

**RANCANG BANGUN DESAIN *CASE HEATER* UNTUK *BROODING*
AYAM BROILER MENGGUNAKAN *AUTODESK INVENTOR* (*Design and
Construction of a Heater Case for Broiler Chicken Brooding Using Autodesk
Inventor*)**

Dibimbing oleh: Ir. Mochamad Irwan Nari, S.T., M.T., M.T.

Muhammad Cassanova Perdana Putra
Program Studi Teknologi Rekayasa Mekatronika
Jurusan Teknik

ABSTRACT

Proper environmental temperature control during the brooding period (0–21 days) is crucial in broiler chicken farming, as Day Old Chicks (DOC) cannot regulate their body temperature independently, and failure during this phase is irreversible, negatively impacting subsequent production performance. This study aims to design and implement an IoT-based electric heater for broiler chicken brooding using Autodesk Inventor, with the ability to maintain a stable temperature of 44°C and monitor cage humidity. The research method includes literature study, 3D design using Autodesk Inventor, prototype manufacturing, and design feasibility testing through Likert-scale questionnaires administered to 36 general respondents. The results show that the device consists of three main components: a trapezoidal heater case made of 1 mm aluminum plate, a component box made of acrylic resin, and a support stand made of hollow steel. The design feasibility test achieved a score of 85% (categorized as "Strongly Agree/Very Good"). In conclusion, the IoT-based electric heater design for broiler chicken brooding has been successfully designed and validated as feasible for implementation in small-scale farms, with future development suggestions including modifying the design to be applicable to large-scale industrial farms.

Keywords: *brooding, broiler chicken, electric heater, IoT, Autodesk Inventor*