

gear pump catalogue

Amidst the roar of modern industry, hydraulic systems function as the “circulatory system” of machinery, with gear pumps serving as their core power components, consistently delivering stable and efficient performance. With years of expertise in hydraulic transmission, Runhe Hydraulic leverages its deep understanding of gear pump technology and continuous innovation to offer a comprehensive range of high-performance gear pumps. These products cover diverse requirements—from low to ultra-high pressure, and from miniature to massive displacement. Whether powering the steel behemoths of construction machinery or the microfluidic systems of precision instruments, Runhe Hydraulic's gear pumps have become the trusted choice for global industrial users through exceptional reliability, flexible adaptability, and forward-thinking technical design.

1. Technological Heritage and Innovation: From Fundamentals to Breakthroughs

Runhe Hydraulic's [gear pump catalogue](#) product line integrates classic mechanical design with modern engineering concepts. Take the classic external gear pump as an example: its core structure consists of a pair of precision-meshed gears that achieve fluid conveyance through volumetric changes generated by gear rotation. While seemingly simple, this design demands exceptional precision in gear manufacturing and meticulous control of meshing clearance. Runhe Hydraulic employs CNC gear grinding technology to achieve micron-level gear accuracy, ensuring low pulsation and low noise during operation. For instance, its Silent Series gear pumps reduce noise levels below 60 decibels through optimized gear tooth profiles and bearing layouts, making them ideal for noise-sensitive applications like medical equipment and laboratories.

In high-pressure applications, Runhe Hydraulic's QX Series internal gear pumps demonstrate technological breakthroughs. Featuring a unique “crescent plate” structure, this series fully encapsulates the drive and driven gears within the pump body, significantly reducing leakage risks. With a rated pressure of 400 Bar and an ultra-large displacement of 500 cc, the QX series meets the extreme operating demands of heavy equipment like excavators and injection molding machines. Its tandem and triplex pump configurations enable users to achieve multi-path flow output from a single power source, significantly enhancing system integration.

2. Materials and Processes: Engineered for Demanding Environments

Industrial diversity demands exceptional environmental adaptability from gear pumps. Runhe Hydraulic meticulously selects materials, offering multiple base materials including cast iron, stainless steel, and aluminum alloy, alongside specialized options like tungsten carbide-coated gears and ceramic-PEEK composite gears. For instance, gear pumps in food processing must meet sanitary standards. Runhe Hydraulic's MK Series magnetically driven gear pumps feature 316L stainless steel housings and FDA-certified PEEK seals, ensuring contamination-free transfer of high-temperature, high-viscosity fluids like edible oils and colloids.

For corrosive media, Runhe Hydraulic's JCB-G series stainless steel gear pumps feature monolithic 304/316L stainless steel construction with fluorocarbon (FKM) or perfluoroelastomer (FFKM) seals. These pumps withstand strong acids, alkalis, and high-salinity environments, finding extensive use in chemical processing and seawater desalination. Additionally, for dusty mining environments, the pump incorporates self-cleaning channels that prevent particle buildup through reverse fluid flushing, extending service life.

3. Application Scenarios: Comprehensive Coverage from Underground to Cloud

Runhe Hydraulic's gear pump products have penetrated every corner of global industry. In

construction machinery, its Group35 high-pressure gear pump (displacement 40-100cc, pressure 280Bar) delivers robust power to cranes and concrete pump trucks, maintaining stable output even in extreme cold environments down to -30°C. In agricultural equipment, the compact JHP2 gear pump (40-100cc) serves as the “heart” of tractor hydraulic systems. Its lightweight design and impact resistance enable reliable operation under frequent start-stop cycles and variable load conditions.

The medical and food industries impose even stricter demands on gear pumps. Runhe Hydraulic's Sanitary Series gear pumps feature a modular design supporting CIP/SIP online cleaning and sterilization. Its NYP Series internally meshed pumps utilize magnetic coupling drive for completely leak-free operation, meeting GMP standards for the biopharmaceutical industry. In the new energy sector, the SEAFLO series of vehicle-mounted gear pumps (flow rate 3.2-18 LPM) leverage their compact size and wide temperature range performance (-20°C to 150°C) to serve as the hydraulic power core for electric sanitation vehicles and hydrogen fuel cell vehicles.

4. Intelligence and Sustainability

Runhe Hydraulics [gear pump catalogue](#) integrates intelligence into product design. By incorporating pressure sensors and flow feedback modules, users can monitor pump status in real time and remotely adjust parameters via IoT platforms. For instance, in injection molding machine hydraulic systems, intelligent gear pumps automatically regulate flow based on mold temperature, reducing energy consumption by over 15%. Regarding sustainability, Runhe Hydraulics utilizes renewable materials and low-carbon processes. Certain gear pump housings utilize 30% glass-fiber reinforced nylon, achieving a 20% weight reduction while lowering carbon footprint by 30%. Furthermore, all products hold ISO 14001 Environmental Management System certification, ensuring environmental compliance throughout the entire lifecycle from production to recycling.

5. Service and Support: A Value Commitment Beyond Products

Runhe Hydraulics recognizes that gear pump success hinges not only on product performance but also on comprehensive after-sales service. The company offers 24/7 global technical support with a multilingual engineering team for rapid fault diagnosis and spare parts fulfillment. For custom requirements, Runhe Hydraulics' rapid prototyping center delivers small-batch non-standard products within 7 business days, helping customers shorten R&D cycles. In training, Runhe Hydraulics regularly hosts “Hydraulic System Optimization Workshops” to share practical expertise in gear pump selection, maintenance, and troubleshooting. For mining clients, for instance, our technical team conducts on-site analyses of equipment hydraulic systems at mining sites, proposing pump set matching and energy efficiency enhancement solutions.

From miniature medical pumps to massive mining hydraulic systems, Runhe Hydraulic's gear pumps consistently serve as the invisible driving force behind industrial progress through precision, durability, and intelligence. We believe every gear pump is not merely a mechanical component, but a bridge connecting technology with demand. Moving forward, Runhe Hydraulics will remain customer-driven, exploring new materials, processes, and applications to deliver stronger, more sustainable power for global industry. Choosing Runhe Hydraulics means choosing reliability and innovation.

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