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횡류형 수직축 풍력터빈 개발에 관한 연구

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A Study on the Development of Cross-flow Type Vertical Axis Wind Turbine

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Abstract : Recently, small vertical axis wind turbine attracts attention because of its clean, renewable and abundant energy resources to develop. Therefore, a cross-flow type wind turbine is proposed for small wind turbine development in this study because the turbine has relatively simple structure and high possibility of applying to small wind turbine. The purpose of this study is to investigate the effect of the turbine's structural configuration on the performance and internal flow characteristics of the cross-flow turbine model using CFD analysis. The results show that guide nozzle should be adopted to improve the performance of the turbine. Optimization of the nozzle shape will be key-importance for the high performance of the turbine.

Key words : Vertical axis wind turbine(수직축 풍력터빈), Cross-flow type rotor(횡류형 로터), Performance analysis(성능 해석), Shape guide nozzle(가이드노즐 형상)

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