

P330 Gear Pump: Multi-industry Fluid Transfer Solution

The P330 gear pump is a fluid transfer device suitable for a variety of industrial applications. Its core advantages lie in its high flow rate, high pressure tolerance, and compatibility with complex media, enabling it to meet the professional needs of industries such as construction machinery, petrochemicals, energy and metallurgy, agriculture, and municipal engineering. It provides stable and reliable technical support for various fluid transfer operations.

Construction Machinery Sector: Hydraulic Power Core

In the hydraulic systems of heavy construction machinery such as excavators and cranes, the [P330 gear pump](#) plays a critical role as the power source. During operation, the gear pump runs at a rated speed of 1,800 rpm, delivering a displacement of 330 ml per revolution. It provides working pressures of 25–31.5 MPa to actuators such as mechanical arms and booms, ensuring rapid response and precision under heavy-load conditions.

The gear pump features a high-strength cast iron pump body with vibration-resistant and temperature-resistant properties, enabling continuous operation in environments ranging from -20°C to 100°C. The wear-resistant bearing design extends the equipment's service life. Data from a certain infrastructure project shows that engineering machinery equipped with the [P330 gear pump](#) experienced a 40% reduction in failure rates during continuous operation, with maintenance intervals extended to 1,500 hours.

Petrochemical Industry: Medium Conveyance Assurance

The P330 gear pump is suitable for conveying viscous media such as crude oil and heavy oil, as well as chemical slurries containing trace particles. Its involute tooth profile design reduces shear force on the medium, and when combined with an automatic clearance compensation device, it can convey fluids with a viscosity of up to 2000 cSt while maintaining a volumetric efficiency of over 90%.

In oilfield gathering and transportation systems, this gear pump is equipped with an explosion-proof motor compliant with ATEX Zone 1 explosion-proof standards, enabling safe transportation of sulfur-containing crude oil. A dual sealing system (bellows mechanical seal + lip seal) achieves zero leakage operation, reducing safety risks associated with flammable and explosive media. A case study from a petrochemical company shows that compared to traditional screw pumps, the P330 gear pump achieves 15% energy savings and reduces maintenance costs by 30%.

Energy and Metallurgy Sector: High-Temperature Environment Adaptability

In the rolling mill lubrication systems of steel mills and fuel oil transportation systems of power plants, the P330 gear pump demonstrates excellent high-temperature adaptability. Its high-temperature sealing components are made of fluororubber, capable of withstanding continuous temperatures of 120°C; the pump body is designed with heat dissipation fins to maintain system thermal balance.

When metallurgical equipment requires high-pressure lubricating oil film protection, this gear pump can instantly establish a working pressure of 28 MPa, ensuring adequate lubrication of rolling mill bearings. Data from a steel group shows that after using the P330 gear pump, the service life of rolling mill bearings has increased by 1.5 times, reducing unplanned downtime by 60 hours annually.

Agricultural and Municipal Applications: Handling Complex Environments

In large-scale sprinkler irrigation systems and municipal wastewater treatment projects, the

P330 gear pump is designed to handle fluids containing impurities. Its open impeller design allows for the passage of solid particles with a diameter of up to 5mm, eliminating the need for additional fine filters. This enables the pump to convey irrigation water containing silt and wastewater containing fibrous impurities.

In agricultural water conservancy projects, this gear pump is combined with a diesel engine to form a mobile pump station, with a single unit capable of delivering 80–120 cubic meters of water per hour, covering an irrigation area of 50 acres. In municipal applications, its maximum suction lift of 5 meters enables rapid drainage of standing water; the pump body is treated with a corrosion-resistant coating, enabling stable long-term operation in acidic or alkaline wastewater.

The [P330 gear pump](#) achieves efficient application across various industry scenarios through modular design and standardized parameters. Its stable performance and low maintenance requirements provide an economical and reliable fluid transfer solution for industrial production.

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