

## SINGLE SCREW PUMP

Sludge cutter Constant wall thickness stator  
Hollow Rotor





EIXTTREPRENEURIAL SPIRIT

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STRIVE TO FORGE AHEAD,  
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# Pump profile

## Stator

The stator housing can be made of cast steel and stainless steel, and the internal rubber materials are NBR, HNBR, EPDM rubber, FKM, etc.

## Rotor

The rotor can be divided into two types: hollow and solid. At the same time, it has specifications of single-head, double-head, multi-head specifications. The rotor material includes alloy steel quenching, 304 coating, 316 coating, duplex stainless steel, etc.

## Imports

cast iron, cast steel, stainless steel  
304316 or more

## Drive shaft

The drive shaft is connected with the output part of the reducer motor and insert into the reducer shaft. It bear the operation load of the whole pump, and its material is available in various options.

## Feed port

cast iron, cast steel, stainless steel  
304316 or more

## Base

The base is generally made of cast iron and cast steel, supporting the whole pump body structure to ensue stable operation and there are many types to choose from.

## Coupling rod

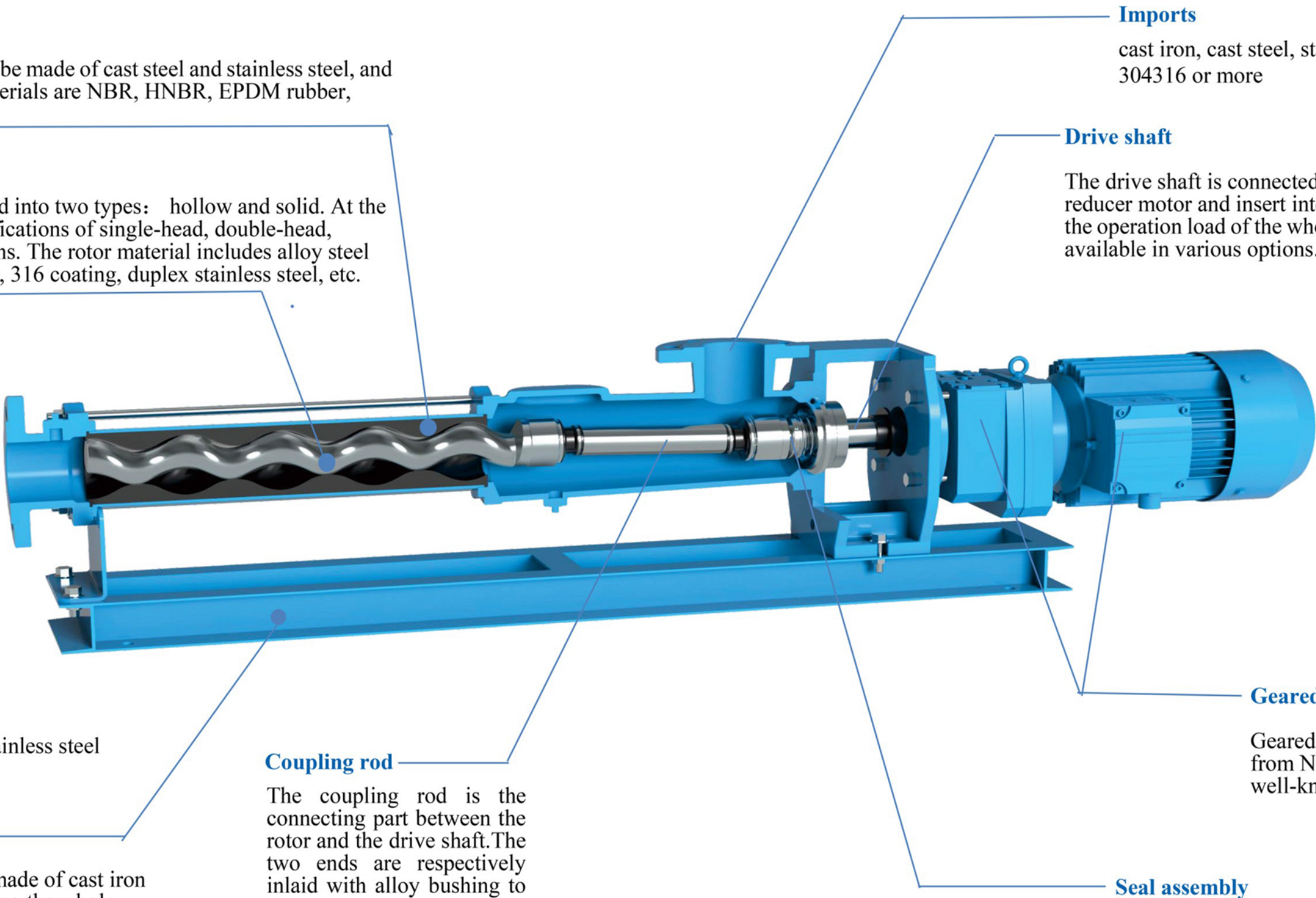
The coupling rod is the connecting part between the rotor and the drive shaft. The two ends are respectively inlaid with alloy bushing to increase the wear resistance and prolong the service life of pump ,and there are a variety of types and materials to choose from.

## Geared motor

Geared motor can be selected from NORD, SEW or domestic well-known brands.

## Seal assembly

The seal assembly consists of two types: packing seal and mechanical seal. Different materials can be selected according to the physical and chemical properties of the conveying medium.





## Hopper pump profile

### Rotor

Hopper pump generally is equipped with multi-level single-head rotor. The type of the pump depends on the concentration, viscosity and lifting of the transmission medium. The matching accuracy of the stator and rotor needs to be very high. Besides, the transmission and the bearing pressure of the stator and rotor increase at the same time.

### Stator

The stator housing can be made of cast steel and stainless steel, and the internal rubber materials are NBR, HNBR, EPDM rubber, FKM, etc.

### Base Plate

The base is usually made of cast iron and steel, supporting the whole pump body structure, ensuring stable operation and various types.

### Compression cavity

Two ends of the flange connection to facilitate the replacement of the rotor when rapid disassembly, inspection hole optional.

### Rectangular hopper

To extend the overall feed inlet of the pump, the rectangular hopper is made of two parts spliced together. There are various specifications for the square hopper to choose from. Its purpose is to ensure smooth feed and prevent the poor fluidity of the medium from blocking the pump inlet and causing the unsmooth delivery of the pump damage to the pump due to dry grinding.

### Seal assembly

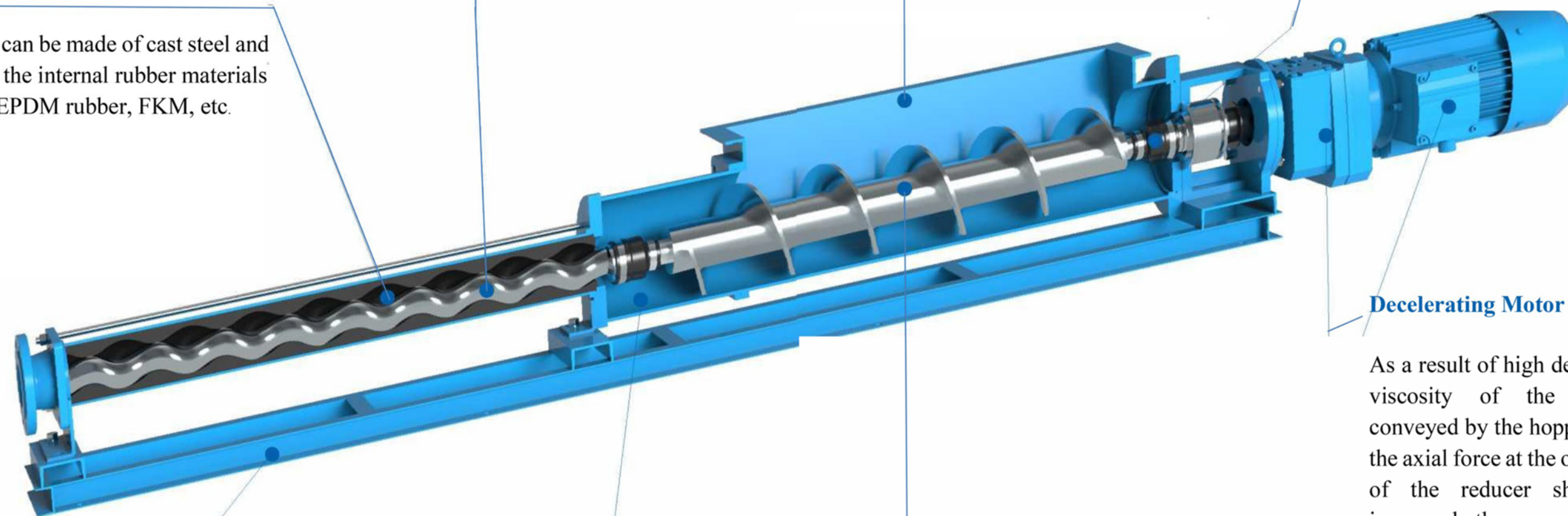
Because the rotating speed of the hopper pump is low, and the pump body is complicated and difficult to disassemble, packing sealing is the main form of sealing which has good wear resistance and is easy to disassemble and replace in daily maintenance.

### Decelerating Motor

As a result of high density and viscosity of the medium conveyed by the hopper pump, the axial force at the output end of the reducer should be increased, the use coefficient should be improved and the motor should be enlarged. Therefore, the frequency conversion motor is generally used as the main motor. It is environmentally -friendly and energy-efficient and its flow range can be flexibly adjusted by the frequency converter.

### Screw coupling rod

Screw coupling rod can be made of cast steel and stainless steel and is spliced with round steel and screw conveyor. It can speed up the flow rate of high viscosity material with poor fluidity mobility and enhance the efficiency of pump feeding.





## Advantages of screw pump:

1.It can transport high viscosity medium. Depending on the size of the pump, the viscosity of the medium is in the range of 0 centipoise (CPS) to 300,000 centipoise (CPS).



2.It can transport solid particles, grinding particles and fibers. The content can be up to 40% of the medium in general. When the solid in the medium is powdery fine particles, the maximum content can be as high as 70%. According to the size of the pump, the maximum particle size of the solid contained in the medium is 2mm-40mm.

3. The output liquid is continuous and even with stable pressure and small agitation, therefore, the composition of the sensitive liquid will not change.

4. Flow rate is directly proportional to speed. The flow can be adjusted by changing the speed. Coupled with a variable speed motor, the pump can become a variable pump, which is very flexible. It can also achieve constant flow control through PLC control.

5. The pressure can be automatically adjusted with the resistance of the output pipeline. Between 0-48 (kg/cm<sup>2</sup>) pressure, the user can easily adjust to the required pressure. In this way, it can not only save energy, but also avoid the influence to the process flow because of too high or too low pressure. Meanwhile it works better through PLC control to achieve constant pressure transmission.

6.Simple structure, less wear, and easy maintenance.

Compared with other types of pumps:

- Compared with the centrifugal pump, the single screw pump does not need to install valves. It own can form a closed cavity to prevent back flow buffer, and the flow is stable and linear, without large fluctuations.
- Compared with the plunger pump, the single screw pump has a better self-priming capacity. According to the size of the pump, it can suck up to a height of about 8 meters of water column.
- Compared with the diaphragm pump, the single screw pump can transport a variety of mixed impurities, and realize the mixed transport of gas liquid and solid, and can also transport the medium containing solid particles or fibers and a variety of chemical corrosive substances.
- Compared with gear pump and rotor pump, single screw pump can transport high viscosity material containing fillers with poor fluidity mobility, and transport accuracy is relatively high.
- Different from plunger pump, rotor pump, diaphragm pump and gear pump, single screw pump can be used for pharmaceutical filling and metering, and its metering accuracy is far higher than other pumps.

## Common pump type of RoNice

### RS universal series

#### » RSZL standard direct connection form

1.Short pump, exquisite structure, no coupling.

2.Connected with decelerating motor through plug, it is easy for disassembly, installation and maintenance.

3.Suitable for a wide range of industries and environments.

4.The installation of the decelerating motor can be driven by belt pulley, and motor and pump can be placed vertically to save upward space.

5.Flow range: 0.1-300m<sup>3</sup>/H

6.Pressure Range: 0-2.4 Mpa or higher



#### » DSZL Series--Compact pump type

1.The pump body adopts a simple and compact structure, with small driving torsion and compact size, mainly in the form of direct connection.

2.It should be mainly related to municipal environmental protection, printing and dyeing, chemical industry, pharmaceutical sewage treatment and other fields.

3.The universal joint adopts the form of steel sleeve and rubber sheath, the axial force swing is light, and the service life is longer.

4.Flow range: 0.5-50m<sup>3</sup>/H

5.Pressure range: 0-1.2Mpa





#### »RD open hopper pump

- 1.The suction space is designed as a large rectangular opening for feeding. By combining coupling rod with screw conveyor, it can realize progressive propulsion, prevent the accumulation of materials at the inlet of the pump, and improve the volumetric efficiency and uniform consistency of the pump transportation.
- 2.It is suitable for conveying medium with high viscosity, high solid content and poor fluidity, such as dried sludge, paste, slurry, etc.
- 3.The size of the opening can be adjusted based on the requirements of customer during on-site installation.
- 4.Flow Range: 0.5-100 m<sup>3</sup>/H
- 5.Pressure Range: 0-4.8Mpa or higher



#### » RDK broken bridge hopper pump

- 1.On the basis of the original RD pump, it adds a bridge breaking module. The stirring shaft can avoid the accumulation, wall-sticking and bridge formation when the medium with high viscosity enters the suction space.
- 2.Flow Range: 0.5-100 m<sup>3</sup>/H
- 3.Pressure Range: 0-4.8Mpa or higher



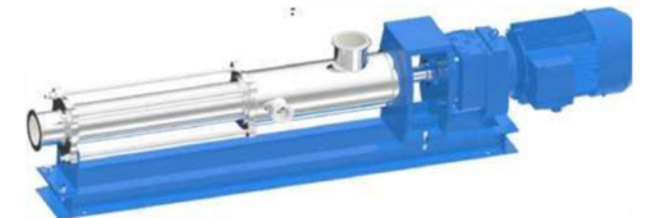
#### » RL vertical pump

- 1.Adjust the direction of the pump, and install it 90° perpendicular to the ground. It can be installed in the pool, tank, culvert, deep well and other areas. The length of the pump can be extended on the basis of the actual depth.
- 2.The installation method has the hoisting type, bucket type, the pedestal type and so on, and the length can be customized according to the demand.
- 3.The stator and rotor of the vertical pump will be removed into the pool and will contact with the material. Therefore, anti-corrosion should be considered for the fasteners. The installation of the pump will be fixed in the light of different forms and the operation will be very stable.
- 4.The vertical pump can be installed on the automatic or manual lifting platform and the mobile car, which is convenient for the loading and unloading work of the special industry.
- 5.Flow Range: 0.5-200 m<sup>3</sup>/H
- 6.Pressure Range: 0-2.4Mpa or higher



#### » RW food and sanitation pump

- 1.It is mainly used in the food industry, the pharmaceutical industry, skin care industry and other fields. The pump body is made of all stainless steel and its internal requires for cleaning and sanitation, so the flow area need to be polished, and the inlet and outlet need to reserve an independent high-pressure cleaning mouth for normal maintenance.
- 2.Material delivery is smooth, without shearing and pulsation, and can be quantitative.
- 3.Seals are generally food-grade, and avoid black sundries, sand, etc. It adopts open type universal joint components and special connection structure.
- 4.The connection mode of inlet and outlet shall be quick to install and easy to disassemble, and conform to the national, German and American standards of the industry, so as to facilitate the inlet and outlet of OEM customers.
- 5.Flow Range: 0.5-200m<sup>3</sup>/H
- 6.Pressure Range: 0-4.8Mpa or higher





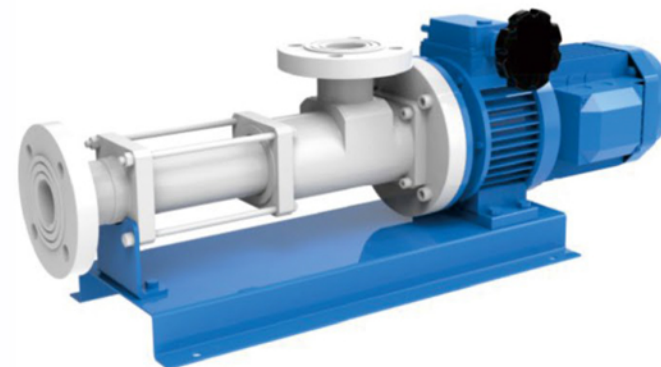
### »LJ Series-Industry special pump

- 1.The pump type is compact, the structure is simple and exquisite, the total length and volume are small, and it is easy to install in narrow Spaces.
2. Directly connected with the deceleration motor structure, accessories replacement and maintenance convenient disassembly.
3. The deceleration motor can be controlled in two ways, which can match the stepless speed regulating motor to adjust the flow manually. At the same time, it can also be used to match the frequency converter, and the adjustment range is more extensive.
- 4.Advantages of application scope:
  - (1) Dosage of pharmaceutical class: flocculant (PAM), polyaluminum chloride (PAC), activated carbon, lime milk, etc.
  - (2) Small flow type sludge feed: centrifuge, screw stack machine, belt filter press, etc.
- 5.Flow range: 0.1-15m<sup>3</sup>/H
- 6.Pressure range: 0-0.6Mpa



### »LP Series-Special pump for chemical industry

- 1.Same shape and internal structure as LJ pump type.
- 2.Pump type features:
  - (1) The pump body is made of polytetrafluoroethylene (PTFE).
  - (2) Metal flow parts are made of duplex stainless steel.
  - (3) The stator material is fluorine glue and PTFE material.
- 3.The reducer motor can choose stepless speed regulation and gear reducer motor.
- 4.Application advantages: sodium hypochlorite, sulfuric acid, hydrochloric acid, polymeric compounds, hydrocarbon-containing benzene solution, etc.
- 5.Flow range: 0.1-15m<sup>3</sup>/H
- 6.Pressure range: 0-0.6Mpa



### » RSZC bearing bracket type

- 1.It can extend pump body and has higher rigidity by installing bearings in both ends of the axial. Decelerating motor connects with bearing chock through coupling, so the bearing capacity is stronger.
2. When the axial load bearing capacity increases, it can match the use of multi-grade or large flow pump, while reducing the axial force of the deceleration motor, extending the service life and make the equipment runs more smoothly.
- 3.Diesel engine, hydraulic motor and pneumatic motor can be widely used to drive the pump body and take place of the reduction motor.
- 4.Flow range: 0.1-300m<sup>3</sup>/H
- 5.Pressure range: 0-2.4Mpa or higher



### » RWS Lithium iron phosphate industry professional pump (New energy)

- 1.It should be mainly used in the field of new energy. The pump body is made of sanitary grade stainless steel. Internal mirror processing and cleaning clean, can design online cleaning and steam disinfection ability, can also do long-term insulation structure.
- 2 .can do quantitative transportation, constant pressure device, material conveying smooth, no shear, no pulsation.
3. Disturbed connecting rod structure, anti-pollution, long service life of sterile pump structure.
- 4.The connection of import and export shall be quick assembly and easy disassembly, and conform to the national standards of the industry. German standard, American standard, convenient with OEM customer equipment import and export.
- 5.Flow range: 0.1-100m<sup>3</sup>/H
- 6.Pressure range: 0-4.8Mpa or higher
- 7.Measurement accuracy: within  $\pm 2\%$





Application field of screw pump:

1.Sewage Treatment Industry: transportation of sewage, sludge, additives, and dried mud after dehydration, etc.



2.Paper Industry: transport different concentrations of pulp, cotton pulp, straw pulp, and defoamer, rosin gum, coagulant, deinking agent, kaolin,talcum powder, whitening agent, etc.



3.Chemical Industry: emulsion explosive, synthetic fiber liquid, viscose liquid, polymer, flocculant, precipitant, lime milk, liquid commodity, pigment, resin, calcium carbonate, titanium dioxide, styrene-butadiene latex, coal water slurry, etc.



4.Food Industry: transport raw materials, sauces, milk materials, fruit juice, carbonated drinks, potato starch dregs, honey, chocolate, meat stuffing, chili sauce, etc., and the solids and liquid such as malt pulp, distiller's grains, and filter mud in the brewery.



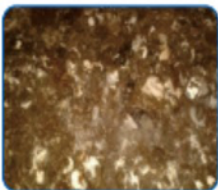
5.Electronic Industry: glues pouring, dispensing, solder paste, 3D printing, gypsum slurry, silica gel and etc.



6.Petroleum Industry: extraction and transportation of crude oil, heavy oil, oil sludge, gas, sand and other mixtures in oil fields.



7.Nonmetal Industry:transportation of slurry,ceramic oil,refractory clay and suspension in the production of ceramic industry,and transportation of raw slurry in the production of kaplin.



8.Kitchen industry:urban living waste,kichen waste,farmers market junk.

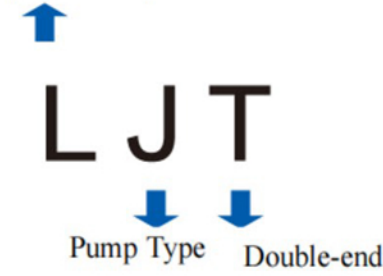




9.Agricultural industry:livestock and poultry manure,straw,other agricultural organic waste.

» Description of model definition

Model definition table of RoNice single screw pump

RoNice	R Popular type	D Lean and compact	L Special industry type										
	S standard pump	D Open type hopper pump	L vertical pump										
Pump type	W Food hygiene pump	DK Broken bridge hopper pump											
	J Metering dosing pump	P Strong acid and base pump											
Identification of hollow rotor/double-ended rotor			K/T										
Identification of equal wall													
1.SY-Equal wall thickness structure		2.ST-Double-ended rotor structure											
3.SK-Hollow rotor structure													
Regular model	01	02	03	05	10	20	30	50	80	100	120	150	200
Kind of drive	ZL Direcet connection							ZC Bearing pedestal					
Size pressure	06B	12B	18B	24B	36B	48B	60B	72B					
Root and machine seal							-P/M						
Requency conversion/explosion-proof							-B/F						

Special Purpose Industries

					
<b>L</b>	<b>J</b> <b>T</b>	<b>0</b> <b>5</b>	<b>Z</b> <b>L</b>	<b>0</b> <b>6</b>	<b>B</b>
	Pump Type Double-end	Type	Connecting Type	Pressure Size	Seal form
<b>J</b>	Dosing Pump Type	<b>05</b>	<b>ZL</b> Direct connection	<b>06B</b>	<b>A/B</b>
<b>P</b>	Strong Acid-base pump	<b>07</b>			
		<b>10</b>			
<b>WS</b>	Spoiler Bar(new Energy)	<b>15</b>			



## » General series of screw pump flow selection table

▼ The flowing flows are based on 20° C clean water as a reference. The flow and pressure of the pump are in a positive proportion under the rated speed. The maximum pressure can reach 4.8Mpa or higher. Please contact us for details.

Pump Model	Max Pressure (Mpa)	Flow Range (m³/h)	Speed Range (rpm/min)	Inlet size G/DN	Outlet Size G/DN	Powder (KW)
RS30ZL12B	1.2MPa	8.0-25.0	95-275	125	125	11-18.5
RS30ZL18B	1.8MPa	6.0-20.0	95-244	125	125	15-22
RS30ZL24B	2.4MPa	5.0-20.0	85-228	125	125	22-37
RS50ZL06B	0.6MPa	11.0-50.0	95-280	125	125	7.5-15
RS50ZL12B	1.2MPa	15-50.0	110-327	150	150	15-22
RS50ZL18B	1.8MPa	10-40.0	118-283	150	150	22-37
RS50ZL24B	2.4MPa	8.0-40.0	96-247	150	150	37-55
RS80ZL06B	0.6MPa	30.0-80.0	91-283	150	150	22-37
RS80ZL12B	1.2MPa	15-50.0	95-188	150	150	22-37
RS80ZL18B	1.8MPa	10-40.0	81-220	150	150	30-45
RS80ZL24B	2.4MPa	8.0-40.0	74-190	150	150	37-55
RS100ZL06B	0.6MPa	50.0-100.0	101-210	150	150	30-37
RS100ZL12B	1.2MPa	25.0-70.0	115-252	150	150	37-55
RS100ZC18B	1.8MPa	20.0-60.0	108-255	150	150	45-75
RS100ZC24B	2.4MPa	18.0-50.0	123-251	150	150	55-90
RS120ZC06B	0.6MPa	80.0-120.0	146-254	150	150	37-55
RS120ZC12B	1.2MPa	40.0-120.0	95-287	200	200	37-75
RS120ZC18B	1.8MPa	35.0-100.0	102-252	200	200	55-90
RS120ZC24B	2.4MPa	36.0-90.0	72-204	200	200	75-110
RS150ZC06B	0.6MPa	70.0-180.0	78-195	200	200	55-110
RS150ZC12B	1.2MPa	60.0-110.0	73-206	200	200	75-132
RS150ZC18B	1.8MPa	50.0-100.0	83-180	200	200	90-160
RS150ZC24B	2.4MPa	40-90.0	78-146	200	200	110-200
RS200ZC06B	0.6MPa	90.0-260.0	106-251	200	200	75-132
RS200ZC12B	1.2MPa	60.0-150.0	74-144	250	250	75-160

## » D series compact type selection table

▼ The flowing flows are based on 20° C clean water as a reference. The flow and pressure of the pump are in a positive proportion under the rated speed. The maximum pressure can reach 4.8Mpa or higher. Please contact us for details.

Pump Model	Max Pressure (Mpa)	Flow Range (m³/h)	Speed Range (rpm/min)	Inlet size G/DN	Outlet Size G/DN	Powder (KW)
DS02ZL06B-1.5	0.6MPa	0.2-2.0	73-324	DN50	DN50	1.1-1.5
DS01ZL12B-1.5	1.2MPa	0.2-1.0	50-272	DN50	DN50	1.1-1.5
DS03ZL06B-1.5	0.6MPa	0.5-3.0	78-210	DN50	DN50	1.1-2.2
DS02ZL12B-1.5	1.2MPa	0.4-1.5	95-346	DN50	DN50	1.1-2.2
DS04ZL06B-2.2	0.6MPa	1.5-4.0	90-324	DN50	DN50	1.5-2.2
DS02ZL12B-2.2	1.2MPa	0.7-2.0	118-324	DN50	DN50	1.1-2.2
DS05ZL06B-2.2	0.6MPa	2.0-5.0	90-410	DN50	DN50	1.1-2.2
DS03ZL12B-2.2	1.2MPa	0.8-2.5	106-415	DN50	DN50	1.1-2.2
DS08ZL06B-3.0	0.6MPa	4.0-8.0	88-252	DN80	DN65	3.0-5.5
DS05ZL12B-3.0	1.2MPa	2.0-4.0	98-283	DN80	DN65	3.0-5.5
DS10ZL06B-4.0	0.6MPa	5.0-10.0	121-283	DN80	DN65	3.0-5.5
DS05ZL12B-4.0	1.2MPa	2.5-5.0	103-285	DN80	DN65	3.0-5.5
DS15ZL06B-4.0	0.6MPa	8.0-15.0	142-297	DN80	DN65	3.0-5.5
DS20ZL06B-4.0	0.6MPa	10.0-15.0	121-240	DN100	DN80	4.0-7.5
DS10ZL12B-4.0	1.2MPa	4.5-7.5	133-240	DN100	DN80	4.0-7.5
DS20ZL06B-5.5	0.6MPa	9.0-20.0	86-282	DN100	DN80	4.0-7.5
DS10ZL12B-5.5	1.2MPa	5.0-10.0	77-285	DN100	DN80	4.0-7.5
DST30ZL06B-5.5	0.6MPa	15.0-30.0	96-297	DN100	DN80	4.0-7.5
DS30ZL06B-7.5	0.6MPa	20.0-30.0	113-285	DN125	DN100	5.5-11.0
DS15ZL12B-7.5	1.2MPa	10.0-15.0	113-285	DN125	DN100	5.5-11.0
DST40ZL06B-7.5	0.6MPa	25.0-40.0	96-216	DN125	DN100	5.5-11.0
DST50ZL06B-11	0.6MPa	30.0-50.0	105-275	DN125	DN100	5.5-15.0



» LJ series dosing,sludge circulation,feed pump special pump model list

▼ The flowing flows are based on 20° C clean water as a reference. The flow and pressure of the pump are in a positive proportion under the rated speed.The maximum pressure can reach 4.8Mpa or higher. Please contact us for details.

Pump Model	Max Pressure (Mpa)	Flow Range (m³/h)	Speed Range (rpm/min)	Inlet Size G/DN	Outlet Size G/DN	Powder (KW)
LJ05ZL06B-0.75A	0.6MPa	0.1-1.0	40-200	内牙G2或选配DN50	内牙G2或选配DN50	0.75-1.1
LJ05ZL06B-1.1B	0.6MPa	0.5-4.5	200-1000	内牙G2或选配DN50	内牙G2或选配DN50	0.75-1.5
LJT07ZL06B-1.1B	0.6MPa	1.5-7.0	200-1000	内牙G2或选配DN50	内牙G2或选配DN50	1.1-1.5
LJ10ZL06B-1.5A	0.6MPa	0.4-2.0	40-200	内牙G2或选配DN50	内牙G2或选配DN50	1.5-2.2
LJ10ZL06B-1.5B	0.6MPa	2.0-9.0	200-1000	内牙G2或选配DN50	内牙G3或选配DN80	1.5-2.2
LJT15ZL06B-2.2B	0.6MPa	3.0-13.0	200-1000	内牙G2或选配DN50	内牙G3或选配DN80	1.5-2.2
LP series strong acid strong base solution special model table						
LP05ZL06B-0.75A	0.6MPa	0.1-1.0	40-200	内牙G2或选配DN50	内牙G2或选配DN50	0.75-1.1
LP05ZL06B-1.1B	0.6MPa	0.5-4.5	200-1000	内牙G2或选配DN50	内牙G2或选配DN50	0.75-1.5
LPT07ZL06B-1.1B	0.6MPa	1.5-7.0	200-1000	内牙G2或选配DN50	内牙G2或选配DN50	1.1-1.5
LP10ZL06B-1.5A	0.6MPa	0.4-2.0	40-200	内牙G2或选配DN50	内牙G2或选配DN50	1.5-2.2
LP10ZL06B-1.5B	0.6MPa	2.0-9.0	200-1000	内牙G2或选配DN50	内牙G3或选配DN80	1.5-2.2
LPT15ZL06B-2.2B	0.6MPa	3.0-13.0	200-1000	内牙G2或选配DN50	内牙G3或选配DN80	1.5-2.2

» RD series large opening hopper pump model

▼ The flowing flows are based on 20° C clean water as a reference. The flow and pressure of the pump are in a positive proportion under the rated speed.The maximum pressure can reach 4.8Mpa or higher. Please contact us for details.

Pump Model	Flow Range (m³/h)	Powder Range (KW)	Pressure Range (MPa)	Speed Range (r/min)	Outlet Size G/DN
RDY01ZL18B-B	0.5-1.5	3.0-5.5KW	0.6-1.8MPa	60-130	DN80
RDY01ZL24B-B	0.5-1.5	4.0-7.5KW	0.6-2.4MPa	60-130	DN80
RDY01ZL36B-B	0.5-1.5	5.5-11.0KW	0.6-3.6MPa	60-130	DN80
RDY02ZL18B-B	1.0-2.5	4.0-7.5KW	0.6-1.8MPa	60-130	DN80
RDY02ZL24B-B	1.0-2.5	5.5-7.5KW	0.6-2.4MPa	60-130	DN80
RDY02ZL36B-B	1.0-2.5	7.5-15.0KW	0.6-3.6MPa	60-130	DN80
RDY05ZL18B-B	2.0-5.0	5.5-11.0KW	0.6-1.8MPa	60-130	DN100
RDY05ZL24B-B	2.0-5.0	7.5-15.0KW	0.6-2.4MPa	60-130	DN100
RDY05ZL36B-B	2.0-5.0	11.0-18.5KW	0.6-3.6MPa	60-130	DN100
RDY10ZL18B-B	6.0-10.0	11.0-18.5KW	0.6-1.8MPa	60-130	DN125
RDY10ZL24B-B	6.0-10.0	15.0-22.0KW	0.6-2.4MPa	60-130	DN125
RDY10ZL36B-B	6.0-10.0	18.5-30.0KW	0.6-3.6MPa	60-130	DN125
RDY15ZL18B-B	11.0-15.0	15.0-22.0KW	0.6-1.8MPa	60-130	DN150
RDY15ZL24B-B	11.0-15.0	18.5-30.0KW	0.6-2.4MPa	60-130	DN150
RDY15ZL36B-B	11.0-15.0	22.0-37.0KW	0.6-3.6MPa	60-130	DN150
RDY20ZL18B-B	15.0-20.0	18.5-37.0KW	0.6-1.8MPa	60-130	DN150
RDY20ZL24B-B	15.0-20.0	22.0-45.0KW	0.6-2.4MPa	60-130	DN150
RDY20ZL36B-B	15.0-20.0	30.0-55.0KW	0.6-3.6MPa	60-130	DN150
RDY30ZL18B-B	20.0-40.0	30.0-55.0KW	0.6-1.8MPa	60-130	DN200
RDY30ZL24B-B	20.0-40.0	37.0-75.0KW	0.6-2.4MPa	60-130	DN200
RDY30ZL36B-B	20.0-40.0	45.0-90.0KW	0.6-3.6MPa	60-130	DN200



## RoNice Accessories Center

In order to ensure the normal production and operation of customers, RoNice accumulates spare parts in stock, and also stores German well-known brand of the same quality of general accessories whose quality can be guaranteed.

- \* Rotor
- \* Stator
- \* Drive shaft
- \* Coupling Rod
- \* Universal Joint Component
- \* Seal (mechanical seal and packing seal)



### » Configuration optimization

1. Dry running protector: a temperature sensor is installed in the rubber part of the stator to detect the temperature change of the stator while the pump is running. When the temperature exceeds the preset value, the signal is transmitted to the electric cabinet control system. Then the control system will immediately stop the pump operation, which protects the pump to some extent.

2. Intelligent flow meter: It can be used to monitor the flow change of the pump so as to judge whether the pump is running normally. Besides, the rated flow can be set on the basis of needs. When the flow rate drops, the analog signal of the intelligent flow meter will be transmitted to the control system PLC. Then PLC will automatically adjust the frequency of the inverter according to the feedback, and improve the rotation speed to realize the set flow value. In this way, the constant flow of the pump delivery control can be ensured.

3. Pressure transmitter: It is beneficial to pay attention to changes of the pump output pressure, and see the negative pressure value in the pipeline. In some cases, when the pump output pressure needs to be a constant value, the pressure sensor will send a signal to the control system PLC. Then PLC will control the transducer to automatically increase the pump speed to reach the set pressure value. In this way, the constant pressure pump transmission control can be guaranteed.

4. Independent strong cooling fan: when the frequency converter operates in a large range or at low Hertz for a long time, strong cooling fan needs to be installed, otherwise the heat dissipation effect of the motor is poor, and it is easy to burn out.

5. Frequency converter: after the installation of frequency converter, the flow range of the pump can be flexibly adjusted. The frequency converter controls the rotation speed of the pump to meet the actual demand.



### » Advantages of uniform-thickness stator

RoNice uniform-thickness screw pump with hollow rotor is equipped with hollow uniform-thickness rotor and uniform-thickness stator. The combination of the two solves the problem in the use of the conventional screw pump;

1. The rubber layer of uniform-thickness stator is thin and the rubber thickness is uniform, which is conducive to heat conduction. Meanwhile, the spiral shape of the stator increases the heat dissipation area, which makes that the heat generated by the uniform-thickness stator is obviously less than that of the conventional stator, so the service life of uniform-thickness stator is longer. Our new type screw pump adopts the uniform-thickness stator and the hollow rotor. The hollow rotor is lighter in weight and has certain elasticity, so that the rotor can reduce the lateral extrusion pressure of the rotor on the stator rubber. In this way, the damage to the stator is significantly reduced. It can further extend the working life of the pump, and reduce operating costs.

2. The thin and uniform rubber of the uniform-thickness stator makes the rubber of the stator expand smaller and more uniform under the thermal effect. It helps to reduce the interference between the rotor and the stator rubber, and makes the torque required for the start and operation of the pump smaller, and also reduces the power consumption of the motor, and it is more energy-saving and environmental friendly.

3. The single-stage pressure of uniform-thickness stator is higher (single-stage pressure of normal stator is 0.6 Mpa, and the uniform wall thickness is 1.0 Mpa). Because the rubber of uniform-thickness stator is thin and the compression deformation is small, its single-stage pressure is 60%-70% higher than that of the conventional stator. In the case of multi-stage high pressure, the number of stages required by the uniform-thickness screw pump is less than that of the conventional one. Therefore, under the same pressure demand, the uniform-thickness stator can be made shorter than the conventional one, which not only reduces the cost of the screw pump, but also saves its installation space.





4. It has good technical and economic indicators. In addition to the good technology, the uniform-thickness screw pump also has the higher economic effect. Compared with the conventional screw pump, it causes fewer accidents on site and less mechanical loss, and can improve the efficiency of the pump and reduce the cost.

#### »Advantages of hollow rotor

- 1.After the weight of the hollow rotor is reduced, the axial torque of the hollow rotor and the conventional rotor is weakened and the starting torque is reduced. The decelerating motor is small, and the use cost of the customer is greatly reduced, so as to achieve the effect of environmental protection and energy saving.
- 2.Because of the close relationship between friction and weight, compared with the same solid rotor, the pump rotor friction weakened after its weight reduction and its service life increased.
- 3.The vibration of the pump in the process of rapid start and high-speed operation is significantly reduced.
- 4.During the operation of the equipment, the decibel of noise is greatly reduced and there is no noise pollution.



#### »Application fields

- 1.The hollow rotor and the uniform-thickness stator are mainly used in the fields of environmentally friendly sewage treatment, chemical industry, pulp and paper making, power plant, steel plant, etc. It can realize large flow, big pressure, and small power consumption and can save operation cost.
- 2.There are two kinds of conventional rotors single-head and double-head, and multi-head hollow drilling tools, which can be widely used in downhole oil production and surface oil transportation



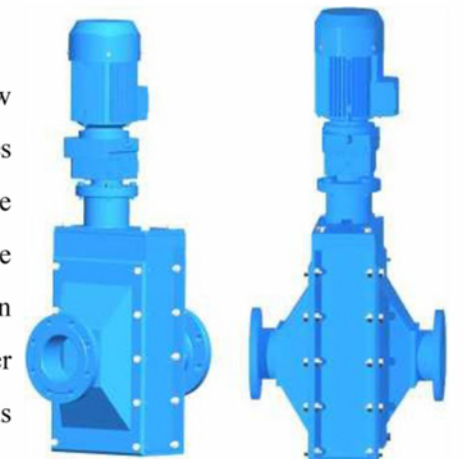
#### »Principle and application of sludge cutting machine

Principle and application of sludge cutting machine: the sludge cutting machine is composed of single shaft with cutter head, knife head, spindle and other core components. It can cut particles through high-speed rotation. It is mainly aimed at the large solid particles, long fibers, plastic films, convenient bags, wood blocks, paper, rubber and other objects with strong obstruction that exist in the process of sludge dewatering to enter into the pipeline which would result in stick resistance in the machine. It is supporting equipment by independent research and development on the basis of foreign advanced equipment. The machine operates in seal and is generally applicable to the feeding screw pump front end of centrifugal dewatering equipment, and industrial product process.



#### » Principle and application of pipeline crusher

The pipeline sludge crusher adopts a double shaft structure with low rotating speed and high torque. Each shaft is equipped with crossed blades and spacers. Rags, ropes, plastic bottles, wood, mud and fibers in the sewage and sludge are easily crushed by the knife group. Generally, the crusher is installed with flange and rectangular mouth, mainly used in sewage pump station, dehydration room, waste treatment plant and other fields. There are different particle sizes after crushing and various installation methods. It can be customized in the light of actual situation.





Model of pipe sludge cutting machine	Maximum Treatment Capacity				Motor power (KW)
	Clear Water	Solid Content Is Less Than 2%	Less than 5% solids	Less than 7% solids	
RQG50/1.5-100	50	35	30	20	1.5-2.2
RQG100/2.2-150	120	95	60	40	2.2-3.0
RQG150/3.0-150	200	175	135	95	3.0-4.0
RQG200/4.0-200	300	260	190	140	4.0-5.5

Type of pipe sludge pulverizer	Maximum Treatment Capacity				Motor power (KW)
	Clear Water	Solid Content Is Less Than 2%	Less than 5% solids	Less than 7% solids	
<b>RFS50/1.5-100</b>	<b>50</b>	<b>35</b>	<b>30</b>	<b>20</b>	<b>1.5-2.2</b>
<b>RFS100/2.2-150</b>	<b>120</b>	<b>95</b>	<b>60</b>	<b>40</b>	<b>2.2-3.0</b>
<b>RFS150/3.0-150</b>	<b>200</b>	<b>175</b>	<b>135</b>	<b>95</b>	<b>3.0-4.0</b>
<b>RFS200/4.0-200</b>	<b>300</b>	<b>260</b>	<b>190</b>	<b>140</b>	<b>4.0-5.5</b>

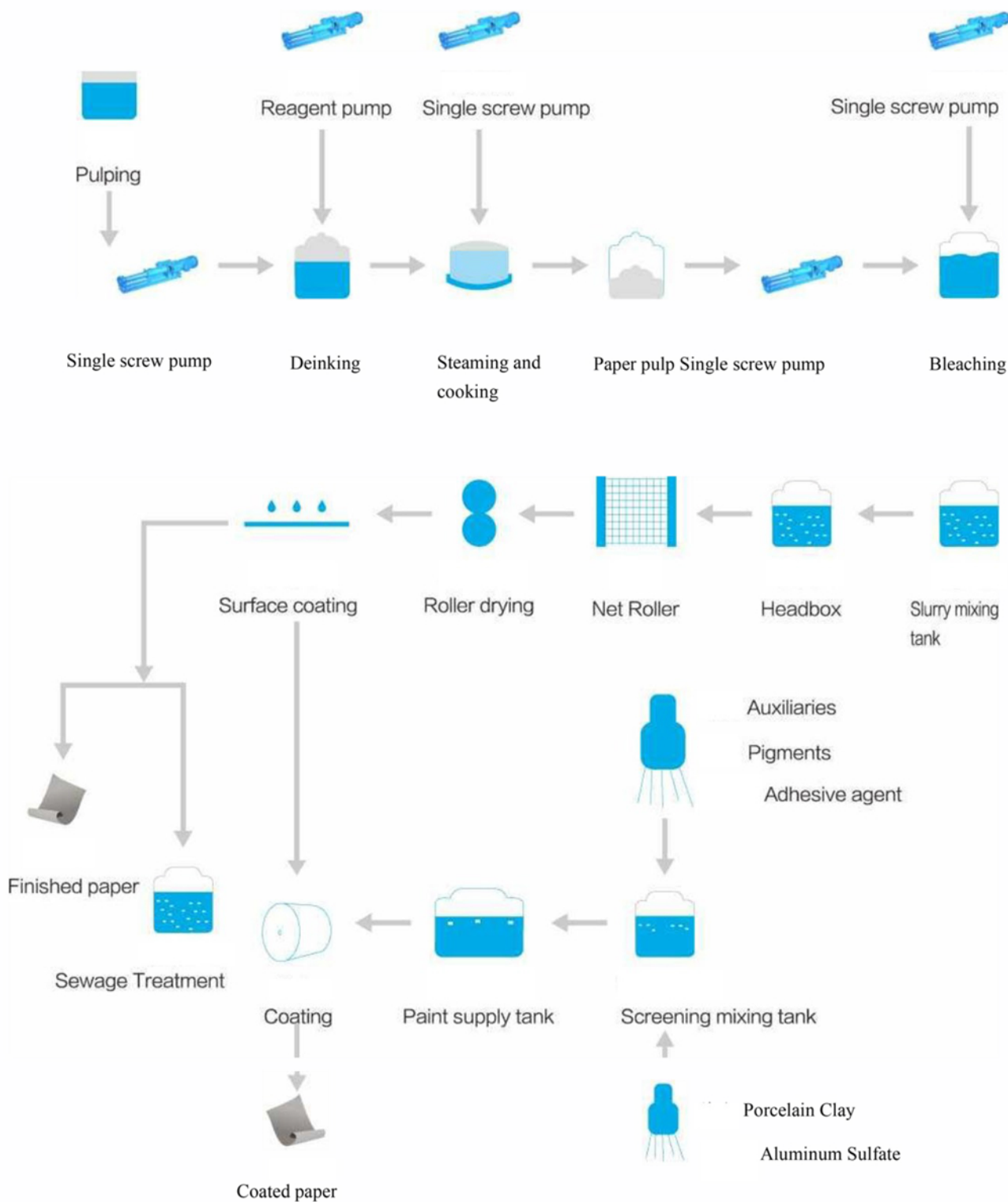
The diagram illustrates the wastewater treatment process, starting with raw sewage intake and ending with final disposal. The process is divided into several stages:

- Primary Treatment:** Raw sewage is pumped from the **Lift Pump House** through a **Single screw pump** into the **Aerated Grit Chamber**. It then moves to the **Primary Grit Chamber**, followed by the **Biological Sedimentation tank** and the **Secondary Sedimentation tank**.
- Secondary Treatment:** Sludge from the **Secondary Sedimentation tank** is pumped through a **Sludge cutter** and a **Single screw pump** into the **Secondary thickener**. The thickened sludge is then pumped through another **Single screw pump** into the **Sludge Digester**.
- Sludge Handling:** Sludge from the **Sludge Digester** is pumped through a **Single screw pump** into the **Sludge thickener**. The thickened sludge is then pumped through a **Single screw pump** into the **Settling tank**.
- Final Disposal:** The **Settling tank** produces three streams of sludge, each pumped through a **Single screw pump** to different dewatering methods:
  - Centrifuges:** Sludge is pumped through a **Single screw pump** into **Centrifuges**, then through a **Dry Mud pump** for **Loading**.
  - Plate and frame filter press:** Sludge is pumped through a **Single screw pump** into a **Plate and frame filter press**, then through a **Dry Mud pump** for **Burning**.
  - Belt filter press:** Sludge is pumped through a **Single screw pump** into a **Belt filter press**, then through a **Dry Mud pump** for **Landfilling**.

Additional components shown include **Additive** and **Flocculants** being added to the **Settling tank** stream, and **Sludge cutters** used to break up sludge in the **Primary Grit Chamber** and **Secondary Sedimentation tank**.



# Flow Chart of paper industry



# On-site case



Screw pump is used for sludge in sedimentation tank



Landfill leachate on the using site



Hopper pump on the using site



Sludge circulating pump of sedimentation tank



Screw pump is used in lime milk industry



Screw pump is used to transport aquaculture wastewater



Food-grade screw pump is used to transport jam



Dry mud pump is used after dehydration



DAM Dosing pump use site



PAC Dosing pump use site



Chemical plate and frame feed pump use site



Sewage plate and frame feed pump use site



Belt type machine mud use site



Aquaculture industry on-site installation



Aquaculture industry wastewater treatment



Sewage plant screw pump accessories replacement