

Mobile Disinfection & Sterilizer Chamber (MDSC-COVID-19)

Covid-19 mobile disinfection chamber appears in Bangladesh

UTL have created mobile disinfection chambers to serve people working in areas affected by Covid-19. The body sterilization chamber using ion salt water

The cabin works automatically with green light turning on to let the user step into the cabin and undergoes a disinfection period twice within 15 minutes. The antiseptic solution of salt ions can help avoid skin irritation and sterilize the user's nose and throat during inhalation without causing breathing difficulty.



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Mobile Disinfection & Sterilizer Chamber (MDSC-COVID-19)

Currently, the Institute has installed and deployed a mobile disinfection chamber system in medical examination and crowded areas to ensure safety and limit the spread of dangerous pathogens, especially in the situation of COVID-19 epidemic. complicated.

It is known that it only takes **15 - 20 seconds** to 'clean' a person's body before entering the clinic area. In addition, the system is designed as a module so it can be easily removable and transported. A complete installation system can meet the capacity of disinfection up to 1,000 people / day.



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Mobile Disinfection & Sterilizer Chamber (MDSC-COVID-19)

The system consists of two chambers. One sprays electrolyzed water in the form of droplets and the other directs heat and ozone onto the body of the person. Produced by electrolyzing ordinary tap water containing dissolved sodium chloride, it can even clean the respiratory system

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<https://www.sciencedirect.com/topics/engineering/sterilization-chamber>



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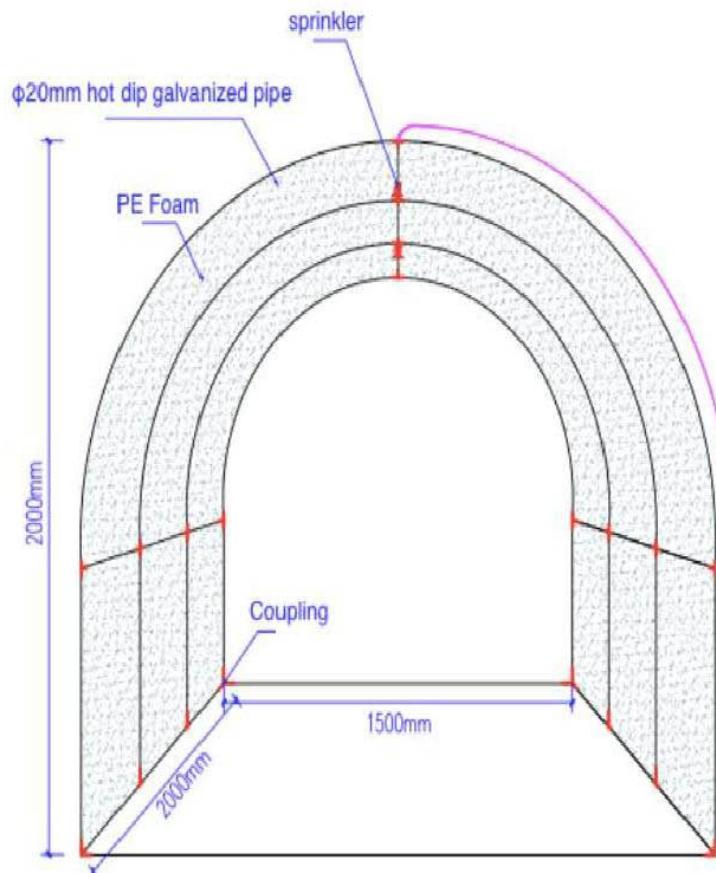
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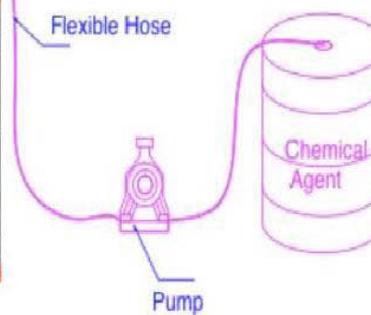
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Solution A

Simple Disinfection Tunnel



Front View



Side View



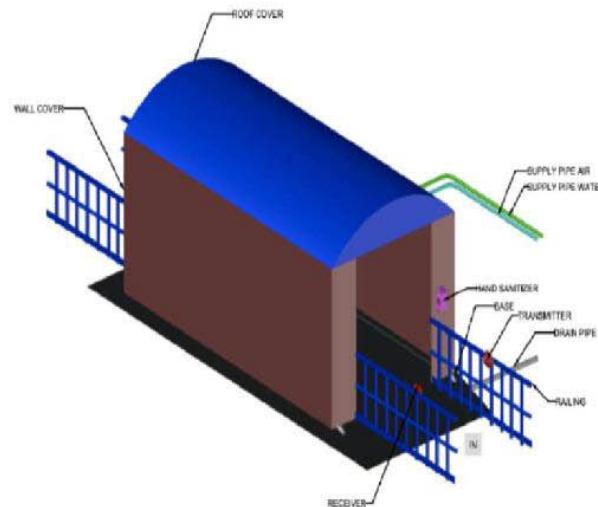
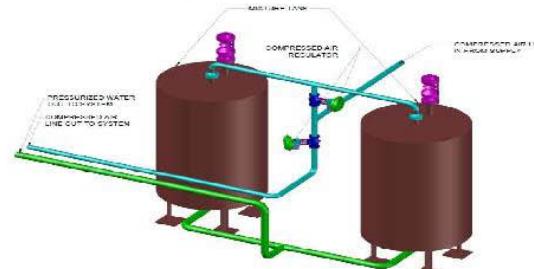
Note

1. Channel Size highly customized
2. Suggested total 6 sprinklers to be equipped. Quantity subjected to change as per detailed requirement & budget.
3. Disinfection Agent: EOW (electrolyzed-oxidizing water), human safe, environment friendly

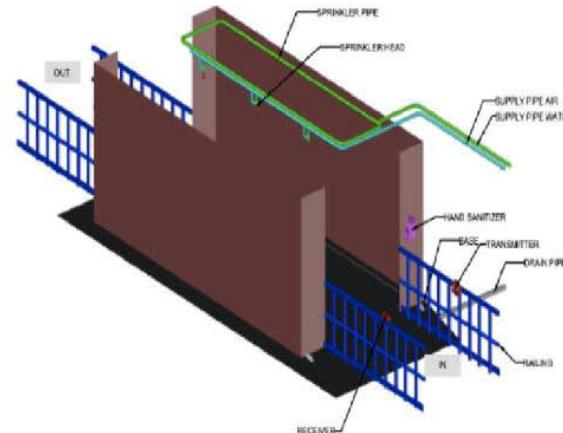
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Solution B

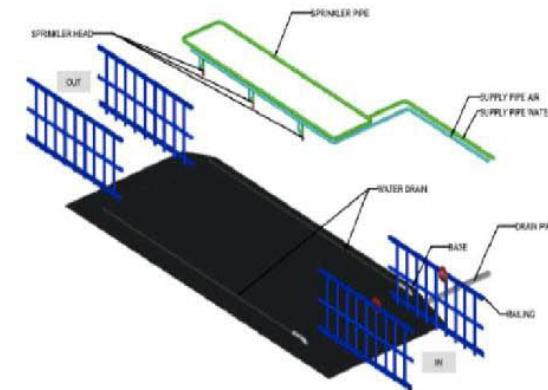
Disinfection Chamber



overview



piping perspective view 1



piping perspective view 2

Note

1. Channel Size highly customized
2. Suggested total 3 sprinklers to be equipped. Quantity subjected to change as per detailed requirement & budget.
3. Disinfection Agent: EOW (electrolyzed-oxidizing water), human safe, environment friendly

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Solution C

Intensive Disinfection Gate



Note

1. Tunnel Size highly customized
2. Suggested total 6 sprinklers to be equipped. Quantity subjected to change as per detailed requirement & budget.
3. Disinfection Agent: EOW (electrolyzed-oxidizing water), human safe, environment friendly

- infrared detectors (auto start-up)
- intensive sprinkler for Min. 20s duration
 - human and vehicle disinfection systems
 - hygiene tunnels
 - disinfection modules for hands and feet
 - brush disinfection units
 - virus cleaning
 - cleaning
 - disinfection
 - human cleaning
 - personal cleaning
 - clean area
 - disinfected area
 - and more

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Vehicle Disinfection

Mobile Disinfection & Sterilizer Chamber (MDSC-COVID-19)

Temporary COVID 19 Test & Disinfection Tent with Negative Pressure Management



Mobile Disinfection & Sterilizer Chamber (MDSC-COVID-19)



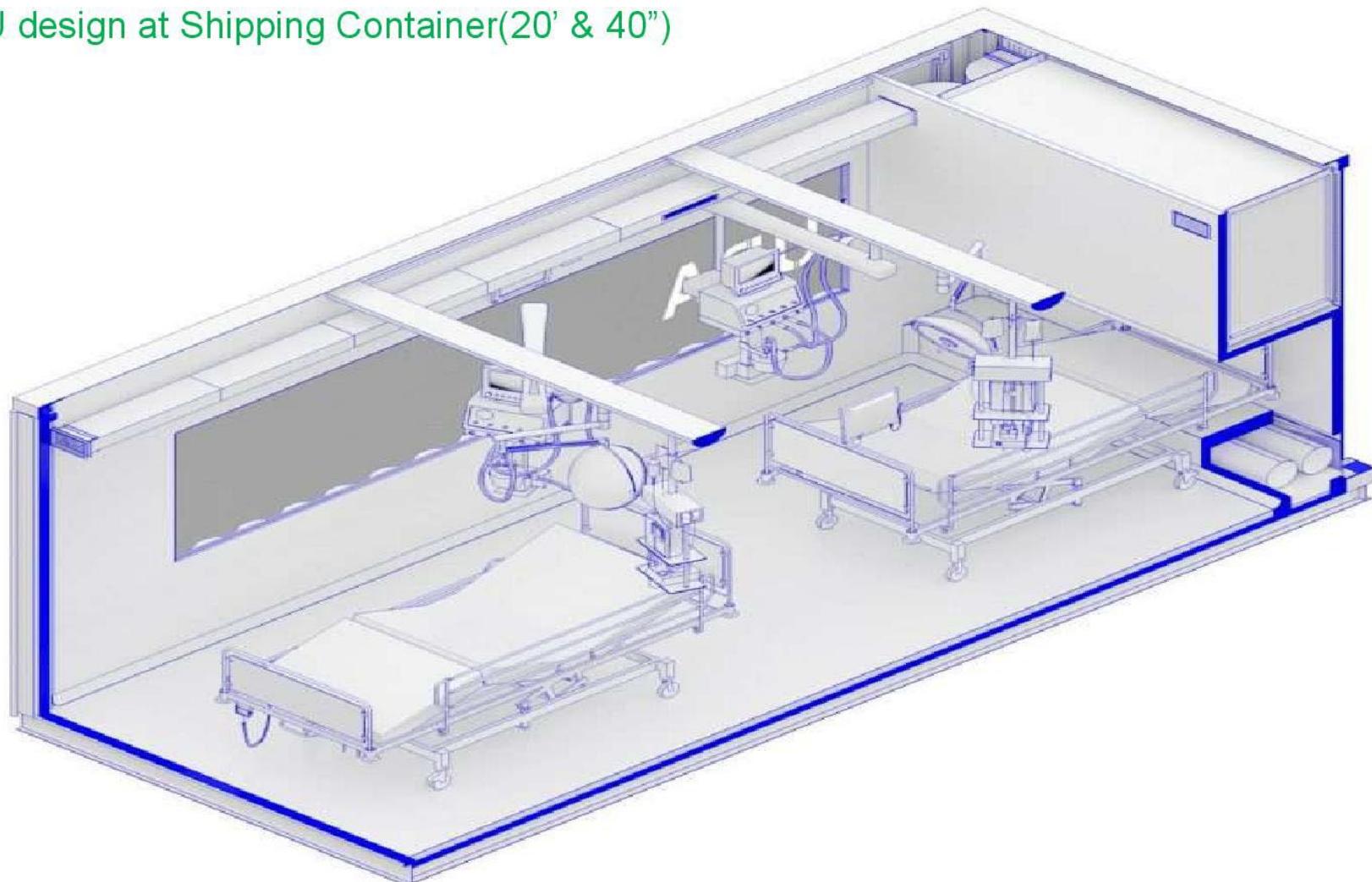
Negative Pressure
Maintain Tent for
COVID 19 Testing
and Disinfection
Chambers



Mobile Disinfection & Sterilizer Chamber (MDSC-COVID-19)

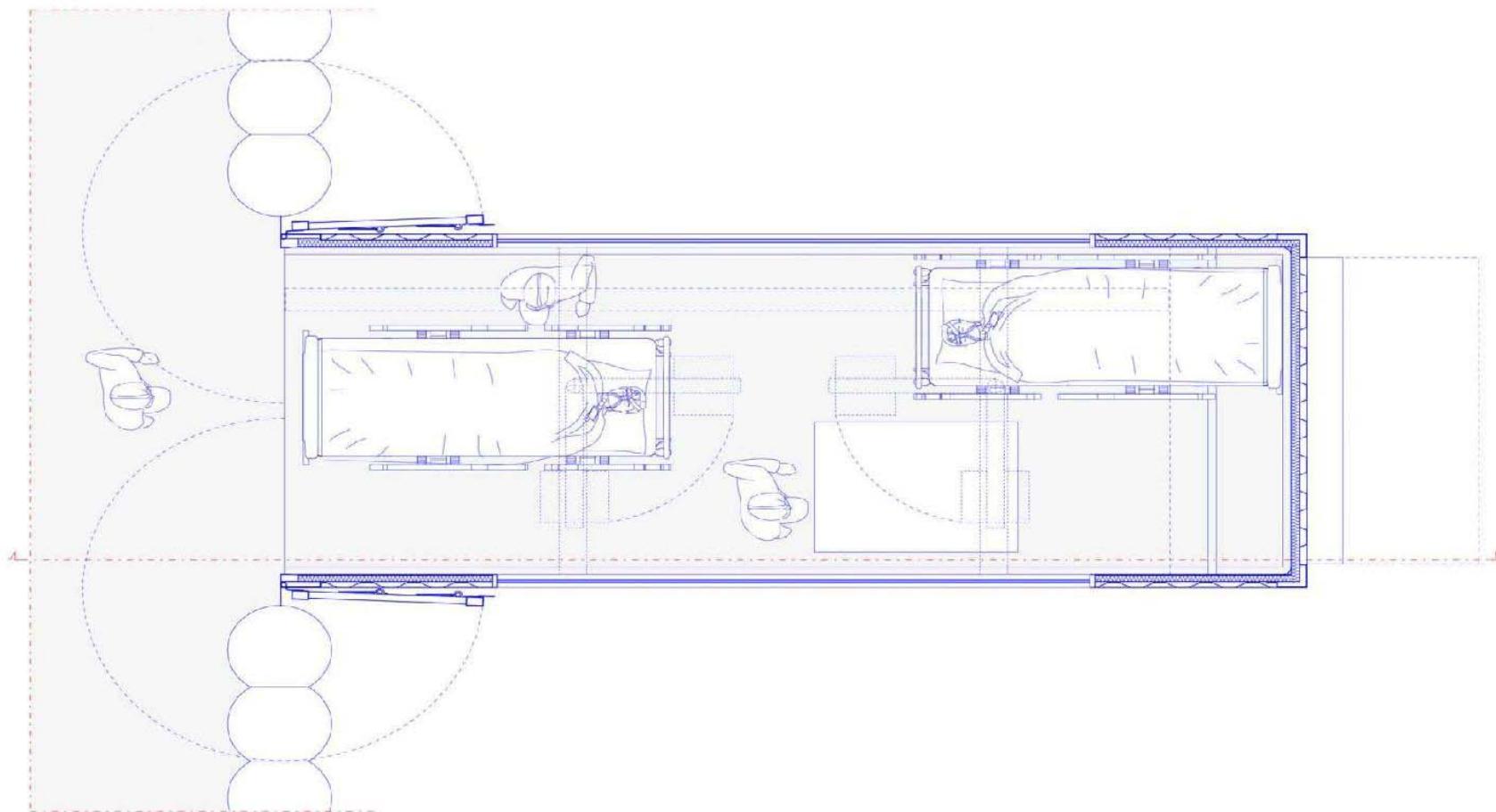
Temporary COVID 19 Test & Disinfection Tent with Negative Pressure Management

ICU design at Shipping Container(20' & 40")



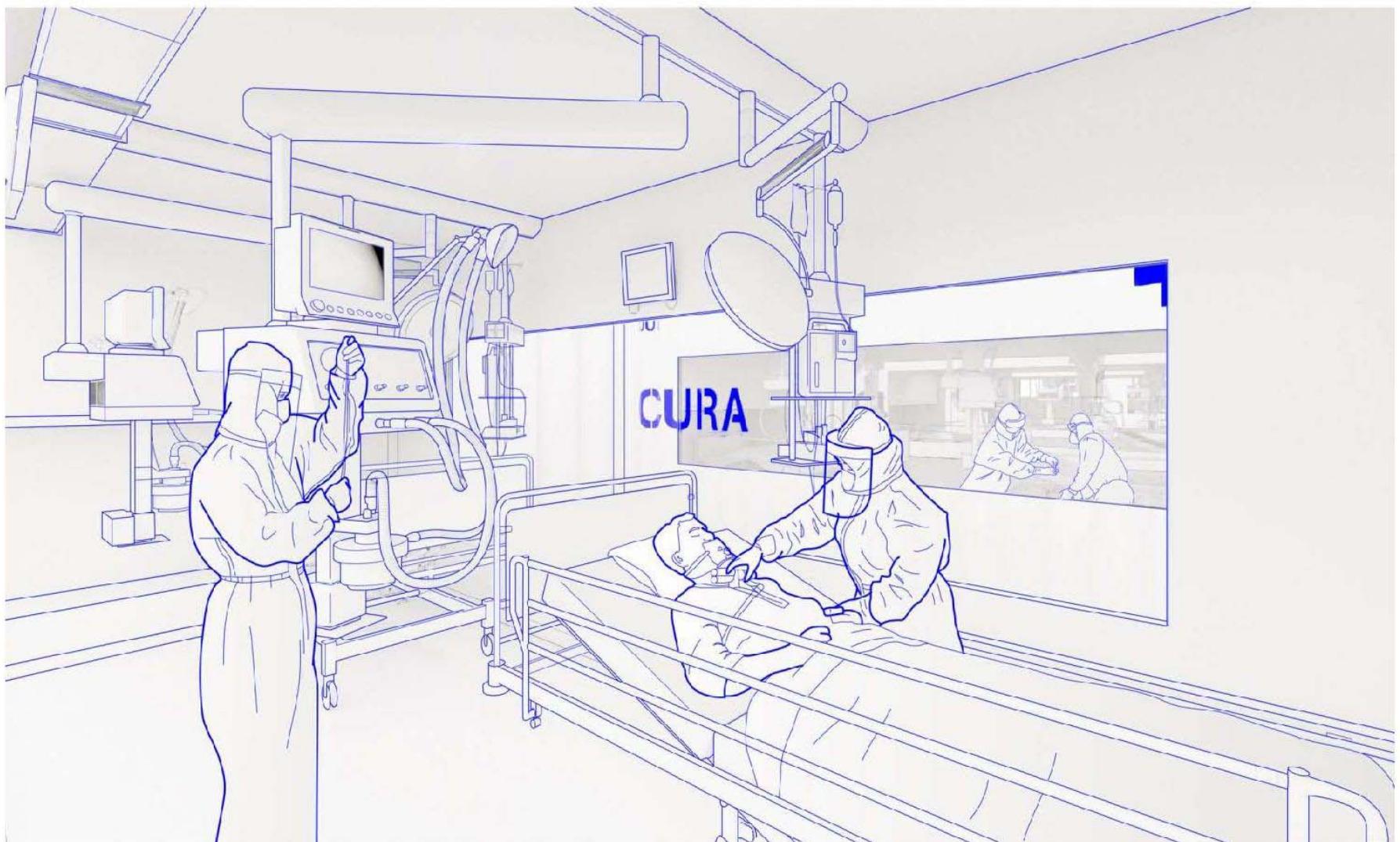
Mobile Disinfection & Sterilizer Chamber (MDSC-COVID-19)

Temporary COVID 19 Test & Disinfection Tent with Negative Pressure Management



Mobile Disinfection & Sterilizer Chamber (MDSC-COVID-19)

ICU design at Shipping Container(20' & 40")



Mobile Disinfection & Sterilizer Chamber (MDSC-COVID-19)



Different Type
Sanitizer mixing
machine/Compressor/
Pump sets

The Pursuit of Excellence

SATEJ 01™

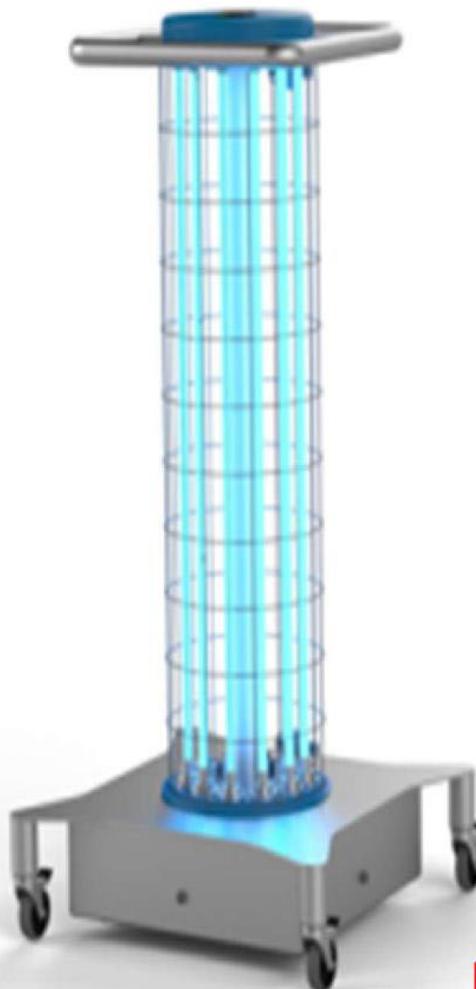
Automated air borne disinfection device for surfaces and environment.

Enables process of disinfection which enhances standard bio cleaning process.

www.radiantinnovations.in



Mobile Disinfection & Sterilizer Chamber (MDSC-COVID-19)



The UV-C tower is a mobile device for flexible use for air and surface disinfection.

The device was developed as a supplement to standard cleaning in rooms where no personnel are present.

Applications

- Medical surfaces
- Ceilings
- Walls
- Electronic equipment
- Mattress covers
- Tables/chairs/cabinets
- Food production

Room Disinfection with UV-C

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Mobile Disinfection & Sterilizer Chamber Equipment's List:

- Tent/Enclosure (Size depend on how many people at a time used)
- Spray Nozzle-Sprinkler Type(2-3 USGPM Capacity)
- Vertical Spray pipe (orifice dia 2-3mm dia)-actual depend on sanitizer materials
- Mixing machine/Compressor (air/water to sanitizer)
- Distribution Pipe (cPVC/uPVC/MS /SS)
- Valves (Manual operated)
- Valves (Automatic 24VDC operated –Optional)
- Occupancy Sensor /PIR Sensor
- Timer (20-30 second counter)
- Visual notifier – Light /Strobe (220VAC or 24VDC operated)
- Electrical Control Unit -ECU
- Hand Nozzle
- Sanitizer Tank/Container /Vessel
- Waste Sanitizer collection PIT /Drain/Reservoir

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Sterilizer Agents

- (a) Bleaching power (need proper mixing as per WHO guided)**
- (b) Hydrogen Per Oxide (As per EPA/WHO guided)**
- (c) Alcohol Base (Proper mixing guide required)**
- (d) UV Light (Specific time and wave length)**
- (e) Soap Water (Need proper proportion)**
- (f) Salt Ion water (Need ionization Electrolyte circuit)**
- (g) Proper Electrical panel with HMI panel (With software)**



H2O2: <https://www.sciencedirect.com/topics/engineering/sterilization-chamber>

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Sanitizer Properties: Option 01

<https://www.cdc.gov/disasters/bleach.html>

The product contains the following substances Chemical Name	CAS-No	EINECS-No	Wt/Vol %	Symbols
Water	7732-18-5	231-791-2	99.7– 99.8	H ₂ O
Sodium chloride	7647-14-5	231-598-3	0.1– 0.2	NaCl
Hypochlorous acid	7790-92-3	232-232-5	0.01 – 0.02	HOCl
Sodium chlorate	7775-09-9	231-791-2	0.002	NaClO ₃

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Sanitizer Properties-Bleaching Mixture: Option 02

<https://www.cdc.gov/healthywater/emergency/cleaning-sanitizing/household-cleaning-sanitizing.html>

Area or Item to be Cleaned	Bleach Amount	Water Amount	Cleaning Steps
Mold growth on hard surfaces [Examples: floors, stoves, sinks, certain toys, countertops, flatware, plates, and tools]	1 cup (8 ounces)	1 gallon	<ol style="list-style-type: none"> 1. Mix 1 cup (8 ounces) of bleach in 1 gallon of water. 2. Wash surfaces with the bleach mixture. 3. If surfaces are rough, scrub them with a stiff brush. 4. Rinse surfaces with clean water. 5. Allow to air dry.



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Sanitizer Properties-Alcohol Base: Option 03

PART A: GUIDE TO LOCAL PRODUCTION

Part A is intended to guide a local producer in the actual preparation of the formulation.

<https://www.who.int/gpsc/5may>

Materials required (small volume production)

REAGENTS FOR FORMULATION 1:	REAGENTS FOR FORMULATION 2:
<ul style="list-style-type: none"> • Ethanol 96% • Hydrogen peroxide 3% • Glycerol 98% • Sterile distilled or boiled cold water 	<ul style="list-style-type: none"> • Isopropyl alcohol 99.8% • Hydrogen peroxide 3% • Glycerol 98% • Sterile distilled or boiled cold water

- 10-litre glass or plastic bottles with screw-threaded caps
- 50-litre plastic tanks (preferably in polypropylene or polyethylene, translucent so as to see the liquid level)
- Stainless steel tanks with a capacity of 80–100 litre (for mixing without overflowing) ([3](#), [4](#))
- Wooden, plastic or metal paddles for mixing ([5](#))
- Measuring cylinders and measuring jugs ([6](#), [7](#))
- Plastic or metal funnel
- 100 ml plastic bottles with leak-proof tops ([8](#))
- 500 ml glass or plastic bottles with screw tops ([8](#))

Final products

FORMULATION 1	FORMULATION 2
Final concentrations: <ul style="list-style-type: none"> • Ethanol 80% (v/v), • Glycerol 1.45% (v/v), • Hydrogen peroxide 0.125% (v/v) 	Final concentrations: <ul style="list-style-type: none"> • Isopropyl alcohol 75% (v/v), • Glycerol 1.45% (v/v), • Hydrogen peroxide 0.125% (v/v)

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Sanitizer Properties-Others: Option 04

Guidelines for Preparation of 1% sodium hypochlorite solution

Product	Available chlorine	1 percent
Sodium hypochlorite – liquid bleach	3.5%	1 part bleach to 2.5 parts water
Sodium hypochlorite – liquid	5%	1 part bleach to 4 parts water
NaDCC (sodium dichloro-isocyanurate) powder	60%	17 grams to 1 litre water
NaDCC (1.5 g/ tablet) – tablets	60%	11 tablets to 1 litre water
Chloramine – powder	25%	80 g to 1 litre water
Bleaching powder	70%	7g g to 1 litre water
Any other	As per manufacturer's Instructions	

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Sanitizer Properties-H₂O₂: Option 04

Can I use hydrogen peroxide?

Hydrogen peroxide is typically sold in concentrations of about 3%. It can be used as is, or diluted to 0.5% concentration for effective use against coronaviruses on surfaces. It should be left on surfaces for one minute before wiping.

0.5% peroxyacetic acid, 3% hydrogen peroxide, or 500mg/L chlorine dioxide can be adopted for air disinfection, by way of aerosol spray, with 10-20ml/m³. Windows should be closed before disinfection, and the surface and the space shall be evenly sprayed, starting from up-down, and then from left to right. Windows can be opened for ventilation after 60 minutes of reaction. After spray disinfection, the surface of objects may be wiped (swept) in the way of daily disinfection.

<https://www.canada.ca/en/health-canada/services/drugs-health-products/disinfectants/covid-19/list.html#tbl1>

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Delivery Time and Installation:

Insider Dhaka Davison : 7-10 days

Outside Dhaka Davison: 15-20 days

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Mobile Disinfection & Sterilizer Chamber (MDSC-COVID-19)

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