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Mitsubishi's air purification filtering technology can inactivate SARS-CoV-2

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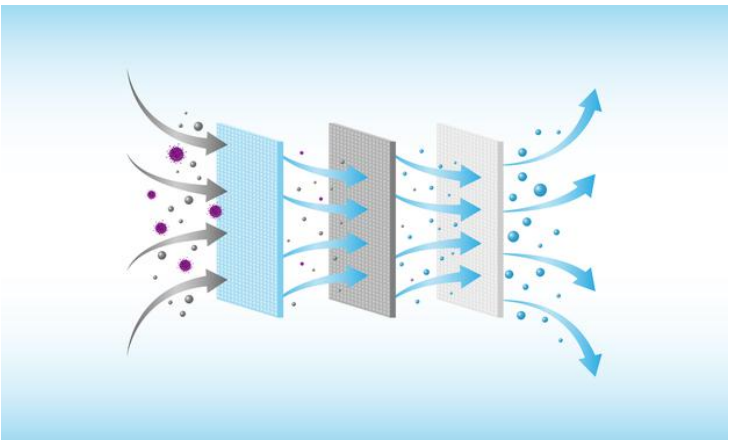

Japanese firm Mitsubishi Heavy Industries Thermal Systems, Ltd. (MHI Thermal Systems), a part of Mitsubishi Heavy Industries (MHI) Group, has confirmed that the air purification technology it has developed is effective for removal and inactivation of the novel coronavirus (SARS-CoV-2). This technology suppresses pollen and other allergens collected in the filter utilizing the power of enzymes and urea.

MHI Thermal Systems had previously verified that a liquid enzyme-urea formulation had the capability to remove and inactivate SARS-CoV-2 (announced in February this year) and has now completed effectiveness verification with a test air filter.

A demonstration test for this technology was conducted by Japan Textile Products Quality and Technology Center (Q-TEC). Specifically, filtering media in MHI Thermal Systems' air purification filters was inoculated with a viral fluid containing SARS-CoV-2, and left to rest in an incubator at 35degC for one hour. The stirred material was then collected, and the viral titer determined through plaque assay (plaque-forming units (PFU)). Compared to the control sample of viral fluid containing SARS-CoV-2 (left for one hour), the rate of inactivation for the filtering media in the air purification filter was 99.998%, confirming that in one hour of reaction time, the SARS-CoV-2 had been rendered nearly completely inactive.

Research to remove or inactivate viruses in areas where indoor air conditioning systems are applicable contributes to efforts to counter viruses in indoor spaces and is a pressing social issue. Going forward, MHI Thermal Systems will continue to conduct research in this field to develop antibacterial and antiviral technologies, to contribute to the realization of a society in which people can live with peace of mind.