

SYNCHRO-HATCH™

MAXIMUM HATCH . MINIMUM WINDOW



Synchro-Hatch™ is exclusively available as an option on new Petersime AirStreamer™ hatchers and can be retrofitted to existing AirStreamer™ hatchers.

All photographs, measurements and descriptions are provided without engagement. We reserve the right to make modifications at any time. Date of issue: February 2009

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PETERSIME
Incubator Innovator

MAXIMIZING THE FINAL DAYS

No incubator company has a better scientific understanding of the incubation process than Petersime. No two batches of eggs are identical. Therefore predefined incubator programmes with fixed timings never fully optimize the process. **Synchro-Hatch™ is a patented bio-response technology that synchronizes the hatch profiles to the hatching process.** Synchro-Hatch™ monitors the process and automatically detects the vital signals of the developing embryo, allowing the system to generate the right environment for an optimal hatching process.



The Synchro-Hatch™ Sensor

“ Synchro-Hatch™ results in improved chick uniformity and quality as well as superior hatchery performance in terms of hatchability and power consumption. ”

The hatching cycle: crucial phase in the incubation process

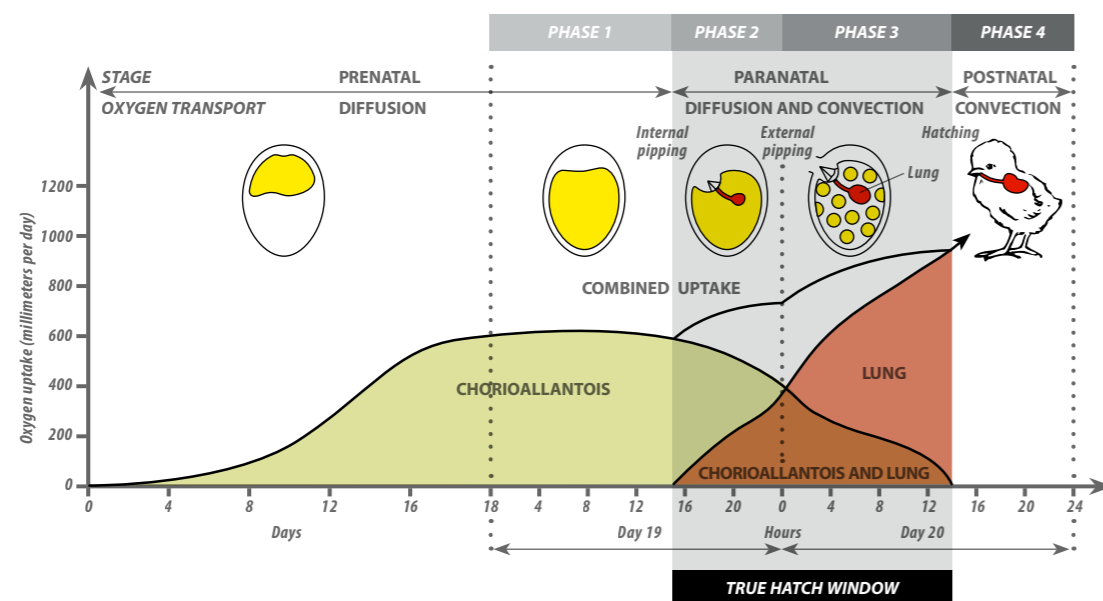
A HATCHING CYCLE HAS FOUR DISTINCT PHASES:

- PHASE 1
PERIOD UP TO INTERNAL PIPPING (IP)
- PHASE 2
TRANSITION FROM VASCULAR TO LUNG RESPIRATION
- PHASE 3
EXTERNAL PIPPING AND HATCHING
- PHASE 4
FINISHING

The hatching process marks the period when the chick is experiencing the highest degree of effort and stress. In a complex and delicate sequence of events the developing chick makes the transition from vascular to lung respiration.

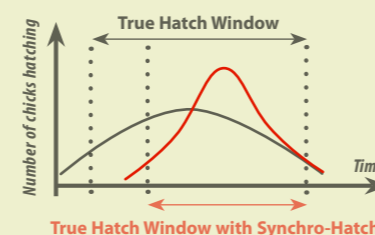
A hatching cycle has four distinct phases. Each phase requires very specific levels of temperature, humidity, CO₂, O₂ and air speed to optimize the development of the chick. The hatching chick is positively responsive to environmental changes at critical moments during the hatching process.

Synchro-Hatch™ automatically detects the exact timing of 100% internal pipping (IP) and initiates a sequence of modifications to the incubation environment. It also automatically recognizes when all chicks are out. The system triggers a further phase in the incubation parameters to optimize the finishing of the chicks to prepare them for take-off. Those actions reduce the hatch time and concentrate the hatch much nearer to the time of chick take-off.



There are multiple definitions of hatch window. The "True Hatch Window" is defined by phase 2 and 3 of the hatching cycle, as highlighted in the diagram above.

Synchro-Hatch™ improves chick quality and hatchery performance



True Hatch Window reduced by up to 30%

Synchro-Hatch™ reduces the True Hatch Window by up to 30% and concentrates the hatch much nearer to the chick take-off point. The result: uniformity of hatch as never achieved before in the industry.

Comparison of hatch distribution: regular hatch versus hatch with Synchro-Hatch™

Better uniformity of hatch for unmatched chick quality

Properly timed access to feed and water is essential for a healthy start in the life of the chick. With Synchro-Hatch™, all chicks hatch within a short time frame and are perfectly timed for take off. Field trials have shown an increase of over 11% on the Petersime Chick Quality Scoring System. Of course, the economic benefits stretch far beyond the hatchery. The improved broiler performance (lower mortality, better feed conversion, weight uniformity at slaughter) generates big savings and quick payback on your investment.

0.77% increase in hatchability

Field trials with young, medium and old parent stock flocks have clearly proven that Synchro-Hatch™ consistently improves the hatch-of-fertile ratio. The average hatch improvement recorded to date is 0.77% compared to chicks hatched in identical conditions but without the benefits of Synchro-Hatch™ bio-response technology.

Over 60% reduction in hatcher energy consumption

Synchro-Hatch™ technology is energy efficient, as the pulsator fan speed varies according to the hatching process. Our studies show that, based on a three-day stay in a hatcher of 19,200 eggs, the Synchro-Hatch™ pulsator motor consumes 63% less electricity. Even for hatchers featuring Eco-Drive™, the savings are still well over 50%. A solution that's kind to your pocket as well as the environment.



From a technical point of view Synchro-Hatch™ features a sensing device and advanced software that processes various signals to clearly identify the distinctive phases in the hatching process.

Once the internal pipping stage has been detected (end of phase 1), the software is receiving a trigger to change to an environmental climate that induces phase 2 of the hatching cycle. Phase 3 is closed off upon detection of a 'chicks-hatched' signal which is produced by analysis of various environmental variables. Automatic capture of these events relieves the hatchery manager from the task of adjusting the hatcher climate to the time-variant progress of every single hatch.

The Synchro-Hatch™ sensor was designed for simplicity and easy maintenance. It can be easily attached and removed to/from the hatcher baskets. The sturdy industrial grade water-tight enclosure of the sensing device allows thorough cleaning and rinsing.

The sensor is designed to communicate with Petersime FOCUS™ controls. All it takes to interface with older hatcher models is some minor hardware changes to your existing FOCUS™ control system and a quick software upgrade.

