



S40 and S50
Thermal
Life-support
Cabinets
www.vetario.co.uk

User instructions

Medical intensive care unit for mammals, reptiles and birds.

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Read the instructions before use!



Do not cover!

Damaged appliances shall not be used.

The appliance and its supply cord must be placed in an indoor area not subject to splashes of water or wet conditions and protected from or out of reach of animals.

Repairs shall be carried out only by a suitably qualified person.

This appliance shall not be used, cleaned or maintained by children or persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge without supervision. Children shall not play with the appliance.

Disconnect the incubator from the mains power supply during cleaning. Ensure that all electrical parts are kept dry. Avoid alcohol based solutions and make sure that all disinfectant is thoroughly rinsed off plastic parts with clean water. Disinfectant solutions may cause severe cracking of plastic if not correctly rinsed off.

Record your appliance serial number here: _____

IMPORTANT NOTICE

The manufacturer of Vetario products and its agents or distributors will not be responsible for loss of animals in the event of failure however caused and the user is advised to arrange their own insurance cover where loss of power or mechanical or electrical failure might result in unacceptable losses.

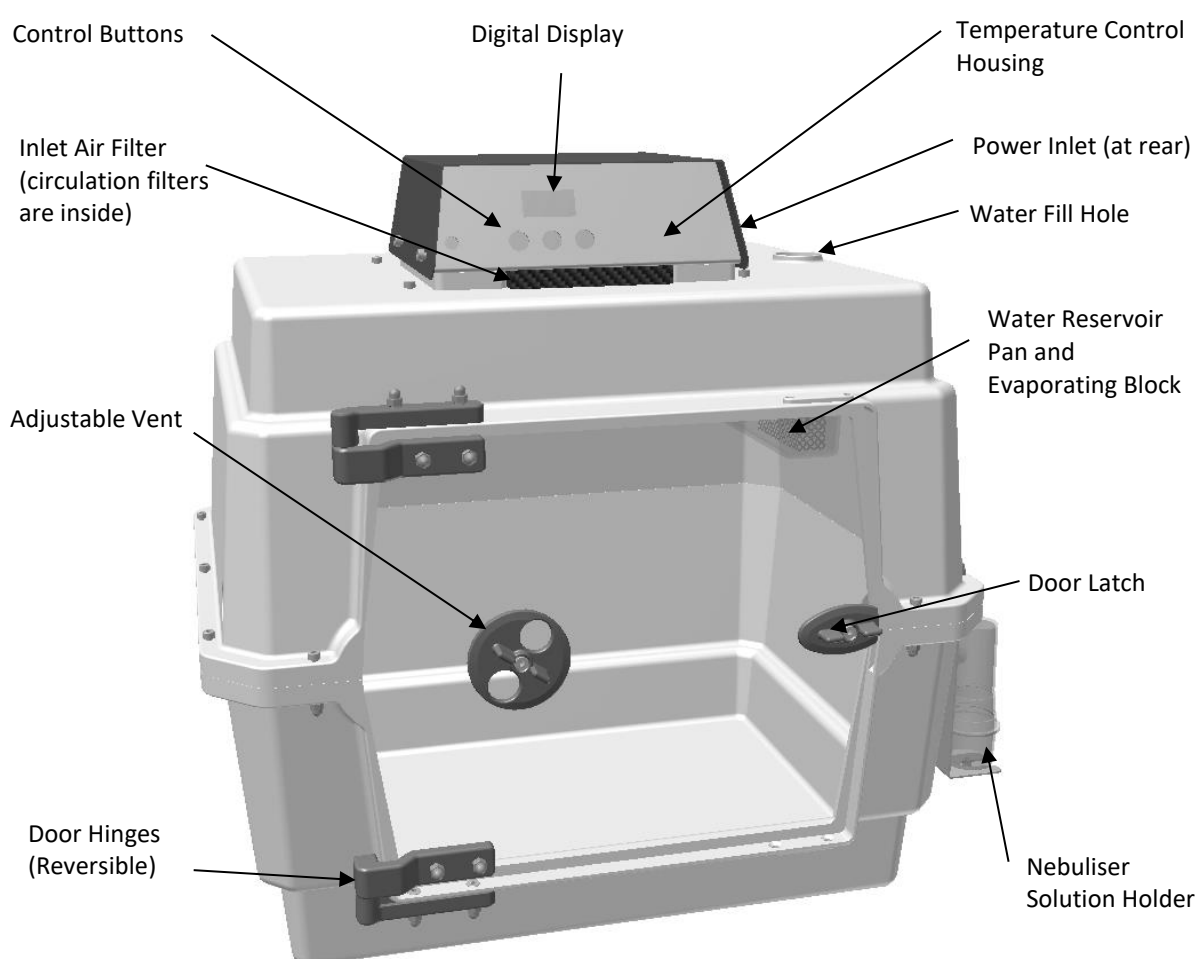
1 Introduction

Congratulations on the purchase of your new Vetario Intensive Care Unit. The Vetario S40 and S50 provide the ideal veterinary intensive care environment for peri-operative patients sensitive to hypothermia, shock and other post-operative complications. These products give patients the best possible chance of a successful recovery.

These instructions detail the operation of your new Vetario intensive care unit. Please read them carefully before setting up your unit to achieve best results and keep these instructions safe for future reference. Your intensive care unit is designed to allow the user to vary the environmental conditions to suit recovery of a wide range of species and the specific set-up for every recovery scenario is beyond the scope of these instructions. There are a range of books and veterinarian texts available covering animal recovery techniques.

The principle applications for the S40 and S50 are as an advanced intensive care unit for sick, injured or post operative animals and birds.

Fig. 1 Functional features of the S40 and S50 (40 model shown)







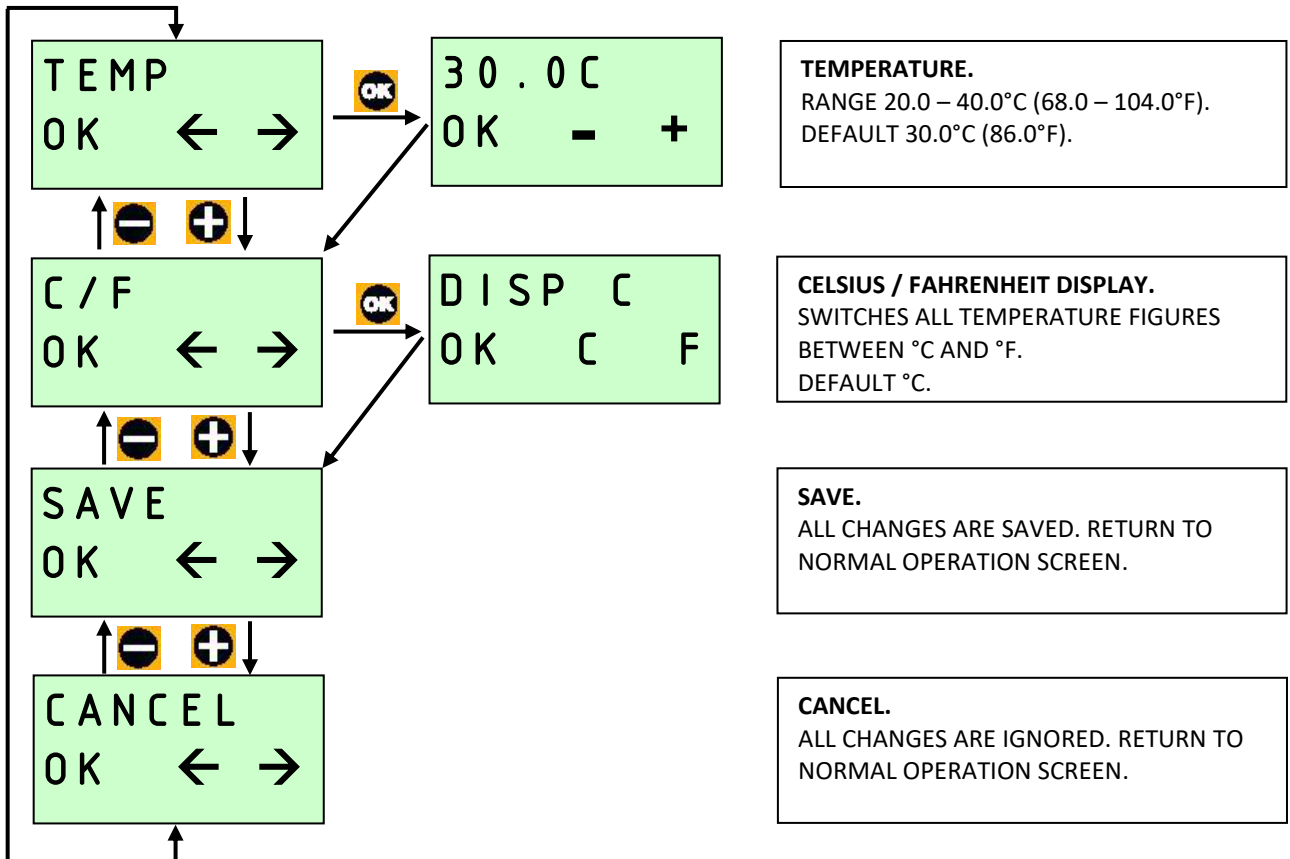
2 Quick Reference (please read relevant section for detail)

This quick reference is intended to allow users familiar with Vetario units to quickly set up the product and learn the key features of the control system. Please read the rest of the instructions to obtain a full understanding of each feature. **DO NOT COVER THE INTENSIVE CARE UNIT. FOR INDOOR USE ONLY.**

- 1) Carefully unpack the parts (section 3)
- 2) Assemble the cabinet (section 4)
- 3) Fit the power lead

MAIN MENU – QUICK REFERENCE

	PRESS BOTH BUTTONS TO UNLOCK THE MAIN MENU
	SELECT THE OPTION / RETURN TO THE MENU.
	GO FORWARD ONE SCREEN / INCREASE THE VALUE / DISPLAY IN CELSIUS.
	GO BACK ONE SCREEN / DECREASE THE VALUE / DISPLAY IN FAHRENHEIT.



TEMPERATURE.
 RANGE 20.0 – 40.0°C (68.0 – 104.0°F).
 DEFAULT 30.0°C (86.0°F).

CELSIUS / FAHRENHEIT DISPLAY.
 SWITCHES ALL TEMPERATURE FIGURES
 BETWEEN °C AND °F.
 DEFAULT °C.

SAVE.
 ALL CHANGES ARE SAVED. RETURN TO
 NORMAL OPERATION SCREEN.

CANCEL.
 ALL CHANGES ARE IGNORED. RETURN TO
 NORMAL OPERATION SCREEN.

3 Unpacking

Your intensive care unit has been supplied in protective packaging. Please remove all tape, strapping and packing. Retain the carton and packing materials to enable the unit to be repacked.

Your intensive care unit will include as standard:

Quantity	Item
1	Cabinet top assembly (with 3 air filters fitted)
1	Cabinet base
1	Door
1	Hinge socket
1	Fastener and tool kit
1	Mains cable
1	Water pan
1	Evaporating block
1	Water funnel
1	Nebuliser solution holder
1	Nebuliser bracket

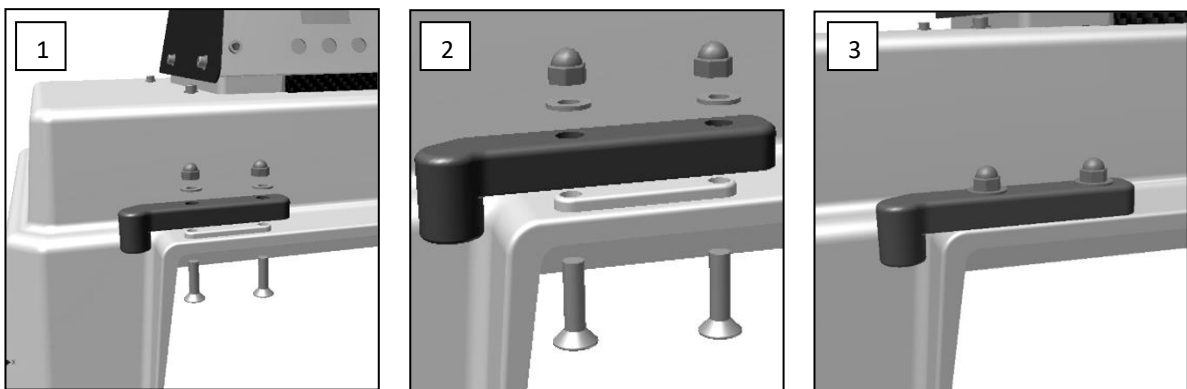
Fastener and Tool Kit Contents:

Quantity S40	Quantity S50	Item
2	2	 M5 x 16mm countersunk screws
2	2	 M5 flat washers
2	2	 M5 domed nuts
12	16	 M4 x 30mm cap-headed screws
12	16	 M4 star washers
12	16	 M4 nuts
1	1	3mm hex key
1	1	4mm hex key
1	1	7mm / 8mm spanner

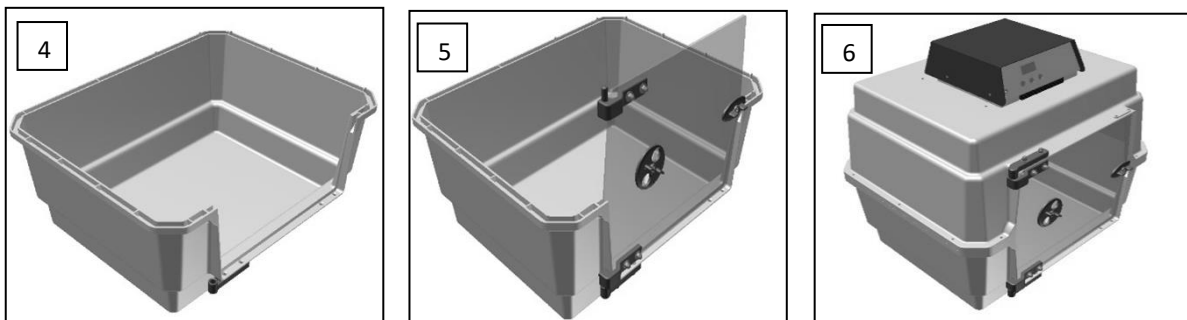
- 3.1 Please identify each part and check that they are all present and undamaged. If there are any parts damaged or missing please contact your retailer or Brinsea Products (at the address at the end of the document).
- 3.2 Check also that the electrical supply matches the machine's requirements (marked on the technical label next to the power inlet socket).
- 3.3 To register your new Vetario product please visit www.vetario.co.uk and follow the link on the right hand side of the home page to qualify for your free 3 year guarantee.

4 Location and Assembly

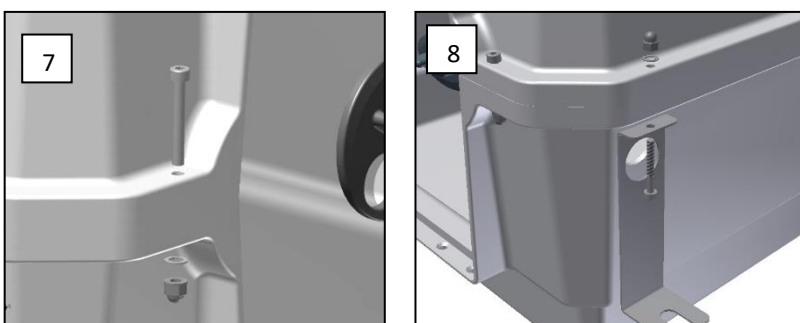
- 4.1 Your intensive care unit will give best results in a room free from wide temperature variations and with generous ventilation – particularly if several units are running at the same time. Ensure that the room temperature cannot drop on a cold night. Ideally thermostatically control the room at between 20 and 25°C (68 and 77°F). Never allow the room temperature to drop below 15°C (59°F) and ensure that the unit cannot be exposed to direct sunlight.
- 4.2 Assemble the cabinet using the tools and fasteners provided. Follow the diagrams. Do not over-tighten fasteners.
- 4.3 The door is hinged at the left as supplied but may be reversed to provide better access if required. Fit the top hinge socket to the cabinet using the M5 x 16mm countersunk screws, M5 flat washers and M5 dome nuts.



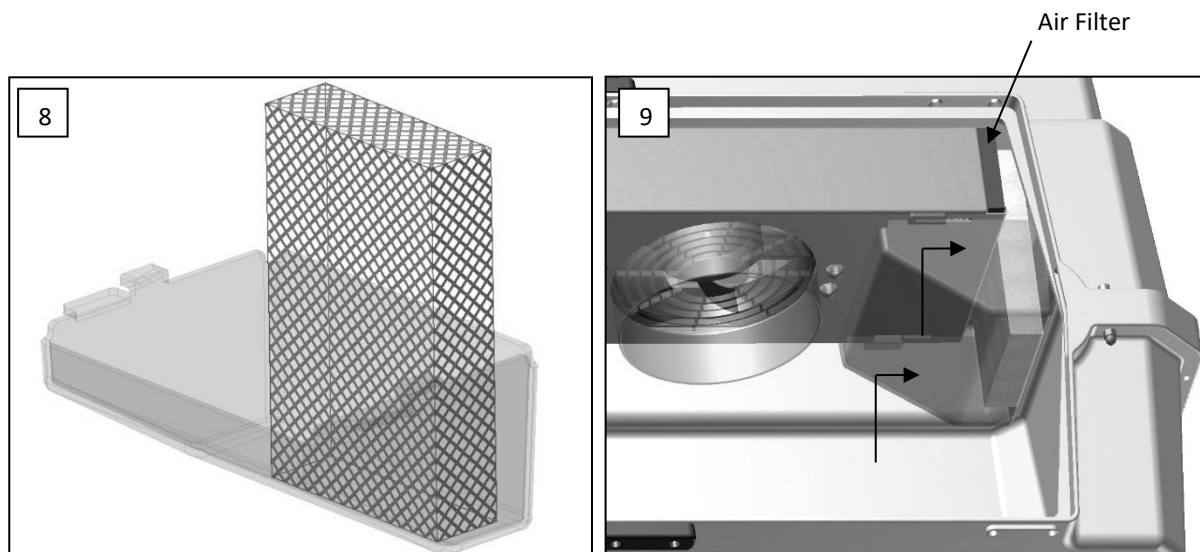
- 4.4 Place the door in the lower hinge and close the latch. Lower the top cabinet down onto the other parts.



- 4.5 Fit the M4 x 30mm cap-headed screws, star washers and nuts into each set of holes around the edge of the cabinet. Tighten enough to prevent them spinning. This creates an air tight seal around the cabinet. Fit the nebuliser bracket as shown.

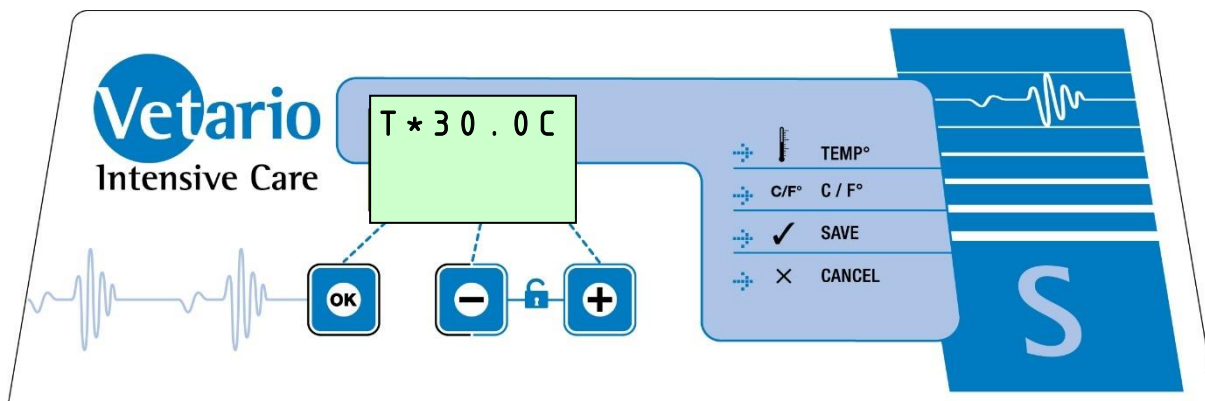


4. 6 Place the white evaporating block upright in the clear water pan. Open the door and lift the pan into position, it pushes up and across into two slots on the heater enclosure. The pad may need to be softened with a little water to help it flatten while the pan is fitted. The pan is located in this manner to help prevent accidental removal by animals.



4. 7 Your intensive care unit is supplied with air filter media fitted at the air inlet (see fig 1) and at each end of the heater enclosure (see picture 9 above). For details of filter replacement see the Servicing section.
4. 8 Fit the nebuliser holder by inserting the "mouthpiece" through the hole in the cabinet and locating the solution holder pipe in the slot in the bracket.
4. 9 Place the intensive care unit on a scratch and moisture resistant surface. Worktop height is ideal.
4. 10 Connect the mains cable to the inlet. Ensure the connector is pushed fully home in its socket.
4. 11 The fan will start and the display will show the current temperature inside the cabinet
4. 12 Allow the unit to run for at least an hour to stabilise the temperature before making adjustments or introducing animals.

5 Digital Control System



The Vetario S control system utilises a highly accurate, calibrated sensor for temperature. Be cautious of low cost analogue or digital thermometers when comparing them with the display readings.

- 5.1 NORMAL OPERATION – Temperature is continuously displayed.
- 5.2 The asterisk “*” adjacent to the temperature reading shows when the heater power is on. When warming the asterisk will be continuously on, once warmed up the asterisk will slowly flash as the heater is pulsed to maintain the correct temperature. When reducing the temperature setting the asterisk may go off, this is normal.
- 5.3 CHANGING SETTINGS – The Main Menu allows the various settings to be modified and saved. All changes are retained in the event of a power cut.
- 5.4 To access the Main Menu press the + and – buttons simultaneously to unlock the display. For full details of menu settings please refer to the guide on page 3.

6 Temperature

Stable and correct temperature is essential for a good recovery. Adjust with care and read the following points and procedures carefully before setting up the intensive care unit.

WARNING:-

THE CIRCULATING FAN AND THE METABOLIC HEAT FROM PATIENT CONTRIBUTE HEAT TO THE INTENSIVE CARE UNIT. THE INTENSIVE CARE UNIT MAY NOT CONTROL PROPERLY IF THE ROOM TEMPERATURE IS LESS THAN 3°C (10°F) LOWER THAN THE TEMPERATURE REQUIRED INSIDE THE PRODUCT.

Note: your intensive care unit may not be set to the correct temperature from the factory and the following procedure must be followed before introducing animals.

- 6.1 As the unit warms up and approaches its control setting the heater on asterisk “*” will change from continuously on to flashing. Allow the unit to stabilise for at least an hour before adjusting the temperature.

6. 2 Press the - and + buttons simultaneously to unlock the main menu. Press OK to select the temperature screen and adjust as necessary using the + and – buttons. Press OK to return to the Main Menu and then scroll down to Save. Press OK to save the changes. When reducing temperature the asterisk may go out while the unit cools – this is normal.
6. 3 Refer to the digital temperature display to check temperature. The display shows the air temperature in increments of 0.1°.
6. 4 The Display can be switched to show all temperature settings in degrees Fahrenheit. Press the - and + buttons simultaneously to unlock the main menu. Scroll to the C/F option and press OK to select the C/F display screen. Press the + button to select °F or the – button to select °C. Press OK to return to the Main Menu and then scroll down to Save. Press OK to save the changes.
6. 5 For most applications involving intensive care the unit should be set to between 30 and 35°C (86 and 95°F). Note that the temperature should be gradually reduced to room temperature (20 – 25°C or 68 – 77°F) as the patient recovers to avoid sudden temperature change when the patient is removed.
6. 6 Care should be taken about cooling that occurs during feeding or inspection or very small patients. Keep the room warm, hold the patient in a cloth to prevent chilling from cold hands and use warmed feeding utensils.

7 Humidity and Ventilation

Elevated air temperatures in the intensive care unit will reduce the relative humidity level (RH) and can cause dehydration. A water reservoir is fitted to counteract this effect.

7. 1 Your Vetario S40 / S50 is fitted with a water reservoir (see fig.1) which humidifies air as it is drawn into the heater enclosure. Use a solution of proprietary water-based disinfectant (diluted in accordance with the manufacturer's instructions) in the water reservoir (pan) to inhibit bacterial build-up. It is recommended that the reservoir is topped up with solution daily to reduce dehydration. This can be a particular problem with chick(s).
7. 2 The unit and its occupants need not be disturbed to fill the water pan. Use the funnel provided to pour water through the water fill point in the top of the unit (see fig. 1) directly onto the evaporating block and into the water pan. Push the funnel down gently into the hole to make sure the water pours directly in. Clean up any spilled water from the top of the unit immediately.
7. 3 To further increase humidity levels within the unit the water reservoir is fitted with an evaporating block of absorbent paper mesh as standard. This block may be set across the water pan (instead of upright) or removed entirely to give lower humidity levels if condensation forms. The block can provide a breeding ground for bacteria. In addition to the use of water-based disinfectant in the water, it is recommended that the block is replaced every 2 months of use.
7. 4 An adjustable vent is fitted to the door which may be opened or closed to give greater control of humidity (close vent to increase) and fresh air flow. The vent may be fully closed as fixed ventilation is also provided.
7. 5 In order to maintain maximum air-flow the air filters should be checked once a week for dust or down, and cleaned if necessary.

8 Small Animal Care

- 8.1 Your Vetario has been specifically designed for the care of injured or sick small animals. Animals should always be cared for following the instructions and advice given by your veterinary surgeon.
- 8.2 The first stage of treating a cold animal (hypothermia) is to prevent further heat loss, by wrapping the casualty in insulating materials such as blankets, bubble wrap or silver foil. It is recommended to pre-heat the Vetario and allow the temperature to stabilise before adding young birds or small animals. If you are aware of an incoming animal patient, the Vetario may be switched on so that it is ready for immediate use when the patient arrives.
- 8.3 Once the Vetario is warmed to the correct temperature the animal can be transferred. The amount of bedding should be reduced at this stage to allow warming from the environment in the Vetario. All animals will benefit from some bedding in the bottom of the cabinet such as an absorbent pad to help reduce soiling. Small animals such as fox or badger cubs can benefit from having a soft toy for company while single ducklings or pheasant chicks can be provided with a safe mirror. Wild animals may become very distressed when handled by humans. Place the Vetario where there is minimal disturbance.
- 8.4 All small mammals and birds will benefit from being kept in an environmental temperature within their 'thermoneutral range'. This is the range of temperatures in which an animal expends no energy to maintain its body temperature. The thermoneutral temperatures for typical adult mammals and birds are given in table 1. For birds, the thermoneutral range depends upon size, with smaller birds requiring higher temperatures. Reptiles and amphibians should be kept within an 'activity temperature range' (ATR) in which it can control its body temperature. ATR values for typical reptiles and amphibians are also given in table 1.
- 8.5 Hypothermic adult animals should be warmed in the Vetario set to their thermoneutral range. The temperature of both the Vetario and the animal should be recorded at regular intervals. Careful monitoring and observation of the animal should be undertaken to ensure that it is not showing signs of distress. i.e. panting or shivering. These animals are also likely to be dehydrated and/or 'shocked' (hypovolaemic) so warming alone will not correct these things and may make them worse. All adult animals must therefore be provided with adequate fluid therapy at the same time as warming and veterinary care (in person, over the telephone or in written Standard Operating Procedures). Injured animals also require pain relief (analgesia) which can be prescribed by a veterinary surgeon.
- 8.6 If the animal will drink, then an oral rehydration fluid can be provided in a shallow bowl. If the animal will not, or cannot drink, then fluid must be given in other ways. In birds, rehydration fluids can most easily be provided by crop tubing, provided the bird can lift its head and swallow. In mammals, intravenous or intraosseous fluids are usually required to rehydrate patients. These must only be administered by a veterinary surgeon or veterinary nurse.
- 8.7 Only feed a poorly animal once it is warm and always start with liquids only. Do not place moist, solid food in the intensive care unit as it will rapidly go bad due to the warm environment.
- 8.8 Dependent animals (those that would naturally be in a nest) should be kept in the Vetario set at 28-32°C (82.5-89.5°F) until they are of an age where they can maintain their own body temperature when the heat can be reduced to the thermoneutral range for that species. Carefully observe their behaviour for signs of panting or shivering to help determine the best temperature for them at that stage. Very small baby animals may require an artificial fabric 'nest' to be created in the Vetario, lined with paper towel.
- 8.9 Like adult animals, baby animals are frequently dehydrated upon arrival and should be fed with an oral electrolyte solution. They also frequently have a low blood glucose level (hypoglycaemia) and should be fed appropriately soon after the initial electrolyte feed. If the animal is unable to lift its head, and/or swallow, then it will need to be given fluids and glucose by injection – this should be under veterinary direction.

Species:	Temperature range:
Mammals	15 – 20°C (59 – 68°F)
Medium and Large Birds	15 – 25°C (59 – 77°F)
Small Birds	20 – 30°C (68 – 86°F)
Very Small Birds	25 – 35°C (77 – 95°F)
Reptiles	20 – 30°C (68 – 86°F)
Amphibians	15 – 30°C (59 – 86°F)

9 Cleaning Up

IMPORTANT:

DISCONNECT THE INTENSIVE CARE UNIT FROM THE MAINS POWER SUPPLY DURING CLEANING. RISK OF ELECTRIC SHOCK! ENSURE THAT ALL ELECTRICAL PARTS ARE KEPT DRY.

- 9.1 Following each use of your Vetario intensive care unit remove all debris from the floor. Wipe all internal surfaces with a soft cloth soaked in water-based disinfectant solution (diluted according to the manufacturer's instructions). Filters should be inspected on a weekly basis and be cleaned if necessary. Remove all three filters and gently hand wash in warm water then allow them to dry before use. Filters need replacing every six months. Immerse and soak any tubs in disinfectant solution. The exterior of the unit may be cleaned with a damp cloth.

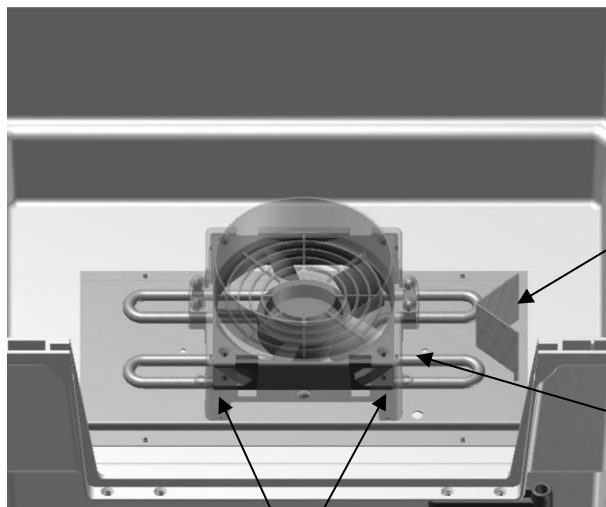
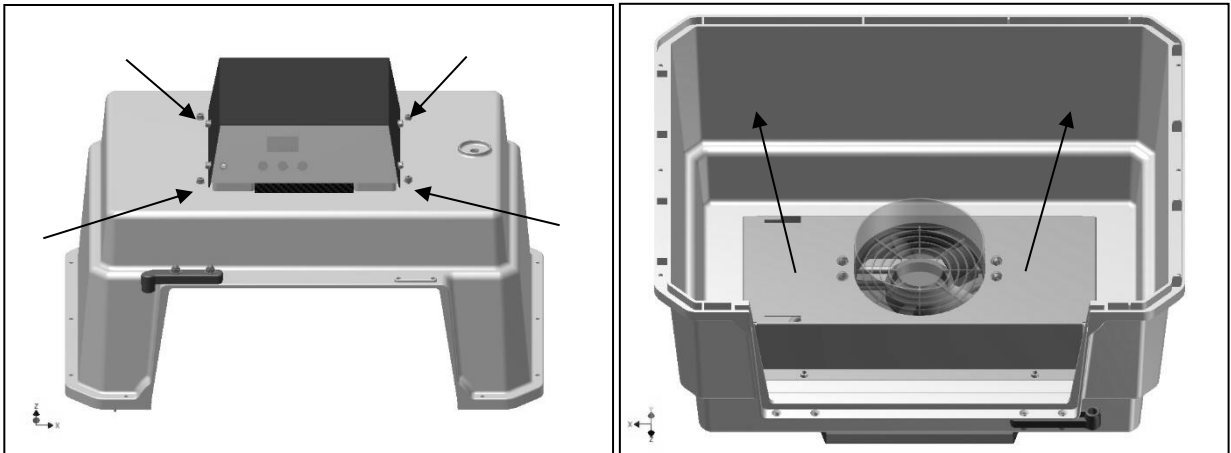
Avoid alcohol based solutions and make sure that all disinfectant is thoroughly rinsed off plastic parts with clean water. Disinfectant solutions may cause severe cracking of plastic if not correctly rinsed off.

- 9.2 Always clean the unit before storage and ensure that the unit is totally dry inside and out or damage may occur to the components.
- 9.3 For deeper cleaning the base of the cabinet and the door may be removed by releasing the fasteners. See section 4 for assembly guide. The cabinet base and the door may be wet-cleaned with mild detergent and then disinfected with water based disinfectant solution.

Replacement filters, evaporating blocks and disinfectant solution are all available from Brinsea Products at the address at the end of this document or from your Vetario agent.

10 Servicing and Calibration

- 10.1 Although it is not regarded as necessary for routine cleaning, the heater enclosure may be safely removed to allow the heater and fan to be dusted. **Disconnect the power lead.** Remove the water pan. Loosen the 4 cap-head screws (on top of the white plastic cabinet, not the grey control box) as shown and then finally remove each one **while supporting the metal enclosure inside.** The metal enclosure will fall if not held and may damage the unit.
- 10.2 Carefully place the unit on its top and then lift out the metal heater enclosure. The fan assembly may then be hinged over toward the front of the machine so that the heating element and fan blades may be dusted with a soft brush. **USE NO LIQUIDS. DO NOT DISTURB THE TEMPERATURE SENSOR.**



DO NOT DISTURB SENSOR

Fan assembly may be hinged out on its cables to allow fan and heater to be dusted with a soft brush

Fan assembly is located by 4 pegs in the feet of the clear moulding

- 10.3 Once the heater area has been dusted the fan assembly must be relocated by ensuring the 4 pegs on the clear moulding fit into the corresponding holes in the metal base plate.
- 10.4 ENSURE THE FAN / LED WIRES ARE NOT TOUCHING THE HEATING ELEMENT
- 10.5 Replace the metal cover so that the water pan slots are at the correct end. Hold the cover in place and fit the 4 cap-head screws. Do not over-tighten.

10. 6 In case of failure first check that the mains power supply is working and that the mains cable connector is fully engaged in the socket at the rear of the control housing. Check the fuse in the mains inlet on the rear of the control housing. Replace with a fuse of the same type and rating if necessary.

10. 7 The digital control system may be reset to the original factory defaults by connecting the power supply while holding the OK button.

If the problem persists contact your distributor or Brinsea Products Service Dept.

10. 8 The digital temperature display is calibrated during manufacture but may be re-calibrated if required. To ensure optimal performance return the unit to Brinsea Products Service dept. for re-calibration every two years. It is not recommended that this procedure is carried out by the user.

BE CAUTIOUS OF LOW COST ANALOGUE OR DIGITAL THERMOMETERS.

BRINSEA PRODUCTS LTD USES SOPHISTICATED EQUIPMENT TRACEABLE TO INTERNATIONAL REFERENCE STANDARDS.

To access the Calibration Menu press all three buttons simultaneously to unlock the display. See page 13 for details of the Calibration Menu.

11 Specification

	Vetario S40	Vetario S50
Overall height	470mm (18.5")	550mm (21.5")
Overall width	485mm (19")	690mm (27")
Overall depth	385mm (15")	490mm (19.5")
Floor area	400x300mm (15.5 x 12")	600x400mm (23.5x15.5")
Effective volume	40L (10USgal)	100L (26USgal)
Weight	6.7Kg (15lbs)	8.7Kg (19lbs)
Power consumption	85W typical, 150W max	100W typical, 150W max
Power supply	230V 50Hz or 115V 60Hz as ordered	



Used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling, please take this product to a designated collection point where it will be accepted free of charge.

Please contact your local authority for further details of your nearest designated collection point.

Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling.

www.vetario.co.uk

Vetario Products are manufactured by

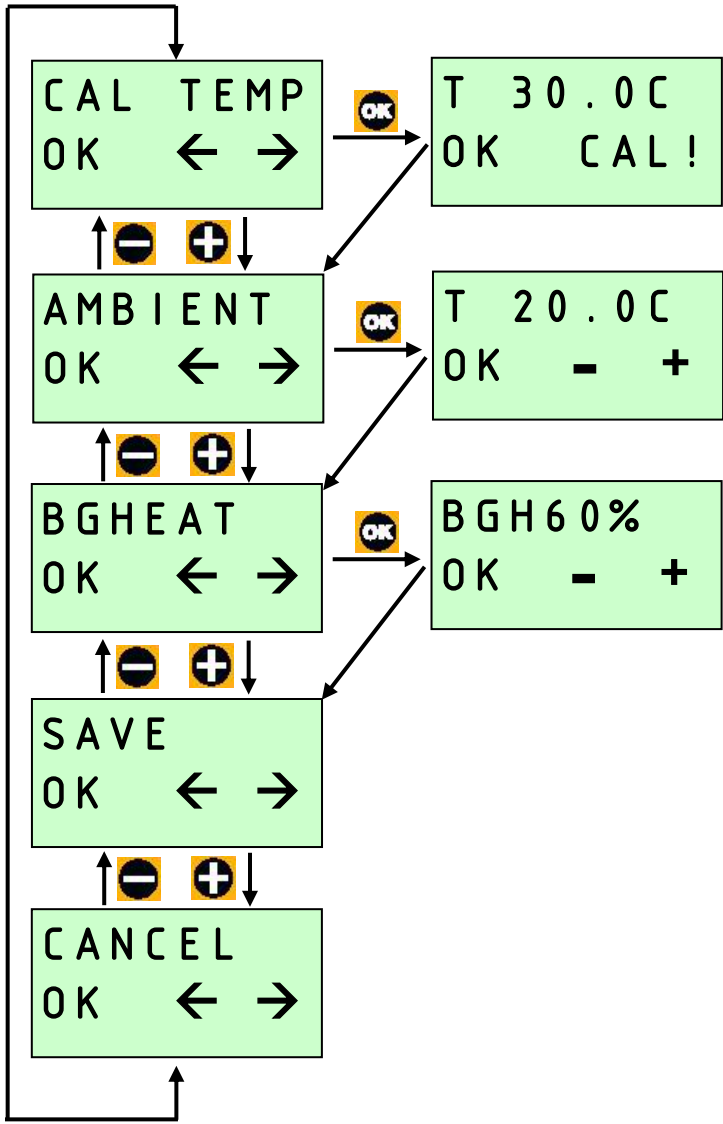
Brinsea Products Ltd, 32-33 Buckingham Road, Weston Industrial Estate,
Weston-super-Mare, N. Somerset, BS24 9BG

Tel: +44 (0) 345 226 0120 Fax: +44 (0) 1934 708177

e-mail: sales@brinsea.co.uk, website: www.Brinsea.co.uk

CALIBRATION MENU

PRESS ALL 3 BUTTONS TO UNLOCK THE CALIBRATION MENU
 SELECT THE OPTION / RETURN TO THE MENU.
 GO FORWARD ONE SCREEN / INCREASE THE VALUE.
 GO BACK ONE SCREEN / DECREASE THE VALUE.



CALIBRATE THERMOMETER.
 TAKE READINGS AT SEVERAL PLACES 40mm (1.5") ABOVE THE BASE OF THE EMPTY UNIT AND CALCULATE THE AVERAGE.

AMBIENT TEMPERATURE COMPENSATION.
 AMBIENT TEMPERATURE USED IN HEATER CONTROL ALGORITHM. ONLY ADJUST IF TYPICAL ROOM TEMPERATURE IS GREATER THAN 4°C (9°F) DIFFERENT.

BACKGROUND HEATING LEVEL.
 HEATER POWER ADJUSTMENT USED IN HEATER CONTROL ALGORITHM. ONLY ADJUST WITH ADVICE FROM BRINSEA PRODUCTS.

Declaration of Conformity

We: BRINSEA PRODUCTS LTD. 32-33 Buckingham Road, Weston Industrial Estate, Weston-super-Mare, North Somerset, BS24 9BG

Declare under our sole responsibility the products:

Animal Incubators / Brooders:

TLC-40 Eco (Serial numbers HD400x/xxxxxxxx)
 TLC-50 Eco (Serial numbers HD410x/xxxxxxxx)
 TLC-40 Advance (Serial numbers HD401x/xxxxxxxx)
 TLC-50 Advance (Serial numbers HD411x/xxxxxxxx)
 Vetario S40 (Serial numbers HD450x/xxxxxxxx)
 Vetario S50 (Serial numbers HD460x/xxxxxxxx)

to which this declaration relates are in conformity with the following UK regulations:

Supply of Machinery (Safety) Regulations 2008

Electromagnetic Compatibility Regulations 2016

The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

The relevant sections of the following Standards have been used:

BS EN 60335-1:2012+A13:2017 BS EN 60335-2-71:2003+A1:2007 BS EN 55014-1:2006+A2:2011
 BS EN 55014-2:1997+A2:2008 BS EN 50581:2012

The technical documentation for the products is available from the above address.

Authorised Representative: Ian Pearce, Managing Director

Signature:

Date of Issue: 8th April 2021

Place of Issue: 32-33 Buckingham Road, Weston Industrial Estate, Weston-super-Mare, North Somerset, BS24 9BG, United Kingdom.

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2006/42/EC **Machinery Directive**
 2014/30/EU E **Electromagnetic Compatibility Directive**
 2011/65/EU **Restriction on the use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations**

The relevant sections of the following Standards have been used:

EN 60335-1:2012+A13:2017 EN 60335-2-71:2003+A1:2007 EN 55014-1:2006+A2:2011
 EN 55014-2:1997+A2:2008 EN 50581:2012

The technical documentation for the products is available from the above address.

Authorised Representative: Ian Pearce, Managing Director

Signature:

Date of Issue: 05/2020

Place of Issue: 32-33 Buckingham Road, Weston Industrial Estate, Weston-super-Mare, North Somerset, BS24 9BG, United Kingdom.