



Abhikalpana

SANITISATION FACILITY

CADAction Model.

Jaypee University of Engineering & Technology

Abhikalpana Sanitization Facility

Sanitary Tunnel is a tested, safe, and effective method to sanitize people and objects in just 5 seconds, killing up to 99% of any pathogenic microbes on the surfaces, including COVID-19.

The sanitizing method of Sanitary Tunnel consists in nebulizing '**Drava**', a hydroalcoholic sanitizing solution pumped through a high precision system integrated inside a ribbed aluminium tunnel.

The tunnel retains the atomized sanitizing product which saturates the environment. In this way, it is possible to disinfect all surfaces, even in the most hidden places.

The system can nebulize sanitizing solutions in a concentrated formula or can be diluted with water from the mains.



Drava (Turns Liquid Into Power)

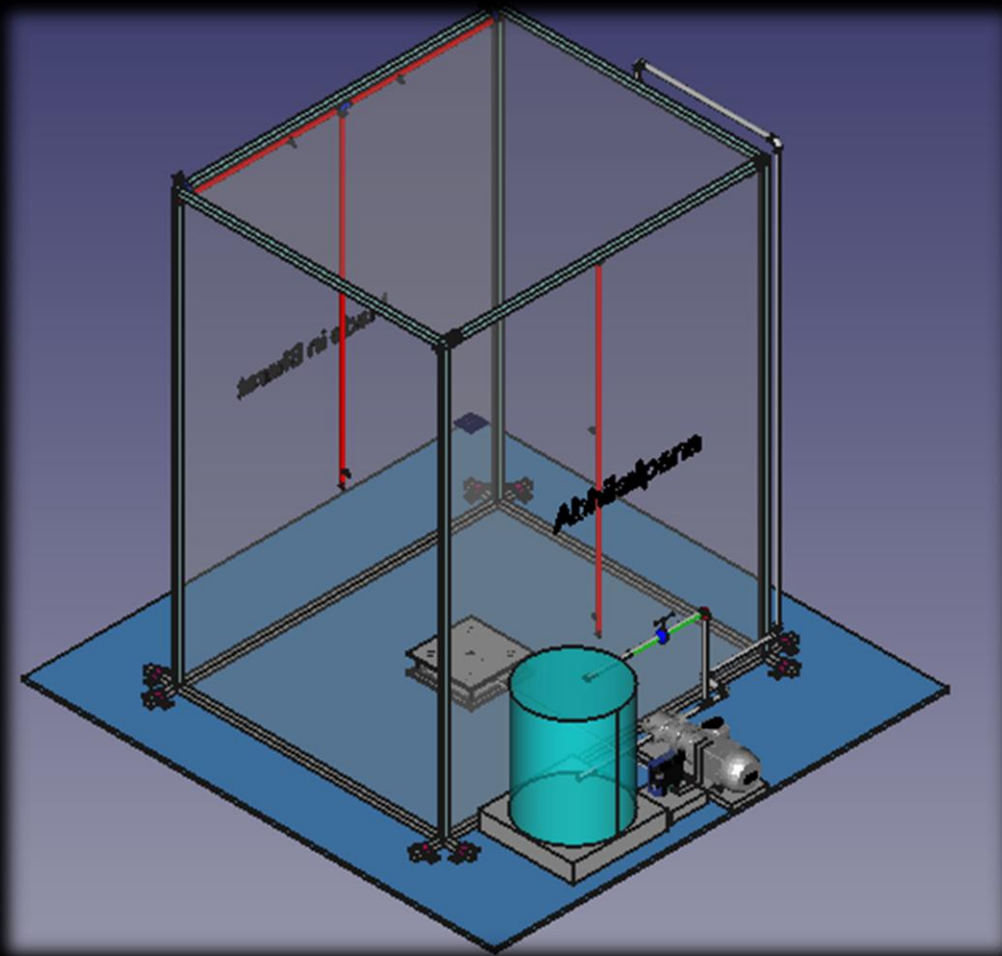
Drava (English: Liquid) the sanitizing liquid that power's the Abhikalpana tunnel produced by team Abhikalpana, by adding a hydroalcoholic sanitizing solution to the current active ingredients of the solution that have been well known for a long time and are included in the lists of authorized active ingredients of disinfectants in India and as also reported in the WHO COVID-19 report. This can be sprayed on people as well as objects.

Drava properties:

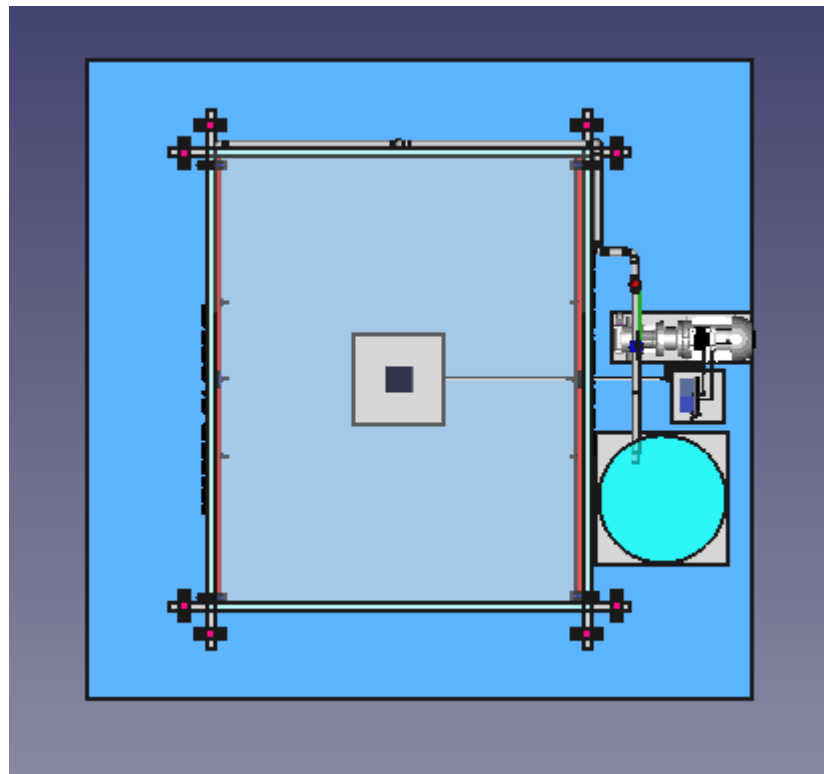
- The concentration of the active ingredients is very low and is such as to avoid any irritating effects that the components have shown at high concentrations even if someone or something is much longer exposed than the recommended time.
- Eco-compatibility, not even a slightest of scar on our mother earth
- Persistent effect over time, thanks to the coexistence of active ingredients with different mechanisms of actions
- Absence of chlorinated agents

- The product does not stain or make the treated surfaces wet.

Despite the proven safety of the product, as a precautionary measure for people who are allergic or hypersensitive to chemical components, the use of a mask is mandatory when crossing the tunnel.



(Isometric View)



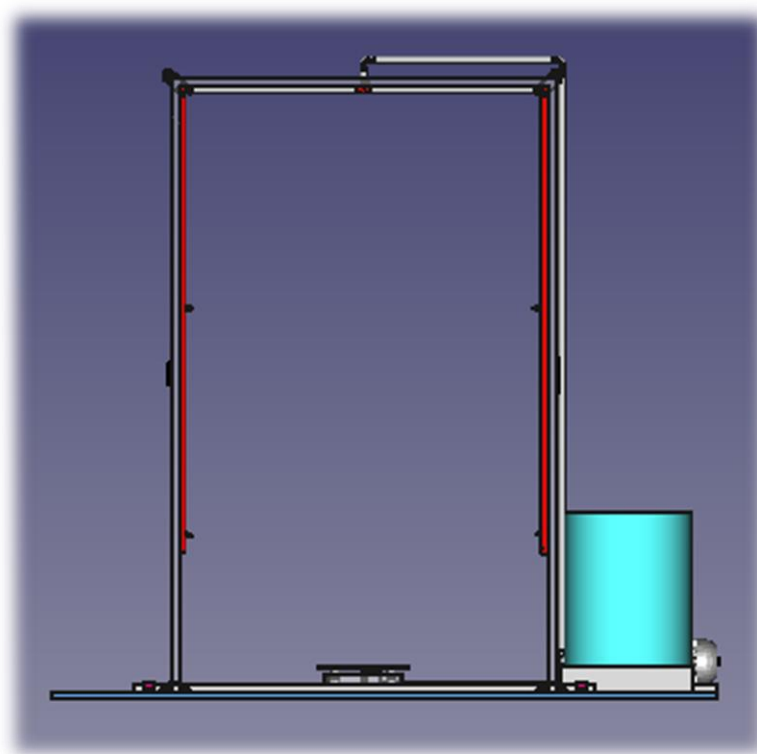
(Sky View)

Effectiveness

The Sanitary Tunnel method is effective with the use of Drava, as it uses the methodology as instructed and stated by the World Health Organization. Whenever someone will enter the room for about 5 seconds on the platform, the residual microbial contamination of that person will be measured, and he/she will then be sanitized. According to the APCR Chemical Regulatory Body the original mixture gives the following results:

In concentrated formula diluted to 10% has been shown to **reduce pathogenic microbes present on surfaces by 90%** (from 10,000 to 1,000), while the ready-to-use diluted formula achieved a **99% reduction** (from 10,000 to 100).

These figures are itself great, however this when added with hydroalcoholic solution enhances its efficiency more.

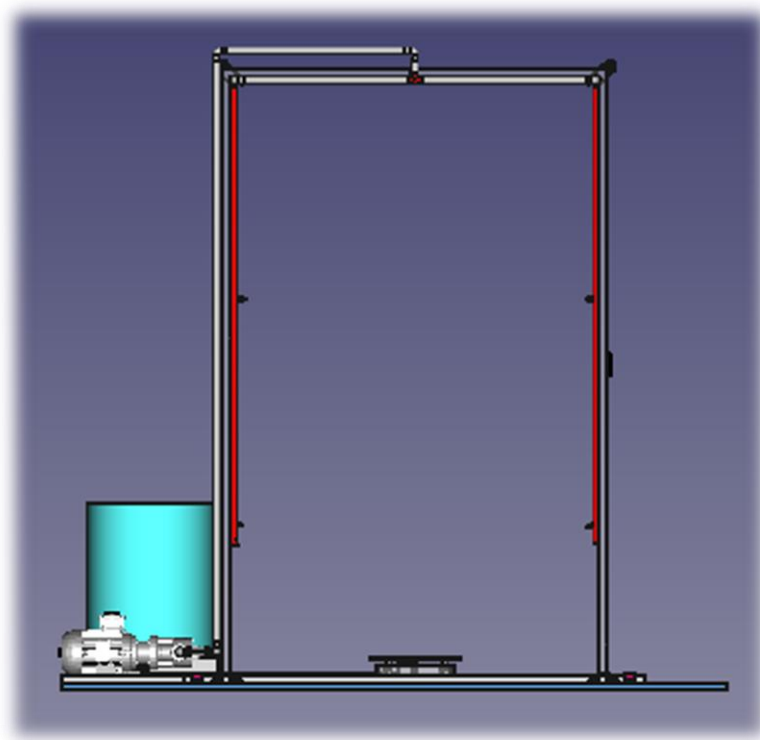


(Frontal View)

Sanitary Tunnel was designed to prevent contagion, as it can be used to instantly break down the viral and bacterial load on clothes.

“The spray created by Sanitary Tunnel does not wet the surfaces that go through it.”

This Tunnel can be easily installed at the entrance of high-traffic places, such as college entrances, Railway-stations, and supermarkets, making them safer.



(Back View)

DESCRIPTION

Abhikalpana's Sanitary Tunnel Model consists of the following:

- **RIBBED TUNNEL**

- A tunnel made of aluminium profiles, stainless steel fasteners, and a B6000 SIO-LINE PVC FABRIC which is cheap, fire retardant and UV stabilised

The structure is integrated with the following additional components:

- Spraying devices (spray nozzles)
 - Presence detector using pressure sensors under the platform dedicated brackets.
 - A 120ah Rechargeable Battery (blue and deep blue) with low consumption nozzles that can easily withstand 79hrs hrs of usage.

Both the pressure sensors and the jet-stream nozzle system have a pre-wired system and are connected to the control unit via a quick-fitting connector.

- **SPRAYING SYSTEM**

A spraying system housed inside a protective metal container. The spraying system is installed efficiently inside by team Abhikalpana: It uses a concentrated product (Drava) mixed with water with the help of an integrated mixing chamber hidden inside the 'Abhikalpana Battery Enclosure'

Both types of systems are designed to deliver Drava° and any other type of disinfecting or sanitizing substance available on the market.

स्वस्मै स्वल्पं समाजाय सर्वस्वं।

A little bit for yourself and
everything for others!
Yes this shlok proves eminent
during this pandemic

We (Team Abhikalpana) has put
our best which could be done
in this time frame, and feel
proud to develop such an
efficient sanitisation tunnel
system.

Abhikalpana

Members:

1. Spandan Saxena
2. Shrish Sharma
3. Shubham Kumar
Munjani
4. Lokesh Pandey
5. Ganesh Adavkar
6. Kamesh Parashar

