

PERISTALTIC SOLUTIONS

Watson-Marlow... Value for life

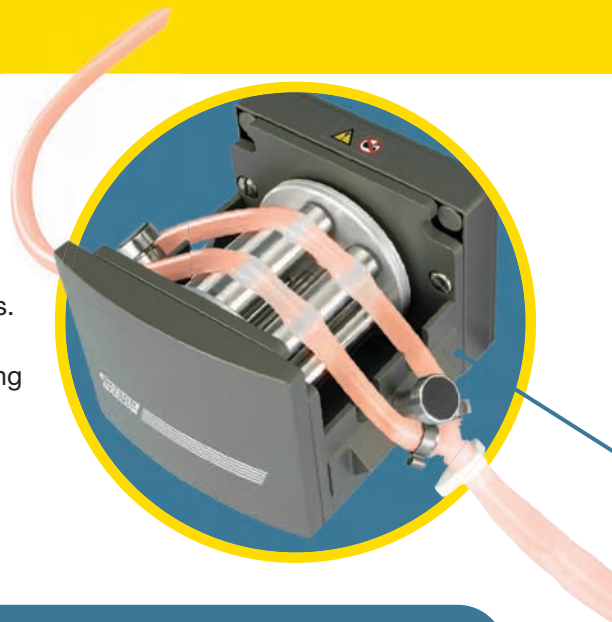


Watson-Marlow Pumps

The pump of choice

For pumping fluids aseptically, nothing beats a Watson-Marlow pump. For over 50 years, Watson-Marlow has led the world in peristaltic pump innovation, developing the best combination of pump and drive technology to meet the quality control demands of today's highly tuned, validated processes.

Offering a contamination-free single-use fluid path, our pumps simplify cleaning validation and enhance the integrity of high purity upstream processes, purification and fill/finish applications.



- Bioreactors/fermentors - nutrient feed, harvesting, anti-foam, perfusion, pH adjustment
- Ultrafiltration and diafiltration • Chromatography • Media preparation • Tablet coating

Everything you need for process pumping

Zero contamination

Watson-Marlow pumps isolate the fluid within the autoclavable or single-use tube.

Sterility

Pumps have an unobstructed single-use fluid path, eliminating possible batch contamination and costly downtime. There are no crevices or dead spots to trap product residue, a major source of bacterial contamination for rotary lobe pumps.

Easy cleaning

Cleaning validation is a quick and simple change of the tube, ideal for single-use batch processes. Where SIP or CIP is desired, it can be carried out at full velocity without the intrusion of the bypass required by other pumps.

Low shear

With no impellers, vanes, lobes or valves to damage the product, Watson-Marlow's unobstructed fluid path provides low-shear pumping, ensuring optimal product quality and improving yield.

Accuracy

Our pumps provide ultimate controllability. Precise feed rates and expansive auto control capabilities optimize yield without process deviations, ideal for metering live cell culture nutrients or bioreactor constituents.

Reliability

Watson-Marlow knows your needs for reliable pumping. Our five-year warranty is our commitment to ensuring your confident production without costly interruption. Unlike light-duty lab-catalog pump manufacturers, our experienced local representative will always be there to support your installation every step of the way.

Controllability



Manual and auto control pump

- Wide flow range for process scale-up
- Million:1 flow range with a single pump
- Operator friendly interface
- Metering and dispensing functions

PROFIBUS enabled

- Ideal for plant-wide integration
- Expanded diagnostic capability to monitor critical processes
- High speed two way real time communication for ultimate process control



High Purity Tubing

It's not just tubing - it's the right tubing

Watson-Marlow's peristaltic expertise has led the way in development of the best tubing for high purity pumping and transfer applications. While many other suppliers offer "pharmaceutical grade" tubing, Watson-Marlow takes the extra steps that many manufacturers overlook.

Repeatable pumping performance

Our tight-tolerance extrusion and post-curing process, when producing Pumpsil®, allow for maximum resistance to flexing stress, improving pumping accuracy and flow stability in your process.

Watson-Marlow's Pumpsil® silicone and Bioprene® weldable thermoplastic tubing are manufactured in dedicated ISO 14644 -1 Class 7 (Class J/10,000) cleanrooms to guarantee products without impurities.



High-purity

Our Pumpsil® platinum-cured silicone tubing is fully post-cured to remove extractable cytotoxic cyclic siloxanes and volatile process aids that may be found in other manufacturers' tubing. A tight surface cure controls protein binding and bacterial growth.

Ultimate traceability

Pumpsil® provides indelible, ink-free LASERTRACEABILITY® of part number, lot number and use-by date on every tube. All our tubing includes USP Class VI certification in every box. Comprehensive validation packs are readily available.

PUMPSIL USE BY 2009-09-22 LOT 3145



Responsive supplier

Watson-Marlow is the only peristaltic pump manufacturer to extrude its own tubing. With standard and custom sizes readily available, we provide guaranteed response times, delivering on time every time.



Flexicon Fillers

Simplify your cleaning validation

Watson-Marlow Flexicon fillers provide ultimate flexibility for all your batch size filling applications.

With the entire fluid path designed for single use, Watson-Marlow Flexicon fillers provide simplified cleaning validation, high precision and unparalleled flexibility.

Our products range from stand-alone units for hand filling, through semi-automatic systems, to fully automatic filling, plugging and capping machines. The compact, fully automatic filling machines are customized to fit any glass vial, plastic bottle, test tube, eye-dropper or non-self standing microtube.



- Pharmaceutical, diagnostic, biopharmaceutical and single-use filling, plugging and capping
- Lyophilization • Diagnostic kits • Bio-tech products • Vaccines • Eye drops

Ultimate flexibility for clinical-scale aseptic filling

High accuracy filling to $\pm 0.5\%$

Our peristaltic technology allows consistent and accurate dispensing of your high value Biopharmaceutical product.

Single-use aseptic fluid path

Unlike piston fillers and other dispensing principles, your sterile product comes into contact with only the FDA approved silicone tubing. When the process is completed, the tubing can be easily cleaned or treated as disposable. This greatly simplifies your cleaning validation process.

No risk of cross-contamination

All Watson-Marlow Flexicon fillers are built on single-use fluid path peristaltic technology, eliminating the risk of cross-contamination during product changes.

Fast product changeovers

Having a single-use fluid path is ideal for fast, efficient product changeovers. Finger screws are used for fast changeovers - no tools or special skills required. Total format changeover takes less than five minutes.

Simple cleaning validation

From small scale to full production, simply change the tube with no risk of cross-contamination.



Meeting your needs

Benchtop filling



Semi-automatic filling



Fully automatic filling



Plant-wide pumping solutions

Biopharmaceutical customers around the world have standardized on Watson-Marlow to meet their wide range of pumping needs. Wherever you are moving fluids, Watson-Marlow Pumps, Tubing and Fillers *will help you simplify validation, improve your process and reduce cost.*



Bag mixing

Gentle pumping action prevents foaming, aiding in efficient mixing to homogenize solutions quickly.



Buffer and media preparation

Watson-Marlow pumps are perfect for rapid bag filling and mixing of buffers and media for cell culture and filtration.

PREPARATION



Fermentor feed

Our pumps offer simple operation for charging and harvesting large bioreactors and fine-tuned process control for precise recipe mixing.



Live cell transfer

Our low shear pumps retain cell viability and minimize cell damage. Unlike lobe pumps, our portability and easy tube changes provide unrivaled flexibility.

UPSTREAM



Purification

Our pumps provide high pressure, low pulse, low-shear flow for maximum live cell retention and system integration through auto or PROFIBUS control.



Fill/Finish

Our easy-to-validate fillers provide high precision, contamination-free filling, plugging and capping with changeover in minutes and no need for tools.

DOWNSTREAM

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Watson-Marlow ... Value for life

Watson-Marlow is your source for peristaltic solutions to meet all your fluid handling needs:

- Pumps
- Fillers
- Tubing



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The Watson-Marlow Pumps Group has direct operations in 16 countries:

United States | Mexico | Belgium | Brazil | China | Denmark | France | Germany | Italy | Korea | Malaysia | Netherlands | South Africa | Sweden | Switzerland | United Kingdom

Distributors in over 50 countries. For local contact information please visit:

www.watson-marlow.com

For more information please ask for one of our brochures:

Watson-Marlow Pumps

Manual, Automatic and PROFIBUS controlled pumps for metering, transfer or dosing.



Validation Packs and Certifications

Our pumps, fillers and tubing are ideal for cGMP applications. Comprehensive validation packs make validation easy. Our products meet or exceed the standards laid down by quality testing authorities worldwide.

- USP Class VI requirements
- European Pharmacopoeia 3.1.9
- ISO10993 requirements

Flexicon Fillers

Complete range of peristaltic fillers from bench-scale to fully automatic aseptic filling, plugging and capping.



Watson-Marlow Tubing

Biopharmaceutical grade tubing for peristaltic pumping and transfer including platinum-cured silicone, weldable Bioprene thermoplastic tubing and additional USP Class VI materials.



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

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

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Watson-Marlow, Inc.

37 Upton Technology Park, Wilmington, MA 01887

Tel: 1-800-282-8823 Fax: 1-978-658-0041

support@wmbpumps.com www.watson-marlow.com