

# Fabrication and Performance Analysis of Bladeless Wind Turbine using Linear Actuator

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**Abstract:** *Bladeless Wind Turbine uses a radically new approach to capturing wind energy. Our device captures the energy of vorticity, an aerodynamic effect that has plagued structural engineers and architects for ages (vortex shedding effect). As the wind bypasses a fixed structure, its flow changes and generates a cyclical pattern of vortices. Once these forces are strong enough, the fixed structure starts oscillating, may enter into resonance with the lateral forces of the wind, and even collapse. There is a classic academic example of the Tacoma Narrows Bridge, which collapsed three months after its inauguration because of the Vortex shedding effect as well as effects of fluttering and galloping. Vortex-Bladeless is a Spanish SME whose objective is to develop a new concept of wind turbine without blades called Vortex or vorticity wind turbine. This design represents a new paradigm in wind energy and aims to eliminate or reduce..*

**Keywords:** Fluid-Structure Interaction (FSI), Vortex Bladeless, vortex induced vibrations (VIV), Vortex Bladeless

