

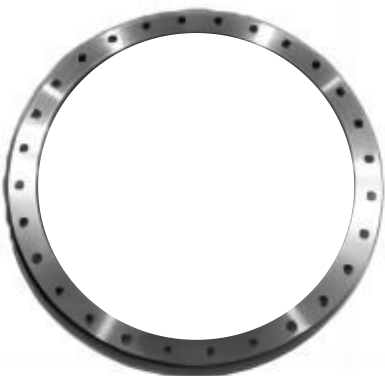
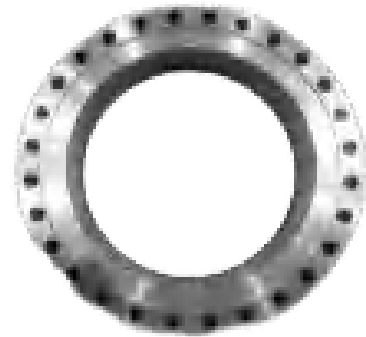


SHANXI TIANBAO GROUP CO., LTD.

山西天宝集团有限公司

RING FORGING
环形锻件

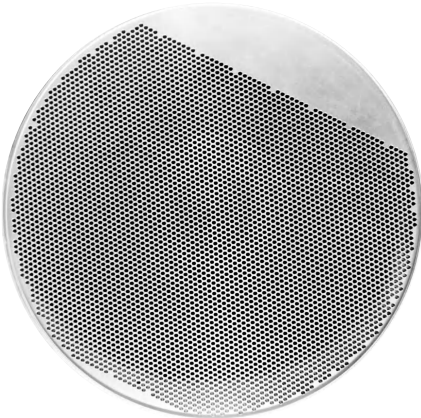
产品规格(Product Size): DN15mm-DN9000mm



PIE FORGING

饼形锻件

产品规格(Product Size) : DN15mm~DN8500mm

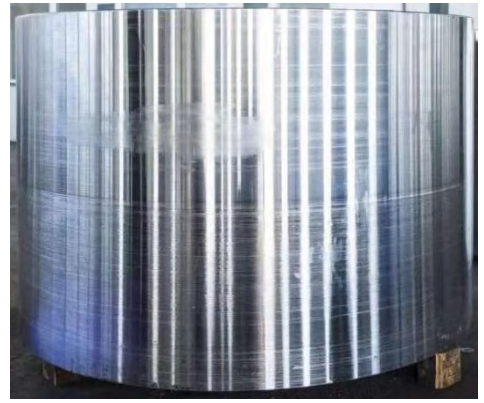


CYLINDER

筒体

产品高度(Hit) : ≤4000mm





SHAFT FORGING
轴类锻件
产品规格(Product Size) : $\leq 7000\text{mm}$



SPECIAL-SHAPED FORGING

异形锻件

产品重量(Weight) : <50T



LARGE FORGING

大型锻件

产品重量(Weight) : <50T



Shanxi Tianbao Intelligent Transmission Technology Co., Ltd. products

Exhibits name: Wind Turbine Spindle Sliding Shaft System

Key words: high reliability, low cost, easy maintenance

Core highlights description:

safe service high robustness:

Applicable to low-speed heavy load, high-speed light load, variable speed variable load, impact, reciprocating, oscillation, frequent start-stop and other complex combinations of working conditions, can effectively reduce vibration and noise, no oil, less oil, heavy load and other extreme conditions and no high-pressure jacking equipment can be achieved safely and stably shutdown, startup.

excellent environmental adaptability:

Chemical stability: can withstand a variety of organic solvents, acid and alkali solutions, grease and oxidants.

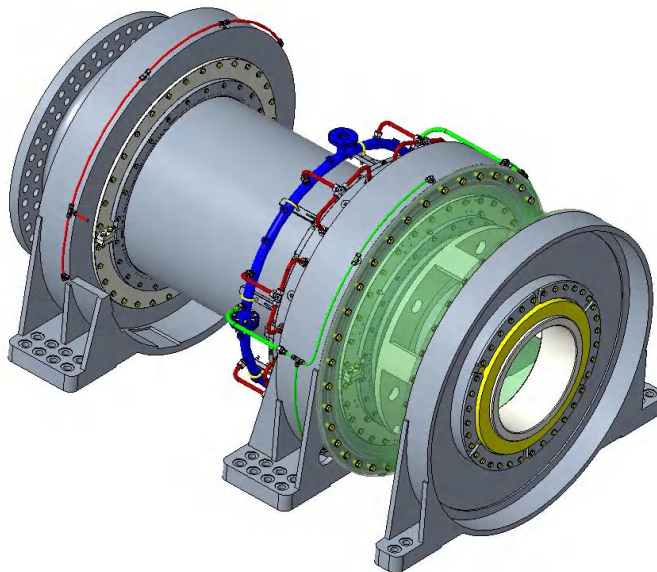
Electrical insulation: excellent electrical insulation properties, able to maintain stability at high voltage and high frequency.

Flame retardancy: good flame retardancy, not easy to burn and can be self-extinguishing.

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reduces life cycle costs:

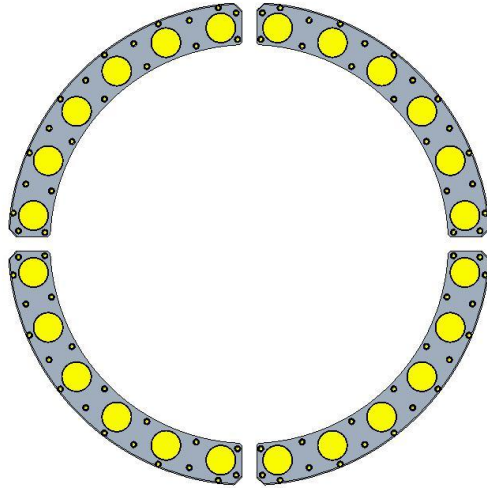
Reduced friction and wear, lower lubricant volumes, improved energy efficiency, longer life, durability and easy repair, saving operating costs



Exhibits name:Thrust Bearing

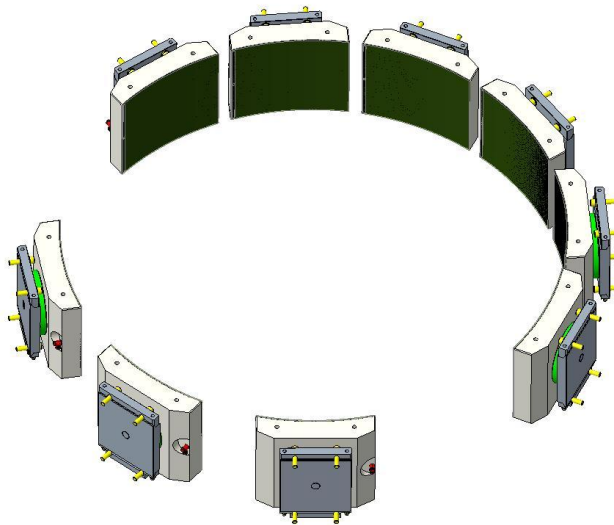
Used to support axial loads (thrust loads), they are widely used in a variety of mechanical equipment, such as wind power, hydropower, thermal power, ships and so on. The basic principle of thrust bearings is that by placing a set of friction-reducing flat or spherical surfaces between the shaft and the shaft housing, under the action of axial loads, the loads are transferred to the supporting structure through the friction-reducing surfaces. This reduces the friction and wear of the bearing and improves the operating efficiency and life of the mechanical equipment. Thrust bearings can be considered comprehensively according to specific application requirements, including load type, speed requirements, working environment and life requirements. In the design and use of thrust bearings, must be reasonable lubrication and maintenance, to ensure its normal operation and prolong the service life of

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Exhibits name:Radial Bearing

The rotating spindle rotates in the bearing housing, forming sliding contact between the spindle and the bearing housing. The contact surface through the lubricant, water and other liquid media to form a liquid film, under the rotation of the shaft to produce liquid dynamic pressure force, can balance the radial load of the spindle, to ensure the smooth rotation of the shaft. Radial plain bearings can be applied to low speed, heavy load, high speed, start and stop and other complex working conditions.



Exhibits name: Wind turbine spindle system sealing products

Key words: low cost, interchangeable, easy to replace

Core highlights description:

Adoption of wear-resistant and wear-reducing self-lubricating materials, low cost and high weatherability: self-lubricating sealing materials and ductile iron with low friction and wear, without the need for high-hardness wear-resistant rings, simplify the design of the spindle, reduce costs; self-lubricating materials, high weathering, acid and alkali resistance, can be applied to harsh environments, and the size of the existing product is completely interchangeable.

Wear-resistant and wear-reducing seal material

The design considers the applicability in different environments, such as high temperature, high humidity, corrosive conditions. Wear-resistant and wear-reducing self-lubricating composite materials are selected to improve sealing performance and durability, ensuring long-term stable operation.

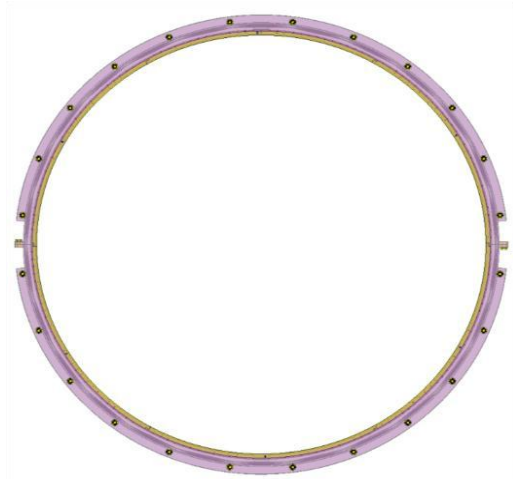
Innovative design of sealing structure

Adopting multi-stage sealing design, effectively isolating external impurities and moisture intrusion, and perfectly

compatible with the original seal size. Selection of axial contact seal, end face contact seal, packing seal and other combination design, oil storage tank - oil storage tiny pit - seal lap to avoid oil leakage design scheme.

Adaptive Elasticity Adjustment

Adopting compression spring, automatically adjusting the sealing strip compression surface to prevent seal failure. The compression spring is made of imported piano wire, which enhances the pressure uniformity of the spring under various loads and ensures the stability of the seal.



Exhibits name:Flexible Coupling

Elastic coupling is a high-performance product in the front integrated transmission system of wind turbine external steel internal elastic transmission system. It is a maintenance-free and wear-free disc coupling made of wear-resistant, friction-reducing and self-lubricating composite materials. The coupling is placed between the main shaft and the gearbox to protect the gearbox and driveline from the bending and thrust loads transmitted by the wind turbine's impellers, thus increasing the service life of the bearings and gearbox. The coupling, by design, transmits torque smoothly, reduces impeller impact on the gearbox and compensates for axial, angular and radial misalignment.

