

CREATING HEALTH FOR HUMAN BEINGS CREATING VALUE FOR CUSTOMERS

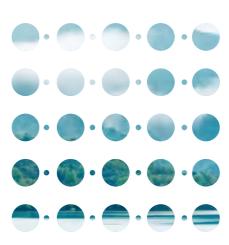


ZHEJIANG YUANLE FLUID EQUIPMENT CO., LTD. ZHEJIANG YUANLELIQUID EQUIPMENT CO., LTD.

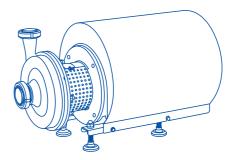
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The clearest, the cleanest, the purest, all in Yuanan





Zhejiang Yuanan Fluid Equipment Co., LTD new factory is located in Wenzhou Binhai Development Zone, covering an area of 50 acre's, with a construction area of about 56,000 square meters and about 220 employees. Our goal is to build a green, healthy and intelligent modern factory.

The company mainly produces sanitary valves, sanitary pumps, sanitary steel pipes, sanitary fittings and steam valves. Products are widely used in the fields of biopharmaceuticals, wine, dairy products, food, beverages, ice cream, cosmetics, paints and water treatment. With excellent technology and reasonable price, the company has been recognized by many well–known enterprises at home and abroad, including Wahaha, Mengniu Dairy, Tsingtao Beer, Budweiser and Shenwei Pharmaceutical.

Sanitary valve Sanitary pump Sanitary pipe

Sanitary fittings

Steam valve



Under the careful planning and implementation of the information engineering department team, the company's ERP and MES systems have been successfully launched, effectively enabling refined management and rapid response of sales, production and logistics, so as to become a modern scientific and technological enterprise with intelligent manufacturing and smart factories.

The production and processing adopt imported world–class equipment such as CNC, and cooperates with Germany in technology. Adhering to the rigorous and practical style, the company selects Shanghai Huaxin Lihua, Zhangjiagang Posco, and United Industries as raw materials suppliers of stainless steel. The products are manufactured in strict accordance with ISO, DIN, ASME–BPE, SMS and 3A standards, with strict and complete testing and quality in full compliance with industry standards. The new factory takes production, life and ecology as the concept, so that employees can work happily and live a healthy life. The workshops are equipped with ventilation systems and central air conditioners. The constant temperature conditions are not only conducive to the accuracy of the metal products in the production process, but also more conducive to the pleasant mood of employees at work; while ensuring the production layout, as much space as possible is reserved to provide living and leisure facilities for employees; basketball courts, table tennis courts and multi–purpose halls are also planned in the factory area.



YKH series pump is a sanitary and clean forging centrifugal pump independently designed by Yuanan. It is characterized by the solid solution and aging treatment after the pump body and the pump cover are made of stainless steel round steel which is integrally forged by the press. The surface is smooth, and the material has better compactness and higher strength.

YKH—A sanitary centrifugal pump adopts the stamping design of the integral pump head, and the pump head is processed by CNC system. The stamping design of the pump head is conducive to reducing the weight of the pump head and eliminating the internal cracks and other defects of the material. At the same time, it can reduce the use cost of the pump, which is more economical and applicable.

## Sanitary centrifugal pump series



YAH-B centrifugal pump

YAH–B sanitary centrifugal pump is a built–in single mechanical seal sanitary centrifugal pump independently developed by our company; it adopts high–quality YKH series hydraulic model; its unique structural design enables it to withstand high temperature liquids up to 120 °C without any cooling device.



YZB self-priming Pump

YZB self-priming pump is a sanitary self-priming ring pump specially designed and developed by our company for customers and capable of gas-liquid mixed transportation. Its characteristic is that it can transport the liquid mixed with air or foam, even in the pump cavity with only air. The pump cavity can produce a negative pressure of up to 0.6bar, which is widely used in liquid self-priming transfer pumps in the fluid industry, especially CIP cleaning systems.



YPJ centrifugal Pump

YPJ large flow centrifugal pump cavity channel is optimized according to the principle of fluid dynamics to ensure stable, soft and smooth material transportation, and minimize the heating effect on the material.

# Sanitary centrifugal pump series



YAL rotor pump

YAL rotor pump is a high clean sanitary pump that can transport materials with high viscosity and solid particles and can ensure the properties of materials; with the characteristics of low speed, high output torque, high temperature resistance, corrosion resistance, etc., it is a sanitary positive displacement pump; it is commonly used in the food and beverage industry in the health industry, such as rawliquid, jam, dairy products, syrup containing fiber, molasses, diatomite, waste and filter mud; its flow range is 0–20 cubic meters per hour, and the pressure output range is 0–1.2mpa.

Yuanan Sanitsry Pump



YSP sinusoidal pump

YSP is suitable for conveying high viscosity fruit juice, dairy products, baking and processing soft solid substances such as soft fruits, diced vegetables, cooked beansormeat.



YAHH liquid mixing pump

YAHH material—liquid mixing pump can quickly realize the uniform mixing of powder and liquid. It is composed of feed hopper butterfly valve, upper pump body, lower pump body, impeller, pump shaft, mechanical seal, connecting support, base and motor.





## YKH Centrifugal Pump

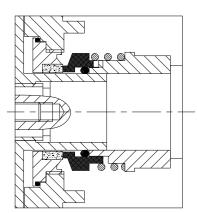
YKH sanitary pump is a sanitary centrifugal pump newly developed by our company. It adopts external mechanical seal, and the mechanical seal spring is not in contact with the material, so that the impeller has a higher processing precision and the pump has better sanitary and clean performance.

YKH-1, YKH-2, YKH-3, YKH-4, YKH-5, YKH-6, YKH-10other models are available

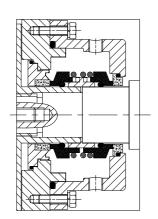
At the same time, YKH–A stamping pump head is available. Compared with YKH forging pump head,

YKH-A pump head is more economical and applicable.

#### Single Mechanical Seal



#### **Double Mechanical Seal**



#### Specification

5-24/5-36

10-24/10-36/10-50

20-24/20-30/20-36/20-50/20-65

38-24/38-36/38-50

50-24/50-36/50-50

75-24/75-36/75-50

100-24/100-36/100-50





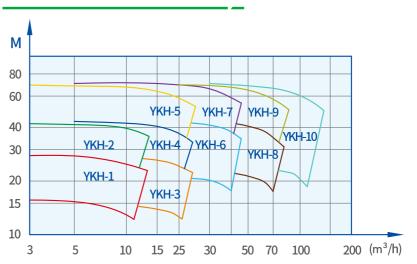








#### YKH Centrifugal PumpType Spectrum (n =2900rpm)











### YPJ High Flow Rate Sanitary Centrifugal Pump





YPJ series pump are customized designed and developed by our company for customers. The pump body is welded by thicker stainless steel under molding processing, with smooth surface, no tiny pores and no casting defects. The pump cavity's runner is optimized according to the principle of fluid dynamics to ensure the material transportation is stable, smooth and steady, minimize the heating effect on materials, and ensure the efficient and stable operation of the pump. The pump shaft is made of special stainless steel with high strength, high hardness and high anticorrosion. The connection part between pump body and motor adopts the design of the lengthened intermediate connecting section. Therefore, when the mechanical seal is replaced in the subsequent maintenance, there is no need to disassemble the inlet and outlet pipes of the pump, nor to move the motor. The mechanical seal can be replaced only by removing the intermediate connecting section. After the replacement of the mechanical seal, because the pump body and the motor have not moved, there is no need to re-adjust the concentricity of the pump, just make sure that the pump is in the same operating condition as the pump just left the factory after maintenance. The mechanical seal adopts an external design, which is stable, reliable and cleaner, and fully meets the online CIP and SIP. Yuanan YPJ series pumps have become one of the first choices of many well-known users in the high flow rate hygienic industries.

#### **Technical Parameters**

Applicable industries: Food, beverage, fruit juice, biology, pharmacy, dairy products, fructose, wine, vinegar, soy sauce, daily chemical industry, water treatment, etc.

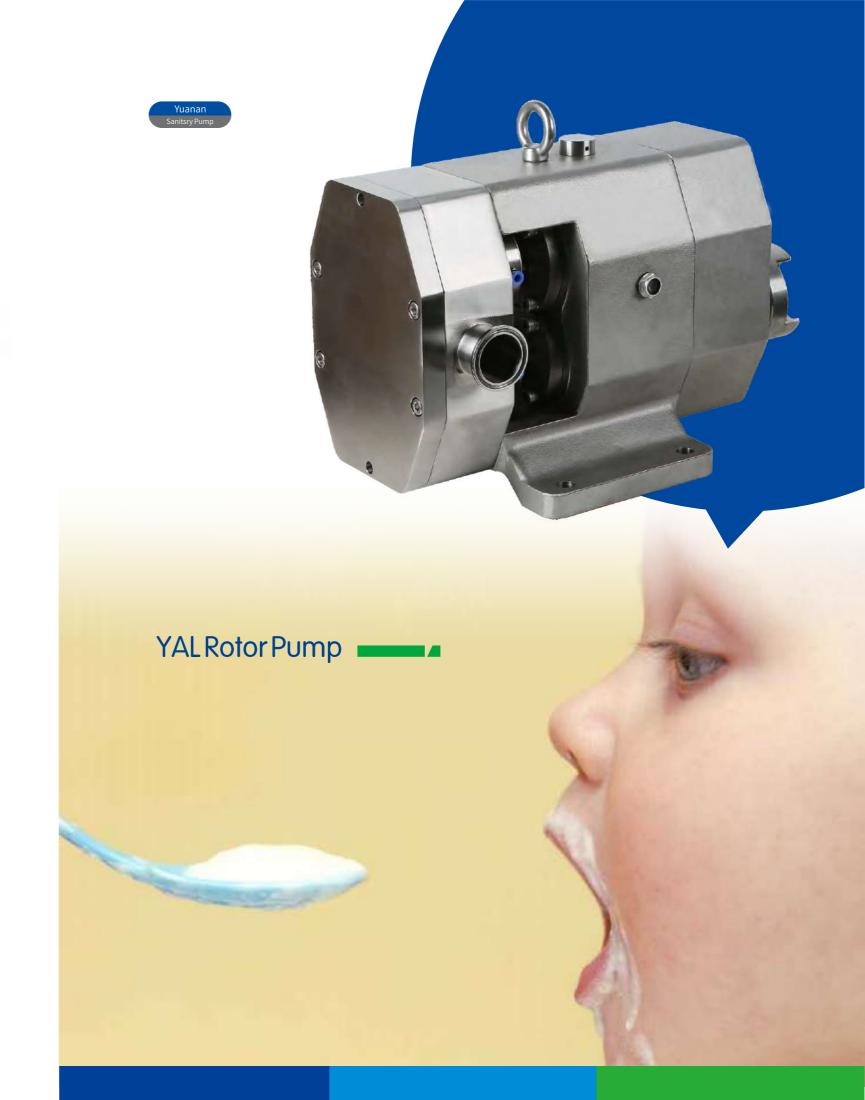
Working conditions: Flow rate: 1400 m /h, Lift:  $\leq$  35m, Pressure:  $\leq$  12 bar, Temperature:  $\leq$  180  $^{\circ}$ C

Mechanical seal: Single mechanical seal or double mechanical seal with cooling water (silicon carbide/graphite, silicon carbide/silicon carbide, cemented carbide/cemented carbide)

Type of inlet and outlet: Flange (ISO, DIN, GB)

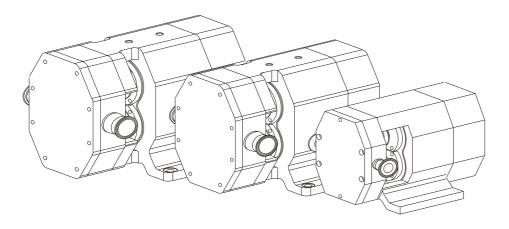
Material and seal: 304 (1.4301), 304L (1.4306), 316 L(1.4404), EPDM, FPM, VMQ, NBR, etc.

Motor and base: Ordinary, frequency conversion, explosion—proof (voltage, speed, frequency optional), square tube welded base or steel plate bent closed base



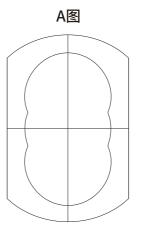
#### YAL Design ideas

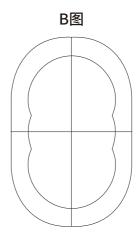
The high—clean sanitary pump designed and developed by the company is used for conveying materials with high viscosity and solid particles to ensure material properties. Therefore, the pump should have several characteristics (positive displacement pump, low speed, low shear of rotor, high stability, high cleanliness, etc.). Positive displacement and low speed can use gear pump transmission structure. The material conveying environment of the pump is more complex, and the transmission components of the gear pump cannot guarantee its high stability, so we have optimized the design of the transmission components. The low shear performance and the gear pump rotor cannot meet the working conditions and need to be redesigned. In terms of the number of rotor blades, the rotating small windmill gave us inspiration. After a series of calculations and experimental comparisons between different blade numbers, we determined that a rotor with 3 blades would be the best option. In the design of the blade profile, the rotor profile with high cleanliness must have continuity, and taking into account the high performance requirements, it is the best choice to design the rotor with a conjugate hyperbola.

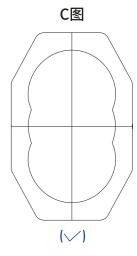


#### YAL Design ideas

Stability, simplicity, good versatility, sanitation and beauty are considered as the direction of its design. The main body is a double-layer structure, which is composed of a base plate cover and a base plate. The base plate cover is made of 304 material, and the base plate is made of 45# steel. The base plate made of 45 # steel ensures that the base plate has sufficient yield strength, and the base plate cover made of 304 material is pasted and welded on the base plate to ensure hygiene. In terms of appearance design, the rounded corner transition ensures its beauty and safety. The transitional rounded corners designed on both sides, combined with the unique appearance design of our company's pump, making the overall image full of artistic sense.







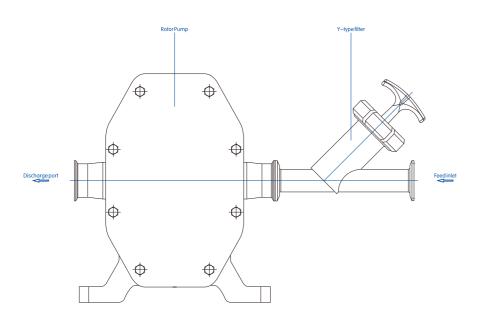
#### YAL Appearance Design

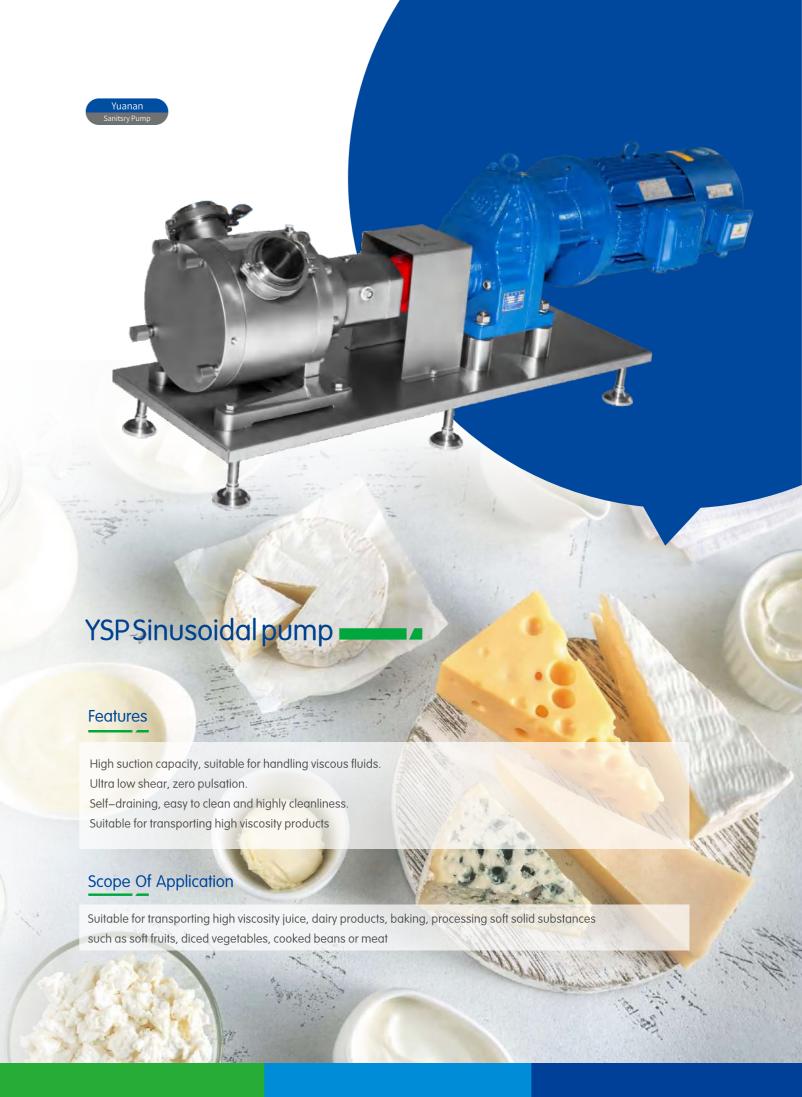
In terms of appearance design, there are mainly the following considerations: first, it should meet the structural requirements, then it should be highly plastic, and finally it should be coordinated, beautiful and hierarchical as a whole. The above figure is the outline diagram left for comparison after multiple screenings. They are all derived from the change of rectangular structure requirements, which meet the structural requirements and the materials used are similar. In Figure A, the upper and lower straight edges are changed into circular arcs, making it relatively moderate on the whole, lacking in layers, roundness and rigidity. Because the upper and lower surfaces are arc surfaces, it is difficult to place other parts on them for processing. Figure B considers roundness, which is an upgraded version of Figure A. Figure C is a rigid design, which has the advantage of strong sense of hierarchy, edges and corners, rigidity and relatively strong plasticity. After making the three models into real objects for comparison, from the overall point of view, the real objects made according to Figure C are more beautiful and can better reflect our meticulous spirit of products. Finally, Figure C is selected as the appearance of YAL.

### YAL RotorPump

#### YAL Precautions in application

- During the installation and commissioning of the new pipeline, when it is uncertain that there are welding slag, grinding debris and other hard particles in the pipeline, a "Y-shaped filter" can be installed at the inlet of the pump to circularly wash the whole pipeline until the pipeline is clean. Remove the "Y- shaped filter" after the pipeline is cleaned.
- Check whether the oil volume in the gearbox is normal, observe the transparent oil pointer, and the oil level should be half of the oil level window. The lubricating oil should be replaced regularly. Generally, it should be replaced completely after 4,000 hours of operation.
- Open all inlet and outlet valves of the pipeline before startup. When the medium flows into the chamber and there is no abnormality after turning the pump by hand, you can jog it first to confirm the pump steering and the flow of the medium, and then start the formal operation. Idling of the pump is strictly prohibited. When the pump reaches the normal speed, observe the pressure index of the pump.
- —• For the mechanical seal pump equipped with cooling water, the cooling water must be turned on before starting the machine, and ensure that there is no cut-off after starting the machine, otherwise the mechanical seal will be damaged immediately.
- when the mechanical stepless transmission is adopted, the speed shall be adjusted gradually according to the speed displayed by the number after starting the machine. It is strictly forbidden to turn the speed regulating disc when stopping the machine; otherwise the infinite deceleration will be damaged. Check the heating of pump and motor frequently. When the pump is in water–cooled state, the bearing temperature rises to 40°C. When the pump is in hot water insulation state, the bearing seat temperature is allowed to be 30°C higher than the pump body temperature.

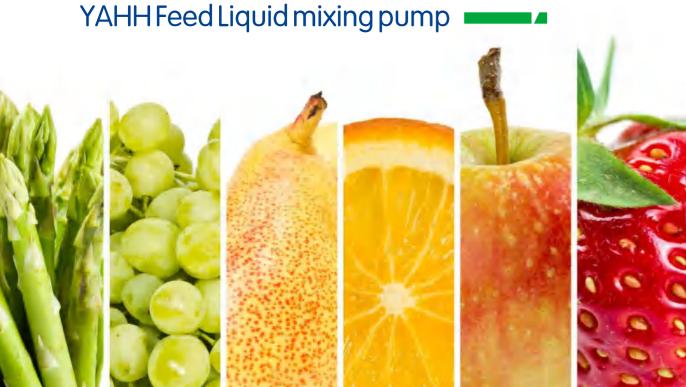
























#### **Technical Parameters**

#### Application Area

Food, beverage, fruit juice, biology, pharmacy, dairy, fructose, wine, vinegar, daily chemical industry, etc

#### Use Parameters

Flow rate  $\leq$  30m³/h, lift  $\leq$  30m, pressure  $\leq$  10bar, temperature  $\leq$  180 °C

#### Connection Form

Union, Clamp, flange (ISO, DIN, SMS, IDF, RTJ, GB)

#### Material

304, 316L, EPDM, FKM, silicone rubber

#### - Mechanical Seal

SiC/C, SiC/SIC and tungsten carbide mechanical seal

AHH material—liquid mixing pump can quickly achieve uniform mixing of powder and liquid. YAHH pump consists of feed hopper butterfly valve, upper pump body, lower pump body, impeller, pump shaft, mechanical seal, connecting bracket, base and motor.

When the pump is running, the liquid forms a negative pressure in the cavity, and the powder is sucked into the pump chamber from the hopper. The powder and the liquid are rapidly mixed together under the action of impeller centrifugal force and agitator, and then the mixed liquid is discharged from the pump outlet under the action of the impeller centrifugal force. YAHH pump has a simple structure and is easy to use and maintain, and can satisfy online CIP and SIP.

### Partner

### Cooperation







Beverage industry





























































### **Honors** and qualifications









In production practice, Yuan'an knows that only by introducing good ideas, good management, and good love can an enterprise improve its processing capabilities, save manpower, reduce costs, and greatly improve the efficient operation of product production lines and supporting production equipment, which provides a strong guarantee for the international competitiveness of Yuan'an enterprises.

















