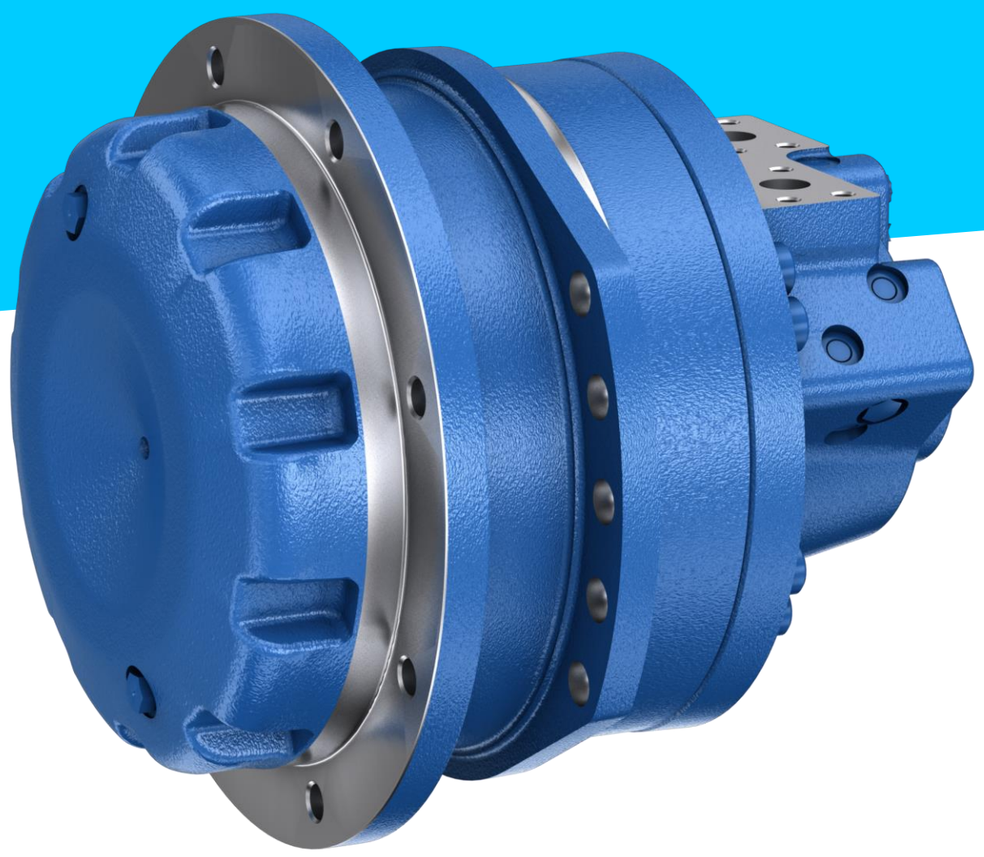
Radial piston motor MCR-T

for track drive applications
Compact design and high load capacity

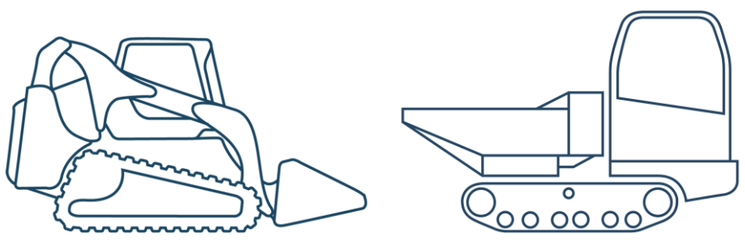


Mobile working machines often have to deal with difficult ground conditions on construction sites. This means that, for track drive applications, there is always a high demand for extremely robust and flexible solutions. These demands have to be met whilst also taking into consideration the limited installation space which is available for the hydraulic drive components. With optimized installation design and improved load capacity, Bosch Rexroth offers with the MCR-T range of radial piston motors an optimal solution to achieve these goals. The MCR-T motor fits perfectly for construction machines with tracked drives like compact track loaders (CTL) or tracked dumpers.

CUSTOMER BENEFITS

- High radial load capacity
- Compact and optimized installation
- New frame size (MCR6) with optimized power density
- High volumetric and mechanical efficiency – best in class
- Increased starting efficiency and smooth operation

APPLICATIONS



FUNCTION AND BENEFITS

High radial load capacity
The load distribution of the MCR-T has been improved to support the high radial loads from track drive applications. This has been achieved by significantly reducing the distance between the sprocket mount and the centerline of the track. Bearing life has also been enhanced by positioning the load between the two main motor bearings. Benchmark studies have shown that this results in class leading durability.

Compact and optimized installation
The MCR-T has been specifically designed, both in terms of installation dimensions and load distribution, for track drive applications. In order to reduce the overall length of the motor, it has been re-designed by re-positioning the parking brake from the rear to the body of the motor (length reduction up to 20 %). In addition, the rear case profile is significantly more compact as a result of the integration of the two speed shifting spool within the motor distributor. The main port locations have also been optimized for ease of installation (with radial and axial layouts available). Maximum operating pressure of up to 420 bar results in high power density from a compact design with up to 8,500 Nm torque output and a maximum speed of 250 rpm.

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TECHNICAL DATA

Radial piston motor MCR-T	
Frame sizes:	5, 6, 10
Speed:	up to 250 rpm
Maximum pressure:	up to 420 bar
Torque output:	up to 8500 Nm
Displacement options:	620 cc to 1340 cc
Optional features:	Bi-directional two speed, integrated speed sensor, integrated case flushing
Data sheet:	15221

New frame size (MCR6) with optimized power density
The MCR6 frame size features a new rotary group design which is especially developed for motor displacements between 820 cc and 920 cc. This leads to greatly increased torque density eliminating redundant torque capacity associated with larger frame motors. The 9 piston rotary group layout provides an optimal secondary displacement of 66 %, controlling the maximum vehicle speed.

High volumetric and mechanical efficiency – best in class
Rexroth radial piston motors have an optimized design of sealing and low friction properties within the flow passages and rotating elements of the motor, which result in exceptional levels of efficiency. In addition, the MCR10T 2 speed variant has a specially developed rotary group which achieves a 47% increase in maximum speed compared with the standard MCR10.

Increased starting efficiency and smooth operation
The direct drive characteristics of the Rexroth radial piston motor ensure very precise controllability, with smooth operation and high torque, even with shaft speeds as low as 0.5 rpm. The low speed capability is realized through an enhanced rotary group design, which has also been optimized for high temperature applications, and ensures maximum efficiency without compromising on durability. Increased starting efficiency delivers high torque at zero rpm, allowing downsizing of components, hence reducing overall cost of ownership and increasing productivity.

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