

Effect of Geometry Modification on Turbine Performance: Mini-Review of Savonius Rotor

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First Author	
Last Author	
Authors	Prabowoputra, DM; Prabowo, AR;
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Abstract	<p>The rotor is a critical component in converting kinetic energy into electrical energy in the turbine. There are many types of turbines, one of which is the Savonius Turbine, a kind of cross -flow turbine. In recent years, research on improving the performance of the Savonius turbine has continued to develop. Several factors that affect the performance of the Savonius turbine are external factors, geometry, and materials. One of the Savonius turbine performances is influenced by the rotor geometry. Several studies have shown that modification of the geometry of the Savonius rotor can improve turbine performance. Some of the changes made are variations in aspect ratio, overlap ratio, the shape of a blade, number of blades, and multistage. This research is a mini -review of the geometry modifications that influence the performance of the Savonius turbine. This study aims to show the geometric factors that influence the performance of Savonius and compare the magnitude of these factors' Influence in increasing the Savonius turbine's performance. Reviews show that the Aspect Ratio is directly proportional to performance. Overlap variation of 0 to 0.3 has resulted in the best performance on the Savonius turbine, but other factors also influence this factor. The modified shape of the blade provides an increase of 8% - 25%. Multi -Stage on the Savonius can be a combination factor with other factors to maximize the performance of the Savonius rotor. The number of blades that have resulted in the best performance and stability against other factors is two -blades and threeblades.</p>
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Author	DANDUN MAHESA PRABOWOPUTRA, S.T, M.T