OPTIMIZATION POWER CONSUMPTION THREE PHASE MULTI INDUCTION MOTOR DRIVE WATER PUMP USING GENETIC ALGORITHMS

By: Achmad Syahid
Student Identity Number: 2209201003
Supervisor: Prof. Ir. Mochamad Ashari, M.Eng, Ph.D
Co-Supervisor: Heri Suryoatmojo, ST, MT, Ph.D

ABSTRACT
Three phase multi induction motor drive water pump with constant speed are usually applied to require for water demand, not only good in industry but also in Perusahaan Daerah Air Minum (PDAM). The Application of variable speed in three phase induction motor drive water pump rather efficient in every different flow rate of water. This paper describes the result of power consumption if three phase multi electrical motor drive water pump are applied to constant speed and variable speed using genetic algorithms. Monetary amount of power consumption both systems can be calculated and divided by economic analysis. Variable speed in three phase induction motor drive water pump can reduce power consumption until 32.3%, are divided by constant speed.

Key Words: induction motor, variable speed, efficient, power consumption, genetic algorithms.