



S-line

Single-stage incubators
for maximum economic return






PETERSIME



PETERSIME
WHEN[®]
CHICKS
COUNT



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Our S-line

The concept

The S-line sets new standards in single-stage incubation.

Designed to maximize your profit

Over the whole life cycle of your hatchery, the S-line incubator results in:

- **high chick output**
- **high uniformity**
- **low labour, maintenance and energy costs**

The S-line secures your future

It can easily handle increasing embryonic heat production of modern high yield birds. Moreover, it provides expansion capabilities for future options.

The S-line offers a solution for all your needs in terms of capacity, features and expandability of your incubators:

- **setter and hatcher configurations**
- **incubation of chicken, turkey, goose and duck eggs**
- **capacity from 14,112 to 115,200 eggs**
- **various options for incubation control, automation and hatchery management**

The S-line consists of two product ranges:

AirStreamerPlus™:

Our standard model offering all functionalities and features of a modern single-stage incubator.



BioStreamer™:

Our top-of-the-range product adding an extended user interface and autopilot functions based on Embryo-Response Incubation™ parameters.



△ BioStreamer™ 12S

Your advantages

Maximize your profit for life

The S-line obtains **maximum output** from your incubator at **minimum costs** during the **entire lifetime** of your hatchery. It results in a **maximum return on investment**. Petersime has developed this very efficient and effective range of setters and hatcher by building on the experience of our first generation of single-stage incubators.

High chick output

High chick output is achieved by creating the ideal incubation environment. Your chicks will also be stronger and more uniform. This leads to less postnatal mortality, lower feed conversion ratios and increased efficiency in the following stages of the meat processing chain.

Reduced labour costs

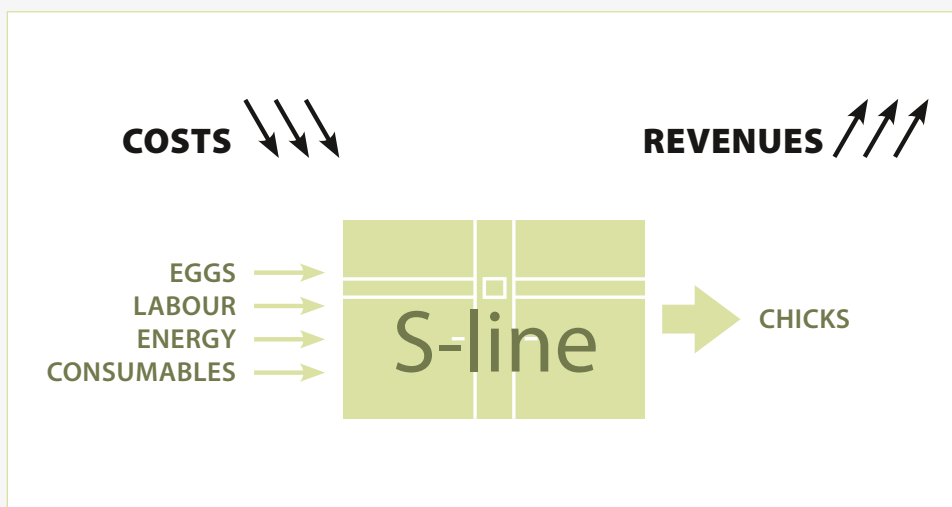
The S-line enables you to reduce labour costs to minimum levels. The intuitive user interface and easy accessibility of the incubator make the life of the operator easier.

Reduced energy costs

Modern energy management techniques and an improved energy transfer function lower the installed power requirements and reduce your energy costs.

Reduced maintenance costs

Maintenance-free components and the minimal amount of replaceable components minimize your need for spares and interventions. Equipment down-time is reduced to a minimum because of easily accessible components and built-in autodiagnosics.



^ S-line input/output model: high chick output at minimum costs

Your advantages

More and better chicks

The S-line provides higher chick output by assuring a bio-secured environment, higher hatch performance and high uniformity of day-old chicks. This leads to more revenue for your hatchery. The high uniformity lowers post-hatch mortality, results in lower feed conversion ratios and increases the efficiency in the meat processing chain.

Better bio-security

The S-line has a **new cabinet sealing** that ensures a completely cocooned environment for the embryo. It completely isolates the embryo from external hostile influences and allows perfect control of the embryo-response parameters.



Protection of your chicks

A **back-up temperature alarm system** monitors that the temperature in the incubator remains within predefined set points in case of failure. The back-up system provides an alarm if the temperature exceeds the safe range.

Higher performance and high uniformity

The controllers of the S-line drive a **newly developed ventilation system** which creates a uniform environment in the incubator.

An easy-to-use reference **calibration tool** calibrates the temperature and humidity sensors of S-line incubators.



▲ *Operator calibrating the temperature*

The controller allows an accurate and interactive control of the embryo's bio-environment, thanks to its **enhanced embryo-control algorithms**. Dedicated sensors will continuously provide bio-environment data to the controller for optimum steering of the incubation process.



< *Operator attaching a Synchro-Hatch™ embryo-response sensor*

> *Sealed cabinet for a completely cocooned environment*



Your advantages

Reduced labour costs

The S-line provides complete ease of operation. Operator fatigue is minimized and the risks of error reduced thanks to the ergonomics of the design, the intuitive user interface and autopilot functions.

Ease of operation

You get an excellent visual overview of what is happening in the incubator due to the **panoramic windows**.

Our incubators are designed to allow **easy access** to the trolleys. Trolleys can be easily rolled in with minimum effort.

The **tray-turning system** is self positioning and fault tolerant for coarse or bumpy floor surfaces. This avoids that the tray-turning system gets stuck.

Our **easy-to-use, intuitive user interface** eliminates operator errors. You can start operating the equipment with minimum training and just a few key clicks. Its ergonomic design and the use of easy to distinguish colours and clear symbols minimize operator fatigue.

You can perform all primary controls via the keyboard on the console of the incubator or via a handheld device. Alternatively, the **IrisLink™ network** allows you to remotely login into an S-line incubator to query and control all parameters. The IrisLink™ functionality gives you a total overview of all S-line incubators in your hatchery.



▲ Easy access to trolleys



▲ Intuitive user interface



▲ Remote control



< Panoramic windows

> Tray-turning system



Your advantages

Reduced maintenance costs

The material and design of our S-line ensure that the equipment is **extremely easy to clean and maintain**. Safety is assured during all works.

Easy to clean

Our incubators can be **completely cleaned**, even with a **high-pressure water cleaner**.

The **design** of the incubator **avoids dirt traps**.

Limited maintenance

Special attention has been paid to the use of **maintenance-free components**.

The S-line makes **maximum use of anodized aluminium and stainless steel** for extreme durability and corrosion resistance.

Our incubators have been developed to incorporate a **minimum number of replaceable components**.

Easy to maintain

Almost all maintenance parts are situated at floor level and can be accessed and replaced from the front. There is **no need to access the top or the rear of the machine**.

You don't need to invest in special tools for maintenance works.

Standard tooling is sufficient.

All maintenance can be carried out easily by **non-specialized technicians**. Nevertheless, if assistance is required, our extended documentation provides guidance for maintenance routines at tutorial level.

Your technician can locate quickly the parts to be serviced via the built-in diagnostics.

The diagnostic data can also be monitored remotely in a central control room.

Secure for you

We housed the electronics control compartment of the incubator in a **splash-proof IP67 compliant enclosure** for optimal protection. This avoids damage even when cleaning the incubator with high-pressure water equipment.

All of our incubators comply with **international safety standards** on intoxication, emission and radiation (CE, EN, ...).



^ *The S-line is easy to clean, even with high-pressure water equipment.*

v *All parts can be easily reached.*



^ *Electronics are housed in a sealed enclosure.*



Your advantages

Reduced energy costs



▲ Display of all parameters

The design of the S-line focuses on higher energy efficiency and reacts faster to changing environmental conditions. The S-line not only reduces your energy bill but also minimizes your carbon footprint.

Reduced energy losses

The sealed cabinet avoids energy losses to the outside.

Optimized energy efficiency

The cooling system has been designed to create an **efficient transfer between the cooling elements and the circulated air.** This results in a lower installed power requirement. It also enables the system to react with short latency.

The S-line controllers accurately monitor and control all parameters. With the **history feature** you can consult and analyze these results. This enables you to optimize your hatching cycle, avoiding all energy spills.

The S-line is equipped with our **Eco-Drive™ technology** as standard. Eco-Drive™ allows the reduction of the pulsator motors' energy consumption during the less critical stages of the incubation process. This can result in energy savings of up to 50%.

Our technologies for better hatchability and chick performance

Embryo-Response Incubation™

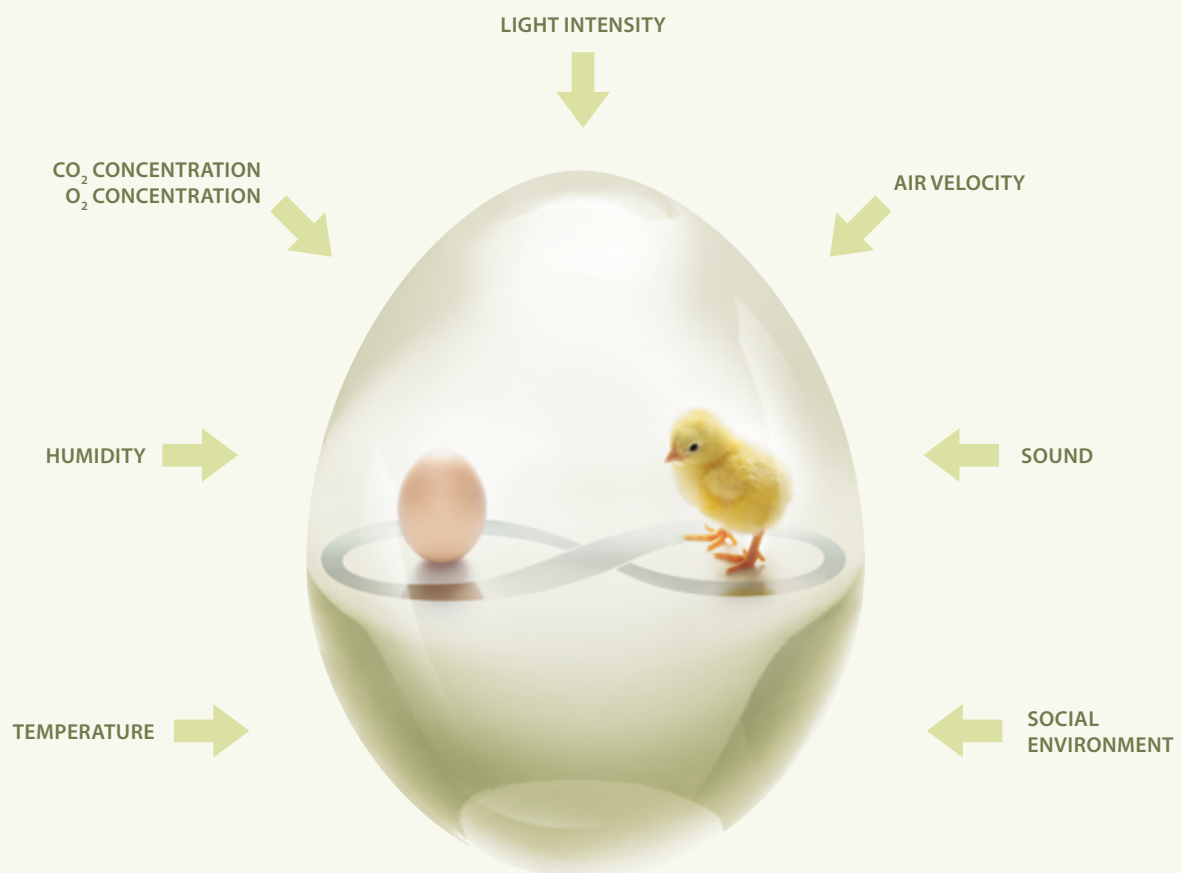
Embryo-Response Incubation™ is Petersime's patented system guaranteeing a constant interaction between the embryo and its incubator environment.

Different factors such as genetics, breeder management, flock and egg age, egg size, shell porosity, etc. make each batch of hatching eggs truly unique.

Despite this, **traditional incubation systems still use intermediate incubation parameters** - for ventilation rates, air temperature, and air humidity - to manage the incubation process.

Embryo-Response Incubation™ goes much further. By on-line diagnosis of the real embryo temperature, actual CO₂ output, egg weight loss, etc. the system con-

stantly and interactively **adapts the incubation parameters to create the optimal environment** for each specific batch of eggs.



Scientific research and extensive field trials have proven that chick quality and hatchability as well as post-hatch performance largely benefit from this active control of bio-response parameters during incubation.

The following Embryo-Response Incubation™ technologies are standard or available as an option on the S-line incubators (depending on the model):

- **CO₂NTROL™**
for optimum ventilation
- **OvoScan™**
for optimum incubation temperature
- **Dynamic Weight Loss System™ (DWLS™)**
for optimum humidity level
- **Synchro-Hatch™**
for a reduced hatch window



Our technologies

for better hatchability and chick performance

CO₂NTROL™ for optimal ventilation

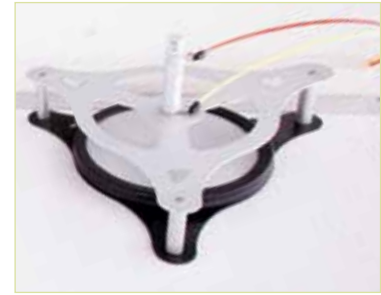


^ Air Mixing Center



< *The speed controlled air intake fan provides fresh air into the incubator.*

> *The air shutters remove excess air from the incubator.*



CO₂NTROL™ takes care of the on-line measurement of CO₂ levels as input for ventilation control.

Gaseous exchange is known to be one of the most essential of incubation factors. To drive the metabolism towards developing a healthy chick, oxygen has to be supplied to the egg and carbon dioxide has to be removed from the egg as a waste product. Consequently, maintaining the correct levels of CO₂ during the entire incubation cycle has a beneficial effect on the development of the cardio vascular system of the embryo. This level can be controlled by adapting the ventilation.

Alongside enhancing embryonic development in setters, precisely-timed CO₂ stimulation in hatchers leads to simultaneous pipping and hatching as well as improved chick quality.

The S-line is built with a new ventilation and air mixing system: **Air Mixing Center.** This mixing zone guarantees a 3D symmetrical air distribution in the incubator. The whirlwind effect generated by the new ventilation system ensures all air inside the incubator is perfectly mixed and provides uniformity of the CO₂ contents in the whole incubator.

Fresh air input is adjusted separately and is controlled by a variable speed air inlet fan.

The fresh air is guided to the centre of the pulsator for perfect mixing with the air inside the incubator.

A frequency-controlled damper mechanism provides optimal ventilation in response to changing bio-environment conditions.

CO₂NTROL™ is a standard feature on all S-line setters and hatchers.



△ *The Air Mixing Center provides a symmetrical air distribution in the incubator.*

Our technologies for better hatchability and chick performance

OvoScan™ for an optimal ambient temperature

The OvoScan™ system adjusts the temperature of the embryo environment by controlling the egg shell temperature.

Chicks that are hatched at the optimum temperature show extraordinary performance. With the patented OvoScan™ system, the incubator temperature is continuously adjusted in response to the actual eggshell temperature. This enables the constant creation of the desired/optimum embryonic temperature and precisely controls the rate of the metabolic development of the embryo.

OvoScan™ creates the optimum environment for any batch of eggs, whatever the size, age or genetic content of the hatching eggs.

The OvoScan™ feature minimizes embryonic mortality and optimizes hatchability. Top quality day-old chicks also guarantee significant improvements in post-hatch performance (liveability, growth and Feed Conversion Ratio).

OvoScan™ is a standard feature on all BioStreamer™ setter models of the S-line.



▲ *OvoScan™ sensor positioned in egg tray*

> *Synchro-Hatch™ sensor attached to hatcher baskets*

Dynamic Weight Loss System™ for optimal humidity



▲ *DWLS™ mounted on a setter trolley*

The patented Dynamic Weight Loss System™ (DWLS™) drives the humidity level in the incubator based on measurements of weight loss of the eggs during the incubation process.

Eggs need to lose a certain amount of weight during incubation to achieve optimal hatchability and day-old chick quality. This requires water to be transported from the egg to the environment via the eggshell. By controlling the humidity level in the incubator, the rate of this water (and weight) loss can be managed, taking into account the eggshell water vapour conductance of the specific batch of eggs.

DWLS™ takes care of the on-line weighing of eggs during all incubation stages. Based on these results, humidity levels are automatically adjusted to achieve the optimum weight loss trajectory from egg setting to transferring.

DWLS™ is available as an option on all BioStreamer™ setter models of the S-line.

Synchro-Hatch™ for a reduced hatch window



Synchro-Hatch™ will narrow down the True Hatch Window by monitoring the hatching of the first chicks in the hatcher.

This patented embryo-response technology synchronises the hatch profiles to the hatching process. It automatically detects the exact timing of 100% internal pipping (IP) and then initiates a sequence of modifications to the incubation environment to stimulate simultaneous hatching. Synchro-Hatch™ also automatically recognizes when all chicks are out. The system triggers a

further phase in the incubation process to optimize the finishing of the chicks to prepare them for take-off. These actions reduce hatch time and concentrate the hatch much nearer to the time of chick take-off.

Synchro-Hatch™ allows you to control and reduce the hatch window. Synchro-Hatch™ guarantees uniform day-old chicks resulting in better feed conversion ratios, lower postnatal mortality rates, better efficiency in slaughter houses and a total higher meat output at the end.

Synchro-Hatch™ is a standard feature on all BioStreamer™ hatcher models of the S-line.

Our S-line models

AirStreamerPlus™ and BioStreamer™

Both models have the same basic construction and principle of operation, but some of their features differ.

AirStreamerPlus™



The AirStreamerPlus™ is the standard model of the S-line. This model is recommended for hatcheries which prefer **interaction** with the incubation parameter settings, **based on the hatchery manager's experience**.

The AirStreamerPlus™ has all essential functionalities of a state-of-the-art incubator. The AirStreamerPlus™ is driven by a controller called **IrisPlus™**. The CO₂NTROL™ system comes as a standard feature.

BioStreamer™



The BioStreamer™ is the top-of-the-range model of the S-line. This model is recommended for hatcheries that want to achieve the highest possible number and quality of chicks in a **fully automated way**.

The BioStreamer™ is driven by a powerful controller called **Bio-Iris™**. It allows embryo-response sensor devices that are currently available or future planned to be plugged in. This model supports all Embryo-Response Incubation™ technologies to automatically adjust the incubation parameters to the specific needs of each batch of hatching eggs.

	AirStreamerPlus™	BioStreamer™
CABINET		
Single middle frame (column)	x	x
CONTROLLER		
IrisPlus™	x	-
Bio-Iris™	-	x
I/O INTERFACING		
Network interface	x	x
Embryo-response I/O expansion	-*	x
USB	x	x
USER INTERFACE		
On console	x	x
Remote control	x	x
Eye-Blink™	-	x
VENTILATION		
Automatic	x	x
Air Mixing Center	x	x
Eco-Drive™	x	x
COOLING		
Water cooling	x	x
HEATING		
Electric (bar-type heaters)	x	x
HUMIDIFICATION		
Nozzle(s)	x	x
EHS (Electronic Humidity Sensor)	x	x
ADS		
Automatic Disinfection System	0	0
TURNING		
Pneumatic	x	x
EMBRYO-RESPONSE OPTIONS		
CO ₂ NTROL™	x	x
OvoScan™	-**	x
DWLS™	-**	0
Synchro-Hatch™	-**	x

x = standard / 0 = option / - = not available

* Embryo-response expansion kit available
 ** Optional with embryo-response expansion kit



Our S-line models

BioStreamer™ features

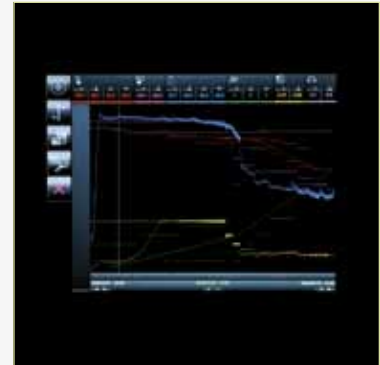
The BioStreamer™ is the top-of-the-range model of the S-line. This model is recommended for hatcheries that want to achieve the highest possible number and quality of chicks in a fully automated way.

Maximum performance in a fully automated way

The BioStreamer™ models of the S-line feature the powerful Bio-Iris™ controller offering autopilot functionalities and allowing extra embryo-response functionalities. All of our standard and optional embryo-response sensor units (CO₂NTROL™,

OvoScan™, Synchro-Hatch™ and Dynamic Weight Loss System™) interface with this BioStreamer™ controller. These functionalities will drive your incubator to maximum performance in a fully-automated way.

The BioStreamer™ offers an extended user interface with a large size **high resolution 10-inch colour LCD panel** and **capacitive key input**. Extra functionalities such as history tracking and interactive setting of the incubator parameters provide the most accurate interface for controlling and monitoring your hatchery.



^ The high resolution screen shows all details of the incubation process.



< Eye-Blink™ gives an instantaneous view of all key parameters of the incubation process.

> The proximity sensor detects the presence of a person and activates the Eye-Blink™ function.

The **Eye-Blink™ feature** automatically detects the presence of a person in front of the Bio-Streamer™ and gives you an instant overview of all important parameters of the incubator without any interaction with the user interface.

Ready for the future

The Bio-Iris™ controller already has the extra processing power and I/O expansion capabilities on board to cope with future

developments. This allows you to **add future embryo-response sensor units** and to **download the latest software** for Embryo-Response Incubation™.



Our S-line models

Specifications AirStreamerPlus™

	SETTERS					HATCHERS			
	ASPlus-24S	ASPlus-16S	ASPlus-12S	ASPlus-8S	ASPlus-4S		ASPlus-8H	ASPlus-4H	
CAPACITY									
Chicken eggs (C)	115,200	76,800	57,600	38,400	19,200		38,400	19,200	
Turkey eggs (T)			42,336	28,224	14,112		28,224	14,112	
Duck eggs (D)	84,672	56,448	42,336	28,224	14,112		28,224	14,112	
TROLLEYS									
Number	24	16	12	8	4		8	4	
Height (cm)	203.5	203.5	203.5	203.5	203.5		-	-	
TRAYS									
	C/D	C/D	C/T or D	C/T or D	C/T or D		C/T or D	C/T or D	
Trays per trolley	32/28	32/28	32/28	32/28	32/28		32/28	32/28	
Eggs per tray	150/126	150/126	150/126	150/126	150/126				
Total number of trays	768/672	512/448	384/336	256/224	128/112		256/224	128/112	
DIMENSIONS (cm)									
Height (cm)*	301.0	301.0	281.5	281.5	281.5		275.3	274.7	
Width (cm)**	419.1	336.9	419.1	336.9	336.9		336.9	336.9	
Depth (cm)**	704.7	704.7	373.0	373.0	221.1		372.6	220.6	
SUPPLIES									
Heating	Electrical						Electrical		
Cooling	Water						Water		
ENERGY MANAGEMENT									
Eco-Drive™	Included						Included		
EMBRYO-RESPONSE OPTIONS									
CO ₂ NTROL™	Included						Included		
OvoScan™	Not available****						Not applicable		
DWLS™	Not available****						Not applicable		
Synchro-Hatch™	Not applicable						Not available****		
CONTROLLER									
Processing unit	IrisPlus™						IrisPlus™		
USER INTERFACE									
Display	10" colour LCD						10" colour LCD		
Keypad	Capacitive						Capacitive		
Remote control	Yes						Yes		
IrisLink™	Yes						Yes		
Eye-Blink™	No						No		
History track	Yes						Yes		
ACCESSORIES & ADD-ONS									
Base panel	1 per row						1 per row		
Calibration probe	Option						Option		
Remote control unit	Option						Option		
Automatic Disinfection System	Option						Option		

* Including clearance for Air Mixing Center
 ** Dimension machines within a row; if 1st machine in a row: add 45 mm
 *** Including door handle and bumper
 **** Optional with embryo-response expansion kit

Our S-line models

Specifications BioStreamer™

	SETTERS						HATCHERS		
	BioS-24S	BioS-16S	BioS-12S	BioS-8S	BioS-4S	BioS-4TS	BioS-8H	BioS-4H	BioS-4TH
CAPACITY									
Chicken eggs (C)	115,200	76,800	57,600	38,400	19,200		38,400	19,200	
Turkey eggs (T)			42,336	28,224	14,112	14,112	28,224	14,112	14,112
Duck eggs (D)	84,672	56,448	42,336	28,224	14,112		28,224	14,112	
TROLLEYS									
Number	24	16	12	8	4	4	8	4	4
Height (cm)	203.5	203.5	203.5	203.5	203.5	207.0	-	-	-
TRAYS									
	C/D	C/D	C/T or D	C/T or D	C/T or D	T	C/T or D	C/T or D	T
Trays per trolley	32/28	32/28	32/28	32/28	32/28	28	32/28	32/28	28
Eggs per tray	150/126	150/126	150/126	150/126	150/126	126			
Total number of trays	768/672	512/448	384/336	256/224	128/112	112	256/224	128/112	112
DIMENSIONS (cm)									
Height (cm)*	301.0	301.0	281.5	281.5	281.5	281.5	275.3	274.7	275.3
Width (cm)**	419.1	336.9	419.1	336.9	336.9	292.5	336.9	336.9	292.5
Depth (cm)***	704.7	704.7	373.0	373.0	221.1	286.3	372.6	220.6	307.5
SUPPLIES									
Heating	Electrical						Electrical		
Cooling	Water						Water		
ENERGY MANAGEMENT									
Eco-Drive™	Included						Included		
EMBRYO-RESPONSE OPTIONS									
CO ₂ NTROL™	Included						Included		
OvoScan™	Included						Not applicable		
DWLS™	Option						Not applicable		
Synchro-Hatch™	Not applicable						Included		
CONTROLLER									
Processing unit	Bio-Iris™						Bio-Iris™		
USER INTERFACE									
Display	10" colour LCD						10" colour LCD		
Keypad	Capacitive						Capacitive		
Remote control	Yes						Yes		
IrisLink™	Yes						Yes		
Eye-Blink™	Yes						Yes		
History track	Extended						Extended		
ACCESSORIES & ADD-ONS									
Base panel	1 per row						1 per row		
Calibration probe	Option						Option		
Remote control unit	Option						Option		
Automatic Disinfection System	Option						Option		

* Including clearance for Air Mixing Center
 ** Dimension machines within a row; if 1st machine in a row: add 45 mm
 *** Including door handle and bumper

Our S-line models

Accessories

Trolleys

Trolleys and trays are an important part of your hatchery. They are subject to frequent and rough handling and need to be robust, easy to handle and easy to clean. Petersime has developed its own trays and trolleys that are compatible with almost all previous and current single and multi-stage Petersime setters and hatchers.

Petersime offers setter trolleys and hatcher pallet trolleys that are designed to last a lifetime. Our trolleys are welded solidly and have an extra coating that protects them from corrosion.

This makes them also perfectly suited for on-farm traying and transportation from the farm to the hatchery.

All of our trolleys are suitable for automated washing systems.

The trolleys are mounted on big wheels and are easy to handle. The trolley self-positioning system assures error-free operation of the tray-turning system.



	SETTER TROLLEY			HATCHER PALLET TROLLEY		
	Chicks	Turkeys/Ducks	Turkeys*	Chicks	Turkeys/Ducks	Turkeys**
DIMENSIONS						
Length	1,620 mm	1,620 mm	930 mm	1,610 mm	1,610 mm	1,250 mm
Width	568 mm	568 mm	1,165 mm	580 mm	580 mm	810 mm
Height	2,035 mm	2,035 mm	2,070 mm	2,075 mm	2,148 mm	1,826 mm
CAPACITY						
Number of trays	32	28	28	32	28	28

* 4TS model
** 4TH model



Trays



	SETTER TRAY			HATCHER BASKET	
	Chicks	Turkeys/Ducks	Turkeys*	Chicks	Turkeys/Ducks
DIMENSIONS					
Length	735 mm	732 mm	365 mm	800 mm	800 mm
Width	510 mm	507 mm	507 mm	565 mm	565 mm
Height	40 mm	38 mm	38 mm	117 mm	140 mm
CAPACITY					
Number of eggs	150	126	63	150	126

* on request

Petersime has developed solid but lightweight trays that are compatible with all Petersime setters and hatchers. The setter trays can hold 150 chicken eggs. Models for turkey eggs are also available, holding 126 or 63 eggs. A special hatcher basket of 14 cm deep is available for turkeys and ducks.

Petersime egg trays are specially shaped for the correct positioning of the egg, regardless of its size and shape. Modern high yield birds produce bigger eggs. Petersime egg trays are designed to cope with the eggs of these

modern poultry breeds. The special shape of the setter tray assures that there is an adequate air flow around the entire surface of the egg shell.

Our trays are all easy to stack. They are very rigid and stable, making them extremely suited for hatchery automation systems. The design and choice of materials allow easy washing up to 85°C and provide excellent chemical resistance.



Contact us now and
start maximizing your profits

WHEN[®]
CHICKS
COUNT

All photographs, measurements and descriptions are provided without engagement.
We reserve the right to make modifications at any time. Date of issue: 10/2010

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