

IMPORTANT USER GUIDANCE **ENVIROGARD SUPER-MOSQUITO** **WATER MISTING CANNON**

READ ALL THE INSTRUCTIONS BEFORE USING THE EQUIPMENT

General Specification: The Super Mosquito is a high capacity misting fan which produces a plume of water droplets that will envelop and suppress airborne fugitive dust much more effectively than water sprays or jets - and using much less water. The Super Mosquito has a 25 metre throw (still air conditions) and can oscillate through user-selected arcs of 0, 40, 120, or 360 degrees to treat much larger areas than fixed systems. It is easy to use, easy to clean, and operates from 110v site power using water from a 15mm hose.

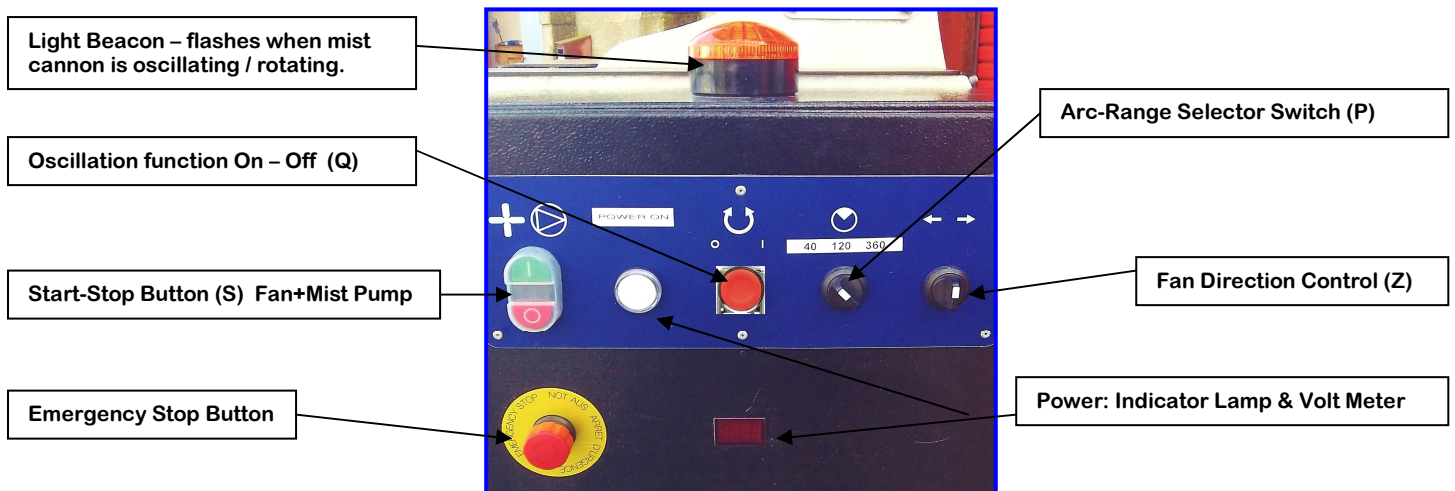
The Super Mosquito is on a small twin axle trailer so it can be easily relocated and positioned. With water it can be used for dust suppression or for cooling purposes; without water it can be used just as a high capacity ventilator. The Super Mosquito from Envirogard is "roll up, plug in, and switch on".

1. INSTALLATION: the Super Mosquito road-tow trailer (un-braked) may be towed or pushed into place; it can be used inside or outdoors. If it needs to be lifted into place use spreaders and secure lifting strops under the trailer (do not lift by attaching to the fan casing or its support pylon). Do not operate the unit while it is suspended in the air !

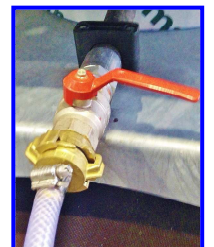
- When choosing a position for the unit first check there is nothing which can obstruct the fan intake or discharge. Don't locate the unit where material can be entangled or drawn into the fan – it might be discharged at high speed. To treat larger areas the Super Mosquito is capable of rotating on the trailer platform, spraying water mist through user-selected arcs up to 360 degrees - so ensure there are no obstructions close by / protruding over the platform; as good practice maintain as a minimum 1 metre clearance around the trailer platform.
- When the rotation / oscillation function is selected the centre of gravity of the equipment will change as it rotates. For this reason do not rely solely on wheel chocks to secure the equipment when in operation - these are only an aid in positioning during relocation of the equipment. Once in position extend all four telescopic legs (see above picture) onto a firm surface so the trailer is secure, stable and level.
- Set the desired vertical angle of the mist discharge by grasping the handle on the fan casing, pull out the locking knob, tilt the fan to the desired angle, then release the knob to lock the fan position once again.
- Couple a water supply to the machine and ensure the incoming-water lever valve is closed at this time (pictured below right). Use clean - preferably potable (drinking) quality - water.

2. OPERATION: the unit is equipped with a 110v chassis plug – connect power using a corresponding 32A 110v socket on a trailing lead; if using a generator we recommend 5Kva to accommodate start-up surge current. Once the supply is live an indicator lamp on the control cabinet will illuminate, and the digital volt meter will display the supply voltage.

Note: once power is connected it may take up to 60 seconds for the control system to initialise; during this time the oscillation / rotate function is not available. To start the machine – ensure the control cabinet (pictured below) Emergency Stop button is pulled out then:



- Using the Fan Direction Control (Z) rotate the fan so it points where you want it to throw the water mist.
- Press the Start button (S); the fan will spool to its operating speed within a few seconds.
- Now open the water supply valve (pictured right) – providing 2 bar pressure is available from your site supply the mist pump will automatically turn on within a few seconds and produce a fine mist from the spray nozzles.
- When you want the Super Mosquito to oscillate from side to side – first select the arc range you want [40, 120 or 360 degree] using switch (P). Then to start oscillation press button (Q) once; to stop oscillation press button (Q) again. The direction of the fan when oscillation starts will be the centre of the swept arc; a light beacon will flash whenever mist cannon oscillation / rotation is active.

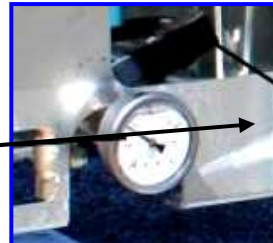


In case of emergency the equipment can be stopped by pressing the Emergency Stop on the control cabinet, or by disconnecting the 110v power coupler.

Note: pressing the emergency stop does not disconnect the power supply (control circuits remain energised); power and water must be completely disconnected before undertaking maintenance or opening the control cabinet.

- After use – switch off the equipment by reversing the above procedure. We recommend you disconnect the water supply at the inlet coupling and open drain valve (T) which is located just behind the water pressure guage (see adjacent picture). This allows the unit to drain empty of water and is an absolute requirement during frosty weather.

Drain Valve (T)



In-use routine maintenance:

- The water supply passes through an in-line filter which will gradually block if your supply contains suspended solids (and most supplies contain some). Periodically unscrew the filter housing hexagon nut, remove the filter mesh, clean in water and re-install.
- If the water jet is uneven clean the nozzles (see adjacent picture) - unscrew them and rinse in water; if you are in a “hard water” area (water with a high calcium carbonate content) you may need to soak the nozzles in an anti-scale solution; rinse in clean water before re-fitting.
- The “curly” power cable is subject to mechanical stress particularly when the oscillation function is selected; check for excessive wear or abrasion.

If in doubt ask for advice from the supplying hire depot.



Trouble-Shooting:

<u>Problem</u>	<u>Cause / Solution</u>
Fan won't start ?	Reset emergency-stop button, check power connection, is voltmeter display showing 110v ? Possible RCD tripped inside control cabinet.
Fan tries to turn but supply trips to off ?	Insufficient current / voltage to start fan. Minimise supply cable length, use heavier guage cable, check supply can accommodate start load.
Mist Pump won't start / Mist Cycles On-Off	Incoming water supply insufficient - dry-run protection stops mist pump when water pressure falls below 2 bar - increase incoming water supply pressure / flow.
Mist Pump on but little or no water mist	In line filter or nozzles blocked – clean.
Oscillation / rotation function won't start	Controllers not yet initialised (requires up to 60 seconds).
Machine suffers excess vibration ?	Imbalanced fan due to debris build up on fan blade, or damage to fan blade. Stop machine & remove debris; in case of damage to blade contact supplier.

3. **WARNINGS:** Keep clear of fan inlet and outlet, never remove the fan inlet and outlet guards; do not attempt to open machinery casings. The Super Mosquito discharges a plume of air and water mist at speed - don't walk inside the plume within 2 metres of the discharge nozzle; always wear eye protection. This machine works best with clean water - avoid using dirty water and water with high levels of suspended solids; do not use stagnant, or fetid water.

The machine is capable of slow rotation / oscillation. Ensure nothing protrudes over the trailer – a minimum 1 metre clearance around the trailer platform is recommended; do not rest anything on the trailer that might obstruct the mist cannon's rotation.

If the machine sustains damage the equipment must be taken out of service and returned to the supplier.

The Super Mosquito's drawbar trailer is equipped with a 50mm ball coupling and supplementary break-away restraint – only connect to a vehicle with a corresponding coupling. The trailer is un-braked; when decoupling use wheel chocks and the trailer's stabilising legs to prevent the trailer from rolling. Keep trailer secured to towing vehicle by break-away restraint when disconnecting the tow ball coupling; remove the supplementary break-away restraint only when you are satisfied that the wheel chocks and/or stabilising legs have effectively secured the trailer.

4. **AFTER USE:** on completion of work disconnect machine from power and water supply and open drain valve (T) ; always clean off the outside of the machine before returning to supplier. Store in a frost-free environment when not in use. Make sure the trailer is left secure with wheel chocks / stabilising legs deployed so that it cannot roll.

5. **TECHNICAL DATA:**

Linear reach 25 metres (still air); treated arc of rotation user selectable to 0, 40, 120 and 360 degrees.
 Arc rate of travel 360 degrees in 50 seconds; vertical tilt range user selectable from - 10 degrees to +60 degrees.
 Water supply required: minimum 2 bar (& max 10 bar); water consumption 15 litres / minute (standard mist nozzles)
 Overall Dimension (LxWxH mm) 3150 x 1390 x 2500, weight 540 kg (inclusive trailer); standard 50mm ball coupling.
 Required Site Power: Voltage 110v, Single phase 50 Hz; Current Draw (Running) 22 amps @ 110v.
 Noise level dBA: 75-78 @ 10m, 63-67 @ 25m, 57-61 @ 50m [highest level at fan intake]

FOR MORE INFORMATION ABOUT OUR RANGE OF DUST SUPPRESSION, AIR FILTRATION AND VACUUM EQUIPMENT SEE OUR WEBSITE www.envirogard.co.uk OR CONTACT OUR DEPOTS

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