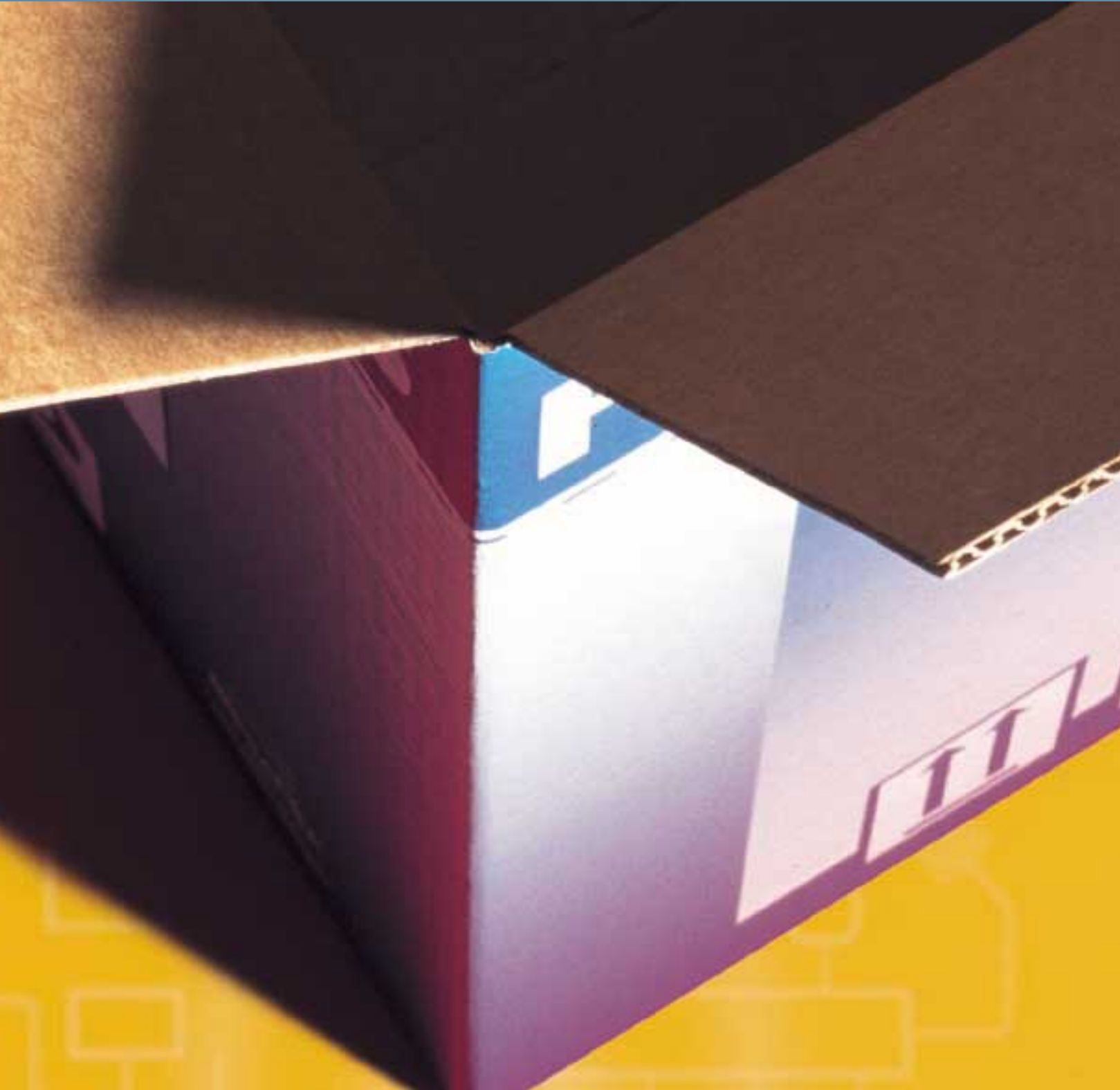


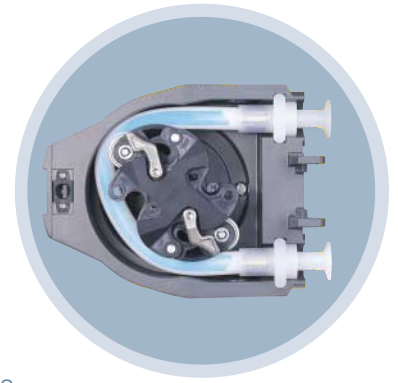
PRINT and PACKAGING

Improve your Process



Fastest changeover and total print run confidence ...

The print industry is constantly upgrading, producing higher quality print and images ever more quickly and competitively. Flexographic and gravure printing which use solvent and water-based inks, coatings and adhesives, demand 100% reliability and fast changeover between runs. Peristaltic pumps from Watson-Marlow Bredel are the first choice for printers, because they give:



- **Fastest changeover time**
- **Total containment with no cross-contamination**
- **Smooth low-shear flow**
- **Reversible to speed cleandown and eliminate waste**
- **Self-priming and dry-running**

... to deliver the most user friendly system and consistent quality...

Shortest changeover time

Downtime between print runs costs money. Watson-Marlow Bredel pumps maximize uptime for all printers because a single component change – a tube or an element - means changeover in under one minute without the need for tools or specialist labor.

Printer-friendly

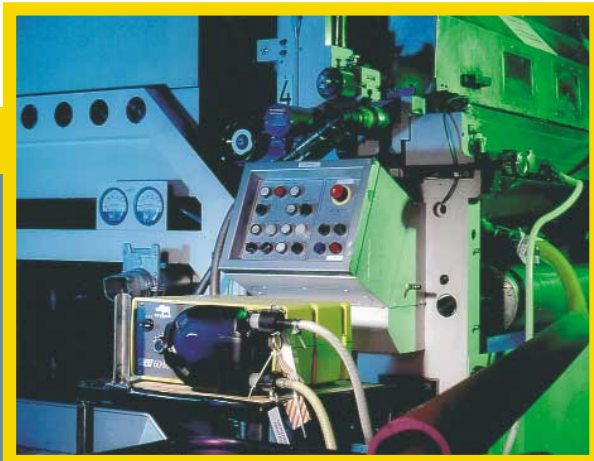
Cleaning of traditional pumps to avoid run contamination is one of the main causes of excessive downtime and increased costs. Watson-Marlow Bredel pumps make this operation easy. A tube change or straight-through flushing, plus the pumps' ability to run in reverse, means lines can be quickly emptied and cleaned without waste or mess. Dry-running and self-priming allow automatic start-up.

Smooth and constant flow

Inks, coatings and adhesives can be shear sensitive. For perfect results the smoothest pump action is required. Other positive displacement or centrifugal pumps can cause foaming or product separation. Also, varying ink viscosities result in pump backflow and inconsistent delivery. Watson-Marlow Bredel pumps provide accurate flow rates across all viscosities.

Reliability

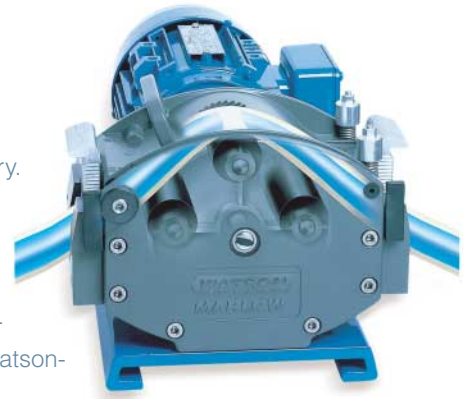
Cost control and tight deadlines means that pump failure during a print run cannot be tolerated. Watson-Marlow Bredel pumps have no seals, valves, diaphragms, glands or immersed rotors to leak, clog or replace. They are robust and made to the highest quality standards to ensure their performance truly out-performs all other pumps. They are virtually maintenance free.



A large printer using MAN Roland 700 presses retrofits Watson-Marlow Bredel twin-channel 704S/R pumps to feed and scavenge varnish. In comparison to all other pumps, the 704S/R virtually **eliminates downtime** cleaning and wastage when a coating change is required. The pumps are self-priming and have a low shear action, giving reliable start-up and excellent ink flow.

... with a pump designed for your industry ...

Watson-Marlow Bredel pumps are designed for the print and packaging industry. The low-shear peristaltic action is created by compressing a tube element between rotating rollers. In between each roller pass, the element recovers to create a vacuum and draw in fluid. This means that the pump is self-priming and dry-running. This simple dynamic effect requires no seals or valves, and the fluid is totally contained within the tube, separated from the pump. No other positive displacement pump offers this unique separation of pump and fluid. Watson-Marlow Bredel pumps clearly out-perform other pump types which rely on a mechanism working within the pumped fluid.



Watson-Marlow Bredel offer a full range of fixed or variable speed drives, explosion-proof and pneumatic motors to meet all printing and packaging customer requirements.

... and open, expert advice to give the best system installation ...

For perfect results, experienced selection and installation advice is essential. A Watson-Marlow Bredel representative based close to you will carry out a full consultation to ensure that 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.

These quotations were given to an independent marketing organization by customers who are delighted to have found Watson-Marlow Bredel.

Plant Manager

"They have been quite a breakthrough for us. They are very easy to clean and avoid cross contamination"

Print Technician

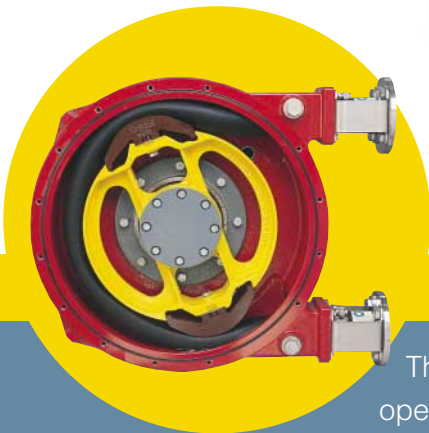
"The product is first class. They do everything we expect them to do. They are very reliable and we have had no problems"

Print Manager

"They have a very good reputation. The pumps do what our printers like. I like the product"

... to deliver the promised results.

Watson-Marlow Bredel peristaltic pumps provide the performance, cost savings and ease of use that print and packaging users require.

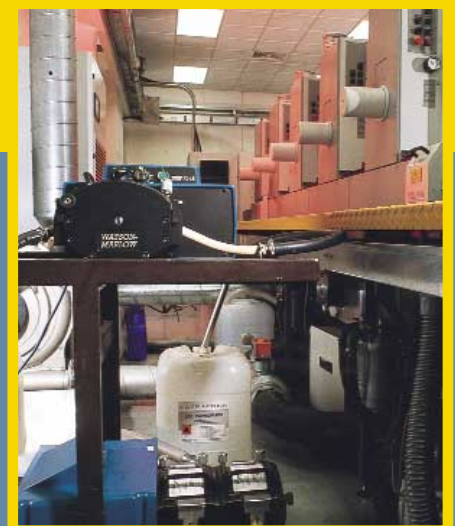


They run continuously while the press is operating - normally 8 to 16 hours per day.

Fast changeover and high reliability

has greatly enhanced the performance of the presses, providing significant operational advantages and cost savings previously thought unobtainable.

In fact, so successful has this application been that MAN Roland now factory installs Watson-Marlow Bredel pumps as standard to their new presses.



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Pump Series

Flow Rates

Put a peristaltic in your process **Improve your performance**

100	Single channel, low flow pumps. Fixed or variable speed.	1µl/min - 50ml/min
200	Near pulseless, multi-channel pumps with up to 32 channels.	0.5µl/min - 21ml/min
300	Single or multi-channel pumps with manual, remote or dispensing control.	2µl/min - 2 liter/min
400	Instrument-quality, ultra-precise, single and multi-channel pumps with manual or process control.	1µl/min - 730ml/min
500	Microprocessor controlled and IP55 washdown process pumps with manual, auto and digital control.	10µl/min - 4.37 liter/min
600	IP55 washdown mid-flow process pumps with full CIP and SIP capability. Fixed or variable speed. Operating at pressures up to 60 PSI	0.01 gpm - 4.8 gpm
700	IP55 washdown industrial pumps with manual or auto control, single or twin channel.	0.4 gpm - 17.4 gpm
800	High flow hygienic pumps with full CIP and SIP capability. Operating at pressures up to 100 PSI	0.5 gpm - 35 gpm
SPX	Bredel: High flow industrial pumps operating at pressures up to 230 PSI.	0.08 gpm - 350 gpm



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