

SPECIFICATION FOR PERSONAL SANITISATION ENCLOSURE (PSE) (GENERAL PURPOSE)

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 personal sanitization enclosure consists of tunnel frame structure covered with aluminum composite panel (ACP) sheet. The system is equipped with a suitable mist generation pump, plumbing and nozzles and a tank for chemical solution. The system is capable for providing sanitization at the rate of approx 80-100 personal per hour.

In addition a spare pump to be provided separately as redundancy.

Configuration of PSE

Enclosure:

The overall internal dimension of enclosure will be approx 8ft(L)x4ft(w) x 8 ft(H). The enclosure will be tunnel structure fabricated using standard 25x25x2 square channels and covered with ACP sheets. The tunnel floor to be provided with anti-skid aluminum chequered sheet. A drain tray should be provided at the bottom to collect waste water, which will be drained out by flexible pipe.

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 to be kept near the PSE. The solution in a predefined combination of water and chemical will be specified by DRDO. Source of this chemical shall be provided to enable the repeated sourcing of the chemical.

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.

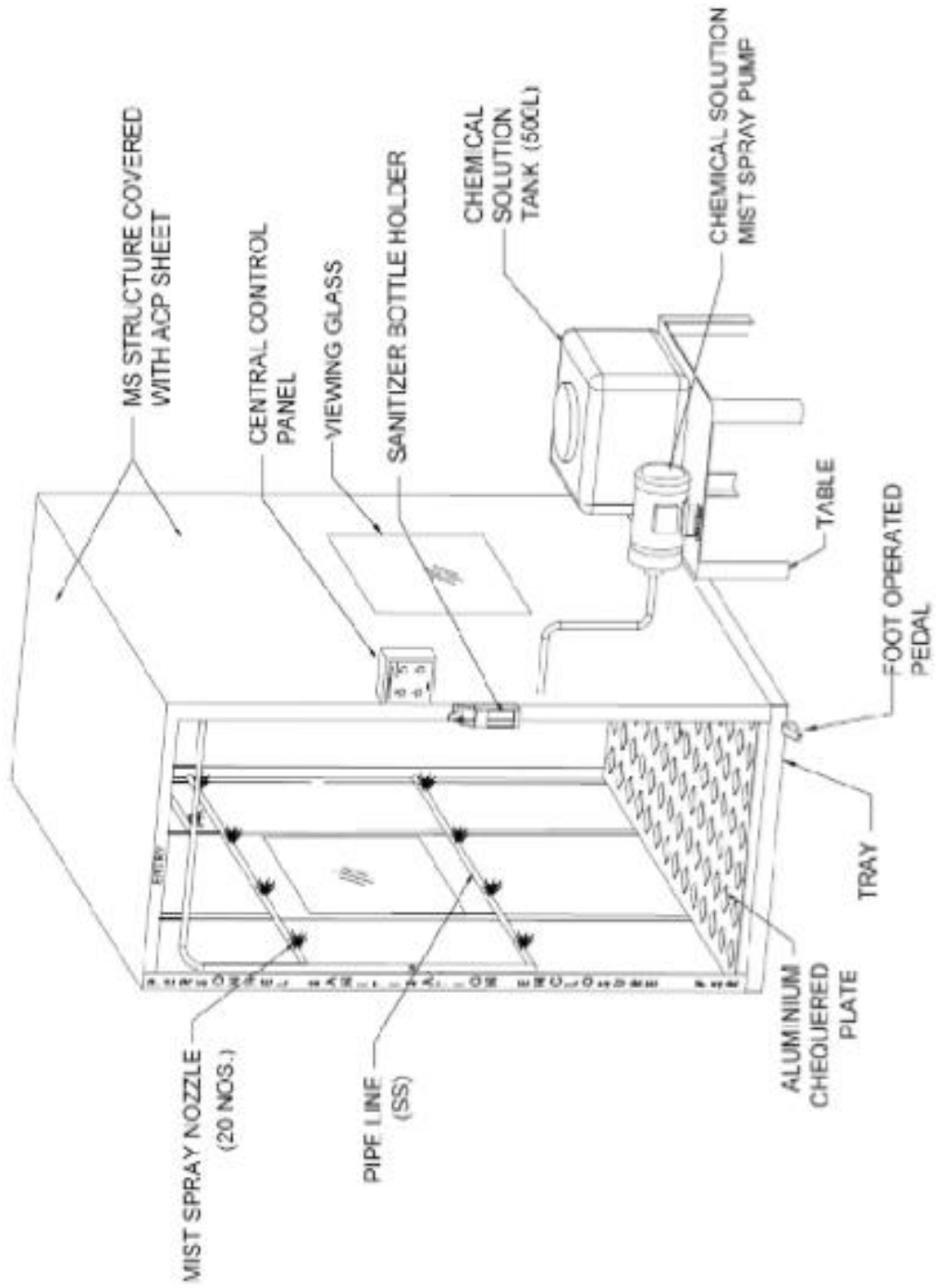
The spray mist should start with the press of foot pedal provided at the entrance of PSE and continues for 20-25 sec approximately and then should stop automatically. A timer circuit should be provided in the central electrical panel for the same.

Following are enclosed:

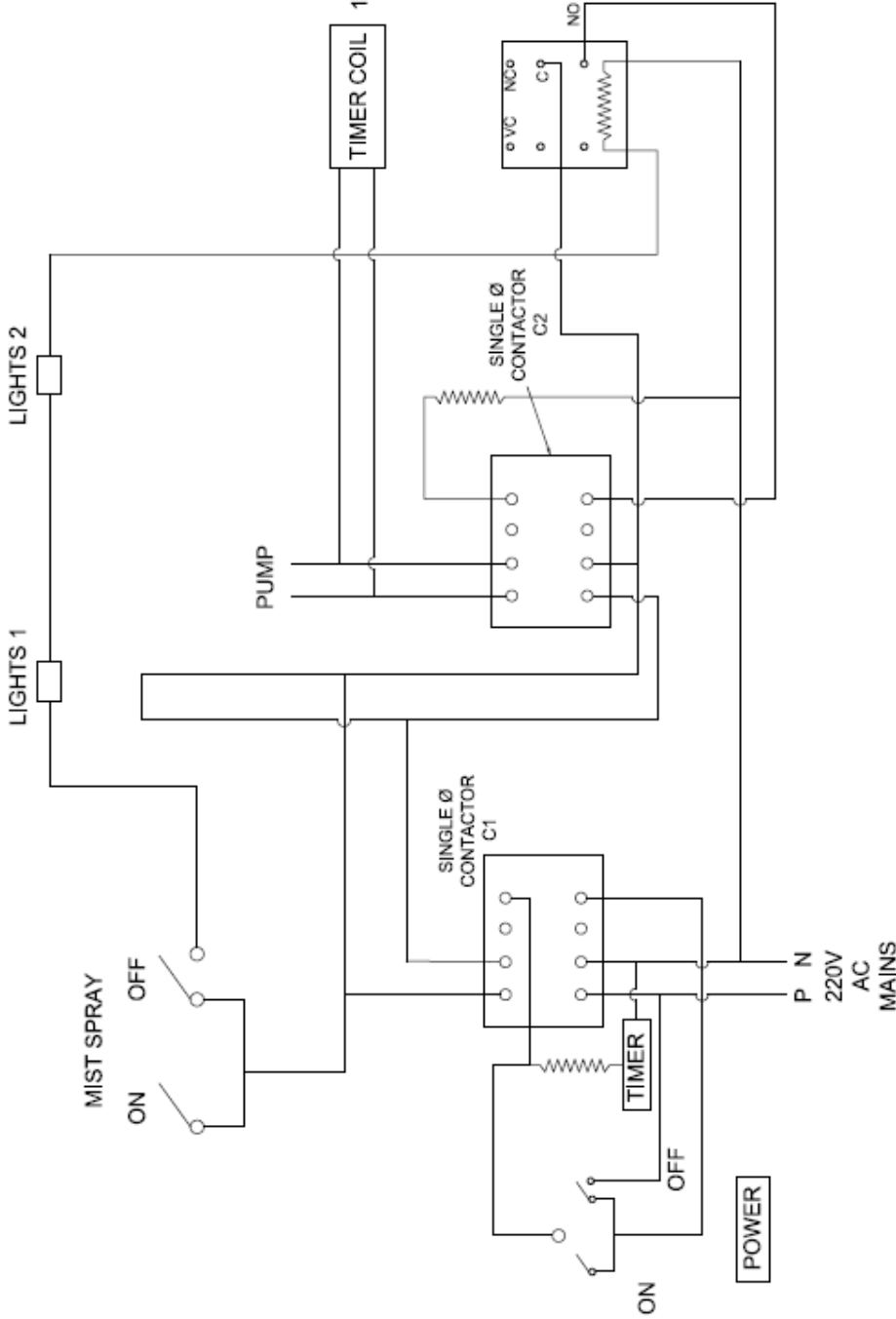
- a) Specification of the system - Annexure -1
- b) General arrangement Drawing - Annexure -2
- c) Electrical line diagram - Annexure -3
- d) Electrical control panel drawing - Annexure -4
- e) Plumbing line diagram - Annexure -5
- f) Essential requirements of system - Annexure -6

Specification of the system

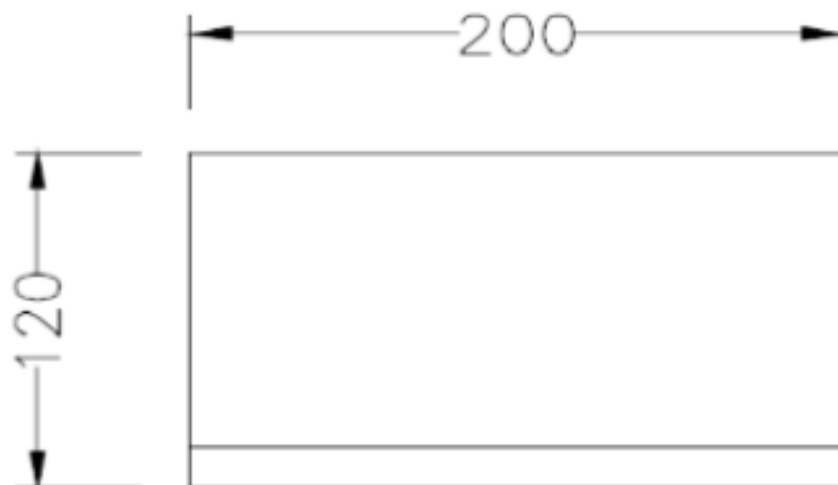
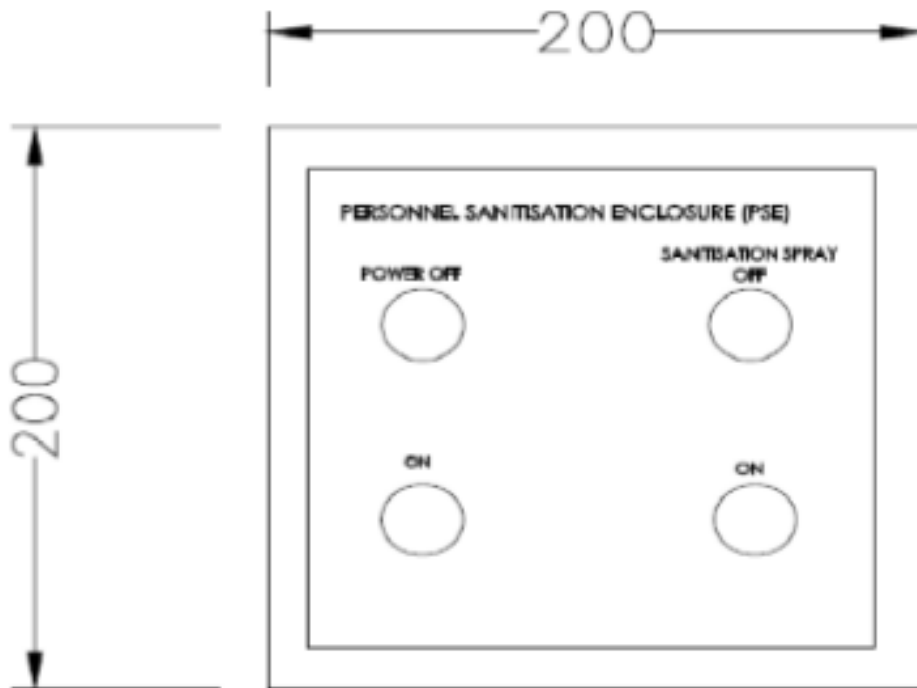
<u>Tunnel structure</u>		
1.	Dimensions	2400 mm (L) x 1200 mm (W) x 2440 mm (H)
2.	Structure	<ul style="list-style-type: none">• Fabricated frame work specially designed to sustain transportation and environmental loads.• Frame structure made up of MS box section 25 x 25 x2 mm• Covered with 3 mm aluminum composite panel (ACP) with sealed corners• The ACP sheets will be screwed to tunnel structure.
3.	Flooring	Anti-skid aluminium chequered plate 3 mm thick.
<u>Mist spraying system</u>		
4.	Mist Nozzles	<ul style="list-style-type: none">• 20 Nos special type Mist spray Nozzles• Nozzle size: 0.2 /0.3 mm
5.	Chemical Solution Mist Spray Pump	<ul style="list-style-type: none">• 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.• Two numbers of pumps provided out of which one is operating and another one as redundant.
6.	Fittings, pipeline etc	<ul style="list-style-type: none">• 3/8" SS pipeline with welded SS sockets for mounting of Nozzles and Standard fittings.
7.	Storage tank	<ul style="list-style-type: none">• 500 ltr commercially available
8.	Drainage	Through tray provided below the floor panel.
9.	Electrical	<ul style="list-style-type: none">• Central control panel with foot operated mains on/off and sanitisation spray on/off• Foot operated start pedal at entry as commercially available• Adjustable timer for spray operation (20-25 secs)• Lights within enclosure -2 nos
10.	Windows	Both side walls
11.	Electrical circuit and plumbing line diagram	Enclosed at annexure -3,4,5
12.	Painting	As required



General Arrangement Drawing

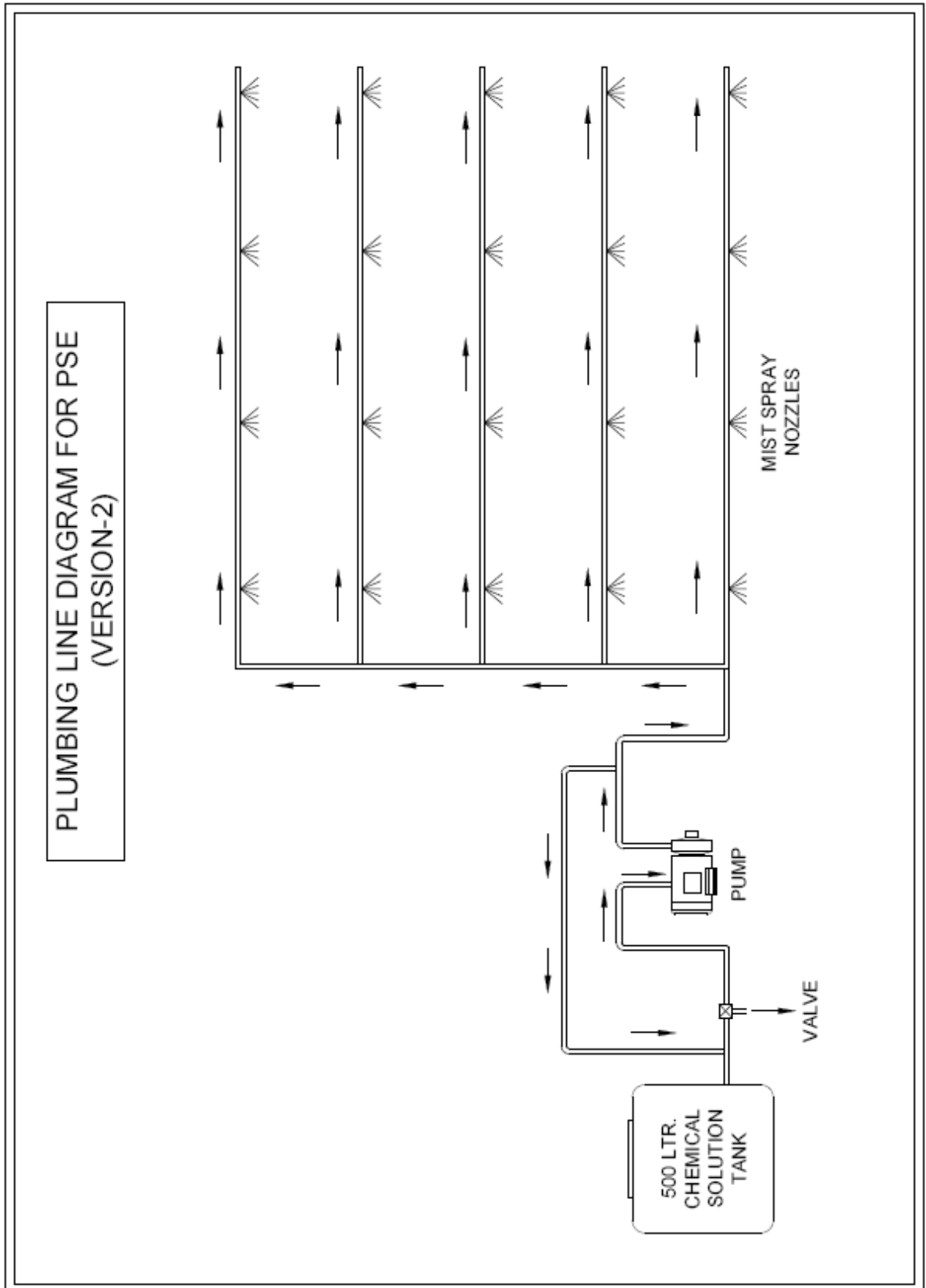


Electrical Line Diagram



Electrical control panel

Annexure -5



PLUMBING LINE DIAGRAM FOR PSE
(VERSION-2)

Plumbing Line Diagram

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 brest 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.





V.R.D.E

ENTRY

P
E
R
S
O
N
N
E
L

S
A
N
I
T
I
S
A
T
I
O
N

E
N
C
L
O
S
U
R
E

P
E
R
S
O
N
N
E
L

S
A
N
I
T
I
S
A
T
I
O
N

E
N
C
L
O
S
U
R
E

