
ANALYSING OPERATION OF A CENTRIFUGAL PUMP FORMING PART OF A SYSTEM WITH VARIABLE PARAMETERS

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Abstract

The study deals with a pump forming part of a water supply system of a tank for public utility needs. Continuous variation in operating conditions, the static head in particular, leads to changes in the operation mode of the pump, which means that most of the time it functions in an off-design mode. We developed a method for determining actual pump efficiency over a tank fill and drain cycle when two parameters are variable: the distance between the water level in the well and the tank bottom (to the floating switch that turns the device on), and the tank height (or, the distance between floating switches that turn the device on and off respectively).

Keywords

Pump, water supply, pump efficiency, discharge, cyclically operating system, hydraulic head

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