SICHUAN ZIGONG PUMP & VALVE CO.,LIMITED

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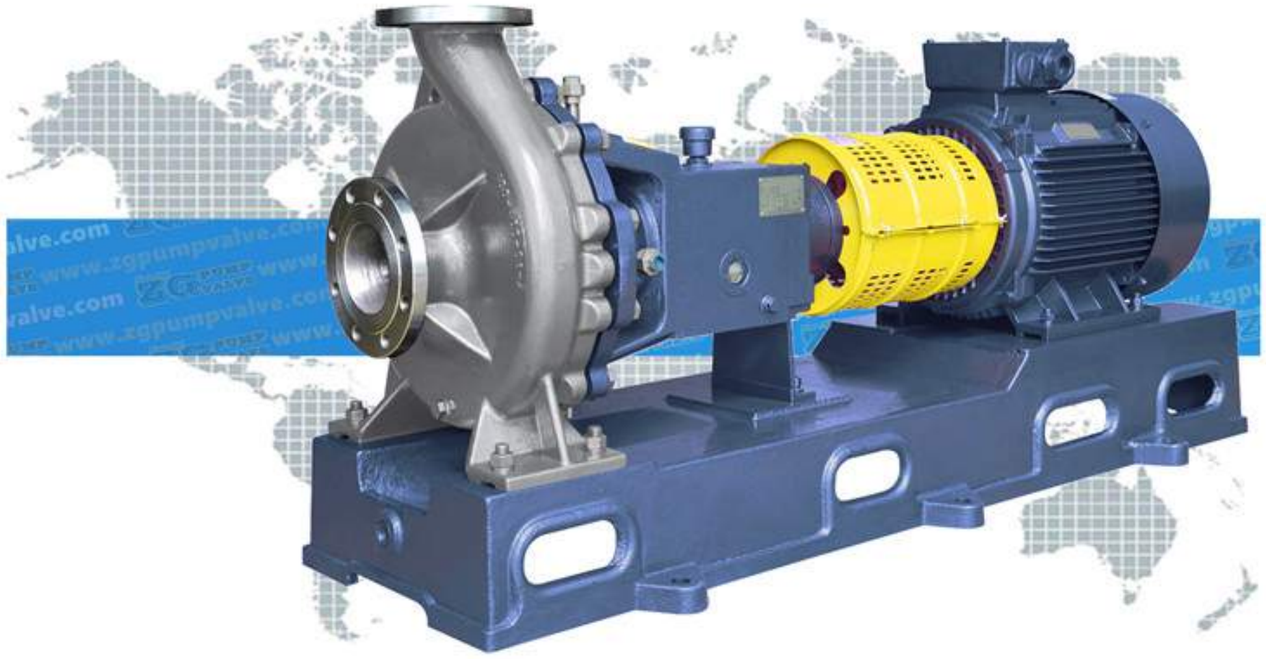
Since 1967 ZG PUMP VALVE

ISO9001 质量管理体系认证

Q1-1125

- Capacity (0.8 ~ 2500) m^3/h
- Total head (4 ~ 250) m
- Temperature (-40 ~ 175) ℃
- Max working pressure 2.5 MPa
- Attained ANSI/API Spec.Q1,ISO/TS29001

HZ Series Chemical Process Pump



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HZ chemical process pump

Introduction

HZ chemical process pump is a centrifugal pump of horizontal,single stage,single suction,cantilever design.This pump is design to designed to deliver clean or medium containing small amounts of particles that are easy to crystallize and precipitate.

Application

Alkali and inorganic salts	ammonia salt blending, soda manufactured by ammonia soda process,pure soda, caustic soda manufactured by diaphragm process and ion exchange membrane process, chloride and hypochlorite, soda sulfide, sulfate, hydrogen peroxide, etc.
Metallurgy	electrolyte of electrolytic copper and nickel, sodium aluminate liquid for aluminum production, acid for cobalt production, ore slurry for zinc production, ammonium vanadate for vanadium production, acid and thiocarbamide liquid for gold production, etc.
Iron and steel industry	electroplating, scouring, electrophoretic painting, etc.
Acid industry	hydrochloric acid, nitric acid, sulfuric acid, phosphoric acid, phosphoric acid pulp, acetic acid, etc.
Petrochemical industry	petroleum's refining, splitting and separation, butadiene, alkylbenzene, carbinol, etc.
Fiber and plastic industries	Dacron, dichloro- methane, epichlorohydrin, trichloropropane, PVC, DMF, etc.
Pulp and paper industry	pulp digestion liquor, green liquor, white liquor, concentrated black liquor, bleaching liquor, etc.
Chemical fertilizer industry	urea, ammonium nitrate, ammonium bicarbonate, ammonium chloride, ammonium phosphate, potassium chloride, potassium sulfate, etc.
Fermentation industry	intermedium, lactic acid, citric acid, food additives, beer, various fermenting liquor, etc.
Environmental protection	various chemicals, wastewater containing acid and alkali, etc.

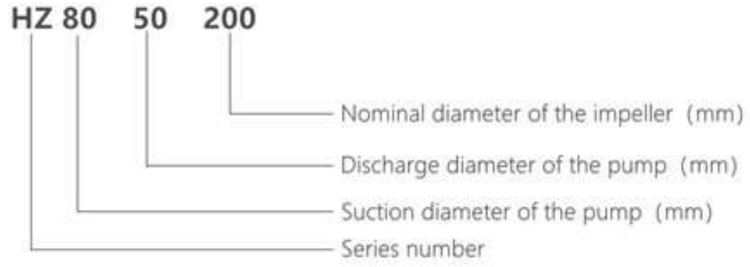
HZ chemical process pump

Materials

Zigong Pump& Valve provides professional material technology for corrosion resistant liquid, built on leading material technology. The HZ series chemical process pump provides a wide range of high-quality materials for cast or fabricated designs, such as:

- Cast iron
- Cast stainless steel
- Duplex and super duplex alloys
- Cast titanium
- Cast nickel
- Other materials available upon request

Pump model illustration



Operating data

- Flow rate(0.8 ~ 2500)m^3/h
- Total heads(4 ~ 250)m
- Operating temperature(-40 ~ 175)℃

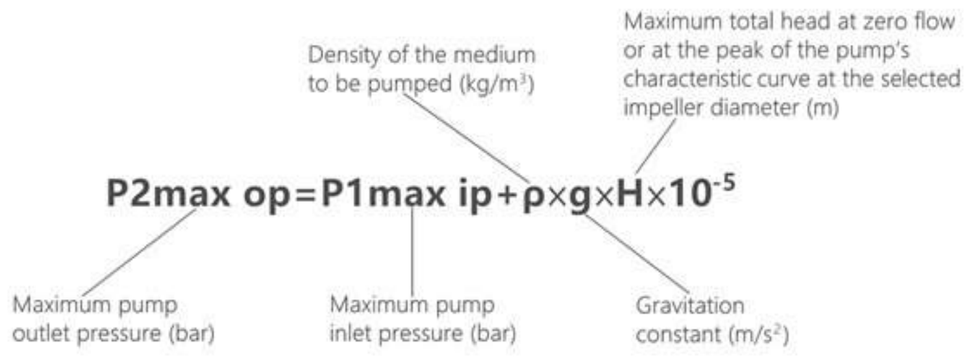
HZ chemical process pump

Working condition: During the continuous operation of the pump, the relative humidity shall be no more than 90%, the ambient temperature shall be no more than 40℃, no less than 4℃, and the altitude shall be no more than 1000m. If the ground conditions on the spot are inconsistent with the above provisions, it shall be explained.

Capacity: The allowable operating range of the centrifugal pump depends on the impeller shape, speed, vibration, medium characteristics, bearing and shaft loads, heat dissipation-particularly with regard to insulated volute casings and corrosion resistance of the material, as well as the operating condition of the inlet net pressure head and NPSH.

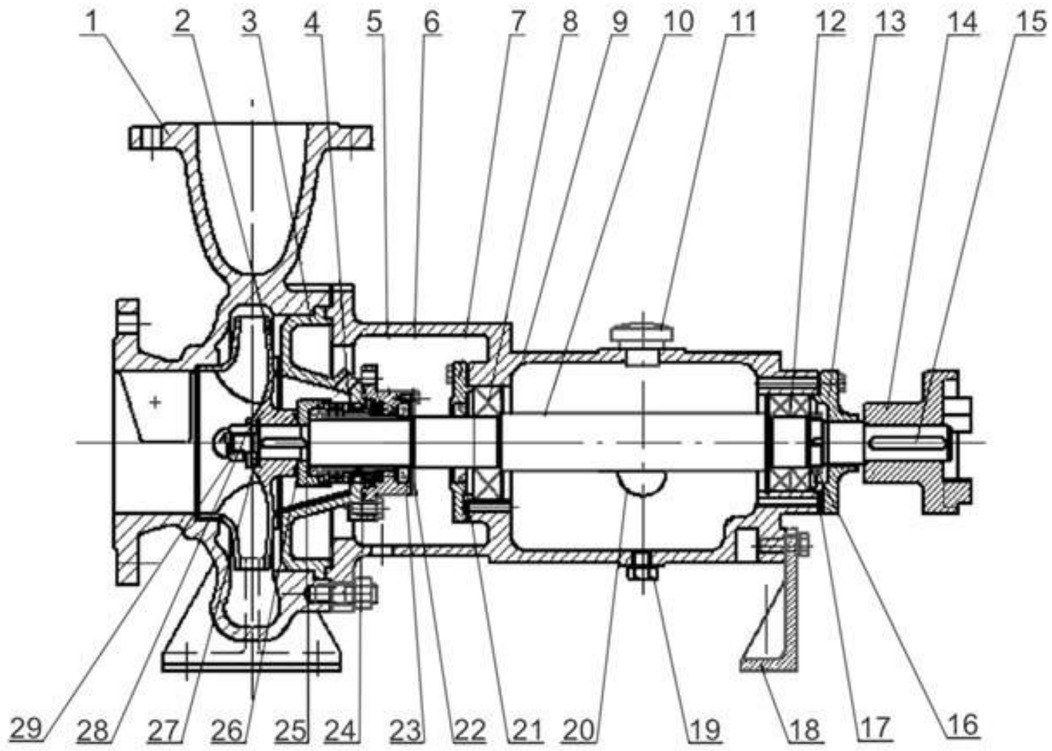
Discharge pressure: The outlet pressure of the centrifugal pump depends on the inlet pressure of the pump, the maximum total head with the selected impeller diameter and the density of the pumping medium.

The maximum pump outlet pressure (P2max op) is calculated as follows:



Pump selection and operation must ensure that the maximum pressure at the pump outlet must not exceed the maximum allowable working pressure of the pump body at the operating temperature. This also applies to debugging when the discharge valve is closed.

Pump structure



1	Pump casing
2	Impeller
3	Cover
4	Mechanical seal
5	Seal gland
6	Wear-proof casing
7	Radial bearing end cover
8	Bearing
9	Frame
10	Shaft

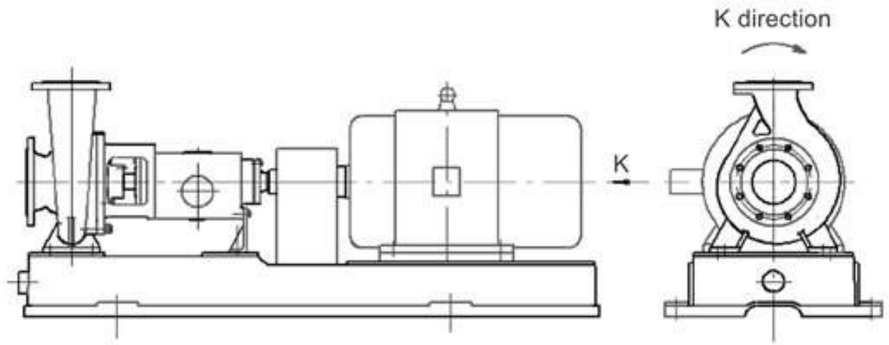
11	Vent cover
12	Back bearing
13	Thrust bearing end cover
14	Pump coupling
15	Key coupling
16	Round nuts
17	Lock washer
18	Frame feet
19	Casing cap
20	Standard oil

21	Framework oil seal
22	Seal baffle
23	Framework oil seal
24	Stationary ring gland "O" ring
25	Impeller key
26	Impeller "O" rings
27	Spring wahser
28	Type O of the impeller nut
29	Impeller nut

Pump structure

Rotation direction of pump

It is clockwise viewed from the driver end.



Characteristics of pump structure

The pump is centrifugal pump of horizontal, axial end suction and radial discharge design. Its discharge and shaft are in the same vertical plane, the casing is directly fixed on the base plate, and the cover is clamped tightly by the casing and the frame.When the connecting nut between the frame and the casing is disassembled, the driving part can be pulled out of the casing without disassembling the pipe of suction and discharge. This is a universal structure of chemical process pump used internationally, called back pullout design.

Features

1. Impeller optimized design, wide range of efficiency,wide range of use,reduce operating costs.

2. Rear door, no need to disassemble the inlet and outlet pipeline, flexible and convenient, easy to install.

3. Shaft and bearing specifications are fixed, high interchangeability of parts.

4. Product parts are highly interchangeable to reduce customer's spare parts inventory.

5. Special self - locking impeller nut, eliminate the danger of impeller nut loose.

6. Machine seal heating and cooling variable, the bearing box can be cooled.

7. Two-way balanced conical chamber mechanical seal, no need to adjust the compression, improve flushing, cooling, lubrication conditions, extend the life of the machine seal.

8. Variable heating and cooling of machine seal, wide adaptability of conveying medium, improve the generality of pump type.

9. Back vane design, reduce the axial force, keep the solid in the medium away from the mechanical seal cavity, improve the mechanical seal service life.

10. Thickening heavy duty shaft, lengthening bearing distance, improving bearing capacity and operating stability, reducing maintenance cost and operating cost.

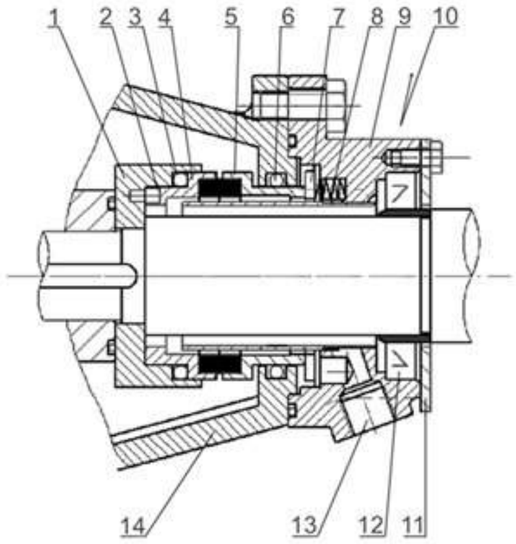
11. Straight conical suction chamber, uniform velocity field, small hydraulic loss, suction chamber plus guide plate, reduce circumferential rotation of liquid flow, reduce head loss, improve efficiency.

12. Large space bearing box and oil tank, improve the overall rigidity of the pump, no need for external refueling cup, reduce the temperature rise of lubricating oil, prolong the bearing life.

13. The compound labyrinth bearing isolator can completely solve the problem of oil leakage in the bearing box, prevent dust and water from entering, improve the service life of the bearing and operate more reliably.

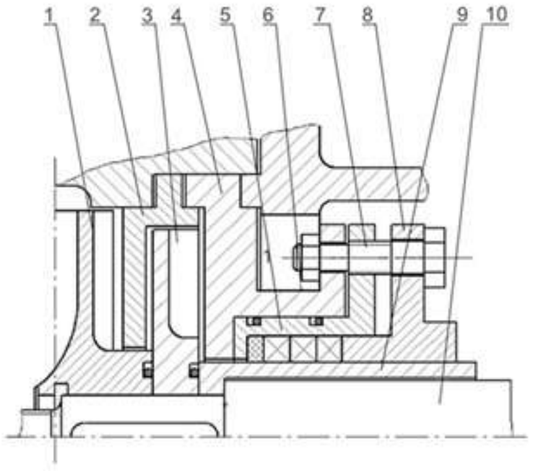
Introduction of mechanical seal

Mechanical seal is an advanced shaft-sealing structure and possesses the advantages of few leakage, low power consumption and long service life. It is of single, internal, multi-springs and balanced seal design according to the medium of soda and salt-making process. With hard alloy faces, 304 stainless steel springs, fluoroelastomer "O" ring, 316 metal components and tapered seal chamber, the mechanical seal is very suitable for media containing small amount of particles and crystal.



1	Driving seat
2	Anti-rotating pin
3	O ring for dynamic ring
4	Dynamic ring
5	Static ring
6	O ring for static ring
7	Thrust ring
8	Springs
9	Stationary ring gland
10	Outlet of cooling water
11	Oil seal guard
12	Oil seal
13	Inlet of cooling water
14	Pump cover

Introduction of dynamic seal



1	Impeller
2	Spacer
3	Secondary impeller
4	Cover
5	Packiong sleeve
6	Packing
7	Bolt
8	Packing gland
9	Shaft sleeve
10	Shaft

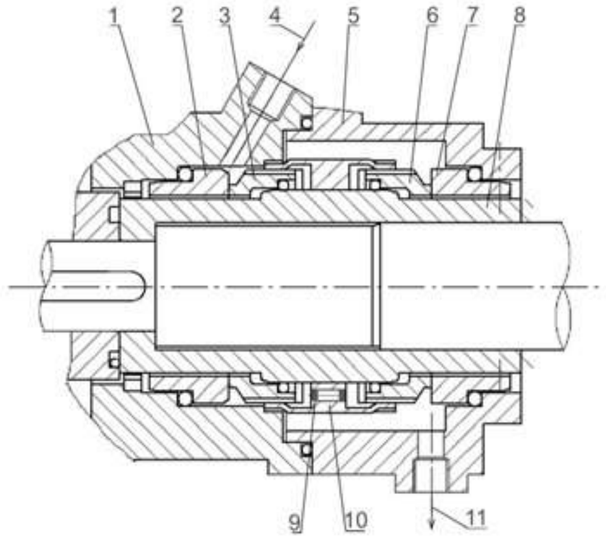
Working principle of dynamic seal

The fluid in the sealing chamber is driven by the back paddles and secondary impeller to rotate at a high speed, then generates centrifugal force which is contrary to the pressure generated by the main impeller so that the pressure difference which leads to leakage is decreased or fully eliminated.

Dynamic seal instruction

As dynamic seal acts by rotation of back paddles and secondary impeller, when operating, packing has no action. When pump stops; the packing gland should be adjusted to reach no leakage. Before operation, first loose the packing gland, and then start the pump to protect packing from burnout. When suction pressure surpasses 0.15MPa, the effect of dynamic seal is not ideal, it is recommended to adopt mechanical seal.

Dual mechanical seal



1	Pump cover
2	Front static ring
3	Front dynamic ring
4	Sealing liquid import
5	Seal gland
6	Back dynamic ring
7	Back static ring
8	Shaft sleeve
9	Spring
10	Driving seat
11	Outlet of sealing

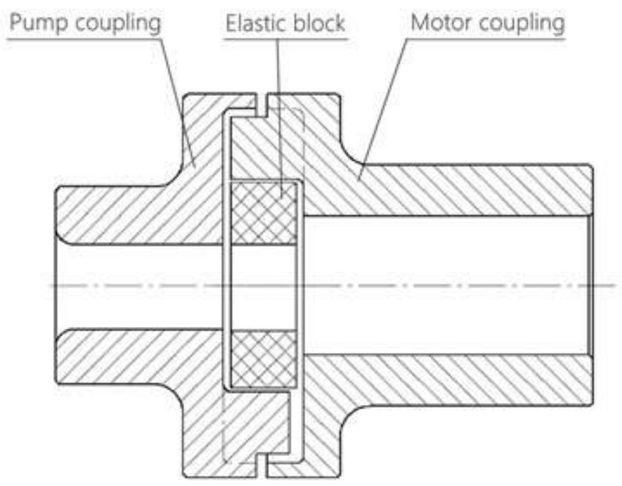
The goal to apply dual mechanical seal is to create an artificial environment in seal chamber to enable seal to operate without trouble for a long time. When toxic, volatile, combustible or explosive liquid is pumped, it is very necessary to create such an environment. An external reservoir with pressure must be used to supply clear isolating liquid which circulates in an internal cyclic loop or external flush system. The pressure of isolating liquid should be greater than that of medium. Dual mechanical seal can mate carious seal piping systems to make seal plans recommended by AFI682, for example typical seal plan 53 or 54.

Driving and coupling

The driving way of the HZ series pumps is direct connection, and the driver is motor.Our company does not recommend the triangle belt drivers and other transmission ways, and elastic sleeve pin coupling is adopted.

Claw elastic coupling

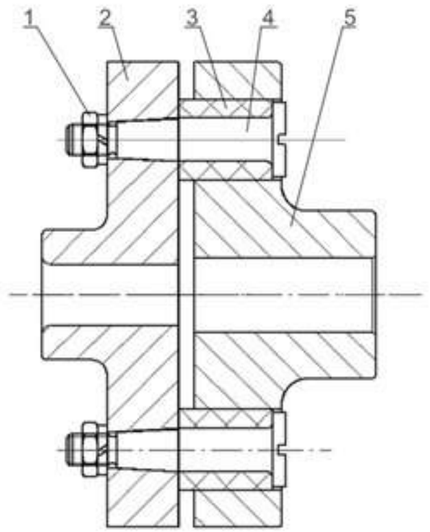
The claw elastic coupling is a traditional pump coupling. It is economical and simple, but only suitable for transmission of small torque,and the quincunx elastic block is quick-wear part.It is mainly suitable for small and middle power transmission, which have not very strict requirements for compensation and vibration damping.



Elastic sleeve pin coupling

The characteristics of elastic sleeve pin coupling are simple structure, convenient replacement and having certain effect of compensation and vibration damping. The company uses in with 75kW and above motor.

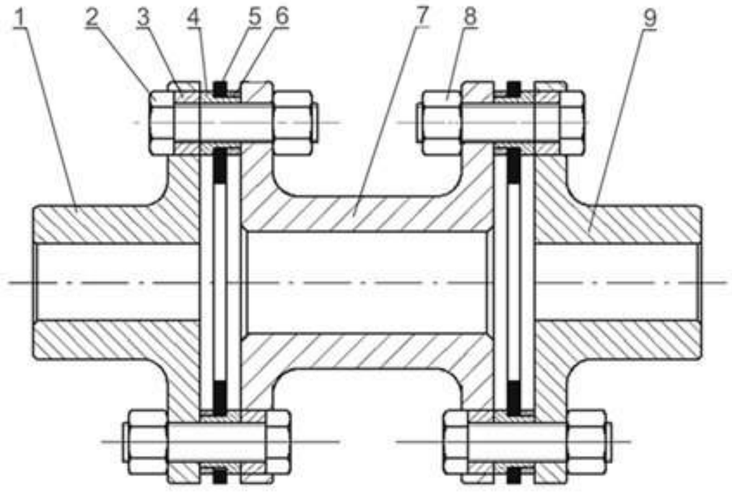
Driving and coupling



1	Nut
2	Pump coupling
3	Elastic sleeve
4	Pin
5	Motor coupling

Metal slice coupling

Metal slice coupling belongs to the coupling with elastic metal component and is a kind of flexible coupling. It transmits the torque through the connection between the metal slice and the main, subordinate mechanism,and possesses the advantage of large torque transmission,wide applicable scope, vibration damping , no noise and no lubrication . However, the manufacturing cost is high, the price is expensive, troublesome installation. Non petrochemical refinery is not recommended to use.



1	Pump coupling
2	Bolt
3	Press sleeve
4	Press sleeve for slice
5	Metal slice
6	Press block for metal slice
7	Intermediate connector
8	Nut
9	Motor coupling

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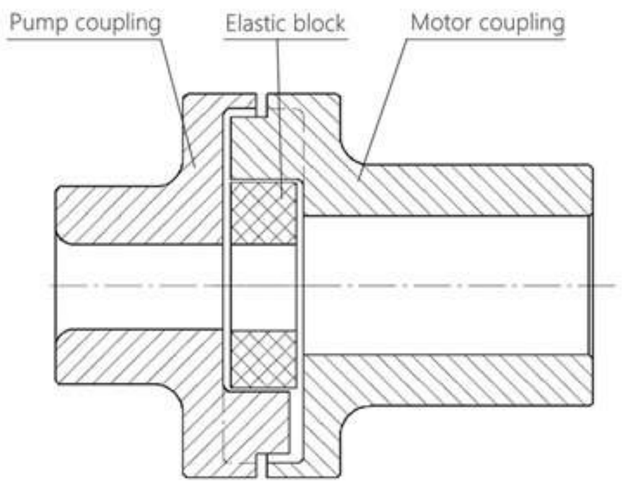

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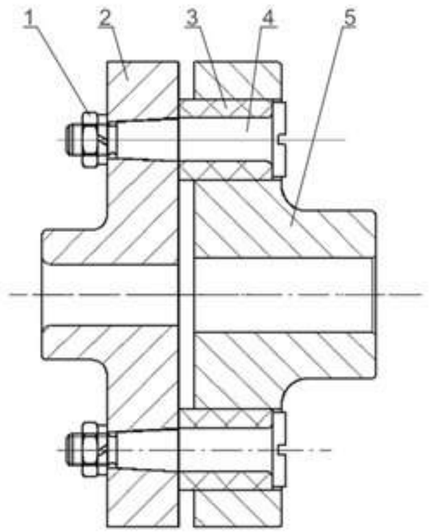

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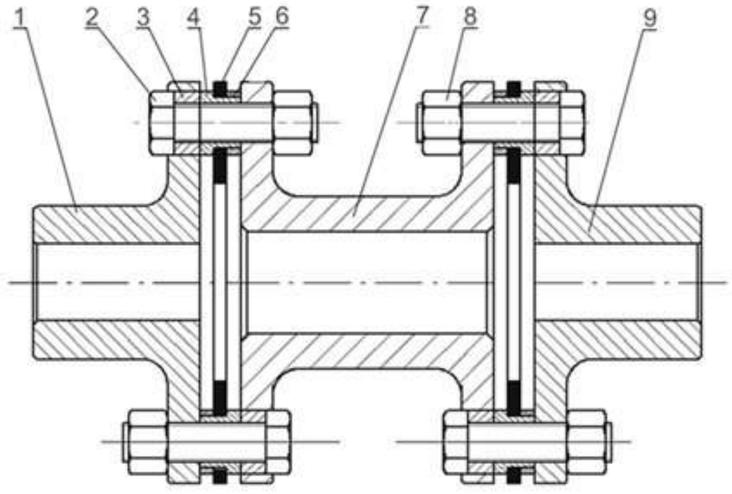

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2	Bolt
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4	Press sleeve for slice
5	Metal slice
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9	Motor coupling

Installation and operation instruction

1. Study Installation, Operation and Maintenance manual prior to the procedure of installation and operation.

2. The pipe must be supported independently to prevent the pump from bearing any strain and the weight of the pipeline.

3. Oil level of 46 # lubrication oil should be controlled between the two oil levels of the oil sight window, the lubrication oil should be changed every 1500 hours of operation.

4. Pipeline and tank installed newly should be flushed to prevent solid matters from entering mechanical seal, affecting the seal effect and life. Before startup, turn the coupling by hand, if the phenomena of friction and bump happen, try to eliminate them firstly.

5. The cooling liquid should be clean and non-scaling water, the liquid being liable to generate scale shall block flushing pipeline, affecting the effect and life of sealservice. The condensed water is the ideal one as a flushing liquid for seal,and the temperature should be less than 85°C. The pressure of the cooling flushing liquid should be less than or equal to 0.1Mpa, the range of capacity is 0.63m3/h, little capacity will affect seal's life.

6. Before startup, first switch on the cooling liquid,when stopping operation,first stop the pump, and then switch off the cooling liquid.

7. Before startup,make sure that rotating direction is correct. Shall close the outlet valve to protect reverse turning prior to turning off the pump.

8. Adjusting flow with the valve of suction pipeline is not permitted.

9. Depending on different viscosities of the media, the leakage allowance is ≤5ml/h for the mechanical seal when the shaft diameter is greater than Φ50mm; the same is ≤ 3ml/h for the mechanical seal when the shaft diameter is smaller than Φ50mm.

10. Often check the condition of the cooling liquid. If the flushing liquid interrupted; do not dose water immediately, but do this after the mechanical seal is cooled in case it is damaged due to the sudden cooling or heating.The rising of the temperature of the cooling liquid within 20°C is normal.

11. Pump should not operate with the capacity below one third of the pump's designed capacity for a long term. If it must operate continuously under this condition, a bypass pipe should be installed at the discharge of the pump to make the pump run in the operating scope stimulated.

12. When the system needs to stop operation for a long term, the pump should be washed overall, the residual corrosive liquid should be cleaned up to prevent crystallization.

Test

The company carries out the following tests according to the contract and standards:

Hydrostatic pressure test

The test is based on clear water at ambient temperature, the pressure is 1.5 times of the basic design pressure,and the pressure is kept for 10 minutes.

Performance test

According to the standard measurements, ISO9906 II class testing precision acceptance class 2B

NPSH test

Measure according to ISO5199 standard

Vibration test

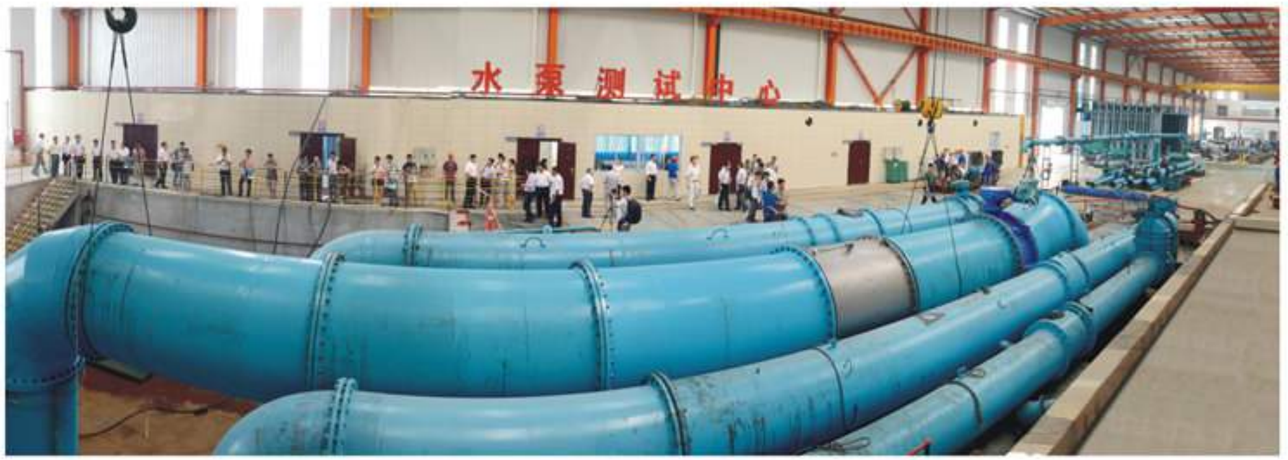
Vibration test is carried out according to ISO5199, and the vibration intensity level of the pump is controlled at grade A

Temperature test

At the working temperature, the temperature rise of the bearing is measured and the measurement results are recorded

Raw material inspect

Casting and spare parts inspection, ensure the reliability of the whole machine



Notice before ordering

- The ratio of the motor's rated power to the pump's shaft power should be the following:

The shaft power of the pump	the ratio (%)
Below 18.5kW	125%
(22-75)kW	115%
Above 75kW	110%

- When ordering, please fill in the table "Working conditions of the centrifugal pump".

- Warranty is valid only when genuine spare of our company are used .

PERFORMANCE TABLE OF HZ CHEMICAL PROCESS PUMP

Pump model	Speed r/min	Capacity range m3/h	Head range m	Capacity m3/h	Total head m	Effciency %	In put power KW	Coupled motor		NPSHr m
								r=1.00	r=1.35	r=1.84	
32-20-180	1450	1.8~3	10~12	2	11.5	16	0.55	Y802-4/0.75	Y90S-4/1.1	Y90L-4/1.5	2
	2900	3.5~6	40~68	4	46	16.5	3	Y112M-2/4	Y132S1-2/5.5	Y132S2-2/7.5	
32-20-180A		3~5	35~40	3.6	37	15	2.4	Y100L-2/3	Y112M-2/4	Y132S1-2/5.5	
40-25-125	2900	4.8~7.2	16~22	6	20	39	0.84	Y802-2/1.1	Y90S-2/1.5	Y90L-2/2.2	2
40-25-125A		4~6.2	13~18	5.2	15	35	0.61	Y802-2/1.1	Y802-2/1.1	Y90S-2/1.5	
40-25-125B		2.5~3.8	13~18	3.1	15	35	0.36	Y801-2/0.75	Y801-2/0.75	Y802-2/1.1	
40-25-160	2900	4.8~7.2	24~33	6	30	33	1.48	Y90L-2/2.2	Y100L-2/3	Y112M-2/4	2
40-25-160A		4~6.2	20.8~31.2	5.2	26	27	1.36	Y90S-2/1.5	Y90L-2/2.2	Y100L-2/3	
40-25-160B		3.2~4.8	16~22	4	20	27	0.8	Y802-2/1.1	Y90S-2/1.5	Y90L-2/2.2	
40-25-160C		2.4~3.6	11.2~16.5	3	14	19	0.6	Y801-2/0.75	Y802-2/1.1	Y90S-2/1.5	
40-25-200	2900	4.8~7.2	40~55	6	50	24.5	3.3	Y112M-2/4	Y132S1-2/5.5	Y132S2-2/7.5	2
40-25-200A		4.4~6.6	36.8~51	5.5	46	24.5	2.81	Y112M-2/4	Y132S1-2/5.5	Y132S2-2/7.5	
40-25-200B		3.8~5.7	32~45	4.8	40	23.8	2.19	Y100L-2/3	Y112M-2/4	Y132S1-2/5.5	
40-25-200C		2.8~4.3	24~35	3.6	30	21.6	1.36	Y90L-2/2.2	Y100L-2/3	Y112M-2/4	
40-25-250	2900	4.8~7.2	64~85	6	80	22.2	5.88	Y132S2-2/7.5	Y160M1-2/11	Y160M2-2/15	2
40-25-250A		4.5~6.7	60~80	5.6	75	20.9	5.47	Y132S2-2/7.5	Y160M1-2/11	Y160M2-2/15	
40-25-250B		3.8~5.7	52~70	4.8	65	20.3	4.18	Y132S1-2/5.5	Y132S2-2/7.5	Y160M1-2/11	
40-25-250C		2.8~4.3	40~55	3.8	50	17.2	3	Y112M-2/4	Y132S1-2/5.5	Y132S2-2/7.5	
50-32-125	1450	5~9	4~6	6.3	5	43	0.199	Y801-4/0.55	Y801-4/0.55	Y801-4/0.55	2
	2900	10~15	16~22	12.5	20	47	1.44	Y90L-2/2.2	Y100L-2/3	Y112M-2/4	
50-32-125A		9~14	13~18	11.3	16.2	45	1.1	Y90S-2/1.5	Y90L-2/2.2	Y100L-2/3	
50-32-160	1450	5~9	6.5~9.6	6.3	8	40	0.34	Y801-4/0.55	Y802-4/0.75	Y90S-4/1.1	2
	2900	10~15	25.6~33	12.5	32	44	2.47	Y112M-2/4	Y132S1-2/5.5	Y132S2-2/7.5	
50-32-160A		9.3~13.5	20.8~31.2	11.2	26	42	1.88	Y100L-2/3	Y112M-2/4	Y132S1-2/5.5	
50-32-200	1450	5~9	10~15	6.3	12.5	33	0.65	Y802-4/0.75	Y90S-4/1.1	Y90L-4/1.5	2
	2900	10~15	40~60	12.5	50	38	4.47	Y132S1-2/5.5	Y132S2-2/7.5	Y160M1-2/11	
50-32-200A	2900	9.3~14	34.5~51.6	11.6	43	37	3.66	Y132S1-2/5.5	Y132S2-2/7.5	Y160M1-2/11	
50-32-200B		8.7~13	30.4~45.6	10.9	38	36	3.13	Y112M-2/4	Y132S1-2/5.5	Y132S2-2/7.5	
50-32-250	1450	5~9	16~24	6.3	20	27	1.27	Y90L-4/1.5	Y100L1-4/2.2	Y100L2-4/3	2
	2900	10~15	64~86	12.5	80	32	8.5	Y160M1-2/11	Y160M2-2/15	Y180M-2/22	
50-32-250A		9.3~14	55~80	11.6	69	29	7.51	Y160M1-2/11	Y160M2-2/15	Y160L-2/18.5	

Pump model	Speed r/min	Capacity range m3/h	Head range m	Capacity m3/h	Total head m	Effciency %	In put power KW	Coupled motor			NPSHr m
								r=1.00	r=1.35	r=1.84	
50-32-250B	2900	8.7～13	48.4～72.6	10.9	60.5	28	6.41	Y132S2-2/7.5	Y160M1-2/11	Y160M2-2/15	2
50-32-260	2900	4.8～7.2	85～105	6	100	13	12.56	Y160M2-2/15	Y180M-2/22	Y200L1-2/30	2.5
50-32-400	2900	10～15	180～250	13	216	16	48	Y250M-2/55	Y280S-2/75	Y315S-2/110	
65-50-125	1450	10～15	4～6	12.5	5	55	0.31	Y801-4/0.55	Y801-4/0.55	Y802-4/0.75	
	2900	20～30	16～24	25	20	62	2.3	Y100L-2/3	Y112M-2/4	Y132S1-2/5.5	2
65-50-125A		18～27	12.8～19.2	22.5	16	53	1.85	Y90L-2/2.2	Y100L-2/3	Y112M-2/4	
65-50-160	1450	10～15	6.5～9.6	12.5	8	51	0.53	Y802-4/0.75	Y90S-4/1.1	Y90S-4/1.1	
	2900	20～30	25.6～33	25	32	55	4	Y132S1-2/5.5	Y132S2-2/7.5	Y160M1-2/11	2
65-50-160A		18～27	20.8～31.2	22.5	26	50	3.2	Y112M-2/4	Y132S1-2/5.5	Y132S2-2/7.5	
65-40-200	1450	10～15	10～15	12.5	12.5	46	0.93	Y90S-4/1.1	Y90L-4/1.5	Y100L1-4/2.2	
	2900	20～30	40～60	25	50	52	6.5	Y132S2-2/7.5	Y160M1-2/11	Y160M2-2/15	2
65-40-200A		18～27	34.5～51.6	23.3	43	51	5.35	Y132S2-2/7.5	Y160M1-2/11	Y160M1-2/11	
65-40-200B		17.5～26	30～45.6	21.7	38	50	4.5	Y132S1-2/5.5	Y132S2-2/7.5	Y160M1-2/11	
65-40-250	1450	10～15	16～21	12.5	20	39	1.75	Y100L2-4/3	Y112M-4/4	Y132S-4/5.5	2
	2900	20～30	64～85	25	80	43.5	12.5	Y160M2-2/15	Y160L-2/18.5	Y200L1-2/30	
65-40-250A		18～27	55～80	23.3	69	42	10.4	Y160M2-2/15	Y160L-2/18.5	Y180M-2/22	2.5
65-50-250	1450	11～17	12～16	13.8	15	42	1.34	Y90L-4/1.5	Y100L1-4/2.2	Y100L2-4/3	
	2900	22～33	59～62	27.5	60	46	10.8	Y160M2-2/15	Y160L-2/18.5	Y200L1-2/30	2
65-50-250A		20～30	40～52	25	50	46	7.4	Y160M1-2/11	Y160M1-2/11	Y160M2-2/15	
65-40-315	1450	10～15	25.6～33	12.5	32	33	3.3	Y112M-4/4	Y132S-4/5.5	Y132M-4/7.5	
	2900	20～30	100～127	25	125	39	21.8	Y200L1-2/30	Y200L2-2/37	Y225M-2/45	2
65-40-315A		18～27	86～125	23.3	108	39	17.6	Y180M-2/22	Y200L1-2/30	Y200L2-2/37	
80-65-125	1450	20～30	4～6	25	5	64	0.53	Y802-4/0.75	Y90S-4/1.1	Y90L-4/1.5	
	2900	40～60	16～25	50	20	65	4.1	Y132S1-2/5.5	Y132S2-2/7.5	Y160M1-2/11	2
80-65-125A		37～56	14～21	46.5	17.3	62	3.53	Y112M-2/4	Y132S1-2/5.5	Y132S2-2/7.5	
80-65-160	1450	20～30	6.4～10	25	8	62	0.88	Y90S-4/1.1	Y90L-4/1.5	Y100L1-4/2.2	
	2900	40～60	29～35	50	32	67	6.5	Y132S2-2/7.5	Y160M1-2/11	Y160M2-2/15	2.3
80-65-160A		37～56	24～33	46	28	62	5.64	Y132S2-2/7.5	Y160M1-2/11	Y160M2-2/15	
80-50-180	1450	16～24	6.5～11	20	10	57	0.96	Y90L-4/1.5	Y100L1-4/2.2	Y100L1-4/2.2	2.5
	2900	32～48	36～41	40	40	62	7.03	Y132S2-2/7.5	Y160M1-2/11	Y160M2-2/15	
80-50-200	1450	20～30	10～14	25	12.5	57	1.49	Y100L1-4/2.2	Y100L2-4/3	Y112M-4/4	2
	2900	40～60	46～54	50	50	63	10.8	Y160M2-2/15	Y160L-2/18.5	Y180M-2/22	2.5

Pump model	Speed r/min	Capacity range m3/h	Head range m	Capacity m3/h	Total head m	Effciency %	In put power KW	Coupled motor			NPSHr m
								r=1.00	r=1.35	r=1.84	
80-50-200A	2900	37～56	34.5～46	46.5	43	61	8.9	Y160M1-2/11	Y160M2-2/15	Y160L-2/18.5	2.5
80-50-200B		35～52	30.5～44	43.5	38	58	7.8	Y160M1-2/11	Y160M2-2/15	Y160M2-2/15	
80-50-220	1450	16～24	11～17	20	16	51	1.71	Y100L1-4/2.2	Y100L2-4/3	Y112M-4/4	2.5
	2900	32～48	42～67	40	65	56	12.7	Y160M2-2/15	Y160L-2/18.5	Y180M-2/22	
80-50-250	1450	20～30	16～21	25	20	52	2.62	Y112M-4/4	Y132S-4/5.5	Y132M-4/7.5	
	2900	40～60	72～87	50	80	57	19.11	Y180M-2/22	Y200L1-2/30	Y225M-2/45	2.5
80-50-250A		37～56	55～75	46.5	69	57	15.33	Y160L-2/18.5	Y180M-2/22	Y200L1-2/30	
80-50-300	1450	16～24	16～26	20	25	45	3	Y112M-4/4	Y132S-4/5.5	Y132M-4/7.5	3.8
	2900	32～48	65～103	40	100	50	21.8	Y200L1-2/30	Y200L2-2/37	Y225M-2/45	
80-50-315	1450	20～30	29～35	25	32	44	4.9	Y132S-4/5.5	Y132M-4/7.5	Y160M-4/11	
	2900	40～60	100～127	50	125	49	34.7	Y225M-2/45	Y250M-2/55	Y280S-2/75	2
80-50-315A		37～56	86～125	46.5	108	48	28.4	Y200L2-2/37	Y225M-2/45	Y250M-2/55	
80-50-315B		35～52	76～100	43.5	94.5	47	23.8	Y200L1-2/30	Y200L2-2/37	Y250M-2/55	
80-50-400	1450	16～24	31～49	20	47.5	29	8.9	Y160M-4/11	Y160L-4/15	Y180M-4/18.5	4.5
	2900	32～48	123～195	40	190	34	60.9	Y280S-2/75	Y280M-2/90	Y315M1-2/132	
100-80-125	1450	40～60	4～6	50	5	69	1	Y90L-4/1.5	Y100L1-4/2.2	Y100L2-4/3	2
	2900	68～120	16～24	100	20	74	7.36	Y160M1-2/11	Y160M2-2/15	Y160L-2/18.5	
100-80-125A		65～112	14～22	93	17.3	73	6	Y132S2-2/7.5	Y160M1-2/11	Y160M2-2/15	4.3
100-80-125B		69.6～104	12～18	87	15.1	72.5	4.9	Y132S2-2/7.5	Y160M1-2/11	Y160M2-2/15	
100-80-160	1450	40～60	6.4～9	50	8	69	1.58	Y100L1-4/2.2	Y100L2-4/3	Y112M-4/4	3.4
	2900	70～120	26～35	100	32	70	12.4	Y160M2-2/15	Y160L-2/18.5	Y200L1-2/30	2.5
100-80-160A		65～110	25～32	93	28	69	10.3	Y160M2-2/15	Y160L-2/18.5	Y180M-2/22	
100-80-200	1450	60～90	10～15	75	12.5	68	3.75	Y132S-4/5.5	Y132M-4/7.5	Y160M-4/11	
	2900	120～170	38～54	150	50	71	28.7	Y200L2-2/37	Y225M-2/45	Y250M-2/55	6.5
100-80-200A		108～162	33～50	135	41.5	69	22.1	Y200L1-2/30	Y200L2-2/37	Y225M-2/45	
100-80-400	1450	60～90	45～53	75	50	52	19.65	Y180L-4/22	Y200L-4/30	Y225M-4/45	2.4
	2900	120～170	180～202	150	200	55.5	147.3	Y315L1-2/160	Y355M-2/250		
100-80-450	1450	48～79	60～80	66	70	53.5	24	Y200L-4/30	Y225S-4/37	Y225M-4/45	
100-80-450A		50～70	50～70	60	60	52	18.84	Y180L-4/22	Y200L-4/30	Y225S-4/37	
100-65-200	1450	40～60	10～15	50	12.5	68	2.5	Y100L2-4/3	Y112M-4/4	Y132S-4/5.5	
	2900	80～120	45～53	100	50	72	18.9	Y180M-2/22	Y200L1-2/30	Y225M-2/45	3.9
100-65-200A		64～120	35～46	93	43	68	16	Y160L-2/18.5	Y200L1-2/30	Y200L2-2/37	

Pump model	Speed r/min	Capacity range m3/h	Head range m	Capacity m3/h	Total head m	Effciency %	In put power KW	Coupled motor			NPSHr m
								r=1.00	r=1.35	r=1.84	
100-65-220	1450	30～45	11～17	37.5	16	60.5	2.7	Y112M-4/4	Y132S-4/5.5	Y132M-4/7.5	3.5
	2900	56～90	42～67	75	65	65.5	20.3	Y180M-2/22	Y200L1-2/30	Y225M-2/45	
100-65-250	1450	40～60	16～22	50	20	63	4.3	Y132S-4/5.5	Y132M-4/7.5	Y160M-4/11	3.6
	2900	70～130	70～84	100	80	65	33.5	Y200L2-2/37	Y250M-2/55	Y280S-2/75	
100-65-250A		65～120	60～74	93	69	65	26.8	Y200L1-2/30	Y225M-2/45	Y250M-2/55	
100-65-250B		70～105	49～72	87	60.5	65	22.1	Y200L1-2/30	Y200L2-2/37	Y225M-2/45	
100-65-300	1450	30～45	16～26	37.5	25	55.5	4.6	Y132S-4/5.5	Y132M-4/7.5	Y160M-4/11	4
	2900	56～90	65～103	75	100	60.5	33.8	Y200L2-2/37	Y250M-2/55	Y280S-2/75	
100-65-315	1450	35～65	30～33	50	32	60	7.26	Y160M-4/11	Y160L-4/15	Y180M-4/18.5	2
	2900	80～120	115～127	100	125	62	54.9	Y280S-2/75	Y280M-2/90	Y315S-2/110	3.6
100-65-315A		65～110	86～125	93	108	62	44.1	Y250M-2/55	Y280S-2/75	Y280M-2/90	
100-65-315B		70～105	76～114	87	95	62	36.3	Y225M-2/45	Y250M-2/55	Y280S-2/75	
100-65-315C		70～108	81～121	90	101	62	39.9	Y225M-2/45	Y250M-2/55	Y280S-2/75	
100-65-400	1450	30～45	31～49	37.5	47.5	40	12.13	Y160L-4/15	Y180M-4/18.5	Y180L-4/22	5
	2900	56～90	123～195	75	190	50	77.6	Y280M-2/90	Y315M-2/132	Y315L1-2/160	
125-80-200	1450	60～90	10～15	75	12.5	68	3.75	Y132S-4/5.5	Y132M-4/7.5	Y160M-4/11	6.5
	2900	100～180	40～60	150	50	72	28.3	Y200L2-2/37	Y225M-2/45	Y280S-2/75	
125-80-200A		95～170	38～46	135	41.5	72	21.2	Y200L1-2/30	Y200L1-2/30	Y225M-2/45	
125-80-250	1450	60～90	16～24	75	20	48	8.5	Y160M-4/11	Y160L-4/15	Y180M-4/18.5	5
	2900	100～180	60～85	150	80	62	52.6	Y280S-2/75	Y280M-2/90	Y315S-2/110	
125-80-250A		95～170	50～80	135	66	54	44.9	Y250M-2/55	Y280S-2/75	Y280M-2/90	
125-80-350	1450	40～60	30～42	50	37.5	50	10.2	Y160L-4/15	Y180M-4/18.5	Y180L-4/22	2
	2900	80～120	120～155	100	150	53	77	Y280M-2/90	Y315S-2/110		
125-80-350A		73～109	100～135	91	125	50	61.9	Y280S-2/75	Y280M-2/90	Y315M-2/132	
125-100-200	1450	70～130	10～15	100	12.5	80	4.25	Y132S-4/5.5	Y132M-4/7.5	Y160M-4/11	2.9
	2900	160～240	40～55	200	50	72	37.8	Y225M-2/45	Y250M-2/55	Y280S-2/75	5
125-100-200A		165～200	41～46	186	43	70	31.1	Y200L2-2/37	Y250M-2/55	Y280S-2/75	
125-100-250	1450	80～120	16～24	100	20	72	7.56	Y160M-4/11	Y160L-4/15	Y180M-4/18.5	2.3
	2900	160～240	70～85	200	80	75	58.1	Y280S-2/75	Y280M-2/90	Y315M-2/132	4.5
125-100-250A		160～200	52～78	180	65	72	44.3	Y250M-2/55	Y280S-2/75	Y280M-2/90	
125-100-280	1450	70～150	17～27	100	26	67	10.5	Y160L-4/15	Y180M-4/18.5	Y180L-4/22	2.5

Pump model	Speed r/min	Capacity range m3/h	Head range m	Capacity m3/h	Total head m	Effciency %	In put power KW	Coupled motor			NPSHr m
								r=1.00	r=1.35	r=1.84	
125-100-280	2900	160～240	80～105	200	100	70	77.7	Y280M-2/90	Y315S-2/110	Y315L1-2/160	5
125-100-315	1450	80～120	28～35	100	32	67	13	Y160L-4/15	Y180L-4/22	Y200L-4/30	2
	2900	160～240	96～127	200	125	70	97.2	Y315S-2/110	Y315L1-2/160		5.2
125-100-315A		160～200	81～121	180	101	69	71.7	Y280M-2/90	Y315S-2/110	Y315L1-2/160	5
125-100-400	1450	70～140	42～52	100	50	62	22	Y200L-4/30	Y225S-4/37	Y250M-4/55	2.3
125-100-400A		60～130	36～45	90	43	60.5	17.4	Y180L-4/22	Y200L-4/30	Y225M-4/45	
125-100-450	1450	70～150	50～67	100	64	58	30	Y225S-4/37	Y225M-4/45	Y280S-4/75	3
150-125-250	1450	150～300	13～23	200	20	72	15.1	Y180M-4/18.5	Y200L-4/30	Y225S-4/37	2.8
150-125-250A		150～250	12～17	180	16.2	70	11.3	Y160L-4/15	Y180L-4/22	Y200L-4/30	
150-125-315	1450	160～250	28～35	200	32	77	22.63	Y200L-4/30	Y225S-4/37	Y225M-4/45	2.8
150-125-315A		150～240	21～31	180	26	72	17.7	Y180L-4/22	Y200L-4/30	Y225S-4/37	
150-125-350	1450	160～240	36～41	200	40	70	31.1	Y225S-4/37	Y225M-4/45	Y280S-4/75	3
150-125-400	1450	150～300	40～54	200	50	71	38.3	Y225M-4/45	Y250M-4/55	Y280S-4/75	3.5
150-125-400A		150～250	36～45	180	43	70	30.1	Y225S-4/37	Y225M-4/45	Y280S-4/75	
150-125-450	1450	160～240	46～74	200	70	73	52.2	Y250M-4/55	Y280S-4/75	Y315S-4/110	2.5
150-125-500	1450	200～280	75～85	240	80	66	79.2	Y280M-4/90	Y315M-4/132	Y315L1-4/160	
150-150-560	1450	250～350	95～110	300	100	62	131.7	Y315L1-4/160	Y315L2-4/200		
175-150-250	1450	240～360	13～21	300	20	68	24.7	Y200L-4/30	Y225M-4/45	Y250M-4/55	4
175-150-280	1450	240～360	18～29	300	28	65.5	35	Y225M-4/45	Y250M-4/55	Y280S-4/75	3
175-150-315	1450	240～360	24～37	300	36	75	39.2	Y225M-4/45	Y250M-4/55	Y280S-4/75	3.2
175-150-400	1450	240～360	40～52	300	50	72	56.7	Y280S-4/75	Y280M-4/90	Y315M-4/132	3.5
175-150-450	1450	240～360	48～67	300	65	72	73.8	Y280M-4/90	Y315S-4/110	Y315L1-4/160	3
175-150-500	1450	240～360	75～85	300	80	65	100.5	Y315S-4/110	Y315L1-4/160	Y315L2-4/200	4
175-150-600	1450	240～360	100～115	300	110	62	144.9	Y315L1-4/160	Y315L2-4/200		4.2
200-150-250	1450	250～520	12～23	400	20	74	29.4	Y225S-4/37	Y225M-4/45	Y280S-4/75	3.5
200-150-250A		250～450	12～17	360	16	72	21.8	Y200L-4/30	Y225S-4/37	Y225M-4/45	
200-150-315	1450	250～520	28～35	400	32	72	48.4	Y250M-4/55	Y280S-4/75	Y315S-4/110	3.5
200-150-315A		250～450	21～31	360	26	70	36.4	Y225M-4/45	Y250M-4/55	Y280S-4/75	
200-150-350	1450	320～480	32～42	400	40	66	66	Y280S-4/75	Y315S-4/110	Y315M-4/132	4
200-150-400	1450	300～550	40～53	400	50	76	71.6	Y280M-4/90	Y315S-4/110	Y315L1-4/160	3.5
200-150-400A		300～500	38～44	360	43	73	57.7	Y280S-4/75	Y280M-4/90	Y315M-4/132	

Pump model	Speed r/min	Capacity range m3/h	Head range m	Capacity m3/h	Total head m	Effciency %	In put power KW	Coupled motor			NPSHr m
								r=1.00	r=1.35	r=1.84	
200-150-450	1450	320～400	50～65	400	65	72	98.3	Y315S-4/110	Y315L1-4/160	Y315L2-4/200	3.5
200-150-500	1450	320～400	62～80	400	80	72	121	Y315M-4/132	Y315L2-4/200		4.2
200-150-560	1450	320～480	100～123	400	120	65	201	Y355M2-4/250	Y355L2-4/315		3.5
200-200-250	1450	240～360	8.5～14.5	300	12.5	79	13	Y180M-4/18.5	Y180L-4/22	Y200L-4/30	4
250-200-315	1450	400～600	20～32	500	30	82	49.7	Y250M-4/55	Y280S-4/75	Y315S-4/110	4.5
250-200-400	1450	400～600	40～52	500	50	70.6	96.4	Y315S-4/110	Y315L1-4/160	Y315L2-4/200	4
250-200-450	1450	400～600	75～85	500	85	76	152.2	Y315L1-4/160	Y315L2-4/200	Y355L1-4/280	4.5
250-200-500	1450	500～650	68～87	600	85	72	192.8	Y315L2-4/200	Y355L1-4/280		4.5
250-200-560	1450	400～600	80～105	500	100	72	189.2	Y315M3-4/220	Y355L1-4/280		4.5
250-250-300	1450	520～780	8.5～14.5	650	12.5	74	29.9	Y225S-4/37	Y250M-4/55	Y280S-4/75	6
300-250-300	1450	650～1000	16～24	800	20	75	58.07	Y280S-4/75	Y280M-4/90	Y315M-4/132	
300-250-400I	1450	650～1000	24～33	800	32	79	88.2	Y315S-4/110	Y315M-4/132	Y315L2-4/200	
300-250-400		500～700	28～40	600	38	70	88.6	Y315S-4/110	Y315M-4/132	Y315L2-4/200	
300-250-400A		400～600	24～30	500	30	66	61.8	Y280S-4/75	Y315S-4/110	Y315M-4/132	
300-250-450	1450	750～1000	38～52	800	50	78	139.6	Y315L1-4/160	Y315L2-4/200	Y355L1-4/280	
300-250-450I		600～900	36～43	700	43	70	117	Y315M-4/132	Y315L2-4/200	Y355M2-4/250	
300-250-500	1450	600～900	60～75	700	70	76	175.5	Y315L2-4/200	Y355M2-4/250		
300-250-500A		450～800	60～70	580	65	65	74	Y315L1-4/160	Y315L2-4/200	Y355L1-4/280	
300-250-560	1450	650～950	75～85	800	85	74	250.1	Y355L1-4/280			
350-300-400	960	530～790	14～19	662	17.5	71	44.5	Y280M-6/55	Y315S-6/75	Y315M-6/90	2.5
	1450	800～1200	35～45	1000	40	73	149.2	Y315L1-4/160	Y315L2-4/200	Y355L1-4/280	7.5
350-350-400	960	1200～1800	10～15	1500	12.5	79	65	Y315S-6/75	Y315L1-6/110	Y315L2-6/132	
350-350-400A		800～1200	10～14.5	1000	12.5	74	47.3	Y280M-6/55	Y315S-6/75	Y315L1-6/110	9
350-350-400B		650～1000	10～12.5	800	12.5	68	40	Y280S-6/45	Y315S-6/75	Y315M-6/90	
450-400-400	1450	1600～2400	16～24	2000	20	72	151	Y315L2-4/200	Y355M2-4/250		
450-400-450	1450	1250～2000	28～35	1600	32	74	188.3	Y315L2-4/200	Y355L1-4/280		