Advanced air distribution

The aim of total volume air distribution (TVAD) involves achieving uniform temperature and velocity in the occupied zone and environment designed for an average occupant. The supply of large amounts of clean and cool air are needed to maintain temperature and pollution concentration at acceptable levels in the entire space, leading to increased energy consumption and the use of large and costly HVAC and duct systems. The performance of desk installed PV combined with background TVAD used for room temperature control has been studied in an office building located in a hot and humid climate. Ventilation in hospitals is essential to decrease the risk of airborne cross-infection. At present, mixing air distribution at a minimum of 12 ach is used in infection wards. Advanced air distribution has the potential to aid in achieving healthy, comfortable and productive indoor environments at levels higher than what can be achieved today with the commonly used total volume air distribution principles.

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