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(57) Abstract :
The present invention relates to a Vertical Axis Wind Turbine (VAWT) Integrated Air Purification System that is a groundbreaking solution addressing environmental and energy challenges. This system combines an efficient air purifier with a seamlessly integrated VAWT, optimizing pollutant removal and energy consumption. Carefully selected materials ensure durability, while aerodynamic VAWT design maximizes energy conversion efficiency. An intelligent control system adapts to real-time conditions, emphasizing cost-effectiveness for scalability. The compact VAWT design, responsive to all wind directions, contributes to electrifying remote areas affordably. The air purifier targets urban pollutants, enhancing indoor air quality and reducing health risks. Leveraging wind energy's renewable potential, this integrated system offers a sustainable, versatile solution for residential, commercial, industrial, and remote applications. Accompanied Drawing [FIG. 1-3]

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