

ABSTRACT
DESIGNING SUGARCANE PRESS MACHINE

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The purpose of this sugarcane press machine design is to determine the size of each part of the machine. In this design we also get the transmission to the engine design as well as knowing the material selection and design of components - components that are correct on the machine. In addition we can also know the economic analysis of the sugarcane press machine.

The method used to design a sugarcane press machine is referring to the concept of Pahl and Beitz which were divided into four stages. The four phases were planning, and explanation of tasks, planning a product concept, product planning, and planning details. Thus, we could produce detailed documents in the form of product manufacture (working drawings).

The results of the design is the design and working drawings of this product with sugarcane press machine with a source of AC electric motor drive 0.5 HP. Shaft diameter is 25.4 mm from the material used ST-60. Transmission systems used on these machines is the pulley diameter 2inc respectively, 10inc, 3inc, 12inc which reduces motor rotation 1400 rpm which is expected to be 70 rpm. This sugarcane press machine has a robust construction and ergonomic with a 450 engine specifications length 400 × width × height 1150 mm with steel frame 40x40x4 L profile. Estimated selling prices offered by the machine, which is worth Rp 1,685,475.00.

Key words: Design, press machine, sugar cane.