



CHEMICAL

Improve your Process



**ALPH
SM351F**



HIGHLY FLAMMABLE

Highly flammable
Hazard 2 acclimated
irritating to eyes

Keep away from sources of ignition
In case of contact with skin, wear
and wash immediately with water

Wash outside gloves

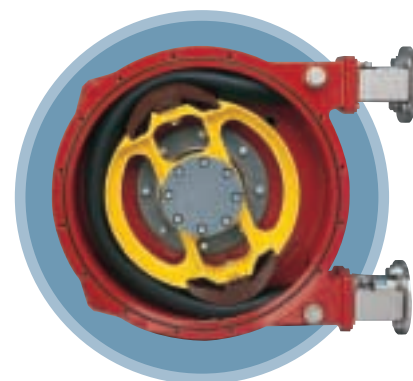
Use only in well-ventilated areas

Store container in a well-ventilated

Prevention of chemical attack and leakage ...

The chemical industry places high demands on pumps which are vital to uninterrupted production and health and safety compliance. Fluid containment and pump chemical compatibility are essential. Peristaltic pumps from Watson-Marlow Bredel provide process improvements and cost savings to the industry by:

- **Extensive chemical compatibility**
- **Total fluid containment with no seals**
- **Greater accuracy and repeatability**
- **Extended pump life and reduced maintenance**
- **Continuous dry-running and self-priming capability**



sodium hypochlorite, titanium dioxide, calcium hydroxide, plating solution, catalytic agents, trichloroethane mix, sulphuric acid solution, lime slurry, acidic liquors, solvents and resins

... to give confident plant operation ...

Chemical compatibility

Any compromise in pump material selection will result in pitting and corrosion, leading to rapid reduction in performance and eventual failure. Watson-Marlow Bredel offer a range of tube materials to ensure chemical compatibility with your fluid. Reliability and longer life give significant production benefits and reduce maintenance costs.

Total fluid containment

Fluid containment and control of emissions are vital. Dry-running, abrasives or solids can cause failure in mechanical seals even with expensive flush systems, or magnetic drive couplings. Watson-Marlow Bredel pumps have no seals and the fluid is totally contained within the tube, ensuring maximum uptime and improved operational safety.

Continuous dry-running and self-priming

Watson-Marlow Bredel pumps have a clear flow path, can run dry indefinitely, and self prime up to 9.5 metres. The risk of gas locking or blockage is eliminated, and pump flexibility allows easy, low cost installation and guaranteed performance.

Greater accuracy

Watson-Marlow Bredel pumps provide high accuracy in dosing, metering and transfer applications. They are true positive displacement pumps with no siphoning or slip, providing accuracy and repeatability up to $\pm 0.5\%$, regardless of fluid viscosity changes. Accurate dosing ensures economical use of expensive chemicals and correct system performance.

Extended pump life and reduced maintenance

Pump failure during production can be costly and hazardous. Watson-Marlow Bredel pumps have no seals, valves, diaphragms, glands, immersed rotors or pistons to leak, clog, corrode and replace. They are virtually maintenance free.



In a treatment plant designed to process legacy intermediate level radioactive waste, four high pressure hose pumps are used to dewater the sludge prior its cement encapsulation and packaging into drums.

... using a design to meet chemical users specifications ...

Watson-Marlow Bredel pumps are designed for the chemical industry. The low shear peristaltic action is created by compressing the tube element between rotating rollers. In between each pass of a roller, the element recovers to create a vacuum and draws in fluid. This means 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 element, separated from the pump. No other positive displacement pump offers this unique separation of pump and fluid. Watson-Marlow Bredel pumps clearly outperform other pump types, such as centrifugal, gear, diaphragm, progressive cavity or lobe, which rely on seals and valves for their operation.

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 with fixed, variable, flameproof, and air operated drives, and comprehensive control options, enable pumps to be configured to your requirements.



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

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

Projects Engineer

"I like the fitness for the job. The pumps are excellent; they perform very well with very little maintenance"

Works Engineer

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

Technical Support Manager

"They're very reliable, hard wearing, consistent and accurate. A very good industrial pump"

... to deliver the promised results.

Confidence in your pumps' performance is paramount. Watson-Marlow Bredel pumps have gained the markets confidence and provided the operational and cost benefits required.



The pumped material in this application meant that its safe containment was of upmost importance, as was the need to keep pump maintenance to an absolute minimum. The fact that the SPX pumps can cope with solids laden and process streams made them ideal for the harsh nuclear environment.



United Kingdom
 Telephone +44 (0) 1326 370370
 Fax: +44 (0) 1326 376009
 Email support@watson-marlow.co.uk
 www.watson-marlow.co.uk

Belgium
 Telephone +32 9 225 94 57
 Fax: +32 9 233 06 49
 Email info@watson-marlow.be
 www.watson-marlow.be

Brazil
 Telephone +55 11 4616 0404
 Fax: +55 11 4616 0403
 Email info4brazil@watson-marlow.com
 www.watson-marlow.com.br

China
 Telephone +86 21 6485 4898
 Fax: +86 21 6485 4899
 Email info@watson-marlow.cn
 www.watson-marlow.cn

France
 Telephone +33 (0) 2 37 38 92 03
 Fax: +33 (0) 2 37 38 92 04
 Email info@watson-marlow.fr
 www.watson-marlow.fr

Germany
 Telephone +49 (0) 2183 42044
 Fax: +49 (0) 2183 82592
 Email info@watson-marlow.de
 www.watson-marlow.de

Italy
 Telephone +39 030 6871184
 Fax: +39 030 6871352
 Email info@watson-marlow.it
 www.watson-marlow.it

Korea
 Telephone +82 (0) 2 525 5755
 Fax: +82 (0) 2 525 5764
 Email support4k@watson-marlow.co.kr
 www.watson-marlow.co.kr

Malaysia
 Telephone +60 (3) 5635 3323
 Fax: +60 (3) 5635 7717
 Email sales@my.SpiraxSarco.com

Netherlands
 Telephone +31 (0) 10 462 1688
 Fax: +31 (0) 10 462 3486
 Email info@watson-marlow.nl
 www.watson-marlow.nl

South Africa
 Telephone +27 11 796 2960
 Fax: +27 11 794 1250
 Email info@wmbpumps.co.za

Sweden
 Telephone +46 8 556 556 00
 Fax: +46 8 556 556 19
 Email info@watson-marlow.se
 www.watson-marlow.se

United States of America
 Telephone 800 282 8823
 Fax: 978 658 0041
 Email support@wmbpumps.com
 www.watson-marlow.com

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Pump Series

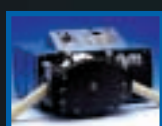
Flow Rates

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

100	Low flow single channel pumps. Fixed and manual/auto control variable speed.	1µl/min - 53ml/min	101F/R
200	Near pulseless, multi-channel pumps with up to 32 channels.	0.6µl/min - 22ml/min	205S/CA
300	NEW Single or multi-channel benchtop pumps with manual, remote, analogue, RS232 control and accurate dispensing.	2µl/min - 3 litre/min	323E/D
400	NEW Ultra-compact scientific pumps for low flow single or multi-channel application.	1µl/min - 610ml/min	401U/D1
500	NEW Superb range of IP31 and IP66 rated pumps for science and industry as well as fixed and variable speed close-coupled pumps.	10µl/min - 4.4 litre/min	505S/R
600	NEW IP66 mid-flow process pumps with full clean-in-place and steam-in-place capability.	0.001ml/min - 18.3 litre/min	620S/R
700	Industrial cased and baseplate mounted pumps for use with continuous tubing or new LoadSure elements. Three phase motors ATEX rated drives or pneumatic.	1.6 litre/min - 2,000 litre/min	704U/R
800	High flow hygienic pumping using USP Class VI Bioprene tubing or STA-PURE tubing.	2 litre/min - 133 litre/min	825
SPX	High flow high-pressure industrial pumps with unique patented direct coupled design Duplex and CIP models available.	0.3 litre/min - 80m ³ /hr	SPX40

Tubing Hoses
 Extensive range of tubing ensures chemical compatibility. USP Class VI and FDA approvals. Precision machined, re-inforced hoses provide flow stability and excellent suction performance.

- Twelve tubing materials in bore sizes 0.13mm to 25.4mm
- Autoclavable Marprene, Bioprene, STA-PURE, Chem-Sure and Pumpsil Silicone (platinum-cured) with LaserTraceability
- Four hose materials including Natural Rubber, Nitrile NBR, Hypalon and EPDM from 10mm to 100mm



At Watson-Marlow Bredel ...

We engineer our winning performance – we don't just turn up the speed. 60% fewer occlusions than our competitors for the same flow means 2½ times the tube life.

- Pumps, pumpheads and tubing last longer
- There's less downtime, fewer failures – and less maintenance
- In the unlikely event of a problem, next-day delivery keeps your production rolling
- Our products are recognised for quality, reliability and performance, backed by a three-year guarantee

So the best pump really does cost less. Call us for the proof.

It all adds up to – *Value for life*



Hoses

For further details on Watson-Marlow Bredel pumps in the Chemical industry, please request copies of application and technical details.

Telephone: 01326 370370
 Fax: 01326 376009
 Email: support@watson-marlow.co.uk
 www.watson-marlow.co.uk