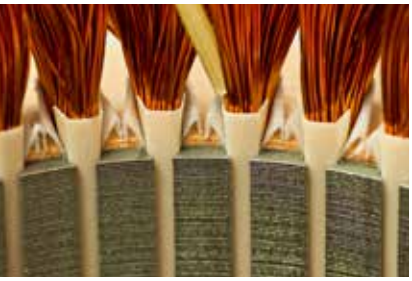
Motors

AKH Product Overview

Antriebstechnik **KATT** Hessen

AKH

WEG Group



At AKH, diversity says it all

We have been developing innovative electric motors since 1924 and for the most diverse industry branches and applications. And this is why we can offer you today an extremely broad spectrum of products that is as diverse as our customers themselves. This also includes the development of new motors on short call that are specially tailored to your requirements.

Due to our extraordinary degree of vertical integration and highly experienced development team, from an engineering point of view, the sky is the limit. Whether you require motors for the toughest operating conditions such as underwater, vibrating, or sawmill motors or machines of the highest performance for sophisticated tasks such as development test benches in the automotive industry: It is your choice – and we have matching motor. We guarantee it.

Top performance - Highest efficiency

No matter how different our motors are:
They distinguish themselves through maximum efficiency and reliability. They guarantee the highest degree of operational safety as well as minimum energy consumption thus, ensure the most economical application.

What makes it possible is the optimum combination of development, design, and vertical integration. We ensure already during the development phase a motor design that optimises the efficiency for application-specific load cycles. During the production, we use only premium materials of the highest quality and pay meticulous attention during the process. The effort to adapt the motor design to comply with the application-specific frequency converters also contributes considerably to the optimisation of the efficiency.

The interaction of all those factors makes the exceptionally high energy efficiency of our motors possible. Not only does it amortise itself, but it also helps to preserve the natural resources and, therefore, makes an active contribution for increased sustainability.

We build your motor

Whatever your plans are – no matter how sophisticated your requirements are: We will develop and produce the best drive for your application. In close cooperation with you and, of course, precisely to your specifications. Whether you need a prototype or series production. And always at the highest possible quality. Why should you be satisfied with less?

What we can do for you:

- Determining the exact requirements and professional advice for selecting your drive
- Design and construction of special motors in close corporation with your responsible engineers
- Production and comprehensive testing, including documentation
- Construction of prototypes
- Production of cost-optimizing special motors for medium quantities
- On-site service or at our factory provided by an highly experienced service team (including 24-hour Service Hotline)

WEG. Global solutions in the fields of motors, automation and energy

As part of the Brazilian WEG Group, Antriebstechnik KATT Hessen extends the latter‘s product range with high-class special motors since 2014.

As an international company WEG manufactures products for energy generation, distribution and control allowing industry to operate efficiently and effectively. Founded in 1961 by three Brazilian entrepreneurs, WEG has grown into one of the most important producers of electric motors. With the W22 asynchronous motors, WEG offers one of the broadest range of energy-efficient motors (IE1-IE4) in the industry, thus assuming a leading position. WEG has more than 30,000 employees in production sites in Brazil, Argentina, Mexico, USA, Austria, Portugal, China, India and South Africa as well as in branches in more than 25 countries worldwide.

You can reach us around-the-clock on our 24h-Service-Hotline: +49 172 - 23 35 600

Low-voltage AC motors provided by AKH

We have subdivided a major part of our range of products into individual groups of product. Owing to the large scope of specially produced non-standard motors, not all products could be listed. If you do not find “your” motor on the following list, please do not hesitate to contact us: **We will develop the right solution for you!**

Electrical design options:

- Increased effective output for a short period or duty type
- Efficiency categories IE 2, IE 3, (IE 4)
- Optimized for the operation on frequency converter
- Non-standard voltages and frequencies
- Insulation category H
- Higher ambient temperatures and installation possible up to 1000 m above sea level
- Monitoring of winding temperatures using temperature sensors, PTC thermistor or Pt100
- Anti-condensation heater

Mechanical design options:

- Manual or automatic lubrication
- Spindle bearings with zero backlash for high RPMs
- Special bearings for high axial and radial forces
- Electrically insulated bearings
- Protection class up to IP68
- Hollow shaft, rock shaft with tool holders
- Vibration size level B
- Impact- and vibration-resistant design (up to 20g)
- Design to protect from humidity and tropical conditions
- Housing and bearing end plates made of ductile iron or steel
- Various paint qualities, RAL colour selections

Optional add-on components:

- Holding brake (manual ventilation, wear monitoring)
- Speed sensor, optic and magnetic
- Back stop
- Handwheel, etc.

Option certificates:

Special approval, e.g., GOST, Germanischer Lloyd, diverse factory standards, etc.

Our motor-programme:

- Three-phase asynchronous motors with squirrel-cage and slip ring motor
- Three-phase synchronous motors
- Power 1 bis 1,000 kW
- Speed up to 20,000 rpm
- Motors with 90 to 500 mm axle height

General standard design:

- Operating mode: S1
- Voltage: 400V / 50 Hz
- Insulation category: F
- Vibration size level: A
- Ambient temperature: -20 to 40 °C
- Installation up to 1,000 m above sea level

Product overview

Squirrel-cage motors with and without add-on components

- Size: 90 to 500
- Power: up to 1,000 kW
- Speed: up to 18,000 rpm
- Design: B3, B5 (more available compliant with IEC 60034-7)
- Cooling: IC 411 (self-ventilation)
- Option: IC 416 (forced-ventilation), IC 70W (water-cooled)
- Protection class: IP54 (to IP56)

Motor design:

- Housing AH 90 to 160 made of aluminium, AH 180 to 400 made of cast iron, AH450 to 500 made of steel
- Efficiency categories IE2, IE3, (IE4)
- Mains operation or frequency converter
- 2- to 36 pole motors
- Pole-changing motors

Slip ring motors with and without add-on components

- Size: 90 to 450
- Power: up to 450 kW
- Speed: up to 3,600 rpm
- Rotor voltage: 80 to 600 V load-depending
- Design: B3 (more available compliant with IEC 60034-7)
- Cooling: IC 411 (self-ventilation)
- Option: IC 416 (forced-ventilation)
- Protection class: IP54 (to IP56)

Motor design:

- Housing and bearing shields made of cast iron, AH 450 made of steel
- Permanently greased roller bearings
- Mains operation
- 2 to 12 pole motors
- Pole-changing motors

Slewing and lifting equipment motors

- Size: 112 to 450
- Power: up to 350 kW
- Speed: up to 6,000 rpm
- Design: B3, B5 (more available compliant with IEC 60034-7)
- Cooling: IC 411 (self-ventilation)
- Option: IC 416 (forced-ventilation)
- Protection class: IP54 (to IP56)

Motor design:

- Squirrel-cage (ASM-KL) or slip ring motor (ASM-SL)
- Pole-changing motors
- Housing made of cast iron or steel, bearing shields made of steel
- Increased power for duty type S3
- Operation on frequency converter (ASM-KL) or mains (ASM-SL)
- With eddy-current brake installed

Product overview

Flat-frame motors

- Size: 75 to 212
- Power: up to 160 kW
- Speed: up to 12,000 rpm
- Design: B3 (more available compliant with IEC 60034-7)
- Cooling: IC 411 (self-ventilation)
- Option: IC 416 (forced-ventilation)
- Protection class: IP54 (to IP56)

Motor design:

- Housing made of aluminium or cast iron, bearing shields made of cast iron or steel
- Efficiency classes IE2 and IE3
- 2, 4 or 6 pole motors
- No backlash spindle bearing
- Hollow shaft, rock shaft with tool holders

Pump, fan, agitator motors

- Size: 112 to 400
- Power: up to 450 kW
- Speed: up to 6,000 rpm
- Design: B3, B5 (more available compliant with IEC 60034-7)
- Cooling: IC 411 (self-ventilation)
- Option: IC 416 (forced-ventilation)
- Protection class: IP55

Motor design:

- Housing and bearing shields made of cast iron
- Efficiency categories IE2, IE3, (IE4)
- 2, 4, 6 or 8 pole motors
- Characteristics of quadratic function M=f(n)
- Special bearing for high axial and radial load

Static-torque motors

- Size: 80 to 200
- Torque: 1.4 to 100 Nm
- Speed: up to 3,000 rpm
- Design: B3, B5 (more available compliant with IEC 60034-7)
- Cooling: IC 410 (convection cooling)
- Option: IC 416 (forced-ventilation)
- Protection class: IP54 (to IP56)

Motor design:

- Housing made of aluminium alloy or cast iron
- End of shaft made of C-45
- Permanently greased roller bearing
- Design to protect from humidity and tropical conditions
- Add-on components of brakes, sensors and gearbox

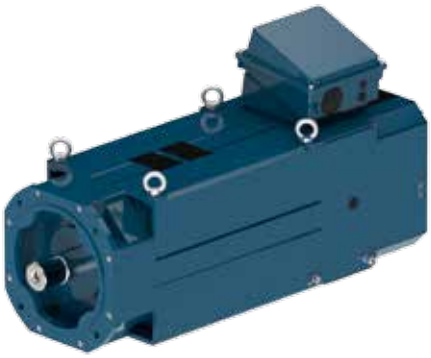
Product overview

Circulating fan motors for industrial furnaces

- Size: 80 to 355
- Power: up to 160 kW
- Speed: depending on design and number of poles
- Design: B5 (more available compliant with IEC 60034-7)
- Cooling: IC 411 (self-ventilation) or IC 70W (water-cooling)
- Option: IC 416 (forced-ventilation)
- Protection class: IP54 (to IP55)

Motor design:

- Housing made of steel, special shaft material (chemical- and heat-resistant)
- Long shafts with large diameter
- Special bearings for high axial and radial forces
- Water- or air-cooled chamber DE-side
- Gas- or vacuum-tight



Main drive motors frameless design, air-cooled

- Size: 100 to 400
- Power: up to 600 kW
- Speed: up to 12,000 rpm
- Design: B35 (more available compliant with IEC 60034-7)
- Cooling: IC 416 (forced-ventilation)
- Protection class: IP54 (to IP55)

Motor design:

- Without housing
- Fan axial installation
- Monitoring of winding temperatures with PTC thermistor or Pt100
- Operation on frequency converter
- Speed sensor ROD 436 (Standard)

Main drive motors, ultra compact, water-cooled

- Size: 112 to 180
- Power: up to 330 kW
- Speed: up to 12,000 rpm
- Design: B3, B5 (more available compliant with IEC 60034-7)
- Cooling: IC 70W (water-cooling)
- Protection class: IP54 (to IP56)

Motor design:

- New water-cooling, optional water-cooled shaft
- Up to 60°C cooling water temperature (E-Mobility)
- Non-standard voltages, operation on frequency converters
- Spindle bearings for high maximum speeds
- Speed sensor ROD 436 (Standard)

Product overview

Main drive motors air-cooled or with air/water heat exchanger

- Size: 160 to 500
- Power: up to 1,000 kW
- Speed: up to 18,000 rpm
- Design: B3, B5 (more available compliant with IEC 60034-7)
- Cooling: IC 06 (open-circuit cooling)
- Option: IC 86W (air/water heat exchanger)
- Protection class: IP23 (IP54 with heat exchanger)

Motor design:

- 2, 4 or 6 pole motors
- 1 or 2 external fans, installed at top of DE- or NDE-side
- Operation on frequency converter
- Spindle bearings for high maximum speeds
- Special equipment for use in test stands

Main drive series water-cooled with combination water/air cooling

- Size: 100 to 500
- Power: up to 1,000 kW
- Speed: up to 18,000 rpm
- Design: B3, B5 (more available compliant with IEC 60034-7)
- Cooling: IC 70W (water-cooling)
- Option: IC 70W and IC 06 (combination water/air cooling)
- Protection class: IP54 (IP23 combined cooling)

Motor design:

- 2, 4 or 6 pole motors
- 1 or 2 external fans, installed at top of DE- or NDE-side
- Operation on frequency converter
- Spindle bearings for high maximum speeds
- Special equipment for use in test stands

Additional motor series: submersible motors, theatre motors, stainless steel motors

- Size: 90 to 500
- Power: up to 500 kW
- Speed: up to 6,000 rpm
- Design: B3, B5 (more available compliant with IEC 60034-7)
- Cooling: IC 410 (cooling with water surrounding the motor surface)
- Protection class: IP68

Motor design:

- Housing and bearing shields made of steel
- End of shaft made of C-60
- Permanently greased roller bearings
- 2 to 36 pole motors
- Pole-changing motors

Technical data refers only to submersible motors

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