

## OEM PUMPS

### Design Engineer's Guide to Peristaltic Technology



*Watson-Marlow...Innovation in Full Flow*

# OEM design in practice

## Typical applications



### Medical device and diagnostics

- Surgical tool irrigation and cooling
- Diagnostic analyzers
- Endoscope re-processing



### Laboratory

- Sample preparation
- Reagent and sample delivery
- Washing stations



### Food equipment

- Hot and cold beverage dispensing
- Dosing sauces and syrups
- Dosing coffee flavorings



### Biopharm

- Bioreactors/fermentors
- Cross flow filtration

## Key Benefits

- No pump or fluid contamination
- No valves, seals or glands
- Accurate and repeatable flow rates
- Easy installation, operation and maintenance
- Reversible flow direction
- Self priming and dry running

### The right pump, the right company

Watson-Marlow understands that choosing the right pump and the best supplier are important decisions for any OEM or design engineer. Performance, quality, cost, reliability, and maintenance, all need to be considered.

Watson-Marlow is the world's largest peristaltic pump company, and has the largest selection of products, the most experienced staff, and a world-wide factory network of sales offices for support. We deliver superbly engineered pumps that are unmatched in their performance, innovative features, and reliability. Our team of dedicated OEM sales engineers will tap into our extensive knowledge-base to help you specify products that meet your requirements.

### Custom design development

Unlike other companies we have dedicated OEM Project Engineers, and we give you direct access to these professionals to make sure any design and performance requirements are clearly understood, and decisions can be made quickly. This customization work could be as simple as a new roller diameter for an existing pump, or more involved work such as custom drive software, or new designs from scratch. Customers can put our experience to work to help them get their products to market faster.



# Peristaltic Technology - How It Works



The most effective engineering solutions are often the simplest and peristaltic pumps are as simple as they are capable. A peristaltic pump works by alternately squeezing and expanding tubes entrained with fluid. The action is created by compressing the tube between rotating rollers and a track. In between each roller pass, the tube recovers to create a vacuum and draws fluid into the inlet tube. Once in the raceway, the next advancing roller squeezes the tube and pushes the fluid out of the pump.

The peristaltic pump is a uniquely capable pump that can be both gentle and hygienic, and yet highly robust and tolerant of difficult conditions. These pumps can be applied in a wide array of applications, including medical products, laboratory instruments, food equipment, and critical process applications.

## Key attributes

Contamination free

- The fluid contacts only the tubing; fluid and pump remain clean

Robust

- Self-priming, reversible and will pump gas as well as fluid
- No valves to stick or leak; the pump stops, the flow stops
- Aggressive or abrasive fluids are kept inside the chemically resistant tubes

Accurate

- Accuracy for metering or repeatable dosing to  $\pm 0.5\%$

Low maintenance

- Tubing is the only service part. It can be replaced in seconds



## The tubing

At the core of every peristaltic pump is the tubing, and this is what largely defines its performance, biocompatibility, and chemical resistance. Watson-Marlow is the only peristaltic pump company to manufacture its own tubing, and consequently, we are the only ones who can guarantee performance of the pump and tube system. We manufacture four materials in state-of-the-art extrusion plants under USP Class VI clean room conditions.



## Our expertise

Although the principle of the peristaltic pump is simple, as with any other technology there is no short-cut to the engineering time to turn it into a reliable product. We have successfully launched hundreds of new pumps and tubes, and we will use this experience to provide you a fully engineered solution, and shorten your time to market.

Watson-Marlow Pump Group's worldwide network of OEM Sales Specialists are there to assist you with pump selection and customization.

# World class companies that are benefiting from Watson-Marlow's expertise

Tetra Pak, ABB, Bausch & Lomb, Roche, Perkin Elmer, Olympus, Beckman Coulter, Bee Robotics, McDonalds, Sartorius, Dunkin Donuts, KaVo, Portec Rail, McCain, HP Invent, Dade Behring, Hach, Intel, SIG, Roche, 3M, Mectron, Heidelberg, Abbott Laboratories

## OEM product range



### **400A series**

Smallest low-flow pumps on the market for up to 30 ml/min



### **114 series**

Stylish compact pumps with flip-top tube loading for up to 340 ml/min



### **400M series**

Compact economy pumps for up to 200 ml/min, 1 to 8 channels



### **300 series**

Stylish pumps with flip-top tube loading pumps for up to 3 liter/min



### **400R1 series**

High precision pumps for up to 1.2 liter/min, 1 to 4 channels



### **400RX series**

High pressure precision pumps for up to 100 ml/min and 100 psi



### **500 series**

Rapid tube loading and rugged industrial design up to 1.4 gpm (5.3 liter/min)



### **Bulk tubing**

To suit your high volume production needs



### **Cased pumps**

Cased pumps with built in controls, touch keypad and wash-down enclosure protection



# Key design features

The latest engineering polymers provide strength and chemical resistance

Up to date design and styling enhances the look of your product



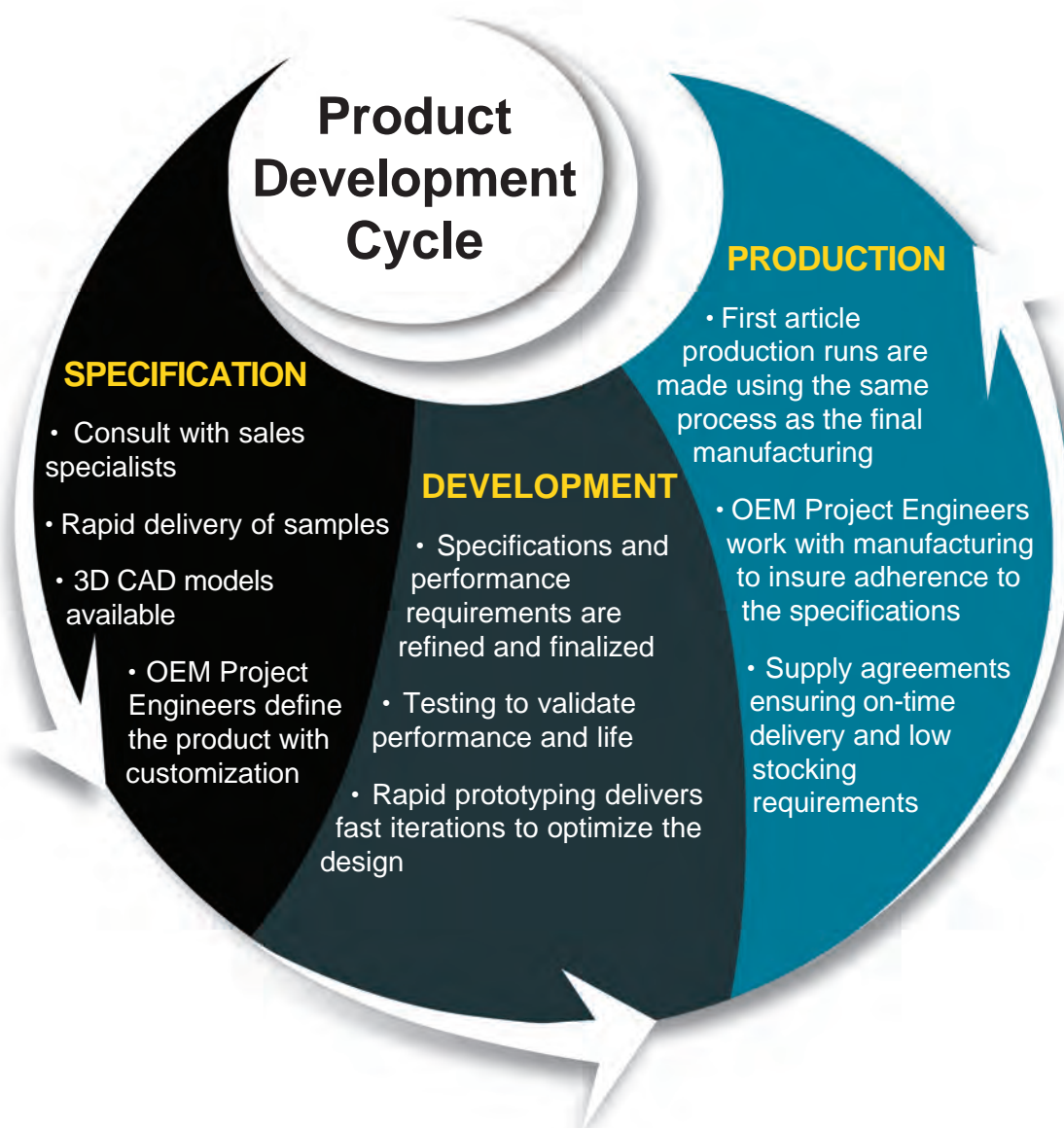
Flip-top tube loading allows tubes changes in seconds

Spring loading improves long term accuracy and tube life

One pumphead accepts 7 tube sizes for a wide flow range

## Your product development partner

At each stage of your product development cycle, Watson-Marlow's OEM Sales Specialists, and OEM Project Engineers work with you to help save you time and money.

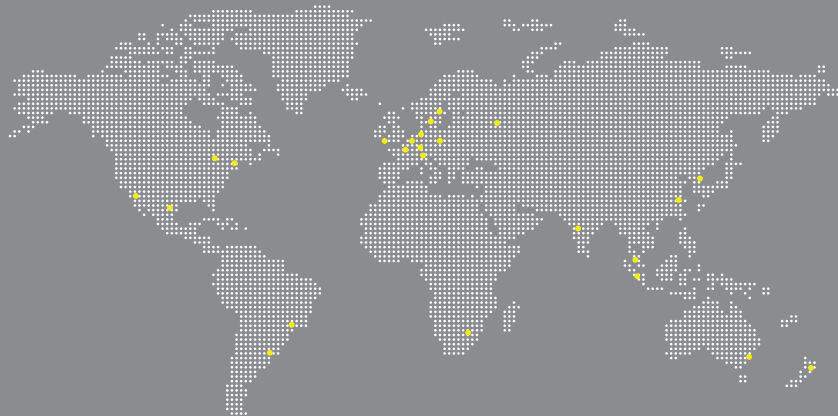




Watson-Marlow Pumps Group

The Watson-Marlow Pumps Group has six world-class factories supported by direct sales operations in 24 countries and distributors in more than 50 countries. For contact details visit our website:

**www.wmpg.com**



**Watson-Marlow   Bredel   MasoSine   Alitea   Flexicon**



### **Watson-Marlow online**

Our engineers around the world can help you choose the perfect pump and tubing for your needs.

More information? Our brochures are on our website - [www.wmpg.com](http://www.wmpg.com)

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