Maino Incubatrici

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INCUBATRICI; INCUBATORS; BRUTAPPARATE; BROEDMASCHINEN; INCUBATEURS; COUVEUSES; INCUBADORAS

All our Incubators are manufactured in Italy, with the utmost care, taking into account all aspects of quality of materials and the environmental factors to produce a quality, effcient, "green" incubator.

INCUBATOR USER'S MANUAL: SEE 24 - 35 - 50 - 77 - 140

General Requirements -

Basic features of the room in the room where you place your incubator:

- The incubator must be placed in a clean, ventilated room, but away from draughts.
- It must be supported on a solid surface
- The room temperature must be between 18 – 23 °C. and 15 – 50 % Relative Humidity. Cold Air (Less than 18 °C will lead to uneven air temperature in the incubator, and could cause a reduce in element life. To warm and the incubator may struggle to keep temperature down.
- Do not use in greenhouses (temperature too variable) or bedrooms for humans or animals. Oxygen is needed by chick embryos in the incubator, eggs that breathing then expel carbon dioxide thus reducing the oxygen levels in the air! This is very harmful to both human and animal health.
- The machine should be placed OUT of contact with any liquids, that could prejudice the incubators operation and/or also become a very dangerous in operation!.

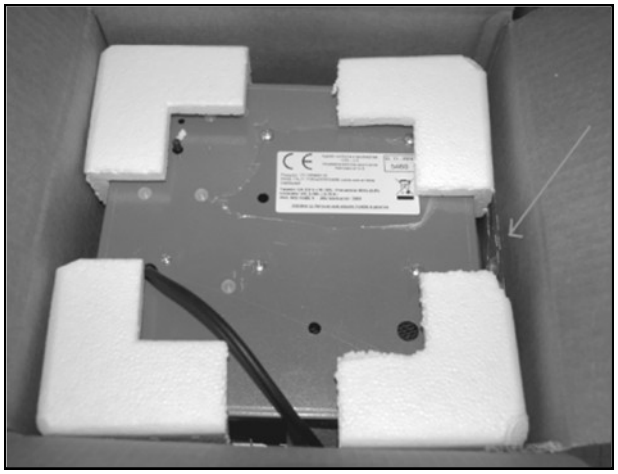
How to use this manual.

Text by this symbol MUST be adhered to, as there may be a risk to the user or the incubator, including its contents.

Text by this symbol are operational instruction for best results.

Packing: To open the carton using a knife or similar tool. Carefully cut the tape on the top of the box, and open.

Inside the box - see the following pictures: Inside the box is the incubator with all the parts required for operation inside it. ** Take Care! The transparent door is located near the machine (indicated by arrow below) **



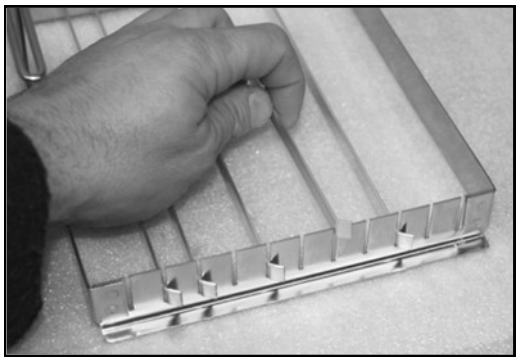
Packing List:
no.1 Incubator
no.1 Transparent Door
no.1 Eggs tray (no.2 In SEE140)
Qty of aluminium alloy spacers
no.1 Ground Mesh
Qty Water trays
(See140 Extra Mesh Platform)

Before switching on the incubator, read through this instruction booklet.
Make sure the electrical voltage (tension) is the same as on the written technical information (the label placed near the thermostat). Make sure the incubator plug that is used to connect the incubator to the power socket is suitable to use, and if not, contact your local electrician.

1. Setting Up The Incubator prior to use:

1.1 Protective Plastic Film—Remove the protective film from all parts of the incubator for best vision into the incubator

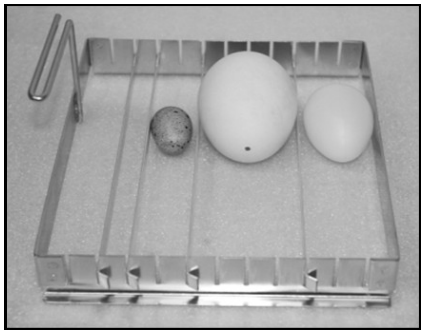
1.2 Egg Tray—Remove from incubator with mesh base. Set the space required inbetween turning bars on the egg turning tray so as to ensure the eggs sit horizontally through the bars touching the Ground Mesh underneath.

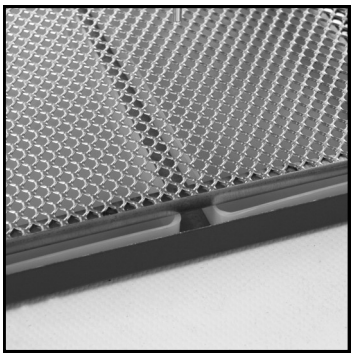


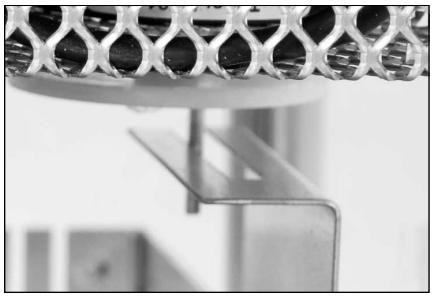
Example of how set the turning bars for different egg sizes

Important! - Eggs should not sit on the egg bars, the eggs must contact with the Ground Mesh. Otherwise it could break the turning motor and also because, if the egg does not touch the Ground Mesh, egg turning will not happen and then, after the incubation period, nothing will hatch!

1.3 Water Trays and Ground Mesh - Place the water trays on the base of the incubator. Do Not fill with water at this time. Place the Ground Mesh on top of the water trays with the edging angled up.







1.4 Place the Turning Tray on Top of the Ground Mesh. Once you have adjusted the position of turning bars, insert the tray inside the incubator, taking care to connect the hook lever of the egg tray with the turning screw that moves the turning tray in the top of the incubator (the screw on the hard plastic disk – see above).

1.5 Slide the front door into position. First, remove the protective transparent sheet from the door. Slide the door down the side guides to the end, to completely close the incubator. Ensure the water trays and ground mesh have been pushed to the back of the incubator, so the door closes completely. The top of the door should be level with the top of your incubator.

1.6 - Adjustable Vent - Start with this open and normally it will remain open. Closing it will increase the humidity a little but reduce airflow(in very warm conditions this may cause the incubator to run too warm). The vent is there to help you 'fine tune' humidity levels when manually controlling humidity.

REMEMBER! BEFORE OPENING THE INCUBATOR, ALWAYS STOP THE INCUBATOR BY SWITCHING OFF AND PULLING THE PLUG FROM THE

1.7 Plug in your incubator and switch on the electrical socket. The fan should start operating and the display panel will display a test sequence.

E-18 : If the display shows E-18 after switching on, the temperature in the room is less than 18 degrees, indicating the room temperature is not ideal. Either move to a warmer room, or turn off the incubator after the temperature displays 18 degrees or more and switch back on to reset the control board. *SEE MXPT ERROR CODES (Section8)*

2.0 ADJUSTING THE TEMPERATURE:

In your incubator is installed a MXPT Control Card, version **X,** a highly precise temperature controller. The controller uses PID algorithms to calculate the power needed to maintain finely balanced operational temperature accuracy, essential for successful egg incubation. The MXPT controller is equipped with a high-visibility digital blue LED display, for displaying the current temperature, and setting parameters.

Through the Daughter Card **R1563 (AXD & AXH MODELS ONLY)** can you also read the relative humidity in the same digital LED display.

Keeping the door closed, and without any eggs and water inside, wait until the incubator has the correct Temperature (see the Species Chart).

To adjust the set temperature, i.e. for another species etc.
In Temperature display mode (the only one mode available if the Daughter card R1563 is not installed), press for 3 seconds just one key "+" or "-", when upper and central segments blink, release the key then using again the + or – key, to select the new temperature. When you have finished, release all keys and wait 5 seconds. After that the new set point will be stored in the memory and the controller return to the Temperature display mode.
The element is being heated when the LED Segment next to °C is lit

2.1 Settling In The Incubator

The incubator should be run for 8 hours with a constant temperature before setting your eggs.

3.0 Humidity.

Hatching Eggs, during Incubation, need to lose about 15% of their egg weight in water vapour, so that the Air Sac is the correct size for hatching. Loss of too much or too little water vapour can cause the chick embryos not to hatch. By reading the Relative Humidity (RH%) we know what percentage of the air is water vapour, and whether to add more water or take away some. Through experience you will get to know the best percentage Relative Humidity to run your incubator at for your eggs. Our advice to start you off is to use the settings in the Species Chart

To read Relative Humidity - **AX Model** - you will need an independent Hygrometer, **AXD/AXH Models** - press the 'F' key to select humidity readout.

If you do not wish to use a hygrometer, fill one water tray through the setting period, then fill the rest of the trays for the hatch period. THIS IS A ROUGH GUIDE—HYGROMETER RECOMMENDED. DO NOT add more water than in the water trays as this can increase the humidity level too high and cause damage to the incubator.

IN ALL CASES DO NOT ALLOW YOUR INCUBATOR TO HAVE WATER CONDENSATION IN IT FOR LONG PERIODS OF TIME AS THIS CAN CAUSE IRREPAIRABLE DAMAGE TO COMPONENTS.

Humidity Reading on AXD and AXH Models

The small water pot with the wick in it should be kept full with water at all times. (If this pot is empty you will get a false reading—usually about 90%!) The wick will get contaminated by water deposits, chick down, and so should be changed when it is dirty, or at least every hatch. (A dirty wick will give false readings). **Distilled water recommended (not deionised or boiled)**

To Display Current Humidity Reading - Press the "F" key to switch from the Temperature Display to Relative Humidity Display

Adjusting The Set Humidity with optional external humidifier. Ensure the humidifier is plugged into the socket on the top of your incubator. Press the "F" key to select humidity reading then press the "+" or "-" key and hold for 5 seconds to enter the program. When the LED Segments are flashing, release the "+" or "-" key and use those keys to increase or decrease the humidity level to the setting required. Release the button and the MXPT control will memorise the settings.

NEVER SPRAY OR SPRINKLE WATER INSIDE THE INCUBATOR AS THIS CAN CAUSE THE ELEMENT TO FAIL, KILLING ALL YOUR EMBRYOS. If you must spray your eggs, take the tray of eggs out of the incubator and spray away from the incubator, then replace them.

***3.2* Humidity Continued…**
When using a alternative hygrometer, by increasing or decreasing the surface area of water, you can increase or decrease the humidity in your incubator i.e. if the humidity level is too low, fill another tray in the bottom of the incubator with water.

3.3 - AXH Model - To help the external humidifier, fill the water trays to achieve a 'base' level humidity and then use the external humidifier to top up.

4.0 Selection of Optimum Hatching Eggs. With most eggs, they should be no older than within 8 days from the date they were laid. Each with good weight, size and without defects or cracks. Eggs should be from healthy breeding flocks . Do not incubate eggs collected on the day they were laid.

4.1 Setting the Hatching Eggs. The eggs should be placed horizontally in the egg tray, inbetween the spacers that you've adjusted before to your size of eggs (See Instruction 1.2)

The Turning Motor is always on from the time the electric socket is switched on. It is a slow continual movement, taking 4 hours. This also means when you are checking the turning mechanism, you must check a different time each day as the egg tray will be in the same position every 4 hours.

Never completely close all holes over the fan on your incubator. All Embryos breathe in Oxygen and excrete Cardon Dioxide (like us), so by covering the air hole you can suffocate your chicks and they may die.

5.0 Egg Candling. Egg candling should be done after 8 or 18 days after insertion of the eggs in the incubator. When candling an egg, you are looking: at the embryo development, and with some candlers you may be able to see life; the air sac size, checking its growing, and that it is not floating; Identify Eggs that do not have an embryo in them; and to identify diseased eggs. Eggs that are imperfect or infertile should be discarded. Candling is a skill that will develop with experience.

6.0 The Hatch Period - The LAST 3 DAYS of the whole period of incubation (see Species Chart) the eggs should NOT BE TURNED. Remove the turning tray 3 days before hatching by lifting it out without having to handle the eggs. Fill up all your humdity trays to increase the humidity, close the door, and leave the incubator alone. Only open the door to refill humidity trays, then leave it again.
Once the chicks start hatching, leave them in the incubator. The chicks can live 3 days after they are born, even without eating or drinking and without any kind of problem.
The chicks should not drink because they have to absorb the yolk sac completely. If chicks drink, they may not absorb it completely & it may cause many deaths and deformities.
Leave chicks alone until the last chick hatched is dry and fluffy.

7.0 Capacities Chart

Kind of Eggs\Model	SEE16	SEE24	SEE35	SEE50	SEE77	SEE140
Hen | Duck | Black Turkey	16	24	35	50	77	140
Pheasant | Bantam	20	30	40	60	96	180
Quail | Grey Partridge	32	50	70	120	168	320
Red Partridge	28	45	68	112	152	290
Goose | Turkey | Peacock	6	12	17	21	36	54

TECHNICAL SPECIFICATIONS:

ELECTRIC INCUBATOR FOR ANY TYPE OF EGG
ELECTRICAL FEATURES: 230 Volt AC + 10/-15% @ 50 Hz ± 0.5% ***Plugs:*** *Schuko plug (CEE) or British plug (2 poles + E # 13A fuse – British Standard: BS 1363A/95)*

8.0 MXPT Error Codes: From time to time, various codes will display on the LCD Display.
Below is a list of those codes and the action required:

Displayed Code	Meaning	Action
E18	Generally seen at start up.The incubator has sensed that the room temperature is below the ideal 18 degrees	Move to a warmer area, between 18 and 23 degrees Celsius. To cancel this warning, allow the incubator to heat to above 18 degrees, then switch it off and back on again.
AL1	Internal Memory Corrupt	Press "F" to continue with default parameters
AL2	Temperature Sensor Failure or Disconnection	Check Probe connection to control board, replace Temperature Probe
AL3	Minimum Temperature Alarm	Allow Incubator to increase in temperature. Check room temperature, Maybe element Failure
AL4	Maximum Temperature Alarm	Allow Incubator to settle in temperature. Check room temperature,
AL5	Humidity Probe Failure or disconnection	Check Probe connection to control board, replace Probe
AL6	Minimum Humidity Alarm	Check water reservoirs , and humidifier if fitted
AL7	Maximum Humidity Alarm	Allow incubator to settle. If high humidity persists, open incubator door slightly

Incubator Servicing

Incubators used for hatching build up a large amount of chick down, dust and general dirt!. ***After every hatch your incubator should be cleaned down. This prevents a build up of disease and prolongs the life of your incubator components.*** *If you use your incubator as a setter only(i.e. do not hatch in the incubator), then a 3 monthly clean down is advised to prevent a build up of domestic dust on components.*
(If you store your incubator away until the next season please clean thoroughly and oil before storing)

This section is broken down into component types. Some components may be different to those in your incubator. Select only those in your incubator...

S1.0 General Cleaning

Ensure the Incubator is switched off and unplugged.

Remove and put somewhere safe, the screws around the top of the incubator. Lift of the roof of the incubator, along with all the incubator components inside. Turn upside down to clean. Carefully remove the metal shielding.

Remove heavy dirt and dust using a clean paint brush, and/or compressed air from a can or air-line from around the control card, and the element. Be careful with the element as it is fragile.
Do not get the electrical components wet.

Wash in water the incubator base, and Egg Grid, allowing to dry out thoroughly before reusing. Disinfect as required using an approved disinfectant.

NEVER SPRAY or wipe Disinfectants into the top of the incubator. Disinfectants are corrosive and will destroy the coatings protecting the control board, drastically reducing its working life. It is not necessary to completely sterilise this area of the incubator. The base and Turning tray can be disinfected if required.

S1.0 Servicing Fans

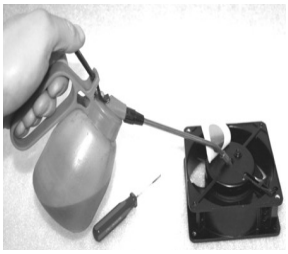
S1.1 R000610 Square Black Fans—**make sure the fan in refitted the same way up! - Incubator will not function properly otherwise**

1.11 Ensure the Incubator is unplugged. Undo the screws holding the fan in the incubator

1.12 Remove the label on the fan to expose rubber stopper / cover that protects the bearing brass

1.13 Using a screwdriver to remove the rubber stopper

1.14 With an oil can, put a few drops of oil on the brass bearing and then close with the rubber stopper. Reassemble into the incubator



S1.2 R000613 Fan Motor Unit

1.21 Ensure the Incubator is unplugged. Undo the screws holding the fan in the incubator

1.22 Remove the Fan Blade using a 7mm spanner, and holding the blade still.

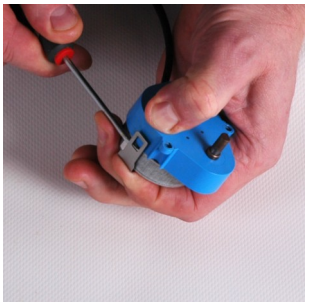
1.23 Unscrew the Brass Spacer extension pieces, using a 7mm Spanner

1.24 The fan should not come apart into its components. Put some spots of light oil onto the bearings. Reassemble in Reverse.

S1.3R000800 Turning Motor

1.31Undo the screws holding the turning motor in place

1.32 Using a flat blade screwdriver, unclip the clip holding the motor onto the gearbox



1.33 Oiling point in the middle of the Gear Box

1.34 Put a few drops of light oil into the gearbox

GUARANTEE and Certificate Of Conformity

Before using the incubator, you should read this instruction manual in full. All instructions, without exception, given in this manual are given in good faith, and we or our dealer / distributor, cannot be held responsible for any damage arising from these instructions, however caused. This includes, without restriction, damages, and hypothetical damage refered to in the use of this given instructions, such as: loss of goods, profits and income; loss of biological value; restoration and replacement cost or other similar costs; or any other special, casual or consequential damage. This information has been written very carefully. We have used best available knowledge in drawing it up, incorporating best technologies and best techniques. However its accuracy and its reliability are in no wise and in no case due to the dealer/ distributor. The authorization to make use of this information is strictly reserved for personal use. Every part of the appliance has been tested by the producer before the delivery and consignment date. Therefore the maker's guarantee does not include damages resulting from an incorrect transportation of the appliance. The guarantee does not include damages to the electric supply and electronic parts resulting from an incorrect connection to the electricity circuits or power surges. The guarantee includes any necessary spare parts and manpower to bring back into use in a functional way the appliance due to any breakdowns that might occur during the following 24 months after the initial testing. The guarantee work is done at the Producers company, or their agent, and will not include refunds of the appliance, or refunds of the damages suffered during the manufacture. The repairs will only have to be done by authorized staff. Not complying with this clause will cause the annulment of the guarantee.

REFERENCE SET OF RULES: This product complies with the main requisitions of Electromagnetic and Safety Consistency provided by the Regulations: 89/33/CEE of May 3 1989 with subsequent changes (Regulation 92/31/CEE of April 28 1992 and Regulation 93/68/CEE of July 22 1993); 73/23/CEE of February 19 1973 with subsequent changes (Regulation 93/68/CEE of July 22 1993); **Since it has been projected in compliance with the directions of the following Harmonized Rules:** CEI EN61000-3-2 (1998) + A14 (2000) ref. Harmonic Current Emissions; EN61000-3-3 ref. Voltage Fluctuations; EN55014-1 ref. Conducted Radiodisturbance Emissions; EN55014-1 ref. Click; EN55014-1 ref. Power Disturbace (30/300 Mhz) & Immunity Tests EN55014-2 ref. ESD , CM , FSB , S, VDSI + EN60335 + EN60335-2-71.

The compliance with the above-said main requisitions is attested by means of the affixing of the marking CE[1] on the product. The marking CE[1] was introduced in 1995.

We attract your attention on the following actions that may compromise the compliance as well as, obviously, the features of the product: 1. Incorrect electric power; 2. Incorrect installation or incorrect or improper or in any case different use as to the directions written on the user's manual given with the product; 2. Change of parts or of original accessories with others not approved by the maker, or changed by non-authorized staff;

<table>
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<tr><td>THE PRODUCER :</td><td colspan="2">IT01555980133</td><td rowspan="2">DECLARES THAT:</td></tr>
<tr><td>DISTRIBUTED IN THE UK BY :</td><td colspan="2">Maino UK , "Dovers Orchard Farm", Hoo Lane, Chipping Campden, Glos. GL55 6AZ VAT GB 275 2945 31
Sales:+44 (0)1386 841109
Web: www.maino.co.uk
Email –support@maino.co.uk</td></tr>
<tr><td>The Appliance</td><td>INCUBATOR or HATCHING machine</td><td>Model:</td><td>SEE 24, SEE35, SEE50, SEE77, SEE140. AX, AXD and AXH versions</td></tr>
<tr><td>Matriculation Number:</td><td colspan="3">From 4512 - 07 - 2003 and so on , until new issue</td></tr>
<tr><td colspan="4">IS PROJECTED AND REALIZED IN COMPLIANCE WITH THE MAIN REQUISITES OF SAFETY AND HEALTH OF THE D.P.R. 459/ of July 21 1996 - ATTACHMENT I - The adhesive plate with the mark CE[1] sticked on the appliance is integrant part of it; on the plate there is the specific information of the Appliance Directives.</td></tr>
<tr><td colspan="4">The following Harmonized Rules has been used to implement in a correct way the main requisites of Safety and Health of the ATTACHMENT I: CEI EN61000-3-2 (1998) + A14 (2000) ref. Harmonic Current Emissions; EN61000-3-3 ref. Voltage Fluctuations; EN55014-1 ref. Conducted Radiodisturbance Emissions; EN55014-1 ref. Click; EN55014-1 ref. Power Disturbace (30/300 Mhz) & Immunity Tests EN55014-2 ref. ESD , CM , FSB , S, VDSI + EN60335 + EN60335-2-71</td></tr>
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<tr><td>  </td><td colspan="3">Disposal of old special Equipment (Applicable throughout the European Union and other European countries with separate collection programs). The symbol, found on your product or on its packaging, indicates that this product should not be treated as household waste when you wish to dispose of it. Instead, it should be handed over to an applicable collection point for the recycling. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences to the environment and human health, which could otherwise be caused by inappropriate disposal of this product. The recycling of materials will help to conserve natural resources. For more detailed information about the recycling of this product, please contact your local city office, household waste disposal service or the retail store where you purchased this product
RAEE ITALY: IT08040000004688 – VALID ONLY IN ITALY</td></tr>
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Troubleshooting Incubation

When a hatch is not what you would expect, use the guide below to help diagnose problems which may improve future hatchings.

	Suggested Cause	Suggested Resolution
Infertile Eggs– No embryo present in the egg at all.	Cockerel Infertile	Change the cockerel
	Cockerel not mating	Birds too hot - heat stress reduced fertility
		Check for • Disease • Foot Problems • Feed Problems - poor quality etc • Male too old
	Incorrect Male to Female Ratio	Increase the Male to Female Ratio. Too many males can also lead to low fertility as they are fighting for dominance with each other.
Early death of embryo - blood rings form, then they die	Excessive Inbreeding	Do not Inbreed as much!
	Eggs stored at a too low temperature	Store eggs at 12.5°C to 20°C
	Eggs stored too long	Store eggs no more than 8 days (turkey and partridge 2 weeks)
	Eggs washed at too higher temperature	Wash at hand hot temperature, or dry clean eggs. Try to produce only clean eggs for incubation
	Extreme rough handling	Avoid excessive mis-handling
Embryo dies prior to pipping	Low Incubation Temperature	Maintain incubator temperature at the correct temperature
	Too High Humidity Level	Maintain humidity at correct level for species
	Check breeder diet	Lack of essential minerals and/or vitamins
	Presence of lethal genes	Avoid in-breeding, change cockerel
Many Embryos stuck to shell	Relative humidity too low at hatching	Increase humidity to at least 55%RH
	Too much Albumen due to high relative humidity levels, and/or low incubator temperature	Monitor temperature and humidity Levels
Chicks pipped but fail to hatch	Disease	Check eggs are from a strong, healthy flock
	High Hatcher temperature	Monitor Hatcher Temperature
	Low Hatcher Humidity	Monitor Hatcher Humidity
Chicks hatch early. Chicks weak	Incubator Temperature too high	Monitor Incubator Temperature. Check Calibration. 0.6°C will give a 24 early hatch
Chicks hatch late. Chick lethargic	Incubator Temperature too low	Monitor Incubator Temperature. Check Calibration. 0.6°C will give a 24 early late hatch

Species	Days of Incubation	Temperature °C	% Incubation Humidity	Move to Hatching Period After:	% Hatching Humidity
Hen	21	37.7	40/45	18 days	60/70
Duck/Small turkey	28	37.2/37.5	40/45	25 days	60/70
Dumb Duck	35-42	37.2	40/45	31 days	60/70
Goose	28-42	37.2	45/50	25 days	60/70
Pheasant	24	37.7	40/45	21 days	65/85
Giant Turkey	28-30	37.2	40/45	25 days	60/70
Grey and Red Leg Partridge	23-24	37.7	40/45	20 days	60/70
Quail and Pigeon	17	37.7	40/45	15 days	60/70

Spare Parts List			
MXPT Control Board	R001562	Fan (2x in SEE77 and 140)	R000610
MXPT Daughter Card-Where fitted	R001563	Element (2x in SEE 77 and140)	R00A710
Turning Motor	R000800	Humidity Wick	R001567
Optional Accessories			
R009010CC	Fluorescent 240v Candler	RHD300	LCD Hygrometer
R1469B	Humidifier for SEE24 - SEE140		