



产品介绍 Product Presentation

自卸车前置缸密封组件是前置液压油缸的核心密封单元，主要作用是防止油缸内高压液压油泄漏，并阻挡外界粉尘、泥沙等杂质进入缸体，保障前置缸举升与降落的稳定高效。

核心构成与功能

主密封圈：多采用聚氨酯或丁腈橡胶材质，直接密封高压液压油，是防止内漏的关键部件，可承受自卸车举升时的高频高压冲击。

防尘圈：安装于缸体开口端，优先阻挡工地粉尘、雨水、碎石等异物，避免杂质划伤油缸内壁或磨损主密封，延长组件整体寿命。

导向环：通常为酚醛树脂或尼龙材质，辅助活塞精准运动，减少密封件与缸壁的直接摩擦，同时缓解径向压力，提升密封稳定性。

核心性能亮点

1. 耐候抗造：适配工地高温、低温、多粉尘的恶劣工况，-30°C至120°C环境下仍能保持密封性能，橡胶材质抗老化、抗液压油腐蚀。

2. 高承压性：针对前置缸举升时的高压需求，主密封可承受30-50MPa工作压力，满足不同吨位自卸车（15-50吨）的举升负载。

3. 易维护性：组件多为模块化设计，拆解更换时无需整体拆卸油缸，可单独更换磨损部件，降低维修时间与成本。

English Translation

The front-mounted cylinder sealing assembly of a dump truck is the core sealing unit of the front-mounted hydraulic cylinder. Its main function is to prevent the leakage of high-pressure hydraulic oil inside the cylinder and block external impurities such as dust and sediment from entering the cylinder block, ensuring the stable and efficient lifting and lowering of the front-mounted cylinder.

Core Composition and Functions

• Main Sealing Ring: Mostly made of polyurethane or nitrile rubber, it directly seals high-pressure hydraulic oil and is a key component to prevent internal leakage, capable of withstanding high-frequency and high-pressure impacts when the dump truck is lifting.

• Dust Seal: Installed at the open end of the cylinder block, it prioritizes blocking foreign objects such as construction site dust, rainwater, and gravel, preventing impurities from scratching the inner wall of the cylinder or wearing the main seal, and extending the overall service life of the assembly.

• Guide Ring: Usually made of phenolic resin or nylon, it assists the piston in precise movement, reduces direct friction between the sealing element and the cylinder wall, and relieves radial pressure to improve sealing stability.

Core Performance Highlights

1. Weather Resistance and Durability: Adapt to harsh working conditions of high temperature, low temperature, and high dust on construction sites. It can maintain sealing performance in the environment of -30°C to 120°C. The rubber material is anti-aging and resistant to hydraulic oil corrosion.

2. High Pressure Resistance: Aiming at the high-pressure demand when the front-mounted cylinder is lifting, the main seal can withstand a working pressure of 30-50MPa, meeting the lifting load of dump trucks of different tonnages (15-50 tons).

3. Easy Maintenance: Most assemblies adopt a modular design. When disassembling and replacing, there is no need to disassemble the entire oil cylinder, and worn parts can be replaced individually, reducing maintenance time and costs.

