

Vet1

Small/Large

IV Bag Warming Cabinet

Information

&

Instructions for use

Incorporating information for maintenance technicians



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1. Vet1 Contact Details

This manual contains relevant information concerning the use of the Vet1 Small & Large range of warming cabinets. Please read before use.

Please read all instructions carefully. If you have any problems with the device, which you wish further advice on, please contact the Vet1 Service Technician at:

Vet1 Pty Ltd
18 Tarmac Way
Pakenham
Victoria
31810
Australia

Tel: 1300 378 713
email: support@vet1.com.au

Please have the units' serial number available, which can be found on the side of the cabinet near the cable entry point.

2. General Information

The Vet1 range of cabinets have been designed to keep the IV fluid bags, bottles and sachets commonly used in many hospital departments at a constant temperature of $38^{\circ}\text{C} \pm 1^{\circ}\text{C}$.

An electronic thermostat controls the cabinet, which is pre-set at the factory during assembly. One of the main criteria when designing the cabinet was to produce a simple unit, which was easy to use in the often hectic environment of an A & E Dept.

To this end, there are no adjustments or controls on the unit, simply an On/Off Switch and LED Digital internal air temperature display.

The shelf life of fluids may be affected by being stored at body temperature, and we would recommend that your supplier is consulted for advice.

3. Wiring Instructions

The device comes completely ready to use and has a moulded Australian plug fitted with a BS1362 3a fuse. If the unit is to be connected to a fused switch, or the plug has to be removed for any other reason proceed as follows: %

Cut the moulded plug off the cable as close to the plug as possible, and dispose of it so that it cannot be used on any other appliance.

The wires in the power lead are coloured in accordance with the following code:

Blue – Neutral Brown – Live

As these colours may not correspond with the coloured markings sometimes used to identify connection terminals, connect as follows: %

The wire coloured blue must be connected to the terminal marked N or coloured BLACK.

The wire coloured Brown must be connected to the terminal marked L or coloured RED.

Neither wire should be connected to the terminal marked E or coloured GREEN or GREEN & YELLOW.

The unit is fitted with a BS4265 3a fuse holder in the side of the casing, but if replacing the moulded plug, or connecting the unit to a fused switch, a 3a fuse should also be incorporated into this circuit.

4. Siting Criteria

The device should be located on a solid flat work surface capable of taking the weight of a full unit.

Small – 12kg

Large – 24kg

A wall mounting bracket is available for the Small. Please contact your supplier or Vet1 Pty Ltd

direct for further information.
model, dit is not suitable
for wall mounting.

Due to the fully loaded weight of the Large

When choosing the location for the device, it is important that the following points are adhered to, as the over temperature/fault circuit sensor is necessarily activated at quite a low temperature: %

- I. The unit **must not** be positioned in direct sunlight
- II. The unit **must not** be located directly above or below a heater or hot air outlet.
- III. The unit **must not** be placed against a wall that is heated in any way, ie. Has hot water pipes running just below the surface.

Consideration should be given to the height of the unit, to enable users to safely access it.

5. Operating Instructions

Remove any packaging material from the cabinet and position in the required location.

The device comes with three shelves to enable the user to accommodate a range of different sized bags and sachets. These shelves can be fitted and removed simply by sliding them into the cabinet at an angle, and then pushing them flat. Note that the shelves are tapered slightly to fit the shape of the casing and will only fit one way. The front of the shelf should curve downwards.

! Important – The unit must not be operated without the bottom shelf in place. This shelf should only be removed for cleaning and transportation. Overheating of fluid bags can occur if they are placed directly onto the base of the unit.

Place the required bags into the unit, bearing in mind the following points when doing so:

1. The vent in the back of the cabinet should be 50% visible at all times to allow the air inside to be circulated effectively. Failure to comply with this will cause the fault circuit to operate.
2. It is recommended that larger bags are placed on the higher shelves. This allows them to warm more quickly, and helps prevent the airflow from the vent from being impaired.

3. The maximum capacity of the devices are as follows:

MH1200 – 8 one%litrebags. Three on the lower shelf, three on the middle shelf, and two on the top shelf.

MH1800 – 15 one%litrebags. Five on each shelf.

Connectthe unit to a suitable power supply and switch on using the rocker switch on the front control panel. Correct operation is indicated by the illumination of the Switch Light (Green) and the LEDDisplay Module.

At this time the Digital Temperature Display on the control panel should be showing approximately the same temperature as the surrounding ambient temperature.

As the air inside the unit warms up, the reading on the Digital Display will rise quite rapidly, but it should be remembered that the fluid contained in the bags will be much slower to react to the temperature increase. Experience will show how long different types of bag take to warm up, but the table below can be used as a guide:

Bagstarting temperature 15°C

BAGTYPE	WARMUPTIME To 35°C (minutes)
25ml	15
500ml	60
1000ml	85

Due to the warm up time required by somebags, it is suggested that the cabinet is 'stocked' up at the quietest period each day, so that during busy periods only bags that are thoroughly warmed through are available.

During normal operation, once the internal air temperature has reached its correct level, a Redlight in the lower left corner of the Display Module will be observed to go on and off.

6. Control details

The device includes the following controls:

- I. On/Off switch Controls the power supply to the unit illuminates (Green) when the unit is switched on.
- II. Digital Temperature Display Displays the internal air temperature of the cabinet, as sensed by the thermostat sensor. It should be noted that the temperature displayed will not necessarily correspond with the internal temperature of the fluid bags.

The display incorporates the warning circuit and indicators. See section 8, Faults, for details

7. Testing upon first installment

Once positioned, the unit can be plugged into a 220/240v ac supply, and switched on. Correct operation will be indicated by the illumination of the Light Switch and Display Module. The fan will also be heard to operate.

At this time the temperature display will read approximately the same as the surrounding ambient temperature.

The fan should be heard to operate, and the Display Output light (lower left corner of Display Module) will illuminate. The temperature should be seen to rise after a few seconds.

Operational temperature (37.6°C) will be reached in several minutes. At this temperature the output light will extinguish. The temperature will be seen to rise past the set point due to latent heat in the heater elements, but will stabilise after a few cycles.

7.1 Testing whilst in use

It is recommended that the unit is tested daily.

The Red Output Light (lower left corner of the display) should be checked by observing if the temperature display is reading between 36° and 39°C. If it is, then the thermostat could well be in the off position. Open the unit door to allow the internal temperature to drop. The thermostat should then switch on illuminating the Output Light.

The air circulation system should be checked. The fan should run continuously whilst the unit is connected to a power supply and switched on. Check this by opening the door and placing your hand over the fan filter unit located in the upper surface of the internal casing. A flow of air should be felt.

In the event of the fan failing, the unit will not overheat as the thermostat sensor will still control the temperature to a safe level, however the bags will not be heated evenly so the unit should be removed from service and returned to the manufacturer for repair.

8. Faults

The device incorporates several safety features to prevent the air temperature, and hence the bags inside the unit, from going above 39°C.

Failure of the thermostat or any of the controls will result in one of three scenarios;

1. The On/Off switch light fails to illuminate.

Check the power supply is connected and switched on.

Check that the fuse in the plug is serviceable.

Check that the fuse in the unit casing fuse holder is serviceable.

If the above checks have been completed and the unit still fails to function, it should be returned to 1 for inspection. A note of the fault symptoms should be attached to the unit.

2. The Warning Symbol illuminates.

The Warning symbol is the standard triangle containing an exclamation mark, and is displayed towards the left lower corner of the Display Module just to the right of the Output Light.

The Warning Symbol will illuminate if the internal air temperature reaches 39.5°C. It will be accompanied by a flashing 'Hi' being displayed alternating with the current air temperature.

The operation of the Warning Light due to overheating does not necessarily indicate that the unit has malfunctioned, as temporary overheating can occur in a number of ways.

The following should be checked before testing the unit for correct operation;

Is the vent in the rear of the internal casing obstructed?

Has an external heat source influenced the device; for example a radiator or warm air system?

Is the unit in direct sunlight?

Is the fan working?

If all of the above have been eliminated, retest the unit. If the Warning symbol illuminates for a second time the device should be returned to Peco Services for examination.

Return address details can be found in Section 1.

3. Error code E1 appears with Warning Symbol

The Module has malfunctioned and the unit should be returned to Peco Services for repair.

Return address details can be found in Section 1.

9. Maintenance & Cleaning

The casing of the device is constructed from ABS plastic, with a Perspex door. As with all plastics, care should be taken when cleaning the cabinet not to use any solvent based cleaners or abrasives, as these will cause damage.

For safety, the unit should be switched off before cleaning.

The whole unit can be wiped clean with proprietary disinfectants and sterilising fluids, but the unit should not be immersed at any time.

The fan in the roof of the internal casing has a filter unit. This can be removed for cleaning by carefully prising the filter frame off and removing the foam filter medium. This can be cleaned by rinsing in soapy water. Allow the filter to thoroughly dry before refitting.

If a fluid bag should leak inside the device, it is strongly recommended that the unit is disconnected from the power supply immediately and returned to Vet1 for examination even if no faults are immediately apparent.

10. Storage & Transportation

The device should be kept dry and should not be stored in temperatures exceeding 50°C.

To prevent damage to the internal casing and door, remove the shelves when transporting the cabinet

11. Technical Data

11.1 Electrical safety – Classification in accordance with IEC60601

Type of protection against electric shock:	Safety Class II
Degree of protection against electric shock:	Type BF
Degree of protection against ingress of fluids:	Drip proof. Symbol: IPX1

The Vet comply with IEC60601 but this does not guarantee that other equipment will not be effected by electromagnetic emissions from the MediHeat. Similarly, other equipment in the vicinity may effect the operation of the device. It is recommended that all equipment used near the MediHeat comply with the relevant electromagnetic compatibility requirements for that equipment and to check before use that no interference is evident or disruptive. Increasing the distance from offending devices will reduce the effect.

11.2 Powersupply

Input voltage:	220-240v~ 50/60 Hz	
Input Current:	Small 0.5A	MH18030 0.75A

11.3 Fuses

External:	Small
Internal:	Large

11.4 Ratings

Thermal safety cutout:	39.5°C	
Unit power rating:	MH1200 120 watts	MH1800 180 watts

11.5 Temperature Display Module

Temperature range:	16 to 50°C
Resolution:	0.1°C
Accuracy:	±1°C between 0-40°C

12. Data Sheet

Component	Specification
Component Specification	Casing 3mm ABS Plastic Flame Retardant UL94/V0
Heating elements	Carbon Coated Glass fibre cloth with stitched copper electrodes. 100 micron polyester insulation.
Fan	240v axial fan Operating voltage: 220%240v ac Noise level: 31dBA Airflow: 900ltr/minute Continuous life: 60,000 hrs @ 25°C Operating temp: %10to 70°C
Fan Guard & Filter unit	Polyurethane foam filter in a high impact plastic retainer
Switch	Illuminated fluorescent indicator Maximum Current: 10A @ 250v AC Mechanical Life: 1,000,000 operations
Display	Module LED display Resolution: 0.1°C Accuracy: ±1°C between 0%40°C

13. Warranty

Liability with respect to safety, reliability and performance of the device will only be assumed if assembly of the device, extensions, adjustments or repairs have been performed by persons or service technicians authorised to do so and if the device has been operated in the manner prescribed in the Operating Instructions.

Defective components will be replaced or repaired at no charge within the warranty period, which is 12 months from initial delivery by Vet1 Pty Ltd to the original purchaser or distributor.

