

INTISARI

Kincir air *breastshot* merupakan tipe kincir air dengan perpaduan antara kincir air *overshot* dengan *undershot* dilihat dari energi diterimanya. Tinggi jatuhnya tidak melebihi diameter kincir. Aliran air yang menggerakkan kincir disekitar sumbu poros kincir air. Jenis kincir air ini digunakan pada perbedaan ketinggian antara head 1,5m-4m dengan laju aliran air $0,35-0,65m^3/s$.

Kincir air tipe *breastshot* dibuat dengan bahan triplek yang dilapisi dengan cat plitur dengan sudut miring pada sudu sebesar 60° dan jumlah sudu yang digunakan 24 buah, melakukan proses pengujian di kampus dengan membuat miniatur aliran sungai.

Kincir yang telah dibuat sudah di uji pada ketinggian aliran 70 cm dari permukaan air yang ada di bak utama dengan bak penampung (Bak V-notch), variasi debit ketinggian aliran air yang digunakan 7cm, 7,5cm, 8cm, 8,5cm, 9cm dan variasi beban lampu dinyalakan 0,2,4,6,8,10,12,14,16,18,20. Hasil dari penelitian ini, meliputi beberapa hal: Semakin tinggi variasi air yang dipakai maka semakin cepat pula putaran yang dihasilkan oleh kincir. Namun, semakin banyak beban lampu yang dinyalakan putaran yang dihasilkan oleh kincir menurun kecepatan, disaat variasi ketinggian air berada di titik tertinggi.

Kata kunci: Kincir air *Breastshot*, Performa Kincir Air *Breastshot*, variasi penelitian.

ABSTRACT

The breastshot waterwheel is a type of waterwheel with a combination of overshot and undershot waterwheels seen from the energy it receives. The height of the fall does not exceed the diameter of the wheel. The direction of the water flow that moves the wheel around the axis of the waterwheel axis. This type of waterwheel is used at the height difference between the head of 1.5m-4m with a water flow rate of 0.35-0.65m³/s.

The breastshot type waterwheel is made of plywood covered with polish with an angle of 60° on the blades and the number of blades used is 24. Carry out the testing process on campus by making miniature river flow.

The wheel that has been made has been tested at a flow height of 70 cm from the surface of the water in the main tub with a reservoir (tub V-notch), variations in the flow height of the water used are 7cm, 7.5cm, 8cm, 8.5cm, 9cm and Variations in light load are switched on 0.2, 4, 6, 8, 10, 12, 14, 16, 18, 20. The results obtained from this study include several things: The higher the variation in water level used, the faster the rotation produced by the wheel. However, the more the light load is turned on, the rotation produced by the wheel will decrease in speed, when the variation in water level is at its highest point.

Keywords: Breastshot waterwheel, Breastshot waterwheel performance, research variations.