

ABSTRACT

Nowadays, plastic products are items that are often found around us because they are lightweight, easy to shape, and some can be recycled. The plastic manufacturing process is the main basis for meeting people's needs for plastic products. The plastic manufacturing process can be carried out using several methods depending on the type of final product desired. Plastic fabrication methods that are usually used include injection molding, which is a method of forming products from heated polymer pellets. However, it is not uncommon to find that the results of processing plastic pellets have many product defects resulting from the injection molding method and the injection equipment is usually too expensive and uneconomical.

Based on existing problems and to overcome these problems, this “Small Scale Plastic Mold Mechatronic Systems” has an economical and practical system with minimal defects, a system that can check temperature and has an injection molding control system which consists of two main parts, namely the injection unit and clamping unit which makes the system practical and easy to use.

The use of the tool this time was designed by manufacturing with the aim of making it easier for users to operate it. The final result is that the system can operate the injection with a total time of 1 minute 18 seconds and the temperature used is 180c° with an average consistency level of 90% and has an information display that makes it easier for users, and has a relatively cheap price of IDR 5,500,000.00. It is hoped that this system can be an effective tool in meeting needs related to plastic injection and is expected to help MSMEs (Micro, Small and Medium Enterprises).

Keywords: Injection, Molding, MSMEs, Plastic, Uneconomic