Sinusoidal pump is a new type of pump. Its core part of a sine pump is a single-shaft sine curve rotor. In contrast to conventional multi-shaft rotor pumps, the single-shaft design requires only one set of sealing mechanisms. It also does not require a complex timing gear structure. This makes the sinusoidal pump simple in structure and economical in maintenance.

SeFluid's sinusoidal pump series has the characteristics of good self-priming, low shear and low pulsation. It can adapt to various high and low viscosity materials. Also, it has the features of simple cleaning, economical maintenance and reliable performance. Therefore, it can help customers to reduce waste and increase profitability.

How a sinusoidal pump works?

The inclined scraper door interacts with the dynamic rotor. The medium is gently conveyed through the uniquely designed rotor. The conveying process is low pulsation and the material is not impacted. The sinusoidal shape of the rotor means that a cavity can be created with each rotation (which can occur four times per pass through the bushing space). This movement allows the flowing product to be "pushed" or "discharged". A control scraper divides the pump chamber into a suction chamber and a discharge chamber, ensuring a differential pressure between the inlet and outlet.

Sinusoidal pump is high stability and economic sanitary positive displacement pump. The sinusoidal rotor inside the pump head overcomes the limitations of traditional lobe pumps. It has strong self-priming power and is simple and easy to maintain.

Why SeFluid's sinusoidal pumps?

Forward and Reverse Bi-directional Operation

Because of the bi-directional design, it can run clockwise or counter-clockwise without modifying any internal components.

No Aeration or Bubble

Gentle conveying process, low shear force makes conveying without aeration and no air bubbles.

Sanitary Structure

The main parts of this pump are all made of stainless steel, except for the flexible parts and the motor.

Strong Self-priming Force

With the continuous opening of the suction chamber, the pump is capable of generating a suction pressure of 0.85 bar

Maintenance is convenient and fast

Disassembly and repair does not require any special technical skills. Even an ordinary operator can perform all the necessary tests and maintenance on a sinusoidal pump.

Low pulsation, low shear

Due to the sine wave shape of the rotor the design is shaped like two sine wave curves. It also operates together with a movable scraper and a fixed bushing to push and squeeze the material for conveying. This allows for ultra-low shear, low pulse continuous conveying of fluids.

Sinusoidal pump is ideal for high viscosity pumping

Capable of conveying media of different viscosity up to 1,000,000 CPS.

Applications

Food, beverage and dairy industries

The sinusoidal pump has proven its value in the food industry. It is capable of transferring fluid masses that contain large particles or large pieces. Typical examples are: ready-made foods, soups, sauces, frozen foods, mayonnaise, cheese and curds, cooked foods, salads, salami, etc. Its suction power is a great advantage in the beverage industry. It is smoother and gentler than rotor pumps for conveying orange juice concentrate at -10° or more fluid juices. It is also more capable of conveying media containing fruit such as butter energy products. The ability to gently convey fragile media such as cheese, yogurt, and cream. This makes it a better choice for the dairy industry.

Cosmetics, pharmaceutical and fine chemical industries

Due to the gentle conveying, low cost and low foaming rate (in shampoos, creams, paints, detergents) of the sine pump. It has been successfully used in the chemical and pharmaceutical industries. Sine pumps are also used in high shear sensitive suspensions, solutions, rinses, detergents or high viscosity media such as silicone rubber.

MODEL	CAPACITY	SPEED	FLOW RATE	POWER CONSUMPTION		INLET/OUTLET DIA.	
	(l/r)	(rpm)	(l/h)	kw	hp	inch	mm
SESP150	0.06	50-1000	180-3600	1.5	2	1	25
SESP220	0.11	50-1000	330-6600	2.2	3	2	51
SESP300	0.23	50-600	840-11800	3	4	2.5	63
SESP400	0.45	50-600	1350-16200	4	5	3	76
SESP550	0.75	50-600	2250-27000	5.5	7	3.5	89
SESP750	1.05	50-600	3150-37800	7.5	10	4	102
SESP1500	2.5	50-600	7500-30000	15	20	6	152