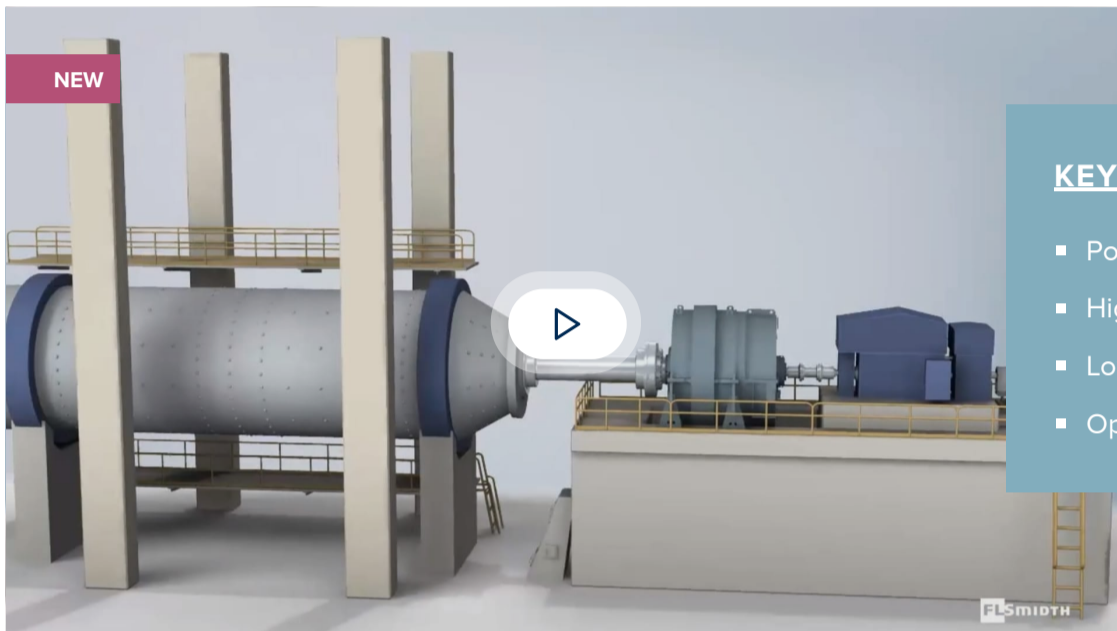


MAAG® CPU Gear Unit

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[KEY BENEFITS](#) →

- Power efficiency exceeds 98.9%
- High operational reliability and availability
- Low-cost maintenance with long-life gearing and journal bearings
- Optimised to suit customers' unique specifications

The high-performance gear unit you need to drive your ball mill

Our MAAG® CPU Central Drive Gear Unit uses a two-stage planetary arrangement to enhance your cement grinding process. It delivers the highest productivity for your ball mill – and takes up less space than a traditional multistage spur gear unit.

[WHAT WE OFFER](#)

Reliable, planetary gear unit for ball mills – with peak efficiency

Developed in 1966, our two-stage planetary gear unit guarantees optimum power transmission and speed reduction for your ball mill. The standard for central driven ball mills in the cement industry today, our MAAG® CPU Gear Unit drives hundreds of raw and clinker ball mills all around the globe.

98.9%

EFFICIENCY

Efficient gear arrangement and high manufacturing quality ensure the best productivity

1,000 to 10,000

KW DRIVE POWER

Our MAAG® CPU gear unit guarantees an optimum power transmission over a wide range

Planetary gear for maximum power efficiency

The simple design holds the secret to the gear unit's high efficiency. Two co-axial planetary gear stages are arranged one after the other. Each stage includes three planet wheels mounted in a rotating planet carrier and internal toothed coupling guarantees reaction-free power transmission from the first planetary stage to the second. This setup is the most efficient gear arrangement and guarantees optimum power flow from the main motor to your horizontal mill with the fewest possible rotating parts, tooth contacts and bearings.

Your requirements for the grinding process determine the configuration of this gear unit, which can be tailored to suit many application areas. All installations take into account local circumstances and plant specifications, such as motor and mill speeds. With power ranges from 1,000 to 10,000 kW, the MAAG® CPU Gear Unit has the breadth to adapt output speed to your specifications. We can also add additional features such as water injection or a condition monitoring system.

Compact central drive with streamlined installation

The space-saving design of our two-stage planetary gear unit means that it takes up less room than traditional, multistage, spur gear units. While it may be smaller, it never compromises on power delivery.

Additionally, the compact size of the MAAG® CPU Gear Unit simplifies transport. Assembly time is also decreased and, once the foundation is complete, the central drive gear unit is quickly installed and operational.

Quality delivers long life with minimum maintenance

Our modern manufacturing methods and tooling machines enable us to deliver state-of-the-art gear units. This two-stage planetary gear offers an impressive service life, hand-in-hand with minimum maintenance requirements. Proof of the longevity of our MAAG® CPU Gear Units: the first two units ever built are still in use after more than 50 years of operation.

How is this possible?

- Fewer rotating parts and bearings improve overall reliability. Parts that don't exist can't fail or wear out.
- Case-hardened and grinded tooth flanks with profile correction are very durable and guarantee optimum tooth contact during operation.
- Only slide bearings with infinite lifetime are used, completing the durable design of the central drive gear unit.

With a long history of reliability and performance, our MAAG® CPU Gear Unit delivers optimum power transmission as part of a robust, long-term grinding solution for ball mills.

Need help? Get in touch with an expert.

[CONTACT US](#)

Ensure reliable ball mill operation with our efficient gear unit

Power efficiency exceeds 98.9% ^

The two-stage planetary configuration of our MAAG® CPU Gear Unit delivers almost 100% power efficiency, translating to environmental benefits and potential cost savings.

High operational reliability and availability ^

With high-calibre parts and production monitored by internal quality assurance systems that comply with ISO 9001, every MAAG® CPU Gear Unit is fit-for-use and has the strength to perform with limited downtime.

Low-cost maintenance with long-life gearing and journal bearings ^

The very nature of the materials used in the MAAG® CPU Gear Unit establishes their long lifetimes. Only slide bearings are built-in and the flanks are ground on precision grinding machines with profile and longitudinal modifications for optimum tooth contact under load.

Optimised to suit customers' unique specifications ^

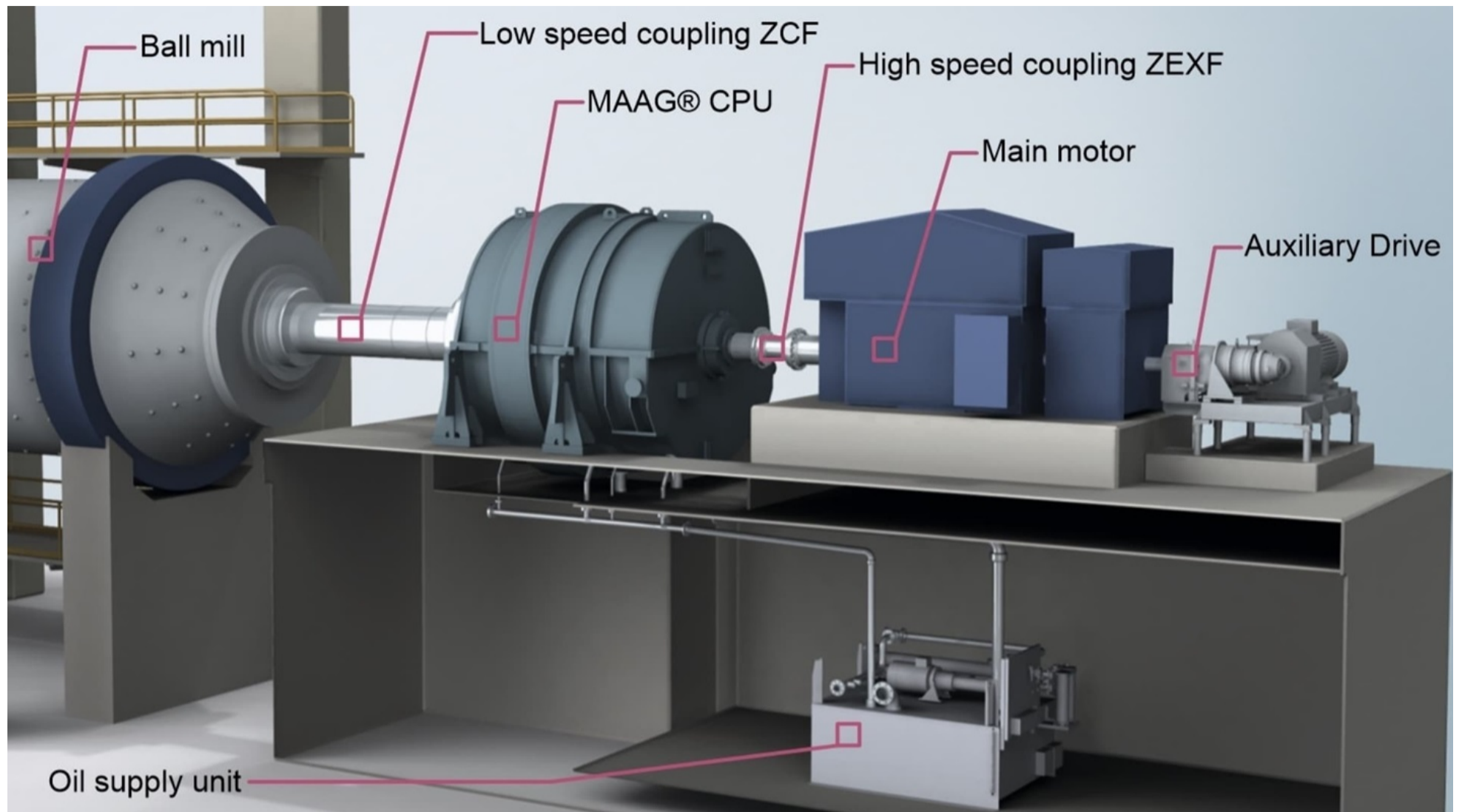
Although based on a well-proven and standardised design, the MAAG® CPU is still flexible enough to fulfil your specific requirements. Our central drive gear unit can be customised to match your grinding process.

FEATURES

Reliable ball mill efficiency with our compact central drive system

The design of our MAAG® CPU Gear Unit has been copied many times, but never equalled in efficiency, quality and ease of installation and maintenance. The complete central drive system delivers dependable

power for raw and cement grinding – allowing your plant to operate with ease.



Central power for ball mills

The complete drive system for the MAAG® CPU Gear Unit works with two couplings, a main motor, auxiliary drive and an oil supply unit to ensure consistent and smooth operation.



Simple operation with the auxiliary drive

The auxiliary drive allows you to slowly turn the ball mill to evenly cool it or for maintenance tasks. It is equipped with a small planetary gearbox and a fluid coupling to minimise torque peak during start up and smoothly accelerate the mill. The overrunning clutch between the auxiliary drive and the main motor automatically disengages the auxiliary drive when the main motor is started. A break allows to look your ball mill in position during maintenance.

Toothed couplings for maximum torque

The toothed couplings installed between the main motor and the gear unit, as well as between the gear unit and the ball mill, transmit pure torque from one component to the next. In addition, they compensate for thermal expansions and mechanical deflections resulting from operating conditions.

During maintenance, the low speed ZCF coupling remains in place between the gear unit and the ball mill, while the dismantled high speed ZEXF coupling provides enough axial space to disassemble the gear unit without moving the main motor.



Oil supply unit keeps the gear unit running smoothly

Ideally located beneath the main motor, the oil supply unit cools and lubricates the tothing and bearings of the MAAG® CPU Gear Unit. With a high prioritisation on operational reliability, the oil supply unit has all necessary measuring instruments to monitor the correct lubrication of the central drive gear unit.

Beyond a basic condition monitoring system

All of our gear units and drive systems are equipped with unparalleled condition monitoring sensors. Normally, these types of sensors keep an eye on critical operating parameters like bearing temperatures, casing vibrations, etc. and trigger a mill shutdown in the case of exceedances.

Our condition monitoring system does much more. It lets you set up condition-based preventive maintenance that uses continuous monitoring and data analysis to detect wear and tear at an early stage. With this enhanced information, we help you plan maintenance and servicing in advance – reducing downtime and keeping your plant running smoothly.