

## **SPECIFICATION FOR PERSONAL SANITISATION ENCLOSURE (PSE) (VVIP Version)**

### **Introduction**

The personal sanitization enclosure is designed to sanitise personnel, using mist of water and chemical solution. The person shall walk through the enclosure for getting sanitized by mist sprayed through a set of 20 nozzles fitted on the side walls and roof.

The Personnel Sanitization Enclosure will consist of a core of aluminum tubular structure & PUF as core and aluminum sheet on both sides as skin. It will be equipped with mist spraying nozzles suitably located and connected to pumps (one operating and one standby) through plumbing. Chemical solution will be stored in two tanks i.e. one overhead and one nearby. Overhead tank to be connected to nearby tank through feed pump. The system should be capable for providing sanitization @approx. 80-100 personnel per hour.

### **Configuration of PSE**

#### **Enclosure:**

The overall Internal dimensions of enclosure should be approx. 8' (L) x 4' (W) x 8' (H). It should be a tunnel structure constructed using aluminum tubular structure & PUF as Core and Aluminum sheet on both sides as skin. The floor of tunnel will be provided with anti-skid Aluminum chequered Plate. The enclosure should be provided with see through windows on both side walls. Special purpose spring loaded foldable steps should be provided on the left side wall of the PSE to climb upon.

A waste watertray will be provided to collect waste below the floor. Waste water will be disposed -off by means of flexible pipe connected to drain nozzles provided in the tray.

#### **Mist Spray System:**

Mist spray system shall consists of a pump, SS pipe line and special purpose mist spraying nozzles (20 Nos). Four nozzles will be provided on roof and 8 nos on side walls either side of door. The Chemical solution tank will be mounted on the roof of PSE and connected to a feed tank with 20 m long flexible pipe through a feed-pump to fill the chemical tank as per requirement. An additional mist pump will also be integrated to provide an online redundancy.

**Electrical:**

The operation of the PSE will be done through a central electrical control panel provided at the right side wall near entry. It will be provided with Power on and off and sanitizer spray on and off switches. Two LED lights to be provided on roof.

One Foot-operated START Pedal to be provided at the Entry of the PSE and one Foot operated STOP-Pedal to be provided at the Exit. The spray mist should start with the press of foot pedal provided at the entrance of PSE and continues for 20-25 sec approximately and then should stop automatically. A timer circuit should be provided in the central electrical panel for the same.

Sockets to connect feed Pump are also provided at right hand side wall.

**Miscellaneous :-**

The overhead tank mounted on the roof of the PSE should be encompassed in an enclosure. The mist pumps and feed pumps should also be covered with a rigid enclosure. Lifting hooks should be provided on roof to lift the PSE.

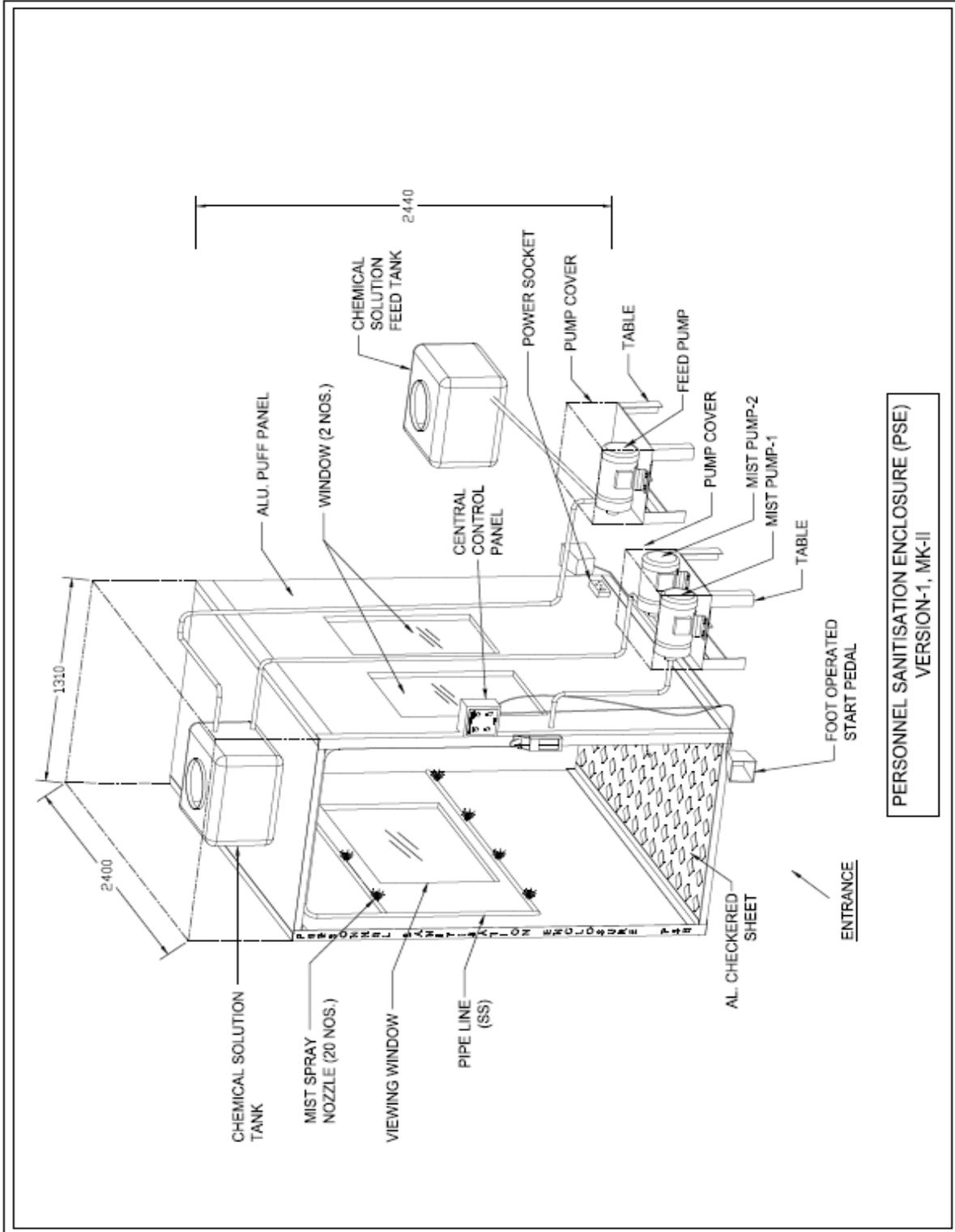
Following are enclosed:

- a) Specification of the system - Annexure -1
- b) General arrangement Drawing - Annexure -2
- c) Electrical line diagram - Annexure -3
- d) Electrical control panel drawing - Annexure -4
- e) Plumbing line diagram - Annexure -5
- f) Essential requirements of system - Annexure -6

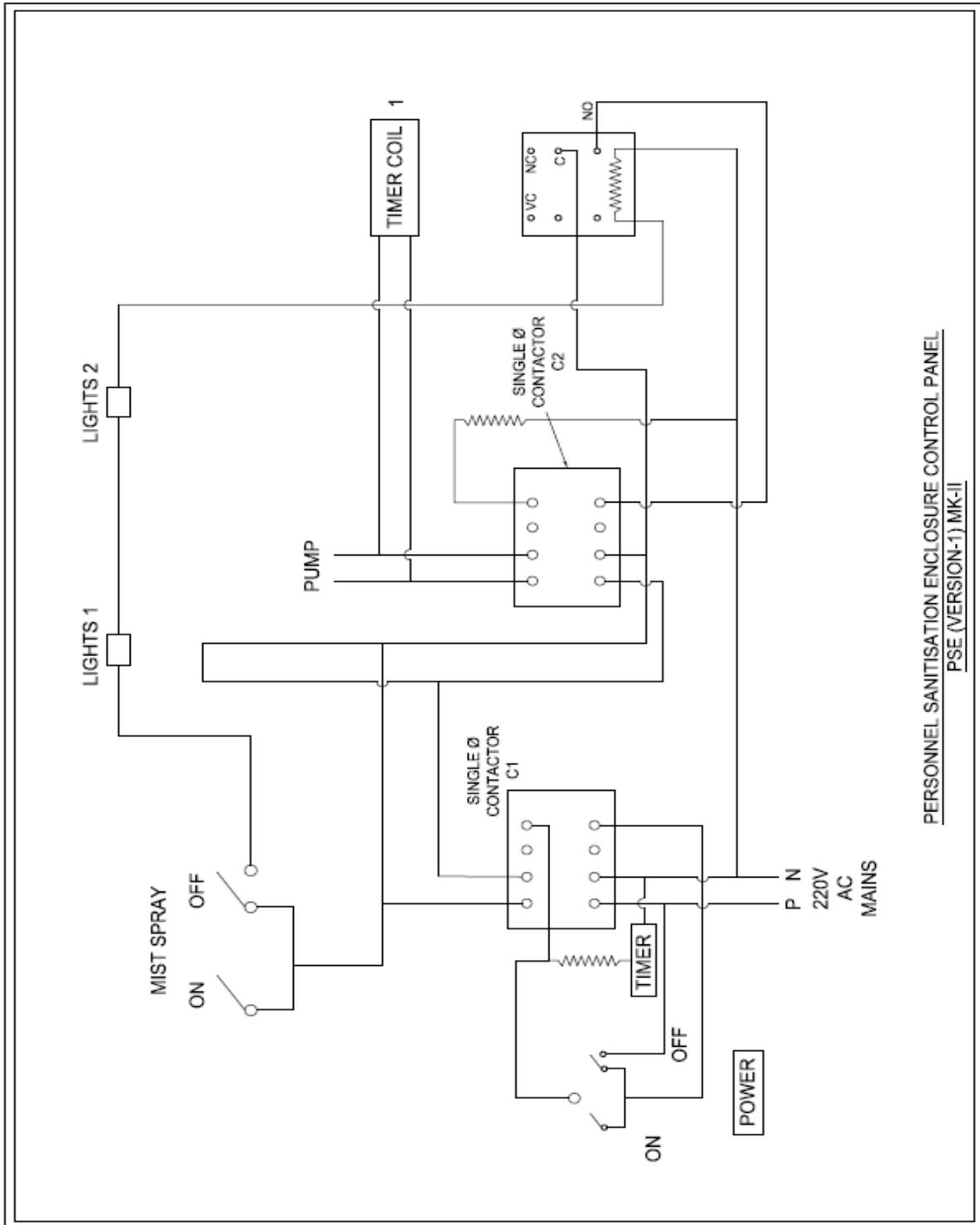
Specification of the system

<u>Tunnel structure</u>		
1.	Dimensions	2400 mm (L) x 1310 mm (W) x 2440 mm (H)
2.	Structure	Core of framework fabricated with aluminium box section of 42 x 25 x 2 mm and PUF and 1.5 thick aluminium sheet on both sides as skin.
3.	Flooring	Anti-skid aluminium chequered plate 3 mm thick.
<u>Mist spraying system</u>		
4.	Mist Nozzles	<ul style="list-style-type: none"><li>• 20 Nos special type Mist spray Nozzles</li><li>• Nozzle size: 0.2 /0.3 mm</li></ul>
5.	Chemical Solution Mist Spray Pump	<ul style="list-style-type: none"><li>• 2200 watt working pressure 110-200 bar, 6.5 LPM/ 2000 watt working pressure 110-150 bar, 6.5 LPM/ Equivalent as available ex-trade to meet bulk requirement.</li><li>• Two numbers of pumps provided out of which one is operating and another one as redundant.</li></ul>
6.	Fittings, pipeline etc	<ul style="list-style-type: none"><li>• 3/8" SS pipeline with welded SS sockets for mounting of Nozzles</li><li>• Standard fittings.</li></ul>
7	Storage tank	200Ltrs-1 No. and 500Ltrs-1 No. , as commercially available.
8.	Drainage	Through tray provided below the floor panel.
9.	Feed pump	0.5/1.0 HP commercially available pump to feed the chemical from feed tank to overhead tank.
9.	Electrical	<ul style="list-style-type: none"><li>• Central Control Panel with mains ON/OFF and sanitization spray ON/OFF.</li><li>• Foot operated start panel at entry, as commercially available.</li><li>• Foot operated stop panel at exit, as commercially available.</li><li>• Adjustable timer for spray operation (20-25 secs).</li><li>• Two Lights within enclosure (as commercially available).</li></ul>

10	Windows	Both side walls
11	Electrical circuit and plumbing line diagram	Enclosed at annexure -3,4,5
12	Painting	As required
13	Cover for Tank	Fabricated with aluminium sections covered by 3mm thick Aluminium Composite Panel (ACP) sheet.
14	Cover for pump	Fabricated with aluminium sections covered by 3mm thick Aluminium Composite Panel (ACP) sheet.



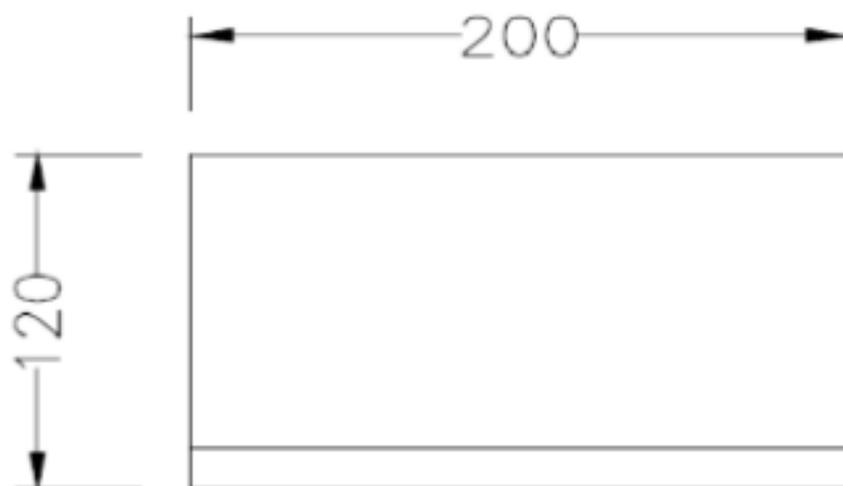
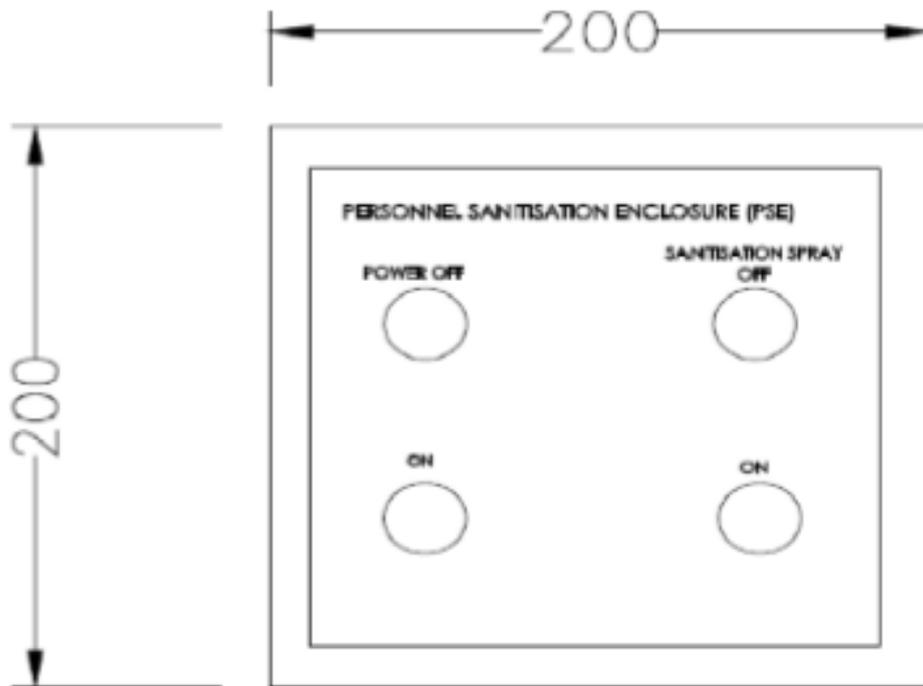
**General Arrangement Drawing**



PERSONNEL SANITISATION ENCLOSURE CONTROL PANEL  
PSE (VERSION-1) MK-II

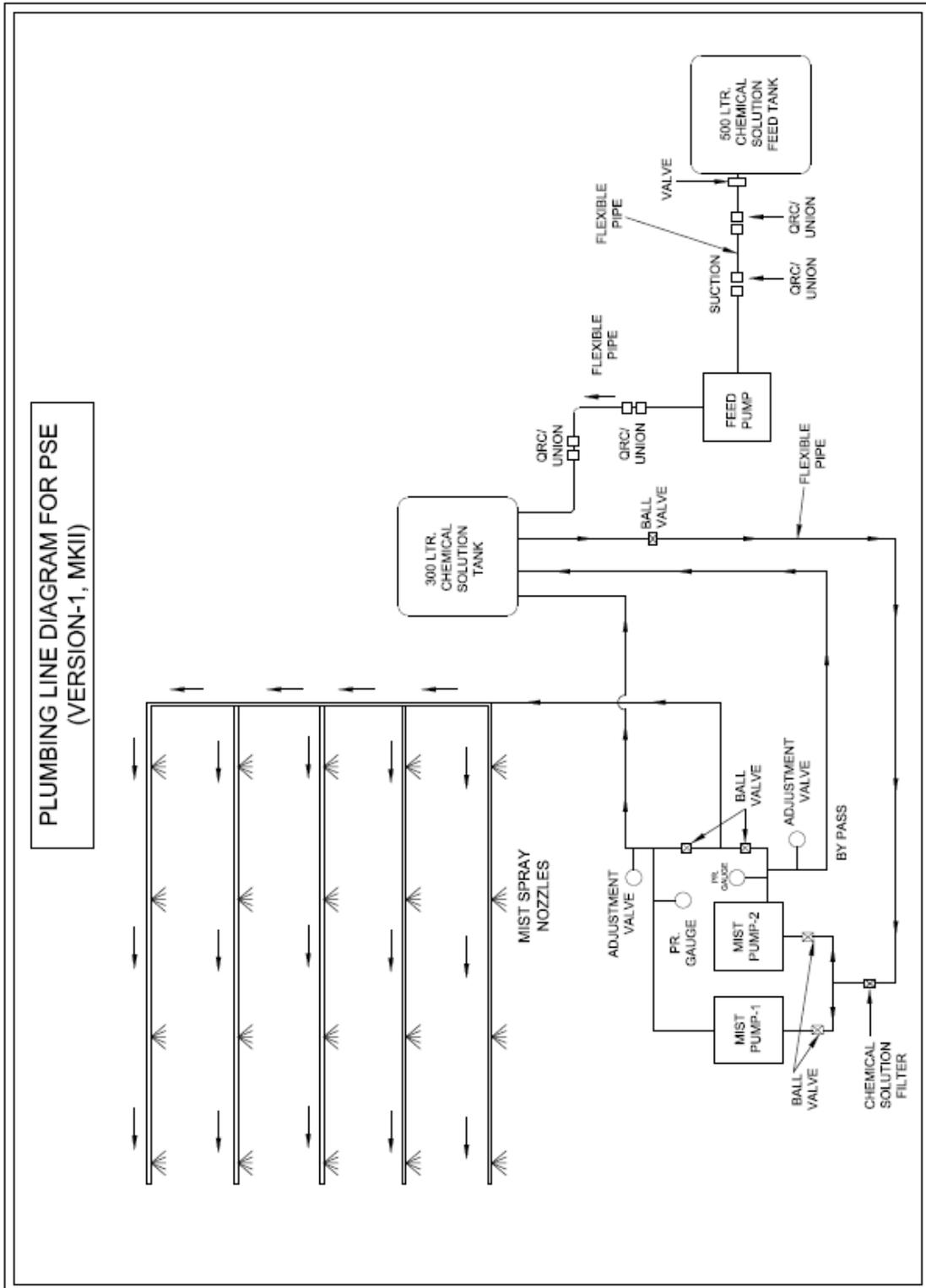
Electrical Line Diagram

Annexure -4



Electrical control panel

Annexure -5



## Plumbing Line Diagram

### Annexure -6

#### Essential requirements to be fulfilled:

- The structure should be rigid enough to sustain environmental loads i.e. high wind speeds (>50 m/s or As per IS 875 pt 3) to sustain thunderstorms likely in current and upcoming weather.
- System should be non corrosive with ACP cladding on outer side.
- Should have no inflammable material inside PSE.
- Signage with DRDO Logo etc.
- Should be provided with sanitizer holder
- Simultaneously tunnel with mist system should be light weight (Weight<250 Kgs) to enable 04 persons to relocate it.
- The system should have proper grouting scheme for long term usage.
- The covering medium should seal the structure properly and there should not be any leakages from inside to outside and vice versa.
- The drainage storage and disposal is essential to avoid any spillage and mud puddles around.
- The system should have redundancy of pumping system to enhance reliability for fail safe operation.
- Spare nozzles (05 nos per system) should be provided.
- The system should have endurance up to 12 hrs of continuous operation with rest of 10 mins every 03 hrs to cater for high foot fall area like hospitals, markets, public offices etc.
- The whole system should be operable without touching by hands.
- Should be provided with rain roof including IP 65 protected electrical panel
- Should be provided with 02 see through windows on side walls.
- Plumbing and electrical lines should be carried out as per industrial standards and should be properly routed.

- The industrial setup should be established for quick development of numbers, their deployment and product support.
- Separate personal enclosure for Operator





**PERSONNEL SANITISATION ENCLOSURE (PSE)**

**VERSION-1**

