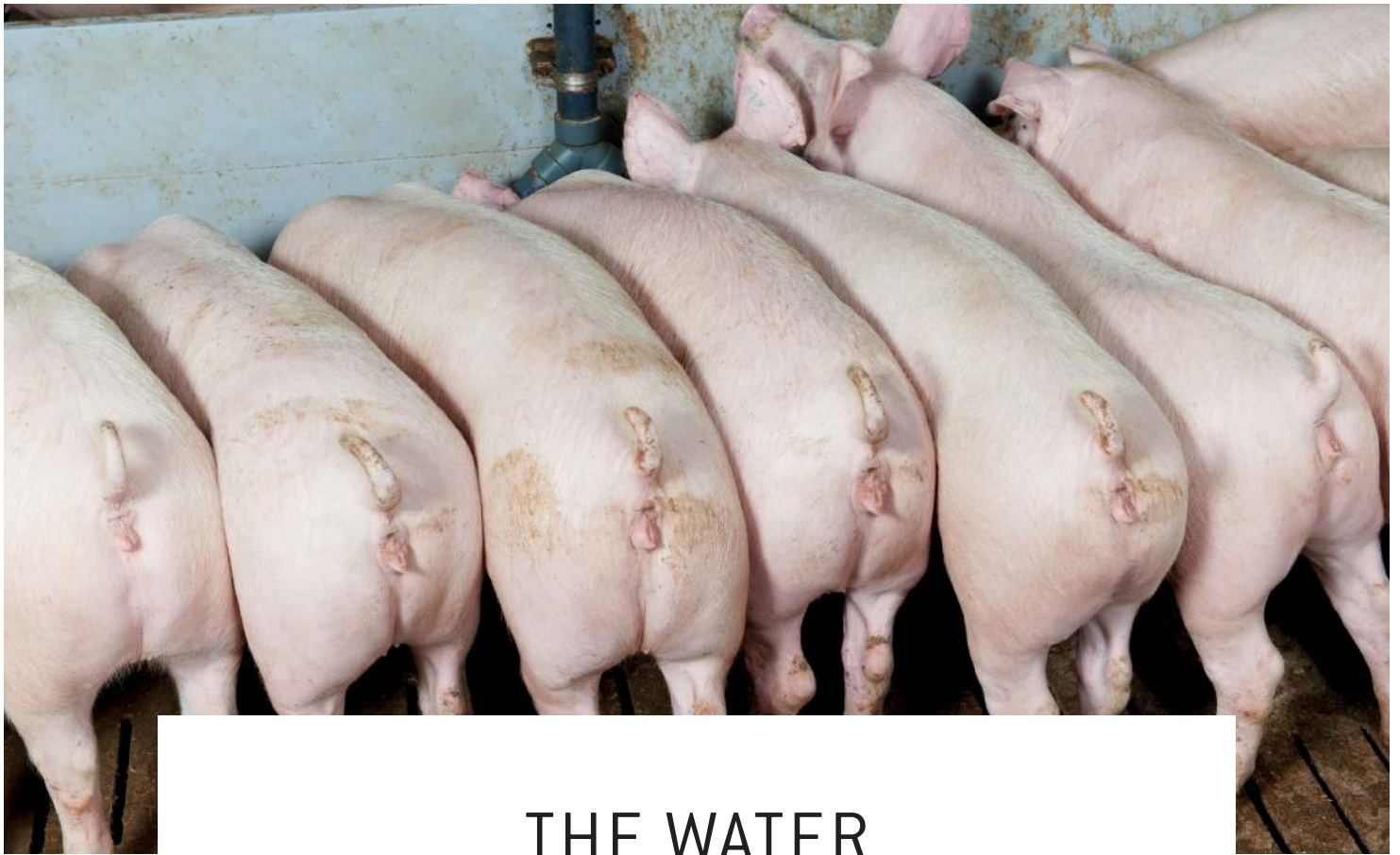


WET DISTRIBUTION

THE MULTIPHASE FEEDING, WITH WATER DISTRIBUTION

Optimat Air can also manage a wet distribution. A network of water valves installed in parallel allows the AWI (Automatic Water Injection) injector to mix the feed when he goes along the drop pipe with water. The liquid feed, appetizing, with a very precise dilution, can be very sticky if needed. Without a liquid feeding tank, without rests, the canalizations are dry and clean.

Adding level sensors in the troughs allows to automatically manage the distribution. The level detected by the probe generates an alert, or activates the automatic modulation of the following distribution. The farmer has access to all distribution reports on his PC or smartphone.



THE WATER DISTRIBUTION

DISCOVER THE DIFFERENCE WITH OPTIMAT AIR AND WATER DISTRIBUTION

This innovative concept is integrated in the pneumatic version. When distributing the feed, a network of water valves installed in parallel and controlled by the Optimat Air, allows with the AWI (Automatic Water Injection) injector to control the dilution and the quantities of water distributed. These new solutions for weaning, fattening and sows feeding offer the advantage of always clean pipes, troughs with probes and ensure a perfect hygiene.

Water distributions can be managed outside of feed distributions. Level sensors in the troughs automatically manage the distribution. Animals can thus drink in free access, in comply with current standards.



DISTRIBUTION VALVES

Plastic T piece

Economic, made of plastic and stainless steel, the plastic T piece is easy to maintain and resistant to corrosion. It is also very precise, thanks to its quick opening and closing, and reliable.

Stainless steel T piece

The stainless steel valve is ideal to use with flour feed. His 20 cm opening ensures the distribution in the feeder. Conceived and produced in our factory, made in stainless steel, it guarantees reliability and longevity !



Switch valve - Optimat Air

This valve is mainly used to start the circuits, and to switch between different directions. Ball valve, controlled by a cylinder, it ensures the full passage of the feed. Completely removable, it is easy to maintain.



8-ways valve - Optimat Air

The 8-ways valve is entirely in stainless steel. His rotary drive system allows, with a single entry, to have eight different exits. Its tightness is perfect and its reliability proven on the field.



THE OPTIONS

Level sensor - dry feed

A paddle sensor controls the feed level in the feeder by contact of the feed. He detects the low consumption and, if needed, activates the automatic modulation of the daily ration, to avoid feed rests. The consumption speed can be taken into account to adjust the feeding plans.



Level sensor - liquid feed

Composed of two electrodes that can detect the liquid level, this sensor detects consumption issues. It activates an automatic modulation of the daily ration to avoid feed rests. The consumption speed can be taken into account to adjust the feeding plans.



Medisat supplement system

Since more than 25 years, Asserva is working on micro-dosing. The micro add supplements in the formulas with a precision that ensures dosing within a few tens of grams. Easy to maintain, Medisat is made with non-corrosive materials.





INTERVIEW



MECHANICAL OPTIMAT

Frédéric, pig producer, Brittany

Equipped with a mechanical Optimat

« When I install a new system, at the beginning I work like before, then I evolve gradually, I refine.

With the Optimat multiphase solution, I can manage the quantities and formulas distributed to the feeders accurately. All in an automated way. I was able to save time, but also money. The system allows me to be able to reason the transitions to the pen when switching from a first age feed to a second age, and from a second age to a third age easily.

*The distribution, prepared for every pen, sequenced in several meals a day, also helps to reason the daily feed intake. **Animal consumption is stimulated thanks to fresh rations.***

*The Optimat distribution system makes it possible to create transition periods. **It promotes growth and reduces the risk of digestive troubles.***

This product has enormous potential and the constant exchange with the Asserva team allows us to learn. Our feedback is also interesting for them, to always continue to improve the equipment ».



ASSERVA MADE IN FRANCE



The fruit of Asserva's research and innovation brings together simplicity and profitability.

We want to make Asserva a company focused on the future and recognized as an innovative player of the « digital farm » on the main markets of the pig industry.

Asserva is constantly working on its business sectors and its know-how in order to respond to agricultural and industrial challenges of tomorrow.

- Feed distribution
- La RFID
- Access control
- Ventilation (dust evacuation)
- Weighing and micro-weighing



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+33 02 96 31 29 15

7 RUE DES GASTADOURS / 22400 LAMBALLE - FRANCE

www.asserva.com