

**PENGARUH VARIASI JUMLAH SUDU, KECEPATAN ANGIN DAN  
POSISI BALING - BALING TERHADAP PEMBANGKITAN DAYA  
LISTRIK PADA PROTOTIPE KINCIR ANGIN SAVONIUS**

**INTISARI**

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Penelitian ini untuk menganalisis pengaruh variasi jumlah sudu, posisi baling - baling dan kecepatan angin pada daya listrik yang dihasilkan prototipe kincir angin savonius. Jumlah sudu divariasikan menjadi dua, yaitu 3 sudu dan 4 sudu, posisi baling - baling divariasikan menjadi tiga, yaitu tengah, di antara dan pinggir, sedangkan variasi kecepatan angin yang digunakan adalah 13,94 m/s, 10,88 m/s dan 8,65 m/s. Percobaan didesain menggunakan metode rancangan acak lengkap (RAL) 2\*3\*3. ANOVA digunakan untuk menentukan signifikansi pengaruh masing - masing faktor serta interaksi antar faktor pada daya listrik yang dihasilkan prototipe kincir angin savonius.

Dari hasil analisa ANOVA, diperoleh bahwa faktor kecepatan angin, posisi baling - baling, kombinasi faktor kecepatan angin dan posisi baling - baling, kombinasi faktor posisi baling - baling dan jumlah sudu dan kombinasi ketiga faktor kecepatan angin, posisi baling - baling dan jumlah sudu berpengaruh signifikan pada daya listrik yang dihasilkan prototipe kincir angin savonius. Namun faktor jumlah sudu dan kombinasi faktor kecepatan angin dan jumlah sudu tidak memiliki pengaruh signifikan terhadap daya listrik yang dihasilkan prototipe kincir angin savonius. Hasil analisis menunjukkan efisiensi maksimal yang diperoleh dari tiga variasi kecepatan angin masing - masing sebesar 1,7%, 0,63% dan 1,25%.

Kata Kunci : Savonius, RAL, Efisiensi, daya listrik

***INFLUENCE OF VARIATIONS IN THE NUMBER OF SPOONS, WIND  
SPEED AND PROPELLER POSITION - PROPELLER ON ELECTRIC  
POWER GENERATION ON SAVONIUS WINDMILL PROTOTYPES***

***ABSTRACT***

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*This study was to analyze the effect of variations in the number of blades, the position of the propellers and wind speed on the electrical power produced by the prototype of the Savonius windmill. The number of blades is varied into two, namely 3 blades and 4 blades, the position of the blades is varied into three, namely the middle, between and the edge, while the variations in wind speed used are 13,94 m/s, 10,88 m/s and 8,65 m/s. The experiment was designed using a completely randomized design (CRD) 2\*3\*3 method. ANOVA was used to determine the significance of the influence of each factor and the interaction between factors on the electrical power produced by the prototype of the Savonius windmill.*

*From the result of the ANOVA analysis, it is found that the wind speed factor, the position of the propeller, the combination of the wind speed factor and the position of the propeller, the combination of the factors of the position of the propeller and the number of blades and the combination of the three wind speed factors, the position of the propeller and the number of blades have an effect significant effect on the electrical power generated by the prototype of the Savonius windmill. However, the number of blades factor and the combination of wind speed and number of blades did not have a significant effect on the electrical power produced by the Savonius windmill prototype. The result of the analysis*

*show that the maximum efficiency obtained from the three variations of wind speed is 1,7%, 0,63% and 1,25% respectively.*

*Keywords : Savonius, RAL, efficiency, Power*