CROSSFLOW TURBINE DESIGN
USING VISUAL BASIC 6.0

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Abstract

These centuries, water and electricity are an important source of energy to human. Therefore, the used of water turbine is one of the solution to this unsufficient energy source. The application of crossflow turbine for water source distribution or micro hydro power plant is one of them.

At this final assignment, will implement a crossflow turbine design and the making of its design program. This design limited by 10 m height of water drop-level dan 4 inch pipe diameter (smooth pipe). Visual basic 6.0 software application will be use to make the design program.

From the calculation result, obtained absolute velocity \( \frac{c_1}{g} \) = 7.316554 cm, outside diameter \( (D_1) = 23 \) cm, inside diameter \( (D_2) = 16.6 \) cm, water drop-angle \( (\alpha_1) = 34.34^\circ \), 16 unit of impeller-blade, turbine area \( (A) = 124.58 \) cm\(^2\), turbine width \( (B) = 27 \) cm, and height of the nozzle \( (L) = 4.56 \) cm.

Keyword : crossflow turbine, nozzle, visual basic 6.0