

# Specifications – VORTEX +

## 1.1 Capacities and usage

The “Vernacare Vortex +” disposal unit will dispose of a maximum of four “Vernacare” disposable products such as bedpan liners, bottles etc. together with their contents in a single cycle. **Please note due to their physical size only two Vernacare wash bowls may be disposed of per cycle.**

Products should be placed in the Vortex + one at a time and should not be stacked inside each other. Do not stack products inside each other or attempt to dispose of more than four items in a single cycle as this will impair the effective operation of the machine and in severe cases, may cause the motor to stall. It is considered good practice to operate the machine each time a utensil is placed into the machine.

*Do not place string, wipes, plastic or metal items inside the machine as these may damage the components. **Note:** Only maceratable wipes that comply with AS/NZS 5328:2022 can be disposed of in the Compact Plus macerator.*

## 1.2 Dimensions

The dimensions of the “Vernacare Vortex +” are shown on page 8 (Figure 1)

## 1.3 Handling

The weight of the “Vernacare Vortex +” complete with pallet and packaging is 83 kg (machine only 72 kg). The “Vernacare Vortex+” should be moved to the point of installation by fork, pallet or sack truck whilst still attached to the pallet provided.

## 1.4 Electrical specification

The machine is supplied with a 3-meter length of 1.5mm flex, which shall be connected to either:

230 Volt Machine – 16 Amp MCB to BS EN60898 Type C or alternatively fused 16 Amp to BS EN60269-1. An appropriate I.E.C Approved 16 Amp isolator shall be installed in both cases.

110 Volt Machine – 16 Amp MCB to BS EN60898 Type C or alternatively fused 16 Amp to BS EN60269-1. An appropriate I.E.C Approved 16 Amp isolator shall be installed in both cases.

It is recommended that the disposal unit is supplied by a dedicated circuit.

Where supplementary protection is provided by an RCD/RCBO, this should be rated at 100mA.

**Note: The machine should not be switched off at the mains supply in mid-cycle except in case of emergency, as this will impair the effective operation of the machine and may cause damage to the components.**

### 1.4.1 Motor

1.1 KW; 3 Phase; 220-240v 50Hz/ 380-420v 50Hz; IP55; D90 frame size. Rating at peak load 4.57 amps (nominal).

### 1.4.2 Invertor

AC invertor with either 110v or 230v supply voltage (appropriate invertor used), 230v motor output and utilising current monitoring.

### 1.4.3 Pump

0.27 kW; 24vdc; 50 cycles. 40 l/min at 5 lbs/in<sup>2</sup>. Protected by a 5 amp fuse.

## 1.5 Water requirements

Inlet supply: Cold water **ONLY** with flow rate of 18 l/min (4 gals/min) nominal. Nominal overall usage; 24 litres (+/- 10%) per cycle.

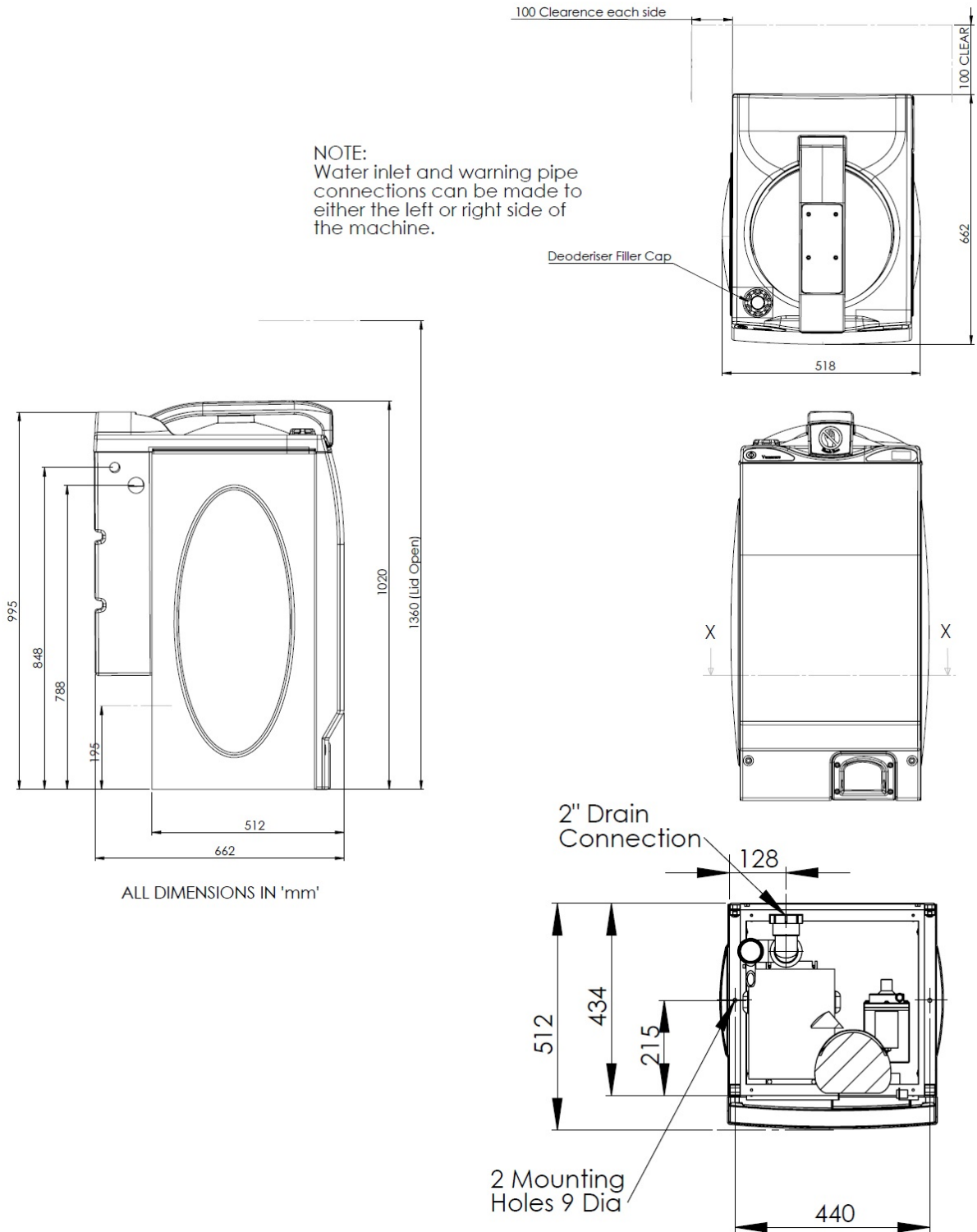
## 1.6 Drainage

A 2 inch/ 50mm P Trap compression fitting to be connected either directly, or via a swept bend, to a standard 2in/50mm drain pipe with a 1 in 25 or suitable fall into a soil drain.

A 1 1/4 inch/32mm tank connector is supplied, which should be used to connect the water tank warning pipe to a separate drain line, according to the relevant water regulations.

A standard warning pipe installation kit is available. Contact Vernacare Customer Care Department for details.

Figure 1 – Dimensions of the Vernacare Vortex+



## 2 Installation / Commissioning

### Installation

**Note: Installation of this equipment should only be carried out by a suitable qualified person.**

#### 2.1 Siting and fixing

The "Vernacare Vortex +" should be positioned adjacent to the following:

- a) A suitable power supply point.\*
- b) An adequate water supply line.
- c) A suitable drainage connection.

Check the floor area is firm and level. The unit **must be bolted down** using the holes provided. Mark out the bolt positions on the floor and fit bolts utilizing the dimensions given in Figure 1.

Ensure that adequate space is maintained at each side of the Vortex + machine to allow for access. Vernacare recommend a gap of 6" - 8" (150 - 200mm) per side and 4" - 5" (100 - 125mm) away from the wall at the back.

Check that the unit is level in both directions.

230 Volt Machine – 16 Amp MCB to BS EN60898 Type C or alternatively fused 13 Amp to I.E.C 60269-4. An appropriate I.E.C Approved 16 Amp isolator shall be installed in both cases.

110 Volt Machine – 16 Amp MCB to BS EN60898 Type C or alternatively fused 13 Amp to I.E.C 60269-4. An appropriate I.E.C Approved 16 Amp isolator shall be installed in both cases.

It is recommended that the disposal unit is supplied by a dedicated circuit. Where supplementary protection is provided by an RCD/RCBO, this should be rated at 100mA.

For all installations, an I.E.E. approved disconnection device must be fitted to the final installation. This device shall be positioned in close proximity to the Vortex and within easy reach of the operator & shall also be clearly marked as being the disconnecting device for the machine.

For installations where the height of the existing drain causes difficulty a plinth is available which may be utilised in order to raise the height of the Vortex so that better alignment is achieved.

Please contact Vernacare for further information.

## 2.2 Plumbing

### 2.2.1 Water supply

The machine should be connected to a suitable cold water supply as follows:- The connection to the machine water tank is made at the upper rear left or right hand side corner of the machine. It is a standard connection to a 1/2 inch BSP float type cistern valve. This can be made in rigid or flexible piping, according to customer preference. Flow rate should be 18 litres per minute (4 gallons/minute) minimum, into the water tank, which holds sufficient water for a complete cycle.

**Note:** The inlet flow valve is supplied already fitted with a flow restrictor in place. The restrictor should be left in place on tank fed installations with heads above 50ft or mains fed installations with pressures above 1.5 bar (25psi). In all other circumstances the flow restrictor is not required.

#### Points to watch:

**Ensure** that the supply line to the unit is at no point less than 15mm - larger if available head is low.

**Ensure** that the water supply cannot be starved by any other fittings.

**Fit** an easily accessible, full way isolating valve close to the unit. For installations with dirty water supplies it is recommended that an in-line filter is fitted.

**Fit** an adequate backflow prevention device to the inlet water supply hose suitable for the cross connection hazard to the inlet water supply hose in accordance with AS/NZS 3500.1

## 2.2 Plumbing

### 2.2.2 Drain connection

The "Vernacare Vortex+" is fitted with a 2 inch/50mm 'P' Trap. In order to connect to the drain, it is necessary to cut a minimal clearance hole in the plastic drain access cover located at the rear of the machine below the water tank. It is important to ensure that the drain access cover is fitted so as to prevent access to internal electrical components.

The drain is secured by tightening the compression fitting on the 'P' Trap onto the inserted plastic pipe. The free area below the water tank allows for the fitting of a swept bend if required.

#### Points to watch Part 1:

**Ensure** that the route taken to soil drain is the shortest, with minimum number of bends.

**If necessary**, use long radius or 'swept' bends - never short or 90' elbows.

**The waste** must be run **separately** to the soil stack or drain.

**Ensure** that there is a fall of a minimum of 1 in 25 or a sufficient fall to maintain a self-cleansing velocity.

**Provide** easy access for Roding.

## 2 Installation / Commissioning

### Points to watch Part 2:

**Ensure** a clean run inside the pipework - leave no burrs or reducing shoulders.

**With plastic** pipework, ensure that there is no reduction in the bore size and that there is adequate support for horizontal runs to prevent sagging. Remember, ceiling voids can get very warm.

**Avoid** running the drain line near or across hot water pipes.

**Anti-syphon** precautions should be in line with general practice.

### 2.2.3 Overflow - Warning Pipe

The Vortex Is supplied with a 32mm (1 ¼") tank connector which should be installed using one of the predrilled holes in either the Left Hand side or Right Hand side of the water tank. It is Important that any discharge from the warning pipe is visible.

#### Points to watch:

Ensure that the discharge from the overflow is visible.

Overflow arrangement must include an air break prior to a connection to a drain.

Waste must be run separately to soil stack or drain.

Do not reduce the diameter of the warning pipe at any point.

A standard warning pipe installation kit is available. For UK customers the Part No is 9207030 & for International customers the part No is 9207025.

## 2.3 Electrical

### 2.3.1 Single-phase electrical system (230v, 1 Ph, 50 HZ) (110v, 1 ph, 60 HZ)

The machine is supplied with a 3 metre length of 1.5mm flex to BS6500 which shall be connected to:

- 230 Volt Machine – 16 Amp MCB to BS EN60898 Type C or fused 16 Amp to IEC 60269.
- 110 Volt Machine – 16 Amp MCB to BS EN60898 Type C or fused 16 Amp to IEC 60269.

**Notes:**

1. All electrical installation to comply with current I.E.E. regulations.
2. Mains supplies to be protected by:
  - 1 Phase 230v ..... 16 Amp approved I.E.C. fuse.
  - 1 Phase 110v..... 16 Amp approved I.E.C. fuse.
- 3 For all installations, an I.E.E. approved disconnection device must be fitted to the final installation. This device shall be positioned in close proximity to the Vortex and within easy reach of the operator & shall also be clearly marked as being the disconnecting device for the machine.
- 4 It is recommended that the macerator is supplied by a dedicated circuit.

### 2.3.2 Back-up generator tests / mains electrical supply surges.

Damage to internal electrical components of the Vortex + can occur as a result of voltage surges / spikes occurring in the electrical supply to the machine. The likelihood of such damage occurring is increased when frequent testing of back-up electrical supplies are carried out.

To prevent such damage, Vernacare recommends that transient voltage suppressors (in accordance with IEC class 3 surge protection) be installed in the electrical supply to the machine.

## 2.4 Environment

Indoor use only. Altitudes up to 2000m. Temperatures 5°C to 40°C. Maximum relative humidity 80% for temperatures up to 31°C, decreasing linearly to 50% relative humidity at 40°C. Mains supply voltage fluctuations not to exceed +/- 10% of nominal voltage.

## 2.5 Commissioning

After installation, to ensure warranty validity the machine should be commissioned by a Vernacare technician OR in the case of an overseas installation, by a Vernacare approved technician. The machine should not be run until after this check has been done.

### Important

**The machine MUST be bolted down before use. The machine should be run once - empty - to prime the pipework, diaphragm valve, deodoriser feed, etc.**

**Note:** For warranty, service or repair please quote the machine serial number which can be found clearly marked upon the rating plate which is positioned on the RH side, bottom front of the machine.

## 2.6 Warning labels and icons – explanations



Please refer to the maintenance manual prior to installation, maintenance or operation of this equipment.



Symbol indicates presence of 230v 50 Hz/ 415v 3phase 50 Hz electrical supply.



Start / Reset – Press this button to start the Vortex + machine or to reset errors as indicated on the display screen. Note in normal operation it is not necessary to press the start button as the cycle will commence automatically when the lid is closed.

## 2.7 Display screen icons and warning messages – explanations

### **RUNNING**

The machine has been started and is running through its cycle.

### **END**

The machine has finished the cycle and is ready to re-use.

### **BLOCKED BLADES**

The motor inverter has detected an overload due to a blockage of the machine cutter blades.

### **BLOCKED DRAIN**

The pressure transducer has sensed an over pressure in the chamber due to a blockage of the drain outlet.

### **LOW WATER**

There is insufficient water in the water supply tank.

### **POWER FAIL**

An interruption occurred to the electrical supply during cycle



The motor is running and the cutter blades are rotating.



The water pump is running.





The deodoriser reservoir is empty.



The outlet diaphragm is open.



The outlet diaphragm is closed.



The water tank reservoir level is low.



The water tank reservoir is full.



The lid is open.



The lid is closed.

**BLOCKED DRAIN**

The drain is blocked.



The foot sensor has been operated.

**BLOCKED BLADES**

The blades are blocked.

**POWER FAIL**

The mains supply has been interrupted.

### 2.7.1 Cycle Counter

At the end of each cycle the screen will briefly display the TOTAL cycle count for the machine and also the SERVICE count which is the number of cycles since the machine was last serviced.

The TOTAL cycle display counts every machine cycle and is not resettable (unless the machine is reprogrammed).

The SERVICE count is reset by the engineer when the machine is serviced. The service count also triggers a "Service" message on the display once 20,000 cycles since the last service have been completed.