

Masterflex® Pumps: Optimal Dryer Coating Brings Fewer Creping Blade Changes

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A key challenge in towel and tissue papermaking is maintaining a uniform coating on the dryer. Too much coating and the paper won't release properly, plus coating buildup accelerates creping blade wear. Too little adhesive and the metal surface of the dryer is vulnerable to the abrasive action of the creping blade. Because reciprocating diaphragm pumps often allow for an inconsistent coating surface, operators often err on the high side when adjusting rates, to protect the dryer. The result? Frequent blade replacements, costly unscheduled downtime, and tissue finish quality issues.

Flow rate stability, accuracy

Masterflex peristaltic pumps provide superior flow rate stability and metering accuracy. Masterflex pumps exhibit significantly less of the pulsating action that leads reciprocating diaphragm pumps to inconsistent coating. Also, unlike reciprocating diaphragm pumps, Masterflex pumps have no valves that can stick and disrupt operations. Flow comes in contact with only the inside of one uninterrupted length of tubing, providing for a smooth, seamless flow to prevent the agglomeration of particles that can cause big problems.

Optimal flow dispense

Masterflex pumps provide the linearity and repeatability required for optimal, continuous flow dispense to the dryer. This highly stable fluid delivery also minimizes excess coating residue that can accelerate costly blade changes that impact not just expenditure but valuable production time and tissue finish quality. Gone too are the excessive downtimes for cleaning, stripping and repairing the pump.



Masterflex pumps never need to be disassembled to be cleaned – just periodically changing out the pump tubing, which typically takes less than a minute.

Highly reliable liquid feed & fluid handling solutions

Adhesion of the sheet to the Yankee dryer is critical because it determines how the sheet crepes at the doctor blade. Sheet adhesion is controlled by the coating on the surface of the Yankee. This coating – typically a mixture of hemicelluloses from the pulp, fiber dust, metal oxide, and synthetic adhesives and release agents – can play tremendous havoc with most pump designs. Many towel and tissue papermakers use reciprocating diaphragm metering pumps for this application. They're cheap, relatively accurate and essentially disposable. But let's face it. Using these little metering pumps to control the

coating on the surface of the Yankee can bring big headaches – headaches that can sometimes mean the difference between a profitable day and a loss.

Accuracy, dependability brings significant gains

The proven peristaltic design of Masterflex pumps provides for accurate, reliable, and repeatable performance without clogging, and without check valves that can jam, cause siphoning, downtime, performance and/or product quality issues. Masterflex pumps are self-priming, and they can run dry for extended periods without damage. They also provide incredible suction lift.

With a well-balanced range of capacities and flexibility, excellent repeatability and optimal chemical resistance, Masterflex pumps provide for precise, highly reliable and long-term operation.



Key Words

- Masterflex®
- Peristaltic Pumps
- Tubing Pumps
- Blade Wear
- Linearity
- Repeatability
- Yankee Dryer
- Sheet Adhesion

Maintaining process integrity

- Product comes into contact with only the tubing, which can be replaced in less than a minute.
- With adjustable 650:1 resolution, bidirectional flow and self-priming capabilities, Masterflex pumps provide for smooth, seamless flow to and from inking systems.
- Masterflex pumps are extremely flexible with product viscosities.
- Requires very little maintenance to keep in peak operating condition.
- Maintenance-free brushless motor drive (rated for continuous duty) and roller and ball bearing pump head construction produce a robust, powerful pump ideal for long-term operation.
- A wide range of superior tubing material is available for most any size creping application.
- Unlike many other peristaltic pumps on the market, Masterflex pump heads offer external adjustable occlusion, allowing the user to make critical adjustments without switching off the pump.



The highly stable fluid delivery from Masterflex pumps minimizes coating residue that can accelerate costly creping blade changes.

- Superior performance in corrosive, viscous and abrasive handling applications.
- High reliability minimizes process interruptions and downtime.
- High suction provides quick ramp up from no-flow condition to the desired set point.

Superior fluid handling & flow control

Masterflex peristaltic pumps provide pulp and paper operations with extremely versatile liquid chemical feed and fluid handling with the highest reliability and volumetric accuracy. Masterflex pumps are ideal for handling virtually any chemical, slurry, and additive in pulp and paper operations. This includes highly abrasive slurries and aggressive chemicals, such as black liquor soap, lime slurries used to produce bleach liquor, as well as the metering of dyes, sizing agents, retention aids and other chemicals.



With adjustable 650:1 resolution, bi-directional flow and self-priming capabilities, user-friendly Masterflex pumps provide precise, easy bulk fluid transfer and dispense.

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