



## Technical Specification for Personnel Sanitization Unit (PSU)

Structure		
1.	Dimension	9.75(L) x 6.5(W) x 8.0(H)
2.	Structure	i) Modular structure continent to install at the site. ii) Powder coated Aluminum Structure iii) Side walls Bakelite Laminated Sheets iv) Laminated fiber sheet for roof. v) Green PVC Noodles Floor Mat vi) 04 Spot lights vii) Total weight of the Unit : 105 Kg
Misting System		
3.	Atomizers	i) MOC : SS 304/ Brass connectors with ceramic orifice ii) Droplet Size: 25±5 µm (Sauter Mean Diameter) iii) Quantity: 24Nos iv) Total Mist Discharge Rate: 1.0 LPM
4.	Atomizer Configuration	i) Three levels, along the length, at 2 feet, 5 feet and 7 feet from ground on both sides of the enclosure (12 atomizers on each side). ii) 4 nos of atomizers at each level with horizontal spacing of 1.95 feet
5.	Disinfectant Application Rate	Application Rate : 200 ± 20 ml/m <sup>2</sup> -min
6.	Pump	i) Working pressure: 50 bar ii) Flow Rate: 3.0LPM
7.	Tubing & Fittings	i) Tubing: Nylon suitable for 75 bar ii) Tee & Elbow: Brass iii) Sockets: Brass
8.	Tank	i) Capacity: 500 ltrs ii) MOC : PVC / FRP iii) Water Filter
9.	Electrical	i) Power Requirement : 750 watt or higher, single phase ii) Voltage : 220-240V iii) Frequency : 50Hz
10.	Operation	i) Auto Mode Sensor : Motion sensor

		Time of operation : 20 secs ii) Manual Mode : Continuous operation
11.	Salient Features	i) Rate of Sanitization: 180 personnel per hour. (for 20 sec exposure) ii) 360° area coverage.
12.	Cost	Rs 1,48,000/- per unit (excluding GST @18%) Installation & Commissioning extra. Transportation at actuals
13.	Applications:	Suitable for decontamination of personnel where large gathering is expected such as: i) Entry /Exit of the Hospitals ii) Entry /Exit Public spaces such as Malls, Airports, Metro stations, Railway stations, Bus Stations/ police station etc. iii) Entry /Exit of Isolation and quarantine centers iv) Entry /Exit of Residential areas where risk is high



## Functional Requirements – Personnel Sanitization Unit

SNo.	Parameter	Value
<b>Atomizer Characteristics</b>		
1.	Mist Droplet Sauter Mean Diameter ( $D_{32}$ )	25±5 $\mu\text{m}$
2.	Droplet Specific Surface Area	0.25±0.08 $\text{m}^2/\text{cc}$
3.	Liquid Flow Rate per Atomizer	50±20 ml/min
<b>System Characteristics</b>		
4.	Maximum Disinfectant Consumption Rate	60 liter/hour
5.	Maximum Working Pressure	70 bar
6.	Maximum Power Consumption	1000 watt

<b>Source of Supply:</b>	<b>M/s Scientific Components</b> (Contact Person - Mr Tariq Khan) B-663, 3rd Floor, MIG, DDA Flats, East of Loni Road, Delhi-110093 Mobile: 9811367597, 9810314779 Phone : 011-22815347 Fax : 011-22813632 Mail: Scientific_components@yahoo.co.in
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# STANDARD OPERATING PROCEDURE FOR PERSONNAL SANITIZATION UNIT

## Sequence of Actions

- 1) Check the disinfectant solution filled in the 500 ltr. tank.
- 2) Check walkway passage i.e entry of the PSU is clear and ensure there is no blockage.
- 3) Select the knob on automatic mode. Start the pump, push the switch in ON position and check the pressure at pressure gauge at the pump. The pressure in pressure gauge should always be  $50 \pm 10$  bar. If the needle in the pressure gauge is showing pressure less than 40 bar, adjust the pressure by pressure increase value and check the pressure in pressure gauge.
- 4) Check the mist discharge from every atomizer. In case few atomizers found chocked, clean the atomizer or replace the atomizer.
- 5) Now system is ready for use. The system will operate automatically as person enters the chamber. Pump will get signal for its operation from motion sensor.
- 6) Pump will operate for 20 secs, the person needs to stand inside the chamber for 20 secs to get sanitized from virus and bacteria.
- 7) The system will re-operate automatically for 20 secs for every time motion sensor detects entry into chamber.
- 8) In case of heavy foot fall like in crowded place, operate the system in manual mode by selecting the knob on control panel in manual position.
- 9) Check the level of disinfectant solution in the tank. Fill the tank in case level found low.
- 10) Close the system by selecting the knob on control panel in off position.



## **DISCLAIMER**

- 1) People should avoid direct looking at the atomizers as the water stream directed into the eye may give mild transient discomfort on rare occasion. No other complication is expected in healthy people.
- 2) Apparently sick / constantly coughing / imbalanced person and those suffering from psychiatric problem should be barred from using the facility.
- 3) User with active lung disease, pregnant ladies, diffidently able persons and users with user with skin disease can use the facility if physically feasible and medically permissible.
- 4) Children less than 8 years should be accompanied by an adult in the chamber.
- 5) The user will keep eyes shut and avoid breathing inside the chamber.

## **Trouble Shooting**

### **a. No mist generation at all**

- 1) Check disinfectant solution and fill the tank if the level is low.
- 2) Check outlet pressure of the pump and adjust as the recommended range  $50\pm 10$  bar
- 3) Check filter at the inlet side of the pump for clogging

### **b. No mist generation from few nozzles**

Regularly check the flow from nozzles and clean the nozzles as soon as the flow diminishes

### **c. Solution Pump not working**

Switch on the pump, check the pump outlet pressure, if no pressure

Switch off the pump followed by oil level check, fill the oil to the level required and switch on the pump again

In case the pump fails to start at all, contact supplier

### **d. Motion sensor not working**

Switch off the power and switch it on again.

In case the sensor fails to start at all, contact supplier