

CORONASYS INNOVATION SHEET 10

IVAT HYGIENE TOWER

Background

Aerosols are, in addition to droplet infection, the main way of transmission for SARS CoV-2¹². These aerosols can float in the air for hours indoors and lead to infection even if the infected person is no longer in the room³⁴. The risk of infection is particularly high in public places where many people are in contact with each other. With the end of the summer vacation season, this is for example the case for schools and other public buildings. With the colder season approaching people also spend more time indoors. This requires additional solutions to policies like mask-wearing and social distancing to decrease the risk of infection in public spaces. Air purification devices can contribute to these aims⁵.

Features

The above-mentioned study by the University of the Bundeswehr Munich recommends the change of the indoor air at least six times per hour to maintain the desired low aerosol concentration.⁶With its four-stage high-performance filter, the Hygiene Air Tower cleans the air of more than 99.995 percent of all viruses at the necessary speed and can thus generate an air quality that meets the requirements for effective air cleaning of rooms. In addition, it can perform many other tasks, such as cooling or heating rooms, filtering odors, and disinfecting hands and objects. The embedded monitor can be used for videoconferencing or to display advertising or other content. The tower is completely quiet and comes at a price range from about 5000 to 30 000 Euros depending on the included features⁷.

Potentials

While the tasks of the Hygiene Tower during the day are primarily the cleaning of the air and the monitoring of its quality, it can also serve at night as an alarm and fire alarm center, including video surveillance for protection against burglary⁸.

Points to consider

The Hygiene Tower with all its bonus- features might be a little too much for the needs of most customers in need of air purification, such as schools, offices, or public buildings.

Conclusion

The Hygiene Tower can be an addition to other hygiene measures such as mask-wearing and frequent hand washing during the SARS CoV-2 pandemic and afterward, especially if institutions benefit from the towers many additional features.

State of information: 18/09/2020

Launch: 2020

Country: Germany

Focus area: Prevention

Developers: IVAT GmbH

Beneficiaries: Public and health institutions, working spaces etc.

¹ Machhi, Jatin et al.(2020): The Natural History, Pathobiology, and Clinical Manifestations of SARS-CoV-2 Infections. *Journal of neuroimmune pharmacology: the official journal of the Society on NeuroImmune Pharmacology*, 1–28. 21 Jul. 2020, doi:10.1007/s11481-020-09944-5

² Robert Koch Institut (2020): SARS-CoV-2 Steckbrief zur Coronavirus-Krankheit-2019 (COVID-19) Stand: 21.8.2020. Online: https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Steckbrief.html#doc13776792bodyText1 [09/14/2020]

³ Lednicky, John A., Michael Lauzardo, Z. Hugh Fan, Antarpreet S. Jutla, Trevor B. Tilly, Mayank Gangwar, Moiz Usmani, et al. "Viable SARS-CoV-2 in the Air of a Hospital Room with COVID-19 Patients." *MedRxiv*, August 4, 2020, 2020.08.03.20167395. <https://doi.org/10.1101/2020.08.03.20167395>.

⁴ Robert Koch Institut (2020): SARS-CoV-2 Steckbrief zur Coronavirus-Krankheit-2019 (COVID-19) Stand: 21.8.2020. Online: https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Steckbrief.html#doc13776792bodyText1 [09/14/2020]

⁵ Kähler, Christian J, Thomas Fuchs, and Rainer Hain. "Quantifizierung eines Viomed Klinik Akut V 500 Entkeimungsgerätes zur Reduzierung der indirekten SARS-CoV-2 Infektionsgefahr durch Aerosolpartikel," n.d., 20.

⁶ Kähler, Christian J, Thomas Fuchs, and Rainer Hain. "Quantifizierung eines Viomed Klinik Akut V 500 Entkeimungsgerätes zur Reduzierung der indirekten SARS-CoV-2 Infektionsgefahr durch Aerosolpartikel," n.d., 20.

⁷ Ehrenreich, Sylvia. "Die Corona-Innovation „Made in Augsburg"." *Augsburger Allgemeine*. Accessed September 19, 2020. <https://www.augsburger-allgemeine.de/themenwelten/wirtschaft/Die-Corona-Innovation-Made-in-Augsburg-id58121516.html>.

⁸ IVAT GmbH. "Hygiene-Tower." *Hygiene-Tower (blog)*. Accessed September 19, 2020. <https://www.hygiene-air-tower.de/hygiene-tower-luftreiniger/> [09/16/2020].

Background on Innovation Sheet Series

As part of a real-time evaluation of the SARS CoV 2 pandemic (with focus on epidemiological, medical, economical, societal, technical, and cultural developments in Germany and Armenia) the CoronaSys research team, under the leadership of Prof. Dr. Martin Voss, is conducting a continuous monitoring of developments and medical, technical, and social innovations concerning Covid-19.

Multiple national and international media outlets, research platforms, and scientific and organizational guidelines, briefs, and updates are screened to feed into this outlet. The rationale behind this is to support the projects' network partners in Armenia and Germany with short summaries of key developments and promising innovations that are shaping the global, German, and Armenian outbreak response and recovery.

The aim of these short briefs is to give condensed and structured information on selected innovations emerging out of the conducted horizon scanning. This could be mainstream big-ticket items or fringe subjects that are easily overlooked in the global flood of information. Some innovations will be followed through their evolution in time while others may only appear once. While subjectively selected, the briefs are descriptive in nature and leave analysis and critical interpretation to the reader. Network partners in both countries are invited to provide feedback on their interest areas and suggest particularly relevant topics for the CoronaSys Workshop series.

The CoronaSys Innovation Sheet Series is published by the [Academy of the Disaster Research Unit](#), which is, as a non-profit limited liability company, a spin-off of the [Disaster Research Unit](#) at the Free University of Berlin. The series is part of the research project "[CoronaSys](#): Addressing the corona pandemic in Armenia through systemic risk management", sponsored by the German Federal Ministry of Education and Research.

If you have any questions, suggestions, or if you wish to be taken on (or off) the project mailing list for CoronaSys updates, innovation sheets, and workshop invitations, please send a message to Janina Schäfer (schaefer@a-kfs.de). For general project inquiries, you may contact the team lead Sara Merkes (merkes@a-kfs.de) or the project lead Martin Voss (voss@a-kfs.de).

Previous CoronaSys Innovation Sheets

- 1 "New" Antiviral Face Masks
- 2 "Dyphox" Surface Coating
- 3 MOVES SLC Portable ICU
- 4 Portable TRI- KLEEN 500UV
- 5 Convalescent Plasma Therapy
- 6 ASIC- App
- 7 BinaxNOW Antigen Test
- 8 Corona Traffic Light
- 9 Aproof at Home Antibody Test

All previous CoronaSys Innovation Sheets are available online:

<http://coronasys.a-kfs.de/category/innovation-stream/>

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