

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



风能制动变桨密封解决方案

Wind energy braking pitch control 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。

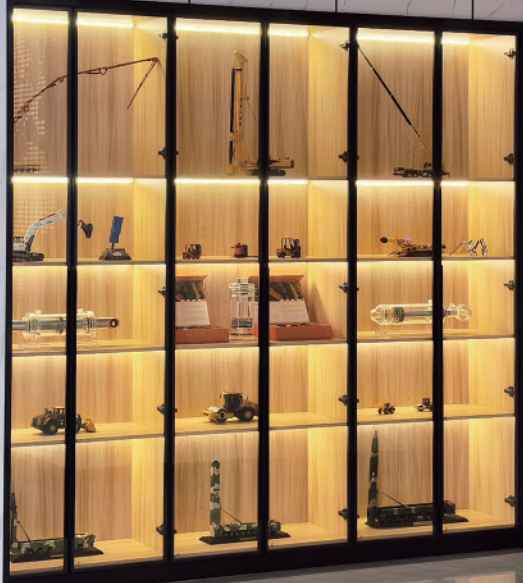
Founded in 1871 and headquartered in the United Kingdom, the brand officially entered the Chinese market in 2004. Following nearly two decades of market cultivation and experience accumulation, the brand invested RMB 20-million to build a thermoplastic polyurethane (TPU) manufacturing base within China 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.



关于我们 | About Us

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发, 提供最专业的密封解决方案。



CFSEAL



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, since inception & 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



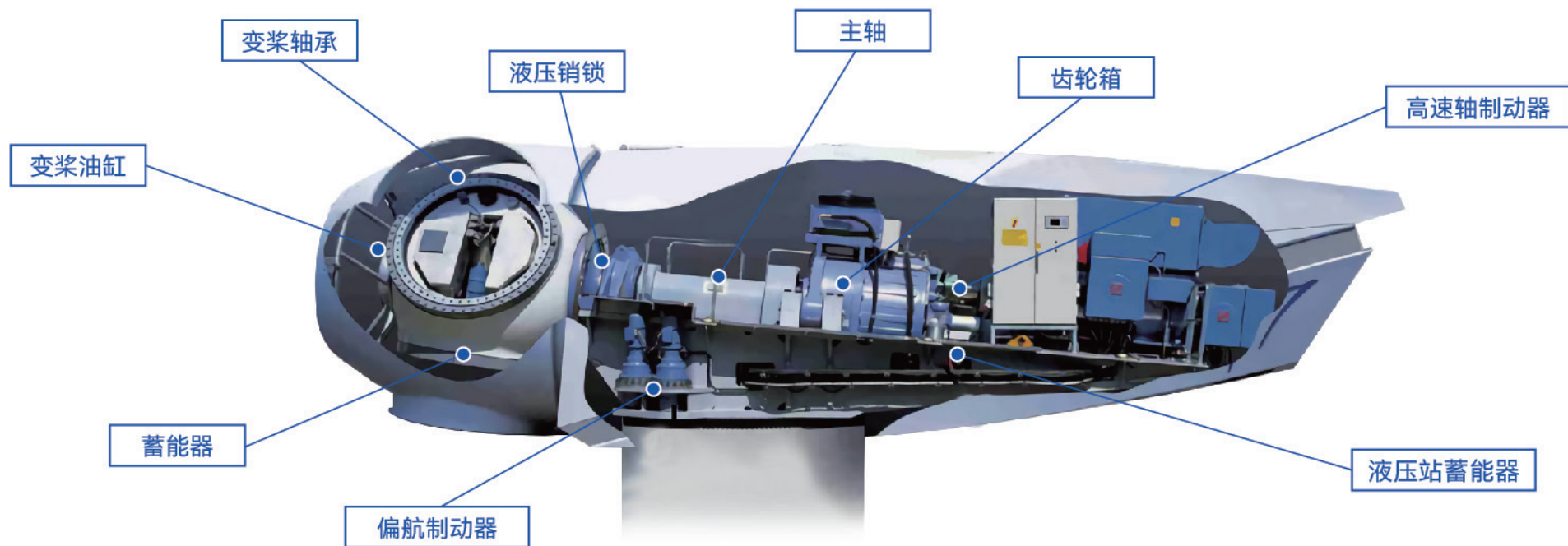
环境管理
体系认证



质量管理
体系认证



武器装备质量管
理体系认证



Wind power generation sealed application system

风能发电密封应用系统

工作时保持轮毂与叶片处于正确位置，锁紧缸通过定位销能够保持旋转。系统带有传感器，检测和发现孔，与主制动和电气系统一起工作。

During operation, ensure that the hub and the blade are in the correct position. The locking cylinder, with its locating pins, can maintain rotation.

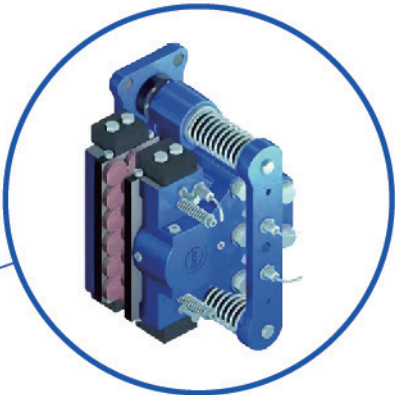
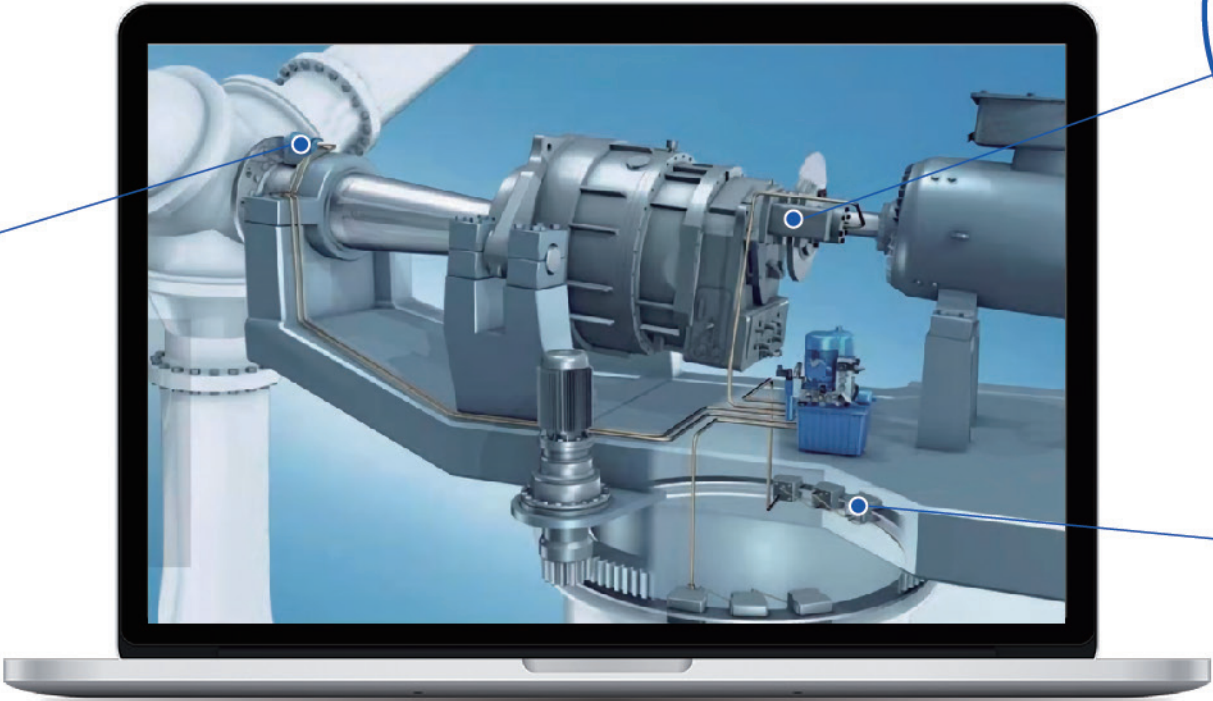
The system is equipped with sensors, detection and discovery holes, and works together with the main braking and electrical systems.



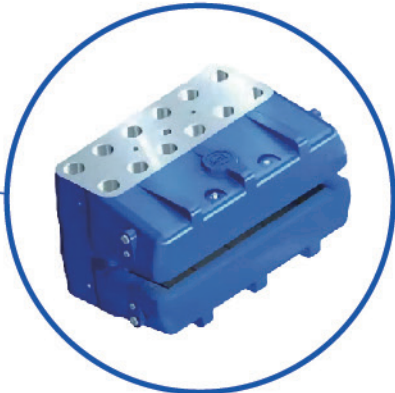
制动系统 | BRAKING SYSTEM



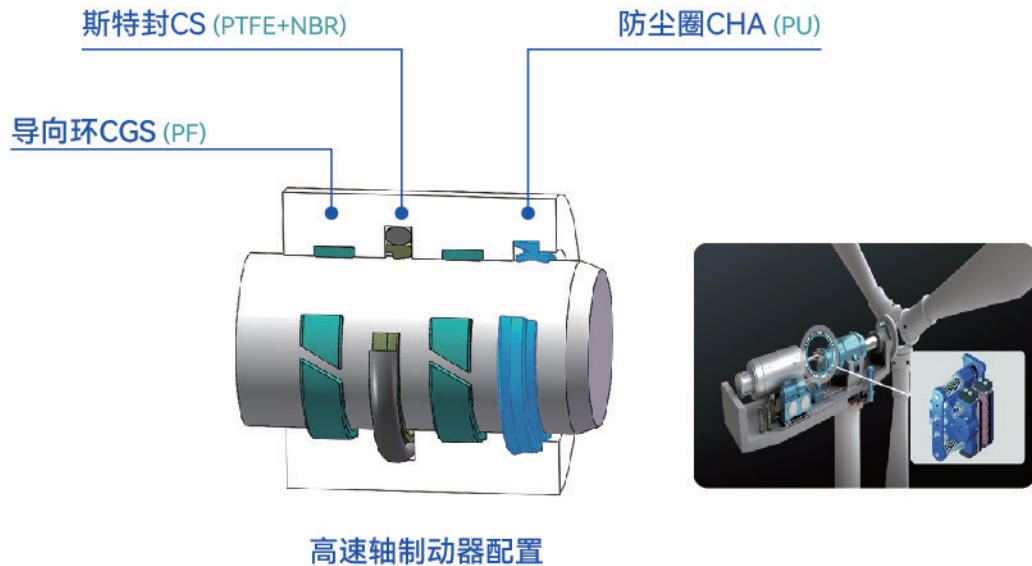
▲
风轮液压油缸



▲
高速轴制动器



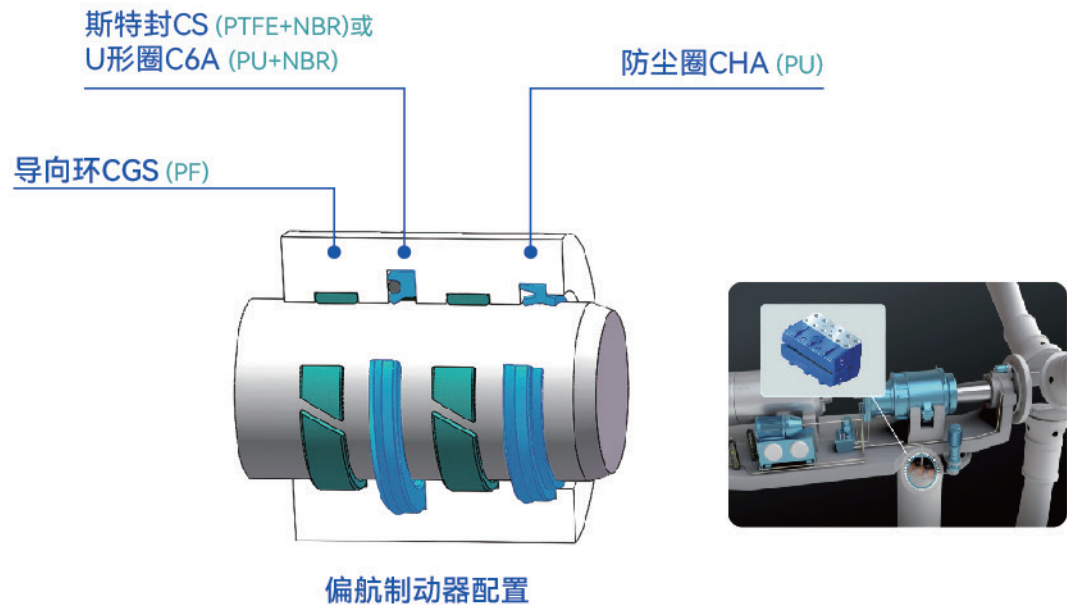
▲
偏航制动器



高速轴制动器 | HIGH-SPEED SHAFT BRAKE

主轴制动用于在系统出现故障时，或者如果旋转速度接近叶片的临界转速时使风力发动机停止转动，或者当维修风力发动机时，与锁紧系统一起，保持主轴在固定位置。

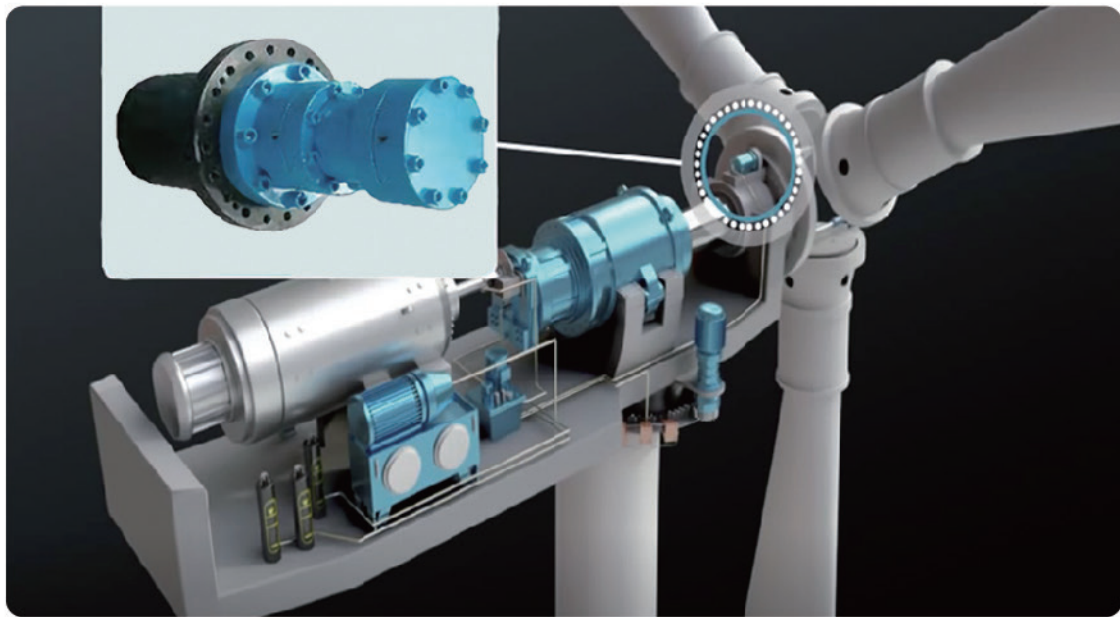
The main shaft braking system is used to stop the wind turbine from rotating in the following situations: when the system fails, or when the rotational speed approaches the critical speed of the blades, or when maintaining the wind turbine for repair. Together with the locking system, it keeps the main shaft in a fixed position.



偏航制动器 | YAW BRAKE

偏航制动器有保持风轮与风向正确对中的功能。

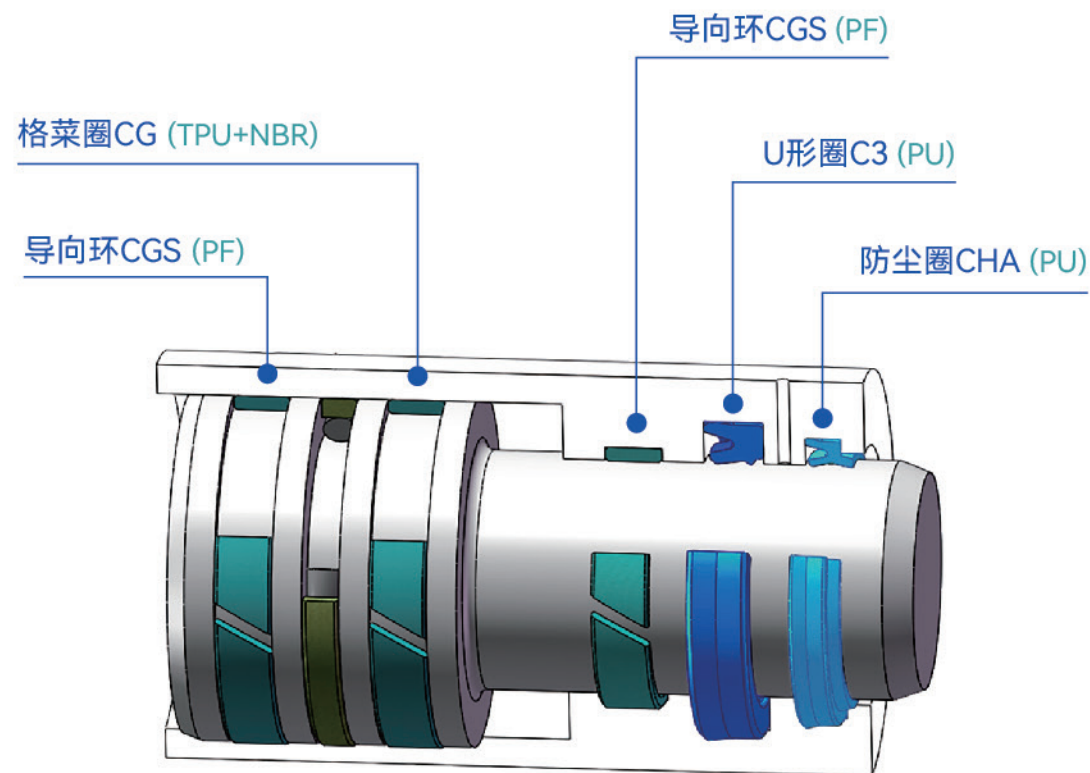
The yaw brake has the function of keeping the wind turbine correctly aligned with the wind direction.



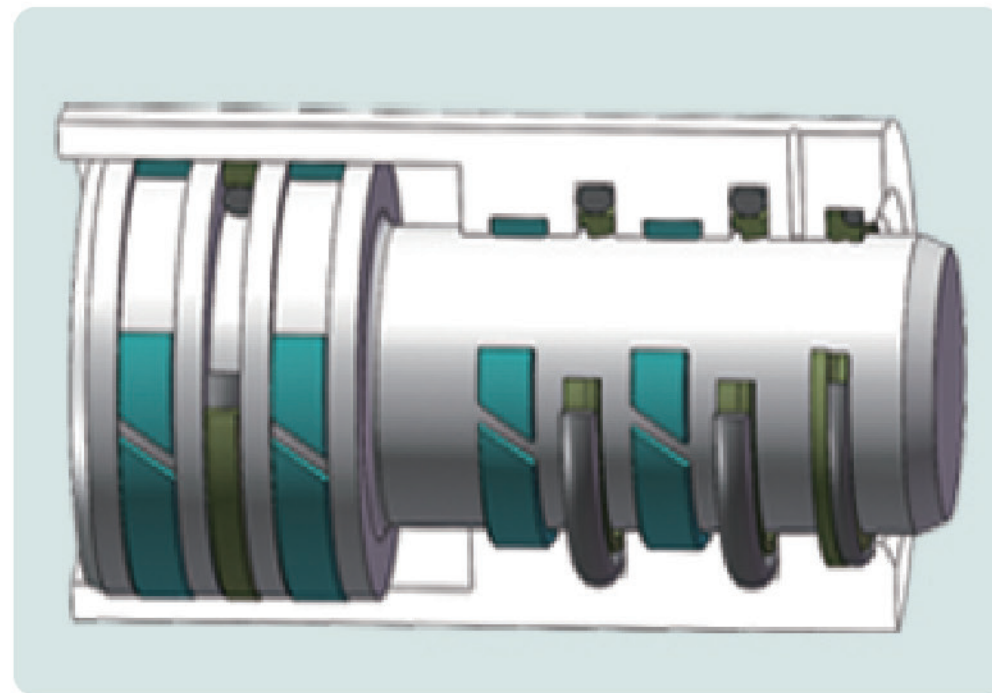
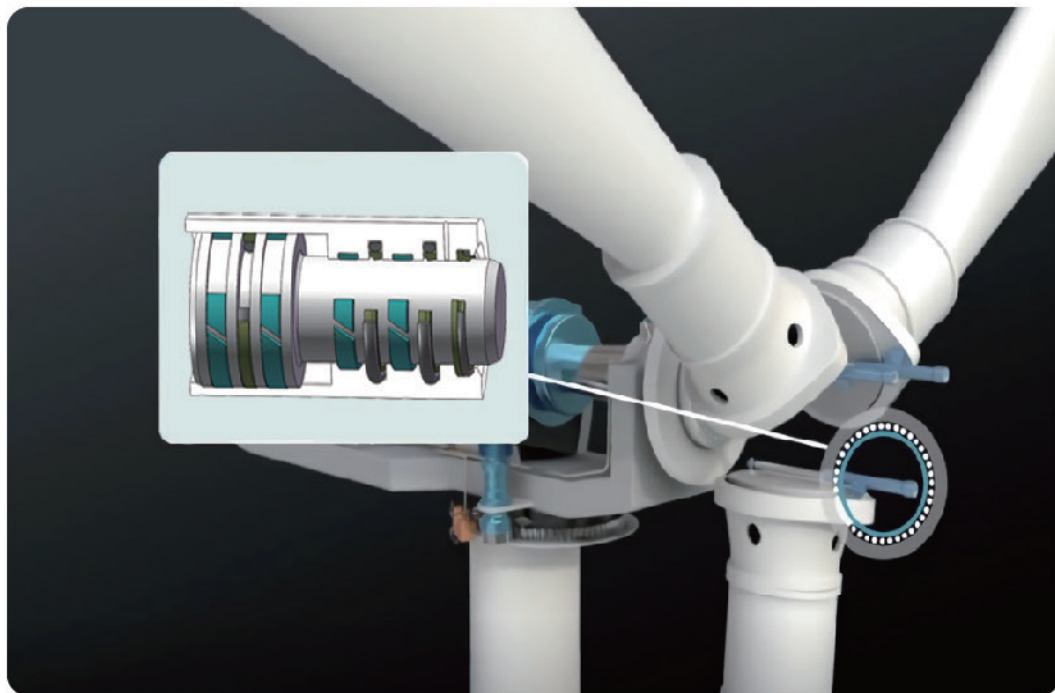
风轮液压销锁 | WIND TURBINE HYDRAULIC PIN LOCK

工作时保持轮毂与叶片处于正确位置，锁紧缸通过定位销能够保持旋转。系统带有传感器，检测和发现孔，与主制动和电气系统一起工作。

The main shaft braking system is used to stop the wind turbine from rotating in the following situations: when the system fails, or when the rotational speed approaches the critical speed of the blades, or when maintaining the wind turbine for repair. Together with the locking system, it keeps the main shaft in a fixed position.



风轮液压销锁密封配置



变桨系统 | PITCH SYSTEM

三个变桨缸用于控制叶片的角度，使得风压尽可能地转换成旋转。油缸活塞位置安装传感器用于电控系统记录叶片的角度。每个液压缸都配有蓄能器，在紧急故障发生时控制每个液压缸使叶片转到制动位置。

Three pitch cylinders are used to control the angle of the blades, enabling as much wind pressure as possible to be converted into rotation. Sensors are installed on the piston positions of the cylinders to be used by the electronic control system to record the angle of the blades. Each hydraulic cylinder is equipped with a accumulator, which controls each hydraulic cylinder to move the blades to the braking position in case of an emergency failure.

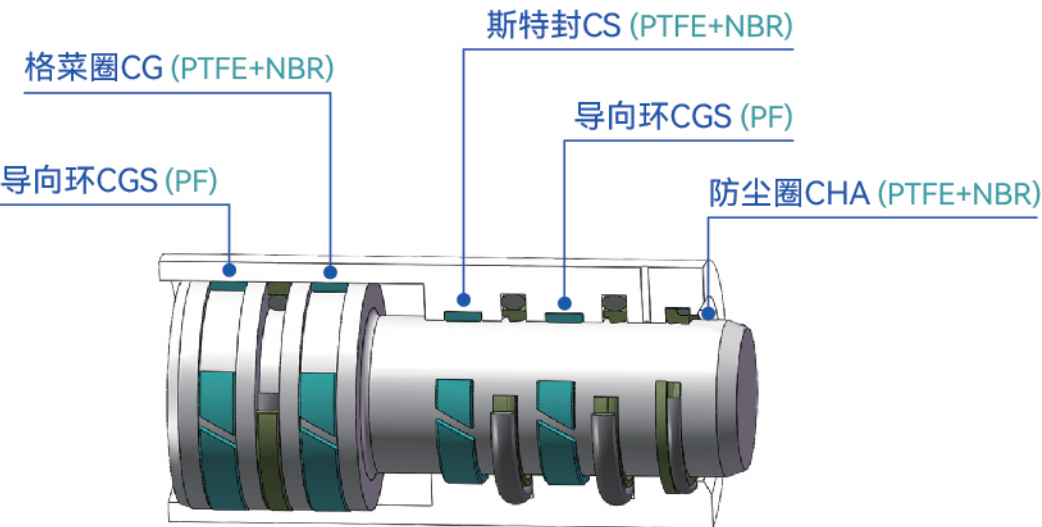
变桨系统密封配置 | PITCH SYSTEM SEALING CONFIGURATION

变桨缸活塞杆侧承受压力为20MPa以上，活塞侧的调整压力为0-20MPa，该压差使得液压缸改变位置，蓄能器则调节油液的流量。变桨缸运动状态行程短频率高，对活塞杆密封系统产生油液的回油问题。短行程高频率易产生发热会缩短油液的使用寿命，另外要防止通过油液流动的热量传输。

The piston rod side of the pitch cylinder piston bears a pressure of over 20 MPa, while the piston side has an adjustment pressure ranging from 0 to 20 MPa. This pressure difference causes the hydraulic cylinder to change its position, and the accumulator regulates the flow of the oil. The movement state of the pitch cylinder has a short stroke and high frequency, which causes the problem of oil return from the piston rod sealing system. The short stroke and high frequency can lead to overheating, which will shorten the lifespan of the oil and also prevent the transmission of heat through the oil flow.

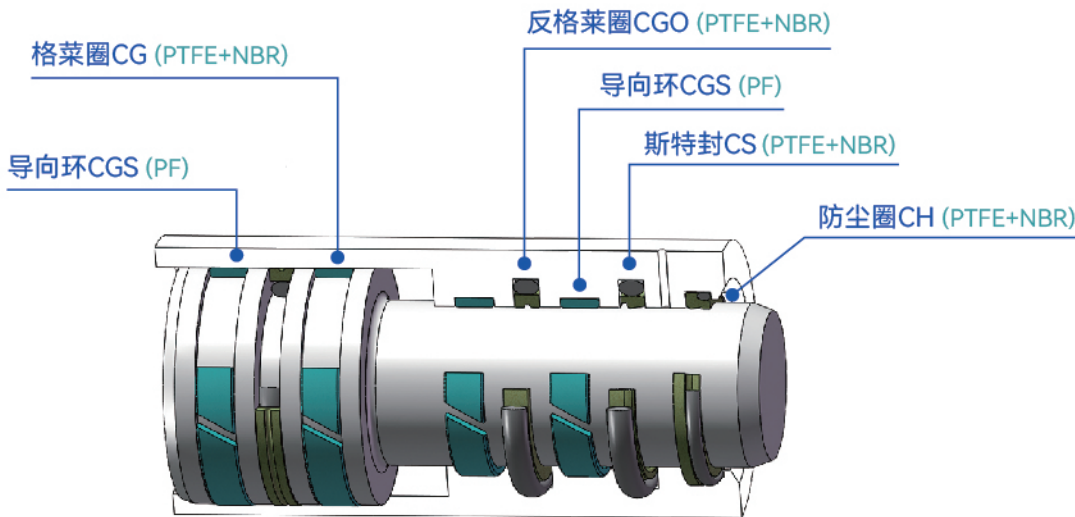
① 变桨密封配置

相对于风速，叶片位于固定的位置，变桨缸来约束该位置。



② 变桨密封配置

为了优化风力发动机的功率输出，随着风速的改变需要调整叶片的位置。这时变桨缸就需要短行程高频率运动。



变桨密封件 | Pitch-bearing Sea

CFSEAL

风能制动变桨密封件 | WIND ENERGY BRAKING PITCH SEAL



格莱圈 | CG

液压往复运动系统。在高、中、低压及重载工况下的密封场合非常出色。适合在长及短行程的情况，并在范围较大的流体和高温场合，可适用较大的活塞间隙。

- 良好的动静密封性能
- 摩擦小，无爬行现象
- 较大的挤出间隙，在有污物的介质中也可安全使用
- 允许较大的挤出间隙，视应用场合而定，故可降低加工费用
- 沟槽简单，可用于整体式活塞
- 适用于新环保安全的液压力（生物油）
- 采用较多种类的材料，对工作条件的适应性强



斯特封 | CS

液压往复运动系统。在高、中、低压及重载工况下的密封场合非常出色。适合各种行程及范围较广的流体和高温场合，可适用较大的活塞间隙。

- 良好的动静密封性能
- 沟槽结构简单
- 寿命长
- 有无润滑均可工作
- 抗挤出性好
- 尺寸稳定，不受温度影响
- 对强冲击力有优异的缓冲作用
- 安装简便
- 耐腐蚀性强
- 不会发生困压，可多只串联安装
- 摩擦小，无爬行，粘滞现象



U形圈 | C6A / C3

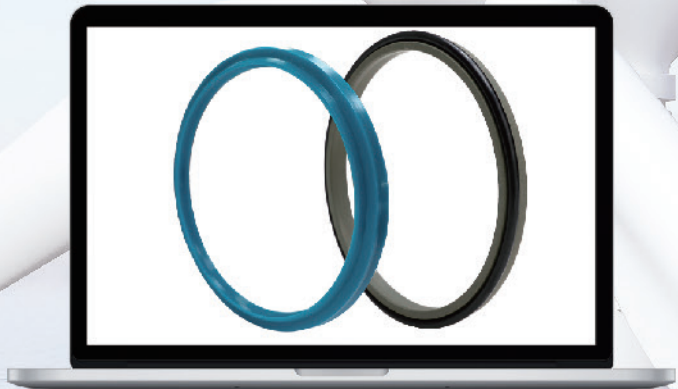
C6A主要用于密封注塞、活塞杆、气钻、伸缩缸、锻压机以及行走设备用液压装备。
C3主要用于重载行走机械和静压中的活塞杆和活塞的密封。

► C6A

- 特别强的耐磨性
- 对震动载荷和压力峰值的不敏感
- 很高的抗挤压性
- 在无载和低温的条件下具有理想的密封作用
- 适用于最苛刻的工作条件
- 易于安装
- 极好耐低温材料 (-60°C)

► C3

- 耐磨性极好
- 易于安装
- 耐冲击、抗挤出、压缩变形小
- 适用于最苛刻的工作条件
- 由于密封唇口之间的压力介质而具有充分的润滑
- 提高了零压力下的密封性能
- 极好的防止外部空气进入
- 极好耐低温材料 (-60°C)



防尘圈 | CHA / CH

CHA用于液压、气动往复运动环境；CH由一个带密封刃口和防尘刃口的耐磨圈以及一个作为预紧元件O形圈组成的双唇防尘圈。适用于尘埃严重或严寒的环境以及高频往复运动。

► CHA

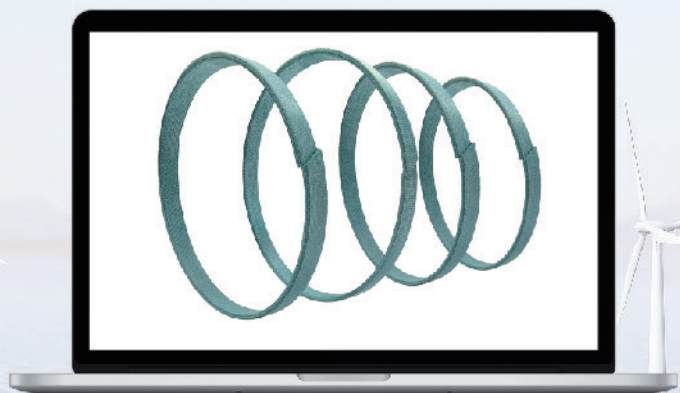
- 即使对吸附很牢的灰尘也具有好的刮除效果
- 耐磨、寿命长
- 具有保存和反向输回残余油液的功能
- 采用弹性材料，可以降低摩擦力
- 沟槽标准
- 极好耐低温材料 (-60°C)

► CH

- 优异的滑动性
- 坚固的防尘圈
- 启动时，无粘滞及爬行现象
- 能补偿活塞杆或柱塞较大的变形
- 刮出污染物的效果非常好，即使是很坚固的粘着物
- 能从内侧有效的挡住粘附在活塞杆表面的剩余油膜
- 与液压介质的相容性非常好

变桨密封件 | Pitch-bearing Sea

CFSEAL



耐磨环 |  CGS

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。

- 尺寸稳定性好
- 高压缩强度
- 能吸收振动
- 径向载荷均匀
- 良好的滑动性能
- 高耐磨性

Advantages

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

 +86-571-81600011  wlm@cfseals.com.cn  www.cfseal.com

 Yongli Baihe Intelligent Manufacturing Industrial Zone, Hangzhou, China