WATSON MARLOW

Fluid Technology Group

Food and beverage

Pumps · hose · tubing · fittings

wmftg.com

Industry experience

The Watson-Marlow Fluid Technology Group has been firmly established within 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 the world's leading food and beverage producers.

By providing quality products, coupled with fluid management solutions and excellent customer service, we pride our business on developing partnering relationships 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 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	 Peristaltic tube pumps	 Filling machines	 Valves	 Gaskets and PTFE hose
Meat/Poultry	MDM Whole breast Meat dough Sausage dough	MDM Offal	Water treatment			✓
Beverage	Juice Syrup Concentrate	Juice	Water treatment	Wine sample bottles Flavors Liquid sweetener Liquor and spirits	Wine tanks	✓
Brewing	Yeast harvest/ transfer Beer Liquid sugar	Diatomaceous earth Spent/waste yeast Malt/lime flavoring	Fresh water conditioning Finings dosing Sugar dosing Additives CIP chemicals			✓
Dairy	Curd and whey Cream cheese Butter Milk Yogurt Mozzarella taffy	Waste	Brine dosing Egg yolks Milk additives Yogurt additives CIP chemicals		Tank outlet	✓
Baking	Dough Sponge Custard Batter Pie filling	Pie filling	Egg glaze Sweeteners Frosting			✓
Confectionery	Chocolate Caramel Inclusions	Water/waste treatment	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	Food flavors Vitamin addition CIP chemicals		In-line valves	✓
Fruit	Berries Soft fruit Purées	Fruit preparations Whole/sectional fruit	Fruit filling Soft fruit			✓
Fish	Whole shell fish Fish fillets	Fish waste Live fry, fingerlings	Water treatment			✓

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

Handles viscosity better than lobe pumps. Best NIPR/ NPSHR in the market to reduce risk of cavitation

masosine
Process Pumps

MasoSine Certa pump

Max flow: 435 GPM

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

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.

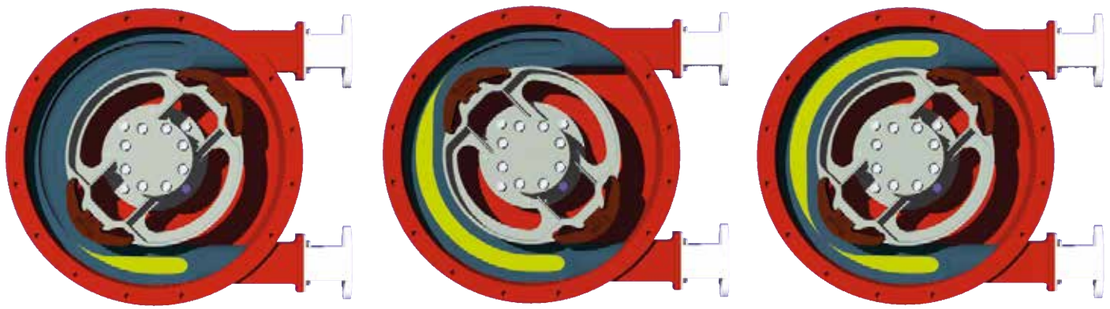
Peristaltic hose pumps

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
- **FDA compliant**

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: 233 GPM

Max discharge pressure: 232 Psi

Max suction capability: Can pull up to 97% of full vacuum/29inHg

Certified: Meets EC1935/2004 and 3A standards

CIP options available

APEX series

Max flow: 27 GPM

Max discharge pressure: 116 Psi

Max suction capability: Can pull up to 97% of full vacuum/29inHg

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 FDA, EC 1935/2004, EHEDG and 3A standards

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.

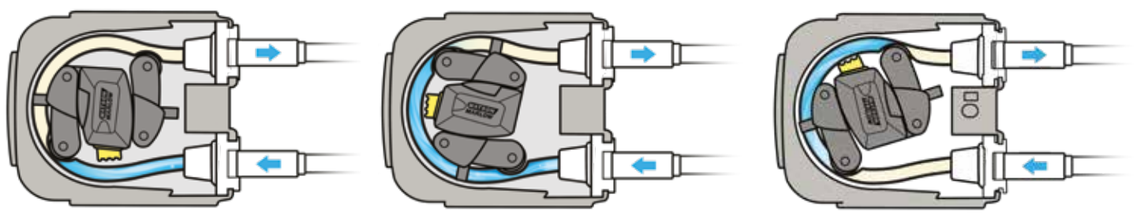
- **Unrivalled accuracy:** Reduce waste and save money with high accuracy delivery
- **Low shear:** Superior to lobe pumps, no damage to fragile food products and improved final product quality
- **Easy clean:** NEMA 4X (IP66) for washdown
- **Reduce process downtime:** One-minute maintenance, just change the tube
- **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: 0.0006 GPH to 55 GPH

Max discharge pressure: 100psi

630 series

Flow rates: 0.0002 GPM to 4.94 GPM

Max discharge pressure: 60psi

730 series

Flow rates: 0.0005 GPM to 8.8 GPM

Max discharge pressure: 30psi

Qdos

Flow rates: 0.001 to 32 GPH

Max discharge pressure: 100psi

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 0.47” and 3.07” in diameter
- Fill volumes from 0.003 fl oz to 16.9 fl oz at up to 2000 fills per hour

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

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

	Purity	SIP	Continuous steam	Chemical resistance	Sealability	Max continuous temp
EPDM		★			★	310F
Silicone	★				★	490F
Viton				★	★	400F
PTFE	★			★		450F
PolySteel	★		★	★		620F
Envelope	★			★	★	450F

Key

- ★ Typically used
- ★ Often used
- Excellent
- Good
- Fair
- Not recommended

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
- FDA compliant, 3A and 1935 (10/2011) certified

WATSON MARLOW

Fluid Technology Group

FOOD AND BEVERAGE SOLUTIONS

WATSON MARLOW Pumps

WATSON MARLOW Tubing

Flexicon Liquid Filling

bioPURE

ASEPCO

Bredel Hose Pumps

masosine Process Pumps

AFLEX HOSE

Watson-Marlow Fluid Technology Group

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

wmftg.com/global

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