



certa

Sine[®] pump – reliably
hygienic and energy efficient





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 maximize 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 savory 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 1124 GPM or 255 m³/h.

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



Sine[®] 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 12 PSI / 0.85 bar 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 sterilizable 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
- Ultra-low shear, gentle pumping of whole foods, meats, dairy and concentrates with no loss to product integrity

**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, viscous handling

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



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 organizations 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 12 PSI / 0.85 bar 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. Customized 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.

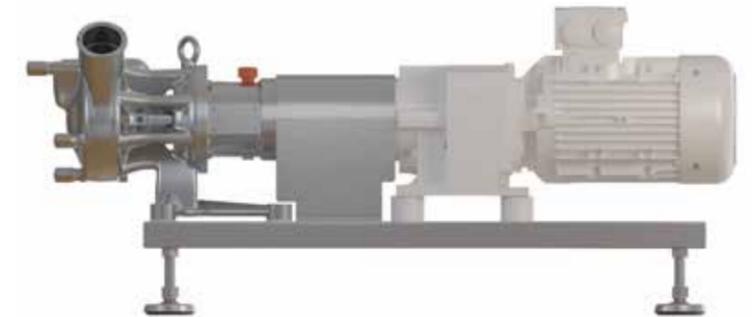
As with all Certa Sine pumps, the Certa Compact delivers energy savings as it consumes up to 50% less power than lobe or circumferential pumps with exceptional performance for all applications, including handling highly viscous products.

Certa Compact



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

Certa Sine pump



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

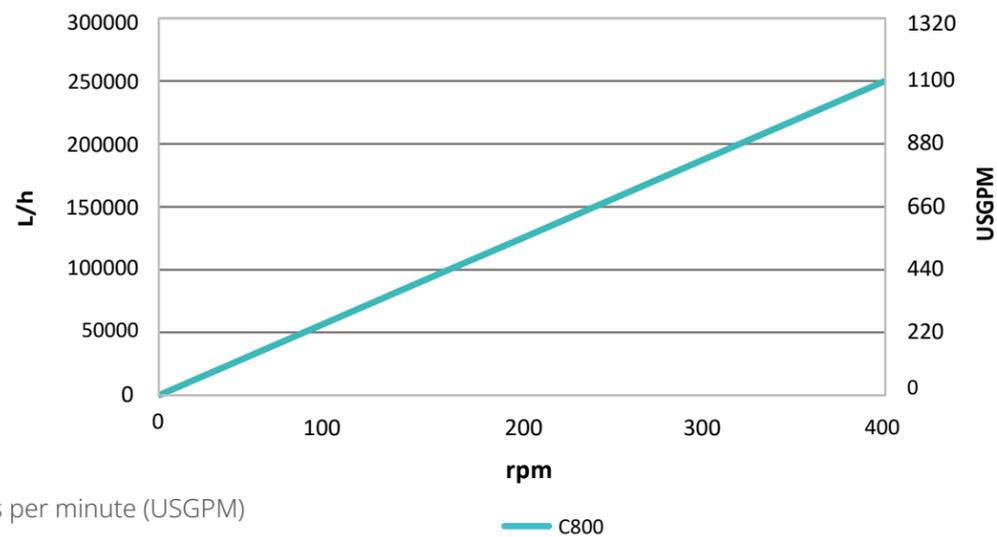
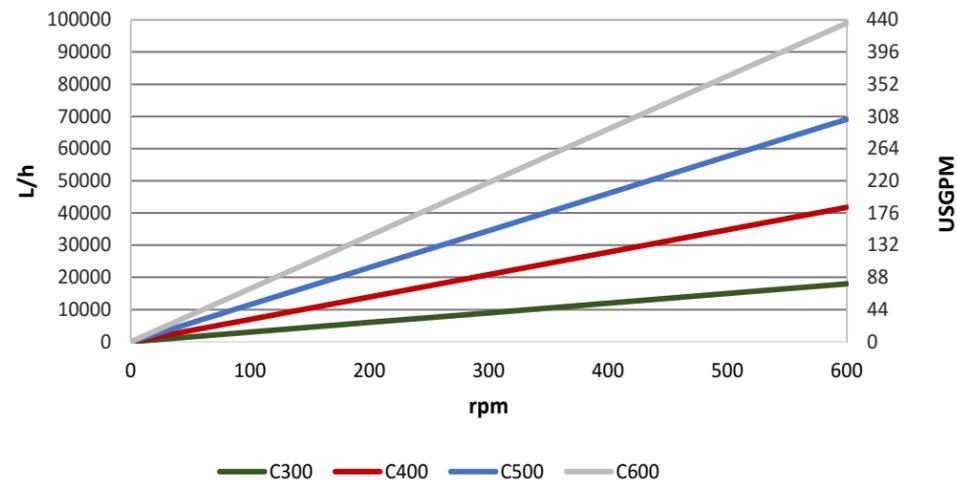
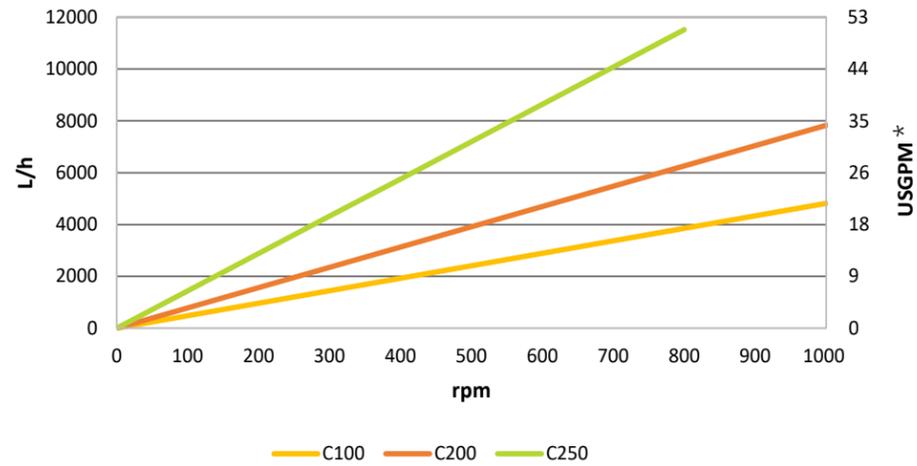
- Used within applications that carry out CIP cleaning
- Required for applications that need 3-A and/or EHEDG
- With or without seal flush
- Flush can be retrofitted without any modification

Double mechanical seal:

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

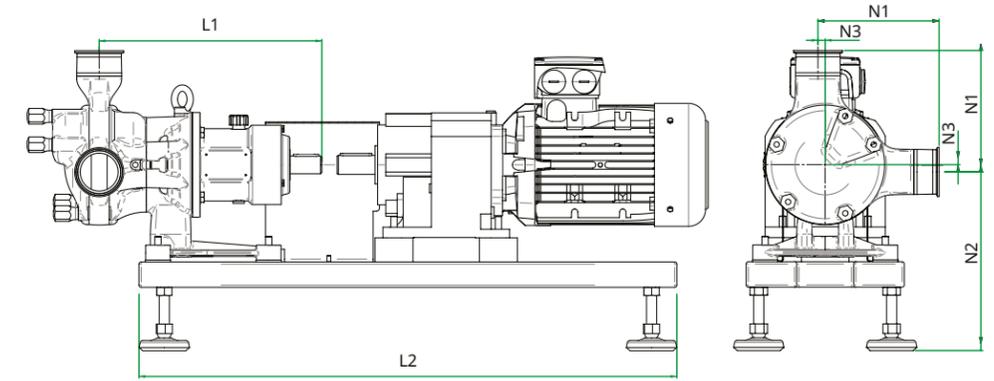
Technical data

Performance curves

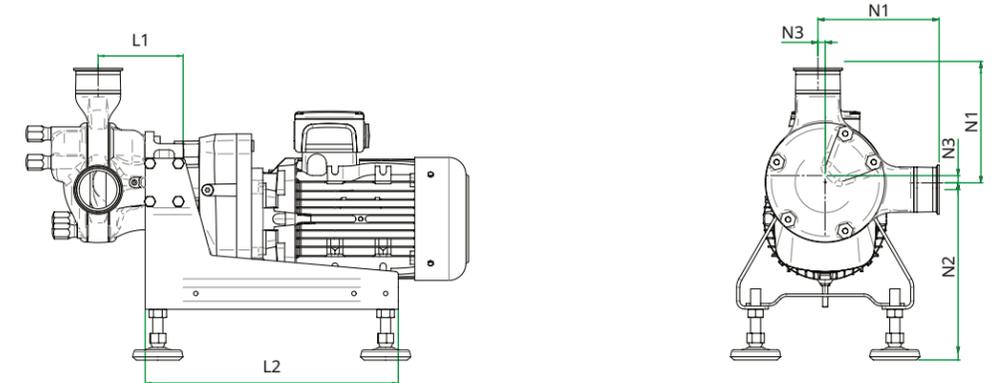


*US gallons per minute (USGPM)

Certa
Sine
pump



Certa
Compact



Dimensions

Model (CC=Certa Compact)	Nozzles				Length			
	N1	N2 Certa	N2 CC	N3	L1 Certa	L1 CC	L2 Certa	L2 CC
inch								
Certa 100/CC	5.472	8.976 - 0.984	8.661 + 0.984	0.394	10.079	4.823	28.740	12.598
Certa 200/CC	6.102	5.610 - 0.984	9.055 + 0.984	0.394	11.772	4.882	28.740	14.567
Certa 250/CC	7.559	11.063 - 0.984	10.630 + 0.984	0.472	13.858	5.295	33.465	15.748
Certa 300/CC	9.370	12.008 - 1.378	10.354 + 0.984	0.709	17.953	5.866	43.307	18.898
Certa 400/CC	12.756	12.677 - 1.378	12.953 + 0.984	1.220	20.236	6.850	51.181	23.622
Certa 500/CC	12.874	14.882 - 1.378	13.189 + 0.984	0.984	22.205	8.268	51.181	23.622
Certa 600/CC	13.504	14.961 - 1.378	13.858 + 0.984	1.102	25.157	9.941	55.118	25.591
Certa 800	21.063	29.134	N/A	1.496	31.772	N/A	86.614	N/A

Technical Data

Model	Maximum particle size	Volume per revolution	Speed	Maximum flow	Maximum pressure	Maximum temperature	Shaft diameter	Shaft height
	inch	gallons	rpm	USGPM	psi	F	inch	inch
Certa 100 (CC)	0.51	0.021	1000	21.1	145 (87)	212	0.98	3.74
Certa 200 (CC)	0.71	0.034	1000	34.2	145 (87)	212	0.98	4.31
Certa 250 (CC)	0.87	0.063	800	50.5	217 (87)	212	0.98	5.91
Certa 300 (CC)	1.18	0.132	600	78.9	217 (87)	212	1.97	6.69
Certa 400 (CC)	1.50	0.305	600	183.2	217 (87)	212	1.97	7.87
Certa 500 (CC)	1.97	0.505	600	303.2	217 (87)	212	1.97	9.84
Certa 600 (CC)	2.36	0.724	600	434.2	217 (87)	212	2.56	10.04
Certa 800	3.94	2.811	400	1124.3	217	212	4.33	15.94

For full technical data and drawings visit wmfts.com

FOOD AND BEVERAGE SOLUTIONS



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