

Automatic Soy Milk Making Machine Design Using Autodesk Inventor

Salsabila Liandra Putri, S.K.M., M.K.K.K (Thesis Supervisor)

Wahyu Aji Saputra

Engineering Technology Study

Program Mechatronics

Engineering Department

Wahyuaji459@gmail.com

ABSTRACT

This study aims to design an automatic soybean milk-making machine that integrates three main processes—grinding, stirring, and cooking—into a single, unified system. The design process was conducted virtually using Autodesk Inventor software to produce accurate 3D models and perform structural analysis. The machine is constructed using materials such as angle iron, a single-phase motor, gearbox, gas burner, and an automatic stirring system. The results of the stress analysis show that the machine structure has a high safety factor and the maximum stress remains within safe limits. Validation through expert questionnaires indicated a design feasibility level of 90% (categorized as highly feasible). With a well-structured and efficient design, this machine is expected to improve the production efficiency of soybean milk, particularly for small and medium-sized enterprises (SMEs). This research contributes to the development of food processing machines based on digital design and simulation.

Keywords: Machine Design, Soybean Milk, Autodesk Inventor, Automatic Grinder, Stress Analysis.