

IMPORTANT USER GUIDANCE – ASTROCAB

1200 3-STAGE MODULAR HYGIENE

SHOWER

+ WATER MANAGEMENT SYSTEM

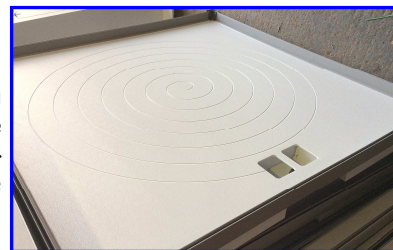
READ ALL THE INSTRUCTIONS BEFORE USING THE APPLIANCE



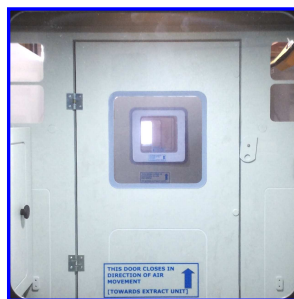
GENERAL: Astrocab 1200 is a 3-stage portable hygiene shower facility, intended for use inside a pre-existing building or similar structure; it is NOT suitable for use outdoors. When erected the 3-stage cubicle is 3520 mm long x 1160mm wide x 2280 mm high with lights (or 2120mm high without lights). However to allow for door swing, and ancillary equipment (water management system, extract unit etc.) you should allow for a footprint of not less than 1600mm wide x 4520mm long.

ASTROCAB 1200 ASSEMBLY / OPERATING INSTRUCTIONS:

Caution: ensure the ground you are assembling the cubicles on is flat and level. If the surface is uneven the panels will NOT connect together properly and you will not obtain a satisfactory seal between panels ! There are only three unique panels (shower base, shower roof, and wall panel for extract unit) - these have a dedicated position – all other panels are universal and can be located anywhere.



1. All base trays have a pre-formed “sump” to capture water; it is recommended this sump is not adjacent to a doorway. The tray equipped with a hose-lock fitting (for removal of waste-water) is the shower tray, and should be positioned centrally – with the hose-lock fitting facing towards the water management unit. Place the three Base-Trays next to each other on the ground with their edges touching.
2. Labels on the door-panels indicate which way the door panels should face. Doors should swing-closed towards the location of the extract unit (see schematic at foot of page 4). When assembled correctly the first 3 doors will open in the same direction (towards the clean-side exit) and the final door will open in the opposite direction (towards the work area); all doors then close towards the location of the extract unit (in the dirty compartment).



Assemble the central shower cubicle first – start with a door panel, and slot into the grooves of two adjacent base trays; now slot a corner post into place, and slide a wall panel against the door panel and base. Continue until the cubicle has all its door and wall panels secure.

You may need to use a rubber mallet to tap the corner posts and panels securely down into the base. Now fit the roof panel – before continuing with the next cubicle.

3. One roof panel is fitted with the shower rose cam-lock fitting – this fitting should be at the side nearest to the water management system and this roof panel must be fitted to the central cubicle. Place roof panel on top of the cubicle and pull down into position – use a rubber mallet to tap into position if necessary. Once the roof panel is secure place the external 110v roof light over the Perspex section of the roof panel – their power cables daisy-chain together.



4. Now identify the wall panel with a rectangular cut-out at low level – this is for connection of the extract unit and this panel must be installed in the dirty compartment. Continue assembly of the remaining panels until you have a three-stage unit.
5. All the wall panels carry wall lugs which will accommodate the following: x 2 bench seats – one to be fitted in the “Clean” end, and the other in the “Dirty” end.
 - a sink unit which can be fitted on lugs in the shower.
 - a locker to be hung high-level in the clean compartment
 - x 2 clothes hooks with mirror, one for the shower and one for the dirty compartment.



6. The door panels carry ventilation points at high and low level. Flaps and blanking plates are supplied which attach over these using integral magnets, allowing you to provide any pattern of ventilation you wish.

Offer up the appropriate item (a flap or a blank) with the smooth side of the plastic facing the smooth side of the door panel and it will attach firmly. Some additional spare blanks are supplied. Ventilation flaps should open in the direction of the airflow.

7. The 110v negative pressure extract unit (Ventaire V60) attaches directly to the wall panel of the "Dirty" compartment using integral magnets. To operate the extract connect it to a 110v supply (current draw 4 amps, 440 w) and turn "On" the switch on top of the extract – then remove the transit cover.



The transit cover is retained by integral magnets and can be removed and re-fitted from inside the dirty compartment. You are advised to protect the pre-filter with the transit cover except when the fan is in operation. The extract has a reversible discharge spigot - pull it out to reveal the spigot (150mm dia).

The manometer normal operating range is 450 – 675 Pa; change the pre-filter when dirty or if manometer reading exceeds 675 Pa. The Ventaire V60 accepts a 305 x 305 x 50mm pre-filter, is 850 (h) x 235 (d) x 450mm (w), and weighs 16kg; the minimum permitted air extraction rate for this modular is 85 M3/hr.



Now, there are two options for Water Management System (WMS):

- if you are using the 110 volt WMS [black in colour] continue to section 8 below.
- if you are using the 240v system [bright green in colour] skip to section 12.

110v WATER MANAGEMENT UNIT (WMS 150):

8. Connect Hoses As Follows:

- (a) shower feed hose from outlet on water management system (WMS) to inlet connection on shower roof panel.
- (b) waste extract hose from shower base to waste inlet on WMS.
- (c) Waste outlet hose from WMS to suitable receptacle or drain.

9. Power Connection: connect a 110v earthed power supply to the chassis socket marked "primary power inlet", turn on the rotary isolator marked "Primary Power"; an amber light will illuminate to indicate power is "On" and a digital meter will display the incoming supply voltage.



There are two versions of the WMS 150. One has 2x16 Amp 110v couplers [where the second coupler is optional and reduces the time to heat the water]; the other version has a single 32 Amp 110v coupler; in any event the primary power inlet must be connected for the water management unit to function.

Power Rating: for both versions we recommend that you use at least a 4KVA continuous rated transformer.



10. Operating Unit From Integral Watertank, for use By 1 – 4 People.

- (a) fill water tank with clean potable water by hose or bucket.
- (b) Switch on heater (position 2), green "Heater" light will illuminate, and set thermostat (40 celcius recommended). Operating temperature is reached after approx 1.5 hours using both heaters; the Heater light goes out once selected temperature has been reached.

- (c) Prior to entering work enclosure select “Heater & Both Pumps” (switch position 3).
- (d) When exiting the work enclosure the shower is activated by simply opening the hand valve in the shower cubicle; the water management unit automatically supplies warm water and pumps away the waste. When full the integral tank contains in excess of 150 litres of water.
- (e) If the water tank level is allowed to drop too far a red “Low Water Level” warning light will illuminate on the control panel, and water heating will stop until the tank is replenished.
- (f) Waste water is filtered prior to being pumped away to disposal point; the filtration unit is located at the rear of the water management unit and as standard is fitted with two cartridges [filtering down to 1 micron filter]. These cartridges must be changed regularly to ensure waste water is cleared rapidly away from the shower.

11. Fault Diagnosis:

- (a) Water Management System Does Not Work:
 - check power is connected to primary power inlet (primary inlet must always be connected).
 - check on the voltage indicator that power is being supplied in the range 100 – 115v.
 - check the overload switches for the shower and waste pump are “On”.
 - check water level in tank – water heating will not operate if water level is too low.
- (b) Long Re-Heat Time, Water Too Hot Or Cold:
 - connect both power inlets to reduce heating times.
 - check supply voltage is within range 100 – 115v.
 - adjust thermostat to obtain a comfortable water temperature.
- (c) Pumps Can Be heard To Operate But No Shower, Or Waste Is Not Pumped Away:
 - check hoses have not “kinked”.
 - check for blockage of water filter – replace cartridge.
 - check rubber O-ring is in place (in the top groove of the clear filter bowl), & that filter bowl is screwed securely to the filter housing (otherwise it will draw air instead of water).

240v WATER MANAGEMENT UNIT (WMS N184):

12. Connect Hoses As Follow (we supply items a – c):

- (a) shower hose from outlet on water management system marked “Warm Water To Shower” to connection on shower-roof panel.
- (b) Waste return hose from shower base to WMS coupling marked “Waste Water Return From Shower”.
- (c) Waste discharge hose from WMS “Waste Water Out” to suitable drain.
- (d) Connect a clean potable (drinking) water supply to the coupling marked “Clean Water In” using your own supply line; the supply should be able to maintain a pressure in the range 1 bar – 6 bar.



The WMS has a male hoze-lock style fitting as standard; you may change this to another form of mechanical coupling if you wish - provided the isolation valve remains in place.

Now open the shower valve until air has been purged through the water supply hose and water management unit. Note: failure to purge the air in the line will result in a thermal trip shutting down the water management unit – this requires an engineers attention to re-set (chargeable !).

- 13. Power Connection: connect the WMS to a single-phase 240v supply; the supply should be suitably protected and capable of supplying 32A, 240v. Note: the RCD on the WMS offers protection to the WMS – not the supply line.

The display next to the RCD will illuminate to indicate the power is “On” and a digital meter will display the incoming supply voltage; depressing the arrow button (see image right) will offer options to display frequency Hz, Amps, and power in kW.



Temperature Selection: press the “START” button and the water management unit is now ready to operate. Below the start button an LCD display with press-buttons allows you to select your preferred water temperature. Two pre-sets are available – pressing “1” sets 35 celcius, pressing “2” sets 45 celcius; the up down arrow buttons allow you to move the setpoint to another temperature if you wish.

14. Operating:

- (a) When exiting the work enclosure the shower is activated by simply opening the hand valve in the shower cubicle; the water management unit automatically supplies warm water and pumps away the waste. It the incoming water temperature is very low it may take a couple of minutes for the incoming warm water to reach temperature.
- (b) When the hand valve is closed the water heater and waste-pump will automatically shut down. If water accumulates in the shower base the waste-pump may be activated by pressing and holding the “PURGE PUMP” button on the water management unit.

- (c) Waste water is filtered prior to being pumped away to disposal point; the filtration unit is located at the rear of the water management unit and as standard is fitted with two cartridges [filtering down to 1 micron filter]. These cartridges must be changed regularly to ensure waste water is cleared rapidly away from the shower. **DO NOT** operate the WMS without these filters.
- (d) As the WMS does not contain any stored water, and heats water instantly, we recommend that you turn off the supply to the WMS when it is not in use.

15. Fault Diagnosis:

- (a) **Water Management System Does Not Work:**
 - check power is connected, check Emergency Stop is dis-engaged, check RCD is "ON".
 - check on the voltage indicator that power is being supplied in the range 220 -240v.
 - check water supply pressure and flow – heater will not operate if water flow is too low.
- (b) **Water Too Hot Or Cold:**
 - check and if necessary adjust temperature set-point.
 - check supply voltage is within range 220 – 240v.
 - check waste-water is returning through WMS before disposal to drain (heat recovery).
- (c) **Pump Can Be heard To Operate But Waste Is Not Pumped Away:**
 - check hoses have not "kinked".
 - check for blockage of water filter – replace cartridge.
 - check rubber O-ring is in place (in the top groove of the clear filter bowl), & that filter bowl is screwed securely to the filter housing (otherwise it will draw air instead of water).

CAUTIONS

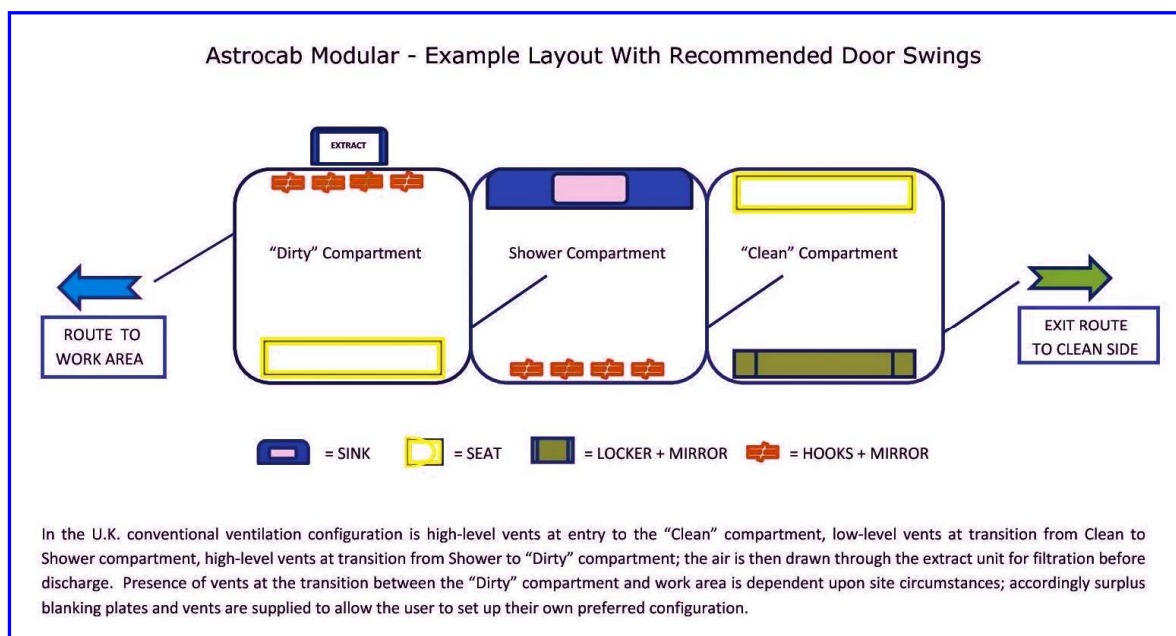
OPERATE WATER MANAGEMENT SYSTEM WITH CLEAN, POTABLE DRINKING WATER ONLY – DO NOT USE AN UNTREATED WATER SOURCE, NOR CONTAMINATED WATER, NOR ANY NON-AQUEOUS FLUID.

WHEN USING WATER MANAGEMENT SYSTEMS THAT HAVE A HOT- WATER RESERVOIR (WMS150 MODELS) FOR AN EXTENDED CONTINUOUS PERIOD WE RECOMMEND THAT YOU PERIODICALLY TREAT THE RESERVOIR WITH A DILUTE CHLORINE BASED OXIDISING AGENT (E.G. MILTON). MILTON MAY BE RUN THROUGH THE WHOLE MODULAR SHOWER AND WASTE SYSTEM IF YOU WISH; FOLLOW THIS WITH A CLEAN WATER RINSE TO REMOVE ANY RESIDUE.

THE ASTROCAB SHOWER / AIRLOCK IS FOR THE USE OF OPERATIVES WITH THEIR PROTECTIVE CLOTHING AND PERSONAL PROTECTIVE EQUIPMENT, AND MUST NOT BE USED FOR THE TRANSIT OF OTHER MATERIALS, EQUIPMENT OR WASTE. UNDER NO CIRCUMSTANCES SHOULD ANYONE SMOKE, EAT OR DRINK INSIDE THE HYGIENE FACILITY.

16. ASTROCAB CLEANING AND DISASSEMBLY:

Prior to disassembly the unit should be thoroughly cleaned using a solution of warm water and detergent and an air clearance test carried out. Particular attention should be paid to the surfaces of the "Dirty" compartment especially if it has been sealed direct to the working area. The shower cubicle should be thoroughly washed down immediately prior to dismantling. Any residue remaining in the drains or bases will be wet and must be disposed of safely as soon as the shower has been dismantled.



FOR MORE INFORMATION ABOUT OUR RANGE OF HIRE EQUIPMENT PLEASE SEE OUR WEBSITE www.envirogard.co.uk

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