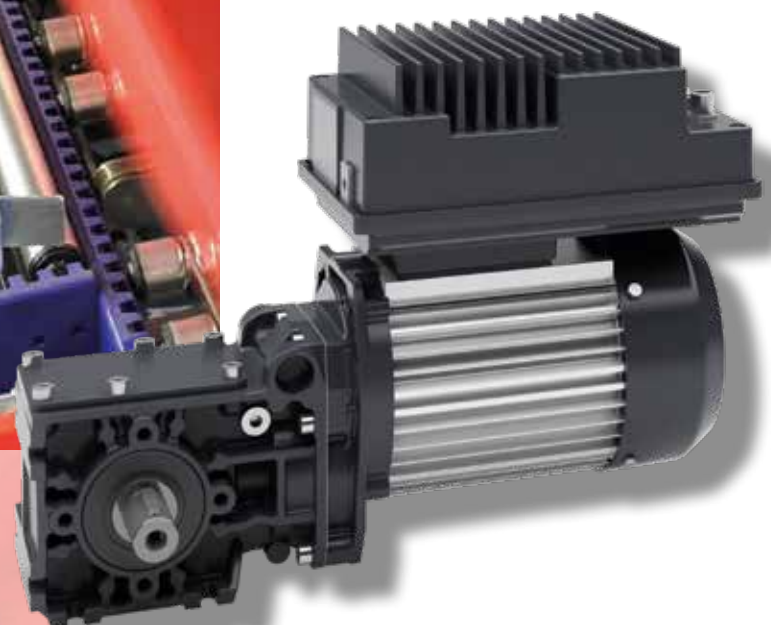


Motors and Gearboxes for Warehouse Logistics

Energy efficient
Compact
Sustainable



High-quality drive unit solutions for warehouse logistics

Efficient system solutions from one single source for high performance with low power consumption.

Manufacturer of warehousing systems require a sophisticated drive unit technology with best performance:

- Energy-efficient motors and transmissions (Green Logistics)
- Compact design
- Easy integration in machine and equipment
- Flexible and reliable control
- Maintenance-freedom and longevity
- Flexible configurability

From ABM Greiffenberger you receive optimally tailored drive unit solutions that meet these requirements with highest performance.

Durable and reliable

At ABM Greiffenberger motor, gearbox and electronics are coming from a single source.

All components are perfectly matched - without compromise that purchased components require sometimes. The high quality gearing of our drive units helps to create a smooth and quiet operation for a long life.

SINOCHRON® motors from ABM Greiffenberger also operate particularly reliable under harsh environmental conditions (such as the use in cold stores). Without mechanical speed sensor and with decentralized controllers a simple and robust design is achieved.

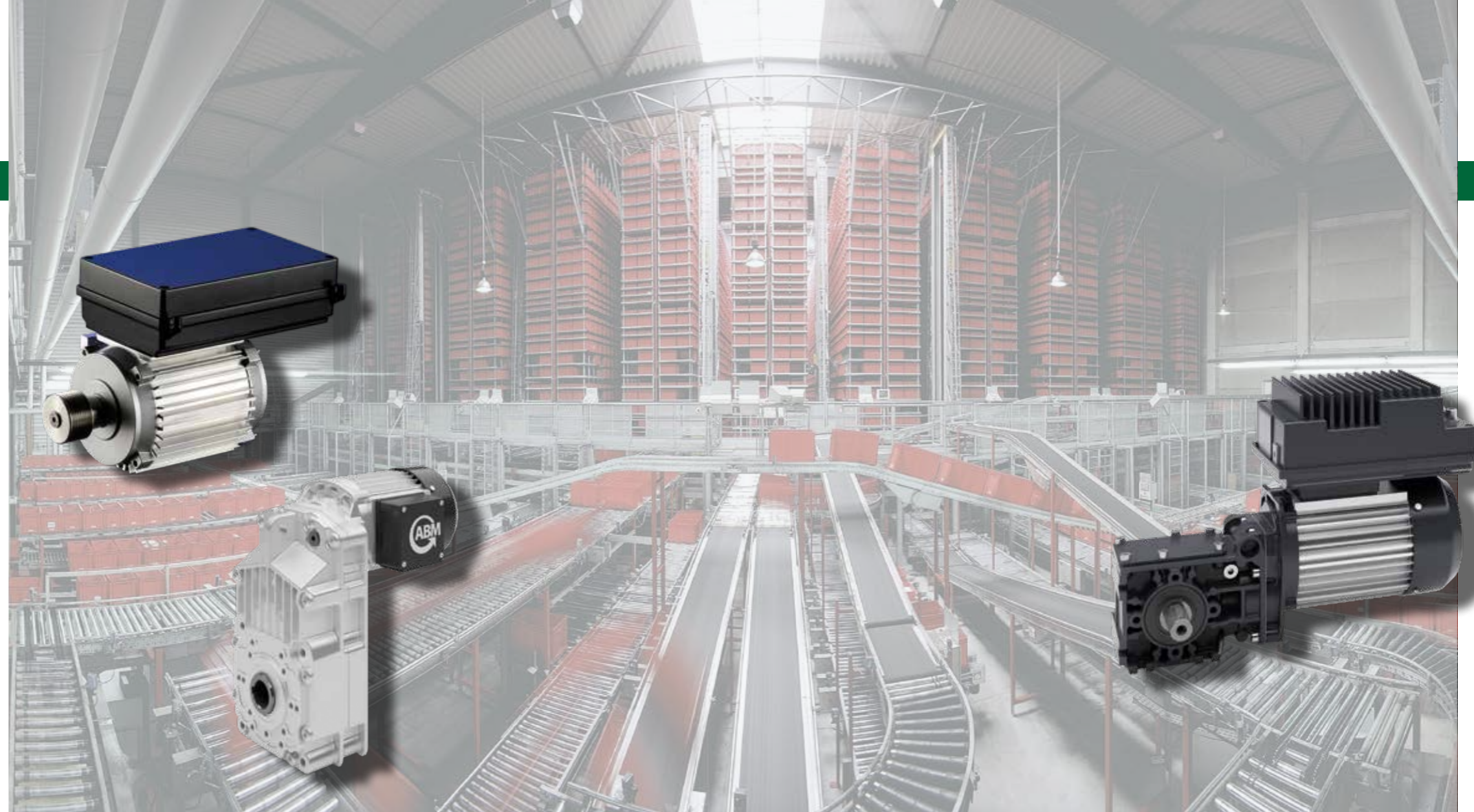
The special properties of the drive units from ABM Greiffenberger are based on extensive know-how. In our drive

unit solutions a variety of experiences comes together from different customer groups, starting with the crane technology all the way to the wind power industry.

Compact Plug-and-Play

In Warehouse Logistics drive units often must be installed in confined space situations. Our parts program is especially designed for these requirements.

It allows for a cost effective and customized configuration for each application. By that you get a true plug-and-play drive unit solution saving you time and money. Our decentralized controller design for example, reduces the engineering and installation costs considerably.



Engineering Know-How

Development and production of gearboxes, asynchronous motors and SINOCHRON® motors as well as the associated drive electronics for extreme conditions is our core competence for over 50 years. High loads and safety requirements for crane drives, harsh environments and frequent reversal of the material handling equipment, efficient energy use and low noise levels in biomass heating systems are just some of the challenges we overcome daily. With our wide range of highly efficient drive technology for warehouse logistics you benefit from this wealth of experience.

Manufacturing Competence

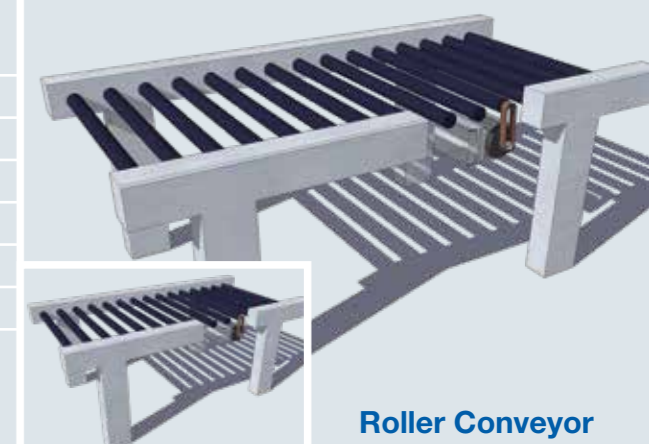
With an in-house tooling- and jig shop that constructs the necessary die cast molds and jigs for series production combined with the state-of-the-art aluminum die cast machinery ABM Greiffenberger acquired a leading position in gearbox housing manufacturing. This benefits our customers: you receive complex, light weight gearbox designs in highest rigidity and stiffness. State-of-the-art also in machining: needed parts are produced reliably in innovative, automated but still flexible machining centers and cells. Robot controlled flexible manufacturing cells and coil winding systems guarantee constant high series quality. Minimum machine set-up times allow quick changeovers.



SINOCHRON® Motors

SINOCHRON® drive units from ABM Greiffenberger offer maximum energy efficiency and power density in compact format. SINOCHRON® drive units designed for an extremely long service life impress with excellent levels of efficiency, durability and low maintenance. This ensures the reliable operation of sensorless control.

| | |
|------------------|--|
| Motor Type | permanent magnet motor |
| Rated Output | up to 13.0 kW |
| Output Speed | 0 RPM up to 6000 RPM |
| Protection Class | IP54, IP55 |
| Cooling | self or convection cooled |
| Connections | integrated controller or standard junction box |



Roller Conveyor

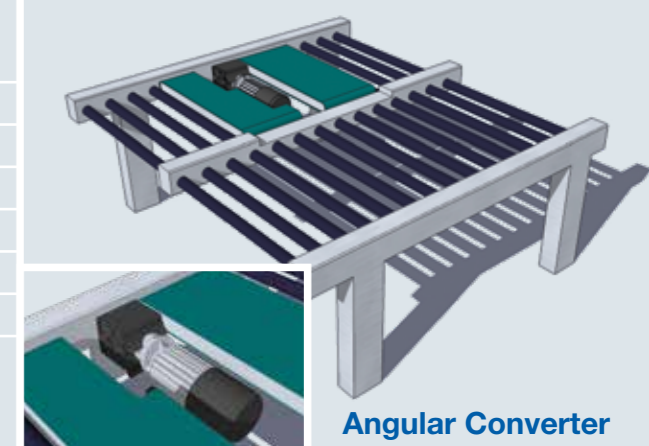


Angular Geared Motors

The helical gearing and quality of our angular gearboxes care for high efficiency. Lifetime lubrication of the gearbox provides freedom from maintenance. Their compact design makes them ideal for use in confined spaces. The aluminum housing made in the own aluminum foundry of ABM Greiffenberger are light weight and high corrosion resistant.

| | |
|--------------|--|
| Motor Type | asynchronous or permanent magnet motor |
| Rated Torque | up to 450 Nm |
| Ratios* | 4.84 - 70.44 |
| Output Speed | variable |
| Output Shaft | solid or hollow shaft |
| Mounting | foot or flange mounting |

* options upon request



Angular Converter

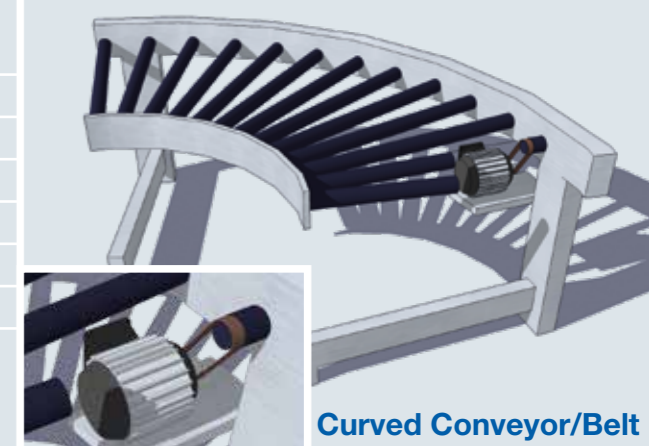


Helical-/ Parallel Shaft Gearboxes

The helical gearboxes from ABM Greiffenberger stand for absolute robustness, high quality and long life. ABM Greiffenberger parallel shaft geared motors (available in 2- or 3-stage models) provide a variety of mounting options by their high center distance and hollow shaft. The aluminum housings give both gearbox types light weight and high corrosion resistance.

| | Helical Gearbox | Parallel Shaft Gearbox |
|--------------|--|------------------------|
| Motor Type | asynchronous or permanent magnet motor | |
| Rated Torque | up to 2060 Nm | up to 2300 Nm |
| Ratios* | 1.5 - 556 | 7 - 320 |
| Output Speed | variable | |
| Output Shaft | solid shaft | solid or hollow shaft |
| Mounting | foot or flange mounting | flange mounting |

* options upon request



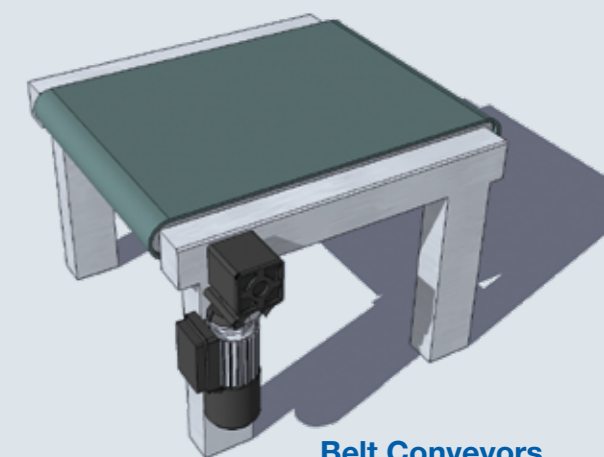
Curved Conveyor/Belt



Electronic Drive Unit Technology

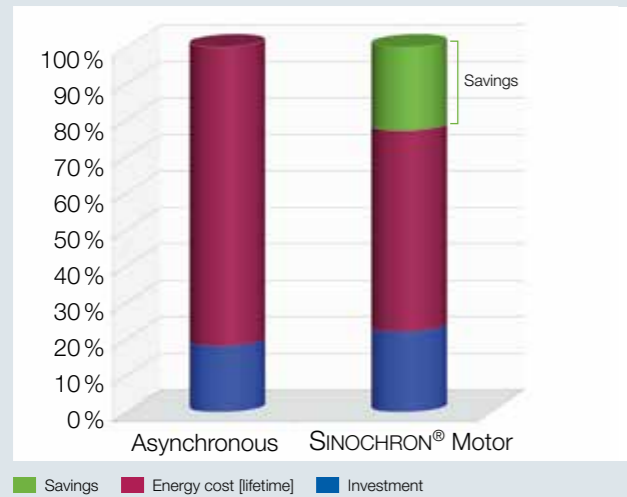
The ABM drive controller completes our wide-range of drive systems for the storage technology and logistics. By individual customization ABM Drive Controller achieve optimal performance for every application. The decentralized structure dramatically reduces wiring costs and increases the flexibility.

| | central | decentral |
|------------------|--|-----------|
| Installation | | |
| Type of motor | asynchronous or permanent magnet motor | |
| Supply voltage | 1-phase, 230 V / 3-phase, 400 V | |
| Line frequency | 50 / 60 Hz | |
| Motor output | up to 22 kW | |
| Protection class | IP20 | IP65 |



Belt Conveyors

Warehouse Logistics – Numbers and Facts



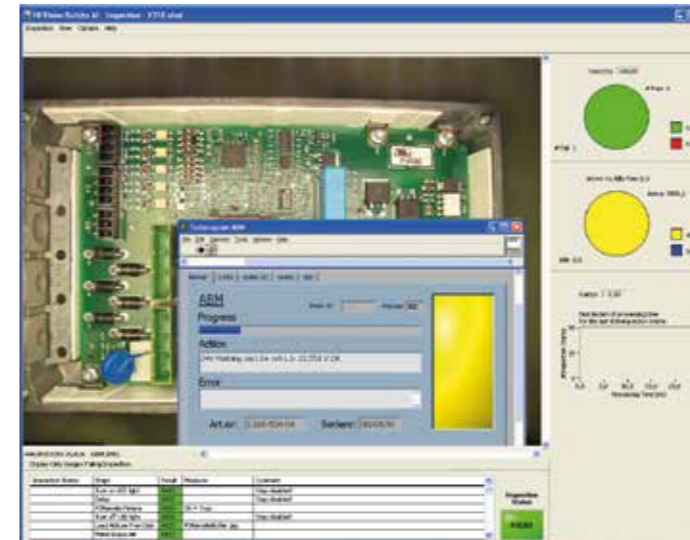
Cost savings of 25 % and more over complete lifetime of the equipment with use of SINOCHRON® drive unit.

Highest energy efficiency

The new guidelines for energy efficiency of electric drive systems make high demands on motors and their manufacturers. The fear of many users needing to upgrade to more expensive drive systems, however, is unfounded.

SINOCHRON® motors of ABM Greiffenberger have an extremely low energy consumption. All drive units are classified in efficiency class IE3 and thus have significantly lower losses than requested by the regulation. As the operation takes place mainly in the partial load range almost doubling in efficiency is achieved compared to induction motors.

Also the ABM geared motors are real energy saver! The high overall efficiency of our helical and parallel shaft gearboxes reduces the required power input and hence the energy consumption significantly.



Quality from the start

Quality must be top priority already at the very first planning step: That is our conviction. So we start at ABM Greiffenberger with a careful analysis of the needs of targeted markets. It continues with a detailed and far-sighted design and a careful selection of materials used and their suppliers.

Of course, our manufacturing processes are accompanied by appropriate quality control. Whether 100% checks, duration tests or laser supported detailed measurements a dense network ensures the reliability of our products.

ISO 9001 certification is a matter of course as well as the environmental and energy management system which is certified according to ISO 14001 and ISO 50001.

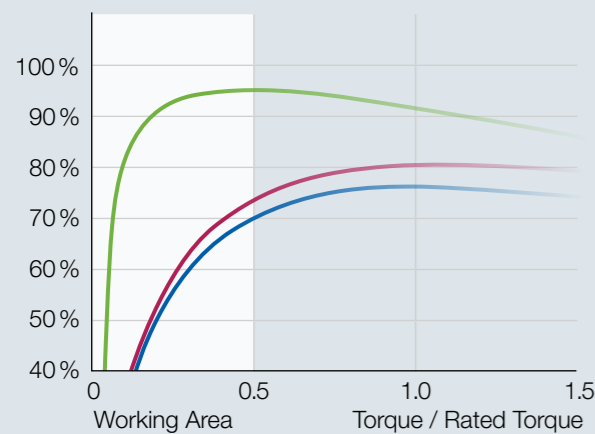
The compliance of our drive units to the essential standards, such as CE, VDE, DIN, UL / CSA ensures a smooth approval and acceptance of your systems.

Future-proof and sustainable

Replacement of existing, unregulated AC drive units by ABM Greiffenberger SINOCHRON® drive units can result in energy savings up to 50%. Here, the extra cost compared to a conventional gear motor is so small that the investment pays off in most cases in the first year of operation. In subsequent years the savings will then grow into respectable sizes.

Thus, a conversion to the energy-saving systems from ABM Greiffenberger is also for those an useful alternative that are not bound by the new guidelines!

Efficiency



■ SINOCHRON® Motor
■ Asynchronous motor with copper rotor
■ Asynchronous motor with aluminum rotor



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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