High-Performance Planetary Gearboxes for Mobile Equipment
Rexroth – A Good Partner for Optimum Gearbox Components

"Planetary gearboxes are ideal drive components for mobile machines. No matter whether I need a gearbox for a travel, swing or winch drive, the Rexroth experts are always at my disposal as experienced and competent development partners for future-oriented, high-quality gearbox components at attractive price-performance ratios. Especially integrated drive solutions – extremely compact units comprising a planetary gearbox and a hydraulic motor - make things a lot easier."

Professionals know: Rexroth offers a uniquely wide range of mechanical drive components. Whether you are in the market for a small 5-ton or a giant 600-ton or more machine - we have the right solution for any drive system for mobile equipment.
Where Only the Application Matters

Due to our long years of experience and our wide spectrum of products and applications we know what specific requirements planetary gearboxes for mobile equipment must meet. We know what is really necessary in order to optimize the performance of your mobile machines and vehicles, no matter if these are excavators, loaders, tracked vehicles, road rollers, road paving machines, road milling machines, cranes, aerial work platforms, drilling rigs, snow-grooming machines, agricultural machines, forestry machines, special-purpose vehicles and many more.
A complete range
Rexroth offers a complete range of planetary gearboxes. Whether used as propel drives in tracked vehicles or as wheel drives in wheeled vehicles, they provide the required traction in almost any terrain. Swing drives turn the upperstructures of excavators or cranes, producing high acceleration and brake torques. Winch drives provide the required line pull for lifting and lowering loads.
All planetary gearboxes can be used in combination with a large number of Rexroth hydraulic motor options. Our technology guarantees smooth operation, high performance and compact design. The plug-in and bolt-on motors we use provide optimum overall efficiency. Our drive components ensure long gearbox service life and low maintenance. Ideal dimensions and compact designs reduce installation work significantly.

Components and systems
Rexroth offers a unique variety of components and systems designed to drive and control mobile equipment mechanically, hydraulically and electronically. In such components and systems, gearbox technology plays a vital role. For many years, we have developed and produced mechanical drive components for a wide spectrum of applications. We offer our customers optimally designed mobile drive units, i.e. perfect combinations of planetary gearboxes and hydraulic motors. This makes us unique at an international level.
Planetary gearboxes from Rexroth are the ideal option for many mobile applications. This applies in particular to construction machinery, material-handling equipment, and open-pit mining equipment, agricultural and forestry machines as well as special-purpose vehicles. In all these markets, we demonstrate what has made Rexroth the world market leader: robustness, reliability and economic efficiency.

Competence in marketing and design
The importance of industry-specific system solutions is steadily growing. Rexroth meets this trend by operating market-oriented application centers – for example for excavators, cranes or agricultural machinery. Each of these centers is manned with product experts, who are not only specialized in drive technology, but are also familiar with the specifics of your application. Rexroth mobile gearboxes are designed for safety and reliability. In their design and development activities, our experienced engineers are assisted by modern computer software for gearing design and component optimization.
Top Performance from Start to Finish

Rexroth has full control over the entire gearbox manufacturing operations. Our process chain extends from machining, to heat treatment and assembly, including inspection, painting and shipment. For us, perfect quality management consists not only in systematically planning and controlling quality characteristics, but also in striving for continuous improvement - in every step of the value added chain.

**Purchasing**
The materials we use must meet the same quality standards that we have set for ourselves. For torque-transmitting parts we use highly annealed, die-forged steel from approved suppliers. Our forged spindles, planet carriers and ring gears have excellent strength - which enables compact gearbox designs with small space requirements.

**Heat treatment**
Modern heat-treatment methods have a significant impact on the quality of gearings and components. The external teeth of sun gears and planetary gears are case-hardened and the internal teeth of ring gears are nitrided. Our vast experience in hardening technology is a decisive quality factor, which makes sure that our gearboxes meet maximum standards in terms of strength, load-carrying capacity, compactness and service life.

**Machining**
The know-how we have gained over several decades in the various turning, milling and grinding operations involved in the manufacture of gearbox components and gearings is continually being further developed and forms the basis of the highest possible manufacturing quality. Rexroth invests systematically in advanced production machinery to ensure maximum quality and economic efficiency.
Semi-automatic assembly line for compact drive units
Our customers require ever more compact and cost-effective drive units for their equipment. Rexroth is committed to meeting these requirements. In our innovative manufacturing concept, all stages of the value-added chain ranging from cutting operations to gearbox and hydraulic motor assembly to inspection and testing are united under a single roof, thus ensuring highly flexible and efficient manufacture.

Test benches
Prior to shipment, all planetary gear units are tested to the most stringent quality criteria on our test benches. Multi-disc parking brakes, for example, are specifically tested for tightness and functionality. Operating parameters such as gear case and hydraulic oil temperatures are recorded using modern control equipment.

Environment and quality management
Our quality management system to DIN EN ISO 9001:2000 is the base and guarantor of a consistently high quality level. Another area of major concern to Rexroth is environmental protection. At our Witten production plant, for example, we have implemented an environment management system to DIN EN ISO 14001.
Nothing can shake it up: the HYDROTRAC GFT Travel Drive

Dense forests, steep slopes, rough terrain: hard conditions for the forestry machine travel drive. The machine must stand safely while working and be capable of starting and turning on difficult terrain – what is needed to meet these requirements is robustness, reliability and high traction. The Rexroth HYDROTRAC GFT travel drive meets all these criteria.
The HYDROTRAC GFT hydrostatic compact drive unit is the ideal drive component for your mobile equipment, whether tracked or wheel driven. We offer a wide spectrum of gearbox and size options for equipment of different size providing output torques of between 7 and 450 kNm (5,160 and 331,903 ft-lbs). The drive unit itself comprises a two or three-stage planetary gearbox, an integrated, hydraulically released multi-disc parking brake and a fixed or variable-displacement motor from Rexroth. The amply dimensioned taper roller bearings meet the equipment manufacturers’ demand for ever higher axial and radial loads. They carry part of the equipment weight and ensure smooth operation.

Technical Data
HYDROTRAC GFT travel drives for output torques from 7 to 450 kNm (5,160 to 331,903 ft-lbs)

- Gear ratios from 16.3 to 475.7
- Compact, space-saving two-, three- or four-stage planetary gearboxes
- Robust main bearing
- Optimized seals
- Integrated multi-disc parking brake
- Optional for wheel-driven equipment: mechanical disconnecting device
- Rexroth hydraulic motor: fixed or variable-displacement motor of space-saving plug-in design
- Easy mounting
- Convenient oil change
- Low-noise operation
It’s got what it takes:
the HYDROTRAC GFT-A10VT Travel Drive
with an Integrated Hydraulic Motor

There is enormous time pressure at the construction site: In a few weeks, the new factory building must be ready for occupancy. To be able to inspect the roof structure, the chief erection engineer needs a small, maneuverable aerial work platform. Extreme requirements, in particular for Rexroth’s HYDROTRAC GFT-A10VT travel drive.

Technical Data
HYDROTRAC GFT-A10VT travel drives for output torques from 7 to 40 kNm (5,160 to 29,500 ft-lbs)

- Gear ratios from 25.1 to 161
- Compact, space-saving two or three-stage planetary gearboxes
- Robust main bearing
- Optimized seals
- Complete, easy-to-mount unit
- For open loop systems: with complete valving (brake release valve, pressure-reducing valve) integrated in the motor connecting plate
- For closed loop systems: with external brake release connection
- Integrated multi-disc parking brake
- Optional: mechanical disconnecting device available upon request
- Convenient oil change
- Low-noise running

Especially manufacturers of small vehicles - e.g. aerial work platforms, mini excavators, excavators or road construction machines - demand travel drives of compact size. Here the HYDROTRAC GFT-A10VT travel drive is the optimum solution. This drive type is available with output torques ranging from 7 to 40 kNm (5,160 to 29,500 ft-lbs). The integrated Rexroth two-speed motor of swash plate design permits extremely short drive units to be built that can be accommodated within the available track shoe or tire width.
It turns where you want it: 
the MOBILEX GFB / GFB-A10FD Swing Drive

100 m above ground: A frigid wind is blowing – and it’s even more fierce at this dizzy height. There’s no questioning: the heavy wind turbine rotor must be mounted. Accurate positioning is called for. So it’s great that the crane’s MOBILEX GFB swing drive can align the flange holes and bolts within millimeters.
The MOBILEX GFB swing drive is suitable for all types of excavators and cranes, ship unloading equipment, forestry machines and all applications where accurate positioning is called for. Output torques range from 4 to 150 kNm (2,950 to 110,630 ft-lbs). The drive pinion of the swing drive engages with the turning mechanism’s slewing ring gear. Depending on the upperstructure and the required torque, one or several swing drives may be used. The drive unit itself consists of a two or three-stage planetary gearbox, an integrated multi-disc parking brake, a drive pinion and a Rexroth fixed-displacement hydraulic motor of plug-in design. For excavators in particular, Rexroth has developed the extremely compact MOBILEX GFB-A10FD drive option with a hydraulic motor of swash plate design.

**Technical Data**

MOBILEX GFB swing drives for output torques from 4 to 150 kNm (2,950 to 110,630 ft-lbs)

- Gear ratios from 17.3 to 247
- Compact, space-saving two or three-stage planetary gearbox design
- Integrated multi-disc parking brake
- Rexroth hydraulic motor: fixed-displacement motor of space-saving plug-in design
- Easy mounting
- Convenient oil change
- Low-noise operation

MOBILEX GFB-A10FD swing drives for output torques from 5 to 10 kNm (3,690 to 7,380 ft-lbs)

- For excavator swing drives
- Gear ratios from 17.3 to 33.4
- Compact, space-saving two-stage planetary gearbox design
- Integrated multi-disc parking brake
- Rexroth hydraulic motor of swash plate design
- Easy mounting
- Convenient oil change
- Low-noise operation
It’s got everything under control: the MOBILEX GFT-W Winch Drive

There is a tight construction schedule: The pressure vessel must be mounted before the break of night. Difficult work for a lattice boom crane. After all, it has to place heavy components at exactly the right spot – from a great height and positioned a safe distance away. Here a drive is called for that does its work without a hitch: The MOBILEX GFT-W winch drive from Rexroth.
The MOBILEX GFT-W winch drive can be mounted inside the winch drums of all types of lifting equipment, e.g. mobile, track, railway, ship, port and container cranes. Thanks to its extremely compact design, this winch drive is especially suited to be directly installed, in a space-saving manner, inside the rope drum. Output torques range from 9.5 to 275 kNm (7,010 to 202,830 ft-lbs).
Extremely powerful: 
Special Gearboxes for Large Vehicles and Machines

Open-pit mining: Around the clock, the hydraulic excavator digs its way forward. Without pausing, it loads gigantic volumes of over burden and raw material into haul trucks. Here everything is extreme. This is true, in particular, for the requirements that the travel drive, swing drive and pump distribution gearboxes have to meet in terms of power and service life. Long-lasting, robust and tailor-made equipment is called for – such as Rexroth’s HYDROTRAC GFT 1500 wheel gearbox for the world’s largest two-axle haul truck.
The mining industry uses large loading and transport vehicles and machines for open-pit mining. Moving enormous amounts of material under the most arduous conditions, these giants demonstrate an impressive level of reliability. For the track drive of hydraulic excavators, Rexroth supplies travel drive units with output torques of up to 1,300 kNm (958,830 ft-lbs) to transmit the hydraulic motor power to the excavator tracks. MOBILEX GFB swing drives with output torques of up to 485 kNm (357,720 ft-lbs) serve to rotate the machines’ upperstructure. MOBILEX GFC pump distribution gearboxes are used on large hydraulic excavators where they distribute the power from the diesel engine to the hydraulic pumps that serve the various hydraulic circuits. Their power output ranges from 350 to 2,000 kW (470 to 2,680 hp).

Haul trucks are the ideal partners for mining excavators. They are equipped with diesel-electric or mechanical drive units and are designed to handle payloads of more than 300 tons. For haul truck wheel drives, Rexroth supplies wheel gearboxes with output torques of up to 1,500 kNm (1,106,340 ft-lbs).
The asphalt specifications are exacting. Finishing a racing track road surface is a very special task. For the road paving machine this means: An even, constant working speed with good rotation characteristics and a high transfer speed are indispensable. No problem for Rexroth’s HYDROTRAC GFT two-speed drive with a shiftable gearbox stage.
There is an increasing demand among manufacturers of vehicles and mobile equipment for drive solutions with extended functionality. To meet this demand, Rexroth has developed a number of new features. Our special-purpose gearboxes, for example, are only slightly larger than standard gearbox designs. Thanks to the use of space-saving technology, the drive systems can be made more compact. The space gained in this manner is available for additional functional features. Alternatively, the vehicles may be designed to provide better maneuverability.

**HYDROTRAC GFT Compact Drives with an Integrated Swash Plate Motor A10VT**

In many machines, the space available for the travel drive is restricted, especially in small mobile machines. Due to the integration of the axial-piston motor A10VT of bent axis design, the overall length of the drive unit can be significantly reduced.

**HYDROTRAC GFT Two-Speed Travel Drives with a Shiftable Gearbox Stage**

Two-speed travel drives are used where especially wide speed ranges are required - e.g. in the case of vehicles whose working speed is significantly lower than the transfer speed.

**HYDROTRAC GFT Travel Drives with an Integrated Dynamic Brake**

In the case of single-wheel-driven vehicles - e.g. agricultural machines - travel drives with a service brake can be used to great advantage. In such a design, the parking brake, which is required anyway in many single-wheel-driven vehicles, can be used as an additional service brake to ensure that the vehicle can brake at the required maximum deceleration. A smart way to meet the legal safety requirements for mechanical brakes.

**GRM Single-Stage Travel Drives with an Integrated Radial-Piston Motor**

Instead of an integrated axial-piston drive motor, a radial-piston drive motor, partly integrated into the travel drive spindle, can be used. The radial-piston motor offers some advantages in that it provides better starting efficiency and produces less noise due to its lower speed level.
We are at your disposal, always and everywhere

You have an idea and wish to know how we can help you? Do not hesitate to discuss your project with our engineers who are familiar with your application and will support you throughout the project implementation from initial design to final completion. Embrace technology and meet customers’ needs - that is our specialists’ motto.
To find a Rexroth expert near you, go to: www.boschrexroth.com
Service
The Mobile Hydraulics service people are available to you around the clock in more than 80 countries to provide competent advice on all drive and control problems. Use our unique consulting competence and our comprehensive support services. From consultancy to training, from product selection to start-up, from quality optimization to documentation. No matter what mobile gearbox is concerned – our qualified experts and dependable service people will be pleased to help you.

Failure analysis, Remanufacturing, Original Spare Parts
Our qualified service engineers will provide advice on any operating problem and help you find the fault. We have vast experience in failure analysis and repair. However, our services cover not only repair and maintenance, but also gearbox remanufacturing. Our spare parts are all original parts that meet the same quality and manufacturing standards as new parts. They are continuously controlled and tested.

Documentation and Support
We can provide all required facts and figures in the form of comprehensive information sheets or catalogues for each product. Your contact at Rexroth will be pleased to furnish detailed information. Alternatively, you may visit our website, from which you can download any required technical information about our products and services. Should you require still further details, just contact your Rexroth partner. He knows the experts in development and design – around the world. They will help you to make your mobile equipment even more mobile.

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