

Hydraulic power units – energy-efficient, silent, reliable





System partner for tailored power units

Energy-efficient, silent, and reliable: You specify the boundary conditions for your task, we engineer and manufacture the perfectly matching hydraulic power unit – from the compact standard power unit through to project-specific units with tank capacities up to 75,000 liters.

The power unit is the heart of every hydraulic system and has a decisive influence on its productivity and efficiency. For this reason, rely on the know-how of the worldwide leading specialists at Rexroth right from the project start. They collect the experience gained in many thousands of applications in all industrial sectors of factory automation and plant construction. Our power units are used in space travel applications just as in the deep sea. They provide sufficient power in injection molding machines and steel-works and set the most famous stages of the world into motion.

We accompany you with intensive advice from the first idea through to commissioning. When dimensioning our power units, we always consider the entire hydraulic system and utilize the most advanced simulation programs. They simulate the special characteristics of fluid power technology realistically and ensure that your power unit will perfectly match your task.

Rexroth power units provide low operating costs and a minimal CO₂ footprint thanks to highest energy efficiency. At the same time, we systematically reduce noise emission and make sure that your system complies with all safety standards. We utilize the advantages of the largest hydraulics construction kit in the world and mainly use standard components from series production.

From just-in-time delivery of series power units to the complete handling of project-specific systems: Rexroth is your system partner for complete hydraulic power units over the entire life cycle.



Rexroth hydraulic power units are used in a multitude of applications – e. g.:

- ▶ Mining
- ▶ Stage technology
- ▶ Printing and processing
- ▶ Power generation
- ▶ Material handling
- ▶ Woodworking and papermaking industry
- ▶ Plastics and die-casting machines
- ▶ Marine and offshore
- ▶ Metallurgy
- ▶ Presses
- ▶ Simulation technology
- ▶ Solar tracking
- ▶ Civil engineering
- ▶ Entertainment technology
- ▶ Machine tools
- ▶ Wind energy

The standard for individual solutions

Tailored and reliable: Mature state-of-the-art large-series components and complete function assemblies increase the service life and reduce total cost of ownership.



For power unit construction we utilize the world's most comprehensive hydraulics construction kit. Our Rexroth standard components cover all requirements in fine gradations from the compact small power unit to large systems. We combine components from our modular product range to form efficient function groups. Hydraulic manifolds or accumulator stations assembled on this basis can also easily be extended or adapted to new tasks after commissioning.

Our unique pump product range covers all power requirements. Our complete motor-pump assemblies utilize the technical advantages of various design principles in an optimum manner. The modular structure allows a wide variety of pump combinations and system setups.

On request, we also design and manufacture individual manifolds or reservoirs. Here, Rexroth sets standards and holds the world record with a 28-tons control block.



- ▶ Filter-cooler circulation circuits
- ▶ Filter technology
- ▶ Modular manifolds
- ▶ Motor-pump groups
- ▶ Oil reservoirs
- ▶ Accumulator stations
- ▶ Control blocks
- ▶ Valve technology
- ▶ Accessories



Highest energy efficiency for low operating cost

Save energy cost lastingly and reduce your CO₂ footprint with energy-efficient hydraulic power units – without compromising on performance and power.



For all hydraulic power units we apply a universal system method “Rexroth for Energy Efficiency”. It starts as early as at the engineering stage of the power unit with the Energy System Design. Our specialists determine the power on the basis of the future loading characteristic, thus preventing overdimensioning.

Featuring efficiencies of up to 97 percent, our hydraulic pumps make economical use of valuable energy. Compared with fixed displacement systems, our innovative variable-speed pump drives Sytronix cut energy consumption by up to 40 percent. At the same time, they allow a significant reduction in the installed power and remarkably smaller cooling capacities. What is of particular importance: With Sytronix, pumps, motors, and drives perfectly match each other and we also consider the special characteristics of fluid power technology already in the associated software.



Rexroth 4EE – the universal systematics “Rexroth for Energy Efficiency” uses four levers:

- ▶ Energy System Design
- ▶ Efficient Components
- ▶ Energy Recovery
- ▶ Energy on Demand

In larger power units, cascading pump-motor assemblies offer further energetic advantages. Under partial load conditions, we switch currently not required assemblies to the power-saving stand-by mode. In addition, accumulator-charging circuits lower expensive load peaks.

Rexroth hydraulic power units always offer you the perfect combination of power in line with demand – whenever you need it – and lowest energy consumption.



Low noise – systematic

The trend is clear: Regulations for machine building and plant construction stipulate increasingly lower limit values for the permitted average noise emission. Numerous industrial end users apply even stricter standards. We support this development with a systematic reduction of noise emission of your power units.



- ▶ **Noise-decoupled motor-pump assemblies with optimized suction lines and noise-decoupled, silent oil/air heat exchanger unit of the KOL series**



Rexroth reduces noise directly at its source, thus reducing the effort and investment for subsequent insulation, which would also make operation and maintenance more difficult. We reduce air-borne noise with low-noise axial piston pumps as well as internal and external gear pumps of the latest generation. Variable-speed pump drives even reduce the average noise emission by up to 20 dB(A).

But our specialists also have structure-borne noise under control: They know how to reduce noise emission to a minimum with sensible design and suitable components such as matched anti-vibration mounts. In addition, with the whispering power unit we offer an extremely low-noise standard solution. It combines low noise emission with ease of operation and maintenance: All of the control elements are fitted outside the encapsulation and all components are easily accessible.

- ▶ **Whispering power unit type ABFAG enclosed and open**



Always on the safe side with Rexroth



Reliable mastering of high pressures and guaranteed compliance with legal stipulations.

The hydraulic power unit is always part of the complete system. For this reason, our specialists always methodically consider all interrelationships for safe operation. This starts with pressure resistance and freedom from leakage as basic precondition. In many applications, non-inflammable and bio-degradable fluids are used. Components designed specifically for this operation prolong the service life of the entire system and therefore increase efficiency.

The compliance with the European Machinery Directive is a matter of course as is the implementation of both, international and regional hydraulics-specific standards and regulations. Moreover, we closely cooperate with major international certification societies in the field of marine and offshore, mining and other sectors. This provides safety for both, machine manufacturers and operators. And you can fulfill your responsibility towards employees and the environment.

Hydraulics-specific standards, regulations and international certificates are accepted in the factory depending on the customer specification, and the required documents are made available.

- ▶ TÜV
- ▶ Germanischer Lloyd
- ▶ Lloyds
- ▶ DNV
- ▶ Explosion protection



Installation and commissioning: Only one supplier from beginning to end

Save time and valuable resources: We carry out the complete installation and commissioning of your hydraulic system, wherever you need it.



We are always in your direct vicinity. Being a global partner with power unit construction capacities in Europe, Asia, and Americas, we always rely on high local added value. We share our worldwide application know-how with local commissioning and service specialists in more than 80 countries.

On request, we assume the complete handling for tailor-made power units: As general contractor we prepare sites, carry out professional piping and install and commission the power unit on site. This relieves you of your workload, because you have only one responsible contact. He coordinates and pools our worldwide resources for you. This also includes training of operators and service staff in line with practical needs.

We assemble series power units according to your specification in our plants and deliver them pre-tested and just in time to your assembly line. What is of particular importance for global machine builders: We adjust the basic construction flexibly to your special regional requirements.



Lifelong partnership

Your guarantee for lowest total cost of ownership: Also after commissioning, we accompany you through the entire life cycle with comprehensive services and tailored filtration solutions.



For more than fifty years we have looked after hydraulic systems with intensive service. With intelligent services we maintain your system fit and increase its availability over the entire service life. For this, we also rely on innovative condition monitoring strategies and efficient web-based services.

Through an increased service life of the hydraulic medium you can significantly reduce your operating cost. We are pleased to assume the entire fluid management for you. Benefit from our experience that has been gained in many thousands of hydraulic applications. We have brought this experience in in the development of filters and filter elements for any media and applications. They clean fluids reliably, thus ensuring the function and integrity of hydraulics. Our filter elements reliably remove even smallest amounts of water from the hydraulic oil circuit and prevent corrosion and cavitation.

Also when it comes to conversions, modernization or retrofitting, we support you from the planning through to execution stage – we offer you a lifelong partnership for lastingly low total cost of ownership.



Tough application,
ingenious solution } exactly



Your benefits

- ✓ Energy consumption reduced
- ✓ Operating cost saved
- ✓ Reliability ensured
- ✓ Noise generation reduced
- ✓ Dimensions tailored
- ✓ All safety standards fulfilled

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