

# Continuous Poultry Cooker – Screw Style

*Historical Significance; Revolutionary to the Poultry Industry*

## Situation:

A leading Poultry Producer and customer of Millard Manufacturing Corp needed a way to increase production as well as simplify and improve the consistency and quality of cooking eviscerated chickens. Industry standard processes required the chickens to be cooked and cooled in “Batch” tanks requiring excessive amounts of labor, energy, and handling to accomplish. Also, the customer was not getting consistent uniform cooking throughout the batch processes resulting in waste and quality concerns.

- *Need for increased production – higher volumes*
- *Need to increase yields – reduce waste*
- *Need for consistent cooking and cooling*
- *Better way to capture broth from cooking*
- *Need to reduce labor costs*
- *High maintenance and associated repair parts*
- *Personnel safety was at risk with messy batch processing techniques*



## Solution:

Millard worked in concert with the customer to design, develop, and install a “Continuous Poultry Processing Cooker”. This new design revolutionized how chickens were cooked in mass production by replacing the old batch process techniques with an efficient continuous cooking process. Our cooker uses a large screw submerged in a heated bath, gently moving the eviscerated chickens through the cooking process.

- *Safe, Sanitary construction for ease of cleaning*
- *Food Safety: “In-House” Passivation for Sanitary durability*
- *Continuous Operations delivering product to further processes in a steady stream*
- *One Process: Single product entry and single exit*
- *Variable Capacity and Speeds to meet demand peaks and valleys*
- *Fully enclosed to capture all steam and reduce evaporation of valuable by-products*
- *Efficient collection of broth from a single bath*
- *One heat exchanger for entire process*
  - *Reduce energy consumption*
  - *Reduced maintenance*
  - *Single condensate return line*
- *Personnel platforms and guarding to monitor and control the process*
- *Single gearbox and motor, no chains or belts*
- *Heavy Duty Stainless Steel Construction*

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## Results:

- **Eliminated:**
  - *Cooking and Cooling Tanks (Batch Production)*
  - *Cooking and Cooling Perforated Inserts (Hoisted Baskets)*
  - *Cooking and Cooling Platforms*
  - *Overhead Beams, Hoists and Ductwork*
  - *Excessive maintenance with multiple steam systems*
- **Production:** *Capable of up to 20,000 lbs/hr*
- **Quality:** *Provided cooking uniformity and a consistent quality product while reducing bone breakage with less handling and a gentler operation*
- **Waste:** *Reduced waste or rejected product through consistent and uniform cooking*
- **Broth By-Product:** *Capturing broth with this system was almost automatic and was accomplished with sanitary piping and valves. This increased the capture of “Chicken Broth”*
- **Labor:** *Only 2 personnel/shift are required to operate system*
- **Increased Safety:**
  - *Eliminated lifting and moving of large loads in and out of the batch cookers and coolers resulting in slippery and unsanitary conditions*
  - *Guarding and personnel platforms significantly improved worker safety*
- **Improved Sanitation:** *Inherently cleaner operation, easier to clean and inspect, and a significant reduction in oily vapors reducing the risk of contamination; dramatically improved sanitary conditions*
- **Continuous skimming of fat:** *Increased revenues with the recovery of fat while reduced contamination of the finished product*
- **Maintenance:** *Major reduction by eliminating batch system piping required by each separate tank*

