



MAAG® KPB Gear Unit

Designed specifically for bucket wheel excavators, our MAAG® KPB Gear Unit brings durable transmission to your open-pit mining operations. It is the perfect solution for newly-designed excavators, as well as for upgrades to your existing bucket wheel drive in the mining industry.

Reliable planetary operation

Generally installed between the electric motor and the bucket wheel shaft, the compact design of the MAAG KPB Gear Unit dependably powers your bucket wheel excavator. A fluid coupling connects the electric motor to the gearbox input shaft. With a bevel stage as the first gear reduction, your motor is installed along the outrigger of your bucket wheel excavator. The bevel stage redirects the transmission power into two planetary stages and then into the output shaft, which is connected to the bucket wheel shaft using a shrink disk. Both planetary stages are spur gears and the bevel stage has Klingelberg tothing.

The Klingelberg tothing of the bevel stage and the gearing of the sun pinions as well as the planets are case-hardened and grinded, with the bevel stage machined according to the HPG method. The ring gears with internal tothing are tough-hardened and part of the gear casing.

Key benefits

Compact design, fit for you needs

With its space-saving design, our KPB gearbox is easier to transport and install. It can be made-to-measure for your application-specific requirement – delivering precisely what you need for bucket wheel excavation in an optimal weight and compact footprint.

Smooth operation with integrated oil system

The combined forced and splash lubrication system is integrated directly with the KPB gearbox casing – resulting in simplified servicing and continued trouble-free operation. An additional oil chamber inside the gear unit provides emergency lubrication in case the pressure drops in the lubrication system.

Reliable bucket wheel excavator drive

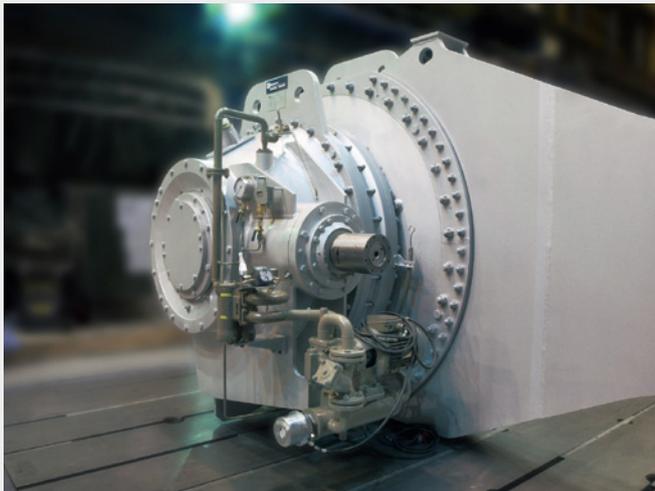
Gear Unit description

Using state-of-the-art manufacturing techniques, our well-trained operators ensure that shafts and gear wheels of our MAAG KPB Gear Unit are of the highest quality and precision. A clever transmission train arrangement, where the bevel pinion is supported with roller bearings on both sides of the toothing, and free-floating sun pinions that are self-aligning in both planetary stages, complete the sturdy and compact design.

The ring gears of both planetary stages are an integrated part of the gear casing. This allows counter torque to be transmitted directly to the connection flange through the torque lever. The particularities of this connection flange are easily adaptable to your unique needs.

Easy, built-in lubrication

The primary components of the lubrication unit are a low-pressure pump group and a manually switchable bypass filter, all of which are attached to the gear casing. The system also includes a safety valve, magnetic filter on the pump suction side and a set of heating cartridges, which decrease the start-up time of your bucket wheel excavator. To ensure the continuous function of the gear unit in case the pressure system fails, our MAAG KPB has oil chambers for gravitational lubrication inside the casing.



High-caliber bearings

The type and size of the bearings in our MAAG KPB Gear Units are selected based on the specified loads to be transmitted and the required longevity. We calculate bearings durability and lifetime according to the latest international standards, ensuring state-of-the-art heavy-duty application.

Ball and roller bearings are used to support and align rotating shafts inside our gearbox. As determined by the location and environmental conditions, the KPB's rotating parts have long-life lip seals and/or labyrinth seals.

Keep an eye on your gearbox

By incorporating a monitoring system into the design, we make sure that your KPB Gear Unit alerts you if things run out of normal conditions. The standard version of our bucket wheel excavator gearbox includes thermal resistance sensors that:

- measure the temperature of lubrication oil and bevel pinion bearings
- signal and turn off the motor if the lubrication oil or the bevel pinion bearings reach to high temperatures
- block the drive motor power supply in case the temperature of the lubrication oil is too low
- controls the operation of the heaters, allowing them to be turned on and off.

The instrumentation of our MAAG KPB Gear Unit is hardwired on a terminal box installed on the gear casing itself. You can further increase the benefit of the monitoring system by connection the sensors to your control system and interlocking the signals – giving you fast and reliable control over emergency shut-downs.

Type Size	KPB 190-214	KPB 190-194	KPB 163-250	KPB 163-186
Nominal power (kW)	630	500	320	320
Input shaft speed (min -1)	990	987	990	900
Output shaft speed (min -1)	5.2	5.2	4.0	5.3
Weight (t)	29.6	15.4	9.3	9.3
Transmission ratio	190.4	189.8	247.5	186.8

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