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# BUSINESS BROCHURE



# Dandong Runhe Seal Co.,Ltd.

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Dandong Runhe Seal Co.,Ltd.

# CHINESE BRAND INTERNATIONAL QUALITY



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Established on March 20, 2008, Dandong Runhe Seal Co., Ltd (briefly called "Runhe Seal") is located in Dandong, Liaoning, China. Dandong Runhe Seal Co., Ltd is a Chinese famous manufacturer integrating design, R&D, manufacturing, sales and service.

Our main business includes mechanical seals, seal support systems (seal auxiliary systems) and precision machining. Runhe mechanical seals and seal support systems have been widely used in oil refining, chemical industry, paper-making, food industry, pharmaceutical industry, thermal power generation, oil fields, metallurgy and other fields.

After years of unremitting efforts, Runhe Seal has optimized domestic and foreign products, implemented customized production according to the different characteristics of various industries and the actual use requirements of users, so as to better meet the personalized needs of different customers. At present, in addition to being widely used in China, Runhe mechanical seals and seal support systems has been exported to many countries and regions abroad.

Profound cultural heritage, high-quality professionals, strict quality management, high-quality product manufacturing, complete testing methods, and efficient on-site services, which have helped Dandong Runhe Seal Co., Ltd to rapidly develop into a rising star in the industry.



Adhering to the corporate philosophy of "walking with excellence", taking "doing professional things with a focused heart" as the guiding ideology of management, Runhe Seal carefully create high-quality products and provide customers with value-added services. "Doing our best" is the working attitude of Runhe people; "Perfection" is the working goal of Runhe people. Dandong Runhe Seal Co., Ltd is willing to create a better future with you together!

# Enterprise Culture

# Strategic Positioning

Concentration, Focus, Professionalism Morality, Quality, Brand

# Corporate Vision

Harmony with the world, society, people and nature, etc.

# Company Mission

Harmony builds goodness

Pursue the dream of Made in China

Harmony leads to success

Build a national brand

# Strategic Cooperation

Grow up with Runhe Win-win with Runhe

# Core Value

Create value for customers
Create opportunities for employees
Create benefits for the company
Take responsibility for society









# Development History

2024

Runhe Seal is constantly developing and growing. Let us join hands with Runhe Seal to create a better tomorrow together!

2023

15th anniversary. Runhe Seal has developed into a leading company in the seal industry, with its mechanical seals sold both in China and abroad.

2022

Carry out school-enterprise cooperation projects with Liaoning Mechanical and Electrical College. The school and the enterprise develop in a coordinated manner, develop new technologies, cultivate outstanding talents, and achieve the goals of co-construction, sharing, co-education, co-management, and win-win.

2018

10th anniversary. Starting the plan of going out, starting participating the exhibitions, visiting customers, and inviting customers to our factory, etc.

2012

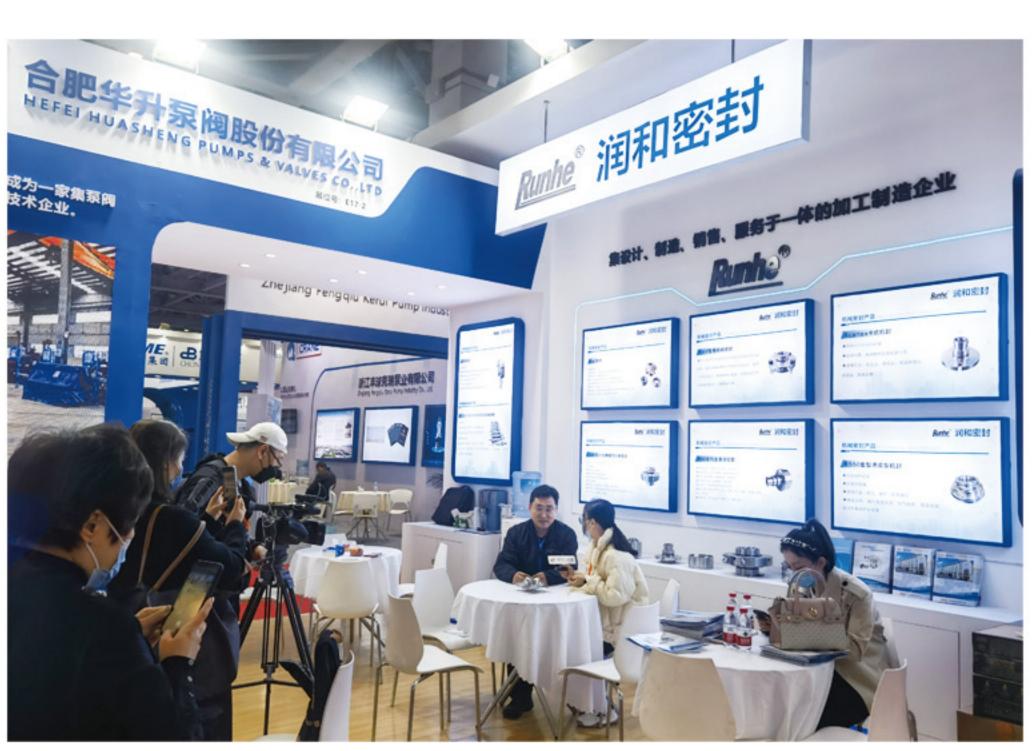
Move to a new location, improve the office environment, introduce new equipment, carry out employee training activities, upgrade products, develop new products, learn new technologies, etc.

2008

Formally established on March 20, 2008. Runhe has developed and produced the first generation of rubber ring products, the first generation of heat exchangers, the first generation of 52 Plan liquid accumulators, the first generation of hand pumps. the first generation of 53B systems, the first generation of vessel and agitator seal, diaphragm couplings, etc.











# Strong Manufacturing Advantages

There are more than 100 sets of main production equipment, including dozens of CNC machining centers. Runhe Seal has the most advanced TEMA SPINNER five-axis machining center, four-axis horizontal machining center, three-axis CNC vertical machining center, CNC machining center equipment, several CNC lathes, as well as ordinary turning, milling, drilling, grinding, welding, stamping, heat treatment and other equipment. In addition, Runhe Seal also has CNC laser notching machines, micro-beam plasma welding machines, CNC vacuum quenching and aging furnaces, high-precision grinders, laser marking machines, etc.

# Perfect Inspection Advantages

Runhe Seal has more than 100 sets of test and inspection equipments, including high temperature seal operation test bench, high speed seal operation test bench, dry gas seal operation test bench, vessel and agitator seal operation test bench, seal planeness detector, seal fatigue test machine, seal elastic force detector, electronic depth meter, portable spectrometer, Vickers hardness tester, Shore hardness tester, etc., to ensure that each link from raw material incoming inspection, production process inspection, product testing and product outgoing inspection is inspected and tested by professional inspectors using accurate inspection equipment and perfect inspection methods to ensure the high quality of products.

# Talent Advantages

Runhe Seal has a group of professional and technical personnel who have been engaged in the mechanical seal industry for many years. Runhe Seal's people-oriented humanistic concept has attracted and cultivated a group of key employees with high professional quality and professionalism, forming multiple core teams such as marketing, R&D, technology, manufacturing, quality inspection, management, and service.

# Technology and R&D Advantages

Runhe Seal is a high-tech enterprise in Liaoning Province, a member of the Mechanical and Packing Static Seal Branch of the China Hydraulic and Pneumatic Seals Industry Association, and a member of the Pump Branch of the China General Machinery Industry Association. Since its establishment in 2008, Runhe Seal has obtained a number of patent certificates.

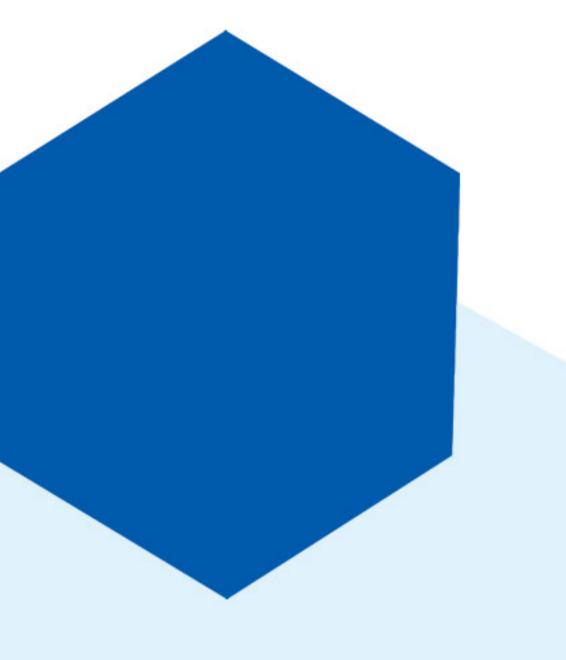
# Service Advantages

Runhe Seal has established several offices in China, and its business covers major provinces, cities, autonomous regions, etc. Runhe Seal strives to respond to customers as quickly as possible and provide customers with comprehensive and high-quality technical services before, during and after sales.

# Internal Management Advantages

Runhe Seal has passed ISO9001 quality management system certificate, ISO14001 environmental management system certificate, and ISO45001 occupational health and safety management system certificate. Runhe Seal continues to introduce various talents, actively carry out digital transformation, build OA approval system, ERP system, customer relationship management system (CRM), etc., to help improve management efficiency, strictly regulate internal control, and continuously strengthen the company's advantages in internal management.





# Industry Pioneer

The seal products from Runhe Seal have world-class quality. The company has a strict management system, advanced production equipment and high-level management personnel. Runhe Seal strictly controls every process and strives to achieve the goal of 100% product qualification rate and 100% customer satisfaction. Runhe Seal has passed ISO9001 quality management system certification, ISO14001 environmental management system certification, ISO45001 occupational health and safety management system certification and Russian EAC certification, which ensures the reliability of product quality and helps users ensure that their products meet the requirements of regulatory agencies.









# Advanced Technology

We are constantly conducting new technology research and applying innovative technologies to our products, striving to provide customers with accurate, convenient and durable seal products.

While improving the performance of existing seal products, our strong R&D technical team also insists on continuous technological innovation to ensure the high quality and high standards of seal products. Our advanced patented technologies are as follows:

- A DY-L type reducer mechanical seal device
- A combined non-contact seal assembly for a large motor bearing chamber
- A mechanical seal device for rotating shaft
- A vertical parallel double mechanical seal structure
- A new mechanical seal structure for desulfurization pump
- A new type of manual liquid refill pump piston rod seal structure
- An enhanced floating ring welded metal bellows mechanical seal structure
- A spring-compensated U-shaped bellows mechanical seal device
- A tandem seal structure consisting of packing seal and mechanical seal
- A mechanical seal structure for high temperature and high pressure water



# Aftersale Service

In order to ensure accurate and reliable operation of the seal, answer customers' questions at any time, and improve customers' work efficiency, Runhe Seal has established a complete after-sales service system, practicing the service concept of "professional, fast, enthusiastic and thoughtful", and providing customers with professional technical support and consulting services.

Specific services include:



# **Warranty Commitment**

Different warranty services are provided according to different products.



# Installation and Debugging

Provide users with product installation and debugging, etc.



# Cargo Transportation

Provide users with Express door-to-door services or transport goods according to customers' specific requirements.



# **Consumables Supply**

Long-term supply of spare parts and wearing parts. Door-to-door Express delivery service, etc.



# Hotline

86-415-5711666. Sales managers and service engineers are always available to provide consulting services.



# Official Website

Provide company introduction, product introduction, data download, technical exchange, company news, etc.



### **Network Services**

We will deliver information and materials to you at any time via email, QQ, WeChat, telephone, etc.

# Product Overview

Dandong Runhe Seal Co., Ltd. is mainly engaged in three businesses: mechanical seals, seal support systems and precision machining, which have been widely used in oil refining, chemical industry, papermaking, food, pharmaceuticals, thermal power generation, oil fields, metallurgy, etc.

The specific models are as follows:

# Spring Mechanical Seal

R8B

R8U

R45B

R45U

M37G

R108U R550

RK300

### Metal Bellows Mechanical Seal

**R50** 

**R65** 

RBM-B-1

Precision Machining

# Seal Support System

Heat Exchanger

RHR

Liquid Accumulator

PLAN52

PLAN53A

RTS2000/RG6310

RG5012/5020

Seal Support System

PLAN53B

Hand Pump

SP1200

Cyclone Hydraulic Separators

RYZ203



# Product Details

# R8B

# Spring Mechanical Seal

### **Application**

This series of mechanical seals are universal seals with simple structure, reliable performance, strong interchangeability and wide application range.

### **Model Description**

- ·Comply with DIN24960, GB/T6556-2024
- Compact structure
- ·Single and balanced seal
- ·Small spring, no requirement on rotation direction
- ·Good heat transfer capability
- Ensure the straightness of the seal face under high pressure
- Ensure that the seal face deformation is minimized under high pressure
- ·Can be made into cartridge seal
- Application industry: Rotating shaft equipment, i.e. centrifugal pumps
- ·Fluid application: used to seal clean media or medium and low particle size media containing solid particles, such as oil, cold and hot water, chemical raw materials, edible oil, beverages, etc.

### Design Features

- Multiple springs: good compensation performance and uniform seal face load
- ·Integral seal face:Maximum cross-section seal face
- ·Compound transmission: Smaller friction damping and even transmission force
- Set screw positioning: simple installation and easy adjustment
- Composite transmission of pin and arc lug: eliminate seal face damage or deformation caused by concentrated transmission force

### Performance Parameters

Temperature: -40°Cto 220°C
Pressure: Maximum 5Mpa (not suitable for working in negative pressure environment and vacuum state)
Speed: Maximum 25m/s (5000rpm)

### Design Features

- ·Multiple springs: good compensation performance and uniform seal face load
- ·Integral seal face:Maximum cross-section seal face
- ·Compound transmission: Smaller friction damping and even transmission force
- Set screw positioning: simple installation and easy adjustment
- Composite transmission of pin and arc lug: eliminate seal face damage or deformation caused by concentrated transmission force

### Performance Parameters

Temperature: -40°Cto 220°C
Pressure: Maximum 1.5Mpa (not suitable for working in negative pressure environment and vacuum state)

Speed: Maximum 25m/s (5000rpm)

### **Application**

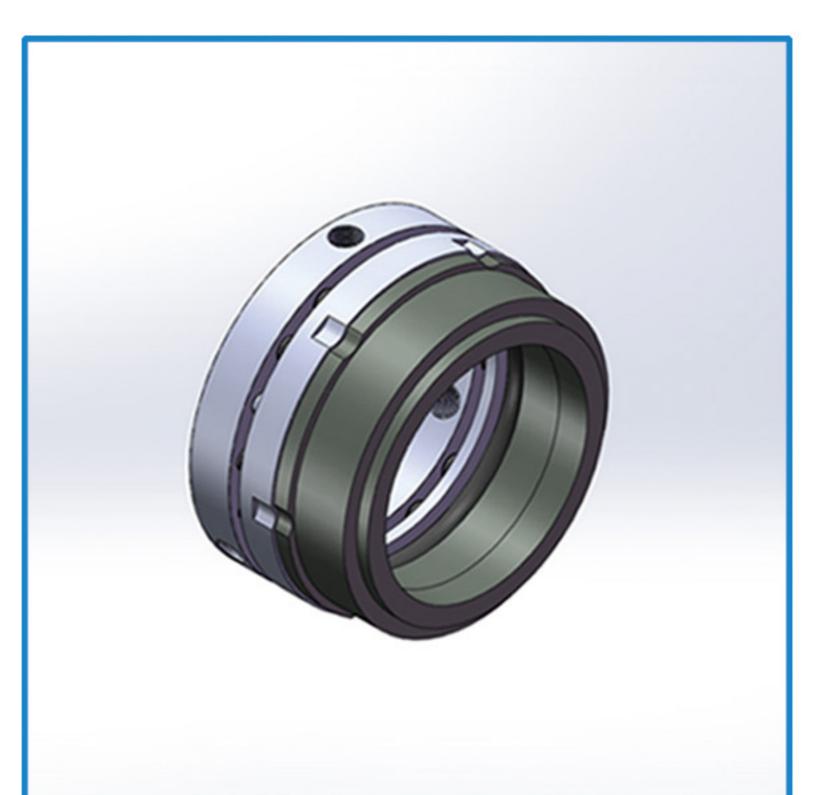
This series of mechanical seals are universal seals with simple structure, reliable performance, strong interchangeability and wide application range.

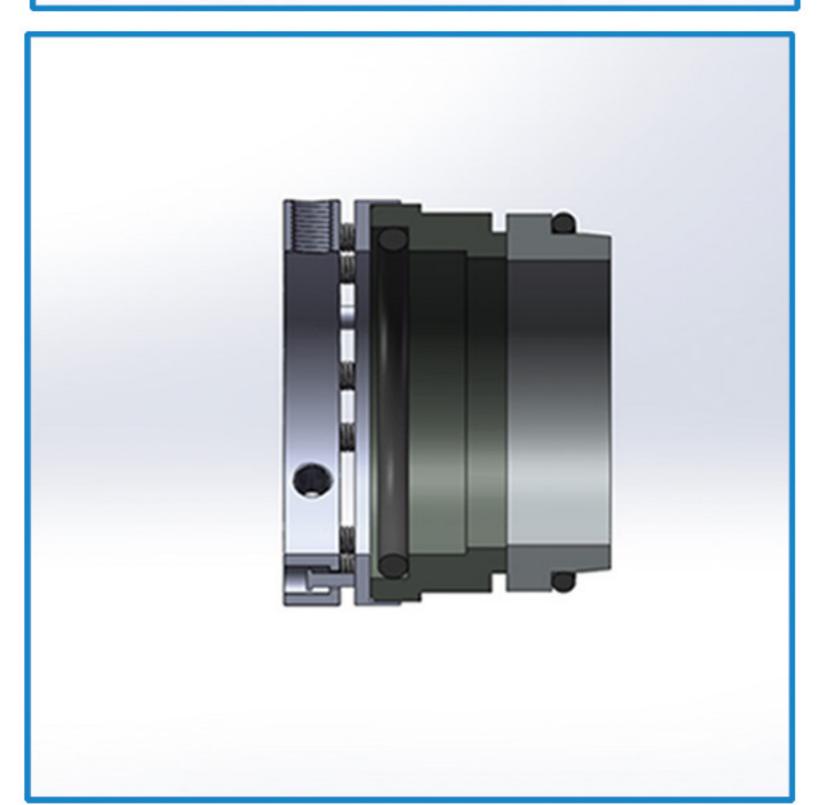
R8U

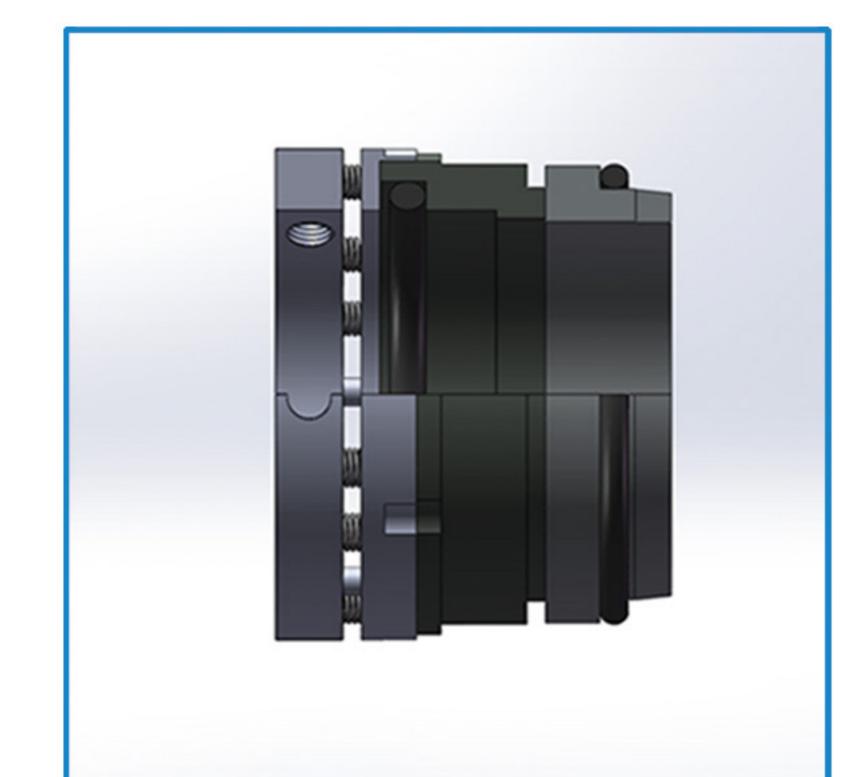
Spring Mechanical Seal

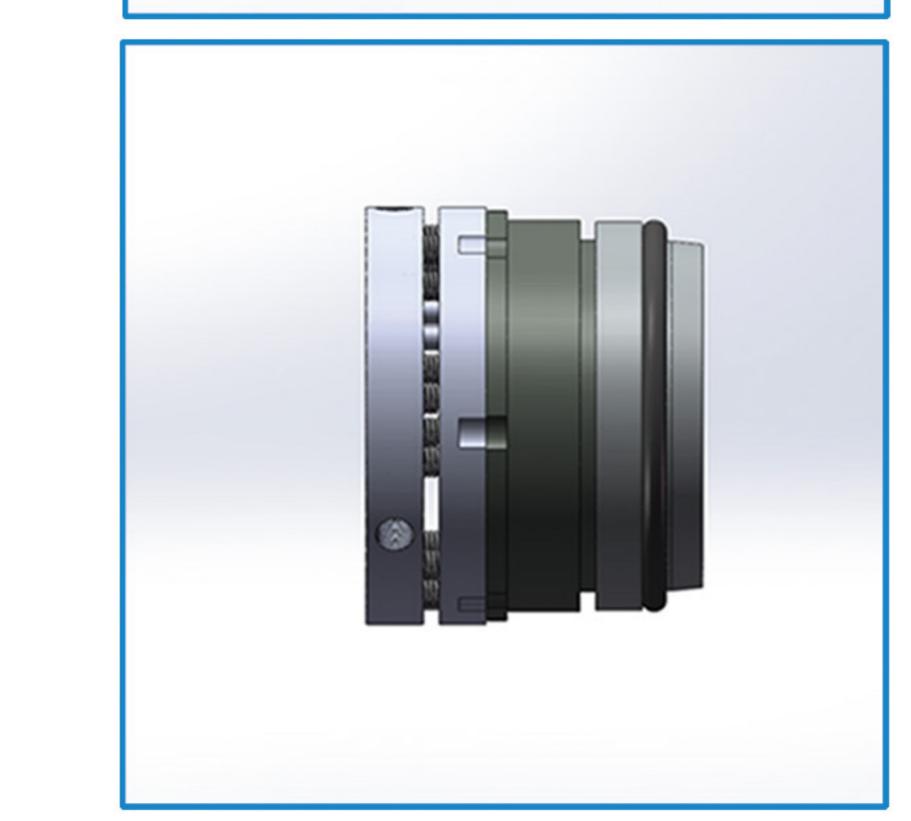
### **Model Description**

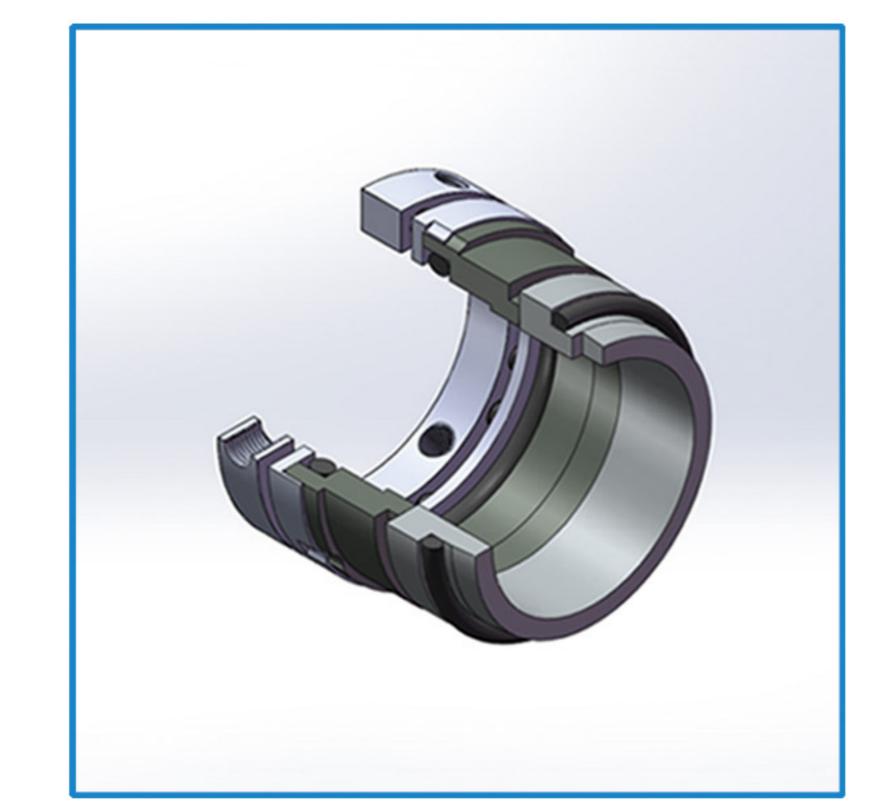
- ·Comply with DIN24960, GB/T6556-2024
- Compact structure
- ·Single and unbalanced seal
- ·Small spring, no requirement on rotation direction
- Good heat transfer capability
- Ensure the straightness of the seal face under high pressure
- ·Ensure that the seal face deformation is minimized under high pressure
- ·Can be made into cartridge seal
- Application industry: Rotating shaft equipment, i.e. centrifugal pumps
- ·Fluid application: used to seal clean media or medium and low particle size media containing solid particles, such as oil, cold and hot water, chemical raw materials, edible oil, beverages, etc.

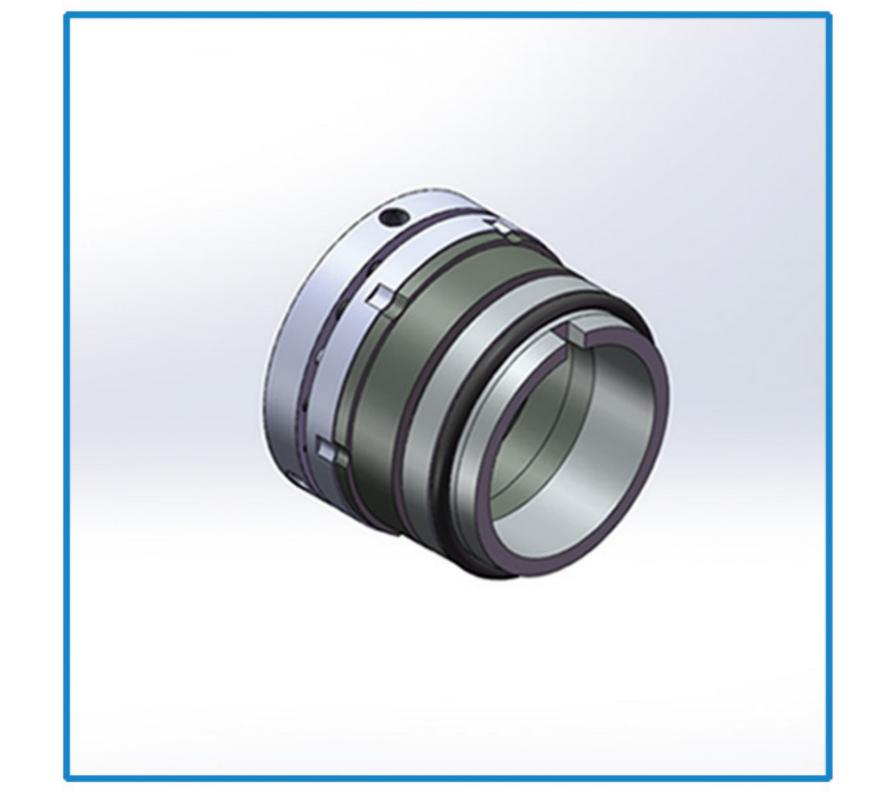


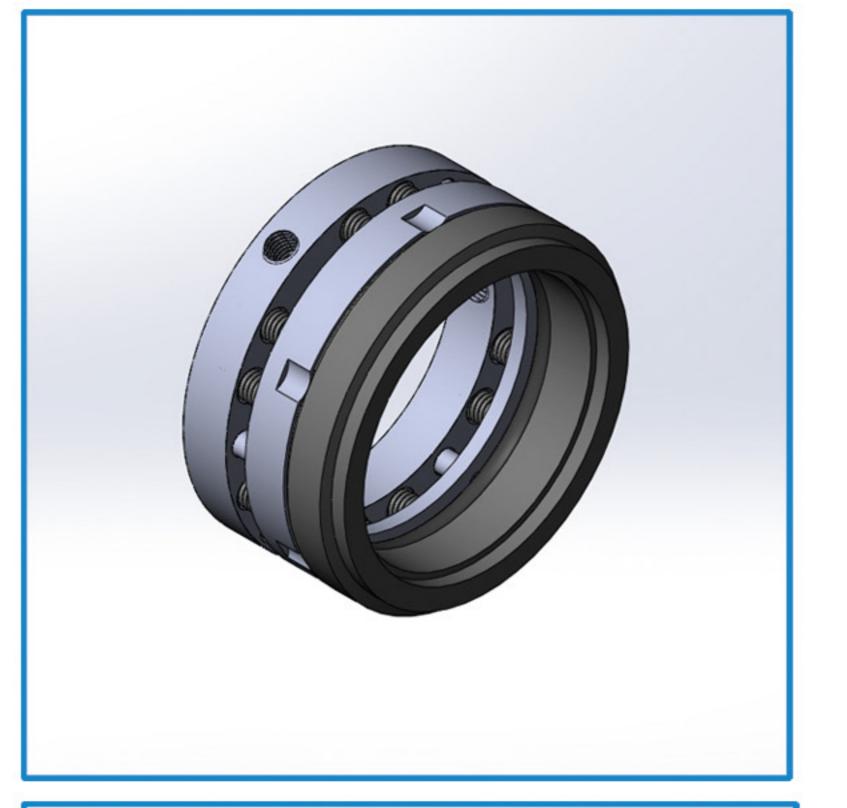


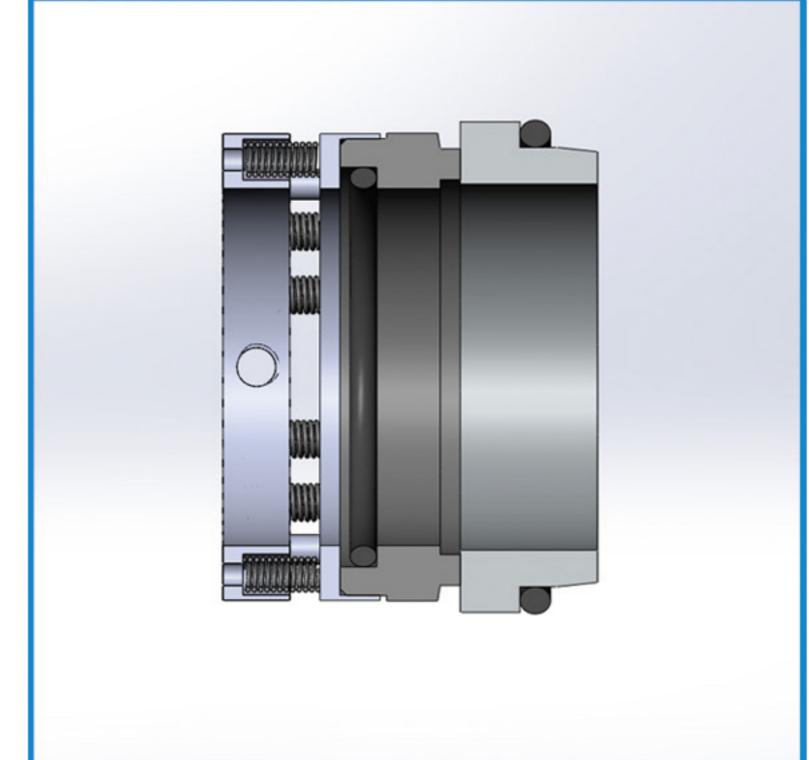


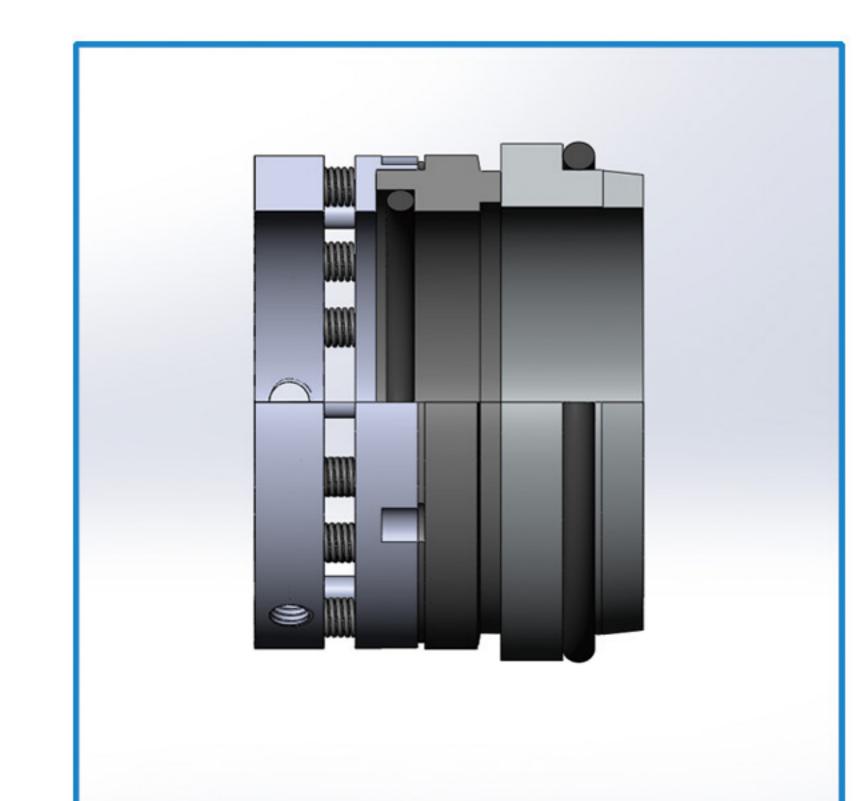


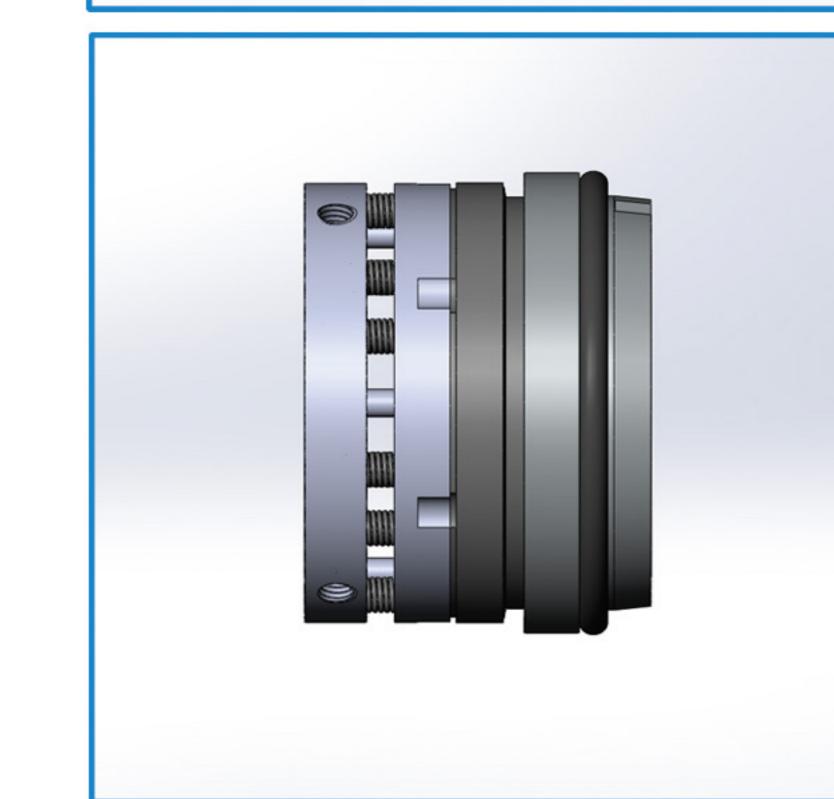


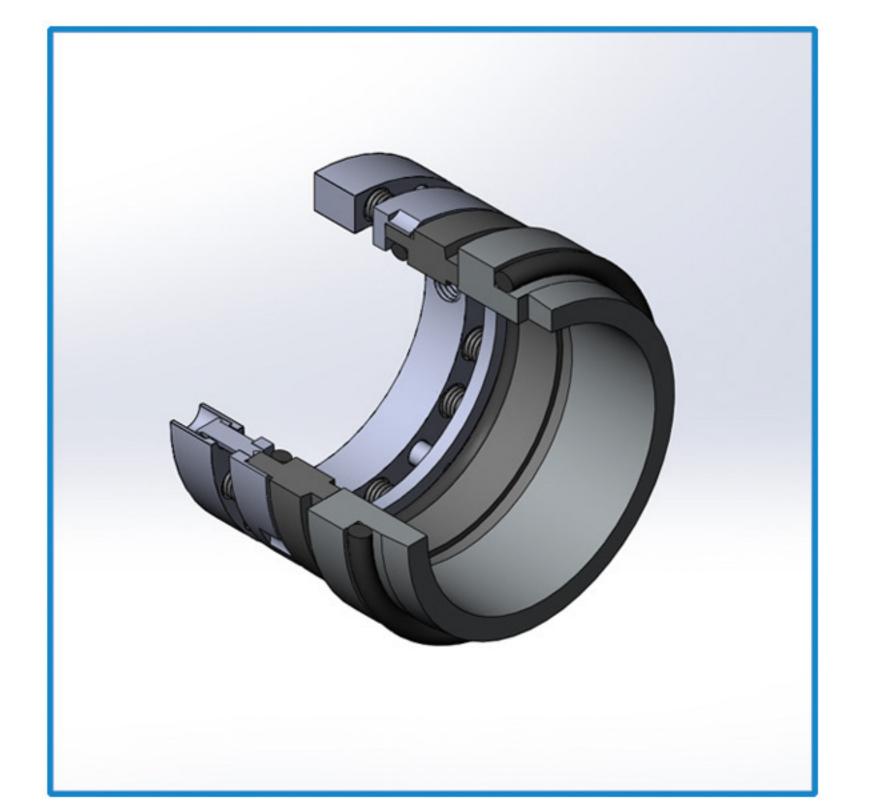


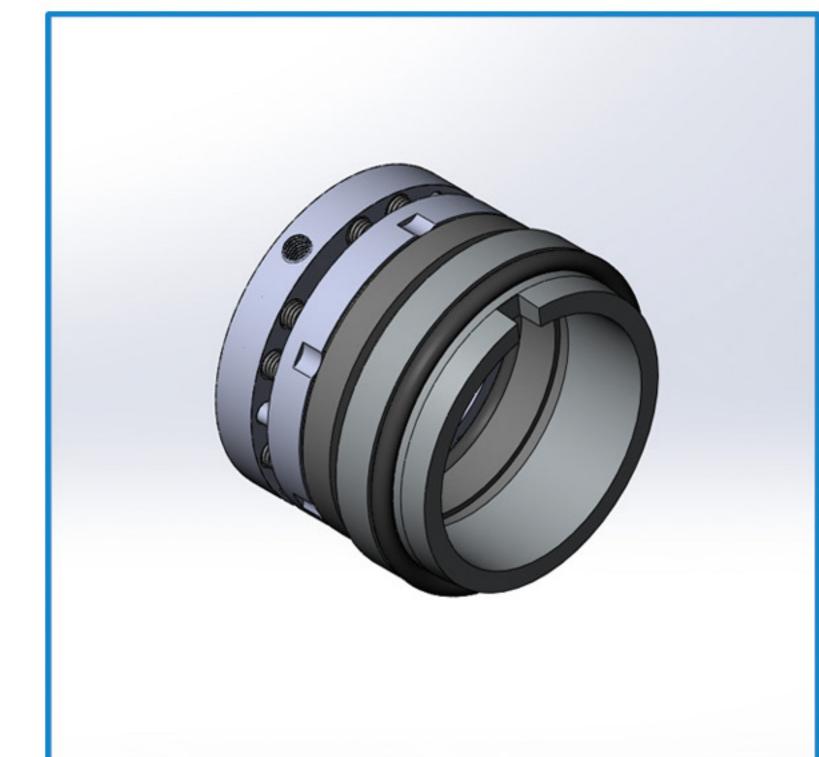












# Product Details

# **R45B**

# Spring Mechanical Seal

### **Application**

The mechanical seal has a simple structure. The large line diameter and large pitch make the spring insensitive to corrosion and can prevent clogging and sticking of impurities, ensuring reliable and tight fitting of the seal faces in harsh environments and having a wide range of applications.

### Design Features

- ·Single and balanced seal
- ·Single spring, no rotation requirement
- ·Comply with DIN24960, GB/T6556-2024 standards
- ·Seal faces can be paired with various materials

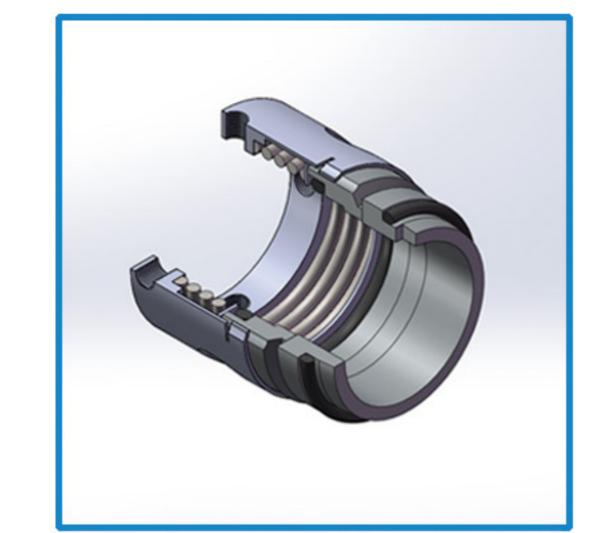
### Performance Parameters

- ·Temperature: -40°C to 220°C
- Pressure: Maximum 2.5Mpa (not suitable for working in negative pressure environment and vacuum state)
- ·Speed: Maximum 25m/s (5000rpm)











# M37G

# Spring Mechanical Seal

# Application

This mechanical seal has a simple structure, stable operation and high reliability, and is widely used in clean water pumps, sewage pumps, submersible pumps, etc.



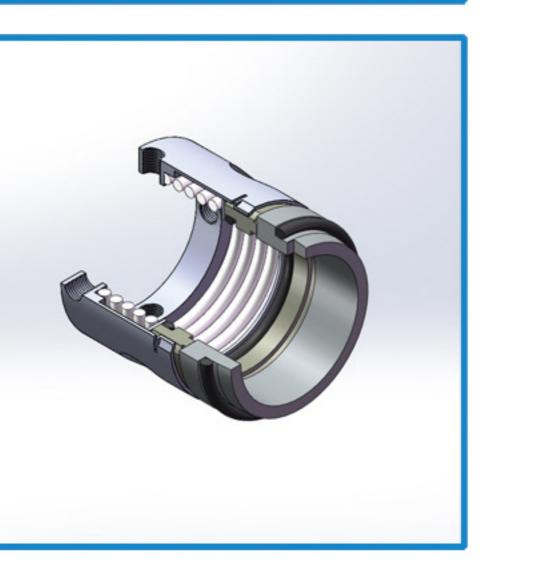
- ·Single and unbalanced seal
- ·Conical spring transmission, fixed rotation direction
- Comply with DIN24960 and GB/T6556-2024 standards
- Seal faces can be paired with various materials

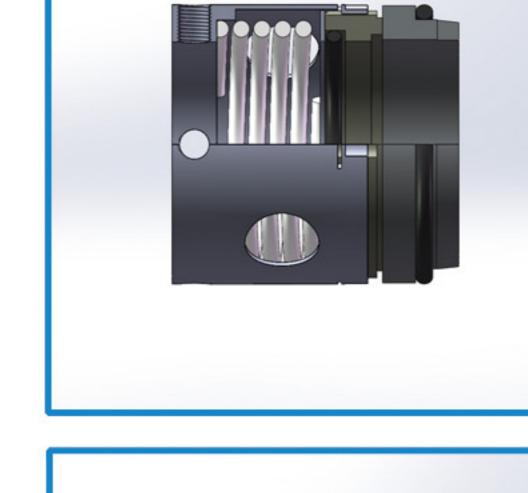
### Performance Parameters

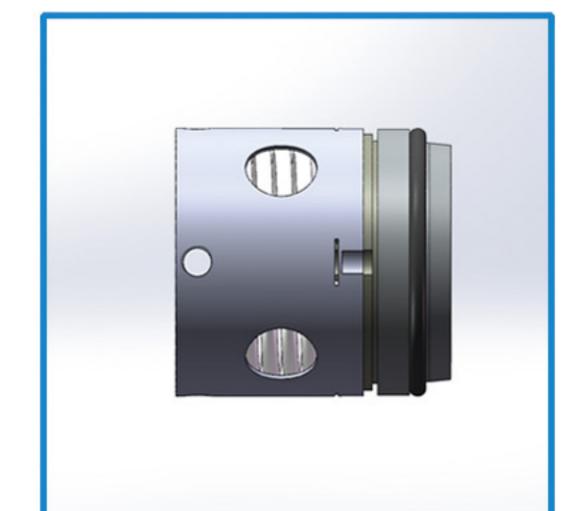
- ·Seal chamber pressure: P≤1.0Mpa
- ·Seal chamber temperature: t=-40°C~220°C
- ·Speed: ≤15m/s











# **R45U**

# Spring Mechanical Seal

### **Application**

The mechanical seal has a simple structure. The large line diameter and large pitch make the spring insensitive to corrosion and can prevent clogging and sticking of impurities, ensuring reliable and tight fitting of the seal faces in harsh environments and having a wide range of applications.

### Design Features

- ·Single and unbalanced seal
- ·Single spring, no rotation requirement
- ·Comply with DIN24960, GB/T6556-2024 standards
- ·Seal faces can be paired with various materials

### Performance Parameters

- ·Temperature: -40°C to 220°C
- Pressure: Maximum 1Mpa (not suitable for working in negative pressure environment and vacuum state)
- ·Speed: Maximum 25m/s (5000rpm)

# R108U

# Spring Mechanical Seal

### Application

This mechanical seal is a typical single spring mechanical seal for standard industrial pumps, which meets the requirements of corrosive working conditions and has a wide range of applications.

### Design Features

- ·Single and unbalanced seal
- Transmission by spring with hook, fixed rotation direction
- Comply with DIN24960 and GB/T6556-2024 standards
- ·Seal faces can be paired with various materials

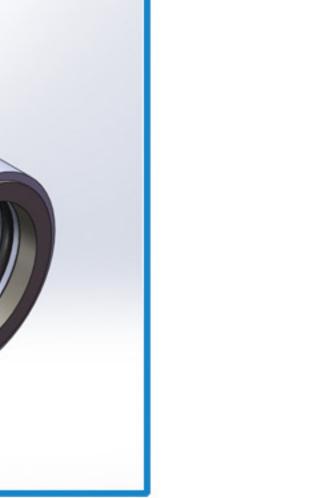
### Performance Parameters

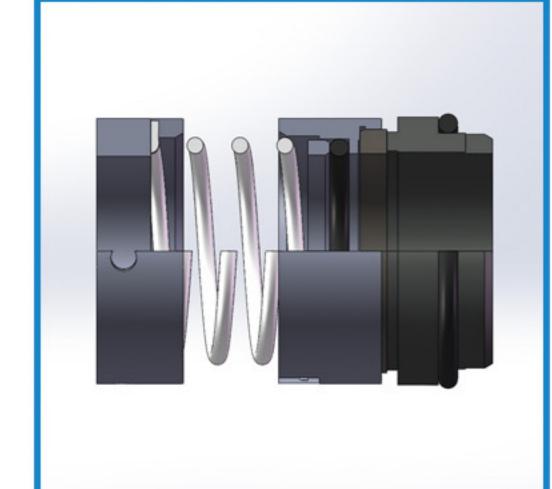
Seal chamber pressure: P≤0.8Mpa

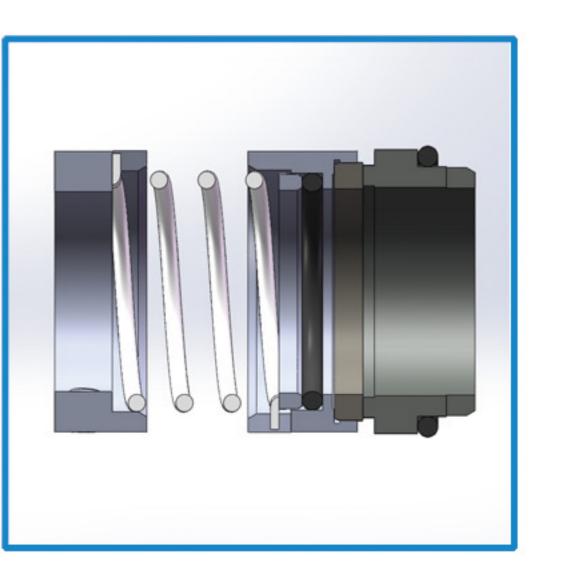
Seal chamber temperature: t=-40°C~220°C

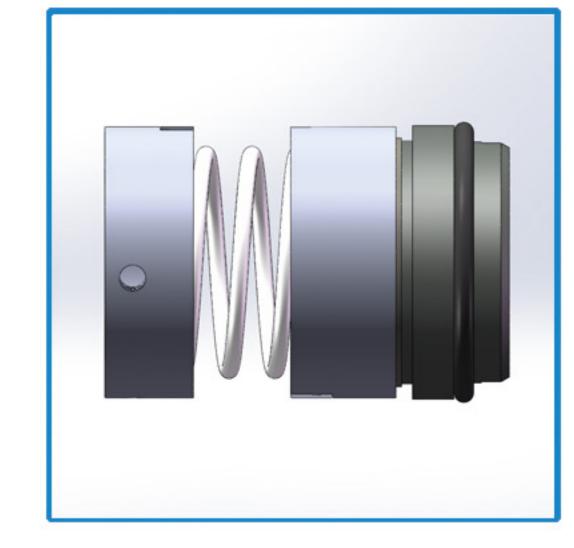
Speed: ≤15m/s

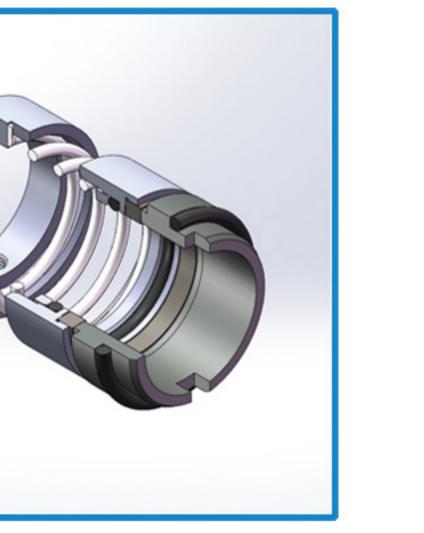
















# Product Details

# **R550**

# Spring Mechanical Seal

### Model Description:

Heavy-duty slurry mechanical seal
Cartridge seal
Comply with API standards
Corrosion-resistant
Applicable industries: power industry, mining, ore processing, etc.

### Typical applications:

Flue gas desulfurization, tailings treatment, coal slurry transportation, bauxite and iron ore slurry, etc.

### Performance Parameters:

Size range: 28-220mm

Temperature: -30~80°C; can reach 160°C when using

quenching water

Pressure: 0-1.6 MPa (2.5MPa)

Speed: Maximum 20m/s or not more than 5000rpm Solid content: impurities weight not more than 40%

### Design Features

Static seal face structure

Effectively reduce the abrasion and corrosion of the slurry medium on the seal surface

- High-quality silicon carbide material
   Good friction performance and high hardness,
   greatly extending the service life of the seal
- Outside mounted spring
   Not affected by the slurry medium
- Large dynamic O-ring
- Prevents blockage by solid particles or fibers
- Intermittent or continuous rapid cooling Avoids the accumulation of solid particles on the atmospheric side
- Excellent floating performance
- Eliminate damage to the seal caused by pump body vibration
- Flexible transmission pin

Avoid damage to the sealing ring due to frequent pump startup

- Cartridge seal design
- Easy and quick installation

### Design Features

- Design optimization: The end face design adopts finite element mechanics analysis and is verified by a large number of experiments. The end face contact is ideal when the mechanical seal is working. The low emission requirements of the seal end face can be achieved.
- Set screw positioning: simple and reliable, easy to operate.
- Balanced design: less affected by chamber pressure, suitable for a wide pressure range.
   No seam allowance positioning, suitable to more pump chamber structures.

### Performance Parameters

Size range: 24-100mm (1"-4")

Pressure: 0-2.5Mpa

Temperature: -30°C-200°C Speed: ≤25m/s (≤5000rpm)

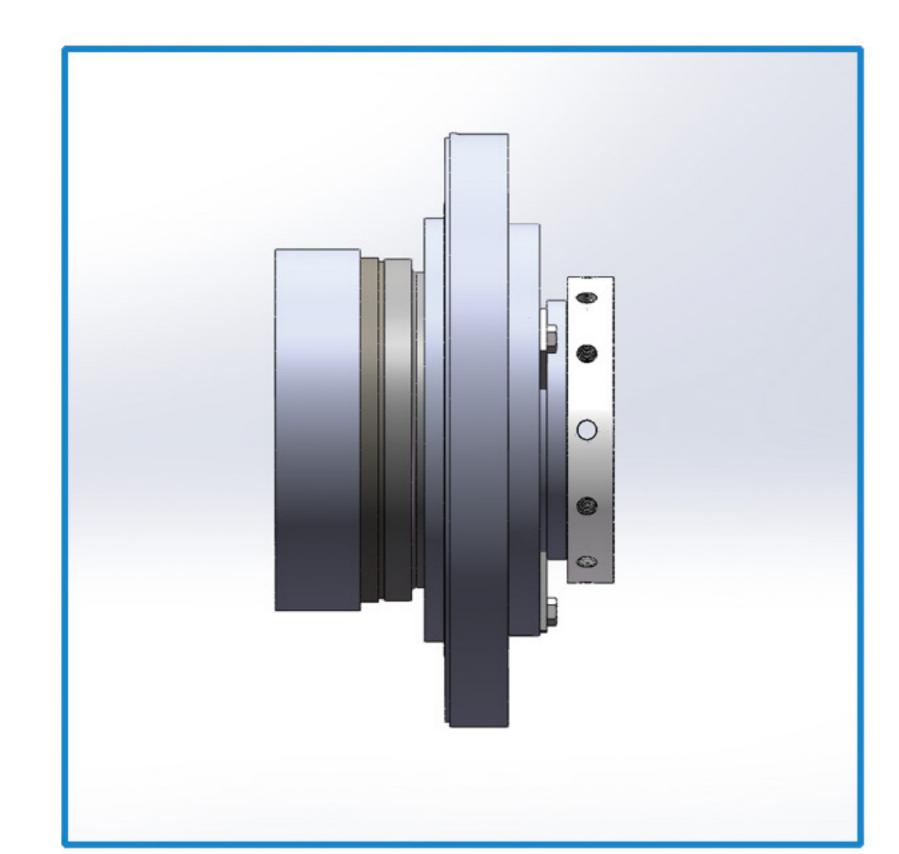
# Spring Mechanical Seal

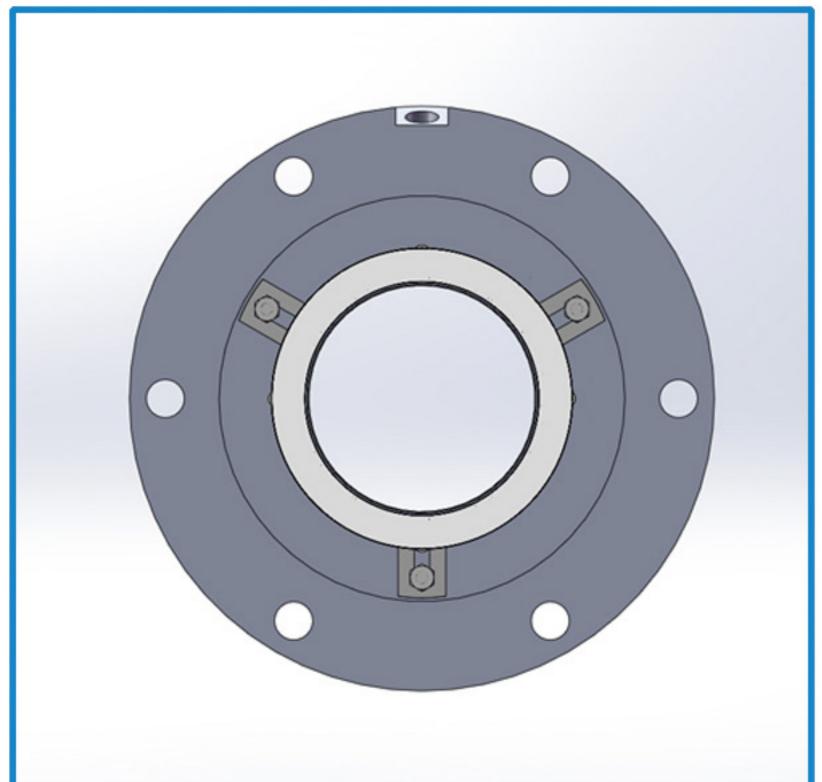
Outside mounted multi-spring mechanical seal, single seal face, rotary type. The installation dimensions conform to ANSI and DIN process pump standards, and conform to the European and American inch standard seal series. The optimized design of the rotary ring seal face is reliable and stable in force, and the material selection range is wide, which is suitable for the fields of power, metallurgy, water treatment, chemical industry, etc.

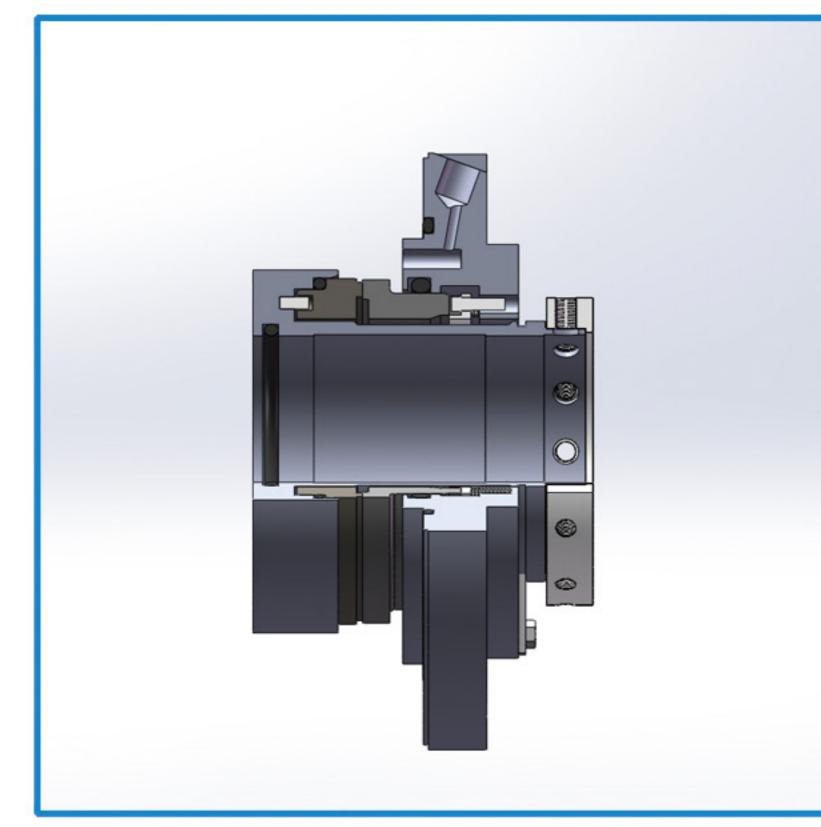
RK300

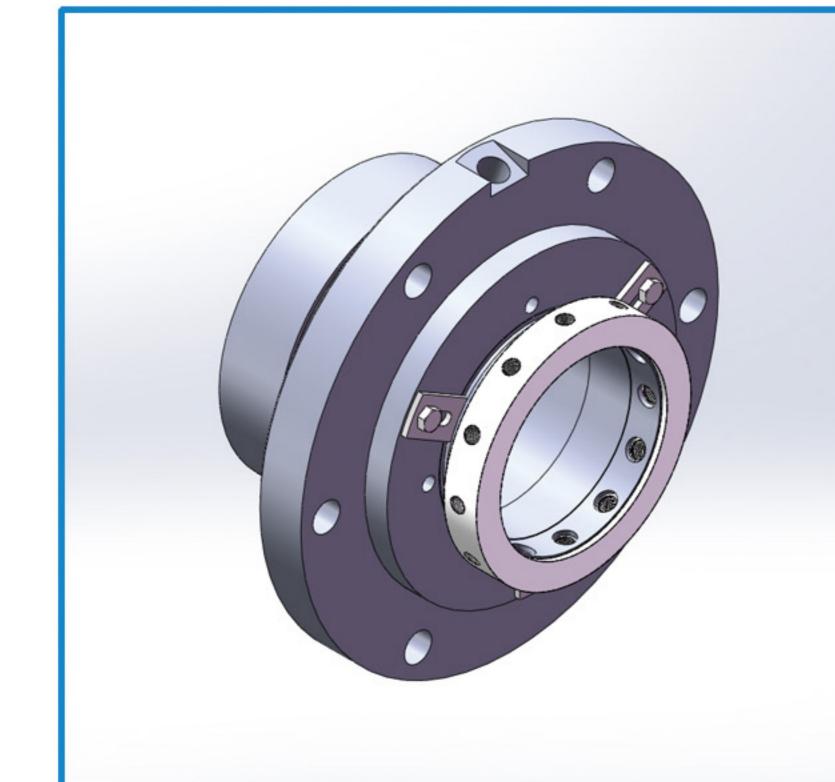
### Selection of seal materials

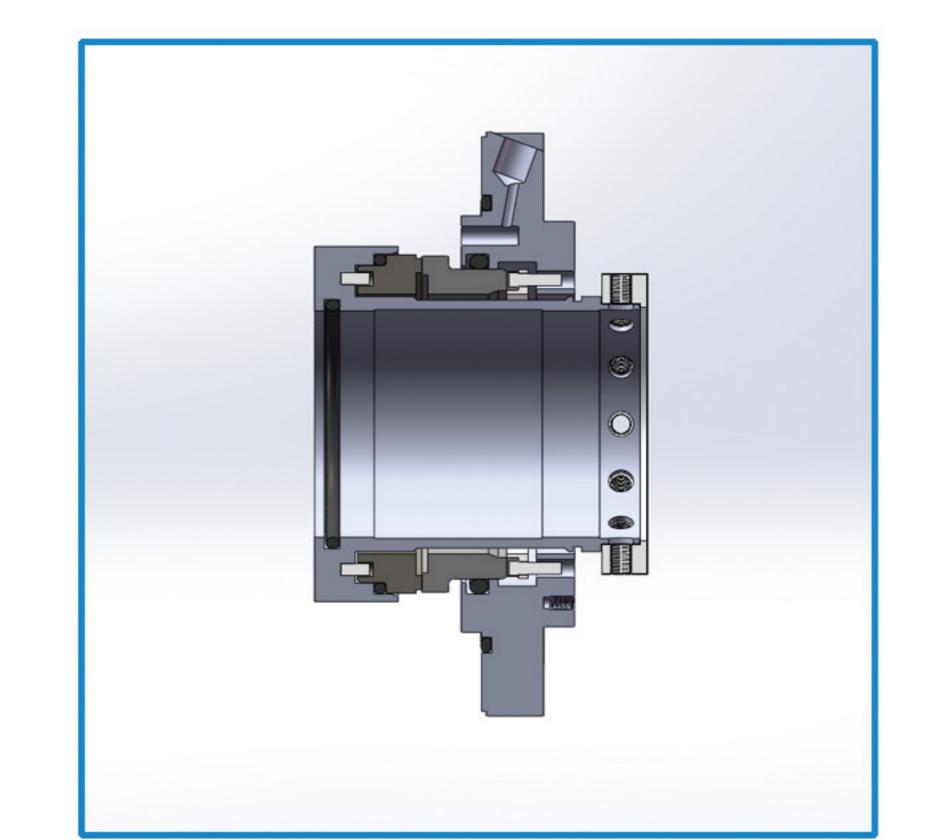
- Standard configuration: The elastic component is made of corrosion-resistant alloy, the seal face is made of imported high-quality graphite and pressureless sintered SIC etc., and the metal parts are made of Austenitic stainless steel.
- Normal configuration: Adopt general grade materials, the spring is made of chrome-nickel-molybdenum steel, and the seal face is made of resin-impregnated graphite paired with SiC,etc. The metal parts are made of chrome-nickel steel.

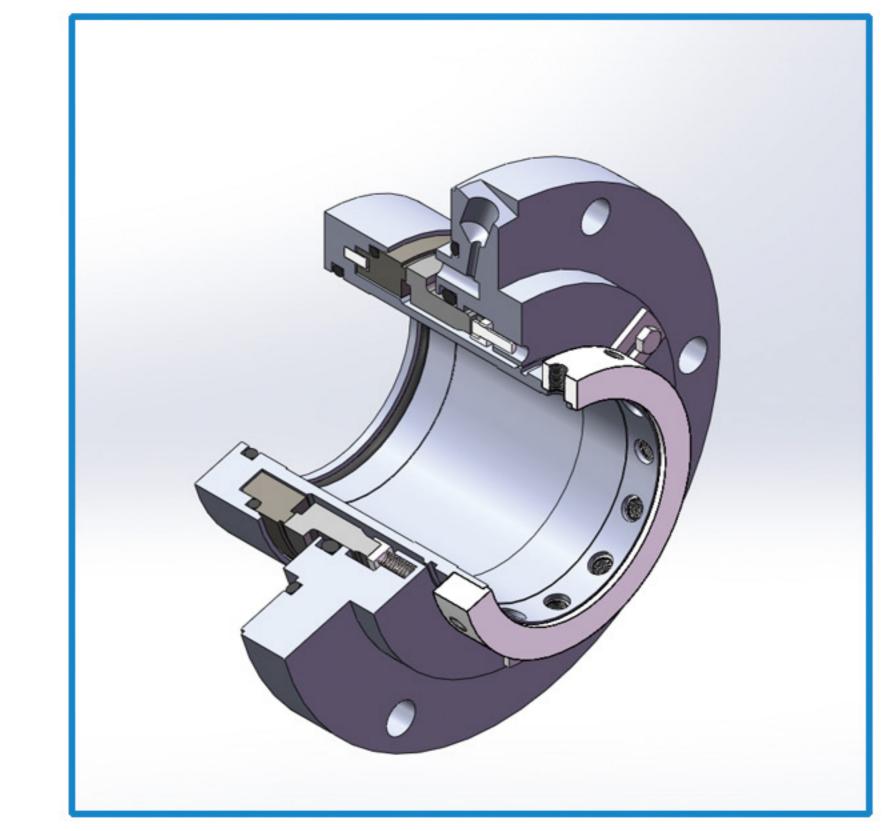


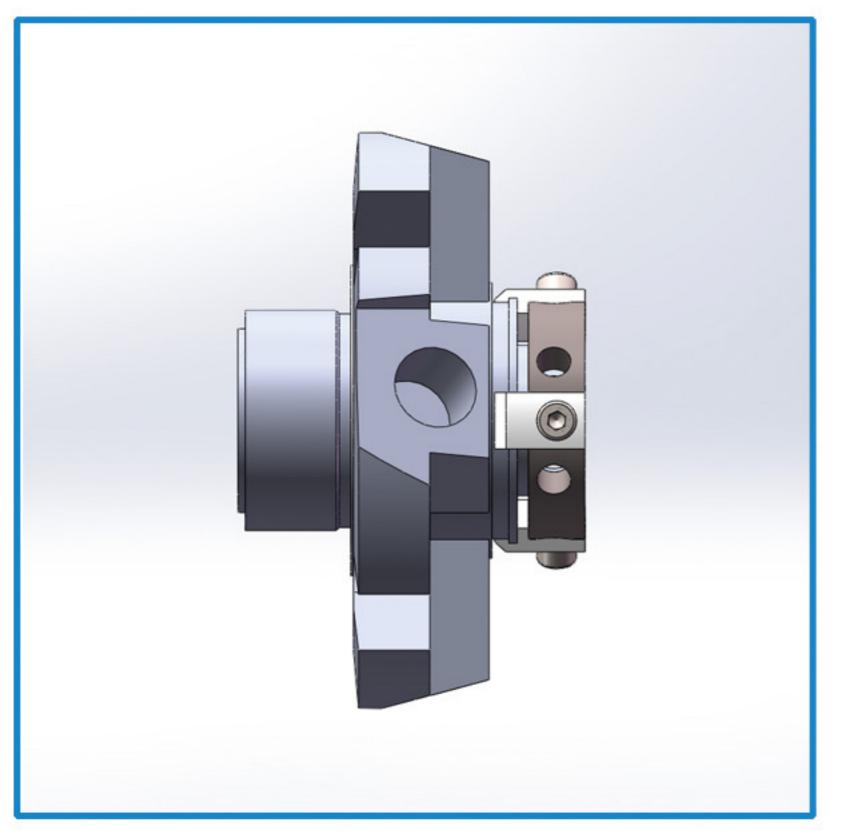


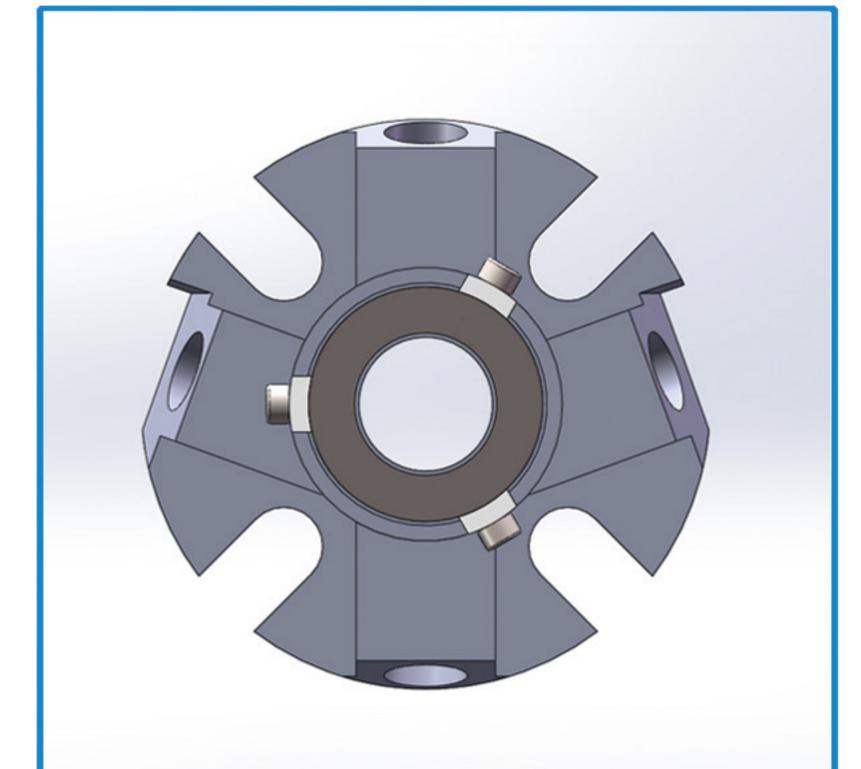


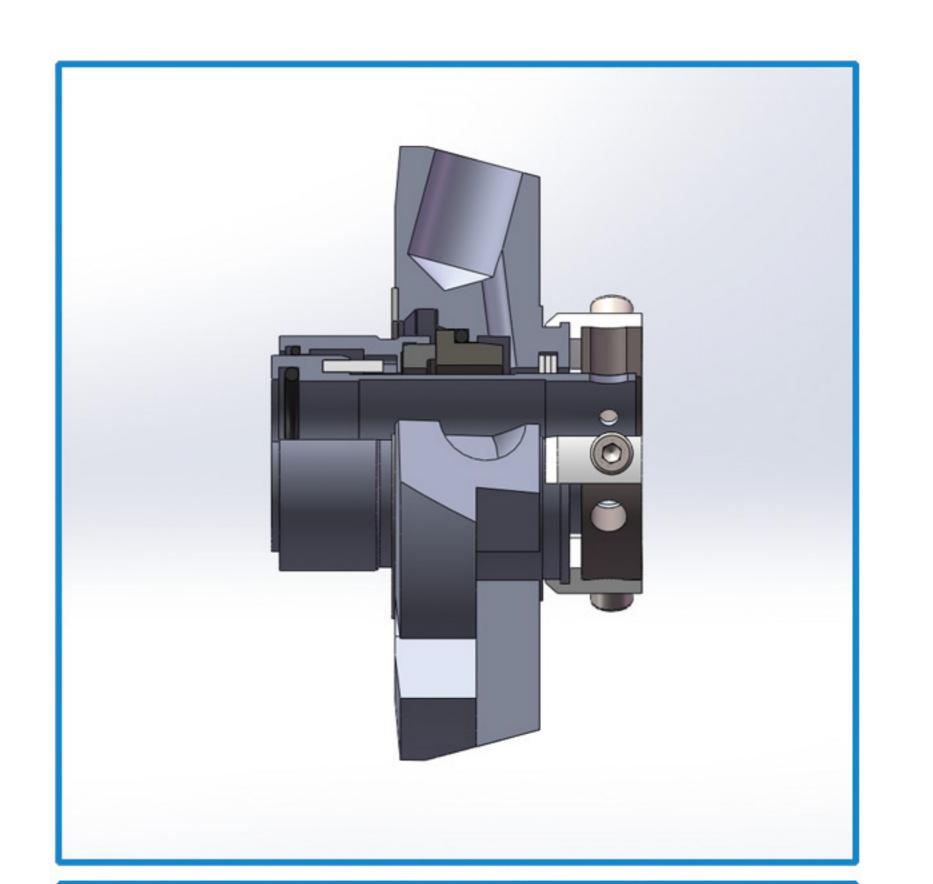


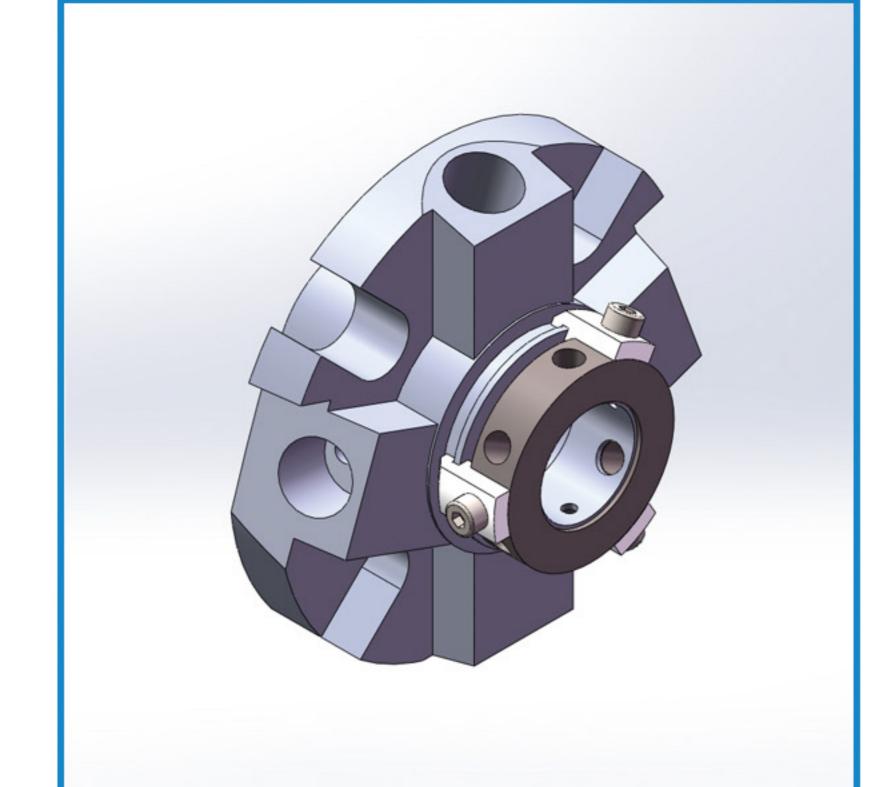


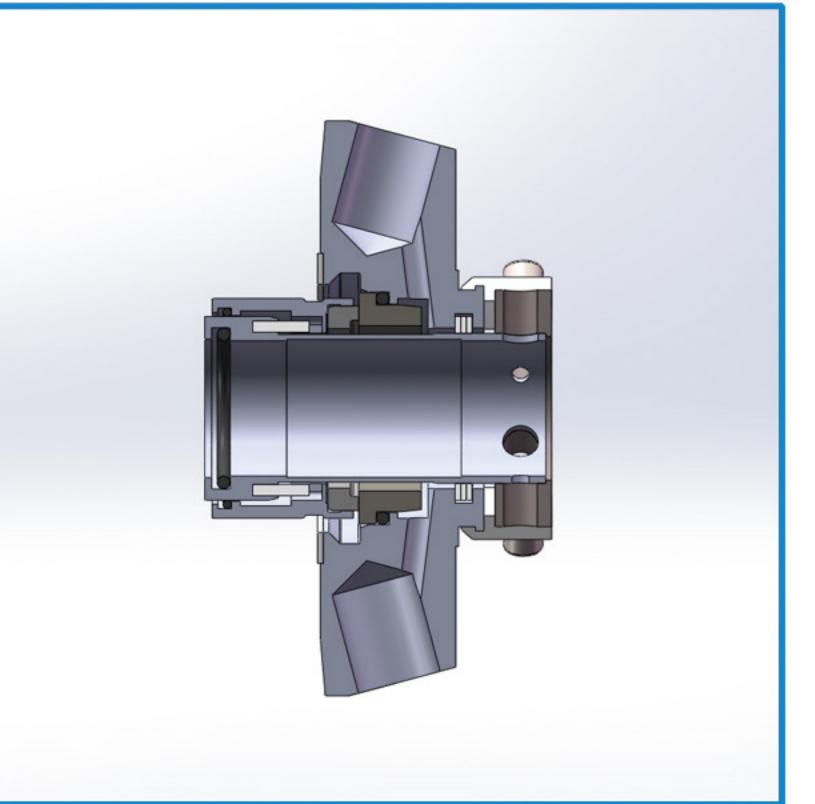


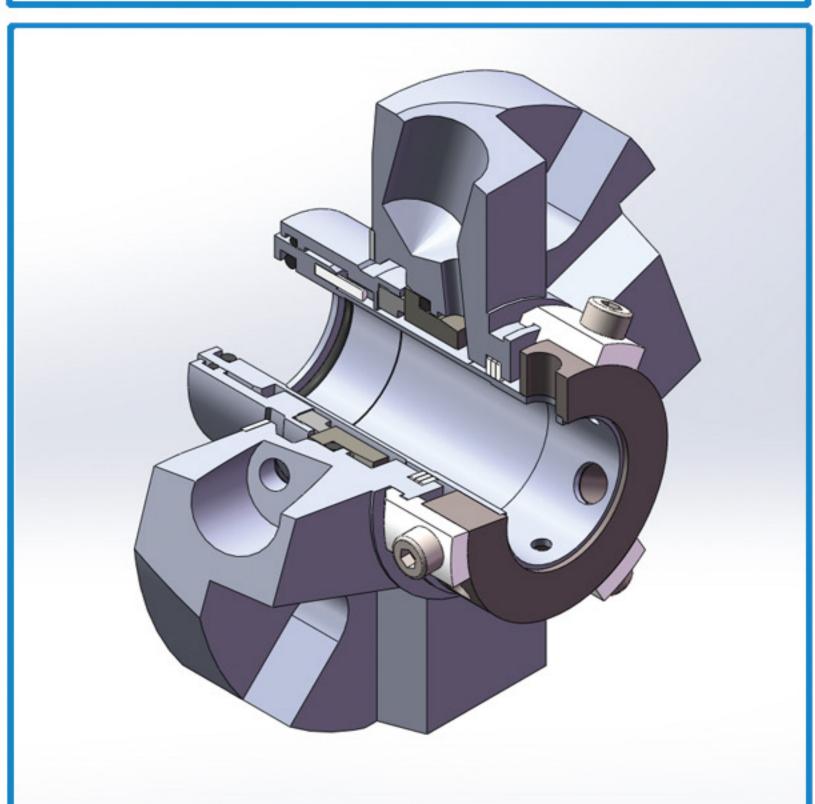












# **R65**

# Metal Bellows

# **R50**

### Application

Rotary bellows. The connection dimensions of this series of seals comply with DIN24960, GB/T6556-2024 standards, and are suitable for centrifugal pumps and other rotating shaft equipment of DIN24960 and GB/T6556-2024. The 45° wave design reduces the stress peak and decomposes the inner hole welding stress to prevent early failure. It also makes the stress distribution more reasonable and the elasticity better, thus ensuring good followability of the seal.



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- Standardized design: Comply with DIN24960, GB/T6556-2024
- Bellows seal: Good dynamic performance and strong environmental adaptability
- O-ring: Only used as a static seal, simple and reliable
- Set screw positioning: Simple installation and easy adjustment
- Corrosion-resistant design: With special corrosion-resistant seal

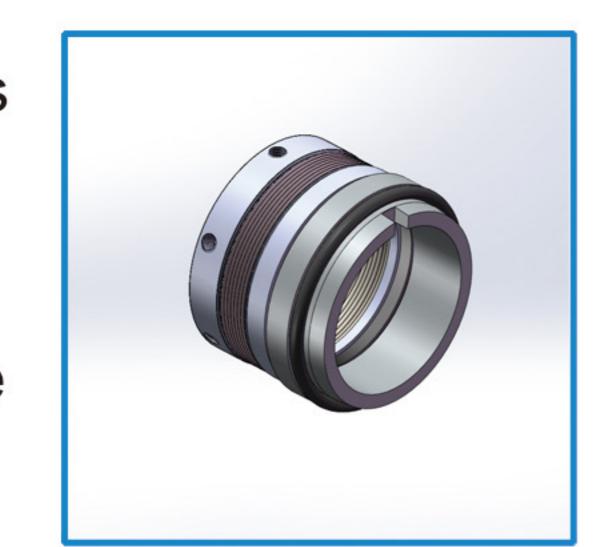
### Operating Parameters

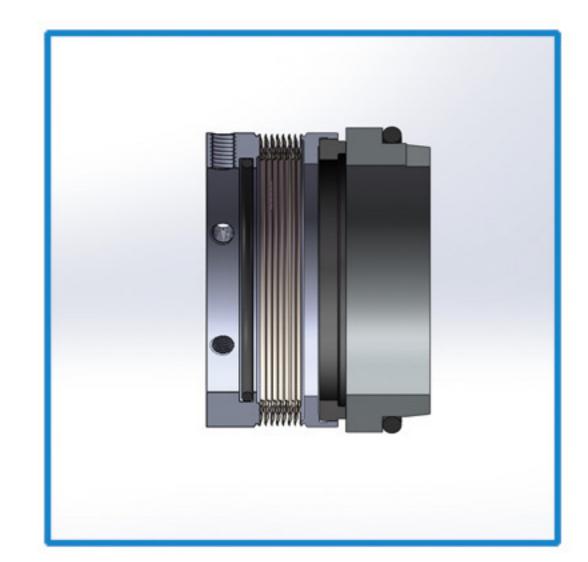
Temperature: minimum -40°C, maximum 180°C Pressure: maximum -0.1~4.2MPa

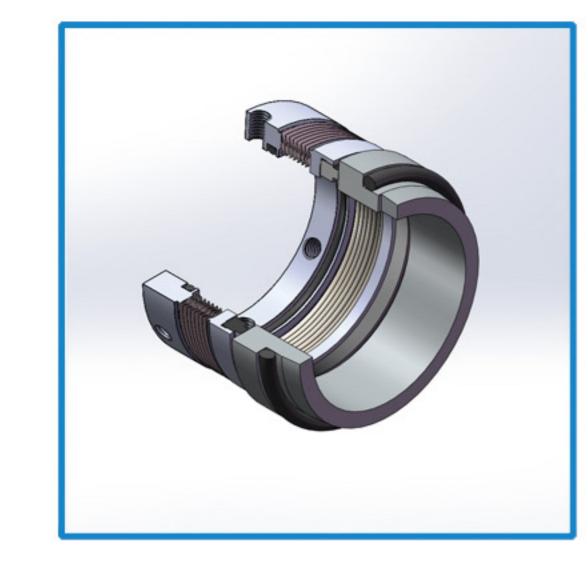
Speed: ≤25m/s or ≤5000rpm.

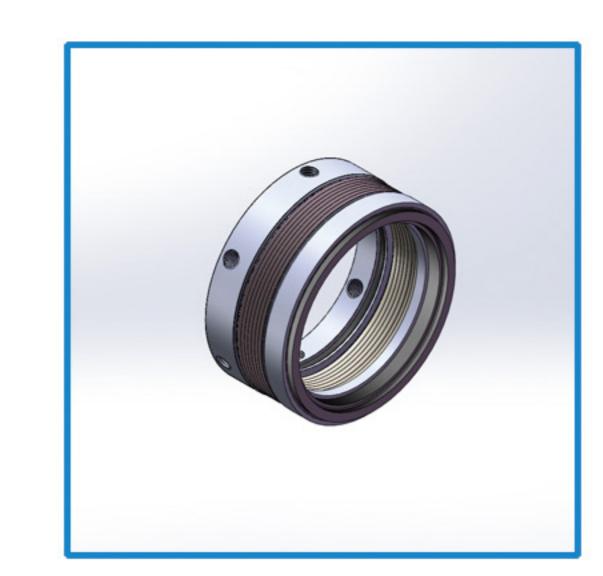
Size range: 25~100mm, extra large size can be

customized.













# Application

Rotary bellows. Suitable for high temperature environments. The excellent dynamic performance and wide environmental adaptability of the R65 series seals are derived from advanced welded bellows technology. The 45° wave design reduces the stress peak and decomposes the inner hole welding stress to prevent early failure, and makes the stress distribution more reasonable and more elastic, thereby ensuring good followability of the seal.

### Design Features

- Standardized design: comply with DIN24960, GB/T6556-2024
- Bellows seal: good dynamic performance, strong environmental adaptability
- Flexible graphite seal ring: only used as static seal, simple and reliable
- Set screw positioning: simple installation, easy adjustment
- Corrosion-resistant design: with special corrosion-resistant seal

### Operation Parameters

Temperature: minimum -40°C, maximum 260°C Pressure: maximum -0.1~4.2MPa Speed: ≤25m/s or ≤5000rpm Size range: 25~100mm, extra large size can be customized.



### **Application**

Typical seals designed for high and low temperature media, flanges, flat seal gaskets, and screw connection structures are all made of high and low temperature resistant materials. They are suitable for various industries, especially for the transportation of high temperature media in the petroleum refining and chemical industries.

### Design Features

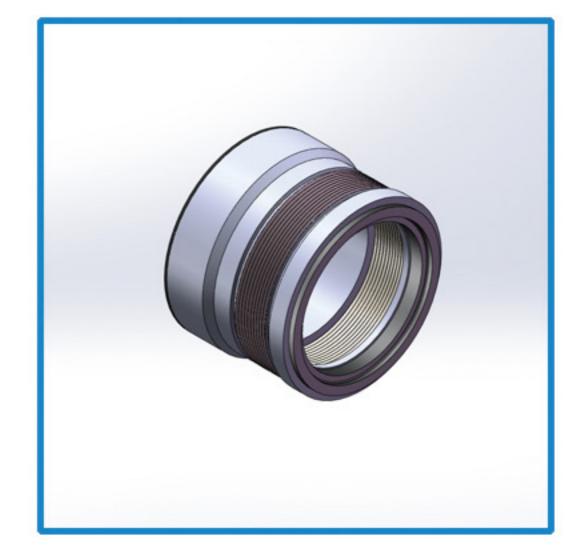
- Modular design
- Metal bellows
- Low expansion alloy inlay
- Flange and screw connection
- Forced internal cooling
- Flat sealing gasket

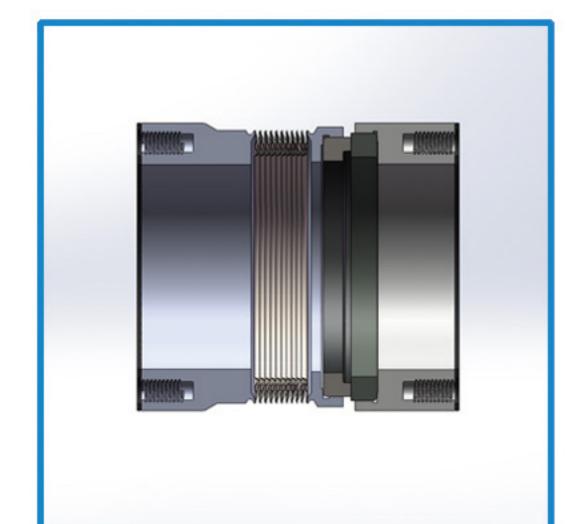
# Performance Parameters

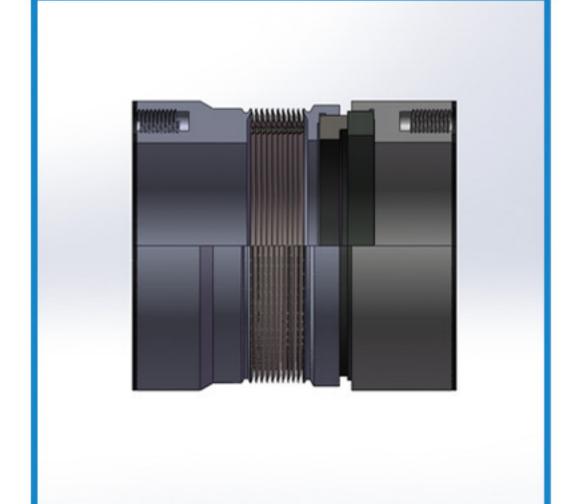
- ■Temperature: -75~400
- ●Pressure: 0~2.5Mpa
- Speed: 30m/s (speed less than 6000rpm)
- Size range: 30~100mm

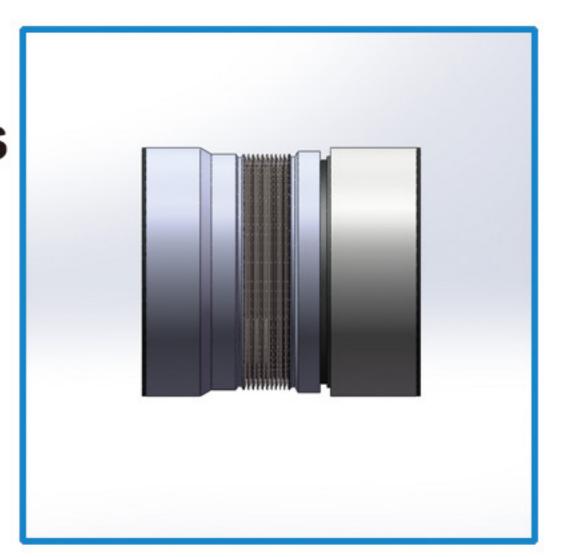
# Recommended Applications

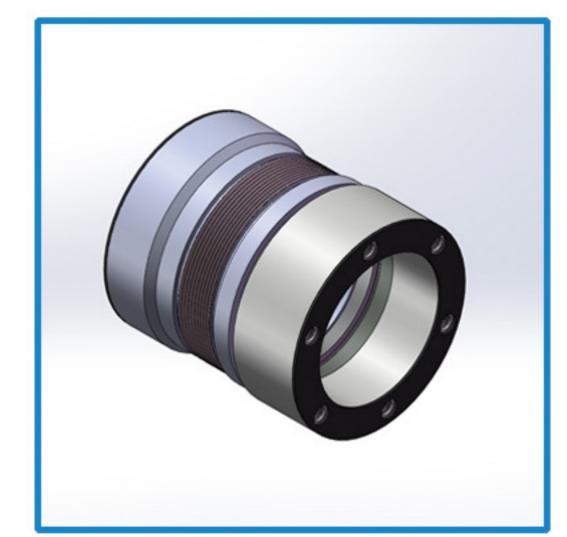
- Petroleum
- Chemicals
- Food
- Water treatment

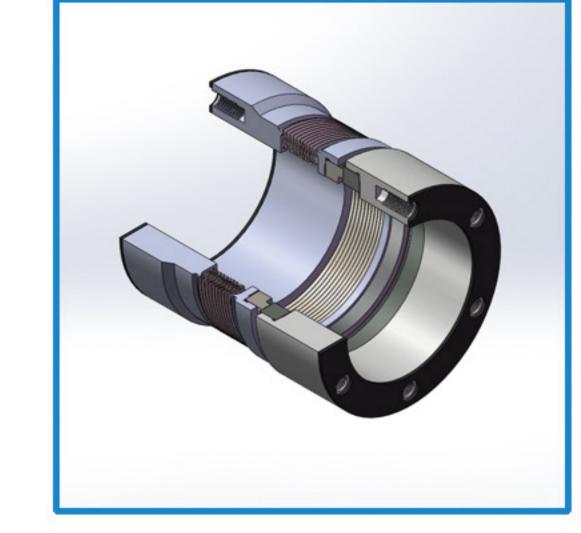












# RHR

# Heat Exchanger

RHRL series heat exchangers for mechanical seals are mainly used for conveying media with a temperature above 80°C. The function is to cool the media and then send it to the seal chamber, so that the temperature inside the seal chamber drops below 60°C (80°C for oils) to ensure the normal operation of the seal. At the same time, it can be used to cool the seal buffer liquid, etc., to improve the reliability and extend the service life of the mechanical seal.

### **Function**

- (1) The surface of the seal friction pair precisely made of different materials at room temperature will deform due to friction heat or excessive temperature of the conveying medium, which reduces the sealing performance. Therefore, according to the different thermal expansion coefficients of the materials, try to reduce their operating temperature.
- (2) Generally, if the temperature rises by 10°C, the corrosion rate of the material will double. For seals that rotate at high speed and rub against each other, especially when conveying corrosive media, keeping a low temperature in the sealing cavity is beneficial to prolonging the life of the seal.
- (3) As the temperature rises, the viscosity of most seal liquids will decrease, making the lubricity of the liquid worse, accelerating the wear of the seal friction pair, and reducing the life of the seal.
- (4) High temperature can accelerate the aging of non-metallic elastic components, such as O-rings, which lose elasticity and thus affect their sealing ability.
- (5) For liquids with high saturated vapor pressure, such as high-temperature water, liquid ammonia, liquefied gas, etc., vaporization will occur after the temperature rises, causing dry grinding between the friction pairs and the mechanical seal to fail quickly.

Therefore, the function of the heat exchanger is to select and control the appropriate temperature of the seal chamber under different conditions, so that the mechanical seal is in the optimal temperature environment and ensure its operational reliability and long life.

### Technical Parameters

Model	Heat Exchange Area	Tube Side Pressure	Shell Side Pressure	Operating Temperature
RHRL04	0.4 m²	6.3MPa	1MPa	250°C
RHRL06	0.6 m <sup>2</sup>	6.3MPa	1MPa	250°C
RHRL08	0.8 m²	6.3MPa	1MPa	250°C
RHRL10	1.0 m²	6.3MPa	1MPa	250°C

# Product Details



# Product Details

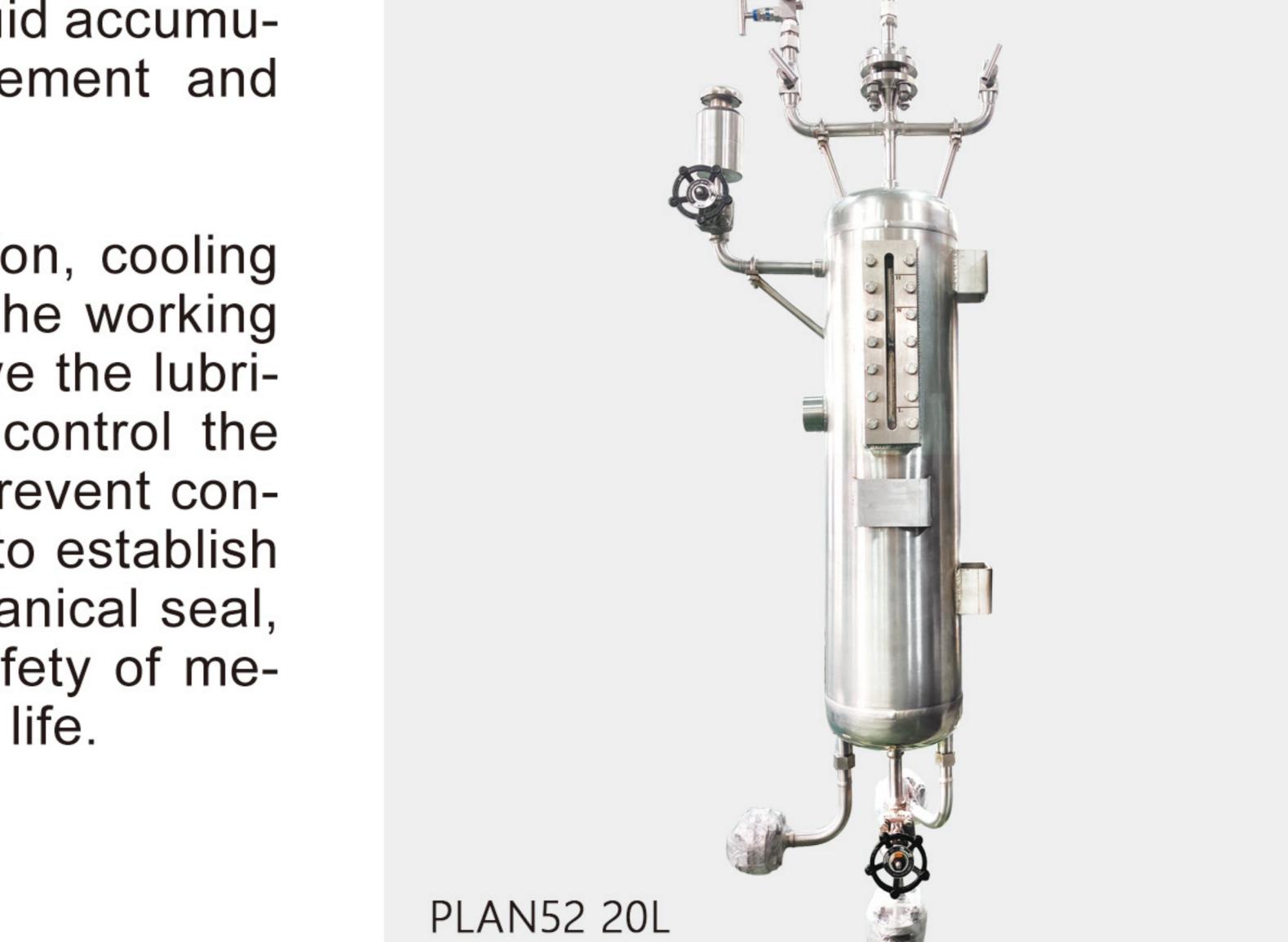
PLAN53A

# PLAN52

# Liquid Accumulator Liquid Accumulator

# Application

- 1. Applied to API Plan (non-pressure) or 53 (pressure) system, the system consists of liquid accumulator, mechanical seal, other measurement and control components and pipelines, etc.
- 2. The main function is to use circulation, cooling and other working methods to control the working temperature of mechanical seal, improve the lubrication conditions of mechanical seal, control the working pressure of mechanical seal, prevent contamination of seal leakage alarm, etc., to establish an ideal working environment for mechanical seal, thereby improving the reliability and safety of mechanical seal and extending the service life.



# PLAN52 Plan

Plan52 Plan is mainly used for tandem mechanical seal, the non-pressurized buffer fluid passes through the liquid accumulator, and the pumping ring in the cartridge seal provides circulation power. It is mainly used in easily vaporized, flashing hydrocarbons and dangerous, toxic and harmful media. The buffer fluid pressure in the liquid accumulator is normal pressure. If the seal on the medium side leaks directly into the seal on the atmosphere side, the pressure in the liquid accumulator increases and is then discharged from the exhaust line. The seal leakage can be judged by the liquid level shown by the liquid indicator on the liquid accumulator. The choice of buffer fluid should be consistent with the properties of the process medium. The pressure switch is set to high pressure alarm, and the alarm value is usually: 0.1Mpa.

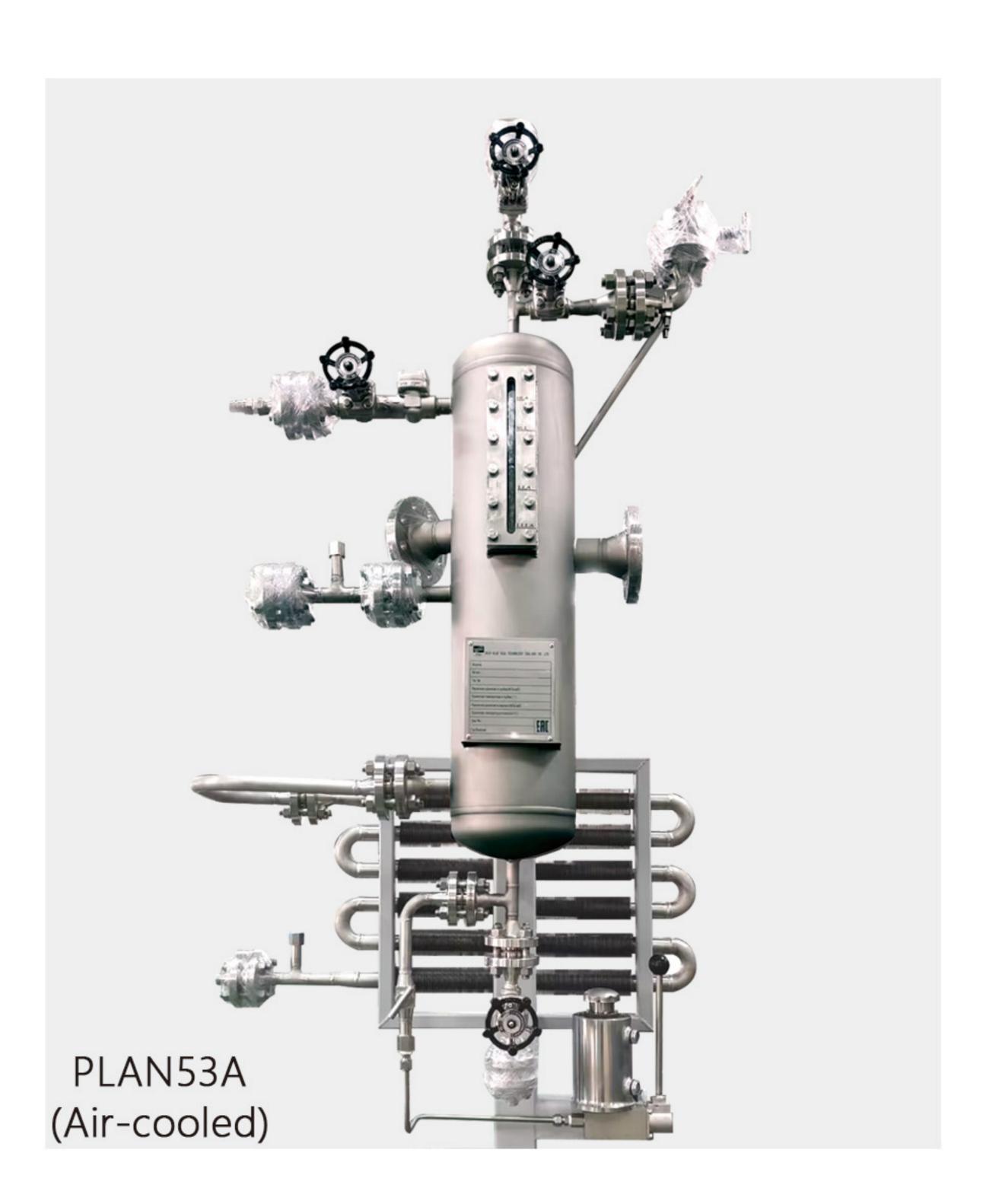


# Application

Liquid accumulator can be used as an auxiliary system for multi-stage sealing, but it must be filled with seal liquid (such as buffer liquid, isolation liquid). Heat transfer can be free circulation (thermal siphon) or forced circulation with pumping, and inert gas can be used as the pressure source. The cooling effect is mainly determined by the cooling effect of the auxiliary cooling pipeline. When the pipeline is installed correctly, thermal siphon (self-circulation) will be automatically generated. The cooling effect can be improved by appropriate circulation devices (such as the pumping effect of mechanical seals). Liquid accumulator can only be fully effective when used with other accessories.



Plan53A Plan is mainly used for tandem mechanical seal or double mechanical seal. The pressurized isolation liquid passes through the liquid accumulator, and the circulation power is provided by the pumping in the cartridge seal. Mainly be used in easily vaporized, flashed hydrocarbons and high-temperature, dangerous, toxic, harmful, easy to crystallize media and other media containing impurities. The isolation liquid pressure in the liquid accumulator must be higher than the medium pressure (0.14-0.41Mpa). If the seal on the medium side leaks, the isolation liquid in the liquid accumulator will enter the sealed medium to prevent the sealed medium from leaking into the atmosphere. The seal leakage can be judged by the liquid level shown by the liquid indicator on the liquid accumulator. The selection of isolation liquid should be consistent with the properties of the process medium. The pressure switch is set to low pressure alarm. The alarm value is usually the pumping medium seal chamber pressure + 0.1Mpa.





# Product Details

# RTS2000/RG6310

# Liquid Accumulator

# Application and Main Functions

RTS2000/RG6310 is a liquid accumulator system that complies with API610 requirements, which can be used in pressure or without pressure. When used with pressure, an external pressure source is required. Liquid can be replenished without pressure, or pressurized liquid refill by a liquid refill device.



### Design Features

- Standardized design, high pressure level.
- •Elliptical head welding design, welding complies with Part VIII of ANSI standard
- •All pressure-containing parts and welding assembly adopt MIG process, flaw detection inspection, pass 8MPa water pressure test, and hot cooling is equipped with coiled tube type heat exchange.
- •The cooling buffer liquid level display is set with a temperature-resistant and pressure-resistant quartz crystal liquid level display window.
- •Installation form: RTS2000 and RG6310 have different installation forms.
- Surface treatment: Sandblasting or polishing can be selected.

### Main Parameter

Model	Operating Pressure	Operating Temperature	Total Volume(L)
RTS2000	0-5MPa	-20-200°C	9
RG6310	0-5MPa	-20-200°C	10

### Typical System Configuration

Model	Configuration		
R10	Liquid accumulator+measuring unit+emptying pipeline		
R11	R10+hand pump		
R15	R10+liquid level switch		
R18	R10+liquid level switch+hand pump		
R19	R10+liquid level switch+pressure switch pump		
R00	R10+pressure switch+liquid level switch+hand pump		



# RG5012/5020

# Liquid Accumulator

### **Application and Main Functions**

RG5012/RG5020 is a liquid accumulator system that meets the requirements of API682. It can be used in pressure or without pressure. When used with pressure, an external pressure source is required. Liquid can be replenished without pressure, or pressurized liquid refill by a liquid refill device. When the mechanical seal shaft diameter is ≤ 60mm, the RG5012 liquid accumulator can be selected. When the mechanical seal shaft diameter is >60mm, the RG5020 liquid accumulator can be selected.

### Design Features:

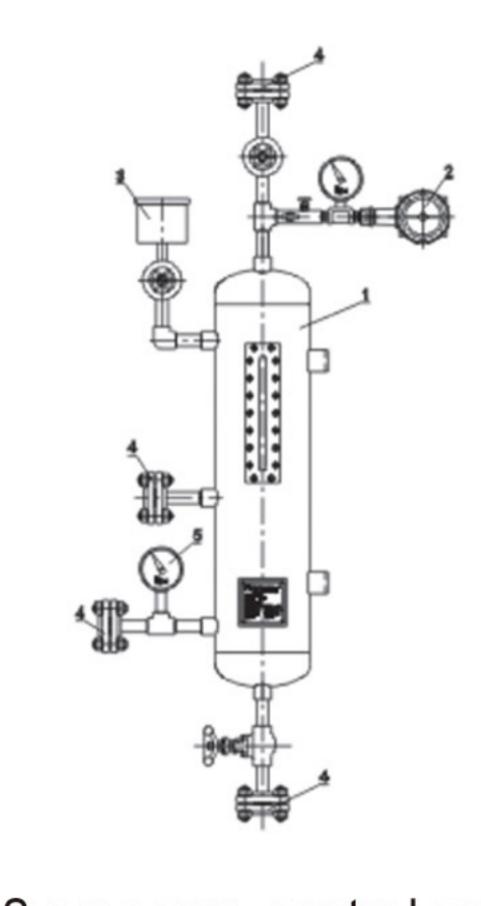
- Standardized design, high pressure level.
- Elliptical head welding design, welding complies with Part VIII of ANSI standard.
- All pressure-containing parts and welding assembly adopt MIG process, flaw detection inspection, pass 8MPa water pressure test, and hot cooling is equipped with coiled tube type heat exchange.
- Cooling buffer liquid level display is set with temperature-resistant and pressure-resistant quartz crystal liquid level display window.
- External connection method: flange connection.
- Surface treatment: sandblasting or polishing can be selected.

### Main Parameter

Model	Heat Exchange Area( m²)	Operating Pressure	Operating Temperature	Total Volume(L)	
RG5012	0.3	0-5MPa	-20-200°C	16.6	
RG5020	0.4	0-5MPa	-20-200°C	27.8	

### Typical System Configuration

Model	Configuration
R20	Liquid accumulator with pipeline
R21	R20+hand pump
R22	R20+pressure switch
R23	R20+liquid level switch
R24	R21+pressure switch
R25	R21+liquid level switch
R26	R20+hand pump+pressure switch +liquid level switch



- 1.tank; 2.pressure control unit;
- 3.liquid refill funnel; 4.flange components;

5.pressure gauge

# Product Details

# PLAN53B

# Seal Support System

# Working principle

This system is mainly composed of coiled tube type heat exchanger, bladder type hydropneumatic accumulator, pressure gauge, temperature gauge and pressure transmitter. The system is mainly used in the seal flushing plan of API682 arrangement mode 3. The coiled tube type heat exchanger is used to cool the friction and stirring heat generated by the secondary seal during operation, and the pumping ring on the seal provides circulation power. The bladder type hydropneumatic accumulator provides stable pressure for the system to ensure the stability of the pressure in the system after the seal leaks, and provides 1.5L of isolation liquid energy storage for the system. If the isolation liquid pressure in the system is lower than (the medium-side seal chamber pressure + 0.1) MPa, the pressure transmitter will generate an alarm signal to remind the operator to add isolation liquid to the system. The isolation liquid can be added through the system's own or mobile manual liquid refill pump. The refilling pressure can be read through the pressure indicator. The isolation liquid pressure is usually (the medium-side seal chamber pressure + 0.14~0.41) MPa. (The isolation liquid should be selected according to the characteristics of the process medium, and try to choose a medium with good miscibility with the process medium)

# Application

- This Plan is used for double mechanical seals in configuration 3
- High steam pressure and flashing hydrocarbon media
- Dangerous and toxic process media
- Media that are easily heat-conducting
- Dirty media /media with solid particles or easily aggregated media





# SP1200

# Hand Pump

### Application conditions

Used to replenish buffer fluid in case of buffer fluid loss during operation.

### Structural features

- The hand pump device uses the piston principle to replenish buffer fluid
- High and low liquid level display
- Small size, easy to install

# Flushing application

Combined with liquid accumulator to realize PLAN52 or PLAN53 flushing plan

### Main parameters:

Model	Volume	Operation Pressure	Operating Temperature	Delivery Volume	Delivery Pressure
SP1200	1.2L	40 bar	60° <b>C</b>	15cm³/time	15bar(Abt 200N)

# RYZ203

# Cyclone Hydraulic Separator

### **Application Conditions**

Used to separate solid particles in the medium and then send the medium back to the seal chamber.

### Structural Features

- Adopt the centrifugal force principle to separate solid particles in high-pressure mixed fluids.
- •The higher the particle specific gravity is than the medium specific gravity, the better the separation effect.
- Within the pressure range, the greater the pressure difference, the better the separation effect.
- The shell is easy to disassemble and the parts are easy to clean.

# Product Details

# Precision Machining

Dandong Runhe Seal Co., Ltd has a professional precision machining plant, which has introduced a variety of CNC machining centers from three-axis to five-axis, coordinated measuring machine (CMM), CNC lathe, CNC milling, CNC drilling, etc. Runhe precision machining is precise and reliable, with exquisite craftsmanship, and can provide users with reliable one-stop machining services.

Runhe Seal has a complete quality control system. From the selection of raw materials to the delivery of finished products, every link is strictly managed and controlled in accordance with the quality management system. Runhe Seal has a professional quality inspection team and inspection equipment, committed to providing users with high-end precision machining services and ensuring that the quality of products meets customer requirements.

Precision machining is mainly based on spare parts in the machinery industry, and the main raw materials involve stainless steel, non-ferrous metals, non-metallic materials, etc., which are widely used in aerospace, pump factories, medical machinery, ships, automobiles and other industries.

Dandong Runhe Seal Co., Ltd. has established long-term and stable cooperative relations with many well-known domestic companies. Honoring credit, abiding by contracts and ensuring product quality are the principles that all our employees have been adhering to for a long time.











