

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

叉车油缸密封解决方案

Solution for Forklift Cylinder Sealing

浙江华希密封科技有限公司

Zhejiang Huax Sealing Technology Co., Ltd.

Endeavor For The Best

精益于华 | 锐意成希

Founded in Newcastle | Reaching Five Continents

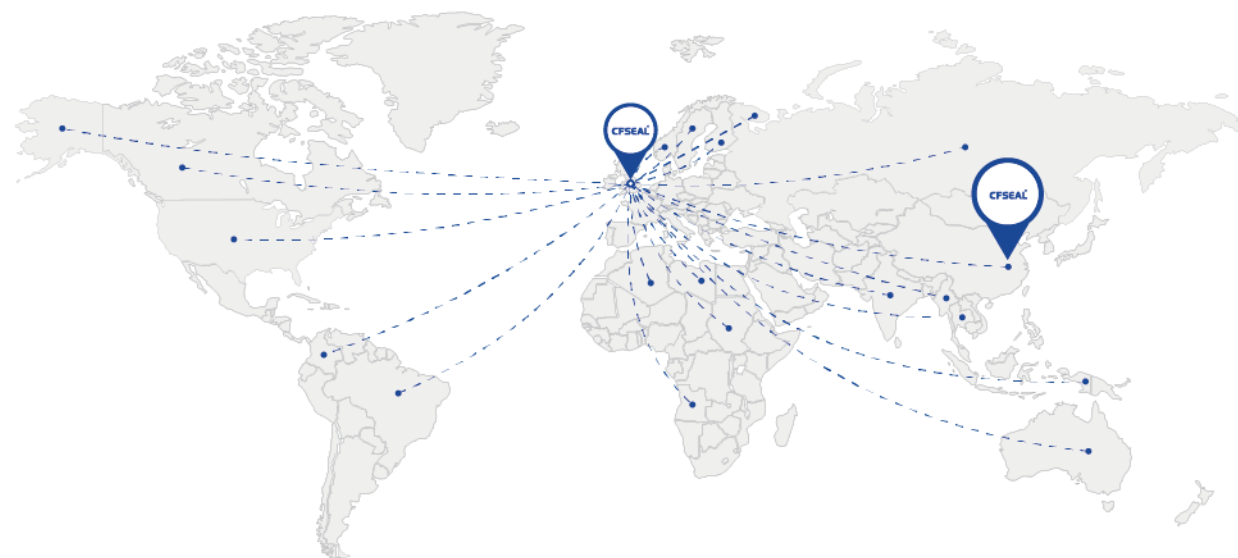
纽卡启业 | 驰达五洲

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 | 精研材智

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.



体系证书 | System Certificate

CFSEAL

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



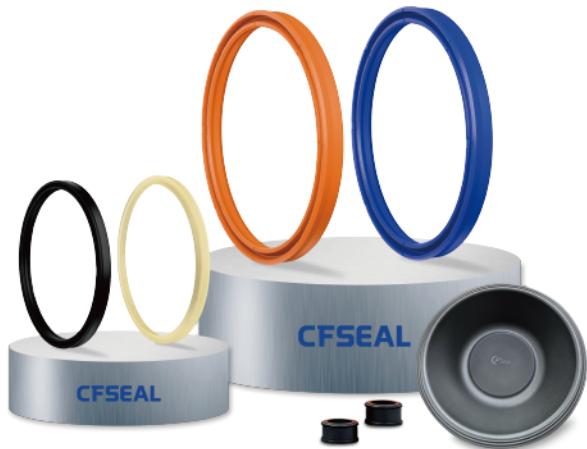
武器装备质量管
理体系认证

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

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Website: www.cfseal.com

Mailbox: vsm@cfseal.com.cn

Add: Yongli Baku 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	%	350
100% Modulus	ASTM D 412	MPa	14.8
300% Modulus	ASTM D 412	MPa	22
Tear Strength	ASTM D 424	kJ/m	130
Rebound, Bayshore	ASTM D 2632	%	40
DIN Abrasion	DIN 53516	mm³	31
Vicat Softening Point (120°C/hr, 10N)	ASTM D 1525	°C	186
Compression Set B (100°C, 22hrs)	ASTM D 395	%	29

DCI

IAF

ILAC

Designers and Manufacturers of Sealing Systems and Polymer Mouldings

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Add: Yongli Baku 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	Minimum Working Temperature
Elongation at Break	Operating Temperature
Hardness	Welding Temperature
Coefficient of Friction	
Maximum Modulus	

Characteristics

PTFE is the most chemically resistant thermoplastic polymer available. It is inert to almost all chemicals and solvents such as Acids, Alkalies, Alkalis.

Excess Solvents and Hydrocarbons

A few substances are harmful to PTFE: Fluorine, Chlorine, Bromine, and molten Alkali metal solutions at high pressure.

The only thing softer than PTFE is gold.

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Add: Yongli Baku 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 424	kJ/m	125
Rebound, Bayshore	ASTM D 2632	%	55
DIN Abrasion	DIN 53516	mm³	22
Vicat Softening Point (120°C/hr, 10N)	ASTM D 1525	°C	144
Compression Set B (100°C, 22hrs)	ASTM D 395	%	38

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Add: Yongli Baku 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 424	kJ/m	124
Rebound, Bayshore	ASTM D 2632	%	45
DIN Abrasion	DIN 53516	mm³	30
Vicat Softening Point (120°C/hr, 10N)	ASTM D 1525	°C	124
Compression Set B (100°C, 22hrs)	ASTM D 395	%	33

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

Material: TPE

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 424	kJ/m	124
Rebound, Bayshore	ASTM D 2632	%	45
DIN Abrasion	DIN 53516	mm³	30
Vicat Softening Point (120°C/hr, 10N)	ASTM D 1525	°C	124
Compression Set B (100°C, 22hrs)	ASTM D 395	%	33

DCI

IAF

ILAC

Designers and Manufacturers of Sealing Systems and Polymer Mouldings

材料测试报告
94P95

材料测试报告
PTFE

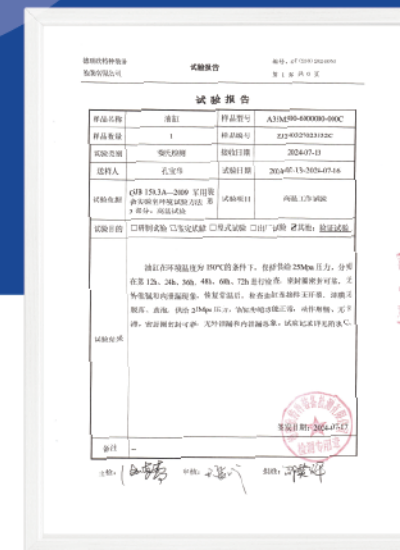
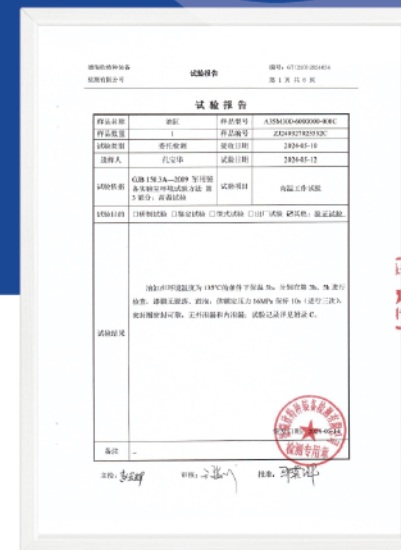
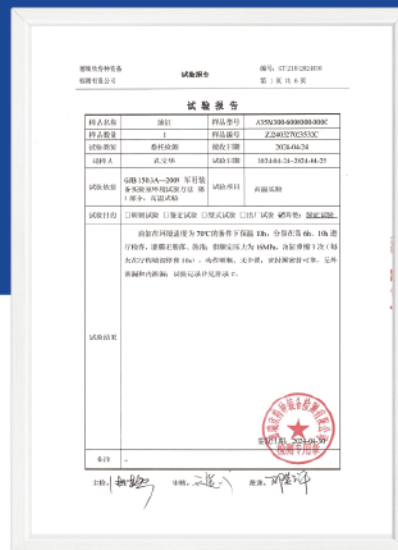
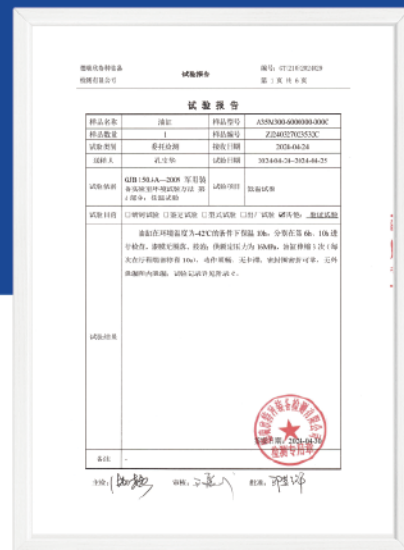
材料测试报告
97P97

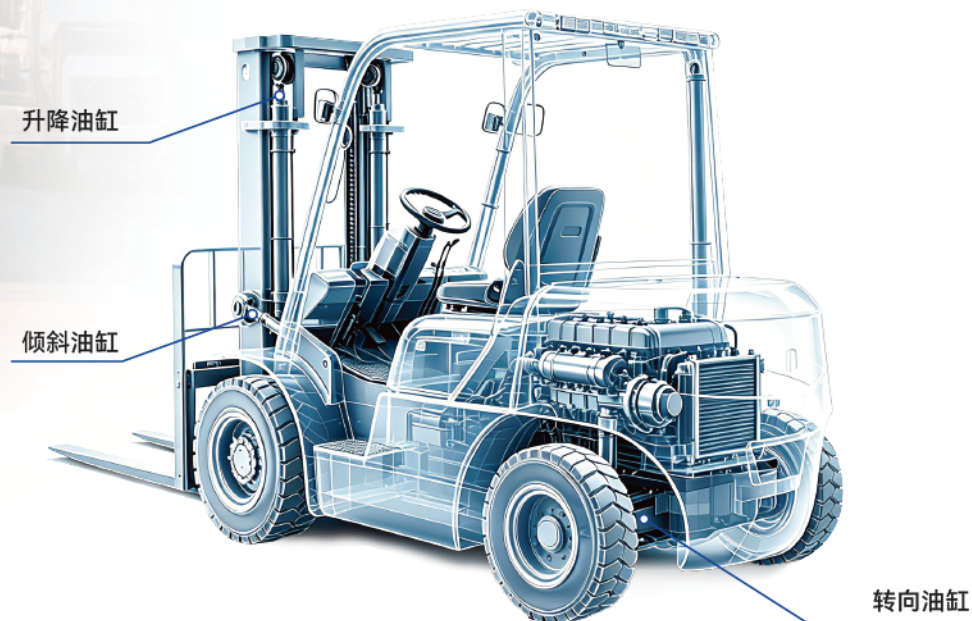
材料测试报告
92P50

材料测试报告
TPE

CNAS High and Low Temperature Test

CNAS高低温试验





Oil Control & Cylinder Drive | Lifting & Transfer 控油驱缸 | 升降转运

叉车液压系统是通过液压泵与多路换向阀精准控制油路的压力、流量与流向，实现起升油缸、倾斜油缸在高压液压油的持续作用下完成伸缩与摆动动作。具备负载稳定、保压性能好、微动精度高的特性，同时长期承受额定重载、启停交变压力与频繁启停冲击。

叉车主要包含升降油缸、倾斜油缸、转向油缸，三类油缸的密封系统整体结构相近。

The forklift hydraulic system uses hydraulic pumps and multi-way directional valves to precisely regulate oil pressure, flow and direction, driving lift and tilt cylinders to extend and retract under continuous high-pressure hydraulic oil. It features stable load bearing, reliable pressure retention and high micro-motion accuracy, enduring rated heavy loads and frequent alternating pressure impacts.

Forklifts mainly adopt lift, tilt and steering cylinders, all with similar sealing system structures.

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



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。



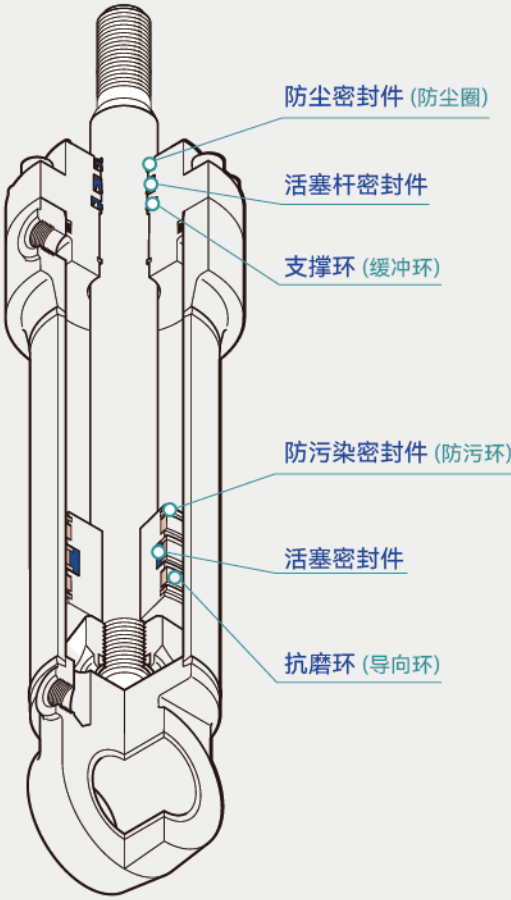
活塞杆密封 | ROD SEAL

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。



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。





防尘密封 | WIPER SEAL

CHA型是双作用的聚氨酯防尘圈。刮尘唇能有效的刮除外界的污物，同时在活塞杆上任何保留剩余的油膜。内侧的刮尘唇设计在低压下任具有一定的密封功能。

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.

应用极限 | APPLICATION LIMIT



参数项	数值	参数项	数值
工作温度	-50°C to +150°C	工作介质	液压油 (矿物油基)
线速度	1 m/s	材料	聚氨酯 TPU
压力	40 Mpa		

CE1型是由聚氨酯刮尘唇外金属骨架一体化的防尘圈。安装在开放式沟槽中。

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.

应用极限 | APPLICATION LIMIT



参数项	数值	参数项	数值
工作温度	-35°C to +110°C	工作介质	液压油 (矿物油基)
线速度	2 m/s	材料	聚氨酯 TPU



活塞杆密封 | ROD SEAL

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。

Type C2 is a lip-type seal with tight-fit outer diameter, featuring an asymmetric-lip cross-section design.

应用极限 | APPLICATION LIMIT ✔ C2

参数项	数值	参数项	数值
工作温度	-50°C to +150°C	工作介质	液压油 (矿物油基)
线速度	1 m/s	材料	聚氨酯 TPU
压力	50 Mpa		



C3型是外径处为紧密配合的双唇活塞杆密封，副唇的设计有支撑作用，防止偏心扭曲，防止低压泄露，防止干摩擦和磨损。

Type C3: Tight-fit OD double-lip rod seal. Secondary lip supports against eccentric distortion, low-pressure leakage, dry friction and wear.

应用极限 | APPLICATION LIMIT ✔ C3

参数项	数值	参数项	数值
工作温度	-50°C to +150°C	工作介质	液压油 (矿物油基)
线速度	1 m/s	材料	聚氨酯 TPU
压力	50 Mpa		



CS型是PTFE阶梯截面滑环和O型圈组合的活塞杆密封。适应高速油缸，摩擦率低，有无润滑都可工作，安装方便。

Type CS: PTFE stepped-section slide-ring rod seal with O-ring. For high-speed cylinders, low friction, operable with/without lubrication, easy installation.

应用极限 | APPLICATION LIMIT ✔ CS

参数项	数值	参数项	数值
工作温度	-40°C to +120°C	工作介质	液压油 (矿物油基)
线速度	12 m/s	材料	PTEE
压力	80 Mpa		



活塞密封 | PISTON SEAL

C1型采用不对称密封唇的断面设计，外部动态密封唇短粗，具有更强密封作用，能改善密封件的压缩变形率。适用领域广泛。

Type C1 features asymmetric-lip cross-section. Its short-stiff outer dynamic lip delivers enhanced sealing and improves seal compression-set resistance. Wide-ranging application.

应用极限 | APPLICATION LIMIT



参数项	数值	参数项	数值
工作温度	-50°C to +150°C	工作介质	液压油 (矿物油基)
线速度	1 m/s	材料	聚氨酯 TPU
压力	50 Mpa		

CG型是标准双向密封，往复运动，允许较大的挤出间隙，应用范围广。动态密封性能优良，在有污物的环境中也适用，摩擦小，沟槽简单，对工作条件的适用性强。

Type CG: Standard bidirectional reciprocating seal. Tolerates large extrusion gaps, wide application range. Excellent dynamic sealing, low friction, simple groove, high adaptability to working conditions, suitable for contaminated environments.

应用极限 | APPLICATION LIMIT



参数项	数值	参数项	数值
工作温度	-40°C to +120°C (NBR) -20°C to +220°C (FKM)	工作介质	液压油 (矿物油基)
线速度	15 m/s	材料	丁腈橡胶NBR、PTFE
压力	80 Mpa		

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



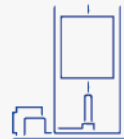
废物回收车



联合收割机



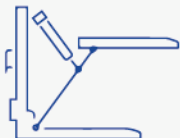
拖拉机



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.



联系我们 Contact Us

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