

Glycerin Suppository Manufacturing System

Background

In order to maintain a dominant market share position, this customer wanted to lower their manufacturing costs by building a faster, more automated system for producing bulk packed suppositories. Since off-the-shelf machines do not exist for making bulk packed suppositories, this client returned to Advent Design to accomplish this task.

System Description

Advent designed, built, and installed a custom machine for this client in 1988 that was capable of molding 1,200,000 suppositories per day. In 1996, this client required additional capacity, and increased automation and process control to comply with new GMP regulations. Advent designed a new generation machine that could mold 2,400,000 per day, and included advanced controls that were GMP compliant.

This second-generation system performed the following operations:

- Delivered molten Glycerin from a holding tank on a mezzanine to the mold fill station.
- Filled a 200 cavity mold with Glycerin.
- Cooled the mold until the Glycerin was at the correct process temperature.
- Cracked mold for suppository extraction.
- Separated mold, and transferred suppositories to jar filling station.
- Ejected suppositories directly into jars.
- Replaced mold top, and prepared for next fill.
- Automatically recycled overfill from mold top.



Impact

This second generation system allowed Advent's client to maintain GMP compliance, while dramatically increasing the throughput of the process. Since this totally automated system required a single operator to tend its operation, it also decreased the cost of this commodity product which faced decreasing margins in the marketplace.

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