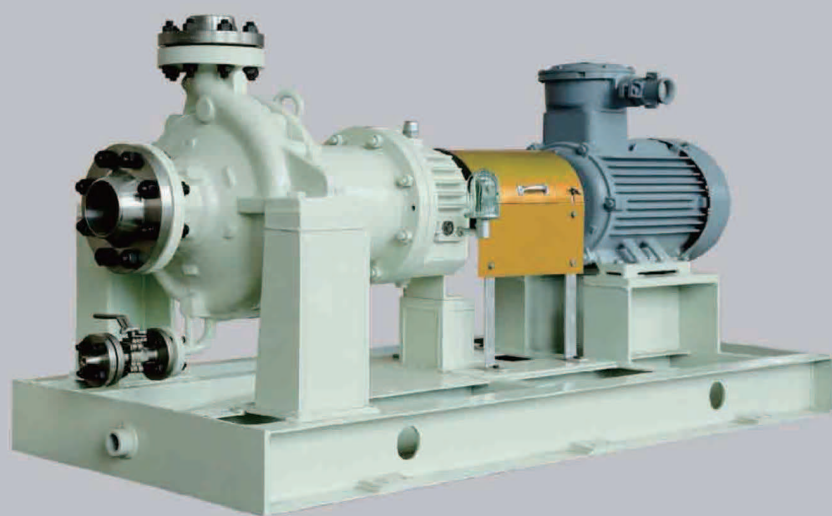
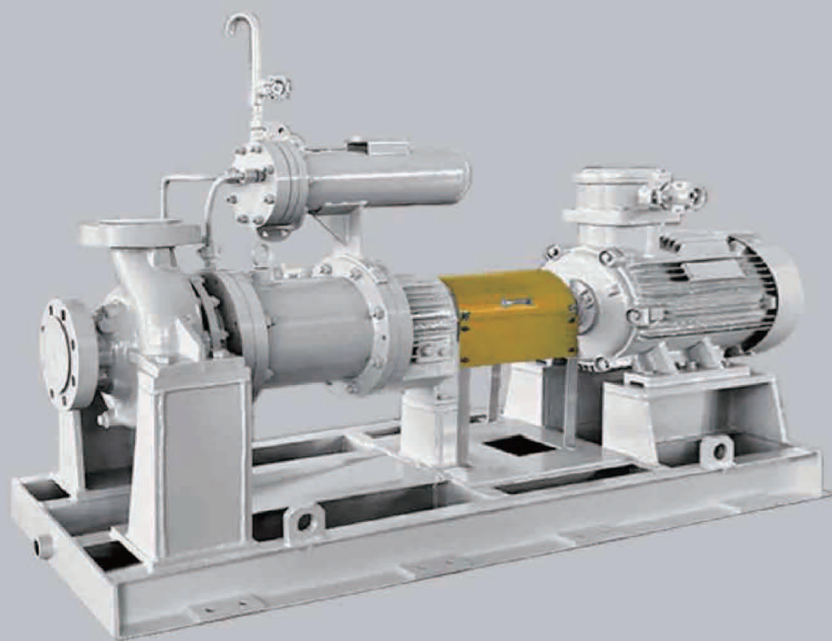


KEHUAN

大连科环磁力泵

DALIAN KEHUAN MAGNETIC PUMP



大连科环泵业有限公司
DALIAN KEHUAN PUMP CO.,LTD.



公司简介

COMPANY BRIEF

Established in 2002, Dalian Kehuan Pump Co.,Ltd. Is leading manufacturer on pump design and manufacture that meet the most exacting quality requirements. Dalian Kehuan Pump Co.,Ltd has two work shop, one is manufacturing assembly and test work shop, another is packing and delivery work shop. A plant covers an area of 20,000 square meters.

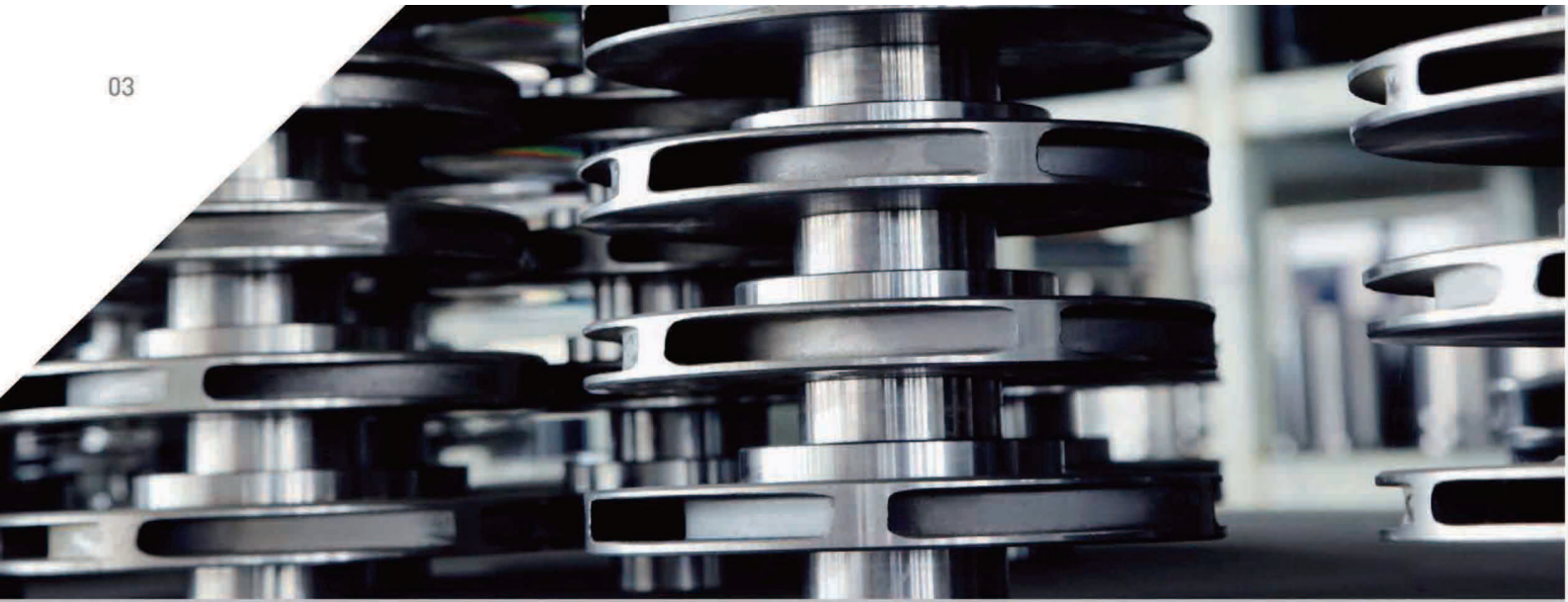
Technical capability

- Team leaders have more than 30 years of rich experience in researching, designing and manufacturing pumps.
- we have an excellent technical team to design and develop new products. So we can provide a strong technical support for you.
- The products are designed with the help of CAD system, solidworks, CFD analysis.
- Our major products are in the compliance with the standards of API610, API685, ANSI, ISO,DIN,HI, etc.
- To fulfill the requirement of our customers we customize our pumps by adopting new design.
- Perfect and mature technologic process.
- We have advanced computer assisted testing system to hold the product quality.

Manufacturing capability

- Systematic solutions for pump manufacturing process: pattern marking, component machining, Pump assembling, performance testing, painting and packing.
- Workshop area 12000m², Max lifting weight 10tons, Max lifting height 10m.
- Production equipment and capability Through with relocation and modification, our company invested in number of high- tech and high-performance production equipment, with nearly 60variousmachines including high precision CNC machines and numerical control machines, the facilities are able to meet all machining requirement of parts and components for small & large pumps.

We are well-known in domestic market, because of our High quality products and reliable quality assurance system, high efficiency performance and excellent solutions



磁力泵应用领域 APPLICATION

Suitable to transferring easily vaporized, little flow, big flow, high-head, corrosive, toxic, flammable, explosive, expensive, with particles and other high-risk medium.

The products have been widely applied in chemical, petrochemical, Coal chemical industry, Fluorine chemical, acrylic acid, propylene oxide, bisphenol A, polysilicon, sponge titanium, chlor-alkali and so on.

磁力泵工作原理 WORKING PRINCIPLE

The Magnetic Driven Pump is composed of such three parts of pump, magnetic coupler and motor, and driven by the magnetic coupler. The motor equipped is the common horizontal three phase AC motor. The entirety of the pump is designed following the building block principle, free from any shaft sealing device, and totally sealless. It's easy to install and repair, and all wearing parts can be repaired and replaced on site.



执行标准

EXECUTIVE STANDARD

API 685 Second edition, 2011

Sealless Centrifugal Pumps for Petroleum, Petrochemical, and Gas Industry Process Service

性能范围

PERFORMANCE RANGE

Branch: DN25-DN400

Head: ~1000m

Pressure: 2.5~16Mpa

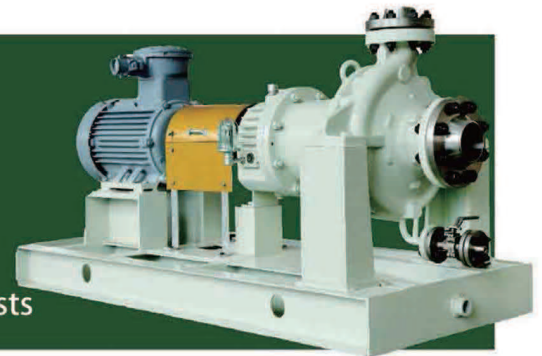
Frequency: 50hz/60hz

Flow: ~2000m³/h

Temp.: -196°C~45°C

Power: ~560kw

Depends on customer requests



标准材料

STANDARD MATERIALS

Parts name	Material
Casing, Impeller, Shaft	WCB, CA15, CA6NM, SS, Duplex, super duplex, Ti & Ti alloy, HC, and so on
Containment shell	Haste alloy C-276
slide bearings	Silicon carbide SSIC
Magnetic pieces	Samarium Cobalt Alloy Sm ₂ Co ₁₇ , Operating Temperature up to 450°C

轴向力平衡

AXIAL THRUST BALANCING

The axial force of Kehuan magnetic pump uses the principle of hydraulics, automatically balance the axial force through the fluid pressure difference. The sliding bearing and thrust plate only bear the unbalanced axial force when the pump starting and stopping, which fully guarantees the service life of the sliding bearing

MZF MEF

Magnetic driven pumps

OH1\OH2 Horizontal magnetic pump

Performance Range

Size: DN25~DN400
Capacity: Max.2000m³/h
Head: Max.250m
Temperature: Max.+250°C
Pressure:2.5 to 10MPa
Power bund: Max.560kw

Design

- OH1 foot mouted or OH2 centerline mounted
- Single stage,single suction,overhung structure .
- Dangerous liquid pumps will be equipped with double containment shell, It will be alarm when the first containment shell lekaged.
- Containment shell in imported Hastelloy C276 .
- Don't need to remove pump inlet /outlet flange and motor when maintenance .
- Adding cooling or warming jacket as required.

Service

Suitable for handling corrosive , toxic, explosive , costly, flammable,clean and slightly contaminated,radioactive as well as highly volatile fluids



MZF-J MEF-J

OH1\OH2 Horizontal magnetic pumps with jacket

Performance Range

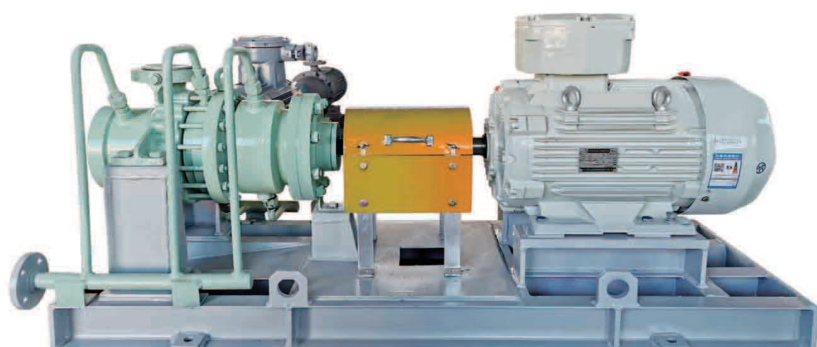
Size:DN25~DN400
Capacity: Max.2000m³/h
Head: Max.250m
Temperature: Max.+300°C
Pressure:2.5 to 10MPa
Power bund: Max.560kw

Design

- OH1 foot mouted or OH2 centerline mounted
- Single stage,single suction,overhung structure .
- Dangerous liquid pumps will be equipped with double containment shell, It will be alarm when the first containment shell lekaged.
- Containment shell in imported Hastelloy C276 .
- Don't need to remove pump inlet /outlet flange and motor when maintenance .
- Adding cooling or warming jacket as required.

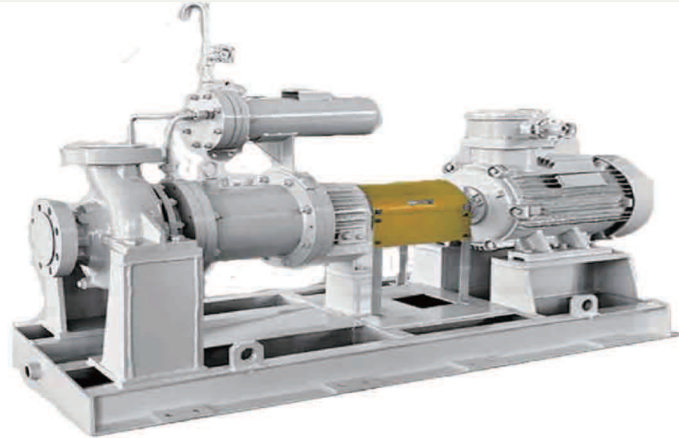
Service

Horizontal installation, suitable for conveying mediums that are easy to crystallize and solidify.



Performance Range

Size: DN25~DN400
 Capacity: Max.2000m³/h
 Head: Max.250m
 Temperature: Max.+450°C
 Pressure:2.5 to 10MPa
 Power bund: Max.560kw



Design

- OH2 centerline mounted
- Single stage,single suction,overhung structure.
- Equipped with water cooling heat exchanger or air cooling heat exchanger
- Dangerous liquid pumps will be equipped with double containment shell, It will be alarm when the first containment shell leaked.
- Containment shell in imported Hastelloy C276
- Don't need to remove pump inlet /outlet flange and motor when maintenance .

Service

Suitable for handling high temperature liquid, like High temperature thermal oil

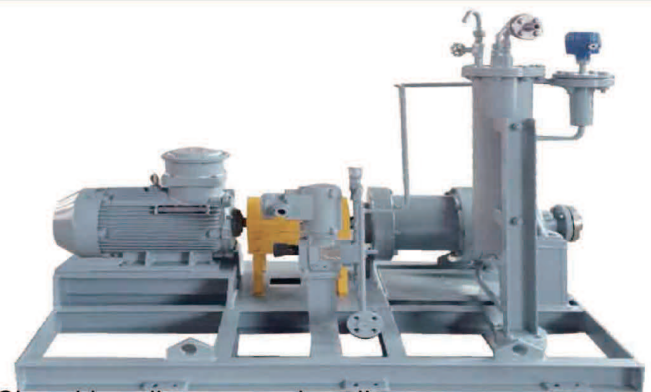
MOF

Performance range

Size: DN25~DN300
 Capacity: Max.1200m³/h
 Head: Max.125m
 Temperature: Max.+450°C
 Pressure:2.5 to 10MPa
 Power bund: Max.560kw

Design

Single-stage, single suction, overhung structure.
 Foot-mounted structure or centerline-supported structure. Closed impeller or open impeller
 Pump are outfitted with heat exchanger, metering pump or external clean liquid (for independent cooling of the rotor cavity)and lubrication system according to the working conditions to avoid impurities entering the rotor cavity.
 The casing thickness is thickened and the grinding margin is large.



Service

Suitable for transportation of aggressive, inflammable, toxic, explosive, Easy vaporized, expensive and slurry substances

MXF

Self priming magnetic pump

Magnetic driven pumps

Performance Range

Size: DN25~DN250

Capacity: Max.700m³/h

Head: Max.150m

Temperature: Max.+250°C

Pressure:2.5 to 10MPa

Power bund: Max.160kw

Material

Cast steel

Austenitic Stainless steel

Duplex steel

Super Duplex steel

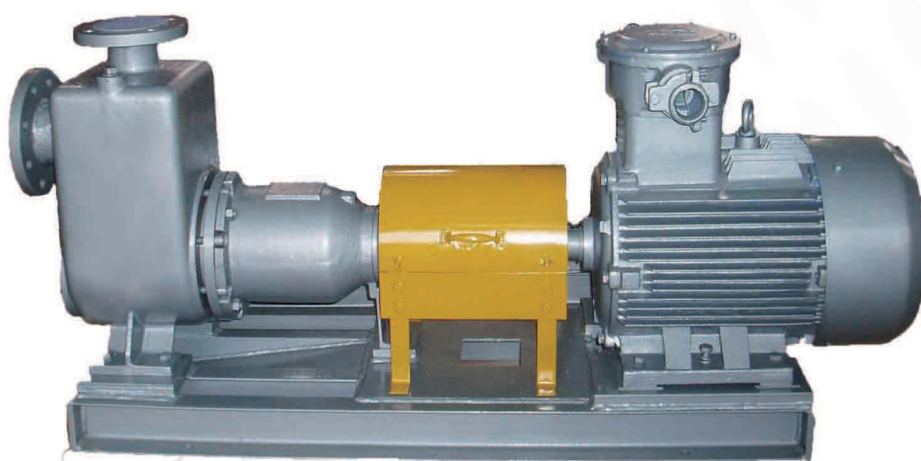
Hastelloy

Titanium C2, C3

Titanium alloy C5,C12

904L

Alloy 20



Design

- OH1 foot mouted or OH2 centerline mounted
- Single stage,single suction,overhung structure .
- Dangerous liquid pumps will be equipped with double containment shell, It will be alarm when the first containment shell leaked.
- Containment shell in imported Hastelloy C276 .
- Don't need to remove pump inlet /outlet flange and motor when maintenance .
- Self priming function, Max. suction lift 6m.No need prime the pump after the first priming.

Service

Suitable for tank drainage, tanker unloading.

Performance Range

Size: DN25~DN400
Capacity: Max.1500m³/h
Head: Max.250m
Temperature: Max.+450°C
Pressure:2.5 to 10MPa
Power bund: Max.560kw

Material

Cast steel
Austenitic Stainless steel
Duplex steel
Super Duplex steel
Hastelloy
Titanium C2, C3
Titanium alloy C5,C12
904L
Alloy 20



Design

- OH3 Inline magnetic pumps
- Single stage,single suction,overhung structure.
- Equipped with water cooling heat exchanger or air cooling heat exchanger
- Dangerous liquid pumps will be equipped with double containment shell, It will be alarm when the first containment shell leaked.
- Containment shell in imported Hastelloy C276

Service

Suitable for pressurized conveying of media in pipelines

BB4 Horizontal Multistage magnetic pump

Performance Range

Size: DN25~DN200

Capacity: Max.700m³/h

Head: Max.1000m

Temperature: Min. -196°C; Max.+450°C

Pressure:2.5 to 10MPa

Power bund: Max.560kw

Material

Cast steel

Austenitic Stainless steel

Duplex steel

Super Duplex steel

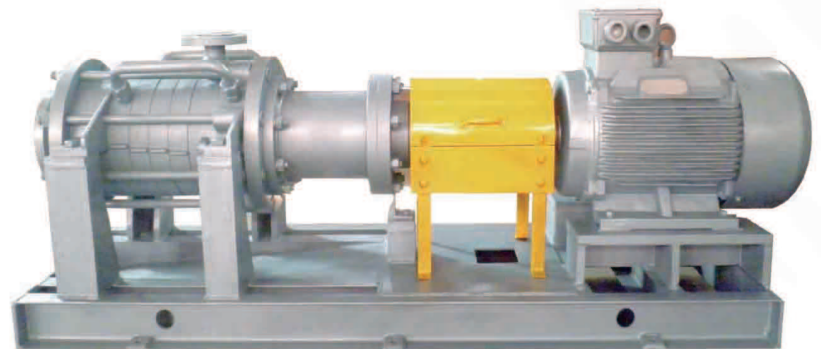
Hastelloy

Titanium C2, C3

Titanium alloy C5,C12

904L

Alloy 20



Design

- BB4 multistage, Between bearing supported
- Foot-mounted or Centerline mounted structure.
- Dangerous liquid pumps will be equipped with double containment shell, It will be alarm when the first containment shell leaked.
- Containment shell in imported Hastelloy C276 .
- Don't need to remove pump inlet /outlet flange and motor when maintenance .

Service

Suitable for handling corrosive , toxic, explosive , costly, flammable, clean and slightly contaminated, radioactive as well as highly volatile fluids

Performance Range

Size: DN25~DN200

Capacity: Max.700m³/h

Head: Max.1000m

Temperature: Max.+450°C

Pressure:2.5 to 16MPa

Power bund: Max.560kw

Material

Cast steel

Austenitic Stainless steel

Duplex steel

Super Duplex steel

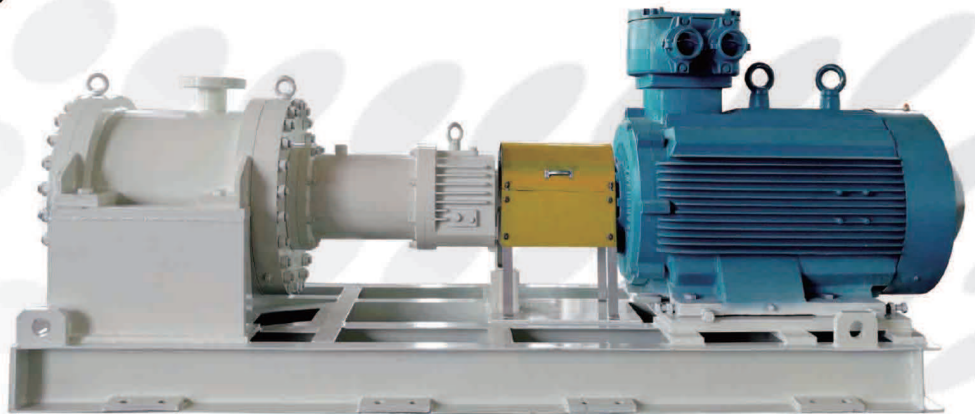
Hastelloy

Titanium C2, C3

Titanium alloy C5,C12

904L

Alloy 20



Design

- BB5 Multistage ,double casing ,Between bearings pumps
- Equipped with cooling or heating jacket depends customer request
- Dangerous liquid pumps will be equipped with double containment shell, It will be alarm when the first containment shell leaked.
- Containment shell in imported Hastelloy C276

Service

Suitable for handling corrosive , toxic, explosive , costly, flammable, clean and slightly contaminated, radioactive as well as highly volatile fluids

VS4 Submerged magnetic pump

Performance Range

Size: DN25~DN300

Capacity: Max.1000m³/h

Head: Max.150m

Temperature: Max.+120°C

Pressure:2.5 to 10MPa

Power bund: Max.160kw

Material

Cast steel , LTCS

Chrome steel CA15/CA6NM

Austenitic Stainless steel

Duplex steel

Super Duplex steel

Hastelloy

Titanium C2, C3

Titanium alloy C5,C12

904L

Alloy 20

Design

- VS4 Long shaft submerged magnetic pumps
- Single stage,single suction, submerged structure
- Dangerous liquid pumps will be equipped with double containment shell, It will be alarm when the first containment shell leaked.
- Containment shell in imported Hastelloy C276 .
- Max. depth is 10m.

Service

Suitable for handling corrosive , toxic, explosive , costly, flammable,clean and slightly contaminated,radioactive as well as highly volatile fluids



Performance Range

Size: DN25~DN300
Capacity: Max.1000m³/h
Head: Max.1000m
Temperature: Max.+120°C
Pressure:2.5 to 10MPa
Power bund: Max.560kw

Material

Cast steel , LTCS
Chrome steel CA15/CA6NM
Austenitic Stainless steel
Duplex steel
Super Duplex steel
Hastelloy
Titanium C2, C3
Titanium alloy C5,C12
904L
Alloy 20

Design

- VS4 Long shaft submerged magnetic pumps
- Multistage stage,single suction, submerged structure
- Dangerous liquid pumps will be equipped with double containment shell, It will be alarm when the first containment shell leaked.
- Containment shell in imported Hastelloy C276 .
- Max. depth is 10m.

Service

Suitable for handling high temperature liquid, like High temperature thermal oil



Mud type vertical magnetic pump

Performance Range

Size: DN25~DN300

Capacity: Max.1200m³/h

Head: Max.125m

Temperature: Max.+450°C

Pressure:2.5MPa

Power bund: Max.560kw

Material

Cast steel , LTCS

Chrome steel CA15/CA6NM

Austenitic Stainless steel

Duplex steel

Super Duplex steel

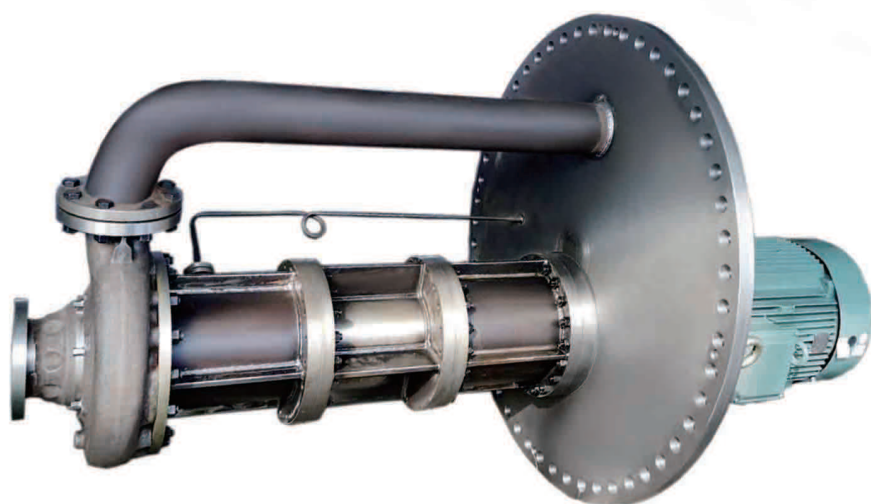
Hastelloy

Titanium C2, C3

Titanium alloy C5,C12

904L

Alloy 20

**Design**

- Single stage,single suction,overhung structure .
- Vertical instalation, closed or open impeller.
- Pump casing is thickened and the abrasion allowance is bigger.
- Adding cooling or warming jacket as required.
- The rotor cavity is filled with inert gas to prevent impurities from entering, it can be dry running, low maintenance cost.

Service

Suitable for handling liquid containing large amounts of solid particles, high abrasiveness,and high melting point.

Performance Range

Size: DN25~DN300

Capacity: Max.1200m³/h

Head: Max.125m

Temperature: Max.+120°C

Pressure:2.5 MPa

Power bund: Max.560kw

Material

Cast steel , LTCS

Chrome steel CA15/CA6NM

Austenitic Stainless steel

Duplex steel

Super Duplex steel

Hastelloy

Titanium C2, C3

Titanium alloy C5,C12

904L

Alloy 20

Design

- VS4 Mud type magnetic submerged pumps
- Single stage,single suction,overhung structure .
- Closed or open impeller.
- Pump casing is thickened and the abrasion allowance is bigger.
- Adding cooling or warming jacket as required.
- The rotor cavity is filled with inert gas to prevent impurities from entering, it can be dry running, low maintenance cost.

Service

Suitable for handling liquid containing large amounts of solid particles, high abrasiveness,and high melting point.



DTMMC

VS6 Vertical double-casing magnetic pump

Magnetic driven pumps

Performance Range

Size: DN25~DN200

Capacity: Max.700m³/h

Head: Max.1000m

Temperature: -196°C ~ +250°C

Pressure:2.5 to 16MPa

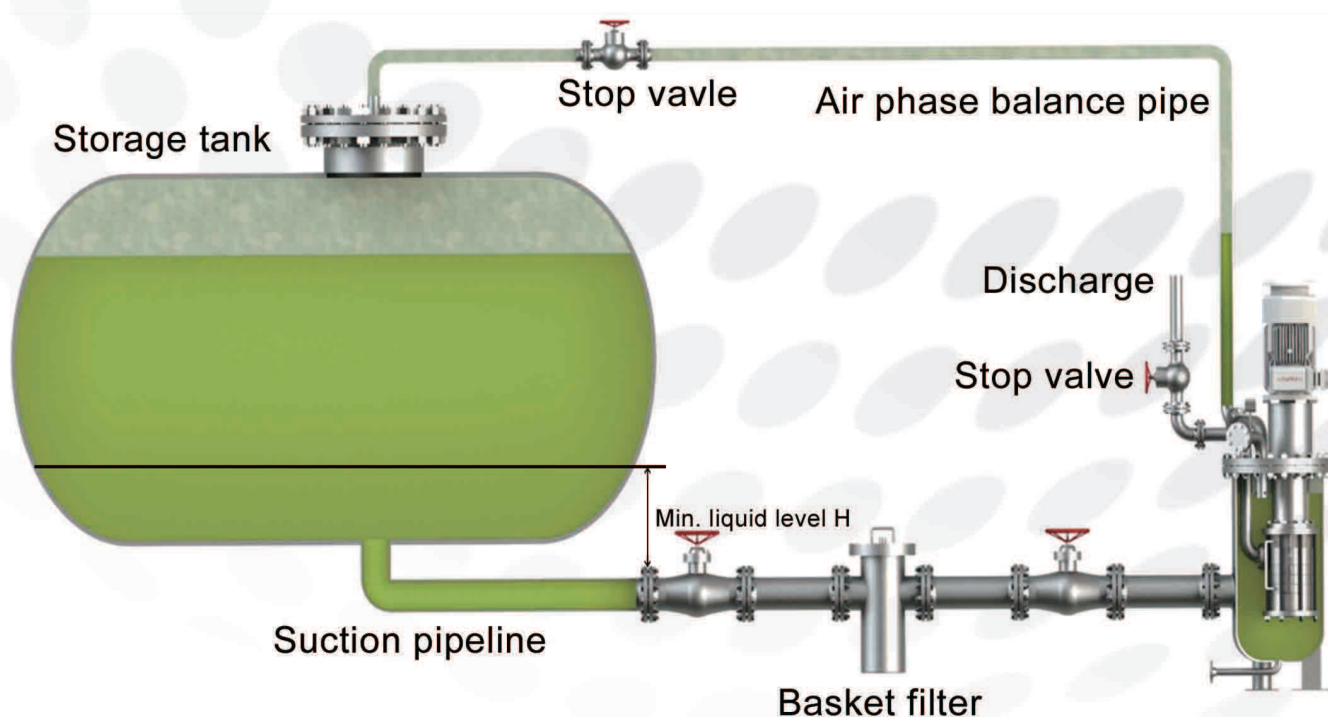
Power bund: Max.560kw

Design

- VS6 ,single stage/ multistage, vertical, double-casing structure
- It can be installed on the ground or semi-underground according to NPSH requirements,
- Double containment shell, double safety protection, It will be alarmed when first containment shell leakage.
- Adding cooling or warming jacket as required.



Instalation drawings

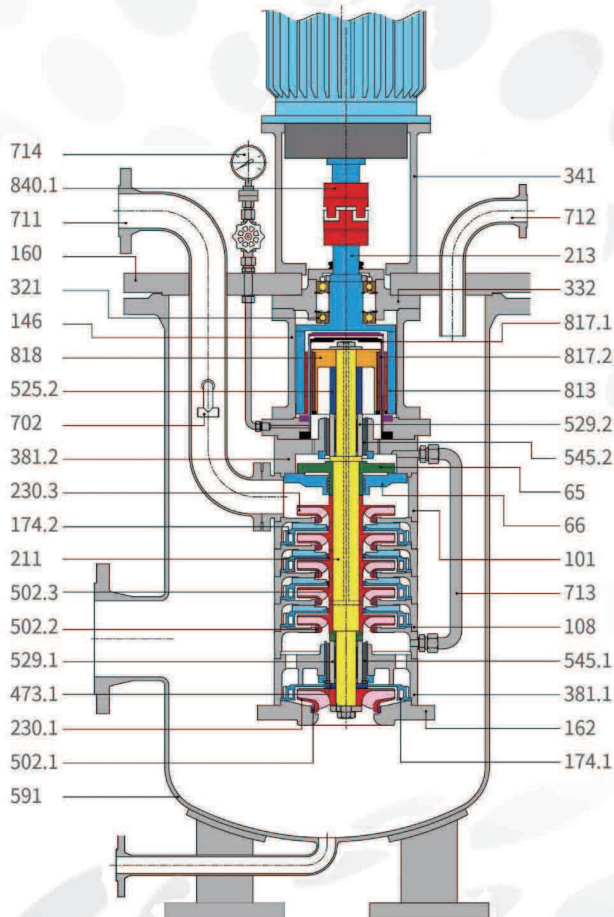


Service

VS6 Vertical double-casing magnetic pump

Suitable for handling easily flammable fluids and small amount of solid particles liquid like: LPG, Propylene, Ethylene, Anhydrous hydrogen fluoride, Alkanes, Hydrocarbons, Ethers, Liquid chlorine, Liquid ammonia, Phosgene and so on.

Section cross Drawings



Parts list

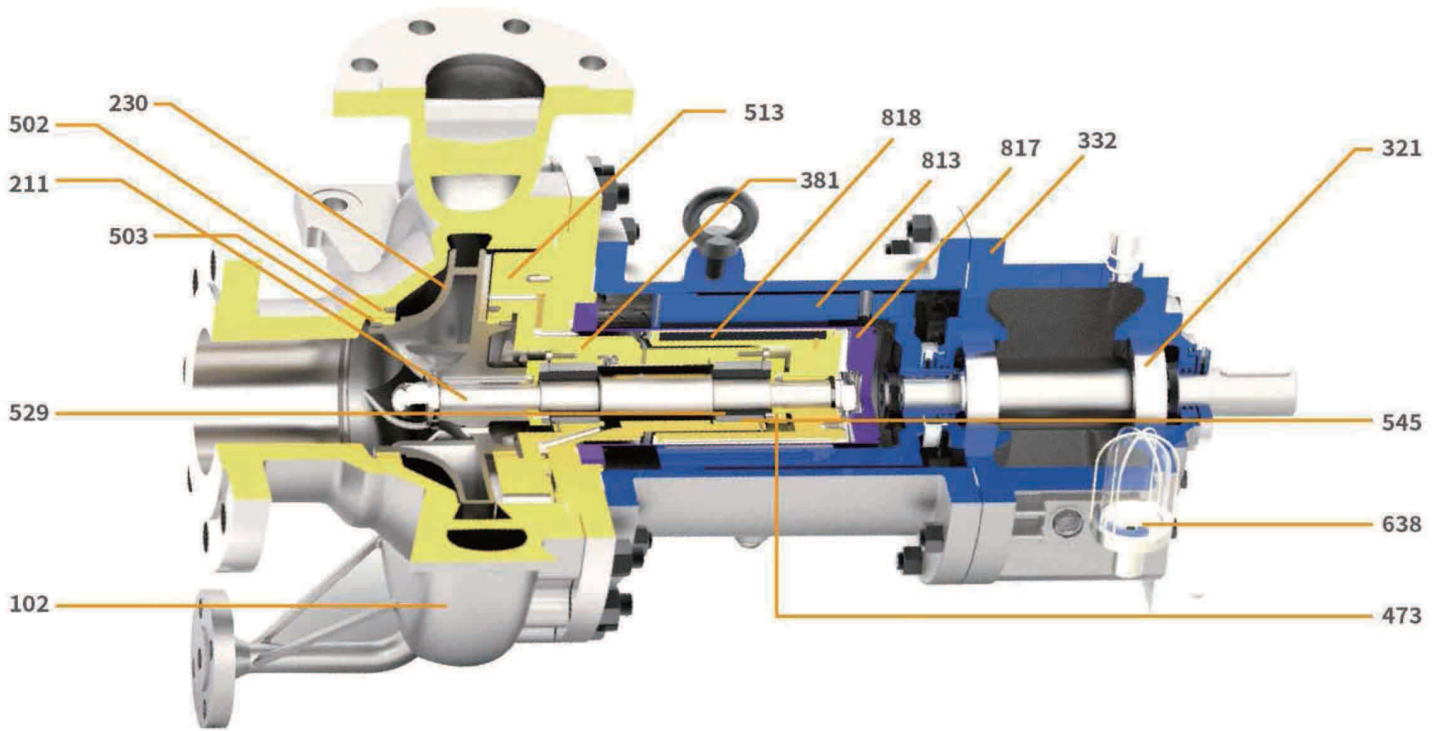
Parts No.	Description	Parts No.	Description
65	Balancing drum sleeve	502.1	Suction cover wearing
66	Balancing drum	502.2	Stage casing wearing
101	Discharge casing	502.3	Diffuser wearing
108	Stage casing	525.1	Shaft Sleeve
146	Intermediate lantern	529.1	Slide bearing sleeve
160	Flange plate	529.2	Slide bearing sleeve
162	Suction cover	545.1	Slide bearing parts
174.1	First diffuser	545.2	Slide bearing parts
174.2	Diffuser	591	Outer casing
211	Pump shaft	702	Min. Flow plate
213	Driving shaft	711	Discharge pipe
230.1	First impeller	712	Air phase balancing tube
230.3	Impeller	713	Balance tube
321	Rolling bearing	714	Pressure alarm system
332	Bearing bracket	813	Outer rotor part
341	Motor support	817.1	Outer containment shroud
381.1	Bearing house	817.2	Inner containment shroud
381.2	Bearing house	818	Inner rotor part
473.1	Thrust ring collar	840.1	Coupling

▶▶ Please note when installing:

- The liquid inlet pipeline of the storage tank is connected with the pump casing
- The piping between pump outer casing and liquid vessel in liquid phase and air phase is arranged by valve to function independent operation.
- Min. level H: $H \geq \text{NPSHr(m)} + \text{pipe line resistance(m)} + 0.5(\text{m})$; NPSHr means pump NPSH (0.5m ~ 0.8m), 0.5m is safety margin. Normally H is bigger than 1.5m.
- We suggest to equip a flow meter to detect pump flow and avoid the over flow running causing the pump failure.
- If the medium contains solid, we suggest the inlet pipeline install a basket filter (30 mesh or 40

磁力泵剖面图

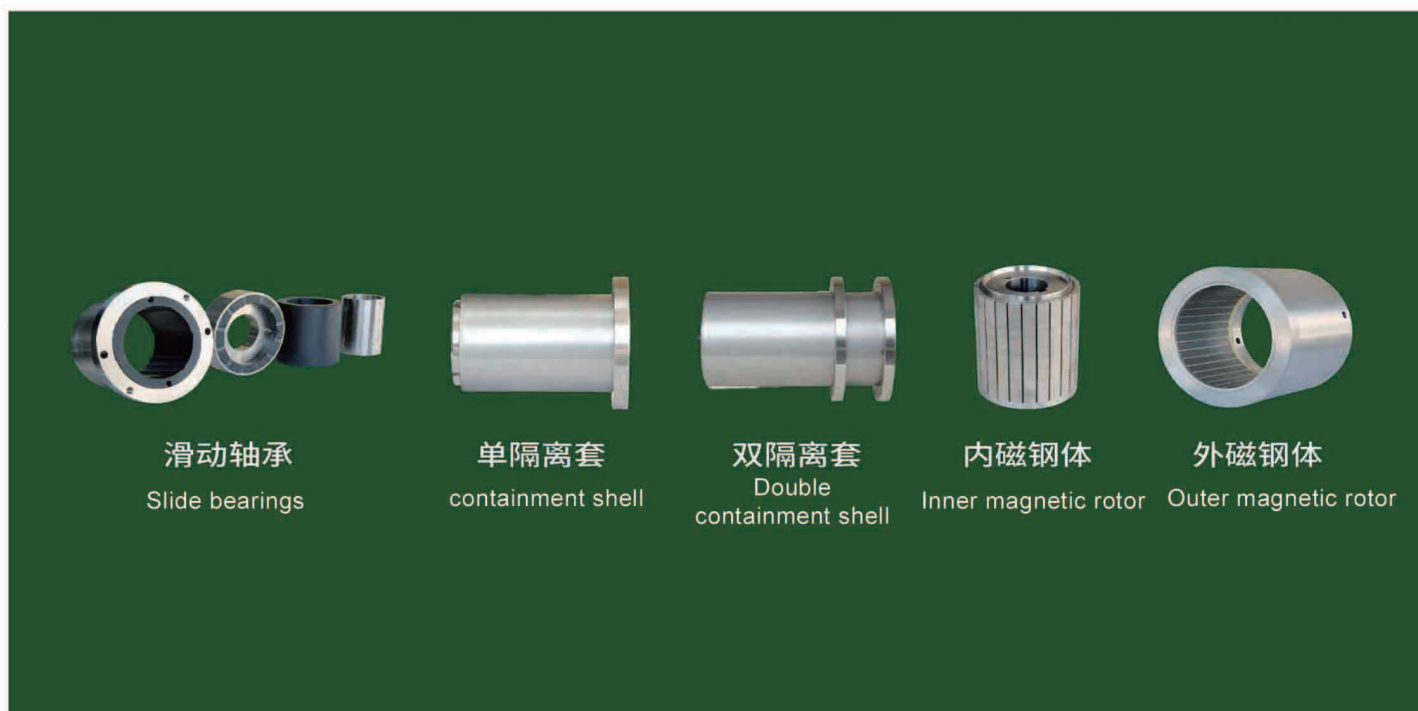
MAGNETIC PUMP SECTION DRAWING



零件表

PARTS LIST

Parts No.	Parts Name	Qty	Parts No.	Parts Name	Qty
102	Casing	1	503	Impeller wear ring	2
211	Shaft	1	513	Casing cover	1
230	Impeller	1	529	Slide bearing sleeve	2
321	Rolling bearing	2	545	Slide bearing bush	2
332	Bearing housing	1	638	Oil cup	1
381	slide bearing cavity	1	813	Outer magnetic rotor	1
473	Thrust bearing	2	817	Containment shell	1
502	Casing wear ring	2	818	Inner magnetic rotor	1



滑动轴承
Slide bearings

单隔离套
containment shell

双隔离套
Double
containment shell

内磁钢体
Inner magnetic rotor

外磁钢体
Outer magnetic rotor

Containment shell

The containment shell is made from Hastelloy c-276 formed by special technology without axial welding seam. So it ensures the sealing and chemical stability for containment shell.

The double layer of containment shell functions reliable double protection. It will be alarmed when the first layer of containment shell is leaked while the medium is still completely sealed without any leakage.

Bearing bush

The material of slide bearing is 99% purity rate of silicon carbide(SSIC) which has good reputation for its high intensity, excellent wear resistance and 10 times rates life than carbon bearing.

Magnetic material

The magnet material is made of special rare earth alloy with demagnetizing temperature up to 450°C through special technology .

Rolling Bearings

The deep groove ball bearing is NSK and SKF bearings.

Hydraulic coverage

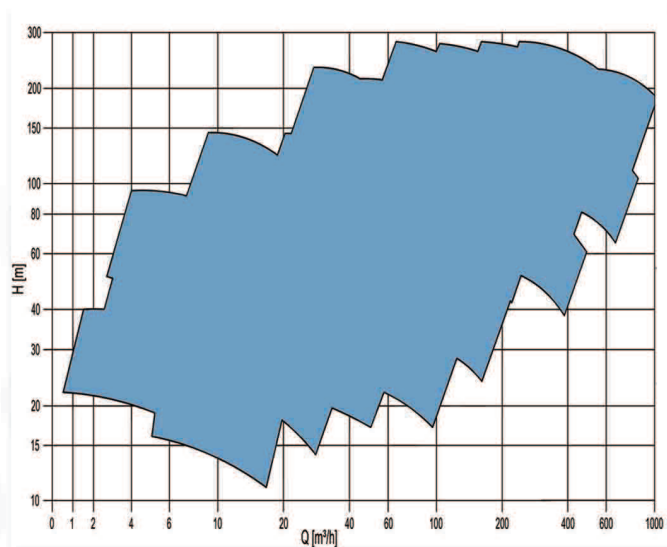
SINGLE STAGE

Frequency	Head	Flow	Temperature	Pressure
60Hz	1250ft	13200gpm	-150°F to 660°F*	580psi**
50Hz	260m	3000m ³ /h	-100°C to 350°C	40bar**

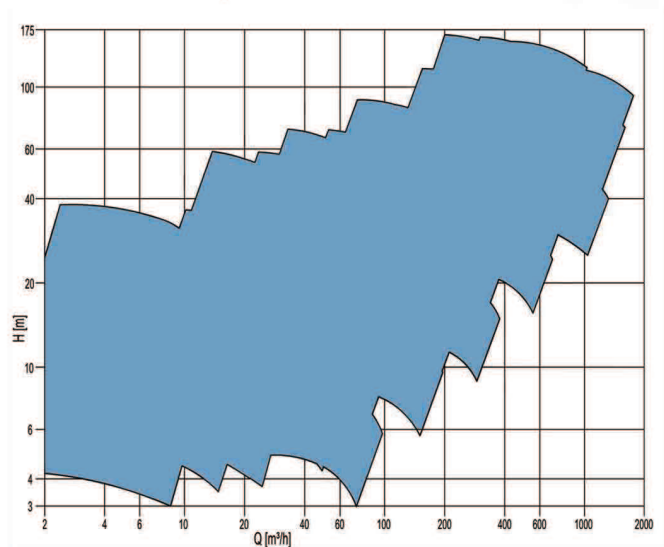
* 840°F / 450°C Upon request. ** Higher pressure ratings upon request

Internal Pressure / Temperature Profiles Available. Optional Instrumentation Packages available

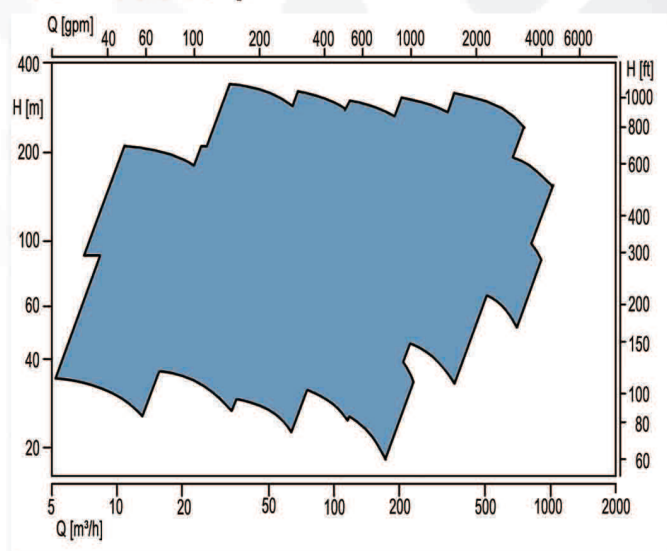
50Hz/2950rpm



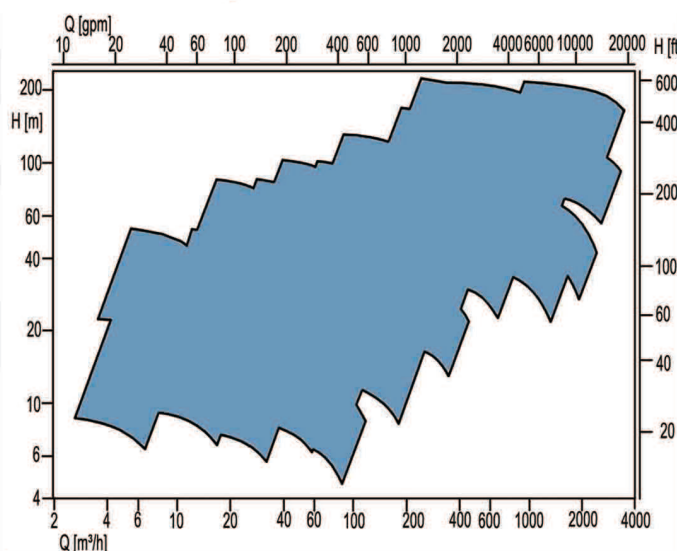
50Hz/1450rpm



60Hz/3550rpm

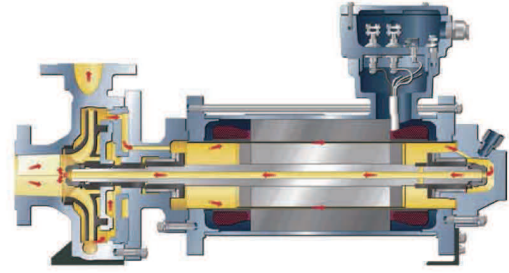
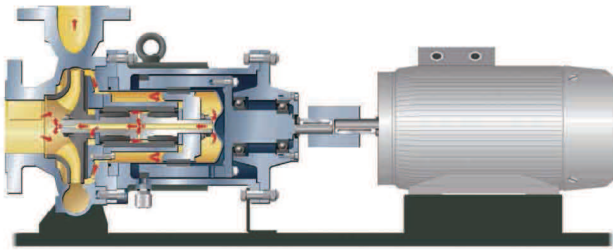


60Hz/1750rpm



Comparison between magnetic pump and canned pump

API 685 STANDARD



No.	Item	Horizontal Magnet Drive Pump	Horizontal Canned Motor Pump
1	Driving method	Driven through magnetic coupling	Driven by canned motor
2	Typical sealing parts	Double layer containment shell	Single layer "can"
3	Efficiency	Magnetic pump motor efficiency higher than canned motor about 15%~20%	Canned motor pump is a proprietary motor, the motor add the stator can and the rotor can, It will be increased the air gap between the stator and the rotor, so the canned motor efficiency is lower than normal motor about 15%~20%
4	Heat taken away by liquid chlorine	The liquid chlorine needs only to take away the heat produced by containment shell magnet loss, and the pump can be stopped or started at any time.	Not only the heat from the magnet loss of the can, but also big amount of heat produced by the canned motor needs to be taken away by liquid chlorine. Especially after stopping, since the liquid chlorine in the canned motor chamber does not flow, so the temperature of whole canned motor pump would increase, and liquid chlorine in the motor chamber boiled off. It will be difficult or needs long time to re-start.
5	Leaking detection	A meter connection between the two layers of containment shell, which can detect the leaking of first layer of shell.	Monitoring can not be realized for single layer "can".
6	Structure and repairing	The pump and motor are separated with standard normal motor, so the pump can be changed parts at site and needs not be returned factory.	The pump and motor are integrated with complex structure. The onsite repairing is difficult and needs to be returned factory.
7	Maintenance cost	Low	High
8	Interchangeable with mechanical seal pump	Can be interchangeable with mechanical seal pump	Can't be interchangeable

主要用户

MAJOR CLIENT



Tianchen Engineering Corporation
 Chengda Engineering Co. Ltd
 Shanghai HuaYi Engineering Co.,Ltd.
 Sinopec Engineering Incorporation
 Huanqiu Contracting and Engineering Corporation
 WISON China Beijing
 Hualu Engineering & Technology Co., Ltd.
 CNCEC SEDIN Engineering Co., Ltd.
 East China Engineering Science &Technology
 Hengli Petrochemical
 Shandong Chambroad Petrochemicals Co., Ltd.
 Wanhua Chemical Group Co., Ltd.
 Dongming Petrochemical Group

LUXI Chemical Group
 Shandong Qi Wangda Group Company
 SP Chemicals
 Formosa Plastics Group(Ningbo)
 TGV SRAAC LIMITED
 Qingdao HIWIN Group,LTD
 Hualu hengsheng Group,LTD
 JSC "OGCC KazStroyService"
 HAGER+ELSAESSER SDN.BHD
 Atyrau Refinery
 Jiangsu Weiming Petrochemical co., LTD
 Sinopec Corp.(Jiangnan)
 Sinopec Corp.(Shengli)

科环磁力泵应用现场

APPLICATION CASE AT CUSTOMER SITE



SiCl₄ feedstock pump

Flow: 65m³/h Motor power: 160kw
Head: 250m



STC feedstock pump

Flow: 52m³/h Motor power: 160kw
Head: 300m



Liquid ammonia pump

Flow: 135m³/h Motor power: 132kw
Head: 255m



Chloride feed pump

Flow: 126m³/h Motor power: 55kw
Head: 30m Liquid contains trace particles



Chlorosilane feed pump

Flow: 416m³/h Motor power: 280kw
Head: 105m



Mud type magnetic pump

Flow: 400m³/h Motor power: 132kw
Head: 53m TiCl₄, solid content 50%



Benzene unloading pump

Flow: 12m³/h Head: 30m
Self priming pump



Liquid chlorine pump

Flow: 5m³/h Motor power: 15kw
Head: 70m



VS4 Submerged pump

Flow: 20m³/h Head: 70m
Tank depth 6.6m



Replaced canned pump

Flow: 6m³/h Motor power: 7.5kw
Head: 48m



Quench tower circulating pump

Flow: 150m³/h Motor power: 55kw
Head: 53m



Mud type magnetic pump

Flow: 160m³/h Solid content 10%-30%
Head: 95m Contain high boilers

订货须知

订货时应指明:

流量、扬程、介质名称、温度、密度、粘度、材质、饱和蒸汽压、比热、泵入口压力、泵出口压力、汽蚀余量、颗粒及杂质等参数,以便我们为您正确选型。

Please provide following information when inquiring: Capacity, head, Liquid, Temperature, Density, Viscosity, Material, Vapor pressure, Specific heat, Suction pressure, Discharge pressure, NPSH, Solids and particles information and so on, so that we can select pump type for you correctly.



大连科环泵业有限公司
DALIAN KEHUAN PUMP CO.,LTD.

地址:大连市旅顺口区旅顺北路长城段61号
电话:0411-86186212 0411-86186327
邮编:116049

www.kehuanpump.com