Radial piston motor MCR-S
for chain drive applications
Compact solution especially for skid steer loaders

As mobile construction machines such as skid steer loaders (SSL) become increasingly sophisticated, the demands on the drive components, particularly in relation to installation space, are continually evolving. With its optimized installation design and increased power density, Bosch Rexroth offers with the MCR-S range of radial piston motors an optimal solution to these demands. The MCR-S motor fits perfectly for construction machines with chain drives.

CUSTOMER BENEFITS
- Compact and optimized installation
- New frame size (MCR4) with increased power density
- High volumetric and mechanical efficiency – best in class
- Increased starting efficiency and smooth operation
- High temperature range capability

FUNCTION AND BENEFITS

Compact and optimized installation
As a result of increased demand for space within the engine compartment the motor installation length becomes more critical. 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 33 %). 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 (contributing to a weight reduction of up to 41 %). The main port locations have also been optimized for ease of installation. Maximum operating pressure of up to 420 bar results in high power density from a compact design with up to 2,900 Nm torque output and a maximum speed of 420 rpm.

New frame size (MCR4) with optimized power density
The MCR4 frame size features a new rotary group design which is especially developed for motor displacements between 260 cc and 470 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.
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**TECHNICAL DATA**

<table>
<thead>
<tr>
<th>Radial piston motor MCR-S</th>
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</thead>
<tbody>
<tr>
<td>Frame size:</td>
<td>4</td>
</tr>
<tr>
<td>Speed:</td>
<td>up to 420 rpm</td>
</tr>
<tr>
<td>Maximum pressure:</td>
<td>up to 420 bar</td>
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<tr>
<td>Torque output:</td>
<td>up to 2900 Nm</td>
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<tr>
<td>Displacement options:</td>
<td>260 cc to 470 cc</td>
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<tr>
<td>Brake torque</td>
<td>2200 Nm</td>
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<tr>
<td>Optional features:</td>
<td>Bi-directional two speed, integrated speed sensor, integrated case flushing</td>
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</tbody>
</table>

**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.

**Increased starting efficiency and smooth operation**

The direct drive characteristics of the Rexroth radial piston motors 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.

**High temperature range capability**

A patented breakthrough tribological development in rotary group design delivers an increase in starting efficiency with industry leading durability and resistance to high temperatures in the most demanding applications. This means, that system cooling requirements can be kept to a minimum, reducing the overall system costs. High levels of durability prevent unplanned maintenance and increase productivity of machines fitted with Rexroth radial piston motors.

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