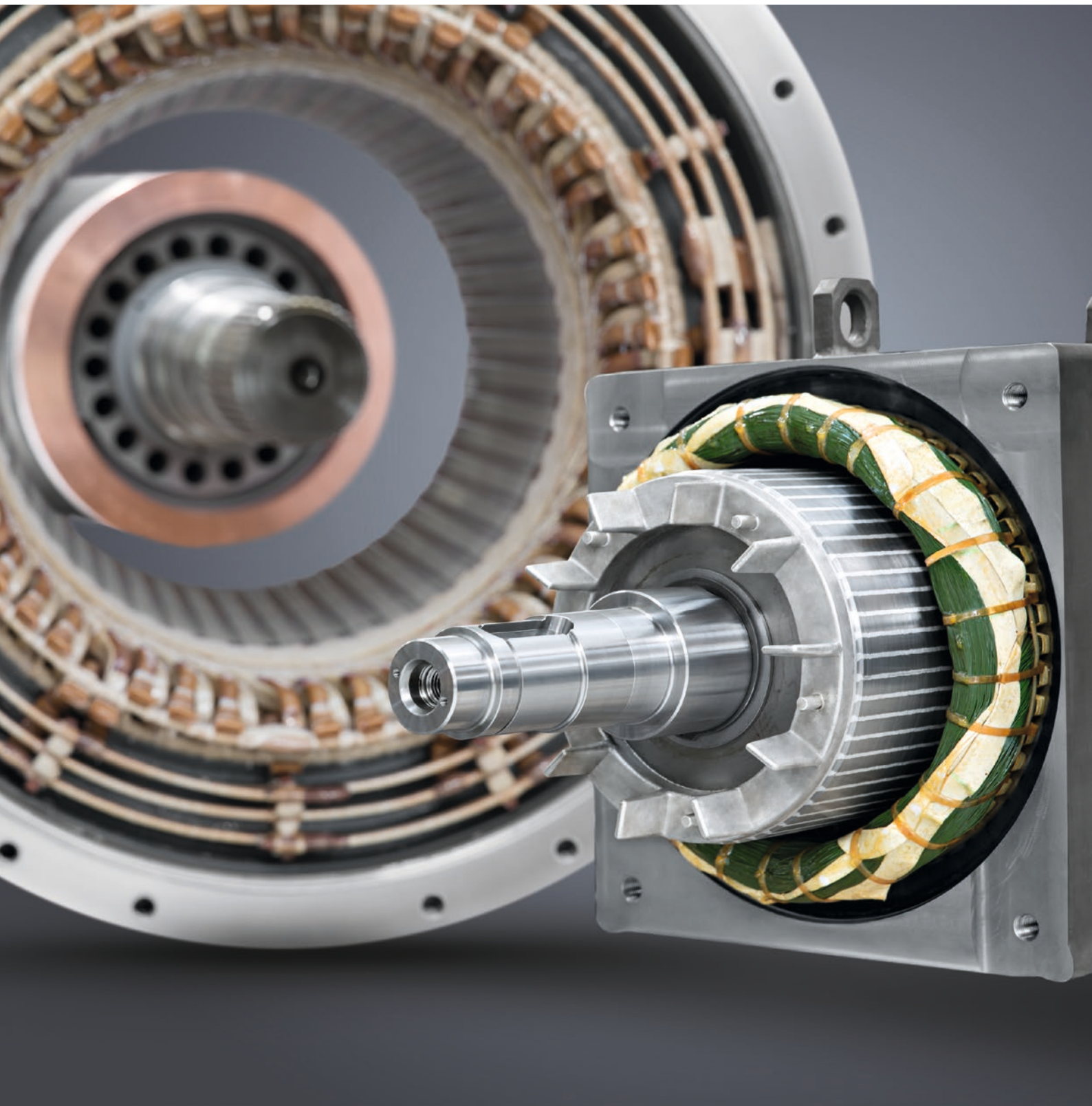


High Performing and Flexible

Electric Machines by Liebherr



LIEBHERR

Electric motors and generators



In its Biberach facility, Liebherr has been developing and manufacturing electric machines for more than 50 years. The portfolio currently covers compact air-cooled asynchronous squirrel cage motors, liquid-cooled permanent magnet machines and synchronous generators. The rated output of the motors ranges from 4 kW to 2,000 kW. The output range of the generators extends to 3,500 kW. The electric machines are used under the toughest of conditions such as those in diesel-electric mining trucks.

High power density

Electric machines from Liebherr are designed as compact, robust and maintenance-free three-phase squirrel cage motors, synchronous generators and permanent magnetic motors, and stand out due to a high power density. The motors were primarily created for use in variable-speed drives with frequency converters as well as for highly dynamic applications. They are designed for a constant rated torque from standstill up to rated speed, and additionally for steady output up to 4,500 rpm.

Flexible modular system

Except for the smallest size (BG 132) and permanent magnet motors, all electric motors are designed with a self-supporting stator core, which supports the housing in addition to supplying the active electrical functions.

All models are based on a modular system and can be upgraded with additional components to cover a wide range of applications.

Economic and quiet operation

The electrical design and the construction concept offer an excellent volume-performance ratio in combination with effective cooling. The compact design permits low noise and vibration levels.

Areas of application

- Mining equipment
- Construction machines
- Maritime applications
- Cranes

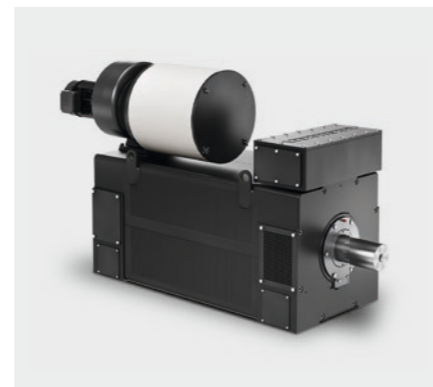
Designation	Design	Power (kW)	
BG 132 electric motor	Asynchronous squirrel cage motor, conventional type	4 - 6 (6-pin)	7.5 - 11 (4-pin)
Electric machines BG 160 - 250	Permanent magnet machine, motor and generator	80 - 250 (6-pin)	
BG 132 electric motor	Asynchronous squirrel cage motor, caseless type	7.5 - 37 (4-pin)	
Electric motors BG 180 - 315	Asynchronous squirrel cage motor, caseless type	24 - 230 (4-pin)	(25 - 100 Hz)
		300 - 500 (4-pin)	(25 Hz)
BG 450 electric motor	Asynchronous squirrel cage motor, caseless type	750 - 2,000 (4-pin)	1,100 (6-pin)
Synchronous generators BG 450 - 530	Separately-excited synchronous generator, caseless type	900 - 3,500 (8-pin)	



Asynchronous motor BG 132



Permanent magnet machine BG 225



Asynchronous motor BG 315



IEC asynchronous motor BG 315

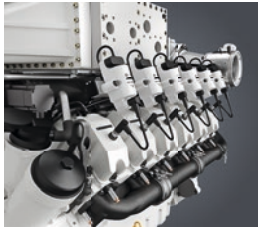


Asynchronous motor BG 450



Synchronous generator BG 560

Liebherr Components



Gas engines



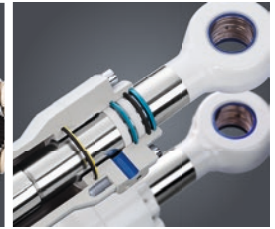
Diesel engines



Fuel injection systems



Axial piston hydraulics



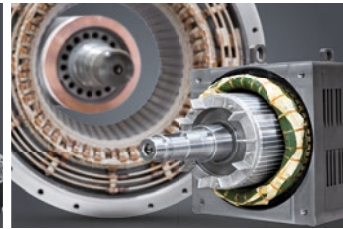
Hydraulic cylinders



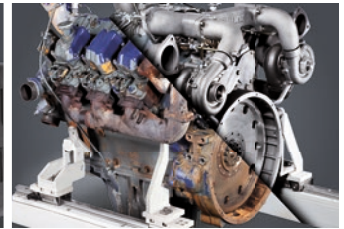
Large diameter bearings



Gearboxes and winches



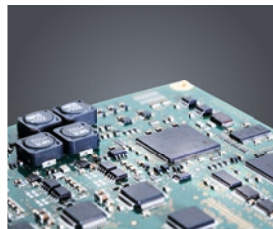
Electric machines



Remanufacturing



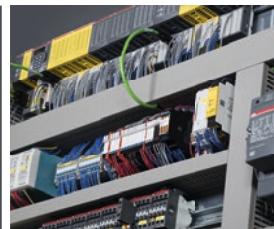
Human-machine interfaces and gateways



Control electronics and sensor technology



Power electronics



Control cabinets



Software

From A to Z – the components division of the Liebherr Group offers a broad range of solutions in the area of mechanical, hydraulic, electric and electronic drive system and control technology. The efficient components and systems are produced at a total of ten production sites around the world to the highest standards of quality. Central contact persons for all product lines are available to our customers at Liebherr-

Components AG and the regional sales and distribution branches.

Liebherr is your partner for joint success: from the product idea to development, manufacture and commissioning right through to customer service solutions like remanufacturing.

components.liebherr.com