

# Thermo Scientific Masterflex Pumps: Versatile, High Performance Fluid Handling & Flow Control

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Food processors face numerous challenges to achieving efficient fluid handling and flow control. Transferring and dispensing highly viscous products, or products with high concentrations of solids, can each bring a certain set of problems, while handling shear sensitive products can bring a whole other set.

Food processors must also maintain contamination-free flow and meet stringent product quality and safety requirements, while simultaneously maintaining high production rates. Efficient fluid handling and flow control with minimal downtime is paramount.

## Solution

Masterflex pumps are versatile, high-performance peristaltic pumps designed to efficiently handle a wide range of food processing applications – from pumping shear sensitive products to highly viscous material transfer – while continuously providing accurate and contamination-free flow control.

Masterflex® pumps never need to be cleaned or serviced between production changeouts because the material is always contained within the pump's flexible tubing. Changing out the tubing is a simple procedure that takes less than a minute.

By providing accuracy, reliability, durability, and flexibility over a wide range of flows and products, Masterflex peristaltic pumps help food producers maintain superior product integrity while improving efficiencies and minimizing downtime. They're perfect for multiproduct food processing operations where a major concern is the risk of product crossover.

## Versatile, high performance fluid handling & flow control

Whether it be the injection of vitamins or flavor concentrates, or the transfer of thick molasses or solid particles such as vegetable pieces and bone



particulates, Masterflex pumps stand up to the challenges.

High accuracy combined with low maintenance make the Masterflex pump a highly versatile and invaluable piece of equipment for many different food processing applications. Masterflex pumps provide a completely closed system for contamination-free flow, with a wide range of tubing materials available for commercial food process-

ing applications to meet USP, FEA, NSF, and 3A requirements.

## Protecting shear-sensitive products

Another major advantage is that Masterflex pumps are very gentle on shear-sensitive products, which is important for product consistency as well as maintaining the optimum appearance of finished products.

The product being metered, transferred or dispensed is never subjected to mechanical grinding or shearing from gears, valves or other components with no unwanted frothing or product emulsification. Masterflex pumps also excel at moving highly viscous products that require pumping at relatively low flow rates and pressures in tough applications that can cause clogging problems with other pumps. In addition, Masterflex pumps easily handle highly abrasive slurries that often result in intensive maintenance and downtime for progressive cavity pumps and other pumping systems.

## Masterflex: The smart answer

Masterflex pumps are the smart answer for virtually all food processing applications, providing a well-balanced range



## Key Words

- Masterflex
- Abrasive Slurries
- CIP/SIP
- Fluid Isolation
- Peristaltic Pump
- Precision Liquid Transfer
- Product Integrity
- Shear-Sensitive Products

of capacities and flexibility combined with excellent repeatability and wide tubing selection to provide for precise, reliable and long-term operation.

**The Masterflex pump: A completely closed system for precise, dependable, and sterile flow control**

- The Masterflex pump lines offer pumping capacities from 0.001 mL per minute up to 175 gpm.
- With adjustable 650:1 resolution, bidirectional flow and self-priming capabilities, *Masterflex pumps provide for smooth, seamless flow.*
- Gentle peristaltic method of pumping prevents surging and *will not damage shear-sensitive products.*
- Masterflex pumps are *extremely flexible with product viscosities.*
- *Masterflex pumps produce very little heat*, compared to gear pumps, protecting the consistency and integrity of food products.
- Requires very little maintenance to keep in peak operating condition.



- A wide range of superior tubing material is available for most any food application.

**Superior fluid handling & flow control**

Some applications for Masterflex pumps include:

- Pumping Pizza/Pasta Sauce
- Dispensing of Flavorings w/Pulp
- Pumping Syrups to Cooker
- Pumping Icing for Pastries
- Transferring Potato Chip Waste Slurry
- Cooking Oil Recovery
- Transferring Fish and Shrimp Sap Sucking (for Maple Syrup)
- Pumping Sucrose Gradient
- Pumping Preservatives
- Transferring Raw Fruit Pieces
- Pumping Slurry w/Bone Particulates
- Pumping Concentrated Salt Slurry

**Maintaining product integrity**

Whether adding flavorings, transferring highly viscous or shear sensitive products, or high solid slurries, Masterflex pumps fit the need.

- Pumps have an accuracy of  $\pm 0.5$  or better, manually adjustable speeds of 1-to-650 rpm, and flow rates from a few fluid ounces to multiple gallons per minute.
- Masterflex pumps are CIP/SIP (cleaning/sterilization in place) capable.
- Maintenance-free brushless motor drive (rated for continuous duty) and roller and ball bearing pumphead construction produce *a robust, powerful pump ideal for long-term operation.*



Masterflex P/S® washdown digital pump with wall-mount controller.



Masterflex B/T®

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