

Case Study: Bakery Fillings & Flavour Dosing



ENQUIRY

A bakery and confectionary goods producer contacted Castle Pumps looking for some pumps to help them move away from the manual handling of some of their ingredients, and upscale their production. There were two separate applications for which they needed solutions which Castle Pumps were happy to help with.

Firstly, they required a pump for transferring the thick and sometimes solid laden fillings of their doughnuts and apple fritters. The second model would be for the dosing of vanilla essence and other flavourings. Of course this meant that one of the most important parts of their requirements were that they were food grade pumps.

KEY CHALLENGES

1. Capable of handling viscous, solid laden fillings without clogging.
2. Ability to accurately dose specific quantities of the flavourings.
3. Food grade approvals required.



EQUIPMENT SUPPLIED

Pump -	Boyser AMP 13/B Peristaltic Pump	Boyser DSM Peristaltic Pump
Flow	3.9lpm	1.75lpm
Pressure	8 bar	8 bar
Fluid	Apple pulp	Vanilla essence
Orientation	Horizontal	Verticle
Voltage	230v	230v
Inner Hose Material	Thermoplastic	Norprene
Suction/Discharge	¾" Tri-clamp	/
Certifications	FDA	FDA
Drive	Integrated inverter	/

SOLUTION

Boyser AMP 13/B Peristaltic Pump

For the doughnut and fritter filling, an AMP peristaltic pump with an inverter was supplied. The addition of the inverter allows the bakery to adjust the speed of the motor when used with the fillings of differing viscosities. For example, when pumping the more viscous jams, the motor speed needs to be slowed considerably compared to when transferring the apple pulp.

The beauty of the peristaltic pump design is that its inner tube is the only part that encounters the fluid, with no valves to clog or impellers to jam. This design means that the peristaltic pump can easily handle the apple chunks and stringy solids present within the fillings without damage or downtime to the bakery's process.

Boyser DSM Peristaltic Pump

When it came to the dosing of the flavourings, Castle Pumps specified a DS-M peristaltic dosing pump. This model has excellent accuracy even at low flow rates, making it ideal for handling small volume transfer and highly precise quantities. For both models, Castle Pumps specified a food grade thermoplastic internal hose and tri-clamp connections for a smooth, non-contaminating pipework joint, ensuring that the pumps are safe for handling products for human consumption.