

Process Pumps for PULP and PAPER

Watson-Marlow Bredel ... Value for life



Tube Pumps

Reduce broke and downtime

High quality paper, coupled with lower production costs, is the formula for profitable papermaking. To improve paper quality while reducing waste and downtime, accurate and reliable metering pumps for additives and colors are a necessity. Backed by an industry leading **5-year warranty** Watson-Marlow Bredel's **520, 620, and 720** series tube pumps withstand the toughest industrial environments and pump with extraordinary accuracy and speed control.



- Metering dyes, sizing agents, retention aids, optical brighteners, biocide, phosphoric acid, soda ash, sodium hypochlorite, and sodium nitrite solution.

Everything you need for high quality paper manufacturing

High accuracy metering

Using microprocessor controlled brushless DC drive technology, Watson-Marlow Bredel tubing pumps handle a range of flow rates unmatched in the paper industry.

- Ensure economical use of expensive chemicals and finished product quality
- 3,600:1 control range with a single pump
- Meter with +/-0.1 revolution/min precision
- Flows up to 16 GPM and pressures to 100 psi

Easy system integration

Watson-Marlow Bredel pumps integrate seamlessly into your new or existing control system.

- Built in operator-friendly manual, analog, and digital control
- No need for separate VFDs or complex control devices
- Free standing NEMA 4X corrosion resistant enclosure

Lowest life cycle cost

Leakage, clogging or blockage of pumps can be a regular and expensive occurrence with other pump types. Watson-Marlow Bredel's low maintenance pumps contain the fluid in a long life tube element that takes only moments to replace.

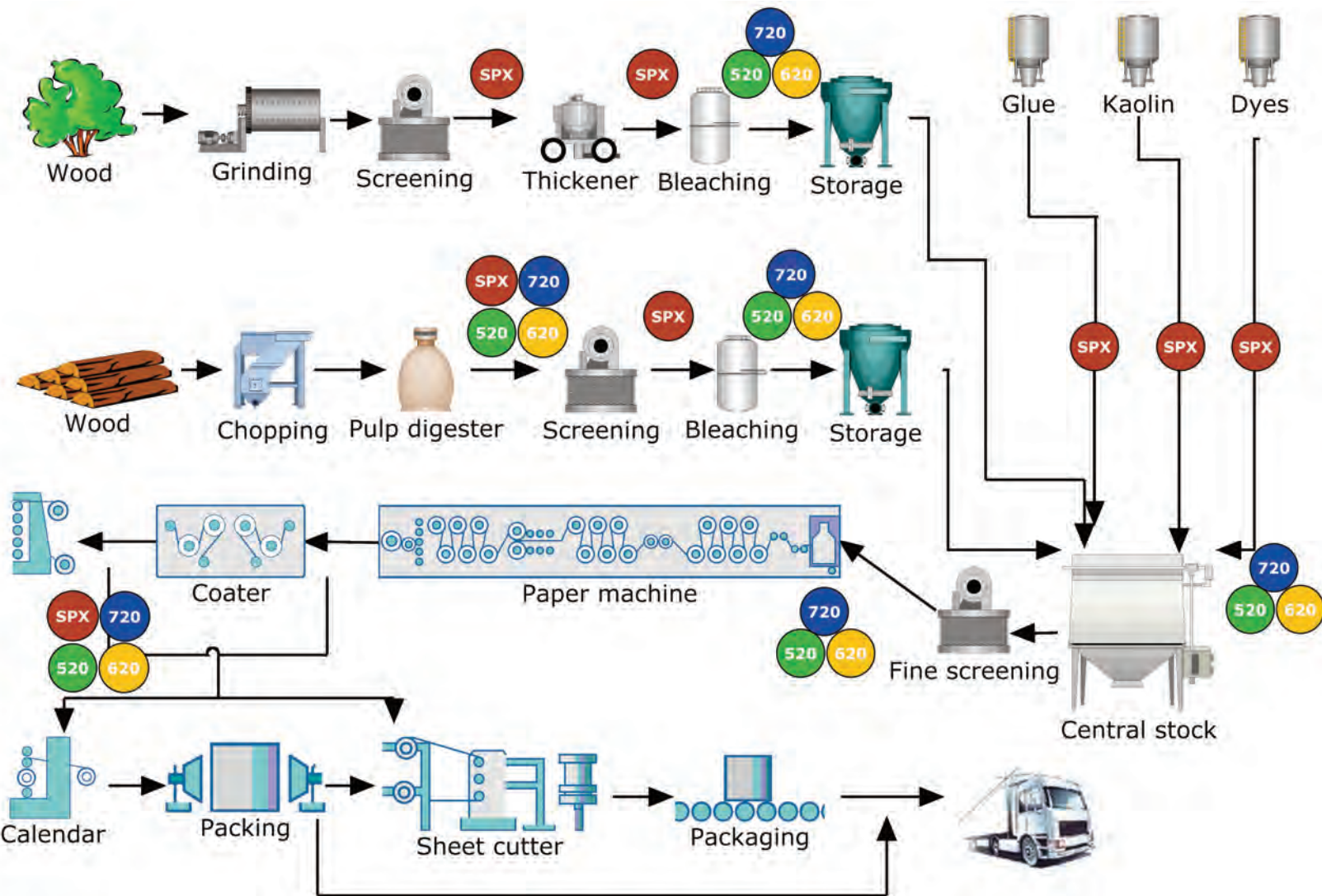
- No seals, valves, lobes, rotors, pistons, or vanes
- Will not vapor lock with sodium hypochlorite; no degassing valve needed
- No strainers, dampeners, or other ancillary equipment needed
- Runs dry indefinitely without damage and dry primes to 30 feet



When Brian Dalgardno at **North Pacific Paper Corporation** (NORPAC) needed dye pumps capable of higher pressure and wider flow range, he installed Watson-Marlow Bredel 520 pumps. "Considering the critical shade grades we were moving to, in order to get better shade control we had to go down to very low flows. With such a huge turndown, the system of direct dye injection with the 520 pumps worked much better for this application."

The Paper Process

Reduce your maintenance and operation costs by replacing your failing positive displacement pumps with Watson-Marlow Bredel pumps.

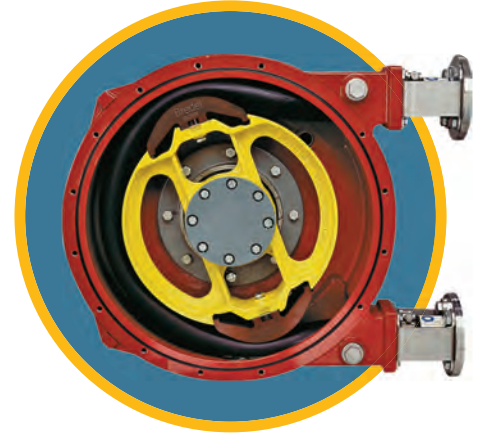


Precise and repeatable flow rates and minimal maintenance are the primary reasons why **Boise Cascade** switched from diaphragm pumps to Watson-Marlow Bredel peristaltic pumps for dye addition. Overall shade losses at the Oxford Specialty Papers Division were costing as much as 60 tons of off-quality paper a month. In addition, stripping, cleaning, and repair of the diaphragm pumps were causing excessive downtime, and lost productivity. Since installing the Watson-Marlow Bredel pumps, losses due to color irregularities have been negligible and productivity has increased substantially. Maintenance now consists of scheduled tubing changeovers which take only minutes.



Pump your toughest fluids with ease

All pulp and paper plants must be able to reliably pump hard-to-handle viscous, corrosive, or abrasive fluids like coatings, lime slurry, and TiO₂. With no valves or seals in the product stream, Watson-Marlow Bredel **SPX** hose pumps tackle these applications with ease, helping you turn maintenance downtime into profitable production.



- Adding and transferring coatings, green liquor and black liquor soap, alum, latex, glue, acids and alkalis, defoamer, composil, polymer, ink, kaolin, lime slurry, and titanium dioxide

Let hose pump simplicity keep your process running

Longer life and greater reliability

Because Watson-Marlow Bredel pumps contain the fluid within the hose, they are naturally resistant to abrasive wear.

- Pump operation is predictable
- Clear flow path means no mechanical seals, packing, or check valves to clog, wear, or replace

Quick and easy maintenance

Dismantling and assembly of progressive cavity and lobe pumps can be time consuming, difficult, and expensive.

- Hose pumps require only one part - the hose
- Hose replacement takes only minutes with no special tools

Elimination of ancillary equipment

Ancillary equipment required for progressive cavity and lobe pumps is not needed, cutting capital and maintenance costs.

- No in-line check valves
- No seal water flush systems
- No run-dry protection devices

The hose is the pump

The hose is the core of our pump and never fails due to abrasion. Its unique four-ply structure ensures excellent suction and pressure performance, and extends service life beyond other pump designs. The rapid wear of progressive cavity and lobe pumps means a quick drop in performance on abrasive papermaking fluids.

- No flow drop over the life of the hose
- Repeatable volumetric accuracy to +/- 1%
- No expensive metallurgy like hastelloy or stainless steel to replace



MeadWestvaco Corporation in Covington, VA was experiencing significant down time due to frequent mechanical seal failures. Their system used a progressive cavity pump for a coating that required shutting down the system for maintenance on a regular basis. After trying an SPX100, Kevin Moyers of MeadWestvaco was hooked. They now utilize the SPX100 to feed a recirculation loop, which has reduced downtime to an annual hose change, done during a mill outage. MeadWestvaco has also purchased additional SPX50s to help keep maintenance costs at the lowest its been in years.



Watson-Marlow Bredel ... Value for life

For pumping harsh fluids in a pulp or paper plant, nothing beats a Watson-Marlow Bredel pump. Using the peristaltic pumping principle, a Watson-Marlow Bredel pump has none of the disadvantages of other pump types, bringing you value for life by ensuring uninterrupted paper production and significantly reduced maintenance cost.

- No seals or valves to clog, leak, corrode or replace
- Heavy duty construction for difficult fluids like acidic, caustic, abrasive, viscous, shear-sensitive, gaseous, and abrasive fluids
- Flows from 0.00015 GPD to 400 GPM and up to 230 psi



Brian Dalgardno at NORPAC

"Maintenance is a quick, 30-second process: we simply close the valve, remove the tube, and put the new tube on the nipple that ties into the valve."

Project Engineer

"Instantly expandable to cover enormous flow ranges and able to provide trouble-free metering of both corrosive dyes and pigments."

Technical Support Manager

"Very reliable, wear resistant, consistent and accurate. A very good industrial pump."

Expert local service and support

With over one million pumps keeping processes running around the world, Watson-Marlow has been the leader in peristaltic innovation for over 50 years. To find out where our pumps can improve your process, a Watson-Marlow Bredel representative based close to you will carry out a complete evaluation to ensure we understand your precise needs, delivering a pumping solution with clear benefits and payback. That same representative will be there to support your installation and ensure you are completely satisfied.

International Paper Company in Franklin, VA was frequently replacing diaphragms, ballchecks, and seats on their AODD pumps. That was until they replaced the AODDs with SPX80s. The Watson-Marlow Bredel pumps worked into the lime sump application without a hitch. The SPX80s have no problems with the lumps of lime cake that normally clogged the AODD pumps. Joe Dundalow of International Paper Company now sings Watson-Marlow Bredel praises because he no longer has frequent diaphragm failures and high maintenance costs.



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Distributors in over 50 countries

The information contained in this document is believed to be correct, but Watson-Marlow Bredel accepts no liability for any errors it contains and reserves the right to alter specifications without notice.

Typical flow rate on all graphs printed varies with tube material, discharge pressure, suction, and viscosity.

WARNING These products are not designed for use in and should not be used for, patient connected applications.

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To learn more about Watson-Marlow Bredel pumps, please ask for one of our process pump brochures:

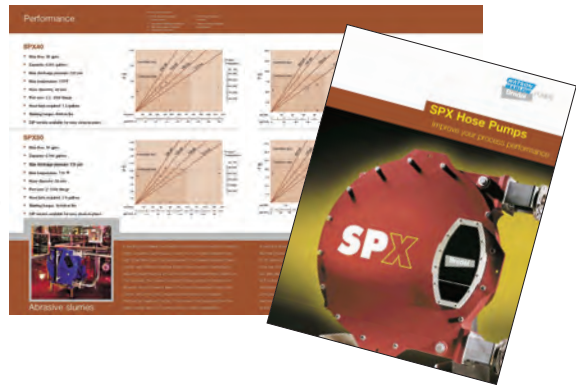
Heavy Duty Tubing Pumps

High accuracy tubing pumps for metering chemicals and dyes from 0-16 gpm and up to 100 psi.



Industrial SPX Hose Pumps

High flow, high pressure hose pumps ideal for aggressive, viscous, or abrasive slurries up to 400 gpm and up to 230 psi.



Water and Wastewater Applications

See where Watson-Marlow Bredel can improve processes in the wastewater side of your plant.



Call 1-800-282-8823 for further information on the industrial pumps and tubing range including technical data sheets or log on to our web site: www.watson-marlow.com to view details on our complete peristaltic pump range

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