



**certa**

Sine<sup>®</sup> pump – reliably  
hygienic and energy efficient



**WATSON  
MARLOW**

Fluid  
Technology  
Solutions



## Reliably hygienic and energy efficient

- Increase process speed with market leading suction capability
- Self-draining and easy to clean design, certified with:
  - EHEDG Type EL Class I
  - EHEDG Type EL Aseptic Class I
- Reduce the cost of pumping even viscous products, with up to 50% less power consumption than lobe or circumferential piston pumps
- Low shear, gentle handling to preserve product integrity
- Ensure smooth product flow with low pulsation
- Designed to reduce maintenance and maximise production time

Engineers in food and beverage and hygienic solution plants are frequently faced with pumping a wide range of products from varying-viscosity orange juice concentrates and bakery products to shear sensitive products like deli salads, cheese curds and savoury pie fillings.

Certa Sine pumps play an important part in conveying foods safely and without degradation throughout the manufacturing and packaging process. Certa Sine pumps can handle even highest viscosity products and provide a flow rate up to 255 m<sup>3</sup>/h or 1124 GPM.

Certa Sine pumps meet the highest standards in hygiene and cleanability while improving process efficiency and minimising total cost of ownership.

### Sine<sup>®</sup> pump design

A single sinusoidal rotor creates four evenly sized chambers. The design allows gentle product handling with a smooth flow and virtually no pulsation.



### Advantages:

#### Gentle pumping with virtually no pulsation

Ultra low shear pumping of whole foods, meats, dairy and concentrates with no loss to product integrity

#### Superior viscous handling

Powerful suction up to 0.85 bar / 12 PSI vacuum. 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

#### Interchangeable parts

Fully interchangeable components between pumps of the same size, reducing spares



# \ Features

## Cleaner than any lobe or circumferential piston pump

- EHEDG Type EL Class I and EHEDG Type EL Aseptic Class I
  - The Type EL Aseptic Class I certification that Certa carries applies to closed equipment, wet cleaned-in-place (CIP) without dismantling, steam sterilisable and bacteria tight. All contact parts FDA and EC1935 compliant
- Reduce your CIP cycle and the amount of cleaning agents required
- Reduce chemical and water use and wastewater for disposal
- Modular seal system options:
  - Single mechanical seal
  - Single mechanical seal with flush
  - Double mechanical seal (required for aseptic applications)

## Energy efficient

- Requires up to 50% less power than lobe or circumferential piston pumps
- Reduces energy use and carbon footprint
- Higher efficiency at high viscosity increases energy savings in your most difficult applications

## Virtually pulsation free

- Smooth product flow with no need for ancillary dampeners, ensuring product quality
- Improves flow meter accuracy and heat exchanger efficiency

***\*A space between wet end (pumphead) and power end (bearing housing) of the pump, ensures fluid drains away in the event of a seal failure and eliminates the risk of contamination.***

## Lowest cost of ownership

- Simple maintenance performed in-place by a line operative
- Patented design allows bi-directional running to pump duty fluid back to source
- Can be included in aseptic processes without the need of additional steam ports due to bacteria tight design proven by EHEDG Type EL Aseptic Class I certification

## Superior, gentle handling

- Improves batch consistency and final product quality
- Virtually eliminates wastage of raw ingredients
- Low shear action prevents aeration and foaming during product transfer
- Powerful suction for superior viscous handling



### Sustainability curves

MasoSine Energy Efficiency (Mee) curves demonstrate how the Sine principle requires less power to operate in viscous applications. The curves demonstrate how Certa Sine pumps help organisations achieve greater sustainability.

# \ Applications



# 50%

Certa uses up to 50% less power than lobe and circumferential piston pump types



## Beverages

- Speed up tank emptying and reduce transport unloading time with Certa Sine pump's powerful 0.85 bar /12 PSI suction capability
- Unlike lobe or circumferential piston pumps, maintain a high flow rate while avoiding the risk of cavitation when handling viscous concentrates
- In the brewery processes, Certa reduces product wastage by maintaining the integrity of solid yeast settled at the bottom of the tank which simplifies and accelerates the harvesting process



## Bakery

- Low shear, gentle handling preserves the integrity of bakery products and reduces wastage
- Convey the ingredients and mixes involved with dough and batter without degradation



## Prepared foods and ready meals

- Low shear, gentle handling preserves the integrity of delicate ingredients to reduce wastage



## Dairy

- Low shear, gentle handling reduces wastage by preserving the integrity of curds, whey and viscous molten cheese such as mozzarella
- Process efficiency with the Certa's full CIP capability and savings in chemical and water usage and disposal

## \ Options and accessories



### Connection ports

Certa Sine pumps are available with all standard ports to match your application including DIN, TC, RJT and SMS. Customised options are available upon request.

### Port orientations

Pumps can be configured with ports in a range of orientations to meet installation requirements, including a self-draining orientation.

### Accessories

- Priming devices for dry priming available
- Pump jacketing to maintain the process fluid temperature
- Static and dynamic flush systems available
- O-Ring, single and double mechanical seals available
- Hinge version available to carry the weight of the front cover



## \ Limited on space?

With a 30% reduction in footprint on the Certa Sine pump from MasoSine, the Certa Compact Sine pump is a compact solution for customers when space for an installation is limited.

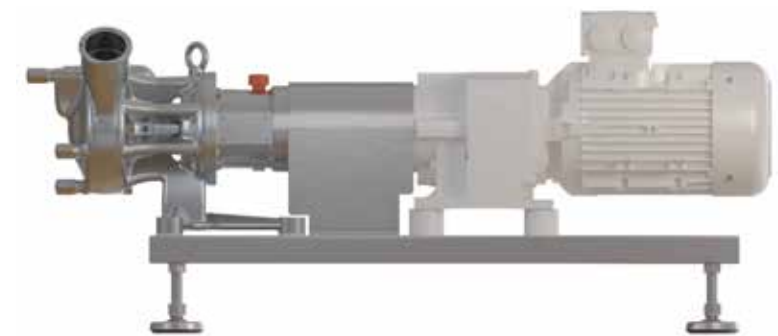
As with all Certa Sine pumps, the Certa Compact delivers energy savings as it consumes up to 50% less power than lobe or circumferential pumps with exceptional performance for all applications, including handling highly viscous products.

### Certa Compact



- Applications up to 6 bar / 87 PSI
- No motor coupling required
- No misalignment of motor

### Certa Sine pump



- Higher pressure applications (up to 15 bar / 217 PSI) ATEX applications

#### O-Ring seal:

- Simple design and easy to service
- Developed for frequent dismantling for Clean Out of Place (COP) procedures

#### Single mechanical seal:

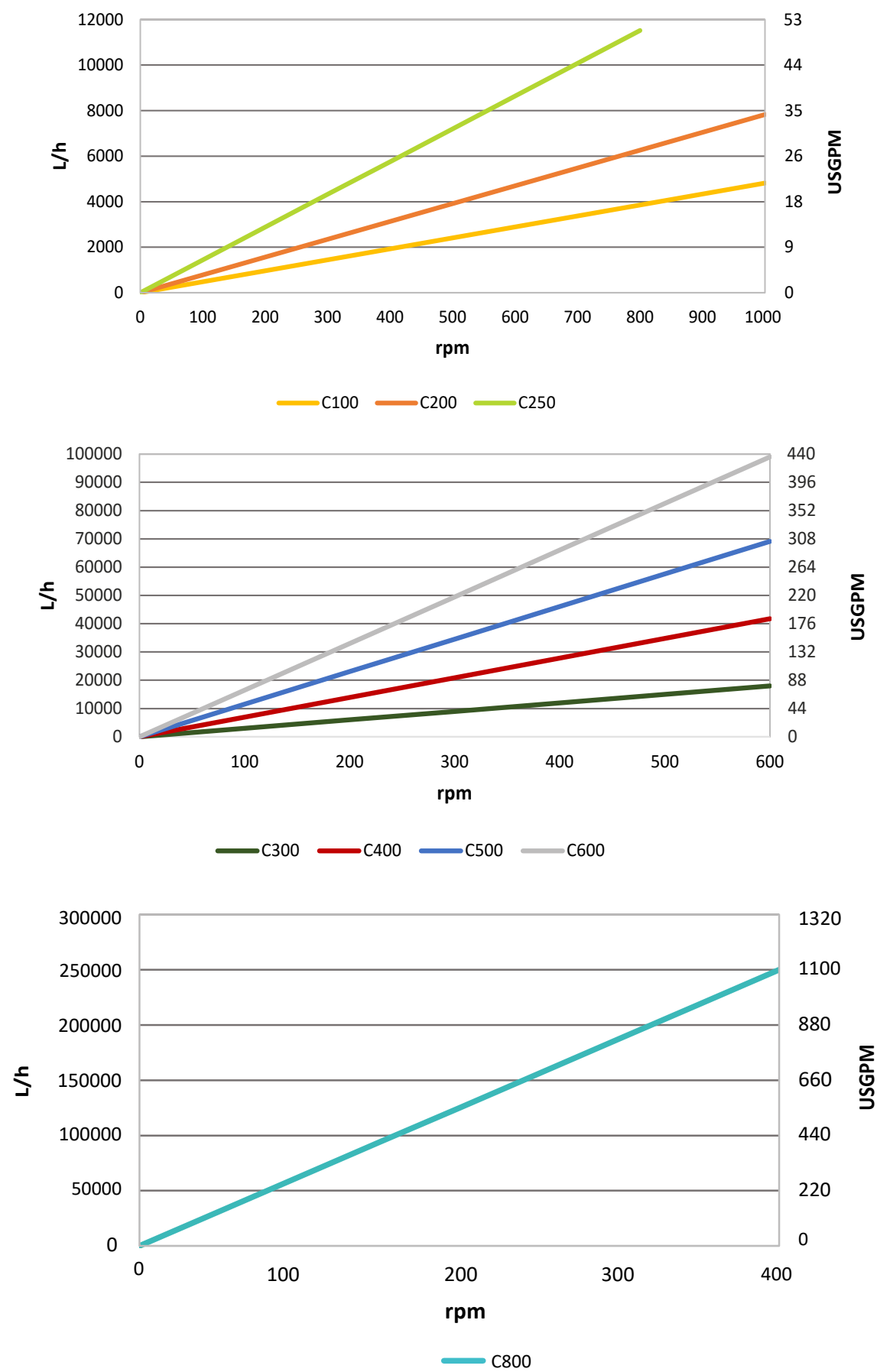
- Used within applications that carry out CIP cleaning
- Required for applications that need EHEDG and/or 3-A
- With or without seal flush
- Flush can be retrofitted without any modification

#### Double mechanical seal:

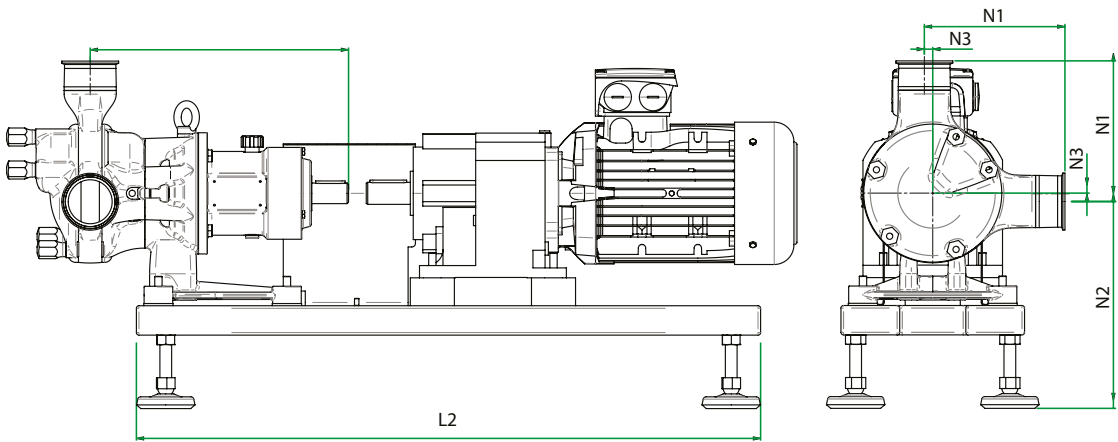
- Required for aseptic applications or challenging liquids
- Either flushed only or pressurised
- Flush can be retrofitted without any modification

# Technical data

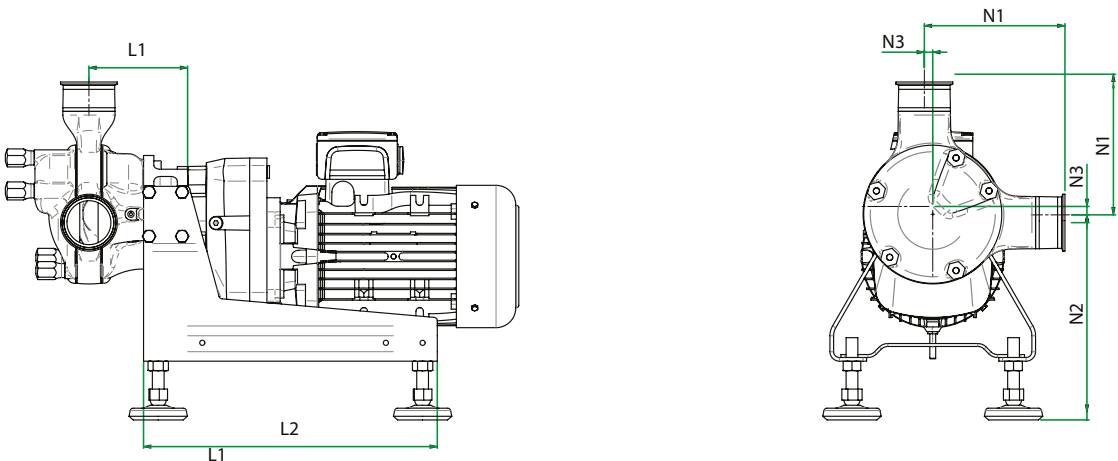
## Performance curves



Certa Sine pump



Certa Compact



## Dimensions

| Model<br>(CC=Certa Compact) | Nozzles |           |         |    | Length  |       |          |       |
|-----------------------------|---------|-----------|---------|----|---------|-------|----------|-------|
|                             | N1      | N2 Certa  | N2 CC   | N3 | L1Certa | L1 CC | L2 Certa | L2 CC |
|                             | mm      | mm        | mm      | mm | mm      | mm    | mm       | mm    |
| Certa 100/CC                | 139     | 228 -25   | 220 +25 | 10 | 265     | 122.5 | 730      | 320   |
| Certa 200/CC                | 155     | 242.5 -25 | 230 +25 | 10 | 299     | 124   | 730      | 370   |
| Certa 250/CC                | 192     | 281 -25   | 270 +25 | 12 | 352     | 134.5 | 850      | 400   |
| Certa 300/CC                | 238     | 305 -35   | 263 +25 | 18 | 456     | 149   | 1100     | 480   |
| Certa 400/CC                | 324     | 322 -35   | 329 +25 | 31 | 514     | 174   | 1300     | 600   |
| Certa 500/CC                | 327     | 378 -35   | 335 +25 | 25 | 564     | 210   | 1300     | 600   |
| Certa 600/CC                | 343     | 380 -35   | 352 +25 | 28 | 639     | 252.5 | 1400     | 650   |
| Certa 800                   | 535     | 740       | N/A     | 38 | 807     | N/A   | 2200     | N/A   |

## Technical Data

| Model          | Maximum particle size | Volume per revolution | Speed | Maximum flow | Maximum pressure | Maximum temperature | Shaft diameter | Shaft height |
|----------------|-----------------------|-----------------------|-------|--------------|------------------|---------------------|----------------|--------------|
|                | mm                    | litre                 | rpm   | l/h          | bar              | C                   | mm             | mm           |
| Certa 100 (CC) | 13                    | 0.08                  | 1000  | 4,800        | 10 (6)           | 100                 | 28             | 95           |
| Certa 200 (CC) | 18                    | 0.13                  | 1000  | 7,800        | 10 (6)           | 100                 | 28             | 109.5        |
| Certa 250 (CC) | 22                    | 0.24                  | 800   | 11,520       | 15 (6)           | 100                 | 28             | 146          |
| Certa 300 (CC) | 30                    | 0.50                  | 600   | 18,000       | 15 (6)           | 100                 | 45             | 150          |
| Certa 400 (CC) | 38                    | 1.16                  | 600   | 41,760       | 15 (6)           | 100                 | 50             | 195          |
| Certa 500 (CC) | 50                    | 1.92                  | 600   | 69,120       | 15 (6)           | 100                 | 50             | 250          |
| Certa 600 (CC) | 60                    | 2.75                  | 600   | 99,000       | 15 (6)           | 100                 | 65             | 255          |
| Certa 800      | 100                   | 10.64                 | 400   | 255,360      | 15               | 100                 | 110            | 405          |

For full technical data and drawings visit [wmfts.com](http://wmfts.com)

## PROCESS INDUSTRIES HYGIENIC SOLUTIONS



### 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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