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(57) Abstract :
 The system includes an air intake module (102), an air pre-filter (104), a main filter (106), an air purification module (108), a chiller/heater module (110), an air outlet module (112), and a control unit (206). The air intake module (102) receives ambient air and supplies it to the indoor unit. The air pre-filter (104) and the main filter (106) remove dust particles from the drawn air. The air purification module (108) employs technologies such as UV-C sterilization, photocatalytic oxidation, and ionization to purify the air from the main filter (106). The air outlet module (112) exhausts chilled or hot air into the indoor environment. The control unit (206) is controls the air intake module (102), air purification module (108), chiller/heater module (110), and air outlet module (112) by receiving air quality information from a ambient air quality monitoring module (202) and a indoor air quality monitoring module (204).

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