



The pump
of choice
for the
food industry



THE PUMP OF CHOICE FOR THE FOOD INDUSTRY



ame
PUMP SPECIALISTS



The Sine pump principle

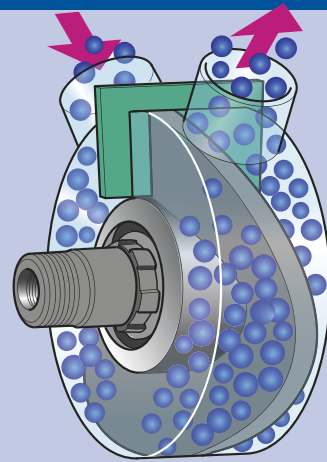
- **Gentle pumping action**
- **Virtually pulsation free**
- **High suction**
- **Easy maintenance**

Whether installing in a new plant or seeking to replace an existing pump, MasoSine offers the ideal food and beverage pump to improve your performance and minimize your cost of ownership.

The sinusoidal rotor design of the MasoSine pump delivers lower shear, gentle pumping action that safely transfers delicate food products without risk of degradation. Our pumps provide flows of up to 590 GPM (at 90 psi) and handle pressures of up to 217 psi (at 434 GPM) with no risk to product integrity. Pumping concentrated and viscous products of up to 8 million centipoise (cP) is possible with no damage to the product.

Maintenance takes minutes and can be performed in-place by a line operative. Replace off-the-shelf wear components to restore to “new pump” performance with no need for re-machining or using oversized parts.

All MasoSine pumps carry a 20 year guarantee backed by aftersales and local specialist support from the world leader in Sine pump technology.



A single sinusoidal rotor creates four evenly sized chambers as it rotates. Fluid is “pulled” through the inlet into each chamber in turn. As the chamber rotates, it contracts, closes then discharges fluid through 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 functions as a seal between the inlet and outlet sides of the pump. It prevents pressure equalization and stops fluid escaping from the higher pressure outlet to the low pressure inlet. The sinusoidal rotor rotates within replaceable liners, ensuring no wear to the pump housing or cover.

Sine pump advantage

Gentle pumping with virtually no pulsation – Ultra low shear pumping of whole foods, meats, dairies and concentrates with no loss to product integrity.

Superior viscous handling – powerful suction up to 0.85 bar. Products with viscosities from 1 cP to 8 million cP can be transferred with ease.

Simplicity – Minimal downtime. One shaft, one seal and no timing gears enable easy in-place pump maintenance.

Reliability – 20 year warranty on pump housing and cover.

Interchangeable parts – Fully interchangeable components between pumps of the same size, reducing spares inventory.



FEATURES AND BENEFITS

Easy maintenance

- One shaft, one rotor and one seal.
No complex timing gears
- Replace off-the-shelf wear components to restore to 'new pump' performance
- Easy access for in-place cleaning and maintenance, requiring no special skills or training
- Parts are fully interchangeable between pumps of the same size, reducing spares inventory and simplifying maintenance procedures

Virtually pulsation free

- Smooth product flow with no need for ancillary dampeners, ensuring process and product quality
- Flow meter accuracy is improved and heat exchanger performance is more efficient

SPS series

- A range of eight pumps with flow of up to 434 GPM
- Consistent flow with pressures up to 217 psi
- 180° powerframe mounting for easy drainage and maintenance



Flexible

- Matched to the customer's process requirements and duty fluid
- Port positions available to fit piping requirements, making drop in replacement possible without changing existing pipework
- Pump can run clockwise or counter clockwise
- Stainless steel pump housing, cover and powerframe

Gentle handling of shear sensitive and whole food products

- Ultra low shear transfer of whole foods, meats, dairy products and concentrates with no risk to product integrity
- Gentle pumping action causes no aeration or foaming during product transfer

Superior viscous product handling

- Viscous handling from 1 cP to 8 million cP without modification to the pump
- Consistent flow with high suction capability up to 12.3 psi



EcoSine series

- A range of three pumps with flow of up to 590 GPM
- Consistent flow with pressure up to 87 psi

Hygienic

- CIP/SIP capability, pump can be cleaned in-place
- FDA, 3A, EHEDG compliance
- Stainless steel pump housing, cover and powerframe

Low cost of ownership

- Easy access to wear parts enables line side maintenance, completed in minutes by a line operative
- Up to 50% less energy usage for the same flow compared to other pump types

APPLICATIONS



◀ Food products

To deliver a constant feed of whole foods and meats to processing lines, a pump must be capable of handling soft solids in a repeatable manner. MasoSine pumps safely handle products containing soft solids ranging from meat and poultry to salads and vegetables:

- Low shear, gentle pumping action avoids product damage; maintaining end product quality and delivering high yield rates
- Powerful suction with low shear, low pulsation and gentle handling; ideal for delicate product transfer with low noise levels
- CIP, SIP or manual cleaning takes minutes and can be performed in-place by a line operative

Beverages ▶

Beverage concentrates with acidic and high viscosity properties can make pumping slow and prone to cavitation. The powerful suction of the MasoSine pump transports fluid through the pump without problems:

- Smooth, laminar flow maintains product stability and ensures greater metering accuracy
- Powerful suction reduces cavitation of fluids while increasing flow rates
- Reduction in wear lowers maintenance costs and minimizes plant downtime





◀ Dairy products

Transferring shear sensitive cheese curd and whey requires a pump with a gentle pumping action to generate higher yield by lowering the fines content. The MasoSine pump is ideally suited to the transfer of sensitive dairy products:

- A single rotor creates four evenly sized chambers as it rotates producing a gentle pumping action
- The gentle transfer of the product from inlet to discharge reduces fines created, resulting in higher curd yield

Confectionary ▶

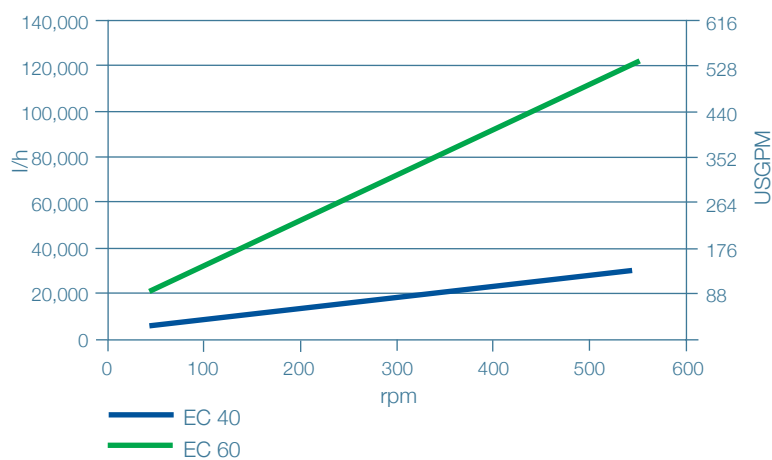
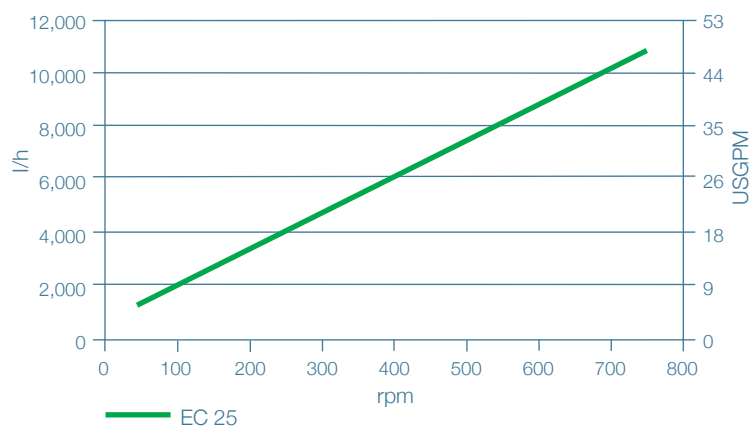
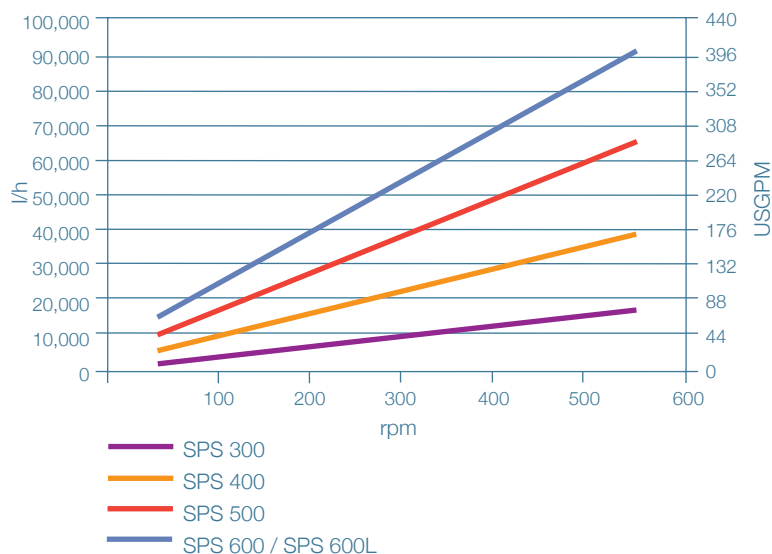
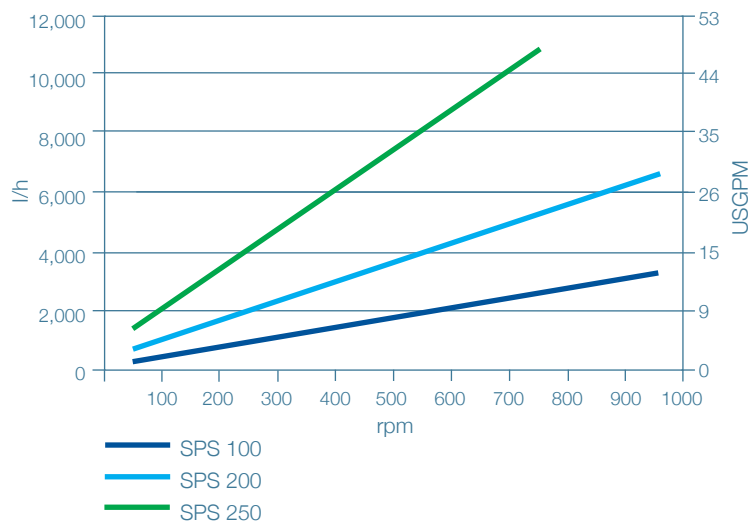
Chocolate, caramel, heavy syrups and liquid sugar are commonplace in confectionary. The MasoSine pump has the ability to gently pump viscous products without risk of damage:

- Virtually pulsation free action for a smooth flow
- Low shear and high suction capability for gentle handling of viscous products
- Cleaning is a simple process that can be performed quickly, ready for the next product run
- The addition of a heating or cooling jacket ensures optimal temperature control for your process



TECHNICAL SPECIFICATIONS

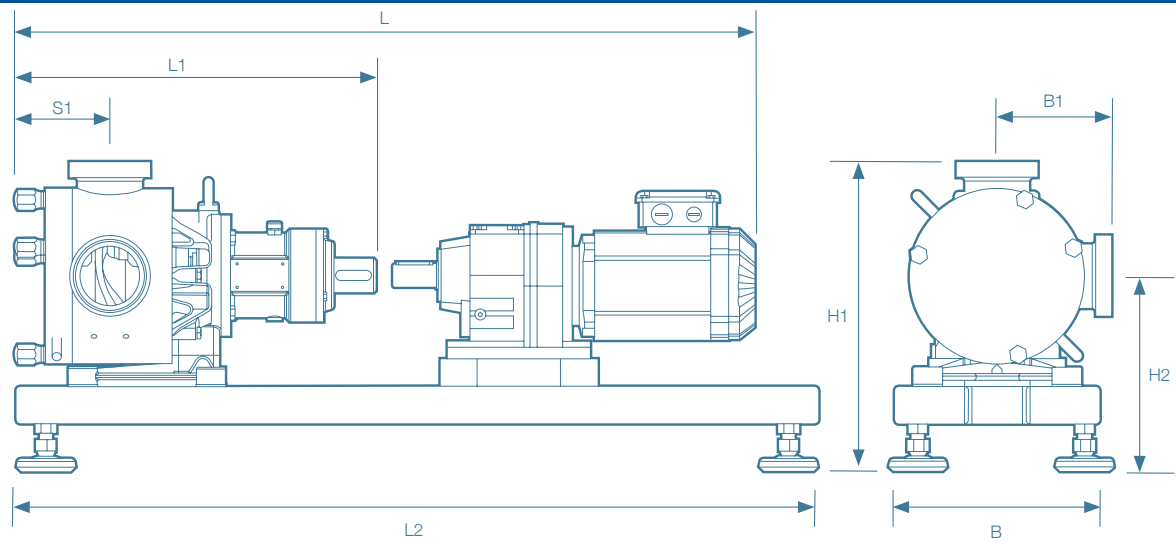
Performance curves



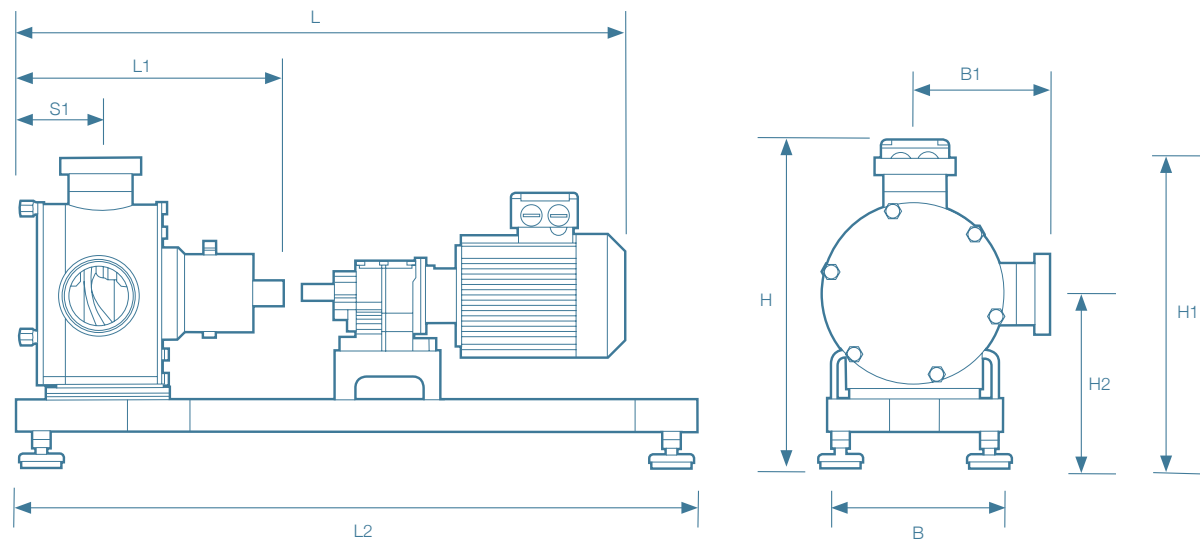
Technical data

| Model | Maximum particle size | | Volume per revolution | | Speed | Maximum flow | | Maximum pressure | | Maximum temperature | |
|----------|-----------------------|------|-----------------------|------------|-------|--------------|------------|------------------|-----|---------------------|-----|
| | mm | inch | liter | US gallons | rpm | l/h | US gal/min | bar | psi | C | F |
| SPS 100 | 10 | 0.39 | 0.08 | 0.021 | 1,000 | 4,800 | 21.1 | 10 | 145 | 180 | 356 |
| SPS 200 | 20 | 0.79 | 0.13 | 0.034 | 1,000 | 7,800 | 34.2 | 10 | 145 | 180 | 356 |
| SPS 250 | 22 | 0.87 | 0.24 | 0.063 | 800 | 11,520 | 50.5 | 15 | 217 | 180 | 356 |
| SPS 300 | 30 | 1.18 | 0.50 | 0.132 | 600 | 18,000 | 78.9 | 15 | 217 | 180 | 356 |
| SPS 400 | 48 | 1.89 | 1.16 | 0.305 | 600 | 41,760 | 183.2 | 15 | 217 | 180 | 356 |
| SPS 500 | 50 | 1.97 | 1.92 | 0.505 | 600 | 69,120 | 303.2 | 15 | 217 | 180 | 356 |
| SPS 600 | 60 | 2.36 | 2.75 | 0.724 | 600 | 99,000 | 434.2 | 15 | 217 | 180 | 356 |
| SPS 600L | 60 | 2.36 | 2.75 | 0.724 | 600 | 99,000 | 434.2 | 15 | 217 | 180 | 356 |
| EC-25 | 22 | 0.87 | 0.24 | 0.063 | 800 | 11,520 | 50.5 | 6 | 87 | 95 | 200 |
| EC-40 | 36 | 1.42 | 0.94 | 0.247 | 600 | 33,840 | 148.4 | 6 | 87 | 95 | 200 |
| EC-60 | 60 | 2.36 | 3.74 | 0.984 | 600 | 134,640 | 590.5 | 6 | 87 | 95 | 200 |

Dimensions



| Model | L | | | | L1 | | L2 | | S1 | | B | | B1 | | | | H1 | | | | H2 | | | |
|----------|-------|------|-------|------|-----|------|-------|------|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | min. | | max. | | | | | | | | | | min. | | max. | | min. | | max. | | min. | | max. | |
| | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch |
| SPS 100 | 735 | 28.9 | 860 | 33.9 | 292 | 11.5 | 800 | 31.5 | 89 | 3.5 | 210 | 8.3 | 97 | 3.8 | 121 | 4.8 | 300 | 11.8 | 330 | 13.0 | 202 | 8.0 | 232 | 9.1 |
| SPS 200 | 740 | 29.1 | 960 | 37.8 | 345 | 13.6 | 800 | 31.5 | 95 | 3.7 | 210 | 8.3 | 106 | 4.2 | 137 | 5.4 | 314 | 12.4 | 344 | 13.5 | 208 | 8.2 | 238 | 9.4 |
| SPS 250 | 872 | 34.3 | 1,091 | 43 | 428 | 16.9 | 800 | 31.5 | 114 | 4.5 | 210 | 8.3 | 126 | 4.96 | 156 | 6.14 | 375 | 14.8 | 445 | 17.5 | 250 | 9.84 | 290 | 11.4 |
| SPS 300 | 985 | 38.8 | 1,382 | 54.4 | 492 | 19.4 | 1,100 | 43.3 | 128 | 5.0 | 280 | 11.0 | 156 | 6.1 | 182 | 7.2 | 426 | 16.8 | 490 | 19.3 | 270 | 10.6 | 310 | 12.2 |
| SPS 400 | 1,235 | 48.6 | 1,805 | 71.1 | 619 | 24.4 | 1,300 | 51.2 | 169 | 6.7 | 380 | 15.0 | 192 | 7.6 | 208 | 8.2 | 505 | 19.9 | 567 | 22.3 | 318 | 12.5 | 358 | 14.1 |
| SPS 500 | 1,300 | 51.2 | 1,640 | 64.6 | 659 | 25.9 | 1,300 | 51.2 | 131 | 5.16 | 380 | 15 | 212 | 8.35 | 235 | 9.25 | 560 | 22 | 623 | 24.5 | 348 | 13.7 | 388 | 15.3 |
| SPS 600 | 1,755 | 69.1 | 2,200 | 86.6 | 771 | 30.4 | 1,400 | 55.1 | 319 | 12.6 | 400 | 15.8 | 274 | 10.8 | 274 | 10.8 | 630 | 24.8 | 700 | 27.6 | 353 | 13.9 | 433 | 17.1 |
| SPS 600L | 1,302 | 51.3 | 2,100 | 82.7 | 686 | 27.0 | 1,400 | 55.1 | 234 | 9.2 | 400 | 15.8 | 270 | 10.6 | 274 | 10.8 | 675 | 26.2 | 757 | 29.8 | 390 | 13.4 | 487 | 19.2 |



| Model | L | | | | L1 | | L2 | | S1 | | B | | B1 | | | | H | | | | H1 | | | | H2 | | | |
|-------|-------|------|-------|------|-----|------|-------|------|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | min. | | max. | | | | | | | | | | min. | | max. | | min. | | max. | | min. | | max. | | min. | | max. | |
| | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch |
| EC-25 | 832 | 32.8 | 915 | 36.0 | 340 | 13.4 | 800 | 31.5 | 105 | 4.1 | 210 | 8.3 | 132 | 5.2 | 160 | 6.3 | 384 | 15.1 | 460 | 18.1 | 395 | 15.6 | 395 | 15.6 | 233 | 9.2 | 233 | 9.2 |
| EC-40 | 983 | 38.7 | 1,068 | 42.1 | 432 | 17.0 | 1,100 | 43.3 | 136 | 5.4 | 280 | 11.1 | 181 | 7.1 | 220 | 8.7 | 454 | 17.9 | 548 | 21.6 | 470 | 18.5 | 508 | 20.0 | 288 | 11.3 | 288 | 11.3 |
| EC-60 | 1,305 | 51.4 | 1,701 | 67.0 | 675 | 26.6 | 1,355 | 53.4 | 212 | 8.4 | 380 | 15.0 | 295 | 11.6 | 315 | 12.4 | 638 | 25.1 | 765 | 30.1 | 645 | 25.4 | 665 | 26.2 | 350 | 13.8 | 350 | 13.8 |

OPTIONS AND ACCESSORIES



Connection ports

MasoSine pumps are available with ports to suit your application including tri-clamp or bevel seat connections as standard. Customized connection including DIN, SMS, ANSI 150# RF are also available on request.

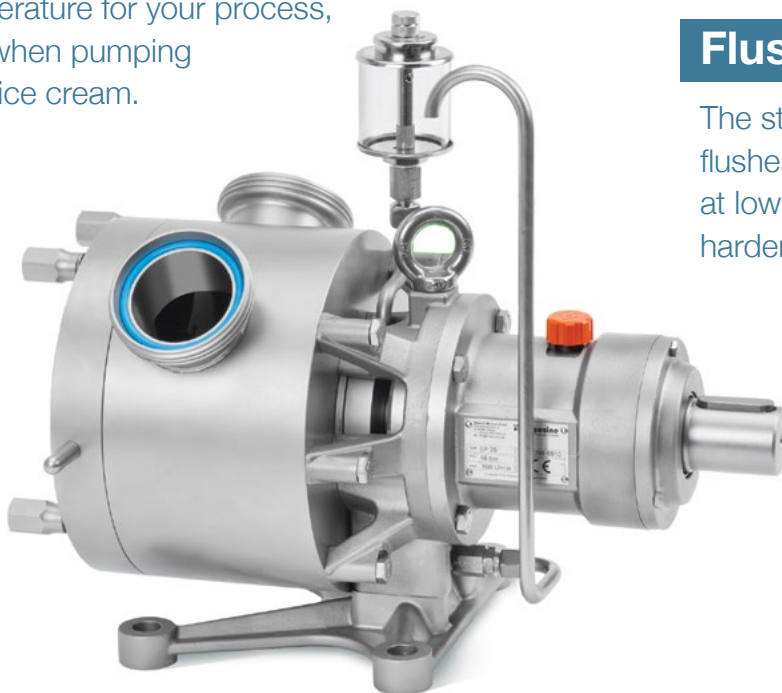
Port orientation

Pumps can be configured with ports in a range of orientations to meet installation requirements. Customized port orientations are also possible upon request.



Ensuring the correct temperature for your process

A jacketing system is available to allow pumps to be heated or cooled to the optimal temperature for your process, for example when pumping chocolate or ice cream.



Flush systems

The static and dynamic flush system flushes the area behind the seal system, at low pressure, to prevent product from hardening and damaging the seal system.

SERVICE AND SUPPORT

Service

We believe in providing the highest standard of service to our customers, at every level. We work with them to understand their applications and pressures affecting their business, and provide solutions that are specifically matched to their requirements.

Support

Customer support is provided through a network of Sine pump specialists and technical support teams. This ensures our customers always benefit from local knowledge and MasoSine pump expertise. No matter where your business operates, MasoSine is never far away.

Genuine spares

MasoSine's approved parts policy means only the highest quality materials are used in the manufacture of our pumps. This gives our customers confidence that our pumps will not let them down.

Essential spare parts can be dispatched on the day the order is received. Standard pumps can be dispatched within 24 hours.



Watson-Marlow Pumps Group has seven 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**Flexicon**MasoSine**BioPure*

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

support@wmpg.us

Watson-Marlow... Innovation in Full Flow



Head Office | 65 -- 67 Ashwin Parade, Torrensville, South Australia, 5031
Northern Service Centre | Lot 141 Industry Drive, Whyalla Playford, 5600
ABN 24 250 583 833 | AU736-QC-HSE | ISO 9001:2008 | TQCSI QHSE:2013 | sales@asseteng.com.au

t (08) 8234 2090
f (08) 8443 4184
amepumps.com.au

Watson-Marlow Pumps Group

Watson-Marlow, Inc.
37 Upton Technology Park
Wilmington, MA 01887
Tel: 800-282-8823

Watson-Marlow, Inc. (West)
20992 Bake Parkway, Suite 100
Lake Forest, CA 92630
Tel: 855-567-9674

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