**Mass Ventilator System – The Hungarian Invention Could Save Lives**

**The life of many seriously ill people infected by the life-threatening Coronavirus could be saved worldwide by a mass respiratory system, developed by a team of Hungarian research and development engineers, doctors and mathematicians in recent weeks. The revolutionary development can play a particularly important role in the global fight against the spread of COVID-19.**

The MassVentil system, which has now been developed and tested in a laboratory environment, will be able to simultaneously ventilate 5 people at the moment and up to 50 or more in the future, while protecting healthcare professionals. The new solution is mobile and can be easily deployed and operated outside hospitals, in temporary emergency camps and halls - emphasized by Dr. Miklós Kozlovszky, research and development engineer, head of the project.

The COVID-19 epidemic which was declared a pandemic by the WHO in early March 2020, has so far claimed the lives of almost 70000 people worldwide and this number is exponentially increasing day by day. One of the key elements to treating patients with acute respiratory problems is the continuous ventilation. Unfortunately, many of the victims didn’t receive adequate level of care due to the lack of medical ventilators.

Concurrently with the announcement of the pandemic, Dr. Kozlovszky envisaged a ventilator; its most important feature being the ability to be used by several patients simultaneously, i.e. one machine can ventilate more than one person at a time. Explaining the technical solutions of the MassVentil Project the research-development engineer emphasized that the main benefit of the concept is that while the currently used ventilators can only supply one person at a time, the system consists of two main parts: a central gas transport system and smaller patient-specific ventilators. The central inhalation and exhalation gas management allows more patients to be ventilated at the same time, thereby saving more lives.

“The system also protects the healthcare professionals by transporting the contaminated exhaled air from the common hospital space, unlike currently used ventilators.” - explains the expert, as doctors and nurses are exposed to a high level of pathogen agents in the air of the ward. The new equipment removes and filters exhaled contaminated air from the common space, significantly reducing the risk of infection of the healthcare staff.

Dr. Kozlovszky highlights an important factor in connection with setting up temporary emergency hospitals or care facilities. Most equipment cannot be used without hospital infrastructure, such as wall-mounted air/gas technology or continuous power supply. The MassVentil System can be installed outside healthcare facilities, without advanced hospital infrastructure, even in emergency camp environment. The system is able to ventilate hundreds of people at the same time. “The MassVentil Project could save the lives of thousands worldwide during times of pandemic causing acute respiratory problems, like the current COVID -19” - adds Dr. Kozlovszky.

The Hungarian-led project involves international professionals, teachers and students from several universities around the world, who also contribute their expertise to the success of the development.

Budapest, 31 March 2020

**Resources:** <http://massventil.org/en/massventil-project/>

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**The mission of the MassVentil project team is developing of a working prototype for a modular mass ventilator system, which, under critical circumstances, can be used to simultaneously ventilate a large number of coronavirus patients in critical condition. Plans and results are available for free for those who wish to use it during the COVID-19 outbreak.**