

Systems for Air Renewal Inside Bus Bodies Importance in the Prevention of Disease Transmission

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Abstract : The current pandemic scenario raises questions that many times would have previously gone unnoticed. One of these issues is the quality of the air we breathe in the most diverse environments in which we are inserted in an everyday. It is plausible to suppose that, at times like this, there is apprehension regarding the possibility of contamination by pathological agents such as viruses and bacterias through the airways. However, the renewal of indoor air, combined with a properly sanitized air conditioning system, are important tools for the prevention of viral diseases, as is the case with COVID-19. The bus is an example of an environment where renovation is applied to improve the quality of indoor air, helping to reduce the possibility of spreading pathological agents. Together with other care, such as an alcohol gel dispenser, curtains to separate the passengers, cleaning the environment more frequently, and mandatory use of masks, help to reduce the transmission of pathologies, such as COVID-19. Knowing the reality of a large part of the population regarding the need for public transport, there are standards and devices dedicated to promoting air quality, ensuring greater comfort and safety for users. This paper seeks to present such standards and recommendations to improve the quality of indoor air, as well as the equipment responsible for the renewal of the air in the body of a bus. Experimental measurement of the flow rates of the renewal devices present in the bus body allows quantifying the average volume of external air admitted in each type of body. This way, it was possible to compare, in terms of airflow per person, the values of a bus in relation to a series of other environments, using recommendations for air renewal are described through the Brazilian standard ABNT NBR 16401.

Keywords : air quality, air renewal, buses, Covid-19

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