

# Lobe Pump



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Depamu (Hangzhou) Pumps Technology Co., Ltd.

**PACESETTER OF FLUID  
EQUIPMENT IN THE WORLD**

**全球流体装备的领跑者**

**CONILOWA**  
克尼罗瓦





# C CONTENTS

## Image

- 03/ Enterprise Profile
- 04/ Enterprise Qualification  
Certificates
- 05/ Delicacy Management
- 07/ Application Fields
- 09/ Customers

## Technical Information

- 11/ Product Series
- 13/ Product Structure Drawing
- 15/ Inlet and Outlet Form &  
Installation Type

## Products

- 17/ Rubber Lobe Pump
- 23/ Metal Lobe Pump
- 27/ Sanitary Lobe Pump
- 28/ Mixing, Homogenizing  
and Emulsifying Pump
- 34/ Chopper
- 35/ Pump Model Selection
- 36/ Product Categories
- 37/ Typical Projects
- 39/ Global Service System

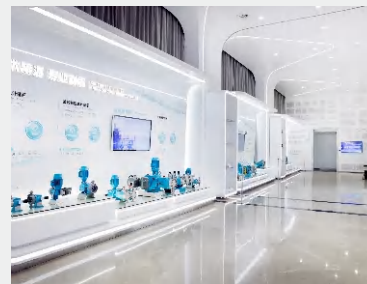
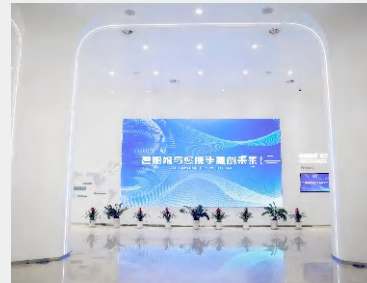


# Enterprise Profile

Conilowa, a brand owned by Depamu (Hangzhou) Pumps Technology Co., Ltd., mainly produces lobe pumps (rubber/metal), homogenizing and emulsifying pumps, peristaltic pumps, gear pumps, self-priming firefighting water pumps, foam solution pumps, mobile pump trucks, integration modular equipment, (single/two/three) screw pumps, metering pumps, chemical process pumps, reciprocating pumps, chemical dosing packages, etc.

Through introduction of advanced technologies from Germany, the company has been devoted to research and development of fluid transfer equipment since its establishment, and multiple patents held take a leading place globally. The company has passed API, CE and DNV certification; at the same time, it serves as a drafter of pump industry standards.

Presently, company products have been widely applied to oil & gas field exploitation, petroleum and gas refining and transportation as well as industries of nuclear power, military, chemical, electric power, pulp & paper, pharmaceutical, food, new energy, water treatment, etc. Based on establishment of long-term strategic partnerships with large-scale enterprises like CNPC, SINOPEC, CNOOC, CNNC, etc., products have been exported to over 50 countries and regions including the USA, the UK, France, Switzerland, Russia, India, Brazil, Iran, Sudan, Turkmenistan, Syria, etc. The company aims to be the most competitive fluid equipment manufacturer and service supplier in the world, and build Depamu into a century-old global brand.



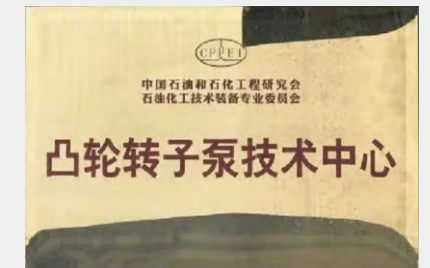
# Enterprise Qualification Certificates



Certificate of National High-tech Enterprise (P. R. C.)



"Little Giant" Honor for Specialized, Sophisticated, Distinctive and Innovative SMEs of the P. R. C.



Lobe Pump Technology Center



OHSAS 18001 Certificate



ISO 14001 Certificate



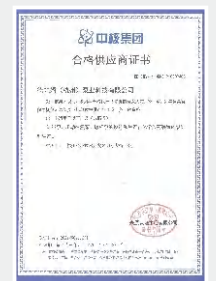
ISO 9001 Certificate



ISO 9001 Certificate for Lobe Pump



CE Certification



Certificate of Qualified Supplier



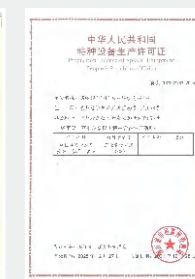
API Certificate



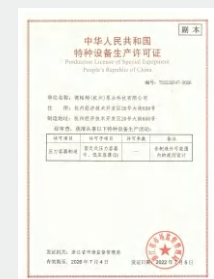
Invention Patent



Invention Patent



Permit for Industrial Pipe Installation



Permit for Pressure Pipe Component Manufacturing



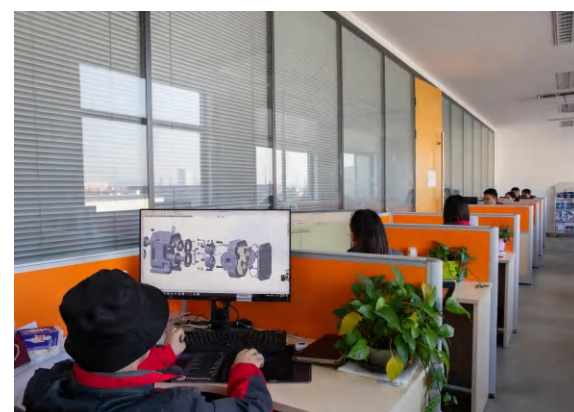
Permit for Industrial Pipe Installation



# Delicacy Management

Depamu has sold its products worldwide and kept a leading role in the industry based on advanced German management technologies, excellent R&D personnel, advanced processing equipment, delicacy management process as well as perfect service system.

## Office



## Digital Precision Processing



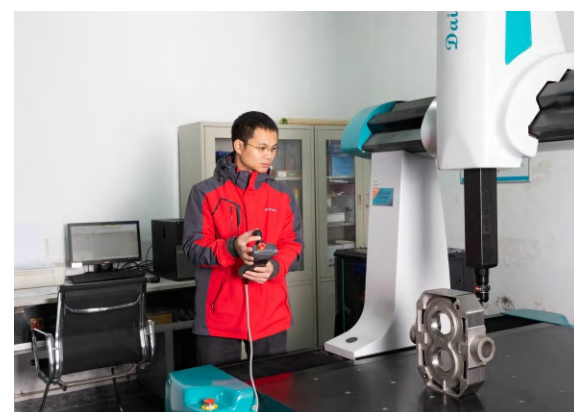
## Finished product Workshop



## Assembly Shop



## Coordinate Measuring Inspection



## Intelligence Warehouse Management



## Advanced Processing Equipment



## Meticulous Material Reinspection



## Digital Processing Equipment



## Advanced Testing Equipment



## Excellent Team





# Application Fields

Depamu provides professional service for multiple key and high-end fields.



## PetroChina

PetroChina Daqing Petrochemical Company  
PetroChina Daging Refining Chemical Company  
PetroChina Lanzhou Petrochemical Company  
PetroChina Dushanzi Petrochemical Company  
PetroChina Urumqi Petrochemical Company  
PetroChina Karamay Petrochemical Company  
PetroChina Fushun Petrochemical Company  
PetroChina Liaohe Petrochemical Company  
PetroChina Qingyang Petrochemical Company  
PetroChina Liaoyang Petrochemical Company  
PetroChina Sichuan Petrochemical Company Limited  
PetroChina North China Petrochemical Company  
Golmud Refinery of Qinghai Oilfield  
PetroChina Harbin Petrochemical Company  
PetroChina Jinxi Petrochemical Company  
PetroChina Dalian Petrochemical Company  
...



## PetroChina Oil & Gas Fields

Daqing Oilfield Material Company  
PetroChina Changqing Oilfield Company  
PetroChina Jilin Oilfield Company  
PetroChina Tarim Oilfield Company  
PetroChina Qinghai Oilfield Company  
PetroChina Yumen Oilfield Company  
PetroChina Zheiiang Oilfield Company  
...



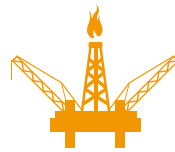
## Sinopec

Sinopec Zhenhai Refining & Chemical Company  
Sinopec Shanghai Petrochemical Company Limited  
Sinopec Shanghai Gaoqiao Company  
Sinopec Qilu Company  
Sinopec Tianjin Company  
Sinopec Yangzi Petrochemical Company Limited  
Sinopec Jiuiiang Company  
Sinopec North China Company  
Sinopec Wuhan Company  
Sinopec Changling Company  
Sinopec Baling Company  
Sinopec Jinmen Company  
Sinopec Zhanjiang Dongxing Petrochemical Company Limited  
Sinopec Hainan Refining & Chemical Company Limited  
Sinopec Tahe Refining & Chemical Company Limited  
Sinopec Beihai Company  
Sinopec Anqing Company  
Sinopec Wuhan Company  
Sinopec Jinling Company  
...



## Sinopec Oil & Gas Fields:

Sinopec Shengli Oilfield Company  
Sinopec Southwest Petroleum & Natural Gas Company  
Sinopec North China Petroleum Bureau  
Sinopec Northeast Petroleum Bureau  
Sinopec Zhongyuan Oilfield Company  
Sinopec Henan Oilfield Company  
...



## CNOOC

CNOOC Huizhou Oil Refining Project  
CNOOC Zhoushan Petrochemical Ltd.  
CNOOC (Taizhou) Petrochemical Ltd.  
Shandong Binzhou BEFAR Group  
CNOOC Zhanjiang Fuel Oil Co., Ltd.  
CNOOC New Energy (Hainan) Biological Energy Chemical Co., Ltd.  
CNOOC Huahe Coal Chemical Co., Ltd.  
CNOOC Tianye Petrochemical Ltd.  
CNOOC Energy Technology & Services Limited,  
Oil Production Technical Service Branch  
...



## Chemical and Coal Chemical Industry

Zhejiang Petroleum & Chemical Co., Ltd.  
China National Chemical Corporation  
Shenhua Mengxi Huarui Chemical Co., Ltd.  
Shenhua Ningxia Coal Industry Group Co., Ltd.  
Zhongtian Hechuang Energy Co., Ltd.  
Wanhua Polyurethane Co., Ltd.  
Yunnan Yuntianhua Co., Ltd.  
Guizhou Chitianhua Group Co., Ltd.  
China National Bluestar (Group) Co., Ltd.  
Shanxi Sanwei Group Co., Ltd.  
Shandong Hualu Hengsheng Chemical Co., Ltd.  
China Pingmei Shenma Group  
Shanxi Weilai Energy Chemical Co., Ltd.  
...



## Nuclear Power, Military and Fluorine Chemical Industry

Arkema (Changshu) Fluorine Chemicals Co., Ltd.  
Do-Fluoride Chemicals Co., Ltd.  
The 404 Company Limited, China National Nuclear Corporation  
Jiangsu Meilan Chemical Group  
Zhejiang Quhua Chemical Group  
Shandong Dongyue Chemical Group  
Changshu 3F Fluorochemical Industry Co., Ltd.  
China National Chemical Corporation Ltd.  
Qinshan Nuclear Power Station  
China Nuclear Industry Fifth Construction Co., Ltd.  
...



## Iron and Steel Industry

Wuhan Iron & Steel Co., Ltd.  
Jilin Tongang Group  
Jinan Iron & Steel Group  
Laiwu Iron & Steel Group  
Shougang Group  
Shagang Group  
Kungang Group  
...



## Electricity and Environmental Protection Industry

Huadian Water Engineering Co., Ltd.  
China Huaneng Group Co., Ltd.  
Dongfeng Motor Corporation, Thermal Power Plant  
Linyi City Yangguang Heating Power Co., Ltd.  
Shandong Luneng Electric Power Co., Ltd.  
Dalian Thermal Power Company  
Shaoguan Pingshi Power Generation Plant  
Ningbo Zhenhai Thermal Power Plant  
Changsha Waste Water Treatment Plant  
Xi' an Waste Water Treatment Plant  
Jiaxing Waste Water Treatment Plant  
Jiangsu Yihuan Group Co., Ltd.  
Guang' an Power Plant  
Datang Environment Industry Group Co., Ltd.  
Everbright Environmental Protection Technical Equipment (Changzhou) Limited  
Cscec Scimee Sci. & Tech. Co., Ltd.  
...



## Design Institutes and University Science Research Institutions

China Huanqiu Contracting & Engineering Co., Ltd.  
Sinopec Engineering Incorporation (SEI)  
Sinopec Luoyang Petrochemical Engineering Corporation Ltd.  
China Chengda Engineering Co., Ltd.  
Hualu Engineering & Technology Co., Ltd.  
Sinopec Ningbo Petrochemical Engineering Co., Ltd.  
China Wuhuan Engineering Co., Ltd.  
China Petroleum First Construction Corporation  
China Petroleum Engineering & Construction Corporation, Huadong Design Branch  
Zhejiang University  
Xi' an Jiaotong University  
Southeast University  
China Jiliang University  
Zhejiang Sci-Tech University  
...



## Food and Pharmacy Industry Mining, Metallurgy and Energy Industry

Hangzhou Wahaha Group Co., Ltd.  
China Resources Snowflake Brewery Co., Ltd.  
Guangzhou Zhujiang Brewery Group Co., Ltd.  
Northeast Pharm Group Co., Ltd.  
Zhejiang NHU Company Ltd.  
Fujian South Pharmaceutical Co., Ltd.  
Wufangzhai Group  
Zhejiang Medicine Co., Ltd., Changhai Biological Company  
...



China ENFI Engineering Co., Ltd.  
Zhejiang Huayou Chemical Co., Ltd.  
GEM Co., Ltd.  
Shanshan Energy (Ningxia) Co., Ltd.  
Fujian Ningde Xinshidai New Energy Co., Ltd.  
Shangluo BYD Industry Co., Ltd.  
Qinghai Juzhiyuan New Material Co., Ltd.  
Do-fluoride Chemicals Co., Ltd.  
Jinchuan Group Co., Ltd.  
Guangzhou Tinci Materials Technology Co., Ltd.  
...



## Export

CNPC (Turkmenistan) Amu Darya River Gas Company  
(SSKOC) Syria Kaukab Oil Company  
Open Joint Stock Company  
400,000t/a Bleached Kraft Pulp Plant Project in Svetlogorsk, Belarus  
Hong Kong Sha Tin Water Supplies Department  
Venezuela Bisilliat Combined Cycle Power Plant Project  
100\*108m3/a Commodity Gas Construction Project, South Yolotan, Turkmenistan  
Afghanistan Kashkari Oilfield Exploitation  
Iraq Missan Water and Oil Waste Water Treatment Project  
Sudan Area 37  
Indian Oilfield  
Lordegan Urea Fertilizer Project, Iran  
Mis Fertilizer Project, Iran  
...



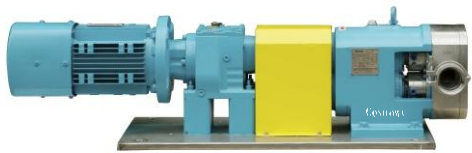
# C

## ustomers





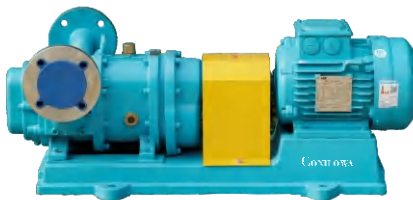
► Product Series



Metal Lobe Pump



Metal Lobe Pump with Flushing



Rubber Lobe Pump



CaCO3 Lobe Pump



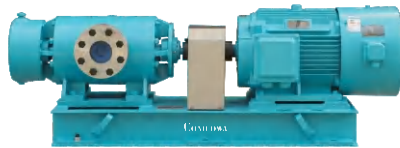
Lobe Pump



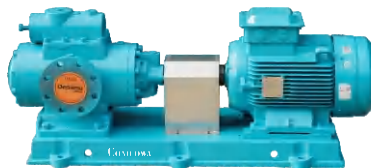
Lobe Pump



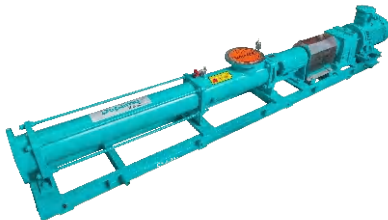
Single Screw Pump



Two Screw Pump



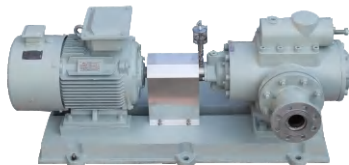
Three Screw Pump



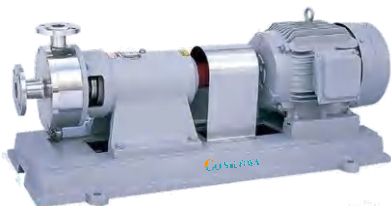
Single Screw Pump



Two Screw Pump



Three Screw Pump



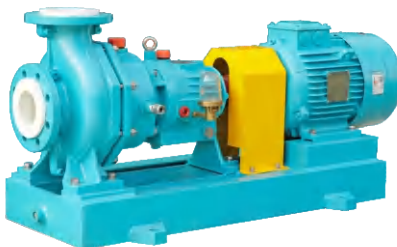
CLR1 Homogenizing and Emulsifying Pump



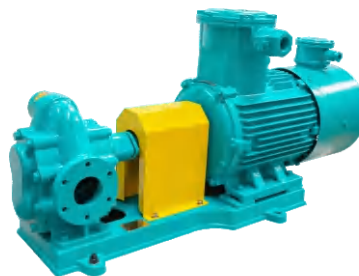
CLR3 Homogenizing and Emulsifying Pump



CLRC Homogenizing and Mixing Pump



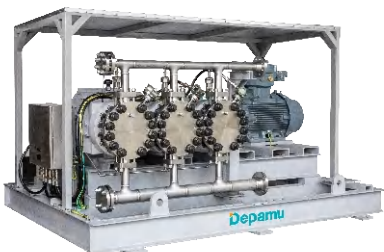
High-tem Anti-corrosion Centrifugal Pump



Gear Pump



Gear Pump



High-pressure Reciprocating Pump (Diaphragm)



High-pressure Process Hose Pump



Hydraulic Diaphragm Metering Pump



Petroleum and Petrochemical Chemical Dosing Package



SCF Extraction Equipment



Water Steam Sampling Equipment



## ► Product Structure Drawing

Conilowa lobe pumps, stars among displacement pumps, are designed as per API 676. With a compact structure and a small mounting space, lobe pumps are widely applied to working conditions in multiple industries. With various options for rotor materials and pump mounting types, they can better satisfy actual customer demands. Besides, thanks to the completely symmetric structure, a simple change in driving direction can achieve change in pump transfer direction. Under adoption of modular design, Conilowa lobe pumps includes 5 series and 7 models with a capacity range of 0.1~10000m<sup>3</sup>/h, a temperature range of 40°C~280°C and the maximum discharge pressure of 2.0MPa. Pumps of a same series share the same rotor, gear, bearing, axial lining board and mechanical sealing.

### Features

Simple compact structure and beautiful appearance

Stable and reliable running, long service life

Low noise, high efficiency, convenient maintenance and easy replacement of wearing parts

Unique patented products with replaceable rotor tips

Large seal chamber fit for various mechanical seals

Constant capacity to delivery any fluid

A more scientific double-end bearing supporting structure rendering stable operation and good loading capacity

Radial and axial wear-proof lining board, chrome plating surface, convenient and rapid replacement

Innovation patent for non-contact balanced single-end spring mechanical seal, which is reliable and durable

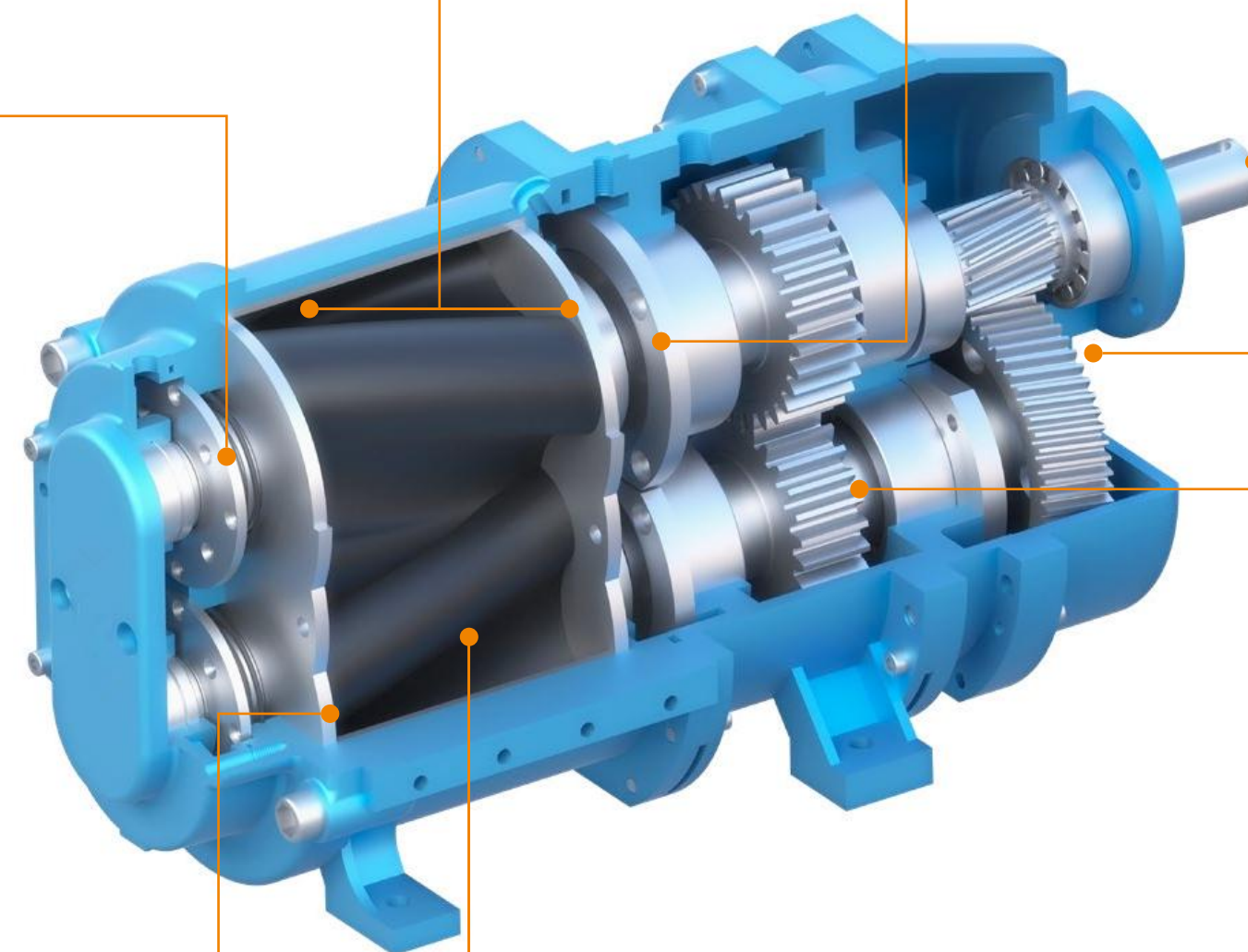
Use of wear-proof alloy tool steel

AGMA Class-9 high-standard reduction gear

AGMA Class-9 high-standard synchronous gear

Quick-open pump cover and operability of online repairing

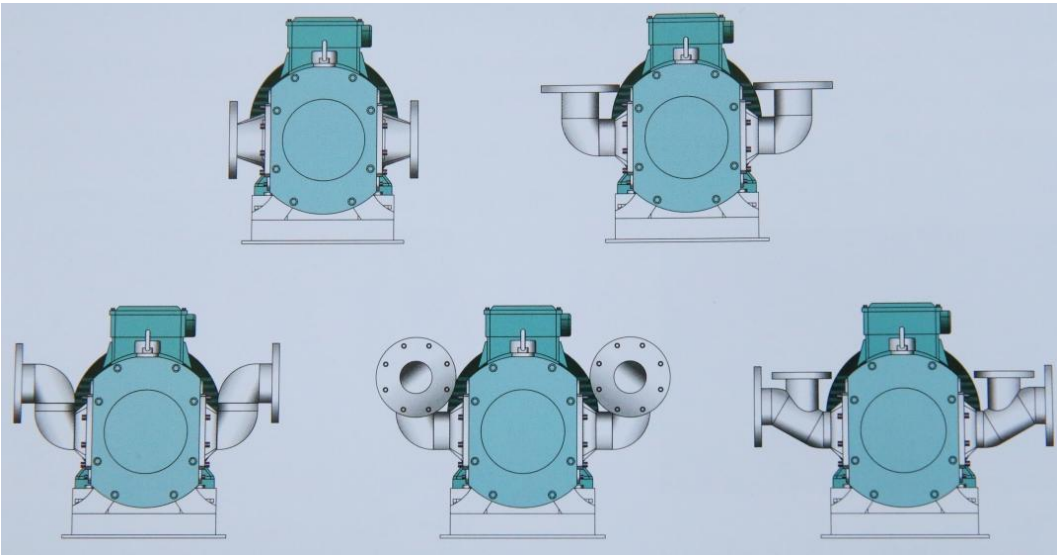
Rubber-covered three-blade helical rotor with little pulsation and corrosion resistance



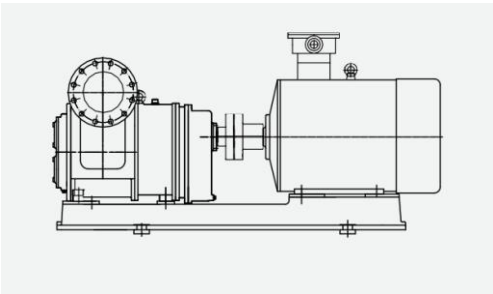
# Inlet and Outlet Form & Installation Type

## Inlet and Outlet Form

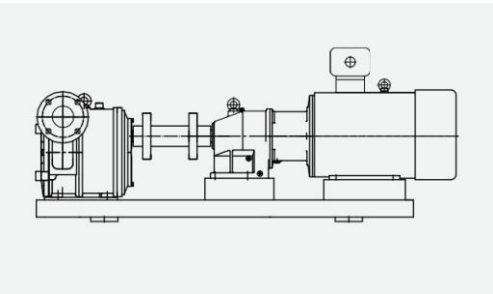
Various inlet and outlet forms can be ascertained as per site working conditions and technologies; besides, a flood drain pump truck assembly has multiple drainage inlets and outlets.



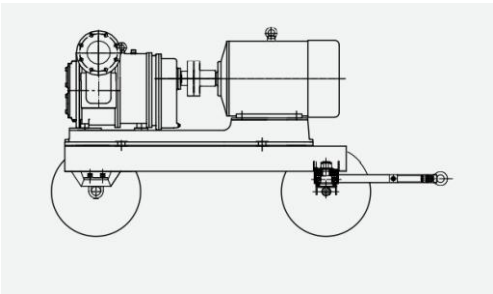
## Installation Type



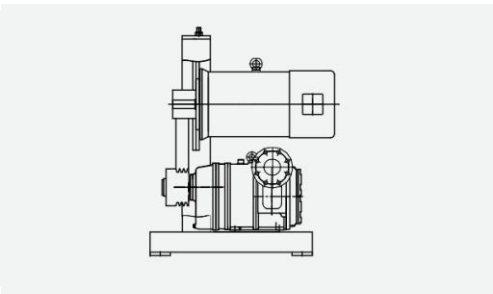
Concentric Installation Way of Integrated Gearbox



Concentric Installation Way of Separate Reduction Motor



Installation Way of Easy and Portable Trailer



Vertical Installation of Reduction Motor

## Online Maintenance

Conilowa has continuously perfected lobe pump design following the concept of reduced maintenance time and cost and developed pumps integrating powerful functions, reliable performance, stable operation and easy maintenance.

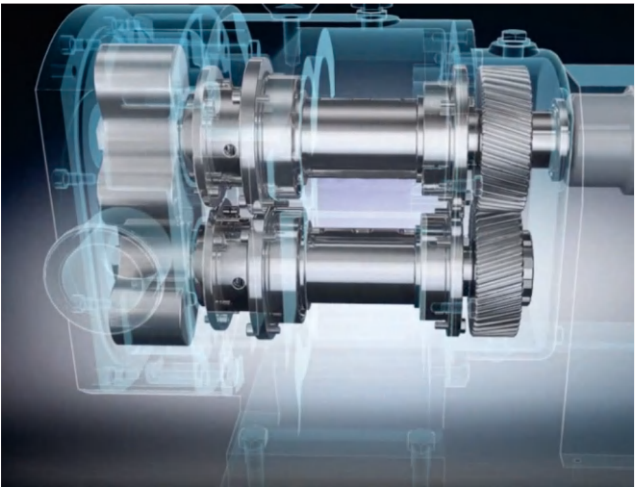
All spares and wearing parts are very durable with a long service life and high cost effectiveness.

Online maintenance means all wearing parts can be easily replaced at site by an operator without the need in dismantling of any pipeline or driver.

Easy-open pump cover makes simple servicing of internal pump body. Wetted parts can be checked or replaced by pump cover opening without the need in dismantling of any pipeline or driver.



## Modular Design

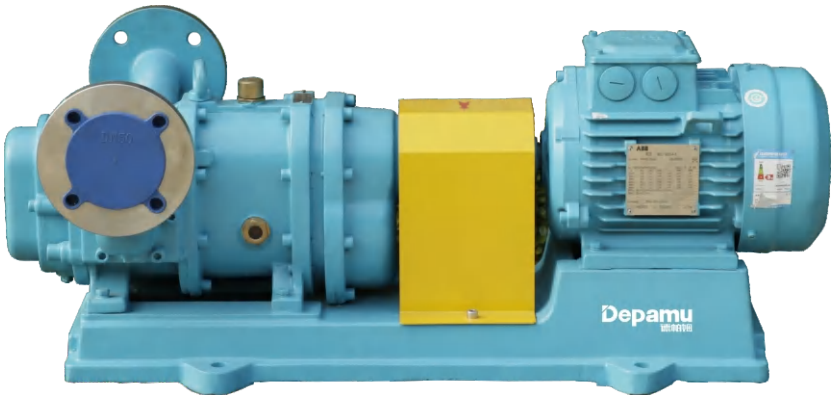


Every Conilowa lobe pump adopts the design of integral pump body and gear cavity, realizing low maintenance cost and long service life.



# Rubber Lobe pump

## Picture



## Working Principle

Conilowa rubber lobe pumps are displacement pumps and the working principle is: elastomeric wide-blade rotor based on 5-axis linkage or 3-dimensional flow precision moulding rotates in circumferential flow channel within pump cavity, relative movement of rotor and pump body changes working volume, thus increasing energy of fluid transported. On the contact side of rotor and fluid transported, energy directly acts on fluid in the form of static pressure, fluid is discharged due to extrusion of rotating rotor; at the same time, space is reserved on the other side to form low pressure for continuous fluid suction. In the nature of positive displacement, pump capacity will not change with back-pressure, and pumps are applicable to various working conditions and strongly universal.

## Rubber Lobe Pump Model

CLJ

50

B

F

WS

1.2

-

10

Rated Capacity: m3/h

Rated Pressure: Mpa

Structure Code:  
S for double-support and nomark for single-support;  
W for external reduction gear and no mark for internal reduction gear

SS Wetted Parts (No Mark for CS)

Rotor Material

Model

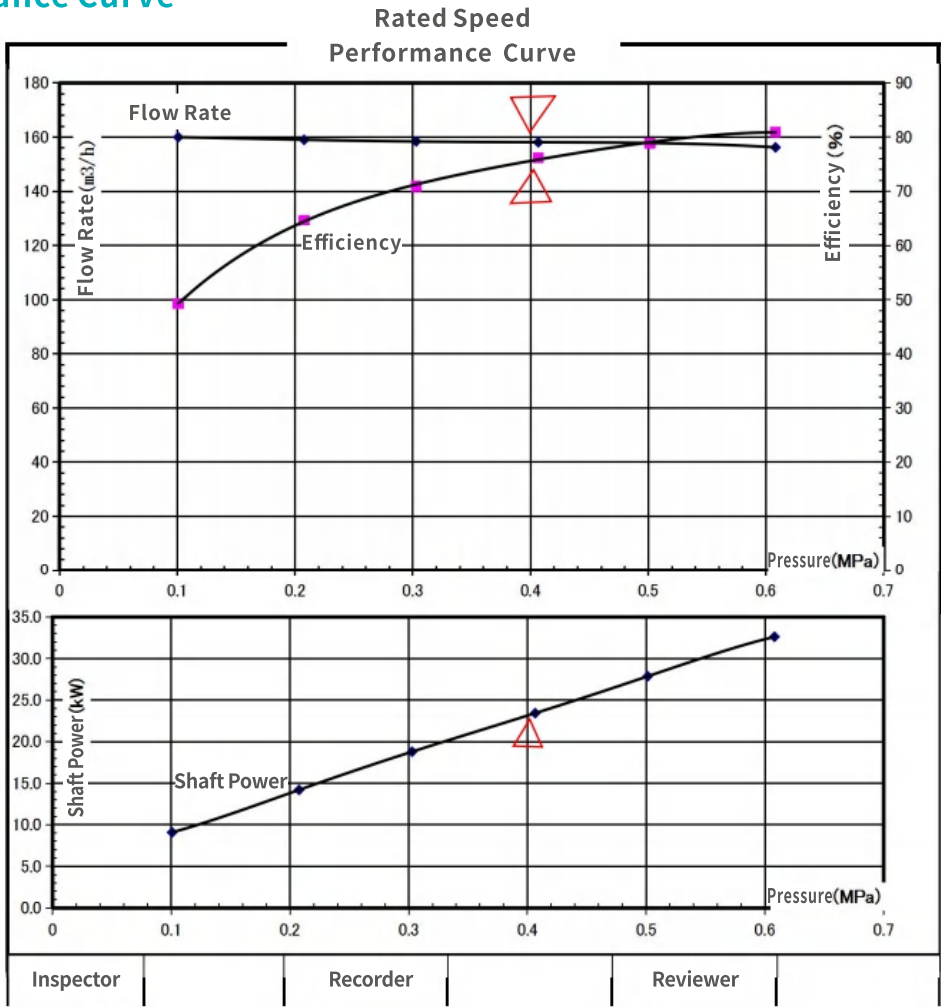
Conilowa Rubber Lobe Pump

Rotor Material	
Code	Material
B	NBR
E	EPDM
F	FKM
Q	Hydrogenated Rubber
S	PTFE
M	Super-durable Rubber
G	Engineering Plastics
X	Other

## Performance Parameters Table

Model	Max. Capacity (m3/h)	Max. Pressure (Mpa)	Max. Speed (r/min)	Model	Max. Capacity (m3/h)	Max. Pressure (Mpa)	Max. Speed (r/min)
CLJ25	5	1.6	640	CLJ200D	350	2.0	450
CLJ40	10	2.0	720	CLJ250	500	2.0	450
CLJ50	15	1.0	720	CLJ300	670	1.6	450
CLJ50D	25	2.0	530	CLJ350	1000	1.0	450
CLJ65	35	2.0	530	CLJ400	1200	0.8	450
CLJ80	60	1.6	530	CLJ450	1400	0.6	450
CLJ100	100	1.0	530	CLJ500	1600	0.6	450
CLJ125	125	2.0	460	CLJ550	2000	0.6	450
CLJ150	190	1.6	460	CLJ600	2500	0.6	450
CLJ200X	265	1.0	460	CLJ650	3500	0.6	450

## Performance Curve



## Reference for Quantity of Conilowa Rubber Rotor Blades

### Two-blade Linear Type

- All-purpose product
- Rubber covered
- Suitable for corrosive and wearproof fluid



### Three-blade Linear Type

- Possible replacement of rotor tip
- Long service life of sealing face
- Suitable for fluid transport with many impurities



### Three-blade Helical Type

- Low pulsation
- Rubber covered
- Rotor core not contacting with fluid



### Three-blade Helical Type

- Possible replacement of rotor tip
- Low pulsation and stability
- Suitable for fluid transport with many impurities



### PTFFE/PEEK Rotor

- Engineering plastics/Teflon
- Good chemical resistance
- Suitable for fluid of corrosion and high temperature

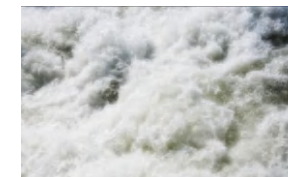


### Plane Rotor

- Long service life 10 times of that of a linear rotor
- More stable pressure and max. suction head at 4 m
- Lower power, energy-saving and environment-friendly



## Conilowa Rubber Lobe Pump Application Fields



### Resource Recycling:

Leachate, biogas residue, gray water and water treatment



### Sewage Treatment Unit:

Municipal sewage, grease, raw sludge, primary sludge, thickened sludge, suspended sludge, excess sludge and dewatered sludge



### Resource Recovery:

Waste oil, solvent, slurry and food waste



### Collection System:

Well point dewatering, sewage pipe cleaning and bilge well cleaning



### Oil and Gas Industry:

Oilfield, petrochemical and storagetank



### Other Industries:

Resource recovery, automobile manufacturing and others



### Paper-making and Textile Industry:

Textile/printing and dyeing waste liquid, paper-making pulp/sludge



### Chemical Industry:

Paint, coating, adhesive, architectural chemical, surface cleanser and basic chemical



### Ocean Engineering:

Shipbuilding industry, emergency rescue and offshore oil engineering



### Sugar and Food Industry:

Chocolate, condensed milk, yogurt, honey, syrup, jam, sugar, starch, food processing and beer production



## Mobile Intelligent Device

### Device Name

- ★ Mobile Intelligent Flood Drain Pump Truck for Emergency Rescue/  
Mobile Remote Water Supply Device for Firefighting

### Model

- ★ CLZ-Q/CLB-X

### Parameters

- ★ Suction Head: Vertical self-priming height 8.5 m and horizontal suction head 150 m
- ★ Capacity: 10~3000 m<sup>3</sup>/h
- ★ Discharge Pressure: 0.1~1.8 MPa and horizontal transfer distance 1500~3000 m
- ★ Driver: Diesel engine and electric motor
- ★ Starting Mode: Double starting (motor starting and mechanical energy-storage starting)
- ★ Control Mode: Intelligent control



## Vehicle-mounted Emergency Rescue Equipment



Work Light on Truck Body

Air-cooled Diesel Engine

Warning Light



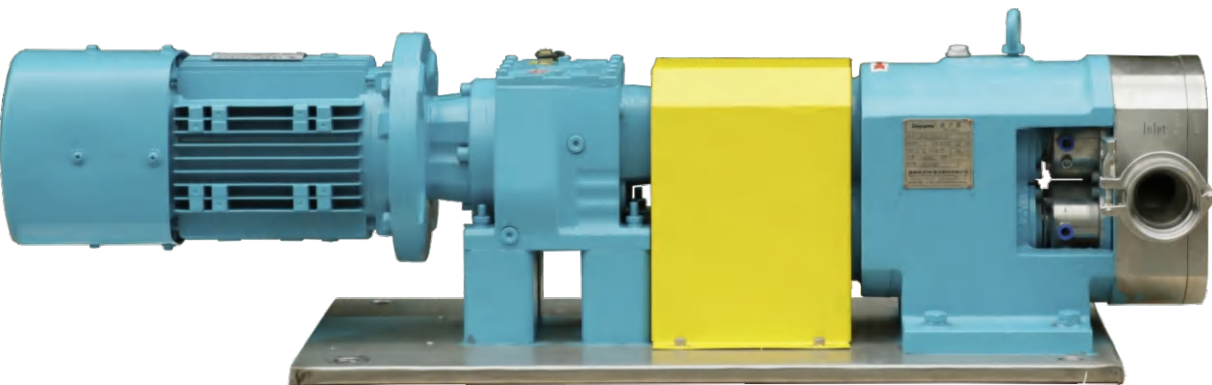
Frame and Fuel Tank

Mechanical Energy-storage Starter

Standard Super-crew Automobile Engine

# Metal Lobe Pump

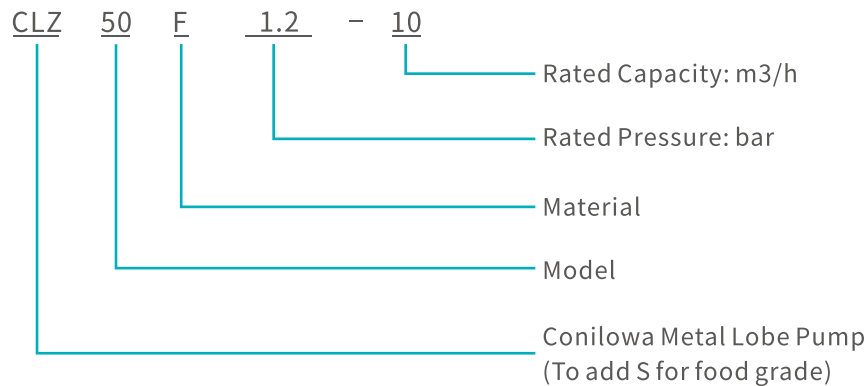
Picture



## Working Principle

Conilowa metal lobe pumps are positive displacement pumps and the working principle is: metal rotor rotates in circumferential flow channel within pump cavity, relative movement of rotor and pump body changes working volume, thus increasing energy of fluid transported. On the contact side of rotor and fluid transported, energy directly acts on fluid in the form of static pressure, fluid is discharged due to extrusion of rotating rotor; at the same time, space is reserved on the other side to form low pressure for continuous fluid suction. 0.05~0.3mm clearance is reserved between two rotors and between rotor and pump body (as per transported fluid viscosity, characteristics, etc.), surface tension of liquid makes up for clearance leaking, mechanical seal is made of material resistive to dry wearing and with performance resistive to idling.

## Metal Lobe Pump Model



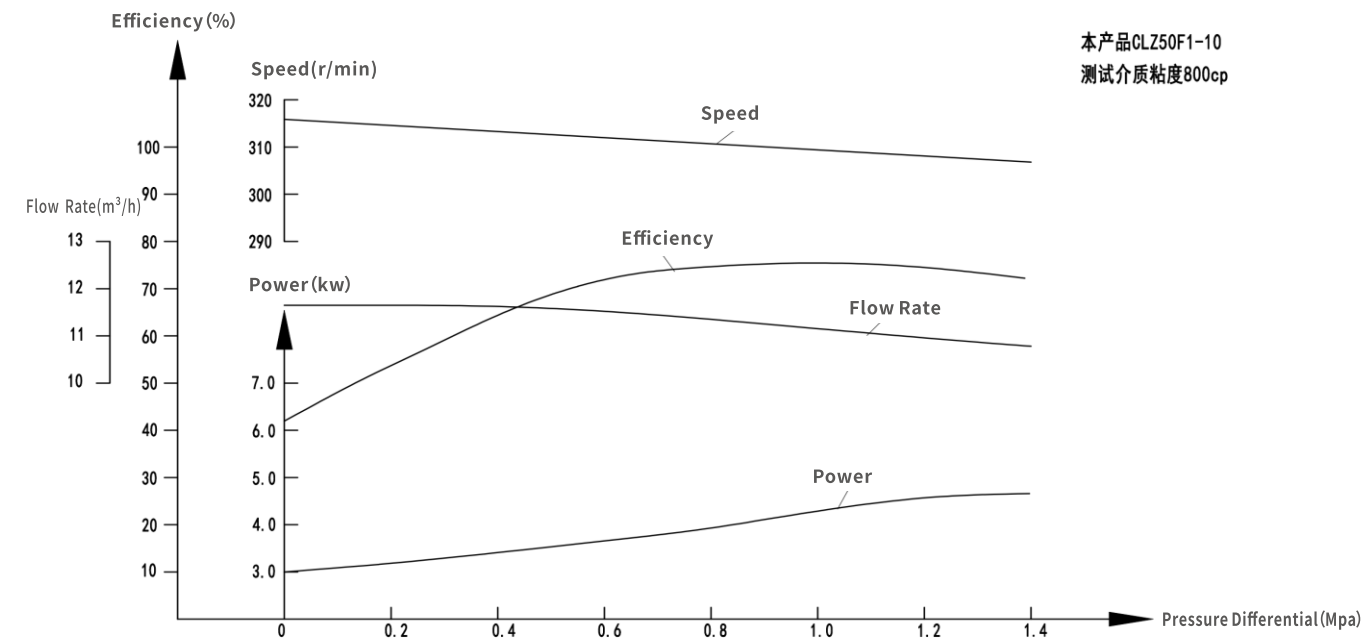
Rotor Material

Code	Material
P	CS
F	304
M	316
L	316L
Q	2205
T	Ti-alloy
A	Special Alloy
S	PTFE
H	Hastelloy

## Performance Parameters Table

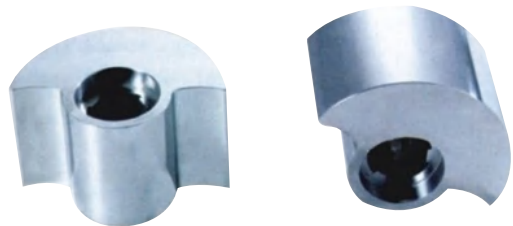
Model	Displacement (L/r)	Speed (r/min)	Capacity (m3/h)	Discharge Pressure (Mpa)	Power (KW)	Inlet and Outlet Size (mm)	Max. Viscosity (cp)
CLZ25	0.06	10—720	0—0.5	0-1.2	0.25—1.5	25	1,500,000
CLZ25D	0.15	10—720	0—2	0-1.2	0.25—2.2	25	
CLZ40	0.32	10—500	0—5	0-1.2	0.37—3	40	
CLZ65	0.65	10—500	0—10	0-1.2	1.5—7.5	65	
CLZ65D	1.1	10—500	0—15	0-1.2	2.2—11	65	
CLZ80	1.74	10—500	0—20	0-1.2	2.2—15	80	
CLZ80D	2.60	10—500	0—30	0-1.2	3—22	80	
CLZ100	3.65	10—500	0—40	0-1.2	4—30	100	
CLZ125	5.2	10—500	0—60	0-1.2	5.5—45	125	
CLZ125D	6.8	10—500	0—80	0-1.2	7.5—55	125	
CLZ150	9.8	10—400	0—120	0-1.2	11—90	150	
CLZ150D	12.8	10—400	0—150	0-1.2	15—160	150	
CLZ200	16	10—300	0—200	0-1.2	18.5—185	200	
CLZ250	32.6	10—250	0—300	0-1.2	45—160	250	
CLZ300	50.4	10—250	0—400	0-1.2	55—200	300	

## Performance Curve





## Reference for Quantity of Metal Rotor Blades



### ★ One-blade Rotor

Suitable for transport fluid with large particles; its unique shape and curve effectively avoid damage of particles in fluid during transport; be noted that discharge flow contains high pulsation and pressure is low.



### ★ Butterfly Rotor

Suitable for transport stuffing with medium-small particles, rendering low breakage percentage and low pulsation of discharge flow.



### ★ Three-blade Rotor

The type of the highest universality offering a displacement bigger than that of all rest rotors and a certain breakage percentage of fluid with particles.



### ★ Multiple-blade Rotor

With increase in the quantity of rotor blades, displacement decreases gradually while pumped fluid stability increases, the rotor renders high breakage percentage of fluid.

## Application Fields of Metal Lobe Pump



### Daily-use Chemical Industry:

AES, LAS, MES, K12, glycerol, sorbitol, fatty alcohol, shower gel, skin cream, shampoo, hand sanitizer, toothpaste, soap, washing powder slurry, etc.



### Fine Chemical Industry:

Dyestuff, pigment, pulp, chemical additive, adhesive, 107 glue, silicone oil, leather oil, colloidal material, etc.



### Food Industry:

Chocolate, concentrated milk, yogurt, honey, syrup, cane sugar, tomato ketchup, concentrated juice, jam, ice cream, milk, yeast slurry, meat sauce, jelly, condiment, alcohol, soybean protein, flour, edible oil, etc.



### Pharmaceutical Industry:

Ointment, medicine latex, pill paste, syrup, health care product, donkey hide gelatin, drug, amino acid, etc.



### Paper-making Industry:

Calcium carbonate, starch paste, PAM, carboxyl starch paste, rosin size, rosin, paper pulp, filling, dry strength agent, wet strength agent, sizing agent, filtering agent, defoamer, coating and water treatment chemical.



### Chemical Fiber Industry:

Pectic slurry, PVA, vinylon slurry, acrylic slurry, ammonia slurry, polyester slice, terylene slurry, polypropylene slurry, rayon slurry, functional fiber slurry, etc.



### Coating Industry:

Paint, dope, printing ink, insulating paint, resin, additive and assistant, organic solvent, etc.

## Sanitary Lobe Pump

### Product Introduction

Conilowa sanitary lobe pumps are applicable to industries like brewing, dairy product, food, medicine, etc. SS enclosure of the whole unit avoids pollution. The max pressure is 1MPa and capacity can reach 106m<sup>3</sup>/h.

Under the design of traditional lobe pump, sturdy cast iron gearbox fitted can maximize shaft stiffness and realize easy replacement of oil seal. Conilowa sanitary lobe pumps can be installed and serviced in a simple and convenient way; and standardized design reduces the quantity of spare parts and wearing parts.

### Advantages

- High efficiency, energy conservation, low noise
- Small shear force, little damage to fluid
- Small clearances between rotors, low flow loss, high efficiency
- Stable structure resistive to high speed
- Dry operation without risk
- Suitable for CIP



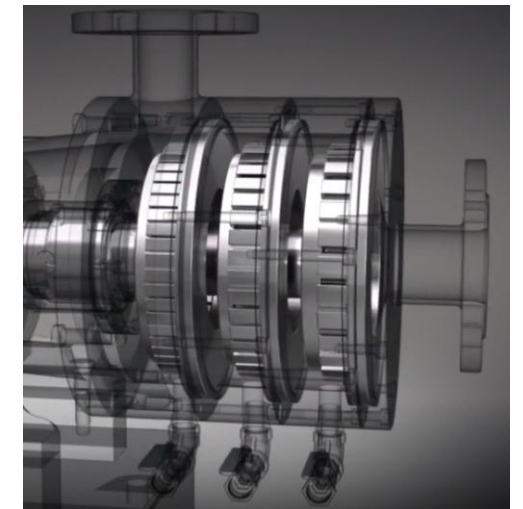
## Mixing, Homogenizing and Emulsifying Pump

### Product Introduction

Conilowa mixing, homogenizing and emulsifying pumps, high efficiency products integrating mixing, distribution, crushing, dissolving, refining, suspending, homogenizing, emulsifying and transport, are driven by motors (1450r/min, 2900r/min) and composed of stator and rotor. Stator, due to hydraulic pressure and centrifugal force generated from rapid rotation of rotor, quickly crushes, shears, extrudes and rubs fluids, thus uniformly refining, distributing and emulsifying immiscible fluids of solid phase, liquid phase and gas phase; through repeat and recirculation, original products become stable and quality products.

By application of such products, traditional technologies are further simplified, production efficiency is significantly improved and product quality is obviously enhanced.

Products are widely applied to industries of food, petroleum, petrochemical, fine chemical, daily chemical, biological pharmaceuticals, environmental protection, paper-making, paint, coating, etc.



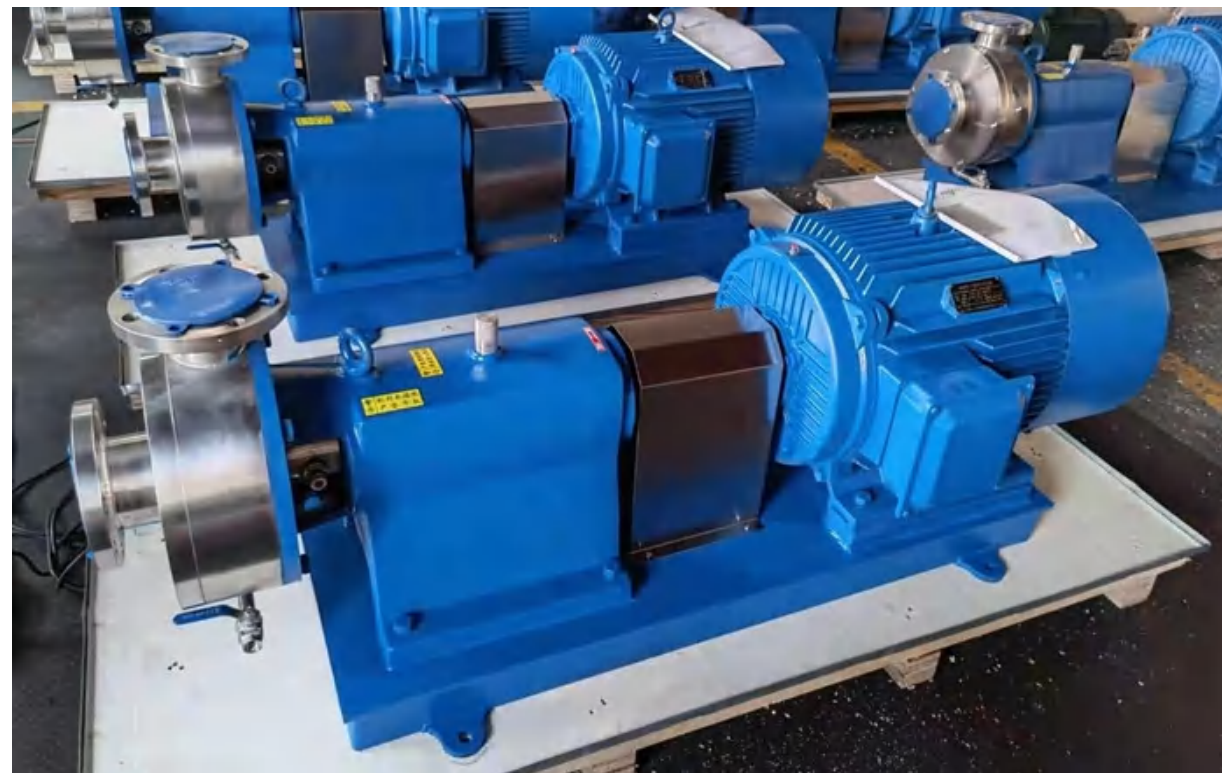
### Technical Features

- Compact rotary structure and small area occupancy.
- A shearing pump featuring large handling capacity and low energy consumption is especially suitable for continuous industrial production.
- Materials after processing in a shearing and emulsifying pump, have narrow particle distribution and good evenness; besides, different process demands can be met via adjustment of coordination and combination of core working components.
- Time-saving, high efficiency, energy conservation and improved production efficiency.
- Simple assembly and disassembly, easy cleaning, meeting CIP requirement in different occasions.
- Certain self-priming capability and low-head transfer function.
- 100% distribution and emulsifying of materials.
- Low noise, stable running and convenient maintenance.
- One-time completion of homogenizing, distribution, emulsifying and transfer.
- Design in double-end water-cooling mechanical seal structure rendering safety, reliability and long service life.



## Application Fields

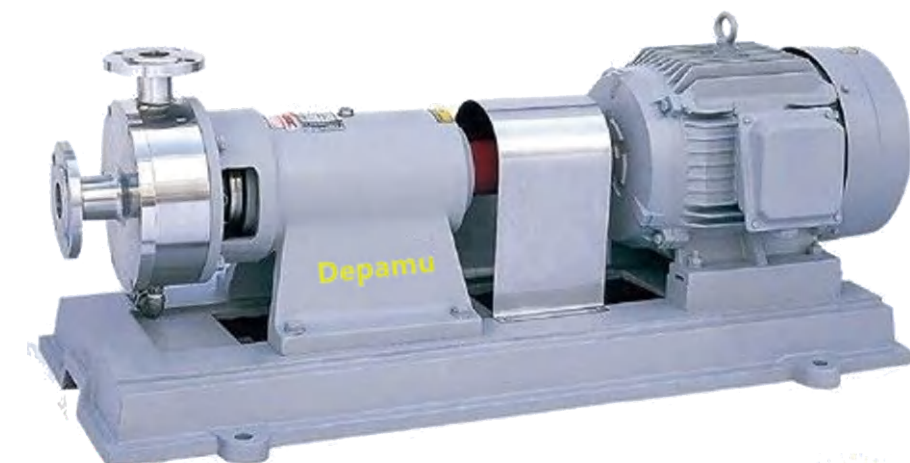
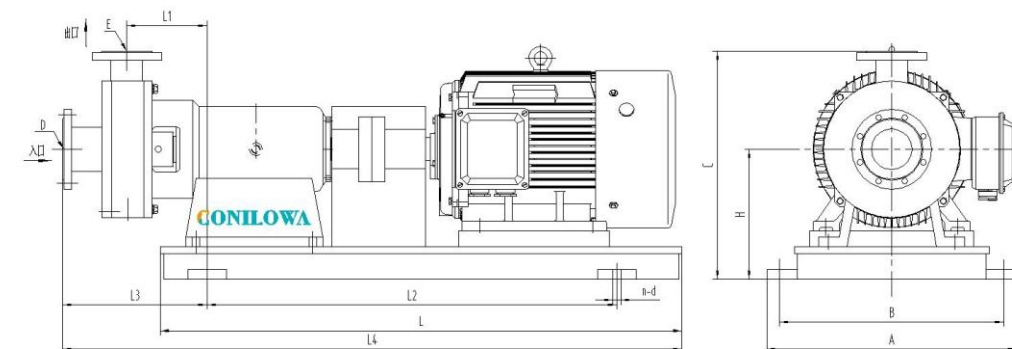
- **Fine Chemical Industry:** Pigment, dyestuff, plastic additive, textile auxiliary, adhesive, resin emulsifier, silicone oil emulsifier, hot-melt adhesive, sealant, surfactant, leather auxiliary, flocculant, biocide, glue, defoamer, wax emulsion, etc.
- **Food Industry:** Dairy product, ice cream, chocolate, soymilk, fruit juice, jam, milk, essence, etc.
- **Chemical Industry:** Lubricating oil, lubricating grease, sanitizer, pesticide, photographic emulsion, rubber paste, resin paste, thickener, essence, spice, silicone material, etc.
- **Cosmetics Industry:** Detergent, conditioner, shampoo, lotion, perfume, etc.
- **Medicine Industry:** Injection, medicine latex, ointment, health care product, slurry, drug, etc.
- **Paper-making Industry:** Paper pulp, adhesive, auxiliary, resin emulsion, etc.
- **Petroleum Chemical Industry:** Emulsified asphalt, modified asphalt, heavy oil emulsifier, diesel emulsifier, lubricant, silicone oil emulsifier, etc.
- **Coating and Ink Industry:** Printing ink, emulsion paint, building material, coating additive, carbon black dispersion, etc.
- **Agricultural Chemical Industry:** Pesticide, herbicide, medicinal cream, fertilizer, pesticide adjuvant, etc.
- **Nano Material Industry:** Nano material dispersion, depolymerization, etc.
- **Daily-use Chemical Product Industry:** Liquid detergent, face cream, lip balm, facial cleanser, silicone oil emulsifier, etc.
- **Paper-making Industry:** Paper pulp, filling, dry strength agent, wet strength agent, sizing agent, filtering agent, defoamer, coating, rosin dispersant, etc.



## CLR1 Homogenizing and Emulsifying Pump

### Product Introduction

CLR1 homogenizing and emulsifying pump has a set of double rotors and stators, and service life is prolonged through multiple techniques like forging, casting, etc. for pump raw materials. Rotor transmission shaft is made of high-strength 316 and seal is double-end water-cooling mechanical seal. Pump shaft, supported by bearing housing, connects motor via coupling. The pump working principle is to suction materials from inlet and discharge from outlet after comprehensive homogenizing and emulsifying. The product is applicable to circulation process in medium-small batch production as well as homogenizing and emulsifying work; for enhanced homogenizing and emulsifying effect, a vertical high-shear homogenizing and emulsifying machine can be used in conjunction.

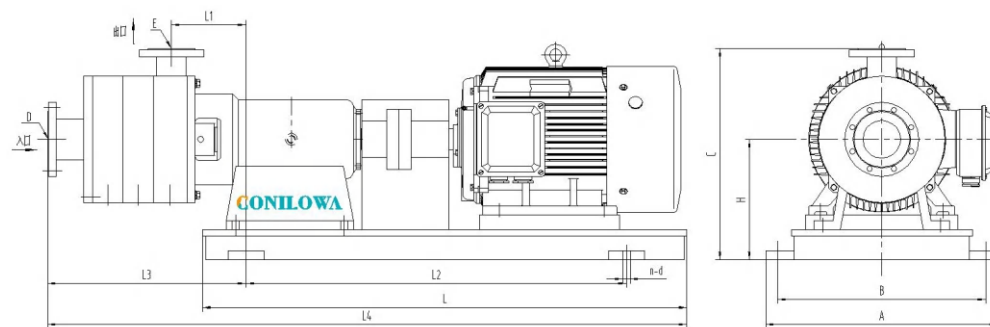


## CLRX3 Homogenizing and Emulsifying Pump

### Product Introduction

CLRX3 homogenizing and emulsifying pump, developed based on CLRX1, has 3-stage rotors and stators in 12 layers in working chamber with teeth clearance from large to small. CLRX3, compared with CLRX1, can render better emulsifying and crushing effect and a larger handling capacity. Through rotors and stators, materials are dispersed, refined and emulsified stage by stage; simplified procedures improve production efficiency; CLRX3 is a high-efficient superfine homogenizing pump integrating mixing, dispersion, crushing, solving, refining, depolymerization, homogenizing, emulsifying and transfer. Product seal is double-end or single-end mechanical seal as per material characteristics, and heat-conduction, insulation or cooling device can be provided as per customer demand.

CLRX3 homogenizing and emulsifying pump is applicable to large-medium batch continuous online production or circulation production process. After product application, traditional production process is further simplified, production efficiency is largely raised and quality is remarkably improved.



## CLRC Homogenizing and Mixing Pump

### Product Introduction

CLRC homogenizing and mixing pump is composed of multi-pipe mixing head and mixing pump, mixing pump is composed of 2~5-layer rotors and stators, gear wheels for rotors and stators of each layer are arranged from large to small size, so materials of different compositions can be instantly mixed and homogenized as per the required ratio. Wide application is to production process requiring mixing and homogenizing of many types of materials as well as chemical process requiring neutralizing and mixing. After equipment application, traditional process is further simplified, production efficiency is largely raised and quality is remarkably improved.





Table for CLRX1 Homogenizing and Emulsifying Pump Technical Parameters

Model	Power (kw)	Speed (r/min)	Flow (m3/h)	Discharge Pressure (MPa)	D DN (mm)	E DN (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	A (mm)	B (mm)	C (mm)	H (mm)	n-d (mm)
CLRX1-100	2.2	2900	1	0.05	Φ25	Φ15	300	169	220	255	530	285	250	250	150	4-Φ14
CLRX1-120B	3	2950	3	0.1	Φ50	Φ40	770	185	500	307	964	420	376	220	399	4-Φ18
CLRX1-140B	4	2950	5	0.1	Φ50	Φ40	770	185	500	307	984	420	376	220	399	4-Φ18
CLRX1-165B	5.5	2950	10	0.15	Φ65	Φ50	856	198	600	340	1135	447	403	242	454.5	4-Φ18
CLRX1-185B	7.5	2950	15	0.15	Φ65	Φ50	856	198	600	340	1135	447	403	242	454.5	4-Φ18
CLRX1-200B	15	2950	20	0.15	Φ80	Φ65	1100	207	800	362	1337	530	480	287	524	4-Φ24
CLRX1-220B	22	2950	30	0.15	Φ80	Φ65	1180	207	800	362	1417	570	520	287	524	4-Φ24
CLRX1-240	22	2900	50	0.2	Φ100	Φ80	1200	194	1050	372	1548	550	490	545	260	4-Φ24
CLRX1-260	37	2900	60	0.2	Φ125	Φ100	1500	327	1200	532	1882	700	620	768	438	4-Φ28
CLRX1-300	45	2900	80	0.25	Φ125	Φ100	1500	327	1200	532	1882	700	620	768	438	4-Φ28

Table for CLRX3 Homogenizing and Emulsifying Pump Technical Parameters

Model	Power (kw)	Speed (r/min)	Flow (m3/h)	Discharge Pressure (MPa)	D DN (mm)	E DN (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	A (mm)	B (mm)	C (mm)	H (mm)	n-d (mm)
CLRX3-120B	7.5	2950	3	0.15	Φ50	Φ40	856	185	600	419	1170	447	403	220	339	4-Φ18
CLRX3-140B	11	2950	5	0.2	Φ50	Φ40	1000	185	675	419	1296	510	466	240	419	4-Φ19
CLRX3-165B	15	2950	10	0.3	Φ65	Φ50	1100	198	750	476	1451	570	466	242	454.5	4-Φ20
CLRX3-185B	30	2950	15	0.4	Φ65	Φ50	1180	198	800	476	1574	570	526	280	492.5	4-Φ21
CLRX3-200B	45	2950	20	0.5	Φ80	Φ65	1250	207	900	512	1696	630	580	327	564	4-Φ24
CLRX3-220B	55	2950	30	0.5	Φ80	Φ65	1300	207	950	512	1812	670	620	358	595	4-Φ24
CLRX3-240	90	2900	60	0.6	Φ100	Φ80	1200	194	1050	532	1708	550	490	545	260	4-Φ24
CLRX3-260	132	2900	100	0.6	Φ125	Φ100	1500	327	1200	740	2090	700	620	768	438	4-Φ28
CLRX3-300	75	1450	120	0.3	Φ125	Φ100	1500	327	1200	740	2090	700	620	768	438	4-Φ28

Table for CLRC Homogenizing and Mixing Pump Technical Parameters

Model	Flow (m3/h)	System Pressure (MPa)	Speed (r/min)	Power (kw)	Viscosity (cp)
CLRC10-185	1-3	0.1-1.6	260-1400	2.2-4	1-200000
CLRC20-185	3-6	0.1-1.6	260-1400	3-5.5	1-200000
CLRC10-200	5-10	0.1-1.6	260-1400	3-7.5	1-200000
CLRC20-200	10-15	0.1-1.6	260-1400	4-11	1-200000
CLRC15-260	15-20	0.1-1.6	260-1400	5.5-15	1-200000
CLRC25-260	20-30	0.1-1.6	260-1400	7.5-18.5	1-200000
CLRC15-300	40-50	0.1-1.6	260-1400	11-30	1-200000
CLRC30-300	50-80	0.1-1.6	260-1400	15-45	1-200000
CLRC15-360	80-120	0.1-1.6	260-1400	22-55	1-200000
CLRC30-360	120-160	0.1-1.6	260-1400	30-75	1-200000
CLRC15-400	160-220	0.1-1.6	260-1400	55-90	1-200000
CLRC30-400	220-250	0.1-1.6	260-1400	75-110	1-200000
CLRC15-460	260-320	0.1-1.6	260-1400	90-132	1-200000
CLRC30-460	320-350	0.1-1.6	260-1400	110-160	1-200000

Note: The dimensions above are for reference.

# Chopper



Chopper is a high-efficient chopping device developed based on mature basic structure of Conilowa lobe pump.

Conilowa chopper can allow online maintenance just like Conilowa lobe pump. It means all wearing parts can be directly replaced by an operator at site without dismantling of any pipeline or driver, which ensures low cost and short downtime.

Chopper can either be integrated in pump circulation system or used alone, which is flexible. Suitable cutters can be selected as per detailed situation and desired cutting quality. Desired particle size can be achieved via selection of suitable cutters in proper shape and width.

- Cutter:** Cutters, installed on hexagonal shaft, are fixed in order on shaft end through bolting. Quick-open end cover makes it possible to replace cutters within a few minutes. Multiple types of cutters can be used.
- Shaft Seal:** Durable standard shaft seal is installed, intermediate isolation chamber filled with buffer provides mechanical sealing and avoids liquid entrance in gear chamber.
- Casing in Mono-block Casting:** Chopper casing and gear chamber casing are in mono-block casting and connected through bolting. Chopper and driver, connected by flexible coupling, comprise a compact unit.
- Rotation Speed:** As per structure type, a chopper can be fitted with different drivers to achieve desired operation way. For fluid like water containing few solids, it’s better to select a low-speed driver with small size and light weight; for transfer of hard solids, it’s better to select a high-speed driver with large torque.
- Bearing:** Bearing is designed in overhung structure. In enclosed gearbox, durable gears and bearings are installed.
- Special Structure:** Double-shaft chopper features strong “pull-in capability”. Besides, Depamu offers separate feeding solutions, such as helical feeder fit for pump connection.


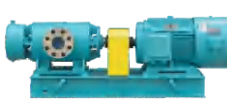


# Pump Model Selection

At model selection, it’s necessary that a customer shall provide detailed data and corresponding information in the Data Sheet for Pump Model Selection below, which are crucial to economic and proper model selection.

## Data Sheet for Pump Model Selection

Fluid							
Viscosity	mm <sup>2</sup> /s	Max.		Min.		Normal	
Density	kg/m <sup>3</sup>	Max.		Min.		Normal	
Temperature	°C	Max.		Min.		Normal	
Characteristics		Corrosive <input type="checkbox"/>		Toxic <input type="checkbox"/>		Sanitary <input type="checkbox"/>	
Wetted Parts Material		CS	304	316	2205	Other _____	
Rubber Material		NBR	EPDM	FPM	NR	Other _____	
Particle	mm	Yes <input type="checkbox"/>		No <input type="checkbox"/>		Size _____	
Seal Type		Packing Seal <input type="checkbox"/>		Mechanical Seal <input type="checkbox"/>		Other _____	
Solid Content	%	Max.		Min.		Normal	
Capacity	m3/h	Max.		Min.		Normal	
Suction Pressure	Mpa	Max.		Min.		Normal	
Discharge Pressure	Mpa	Max.		Min.		Normal	
Pressure Difference	Mpa	Max.		Min.		Normal	
NPSHa	m						
Ambient Temperature	°C	Max.		Min.		Normal	
Ph		Max.		Min.		Normal	
Driver Type							
Motor		Explosion-proof_____		IP_____		Variable Frequency <input type="checkbox"/>	
Location		Indoor <input type="checkbox"/>			Outdoor <input type="checkbox"/>		
Operation		Continuous <input type="checkbox"/>			Intermittent <input type="checkbox"/>		
Mounting		Horizontal <input type="checkbox"/>		Vertical <input type="checkbox"/>		Other _____	

# Conilowa Pump Categories

CONILOWA 克尼罗瓦	Single Screw Pump	Twin Screw Pump	Three Screw Pump	Lobe Pump
Product Categories				
Product Series	CLGA/CLL CLD/CLP	CL2G/CL2GRN/ CL2GS/CL2Gap	CLSNH/CLSM CLSNJ/CL3G	CLB/CLPL CLZ/CLJ
Fluid Viscosity	1~1000000Cst	0.5~1000000Cst	2~1500Cst	0~1000000Cst
Capacity	0.2-400m³/h	0.5-2000m³/h	0.5-300m³/h	0.2-3000m³/h
Max. Pressure	4.8Mpa	6.3Mpa	16.0Mpa	3.0Mpa
Max. Fluid Temperature	150°C	350°C	200°C	240°C
Fluid	Industrial and household sewage, pulp, acid-base solution, coal water slurry, dry sludge, jam, toothpaste, medical toothpaste ...	Crude oil, fuel oil, asphalt, hyper-viscous polymer, tar, coal water slurry, lubrication oil, syrup, animal and vegetable oil ...	Light diesel oil, heavy fuel oil, crude oil, lubrication oil, hydraulic oil, anhydrous ethanol, gear oil, coolant ...	Acid, alkali, salt, latex solution, resin, pigment, ink, painting, glycerol, paraffin, cosmetics ...
Main Application Fields	Industries of environmental protection, paper-making, food, medicine, petrochemical, architecture ...	Petroleum, chemical, building material, power generation, shipbuilding, food ...	Metallurgy, electricity, petrochemical, shipbuilding, building material, hydraulic, machine tool, highway ...	Environmental protection, chemical, vehicle-mounting, mining, agriculture, daily necessity, fire prevention, chemical fiber, coating ...



# Typical Projects



Rubber Lobe Pump Delivery



Rubber Lobe Pump Delivery



Lobe Pump Application to Sewage Treatment Industry



Metal Lobe Pump Application to DMSO Project



Lobe Pump for Asphalt Transfer



Lobe Pump Application to Food Industry



Lobe Pump Application to Chemical Industry



Metal Lobe Pump Project Site



Lobe Pump (with Basket Filter and Safety Valve) Application to Chemical Industry



Lobe Pump (Capacity 3000 m³/h) Exported to India





## Global Service System

### Sales Network

The professional engineering service teams of the company can provide customers with whole-process quality and efficient service. The company can quickly meet demands of multi-level customers in multiple fields through initiative construction of an efficient and unified global sales service network, advocating of a global localization sales mode and implementation of brand management. Due to supply of value-added service, the company is highly praised by its customers.

### Customer Orientation

The company has built a global technical service network sincerely offering pre-sales and after-sales service.

### Integrated Service

- Vibration Analysis
- Medium Assessment
- Site Commissioning
- System Testing
- Service and Repairing Contract
- Global Service
- Diagnosis of Change in Operation Conditions
- Extension and Modification of Running Pump and System

### Solution for Extensible System

- Pump Instrument
- Flow Adjustment via Frequency Converter
- Operation Interface for Guidance System
- Electronic Control of System Monitoring Online and Offline

### Consulting and Engineering with Special Requirements

Conilowa products are widely applied all over the world, which brings lots of experience where the company can learn and benefit. As a supplier of solutions and systems for liquid transfer, metering and mixed application, we can provide personalized solutions from the smallest independent unit to the biggest multi-link installation; at the same time, we can provide technical engineering consulting service for complex processes as well as solutions meeting the needs of special processes.

- Fluid Evaluation
- Independent Design Concept
- Cost Calculation for Installation Project
- Commissioning and Service
- Seminars and Site Training

