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# PULP and PAPER

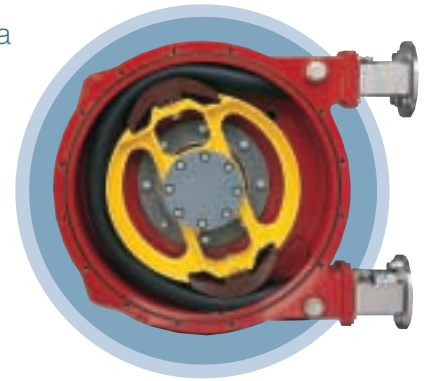
Improve your Process



# Reduce maintenance downtime ...

High quality paper, coupled with lower production costs, is the formula for profitable paper making. Accurate and reliable metering of additives and colours is a necessity for today's successful paper maker. Watson-Marlow Bredel pumps provide process confidence and offer cost savings through:

- **Accurate and repeatable dosing and metering**
- **Long life and greater reliability** • **Self-priming and dry-running**
- **Lowest cost of ownership with quick and easy maintenance**



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

## ... and deliver consistently high quality product with low maintenance ...

### Self-priming and dry-running

It is not always possible to position a pump in the ideal location and often self-priming and dry-running performance is required. These conditions can cause wear in traditional pumps, resulting in loss of performance and premature failure. Watson-Marlow Bredel pumps can self-prime up to 9 metres and run dry indefinitely.

### Lowest cost of ownership with quick and easy maintenance

Leakage, clogging or blockage of traditional positive displacement pumps which incorporate seals, valves, lobes, rotors or vanes can be a regular occurrence and expensive to rectify. Watson-Marlow Bredel pumps contain the fluid in a tube or hose, requiring only one component to be changed, which means that maintenance costs are considerably lower than other pump types. Increased plant productivity and lower repair costs means pump payback is over months rather than years.

### Accurate and repeatable dosing and metering

Paper colouring and tinting requires repeatable pump control for accurate addition of dyes and brighteners. Many traditional positive displacement pumps deliver varying flow rates, resulting in scrapped product and increased costs. Watson-Marlow Bredel pumps are accurate up to  $\pm 0.5\%$  across their total speed range, with the additional benefit of process control capabilities which allows easy installation. Less waste means increased profits.

### Long life and greater reliability

Pump failure cannot be tolerated. Watson-Marlow Bredel pumps have no seals, valves, diaphragms, glands or immersed rotors to leak, clog or replace. Abrasive, corrosive and aggressive liquids are handled with ease because the fluid stays within the tube and never comes into contact with moving parts of the pump. The pumps are designed and manufactured for heavy duty industrial use, and advanced elastomer technology ensures accurate and repeatable performance that truly outperforms all other pumps.



A major paper manufacturer has made **tremendous savings**

each month by preventing colour irregularities in bright tinted papers, by replacing diaphragm and piston pumps with Watson-Marlow Bredel 504U/RL IP55 pumps.

## ... using a proven design ...

The low shear peristaltic pump action is created by compressing the hose or tube element between rotating shoes or rollers. In between each pass of a shoe, the hose element recovers to create a vacuum and draw in fluid. This means the pump is self-priming and dry-running. This simple dynamic effect requires no seal or valves and the fluid is totally contained within the hose, separated from the pump. No other positive displacement pump offers this unique separation of pump and fluid. Watson-Marlow Bredel pumps clearly outperform other pumps which rely on seals, valves or vanes for their operation. These components are repeatedly the cause of pump failure and high maintenance.

The Watson-Marlow Bredel pump range provides flow rates from microlitres per minute to 80 cubic metres per hour and pressures up to 16 bar. Fixed, variable, flameproof, and air operated drives, with comprehensive control options to enable pumps to be configured to your requirements.



## ... with expert advice to give the best system and installation ...

For perfect results, experienced selection and installation advice is essential. A Watson-Marlow Bredel representative based close to you will carry out a complete evaluation to ensure we understand your precise needs, and select a suitable pump with clear benefits and payback. That same representative will be there to support your installation and ensure you are completely satisfied.

### Plant Engineer

*"You can rely on them from the pumps to the technical backup. It's an overall package I know I can count on"*

### Project Engineer

*"I like the toughness. The pumps are excellent; they perform very well with very little maintenance"*

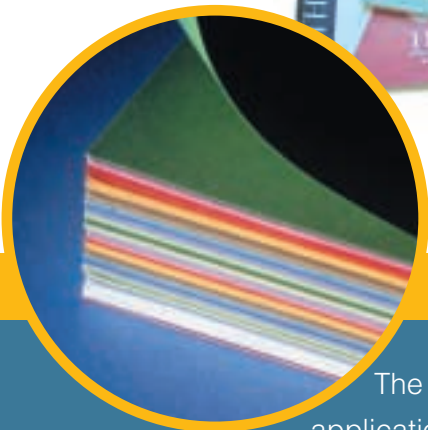
### Technical Support Manager

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



## ... to deliver the promised results.

**All our customers have made major improvements in process performance, maintenance and product quality, resulting in cost savings previously thought unavailable.**



The pumps previously used in this application were difficult to control at very low flows and were expensive to clean and maintain. Accuracy, long and predictable tube life, with simple low cost maintenance means Watson-Marlow Bredel pumps are now considered as **first choice for this company's pumping requirements.**



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Members of the Spirax-Sarco Engineering Group

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.



HBO122

Pump Series

Flow Rates

Put a peristaltic in your process Improve your performance

<b>100</b>	Single channel, low flow pumps. Fixed or variable speed.	1µl/min - 50ml/min	101U
<b>200</b>	Near pulseless, multi-channel pumps with up to 32 channels.	0.5µl/min - 21ml/min	205U
<b>300</b>	Single or multi-channel pumps with manual, remote or dispensing control.	0.07ml/min - 2 litre/min	313U
<b>500</b>	Microprocessor controlled and IP55 process pumps with manual, auto and digital control.	10µl/min - 4.37 litre/min	505S
<b>600</b>	IP55 mid-flow process pumps with full CIP and SIP capability. Fixed or variable speed.	50ml/min - 18.3 litre/min	624U
<b>700</b>	IP55 industrial pumps with manual or auto control, single or twin channel.	1.6 litre/min - 66 litre/min	704U
<b>800</b>	High flow hygienic pumps with full CIP and SIP capability.	2 litre/min - 133 litre/min	840
<b>SPX</b>	Bredel: High flow industrial pumps operating at pressures up to 16 bar (230 psi).	0.3 litre/min - 80m <sup>3</sup> /hr	SPX



For further information on Watson-Marlow Bredel pumps in the Pulp and Paper industry, please request copies of application and technical data sheets.

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