WATSON MARLOW Fluid Technology Solutions

Food and beverage

Pumps and associated fluid path components

INNOVATION IN FULL FLOW

North America: 866 777 6060
Int'l: +1 267 404 2910

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Industry experience

Watson-Marlow Fluid Technology Solutions has been firmly established in the food and beverage industry for decades as a leading supplier of peristaltic and Sine pump technology along with our hose, tubing, fillers, valves and gasket products. Our customers include some of the world's leading food and beverage producers.

We take pride in delivering high-quality products, integrated fluid management solutions, and exceptional customer service, as we build strong, collaborative partnerships with our customers.

Our diverse product range, backed by a global network of industry specialists, provides end-users with safe, effective equipment for these demanding environments.

Directives and standards

The food and beverage processing and handling industry is subject to many directives and standards. This influences the design principles of our technology so we can ensure the reliability, safety and durability of our products and services.

Cleaning

The cleaning process is a fundamental requirement of this industry. Our technology is designed with cleaning methods and suitable detergents in mind. For internal cleaning of processing systems, we design our components for clean-in-place (CIP).

To guarantee the external cleaning procedure of our systems is effective, we design easy-to-clean hygienic solutions.

Applications

	Sinusoidal pumps	Peristaltic hose pumps	Qdos peristaltic tube pump	530, 630, 730 Peristaltic tube pump	Tubing	Valves	Gaskets and PTFE hose
Meat/Poultry	MDM Whole breast Meat dough Sausage dough	MDM Offal Cleaning/ disinfection agents	Wash treatment	Wash treatment	Water treatment		✓
Beverage	Juice Syrup Concentrate	Juice	Flavorings Bottle filling Arabic gum dosing Water treatment	Flavorings Water treatment	Water treatment		✓
Brewing	Yeast harvest/ transfer Beer Liquid sugar	Diatomaceous earth (kieselguhr) Spent/waste yeast Malt/lime flavoring	Hops Sugar dosing Fresh water conditioning	Finings dosing Sugar dosing Additives CIP chemicals	Finings dosing Sugar dosing Additives CIP chemicals		✓
Dairy	Curd and whey Cream cheese Butter Milk Yogurt Mozzarella	Waste	CIP chemicals Hydrogen peroxide metering	Brine dosing Milk additives Yogurt additives CIP chemicals	Brine dosing Milk additives Yogurt additives CIP chemicals	Tank outlet Valves in lactic starter cultures production	✓
Baking	Dough Sponge Custard Batter Pie filling	Pie filling	Dyes	Egg yolks	Egg glaze Egg yolks Sweeteners Icing Flavorings		✓
Confectionery	Chocolate Caramel Inclusions	Water/waste treatment	Dyes Flavoring and coloring	Candy coating Flavoring coloring	Candy coating Flavoring coloring		✓
Prepared food	Ready meals Nut butters Salad dressings Sauces Soup/stews Tomato products	Deli salads Fruit, vegetable waste Beet/cane sugar Salsa Whole peaches	Vitamin addition viscosity modifiers	Food flavors Additives Coloring CIP chemicals	Food flavors Additives Coloring CIP chemicals	In-line valves	✓
Fruit	Berries Soft fruit Purées	Fruit preparations Whole/sectional fruit	Essence / additives	Fruit filling Soft fruit Essences / additives	Fruit filling Soft fruit Essences / additives		✓
Fish	Whole shell fish Fish fillets Roe	Fish waste Live fry, fingerlings	Fish oil metering	Water treatment	Water treatment		✓
Snack foods				Flavorings and coloring CIP chemicals	Flavorings and coloring CIP chemicals		✓

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Sinusoidal pumps

Certa by MasoSine outperforms lobe pumps in critical food and beverage applications. The sinusoidal rotor design of our MasoSine pumps delivers a lower shear, gentle pumping action that safely transfers delicate food products without risk of degradation.

Cleaner than lobe pumps, certified up to EHEDG Type EL Aseptic Class I standard

More efficient than lobe pumps. Uses up to 50% less power

Lower shear than lobe pumps. Maintains final product quality

Lower total cost of ownership than lobe pumps. One shaft, one rotor, one seal and no timing gears

Viscosity handling: can handle viscosities from 1 cP up to 8.000.000 cP without modification and full performance

masosine
Process Pumps

MasoSine Certa pump

Max flow: 1124 GPM

Max suction capability: Can pull up to 85% of full vacuum/25.4 inHg

Max discharge pressure: 217 PSI

Viscosities: 1 cP to 8 million cP

Certified: EHEDG Type EL Class I and EHEDG Type EL Aseptic Class I, FDA and EC1935/2004 compliant, 3A Certified

Sinusoidal pump design

A single sinusoidal rotor creates four evenly sized chambers. As each chamber rotates it gently conveys the fluid from the inlet port to the outlet port. At the same time, the opposite chamber opens to draw in more fluid, resulting in a smooth flow with virtually no pulsation. A gate stops fluid flow from the higher pressure outlet to the low pressure inlet.

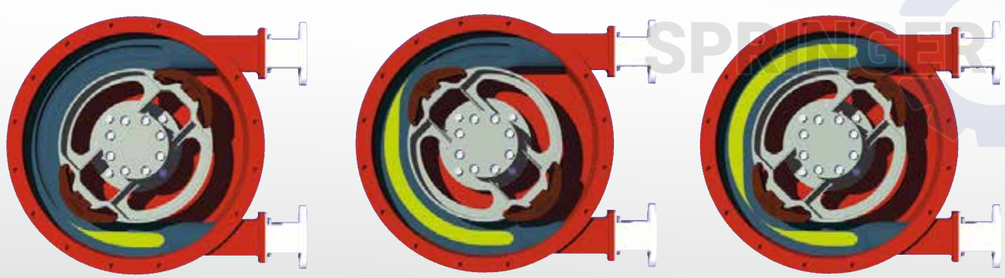
Peristaltic hose pumps

High maintenance diaphragm, rotary lobe, or progressive cavity pumps are unable to match the rugged, reliable 24/7 dependability of Bredel hose pumps.

- **Abrasive handling:** The product only contacts the hose, so no wear on the pump
- **Gentle handling of large particles:** No damage to shear sensitive products
- **Accurate metering:** Perfect dosing every time to ensure end product consistency
- **Easy maintenance:** Just change the hose
- **Seal-less, valve-less design:** Lowers total cost of ownership
- **Bredel genuine hose lubricant:** food grade
- **Automated shoe retraction:** specifically designed for CIP processes ensuring contamination-free pumping, while simplifying maintenance with minimal components

Bredel hose pump design

The pumping action results from alternately compressing and relaxing a machined hose between the pump housing and the compressing shoes. The fluid ahead of the shoe is pushed towards the discharge while the recovering hose behind the shoe draws more fluid in. With 100% compression at all times, the pump does not slip, providing unbeatable metering accuracy and pressure performance. With no pump seals, seats or valves, abrasive slurries are no problem. With the fluid contacting only the inner wall of the hose, the pump is perfect for aggressive chemicals.



Bredel Hose Pumps

Bredel series

Max flow: 475 GPM

Max discharge pressure: 232 PSI

Clean-in-place (CIP) pumps

Max flow: 844 USGPH

Max discharge pressure: 232 PSI

APEX series

Max flow: 27 GPM

Max discharge pressure: 116 PSI

Bredel hose options

NBR for food
Suitable for a wide range of food products. Resistant to various cleaning chemicals. Meets EC 1935/2004

F-NBR
Suitable for all food products including oils and greases. Meets EC1935/2004, FDA compliance 21CFR177.2600 and 3A standards

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Peristaltic tube pumps

Peristaltic pumps can handle aggressive and shear sensitive fluids. The pumped fluid is totally contained within the tube, providing complete isolation of the fluid and no cross contamination.

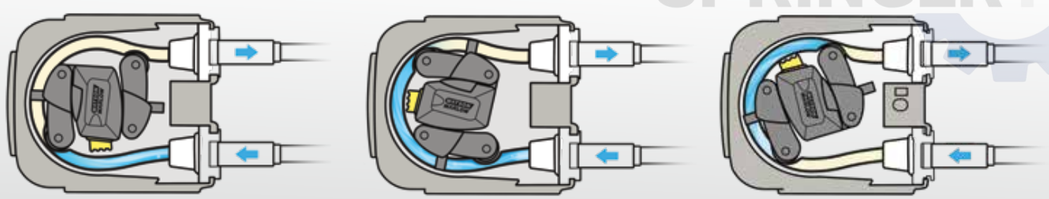
- **Unrivalled accuracy:** Reduce waste and save money with high accuracy delivery
- **Low shear:** Superior to lobe pumps, no damage to fragile food products and improved final product quality
- **Easy clean:** NEMA 4X (IP66) for washdown
- **Reduce process downtime:** One-minute maintenance, just change the tube or pumphead
- **Intuitive:** Operator control, color display and language selection

Watson-Marlow peristaltic pump design

Rollers in a peristaltic pump compress the tube as they rotate, creating a vacuum which draws fluid through the tube.

Nothing but the pump tube touches the fluid, eliminating the risk of the pump contaminating the fluid, or the fluid contaminating the pump.

The complete closure of the tube when it is occluded (squeezed) between the roller and the track, gives the pump its positive displacement action, preventing backflow and eliminating the need for check-valves when the pump is not running.



530 series

Flow rates: 0.0001 to 55 GPH

Max discharge pressure: 100 PSI

630 series

Flow rates: 0.0003 to 5 GPM

Max discharge pressure: 60 PSI

730 series

Flow rates: 0.0005 to 14.5 GPM

Max discharge pressure: 30 PSI

Qdos

Flow rates: 0.001 to 32 GPH

Max discharge pressure: 130 PSI

Meets EC 1935/2004, EU regulation 10/2011 and FDA regulation 21CFR parts 170-199

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Flexicon
Liquid Filling

Filling Systems

Our range of filling and capping machines from Flexicon suit many different sizes of bottles with multiple formats for sealing including crimp and screw capping.

They provide a simple and very flexible means of production which allows for a fast return on investment.

- Complete change over in less than five minutes
- Modular integration with existing peristaltic fillers and capping machines
- Systems fill bottles between 12 mm and 78 mm in diameter
- Fill volumes from 0.1 to 500 ml at up to 2000 fills per hour

WATSON MARLOW
Tubing

Maxthane

Long service life for flavor, color and additive dosing. Tubing elements are compatible with all types of vegetable oil and CIP chemicals.

- FDA regulations 21 CFR177.1680 compliance
- Meets EC1935/2004, EU regulation 10/2011

Bioprene

Wide chemical compatibility and long service life with low gas permeability.

- Opaque to UV and visible light
- FDA regulations 21 CFR177.2600 compliance
- NSF/ANSI 61

bio PURE

Gaskets

- Our sanitary gaskets are all compliant with FDA regulations CFR 21 177.2600
- USP Class VI compliant and animal derived component free (ADCF)
- Designed to achieve a smooth bore
- Advanced metal detectable gaskets are also available—automatically detect polymer decomposition inside your process line

ASEPCO

Valves

Our valves are designed to provide the highest level of reliability and safety.

- Tank, sample and in-line valve configurations available
- Simple tri-clamp assembly makes maintenance up to 80% faster
- Diaphragm materials include silicone, EPDM and PTFE
- Manual or pneumatic actuators, limit switches and solenoids
- Fully CIP/SIP capable, for efficient cleaning and sterilizing
- Up to three ports for CIP/SIP or flushing while closed
- No adjustment or retightening required after installation

AFLEX HOSE

PTFE hose

We are a world leader in PTFE-lined flexible hose. Our hoses contain our unique liner technology, “convoluted outside, smooth inside” for the combination of flow and flexibility, and an embedded kink-proof helical wire.

- Easy clean, shorter cycles. Avoiding costly downtime
- No CIP deterioration so no product contamination
- Kink proof and flexible hose. More than ten times the flex life of other PTFE lined hose
- Fewer hose changes with a long fatigue life results in a more economical product. Natural or anti-static patented PTFE liner
- Smooth bore for uninterrupted fluid flow and ease of cleaning
- High temperature and pressure capability
- Range of braid, cover and external protection options available
- Meets FDA regulation 21 CFR177.1550 or 21 CFR 178.3297, EC 1935/2004 and EU regulation 10/2011

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PROCESS INDUSTRIES HYGIENIC SOLUTIONS

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WATSON MARLOW Tubing

Flexicon Liquid Filling

bio PURE

ASEPCO

Bredel Hose Pumps

masosine Process Pumps

AFLEX HOSE

Watson-Marlow Fluid Technology Solutions

Watson-Marlow Fluid Technology Solutions supports its customers locally through an extensive global network of direct sales operations and distributors

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