

跻身全球密封行业优质品牌行列

sealing-device market Among the reputable brands serving the international

CFSEAL

# 液压油缸密封解决方案

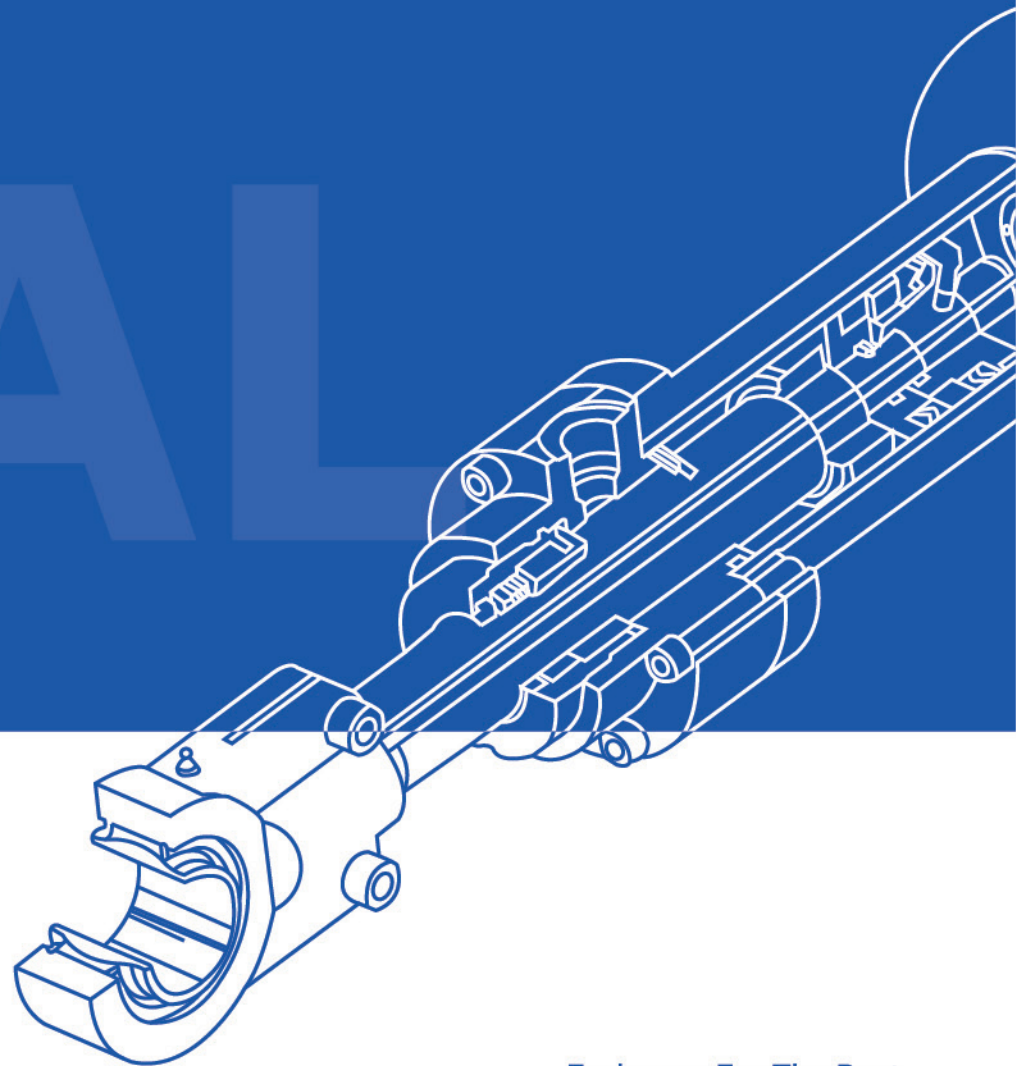
Hydraulic Cylinder Sealing Solution

浙江华希密封科技有限公司

Zhejiang Huax Sealing Technology Co., Ltd.

Endeavor For The Best

精益求精 | 锐意成希



## Founded in Newcastle | Reaching Five Continents

### 纽卡启业 | 驰达五洲

CF SEAL成立于1871年，总部位于英国纽卡斯尔市，一直从事密封件的制造，已成为全球密封行业的悠久品牌之一，产品出口至北美、南美、亚洲和欧洲等40余个国家。

CF SEAL was founded in 1871 and its headquarters is located in Newcastle, UK. It has been engaged in the manufacturing of seals and has become one of the long-standing brands in the global sealing industry. Its products are exported to more than 40 countries including North America, South America, Asia and Europe.



Robert Crossley Purdy



关于我们 | About Us

CFSEAL

Originated in Britain | Expert-Driven Material Intelligence

源起英伦 | 精研才智

始创于1871年，总部设立于英国，并于2004年正式进驻中国市场。经过近20年的积累与沉淀，于2023年在华投资2000万成立聚氨酯TPU生产基地，从事高分子材料的研究和制造。历经几十年的发展，凭借跨行业丰富的技术积累与实操经验，持续深耕密封材料技术创新。

Founded in 1871 and headquartered in the United Kingdom, the brand officially entered the Chinese market in 2004. Following nearly two decades of market cultivation and experience accumulation, the brand invested RMB 20-million to build a thermoplastic polyurethane (TPU) manufacturing base within China in 2023, specialising in the research, development and production of polymer materials. With decades-long abundant cross-industry technical expertise and hands-on practical experience, we keep committed to in-depth technological innovation for sealing materials.



**Mission of Huaxseals  
华希使命**  
Based on customer needs, work continuously on new materials,  
products and application technology developments,  
and offer professional sealing solutions.  
**立足客户需求,坚持材料、产品及应用技术的研究,  
提供最专业的密封解决方案。**



## Uphold Original Aspiration | Serve Clients With Sincerity 秉守初心 | 以诚驭客

CFSeal有一套核心原则,自成立以来一直坚持,因为这些原则是CFSeal全球成功的基础,我们相信客户服务和满意度是我们业务的最重要方面,我们通过为客户提供完整的购买体验来实现这一目标。

CFSeal has a set core principles, that have been adhered to since it, sinception & these principles are the basis of CFSeal worldwidesuccess, we believe that customer service & satisfaction is the mostimportant aspect of our business, we achieve this by offering ourcustomers a complete purchasing experience.

关于我们 | About Us



Endeavor for the Best  
精益求精 锐意成希

CFSEAL



## Digital-intelligent Control | Smart Exquisite Craft

### 数智管控 | 智创精工

依托工业物联网平台，综合运用ERP、MES等系统，将各环节进行全方位的智能化监管，形成数据关联联动机制，充分发挥智能生产的优势，在密封件行业率先实现自动化生产，并快速响应客户，有效提高生产效率，满足市场需求，实现绿色智能制造和公司可持续发展。

Supported by the industrial-IoT platform, we deploy ERP, MES and other management systems for full-scale intelligent monitoring over all production links. A correlated-data linkage framework is built to maximize smart-manufacturing strengths. As an industry pioneer in automated sealing-part production, we deliver swift customer responses and boosted operational efficiency to meet market demands. Our green intelligent manufacturing strategy underpins the enterprise's long-term sustainable development.

CFSEAL



## Build Solid Foundation | Steer Corporate Operation

### 筑立根基 | 稳驭营运

公司采用汽车行业TS16949作为企业质量管理体系，以6S作为企业运营基础构架。经验丰富的精英团队用卓越的产品、一流的服务为客户提供完善的技术支持和行业应用解决方案。

The company adopts the TS16949 standard of the automotive industry as its enterprise quality management system, and uses 6S as the basic framework for its operations. The experienced and elite team provides customers with comprehensive technical support and industry application solutions through outstanding products and first-class services.



Abide By Standards | Consolidate Foundation With Certifications

严循标准 | 认证固本



汽车行业质量管理  
体系认证



职业健康安全管  
理体系认证



环境管理  
体系认证



质量管理  
体系认证



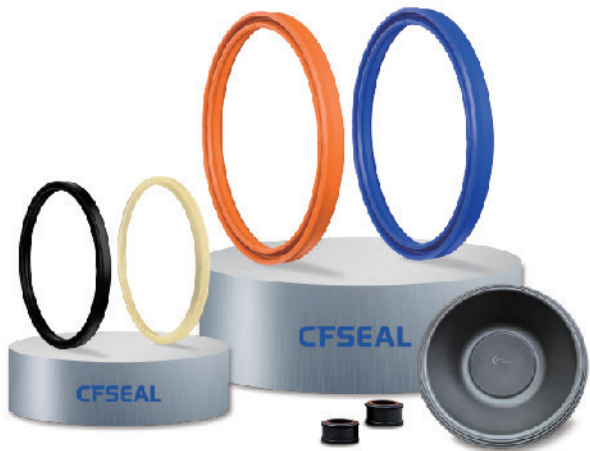
武器装备质量管  
理体系认证

Conquer Harsh Conditions | Develop Tailored Materials

攻坚工况 | 研材适配

未来液压气动元器件正在向着高温、高压、高速、低摩擦、免维护方向发展，这就相应的对密封件的材料提出了更高的要求。破碎锤工作条件苛刻，高频率、高速度、高温环境下，对密封材料和结构的选择极其重要。西爱孚密封系列材料正是针对这类的需求而进行的研发。

The future demand for the hydraulic and pneumatic Components is to have higher temperature, higher pressure, higher speed, lower friction and maintenance-free, which leads to the next generation of the sealing material. The series of materials of CF SEAL are precisely developed in response to such demands.



| 材料牌号                                   | Units   | Test Method | 97P97 | 94P95 | 94P94 | 92P50 |
|----------------------------------------|---------|-------------|-------|-------|-------|-------|
| 硬度 / Hardness                          | Shore A | ASTM D 2240 | 97    | 95    | 94    | 93    |
| 拉伸强度 / Tensile Strength                | MPa     | ASTM D412   | 50    | 47    | 47    | 44    |
| 断裂伸长 / Elongation at Break             | %       | ASTM D 412  | 635   | 550   | 550   | 520   |
| 100%定伸强度 / 100% Modulus                | MPa     | ASTM D 412  | 12.6  | 14.8  | 14.8  | 11    |
| 300%定伸强度 / 300% Modulus                | MPa     | ASTM D 412  | 19.2  | 22    | 22    | 18    |
| 撕裂强度 / Tear Strength                   | kN/m    | ASTM D 624  | 125   | 130   | 130   | 124   |
| 回弹 / Rebound. Bayshore                 | %       | ASTM D 2632 | 55    | 40    | 40    | 45    |
| DIN磨轮 / DIN Abrasion                   | mm3     | DIN 53516   | 22    | 31    | 31    | 30    |
| 维卡 / Vica1 Softening Point             | ℃       | ASTM D 1525 | 166   | 186   | 186   | 176   |
| 压缩变形 / Compression Set B (100℃, 22hrs) | %       | ASTM D 395  | 38    | 29    | 29    | 33    |

CFSEAL

CF Seals Technology Co., Ltd.

TEL: +86-571-8160 0011

Website: www.cfseal.com

Mailbox: wend@cfseal.com.cn

Add: Yongli Bahe Intelligent Manufacturing Industrial Zone, Hangzhou City, Zhejiang Province, China

Material: 94P95

| Properties                             | Test Method | Units           | Typical Value |
|----------------------------------------|-------------|-----------------|---------------|
| Hardness                               | ASTM D 2240 | Shore A         | 95            |
| Tensile Strength                       | ASTM D 412  | MPa             | 47            |
| Elongation at Break                    | ASTM D 412  | %               | 300           |
| 100% Modulus                           | ASTM D 412  | MPa             | 14.8          |
| 300% Modulus                           | ASTM D 412  | MPa             | 22            |
| Tear Strength                          | ASTM D 2632 | KN/m            | 130           |
| Rebound, Bayshore                      | ASTM D 2632 | %               | 40            |
| DIN Abrasion                           | DIN 53516   | mm <sup>3</sup> | 31            |
| Vicat Softening Point (130°C/min, 10N) | ASTM D 1525 | °C              | 186           |
| Compression Set B (100°C, 22hrs)       | ASTM D 395  | %               | 29            |

DCI

IAF

Designers and Manufacturers of Sealing Systems and Polymer Mouldings

材料测试报告  
94P95

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Add: Yongli Bahe Intelligent Manufacturing Industrial Zone, Hangzhou City, Zhejiang Province, China

Material Specification Sheet

PTFE BS6564 Grade A-VA1/2

| Mechanical Properties   | Thermal Properties          |
|-------------------------|-----------------------------|
| Specific Gravity        | Maximum Working Temperature |
| Tensile Strength        | Maximum Working Temperature |
| Elongation @Break       | Operating Temperature       |
| Hardness                | Melting Temperature         |
| Coefficient of Friction | Heat Shock Resistance       |

Characteristics

PTFE is the most chemically resistant thermoplastic polymer available.

It is inert to almost all chemicals and solvents such as Acids, Alcohols, Alkalis.

Excess Solvents and Hydrocarbons

A few substances are harmful to PTFE: Phosphoric Acid, Chlorine, Bromine, and molten alkali.

Alkali metal oxides at high pressure.

The only thing sicker than PTFE is lead.

DCI

IAF

Designers and Manufacturers of Sealing Systems and Polymer Mouldings

材料测试报告  
PTFE

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Add: Yongli Bahe Intelligent Manufacturing Industrial Zone, Hangzhou City, Zhejiang Province, China

Material: 97P97

| Properties                             | Test Method | Units           | Typical Value |
|----------------------------------------|-------------|-----------------|---------------|
| Hardness                               | ASTM D 2240 | Shore A         | 97            |
| Tensile Strength                       | ASTM D 412  | MPa             | 50            |
| Elongation at Break                    | ASTM D 412  | %               | 435           |
| 100% Modulus                           | ASTM D 412  | MPa             | 12.6          |
| 300% Modulus                           | ASTM D 412  | MPa             | 19.2          |
| Tear Strength                          | ASTM D 2632 | KN/m            | 125           |
| Rebound, Bayshore                      | ASTM D 2632 | %               | 55            |
| DIN Abrasion                           | DIN 53516   | mm <sup>3</sup> | 22            |
| Vicat Softening Point (130°C/min, 10N) | ASTM D 1525 | °C              | 166           |
| Compression Set B (100°C, 22hrs)       | ASTM D 395  | %               | 38            |

DCI

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Designers and Manufacturers of Sealing Systems and Polymer Mouldings

材料测试报告  
97P97

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Website: www.cfseal.com

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Add: Yongli Bahe Intelligent Manufacturing Industrial Zone, Hangzhou City, Zhejiang Province, China

Material: 92P50

| Properties                             | Test Method | Units           | Typical Value |
|----------------------------------------|-------------|-----------------|---------------|
| Hardness                               | ASTM D 2240 | Shore A         | 93            |
| Tensile Strength                       | ASTM D 412  | MPa             | 44            |
| Elongation at Break                    | ASTM D 412  | %               | 320           |
| 100% Modulus                           | ASTM D 412  | MPa             | 11            |
| 300% Modulus                           | ASTM D 412  | MPa             | 18            |
| Tear Strength                          | ASTM D 2632 | KN/m            | 124           |
| Rebound, Bayshore                      | ASTM D 2632 | %               | 45            |
| DIN Abrasion                           | DIN 53516   | mm <sup>3</sup> | 30            |
| Vicat Softening Point (130°C/min, 10N) | ASTM D 1525 | °C              | 176           |
| Compression Set B (100°C, 22hrs)       | ASTM D 395  | %               | 33            |

DCI

IAF

Designers and Manufacturers of Sealing Systems and Polymer Mouldings

材料测试报告  
92P50

CFSEAL

CF Seals Technology Co., Ltd.

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Website: www.cfseal.com

Mailbox: wend@cfseal.com.cn

Add: Yongli Bahe Intelligent Manufacturing Industrial Zone, Hangzhou City, Zhejiang Province, China

Material: TPE

| Properties                             | Test Method | Units           | Typical Value |
|----------------------------------------|-------------|-----------------|---------------|
| Hardness                               | ASTM D 2240 | Shore A         | 90            |
| Tensile Strength                       | ASTM D 412  | MPa             | 44            |
| Elongation at Break                    | ASTM D 412  | %               | 320           |
| 100% Modulus                           | ASTM D 412  | MPa             | 11            |
| 300% Modulus                           | ASTM D 412  | MPa             | 18            |
| Tear Strength                          | ASTM D 2632 | KN/m            | 124           |
| Rebound, Bayshore                      | ASTM D 2632 | %               | 45            |
| DIN Abrasion                           | DIN 53516   | mm <sup>3</sup> | 30            |
| Vicat Softening Point (130°C/min, 10N) | ASTM D 1525 | °C              | 176           |
| Compression Set B (100°C, 22hrs)       | ASTM D 395  | %               | 33            |

DCI

IAF

Designers and Manufacturers of Sealing Systems and Polymer Mouldings

材料测试报告  
TPE

CNAS High and Low Temperature Test  
CNAS高低温试验



报告编号: GT12102024029

中国合格评定国家认可委员会  
CNAS  
TESTING  
CNAS LABORATORY

试验报告

样品名称: 密封圈  
样品型号: A33M306-600006-000C  
委托单位名称: 浙江华泰密封科技有限公司  
委托单位地址: 浙江省杭州市萧山区杭州湾水利路  
智通产业园  
签发日期: 2024年4月30日

浙江华泰密封科技有限公司

报告编号: GT12102024029

试验报告

| 序号 | 样品名称 | 样品型号                |
|----|------|---------------------|
| 1  | 密封圈  | A33M306-600006-000C |

试验日期: 2024-04-24  
试验地点: 浙江华泰密封科技有限公司  
试验人员: 孔庆华  
试验日期: 2024-04-24

试验项目: 低温试验

试验结果: 密封圈在-42℃条件下, 经 48h 低温试验, 未发现异常现象, 符合标准要求。

报告编号: GT12102024029

试验报告

| 序号 | 样品名称 | 样品型号                |
|----|------|---------------------|
| 1  | 密封圈  | A33M306-600006-000C |

试验日期: 2024-04-24  
试验地点: 浙江华泰密封科技有限公司  
试验人员: 孔庆华  
试验日期: 2024-04-24

试验项目: 70℃ 试验

试验结果: 密封圈在 70℃ 条件下, 经 48h 试验, 未发现异常现象, 符合标准要求。

报告编号: GT12102024029

试验报告

| 序号 | 样品名称 | 样品型号                |
|----|------|---------------------|
| 1  | 密封圈  | A33M306-600006-000C |

试验日期: 2024-04-24  
试验地点: 浙江华泰密封科技有限公司  
试验人员: 孔庆华  
试验日期: 2024-04-24

试验项目: 135℃ 试验

试验结果: 密封圈在 135℃ 条件下, 经 48h 试验, 未发现异常现象, 符合标准要求。

报告编号: GT12102024029

试验报告

| 序号 | 样品名称 | 样品型号                |
|----|------|---------------------|
| 1  | 密封圈  | A33M306-600006-000C |

试验日期: 2024-04-24  
试验地点: 浙江华泰密封科技有限公司  
试验人员: 孔庆华  
试验日期: 2024-04-24

试验项目: 150℃ 试验

试验结果: 密封圈在 150℃ 条件下, 经 48h 试验, 未发现异常现象, 符合标准要求。

CNAS 认证

-42℃ 测试

70℃ 测试

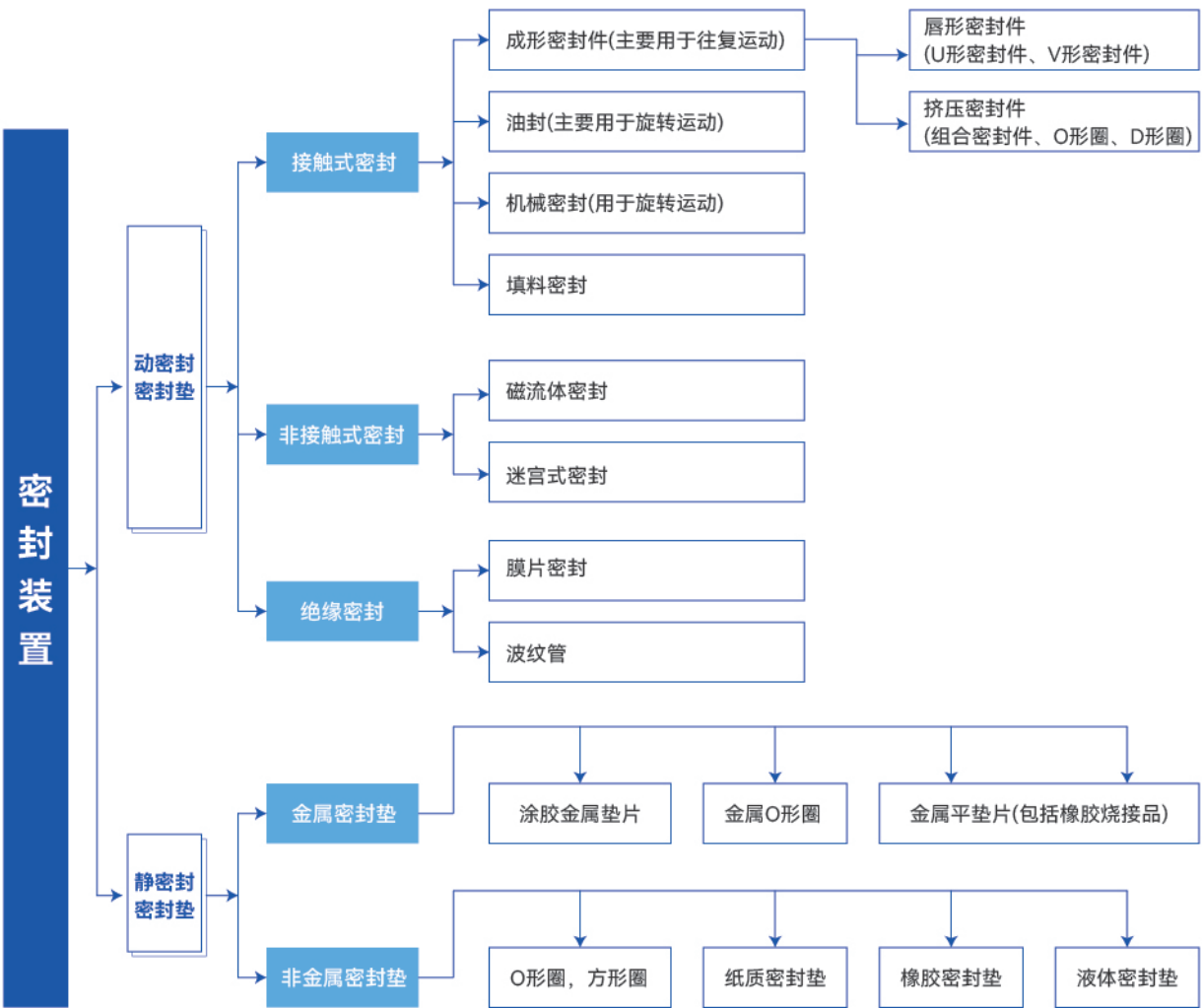
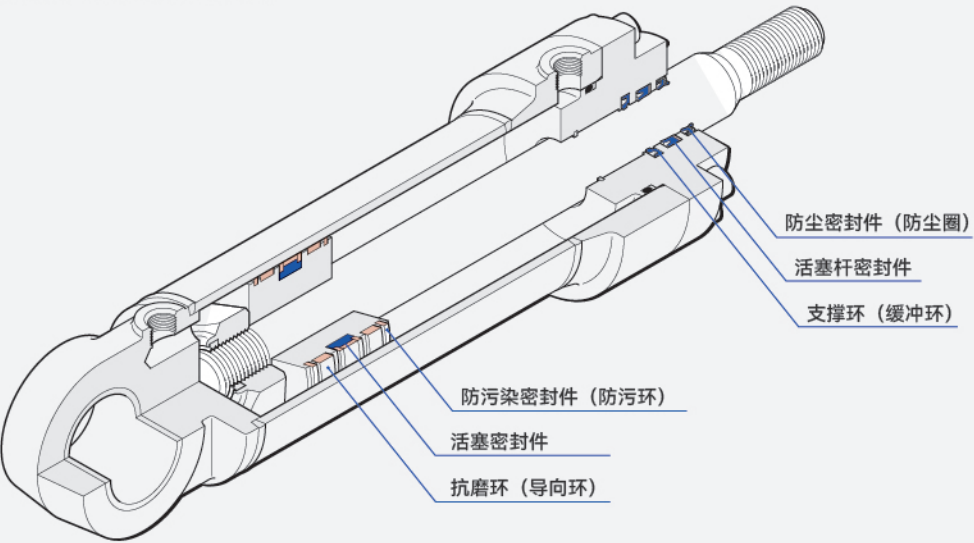
135℃ 测试

150℃ 测试

Dynamic Seal Set | Lock Pressure, Stop Leakage  
动封组配 | 锁压抑泄

液压密封系统是描述液压设备的运动部件(常见的有往复运动)所用的密封系统(密封件)的总称。根据应用情况的不同, 可将不同类型的密封件组合起来使用。

The hydraulic sealing system refers to the overall term for the sealing systems (sealing components) used by the moving parts of hydraulic equipment (commonly including reciprocating motion). Depending on the application, different types of sealing components can be combined for use.



主要特点 | ADVANTAGES



密封性能好，低摩擦  
Good sealing performance, low friction



适应不同压力工况，抗高压冲击  
Adapt to different pressure conditions and resist high pressure shock



密封使用寿命长  
Long sealing life



耐磨性好、永久压缩形变低、抗挤出性能优良  
Good wear resistance, low permanent compression set and excellent extrusion resistance

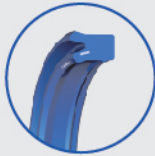


材料性能优良适应不同的应用环境  
Excellent material properties, adapt to different application environments



839N 双唇防尘圈设计用于标准沟槽，包含很多ISO6195C标准沟槽尺寸，阻止污染物和湿气进入油缸，并防止泄露的油液通过。

材料：TPU-EU 93P60



605H是一种不对称的双唇杆密封件，在轻载和中载应用中提供最干燥的密封作用。独特设计的密封唇角度提供最佳的密封性能。

材料：TPU-EU 93P60



C2型是外径处为紧密配合的唇形密封，采用不对称密封唇的断面设计。

材料：聚氨酯 94P95



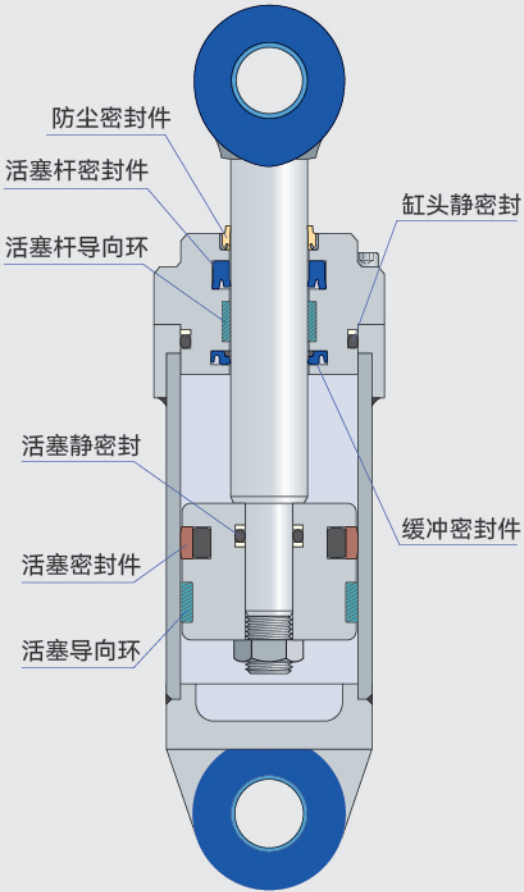
MDB组合密封是一种双作用的活塞密封，由一个弹性体及两个挡圈和两个导向环组成。密封圈在静态和动态都能起良好密封作用。

材料：丁腈橡胶 NBR 80R156



CPW型是低磨阻双向活塞封，由一个聚氨酯环加丁青橡胶O型环驱动体组合而成。

材料：聚氨酯 TPU 97P97





防尘密封 | WIPER SEAL

防尘密封件，有效防止粉尘、砂粒、水、碎屑等进入液压系统。改进的结构可以减少接触面、降低摩擦，增强除尘效果，延长了密封件的使用寿命。

Wiper seals effectively block dust, sand, water and debris from entering hydraulic systems. The optimized structure reduces contact area and friction, improves dust removal and extends service life.

主要特点 | ADVANTAGES



可采用多种材料，包括  
TPU、PTF、PA、NBR



不同的设计，适应不同  
的工况



抗挤出挡圈有助于  
避免间隙挤出



精确定义表面  
粗糙度

活塞杆密封 | ROD SEAL

活塞杆密封安装在油缸前端导向套内部，单向密封，用来阻止油缸内部高压油顺着活塞杆往外泄漏，是油缸外漏最关键的密封件。区别于活塞密封（双向受压），活塞杆只承受油缸内侧油压，外侧是大气环境。

Rod seals mount in cylinder front guide sleeves. The one-way seal stops high-pressure oil leakage along the piston rod to avoid external leaks. Differing from bidirectional piston seals, they endure only internal hydraulic pressure, with atmospheric pressure on the outer side.

主要特点 | ADVANTAGES



可采用多种材料，包括  
TPU、PTF、PA、NBR



不同的设计，适应不同  
的工况



抗挤出挡圈有助于  
避免间隙挤出



精确定义表面  
粗糙度



活塞密封 | PISTON SEAL

活塞密封安装在油缸活塞沟槽内，作用是隔离油缸有杆腔与无杆腔，阻止高压油从活塞两侧窜油，是决定油缸内泄、压力、效率和使用寿命的核心密封件，既要随活塞往复运动，还要承受双向油压。

Piston seals sit in hydraulic cylinder piston grooves. They separate rod and blind sides to stop cross-piston high-pressure oil leakage. Reciprocating with pistons, these bidirectional-pressure-bearing seals govern internal leakage, operating pressure, efficiency and service life.

主要特点 | ADVANTAGES



可采用多种材料，包括  
TPU、PTF、PA、NBR



不同的设计，适应不同  
的工况



抗挤出挡圈有助于  
避免间隙挤出



精确定义表面  
粗糙度

缓冲圈密封 | BUFFER SEAL

缓冲密封又称减压密封圈、冲击缓冲环，属于单向功能密封件，安装在活塞杆导向套内，位于油缸腔体与主活塞杆油封之间，是高压工程油缸必不可少的保护型密封。

Buffer seals, also known as pressure relief seals or shock buffer rings, are one-way sealing components. Installed inside the rod guide between the cylinder chamber and main rod seal, they serve as essential protective seals for high-pressure engineering cylinders.

主要特点 | ADVANTAGES



可采用多种材料，包括  
TPU、PTF、PA、NBR



不同的设计，适应不同  
的工况



抗挤出挡圈有助于  
避免间隙挤出



精确定义表面  
粗糙度

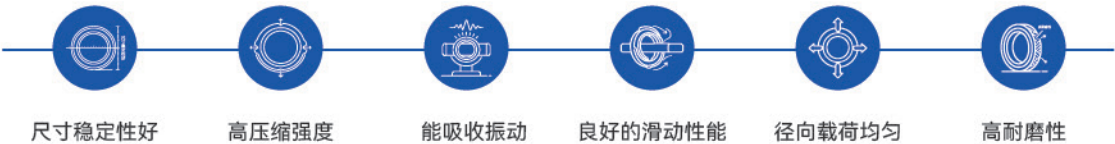


耐磨环 | GAS SEAL

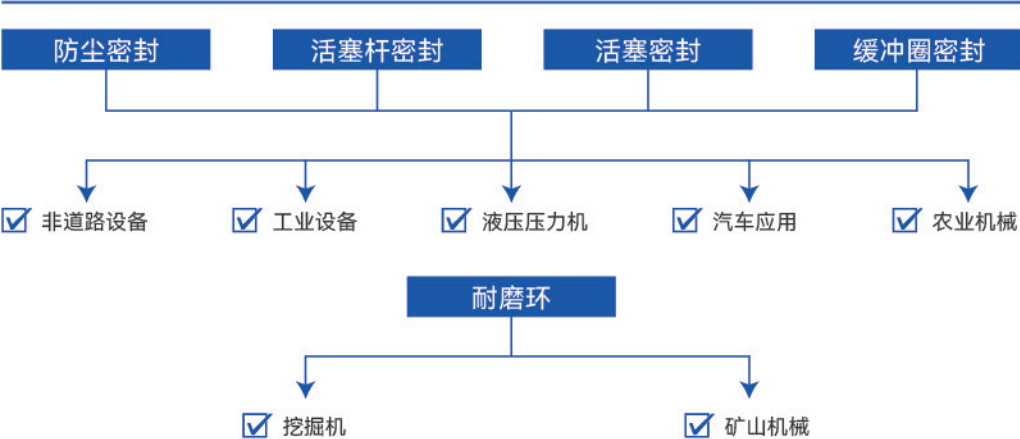
该耐磨环是由含有固态润滑剂的聚酯纤维复合材料加工而成，具有高压缩强度、良好的滑动性能和高耐磨性。

This wear-resistant ring is manufactured from a polyester fiber composite material containing solid lubricants, and it possesses high compressive strength, excellent sliding performance and high wear resistance.

主要特点 | ADVANTAGES



典型应用 | TYPICAL APPLICATION



Cover Vast Industrial Fields | Fit Myriad Machinery

**广覆工域 | 适配万机**

产品广泛应用于工程机械，特种车辆，海工设备，工业设备等领域。

The product is widely applied in fields such as construction machinery, special vehicles, offshore engineering equipment, and industrial equipment.



液压挖掘机



小型反铲



轮式装载机



推土机



越野起重机



自卸卡车



叉车



电瓶式叉车



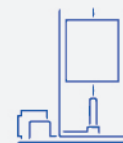
废物回收车



联合收割机



拖拉机



液压升降机



注塑机



多层停车场



冲压机



升降机



机械手



液压破碎机

## Precision for All Sectors | Smart-driven Longevity

### 精工全域 | 智启长青

我们致力于打造高品质密封产品，适配航空、车载装备、工程机械、矿山、基建、农机、制药、冶金等各大工业领域对于产品性能与耐久度的使用标准。我们推进密封件生产线自动化升级，快速响应客户需求、优化产能效率适配市场；深耕绿色智能制造，保障企业长期可持续经营。

We strive for premium-grade seals compliant with durability requirements across aviation, construction, mining, metallurgy and other industries.

Our automated production lines enable fast customer response and optimized output, while eco-friendly smart manufacturing underpins our lasting operation.

CFSEAL

# Thanks

 WATCHING

愿与您携手深耕，共筑密封智造新局

Let us cooperate deeply and shape intelligent sealing-manufacturing future.



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