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# *Strong, Flexible, Innovative*

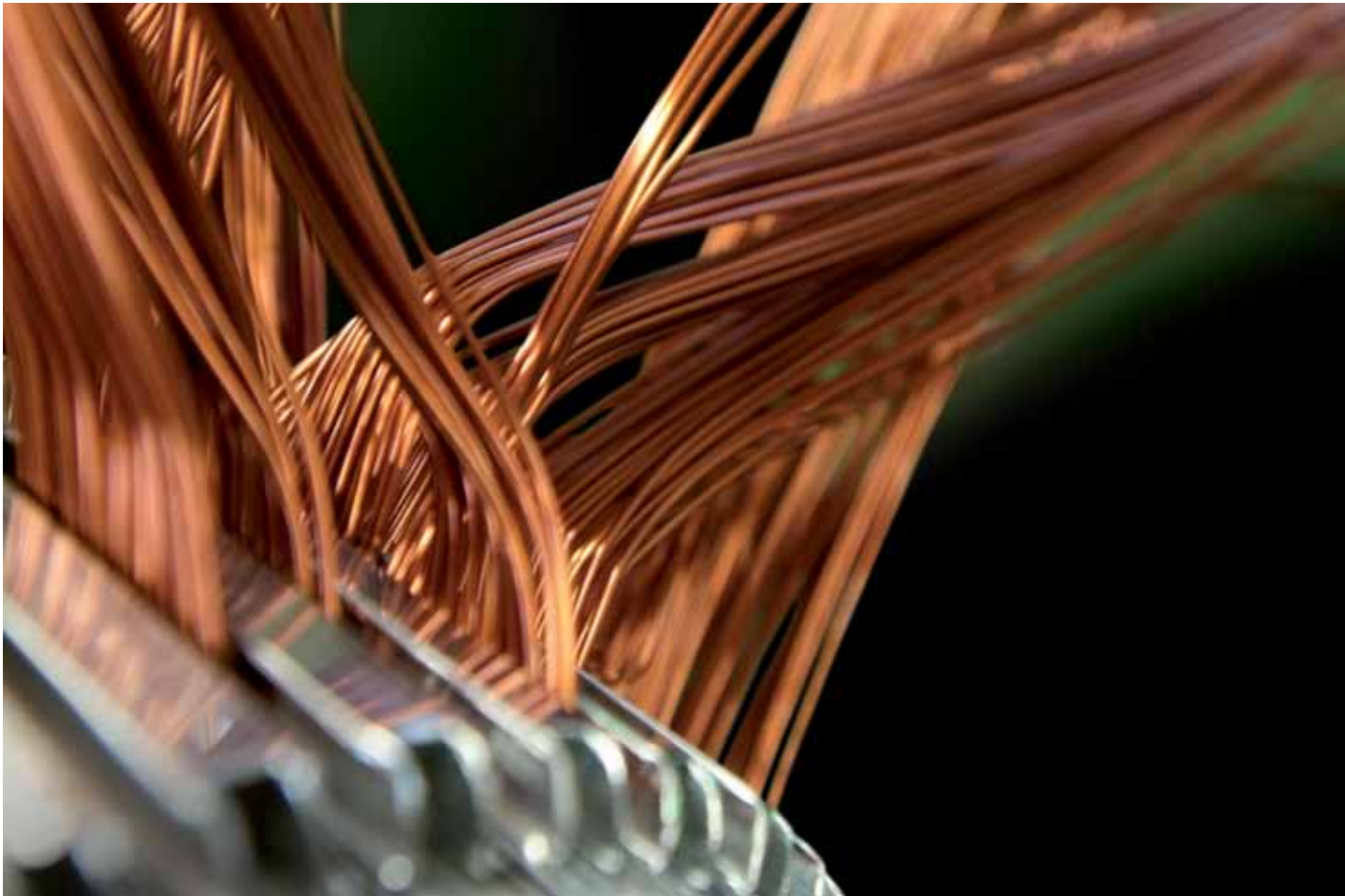
*Your Customer- and Industry-specific Systems Supplier*

Motors

Gearboxes

Inverter

Partner



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## Our Motivation

There are no Problems,  
just Opportunities



*Gear surface quality assessment  
by digital microscope.*

Tradition, passion and progress: Historically grown company culture with a future. Founded in 1927, ABM Greiffenberger evolved to one of the leading systems suppliers for motors, gearboxes and inverters. With a dedicated workforce, global sales and production subsidiaries with an output capacity of 300,000 units we never lose sight of what made us who we are: Customer focus and innovative systems solutions in best quality – then our customers are second to none to us.

Our focus is not only manufacturing to global standards but also development of new products. With our application specific know-how, own manufacturing sites, modular and wide-ranging product spectrum and professional supply chain, we can effectively support our customers from conception to realization phases. Service and after-sales support are of utmost significance and an essential element of our quality philosophy.

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## Your Drive Move Forward Together

Individual, flexible and demanding: The best drive solutions engineered in Germany. We believe that game-changing innovations can only be developed jointly. Therefore, we are not only a supplier to our customers but an active and passionate partner in implementation of demanding, groundbreaking and individual projects. With our products the optimum in performance and efficiency can be achieved. Our product spectrum is modular and wide-ranging and configurable in virtually unlimited variations. The drive units adapt to the application instead of the other way around. The perfect symbiosis with the goal of achieving the maximum benefit for our customer and their projects.

That our drive units exclusively exhibit outstanding properties is self-explanatory. Reliability, durability and safety are essential conditions to our competency as are dynamic behavior, quiet and maintenance free operation, and compactness. Hence we guarantee energy efficient, industry- and customer specific drive solutions and offer our customers cooperative services. All from a single source: from development to series deliveries.

Proof that our quality, delivery accuracy and innovation is valued by our customers has been documented by the supplier award ABM received from Jungheinrich AG, one of the globally leading forklift manufacturers, in the category “hydraulic and electric drive systems” in April of 2016 and 2017. Awards that fill us with pride and stimulate us to continue pursuing perfection.



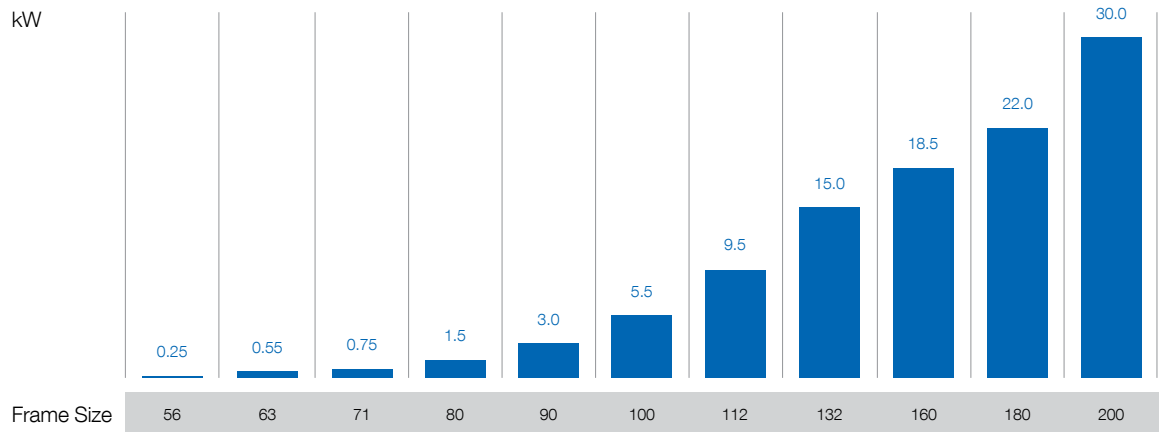
*High quality gearing guarantees minimal wear and quiet operation  
– even at high loads.*

# Robust & Universally Deployable AC Induction Motors

## Advantages

- High efficiency → Economical energy consumption
- Extruded aluminium profile
  - Corrosion protection
  - Several ratings per frame size
- Maintenance-free

Performance AC Induction Motors



## Technical Data

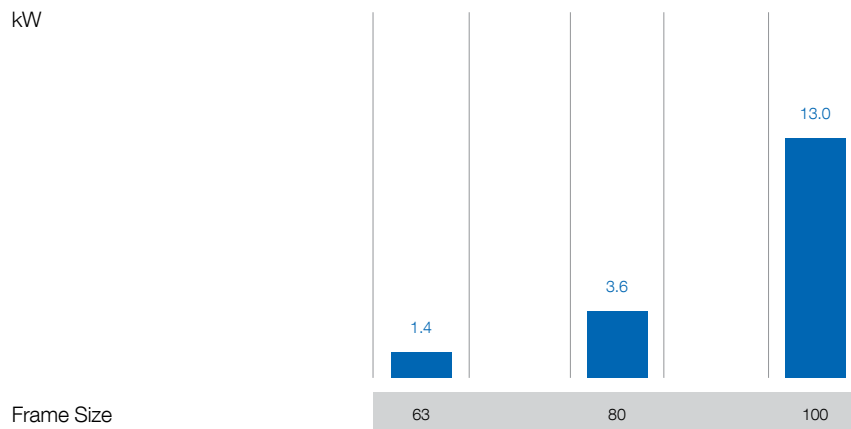
	MEDIUM-LINE	PREMIUM-LINE
<b>Motor Type</b>	1- or 3-phase asynchronous motor	
<b>Rated Output</b>	0.09 - 30 kW	0.09 - 18.5 kW
<b>Rated Voltage</b>	230/240 - 265/480 V	115 - 575 V
<b>Frequency</b>	50 / 60 Hz	variable
<b>Number of poles</b>	2 - 8 pole	
<b>Protection Class</b>	IP55	Up to IP66
<b>Cooling</b>	Self-ventilated	Self- or non-ventilated, forced ventilated
<b>Mounting Options</b>	Foot and flange mounting	
<b>Options</b>	Two Speed Motors	
		Brake and encoder mounting Motor mounted inverter ATEX-execution

## Energy Efficiency & Sensorless SINOCHRON® Motors

### Advantages

- High efficiency → energy efficient
- Sinochronous motors with high performance permanent magnets
- Efficiencies of 90 % and higher
- Compact design
- High power density
- Precise speed control

Performance SINOCHRON® Motors



### Technical Data



#### PREMIUM-LINE

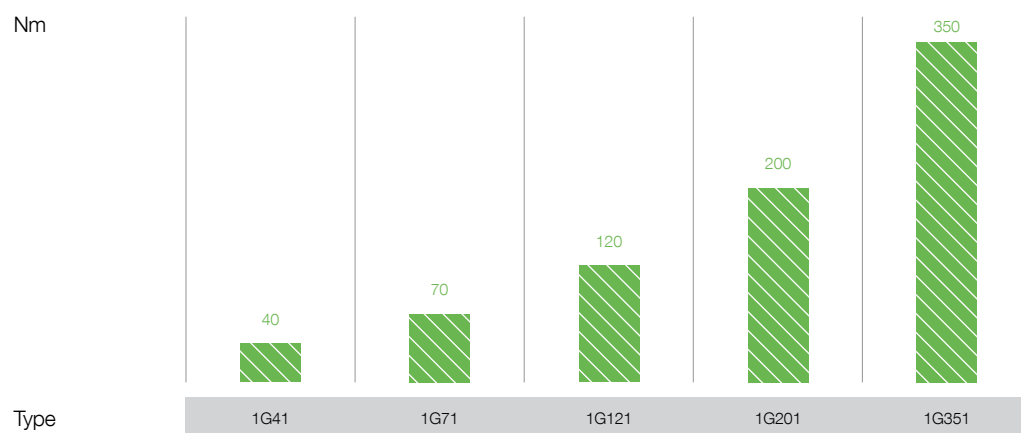
<b>Rated Output (self-ventilated)</b>	0.4 – 13.0 kW
<b>Torque (self-ventilated)</b>	1.3 – 40 Nm
<b>Rated Output (non-ventilated)</b>	0.12 – 6.0 kW
<b>Torque (non-ventilated)</b>	0.75 – 20 Nm
<b>Output Speed</b>	500 – 6,000 rpm
<b>Protection Class</b>	IP54, IP55
<b>Inverter</b>	Integrated / Stand-alone

## Maintenance Free & Easy to Install Single Stage Geared Motors

### Advantages

- Increase of radial forces by extending the bearing distance (on B5 flange)
- Variable mounting dimensions
- Reduced weight → easy to install

Output Torque of Single Stage Gearboxes



Product is under development



### Technical Data

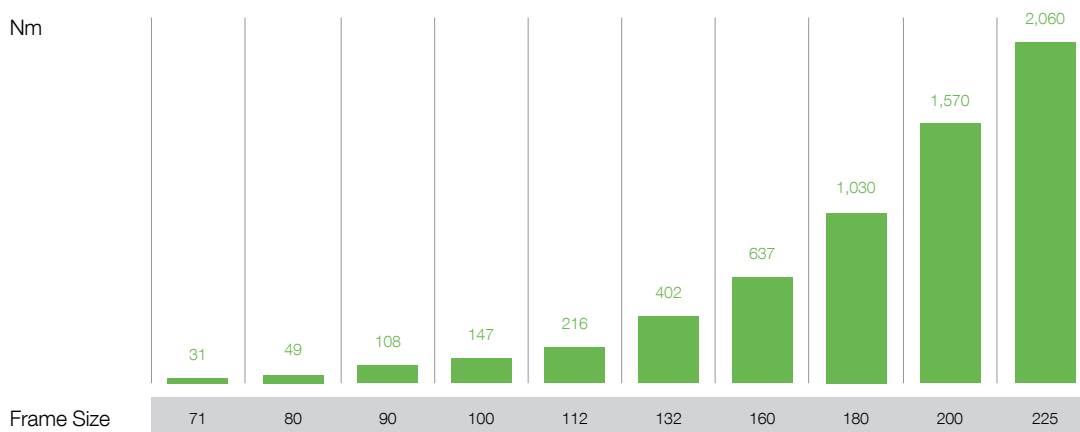
	MEDIUM-LINE	PREMIUM-LINE
<b>Motor Type</b>	3-phase asynchronous motor	1- or 3-phase asynchronous motor / SINOCHRON® Motor
<b>Rated Output</b>	0.09 - 11 kW	
<b>Torque</b>	40 - 350 Nm	
<b>Output Speed</b>	150 - 500 rpm	
<b>Ratio</b>	1.5 - 9.5	
<b>Frequency</b>	50/60 Hz or variable speed with inverter operation	
<b>Number of poles</b>	4-pole	2-8-pole / Two-speed
<b>Protection Class</b>	Up to IP66	
<b>Mounting Options</b>	Flange mounting; Foot mounting upon request	

## Quiet & Durable Helical Geared Drive Units (2- & 3-stage)

### Advantages

- High efficiency → Economical energy consumption
- Compact design → Small space requirement
- High grade gearing → Low noise and long life time
- Robust and maintenance-free

Output Torque of Helical Gearboxes



### Technical Data



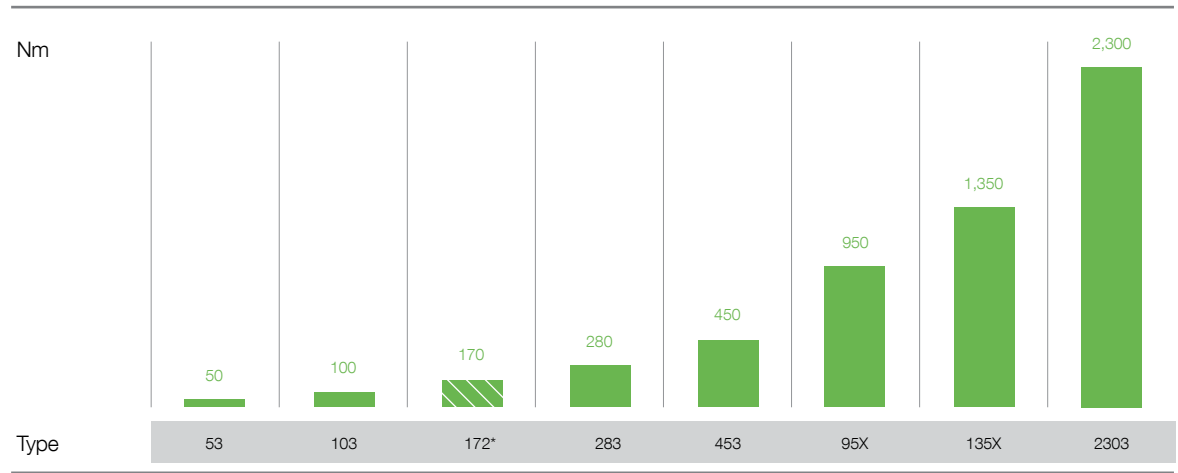
	MEDIUM-LINE	PREMIUM-LINE
<b>Motor Type</b>	3-phase asynchronous motor	1- or 3-phase asynchronous motor / SINOCHRON® Motor
<b>Rated Output</b>	0.09 - 11 kW	
<b>Torque</b>	30 - 2060 Nm	
<b>Output Speed</b>	2.5 - 700 rpm	
<b>Ratio</b>	2.55 - 510.07	
<b>Frequency</b>	50/60 Hz or variable speed with inverter operation	
<b>Number of poles</b>	4-pole	2-8-pole / Two-speed
<b>Protection Class</b>	Up to IP66	
<b>Mounting Options</b>	Foot and flange mounting	

## Compact & Durable Parallel Shaft Geared Drive Units

### Advantages

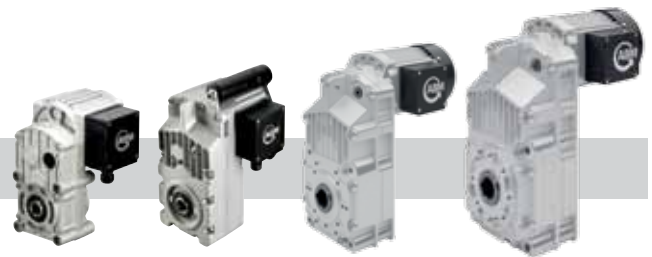
- Compact design → Small space requirement
- High grade gearing → Low noise and long life time
- Large variety of possible mounting options
- Maintenance-free

Output Torque of Parallel Shaft Gearboxes



\* Product available 2018

### Technical Data



### PREMIUM-LINE

<b>Motor Type</b>	1- or 3-phase asynchronous motor / SINOCHRON® Motor
<b>Rated Output</b>	0.03 - 7.5 kW
<b>Torque</b>	50 - 2300 Nm
<b>Output Speed</b>	2.2 - 400 rpm
<b>Ratio</b>	6.96 - 2022
<b>Frequency</b>	50/60 Hz or variable speed with inverter operation
<b>Number of poles</b>	2 - 8-pole / Two-speed
<b>Protection Class</b>	Up to IP66
<b>Mounting Options</b>	Flange and slip-on gear versions, Four-point mounting



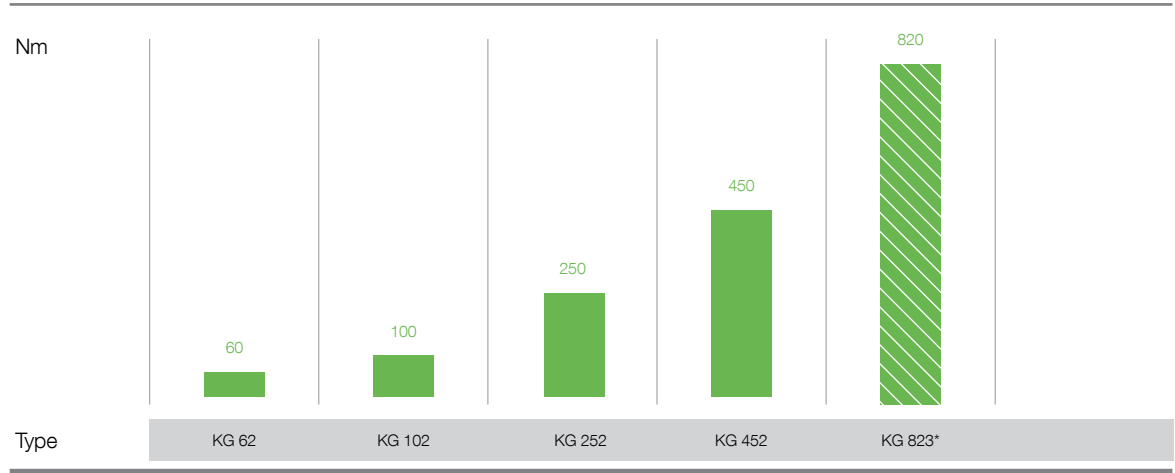


# Robust & Energy Efficient Angular Geared Motors

## Advantages

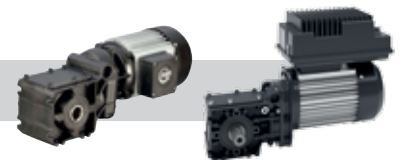
- Maintenance-free
- Angular style → Favorable installation conditions
- Die-cast aluminum housing (Type KG 62 & 102)
  - Smooth, stain-resistant surface
  - High corrosion resistance

Output Torque of Angular Gearboxes



\* Product is under development

## Technical Data



	MEDIUM-LINE	PREMIUM-LINE
<b>Motor Type</b>	3-phase asynchronous motor	1- or 3-phase asynchronous motor / SINOCHRON® Motor
<b>Rated Output</b>	0.09 - 11 kW	
<b>Torque</b>	60 – 820 Nm	
<b>Output Speed</b>	15 – 300 rpm	
<b>Ratio</b>	4.84 – 70.44	
<b>Frequency</b>	50/60 Hz or variable speed with inverter operation	
<b>Number of poles</b>	4-pole	2-8-pole / Two-speed
<b>Protection Class</b>	Up to IP66	
<b>Mounting Options</b>	Slip on mechanism, Flange mounting, Foot mounting	

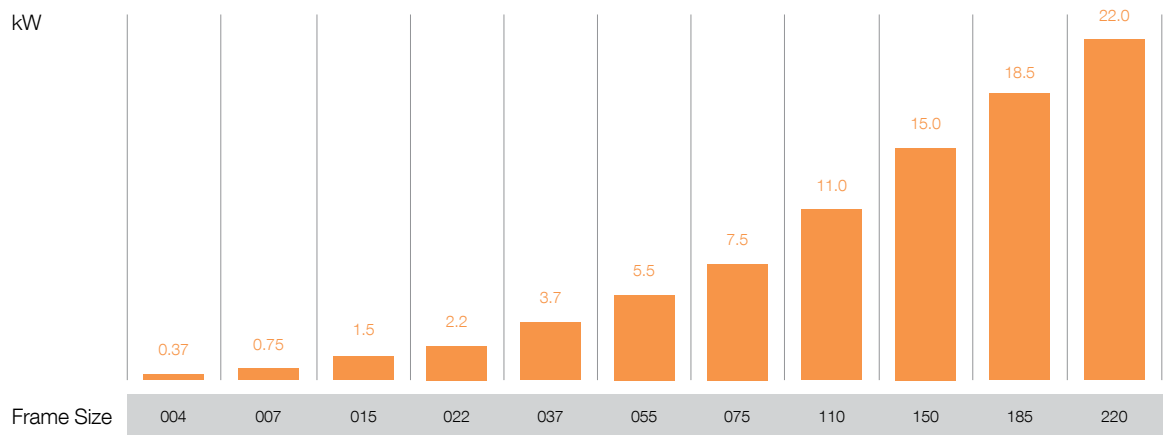


## Compact & Modular Inverter VFD

### Advantages

- Compact design
- Modular design
- Excellent control properties
- Simple start-up
- Integrated PLC

Output Performance of Frequency Inverter VFD



### Technical Data

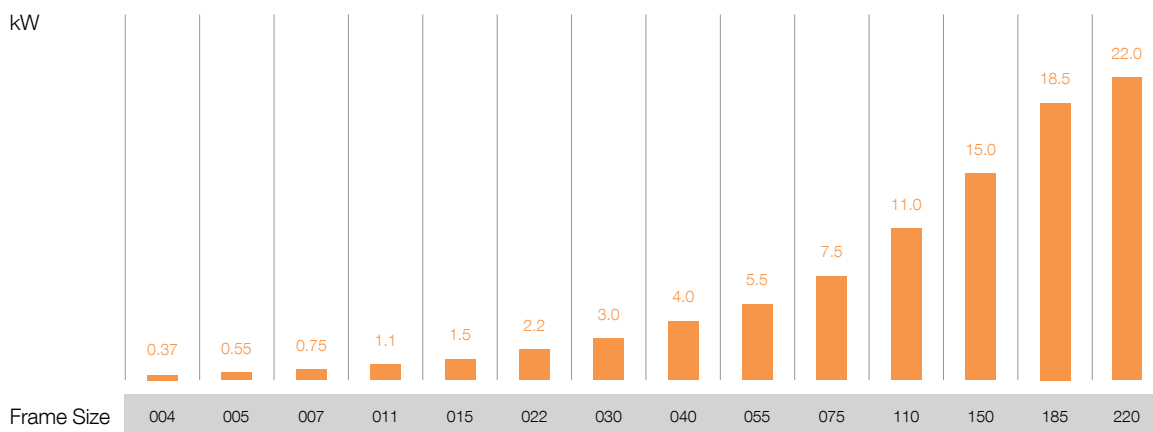
	MEDIUM-LINE	PREMIUM-LINE
<b>Input Voltage</b>	1-phase: 200 – 240 V 3-phase: 380 – 480 V	3-phase: 380 – 480 V
<b>Input Frequency</b>	50 – 60 Hz	
<b>Motor Output</b>	0.37 - 22.0 kW	
<b>Output Voltage</b>	Power Supply 0 V	
<b>Output Frequency</b>	0 up to 600 Hz	
<b>Control Algorithm</b>	V/f and Sensorless Vector Control	V/f, Sensorless and Field-Oriented Vector Control, Torque Control, Positioning
<b>Brake Chopper</b>	Integrated	
<b>Protection Class</b>	IP20	
<b>Fieldbus Modules</b>	Profibus, CANopen, Device Net, Lon Works, MODBUS	
<b>Conformity</b>	CE, UL	

## Efficient & Robust Inverter INVEOR

### Advantages

- Use with AC Induction and SINOCHRON® Motors possible
- Robust and compact aluminum die cast housing
- High temperature and vibration resistant
- Central and decentral mounting
- Integrated PLC

Output Performance of Frequency Inverter INVEOR



### Technical Data

	MEDIUM-LINE	PREMIUM-LINE
<b>Input Voltage</b>	1-phase: 200 - 230 V	1-phase: 200 - 230 V 3-phase: 400 - 480 V
<b>Input Frequency</b>	50 – 60 Hz	
<b>Motor Output</b>	0.25 - 0.75 kW	0.37 - 22.0 kW
<b>Output Voltage</b>	Power Supply 0 V	
<b>Output Frequency</b>	0 - 400 Hz	
<b>Control Algorithm</b>	U/f and sensor-less flux vector control	
<b>Protection Class</b>	IP65	Up to IP65
<b>Fieldbus Modules</b>	CANopen (optional)	CANopen, Profibus, EtherCAT
<b>Conformity</b>	CE, UL	
<b>Options</b>	Control Panel	Brake chopper, brake control, control panel

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## Hoisting Technology

### Hoist and Traction Drive Units for Cranes and Hoists

Source: GÜRALP Vitrin ve Makina (TR)



*Safety without compromises –  
More than one million traction and hoist  
drive units of ABM Greiffenberger are  
used all over the world.*



Longevity, flawless function and safety even in rough conditions: Those are the core requirements for industrial cranes. At high throughput as well as frequent starts and reversals delicate positioning has to be assured.

ABM Greiffenberger has developed and manufactured hoist drive units for more than 40 years and offers a broad range of hoist and traction drive units especially for the hoisting industry.

More than one million traction and hoist drive units have been delivered for cranes all over the world – at the same time, our highly qualified engineers consistently optimize them for best quality and customer benefit.

## Intralogistics

### Transport, Hoist and Roll Drive Units for Warehouse Logistics



*SINOCHRON® Motors of ABM achieve the  
maximum efficiency in the partial load  
range and, thus, save energy.*



Manufacturers of warehouse and commissioning systems of any kind require energy-efficient motors and gearboxes. All the components must be maintenance-free, durable and easy to integrate.

ABM SINOCHRON® drive units offer maximum efficiency and power density in compact format. The compact design makes angular geared motors ideal for use in confined spaces. The 2-stage helical gearboxes, which are used in curved belts, stand for absolute robustness, high quality and long life.

The ABM drive controllers, which achieve optimal performance for every application by individual customization, complete our portfolio. The decentralized structure reduces wiring costs and increases the flexibility.

## Renewable Energies Drive Units for Pellet and Woodchip Heating Systems

Source: Windheger Zentralheizung GmbH (A)



*The extremely high efficiency of the ABM geared motors reduces the energy demand of the equipment and helps to reduce operating costs.*



Biomass heating systems require well thought-out drive unit technology in many areas: Stored woodchips or pellets in a silo need to be conveyed by a removal system and transported to the boiler by an auger. Additionally, there is continuous cleaning of heat exchangers and ash removal.

ABM Greiffenberger offers an ideally designed drive unit solution with absolutely exemplary energy efficiency for each of these applications. The high overall efficiency of helical and parallel shaft gearboxes reduces the energy intake drastically and helps to save energy.

The agitator gearbox, which has been developed especially for the use in agitators for woodchip conveying, with its patented material combination provides for low wear and more than 10,000 hours of operation.

## Renewable Energies Pitch Drives for Wind Turbines

Source: ENERCON GmbH (D)



*Pitch drives guarantee a high load-bearing capability and meet all the safety requirements.*



Drive systems for wind turbines should run undisturbed for 20 years and longer with a minimum of maintenance. Pitch drives as well as motors from ABM Greiffenberger meet the tough demands on reliability and durability of wind turbine OEM's.

They are characterized by silent running, high overload capacity and best efficiency.

Furthermore, they are designed for easy oil changes even in adverse conditions at the high altitudes of a wind turbine tower and they operate in temperatures as low as  $-40^{\circ}\text{C}$ . Naturally, the drive units are also available for on- and offshore applications.

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## E-mobility Traction Drive Units for Electric Vehicles



*Ideal air cooling thanks to cross ribs with an axially parallel installation.*



Manufacturers of electric vehicles require drive unit systems which meet the highest requirements on long travel distances and energy efficiency. The high requirements on automobile weight and load capacity require light-weight construction for all the components. The dynamic response and quiet operation of the drive unit system must be designed to ensure the optimal driving comfort. Rough environmental conditions and a long operating life require robust and reliable solutions.

ABM offers suitable drive units for light electric vehicles of the vehicle classes L7e and M1 / N1 in the AC motor portfolio until 45 kW with formally unrestricted speed.

## E-Mobility Drive Units for Auxiliaries



*Dynamic performance even without encoder feedback.*



Robust and compact drive units, which guarantee a high reliability even in the toughest environmental conditions, are installed in auxiliaries and accessory equipment used in commercial vehicles, busses, agricultural machinery and construction machines.

In addition to the proven asynchronous machines, compact and efficient ABM SINOCHRON® drive units also meet these requirements. The special design of the rotor with internal magnets leads to an almost ideal sine distribution of the magnetic flux. SINOCHRON® motors are ideal for the sensor-less control mode and, therefore, they are an economical alternative to expensive servo drives.

## Material Handling Traction, Hoist and Steering Drive Unit for Forklift Trucks



*System solutions for the easiest integration into vehicles.*



Manufacturers of forklifts, elevated work platforms, AGV (automated guided vehicles) and cleaning machines expect sophisticated, efficient and reliable drive technology. In addition to the basic requirements such as high output at high efficiency, low maintenance cost and long life, the system solutions of ABM Greiffenberger offer a compact design with ease of vehicle integration.

ABM traction drive systems solutions are available as bevel gearboxes, helical gearboxes and hub wheel drives and can be combined with AC traction motors. AC hoist motors and steering gearboxes complete the range for the areas of Driving, Hoisting and Steering.

On the basis of many years of experience in the development and production of AC motors and gearbox systems, ABM Greiffenberger also offers customized drive units next to integrated system solutions for the material handling industry.

## Material Handling Drive Units for Electrical Elevated Work Platforms



*The entire drive units are easy to install and convince with a compact design.*



Electrical elevated work platforms, such as scissors or mast lifts, must work efficiently, quietly and emission-free. As well as the drive technology installed in these, the elevated work platforms must be robust and reliable and have a long life.

The hub wheel drives installed in electrical elevated work platforms are especially designed for high wheel loads and are maintenance-free. As these are sensitively adjustable, the drives assure smooth and safe driving.

The hub wheel drives stand for highest system integration also in case of this application: They bear most of the vehicle weight and are integrated in the vehicle frame – in this way, components such as wheel suspensions are not necessary.



# We drive the World

A dense network of international subsidiaries and sales offices in all major industrial countries ensure close contact with our customers around the world – and guarantee an excellent standard of service.

Kindly contact us for further detailed information.

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