

MasoSine Pumps

APPLICATION BRIEF

WATSON
MARLOW
MasoSine

Marinated Boneless Whole Poultry Muscle

Constant Feed, Undamaged Product, High Reliability

The challenge

Pumping large, thick 'sheets' of poultry can prove too difficult for certain pump types such as vacuum or air/diaphragm models. In order to deliver a constant feed of complete meat to the processing lines, a reliable pump capable of handling flexible solids in a repeatable manner is required.

Product damage needs to be avoided in order to maintain the quality of the end product and ensure continuity of brand reputation. Other desirable outcomes include high yield rates and minimal labour requirements.



Marinated Boneless Whole Poultry Muscle



A leading poultry

processor recently switched to a MasoSine Pump for transferring its marinated boneless breast meat and is now reaping the benefits. Vacuum and air pumps were previously used to transfer the product into a drop hopper, which attempted to meter the product on to the conveyor.

Neither the vacuum nor air pump proved to be efficient as both provided only slugs of product to the line. This method was inefficient as flow rates were inconsistent. Product had to be spread manually on to a lengthy conveyor, while marinade losses were significant.

With two MasoSine MR160 pumps installed, the final outcome was an almost labour-free roasting line and near zero losses.

Watson-Marlow...Innovation in Full Flow

The solution

The MasoSine MR 160 is a 152mm (six inch) positive displacement pump that is capable of pumping very large marinated chicken and even turkey breast without damaging the product beyond use. In these situations, the pump is attached to a hopper that is accepting marinated boneless products from a vacuum tumbler. From the hopper, the meat is pumped through sanitary tubing leading to a "spreader horn" that feeds the meat on to the conveyor system. The conveyor system can either lead to a 'Progrill®' or directly into a linear or spiral oven.



MasoSine MR 160 medium duty sanitary pumps are capable of flow rates up 9,000 kg per hr (20,000 lbs per hour) when pumping marinated boneless breasts/trim meat/ thigh meat. The pumps feature stainless steel 'powerframes' and stainless 3A baseplates, along with Nema 4X-rated VFDs.

Customer success

In an effort to reduce labour at a leading poultry processor plant and increase line efficiency, two MasoSine MR 160 pumps were purchased to replace the vacuum/air pump system and drop hopper. The pumps were set up to meter boneless products through spreader horns supplied by the end user. Two pumps and two horns were arranged to feed two 406mm (16 inch) wide, 12.7mm (half-inch) thick sheets of boneless breast meat on to the conveyor.

The final outcome was an almost labour-free roasting line. Two perfect and continuous 'sheets' of boneless breast meat now continuously feed a Progrill® leading to the oven. Labour has been reduced to less than one person, while marinade losses through the conveyor are near zero. Additionally, product damage has decreased, production rates are now only limited by the oven/freezer/packaging capacity, and yields have increased due to higher moisture content – a factor that equates to greater profitability.

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