

SmartSense™ Trolley

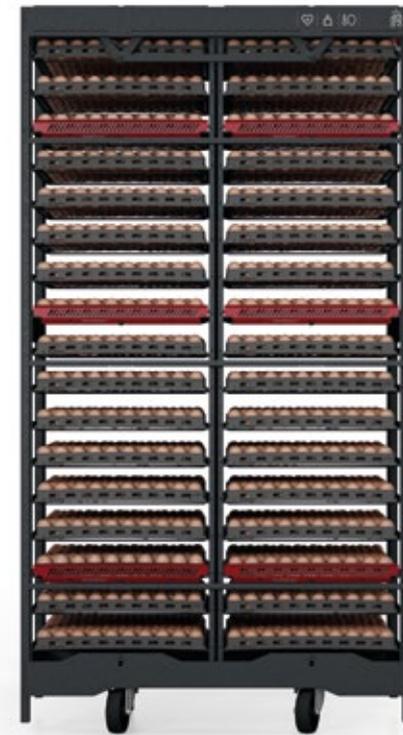


The SmartSense™ trolley is a revolutionary asset for both new and experienced hatchery managers, ensuring peace of mind in day-to-day hatchery operation.

The intelligent trolley uses a constant stream of data, providing real-time information on embryo development and allowing you to adapt to changing incubation demands. This results in ongoing optimisation of the incubation process to maximise the number of top quality chicks.

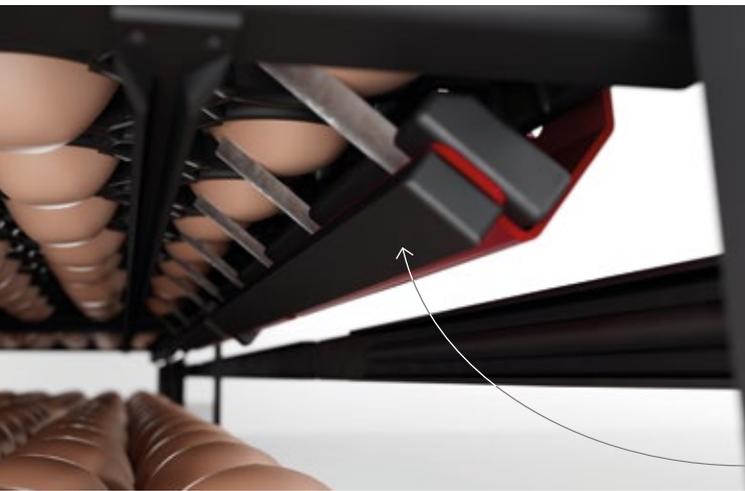
It comes as standard with eggshell temperature modules and can be extended with egg-weighing and heartbeat* modules (*available soon).

The wireless-connected SmartSense™ trolley is used like any normal setter trolley and needs no adaptation to existing hatchery automation. The trolley can be positioned and connected inside each zone of the SmartSense™ setter without manual connection of cables or replacing hatching eggs or trays by sensors.





SmartSense™ uses a next generation series of intelligent, high-accuracy sensors for both adaptive incubator control and predictive process information.



Eggshell temperature module

With multiple eggshell temperature sensors per trolley, at three different trolley levels, SmartSense™ uses a defined number of measurement points for both adaptive machine control and predictive process information.

The resulting data is used for automatic, adaptive temperature control – based on actual embryo needs, rather than the conventional incubation programs alone.

The eggshell temperature module also allows for adaptive RPM control. Instead of ventilator speed reduction at fixed time intervals, the machine can continuously adapt the RPM to actual eggshell temperatures. This results in optimal energy savings, whilst maintaining a constant temperature

distribution in each section of the incubator.

To achieve a uniform incubation start for each embryo, eggshell temperature information is also used for adaptive pre-heating. Once placed in the setter, hatching eggs must be heated quickly and evenly to achieve consistently high levels of day-old chick uniformity. SmartSense™ enables the full programming of pre-heating time and automatically adapts the required heating power to ensure the synchronised start of each incubation cycle.

Due to the large number of eggs measured, the SmartSense™ trolley can reliably validate hatchability forecasts days before 18-day candling. The SmartSense™ trolley is therefore a valuable planning tool for day-to-day hatchery operations.



Egg weighing module

The SmartSense™ trolley weighing module measures the weight of all eggs in the trolley. By setting the desired weight loss objective, humidity levels are automatically controlled to produce the required weight loss pattern over time. This ensures a consistent weight-loss profile for each batch of eggs and creates a proper air chamber volume.



Heartbeat module

As the first incubator manufacturer to use heartbeat sensing in the setter, Royal Pas Reform is now stepping up to the next level of incubation. By continuously measuring the heartbeat of a large batch of eggs, the SmartSense™ trolley can provide valuable information on actual embryo development.

Heartbeat information is used for feedback on embryo welfare, registering heartbeat fluctuations in individual embryos based on environmental changes like temperature, CO₂, humidity, light, sound and much more.

In the future, this module may also provide valuable process information – such as best timing for in-ovo vaccination and expected hatch peak prediction – to support managers in day-to-day hatchery planning.