



Automation solutions for packaging machines.

High cycle times, quick product and format change, flexible and modular machines.

AMK





Gripping technology for innovative machine designs in the packaging industry.

When 60,000 paper sheets are cut, 40,000 cards are laminated or 22,000 letters are enveloped then advanced technology from AMK is involved. The innovative drive and control technology with scalable and modular components from a modular system is predestined for all applications in the packaging industry.

Increasingly shorter product life cycles, a growing array of optional products and smaller lots require infinite flexibility from the packaging machines. Packaging machines need to be converted quickly and easily for different products and formats. Fast cycle times and utmost productivity are further requirements for the automation concept. The machine standstill times need to be reduced to a minimum. These high requirements of the packaging industry require a modern and flexible system architecture.

A D V A N T A G E S

For the machine manufacturer

- Modular machine design
- Low engineering costs
- Reduction of the start-up time
- Low operating costs
- Remote maintenance

For the end customer

- Quick product and format change
- Higher machine output
- Reduction of the standstill times of the machine
- User friendly
- Communication up to the corporate control center



AMKAMAC Controllers



AMKASYN Servo inverters



DYNASYN Servo motors



AMKASmart IDT



AMK Technology library



Consultation, service, training



Modern and flexible automation solutions.

Scalable solutions – From the controller to the drive.

For the realization of innovative machine concepts, AMK offers standard components from a modular system in various output classes and sizes.

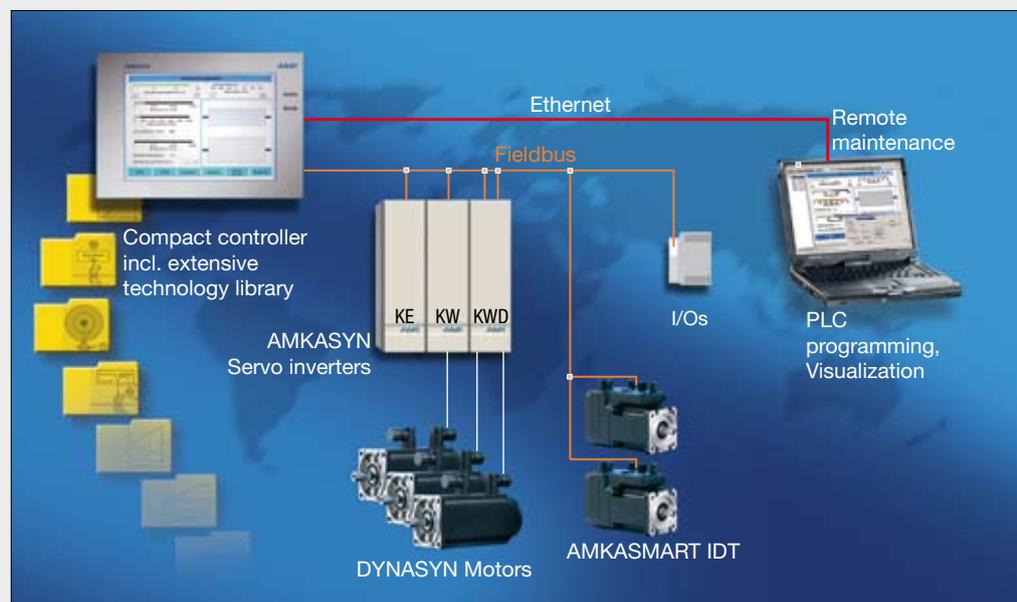
Motion control and PLC functions for movement control.

AMKAMAC controls.

The AMKAMAC controls contain a powerful PLC and extensive motion control functions. Based on the Realtime-Linux operating system and the real-time fieldbuses EtherCAT, SERCOS III and CANopen synchronized, an uninterrupted communication of the drives, sensors, actuators and up to the corporate control center is ensured. High-precision and dynamic processes can be realized by the real-time synchronization and the function modules oriented to the packaging process, such as the electronic cam.

The programming is done in accordance with the IEC 61131-3 (CoDeSys). The visualization is already integrated in CoDeSys. Thus, functional connections between an unlimited number of sensors and actuators can be programmed fast and easily and visualized. Numerous pre-programmed technology modules make easy and simple engineering possible for the user. This considerably reduces the development time for the machine.

Overall solution of your machine



Usable for fieldbus are CANopen synchronous, EtherCAT and SERCOS III. Up to 64 axes and decentralized I/O components can be controlled by the fieldbus CANopen synchronized. When using EtherCAT as fieldbus, up to 100 axes can be controlled. The programming is also done via the Ethernet. The visualization is integrated.

ADVANTAGES

- Top performance and functionality
- Real-time synchronization of the axes
- Uniform PLC platform acc. IEC 61131-3
- Industry-specific libraries and function components for motion control
- Quick extension and simple connection of control devices and I/Os
- Compatibility in communication with OPC, TCP/IP
- Diagnostics and remote maintenance
- Centralized access to system data
- Low engineering costs by automatic configuration
- System can be easily retrofitted for future requirements



Reduction of the engineering costs by integrated technology functions.

Technology functions:

The following packaging process oriented functions have already been pre-programmed in the AMK library:

- Printing mark detection and regulation
- Electronic cam
- Synchronization
- Electronic cam controller
- Absolute and relative positioning
- Torque control
- Flying saw
- Cross cutter
- Pick and place
- Winder
- Calliper function
- Handling
- No Product – No Bag
- PID controller
- Register controller
- Longitudinal sealing
- Cross sealing
- Temperature regulation
- Tipping
- Tension control
- Tubular bag packaging

▶ Paper

▶ Cosmetics

▶ Food

▶ Candy

▶ Drinks

▶ Pharma

▶ Tobacco

Half the size with integrated safety.

AMKASYN Servo inverters.

The AMKASYN KE/KW model series, consisting of input and inverter modules in the output range up to 120 kVA, is exceptionally compact. This is achieved by cold plate technology. The AMKASYN servo inverters are liquid cooled and available with air cooling too. To save energy, supply modules are also available with sinus-shaped infeed and feedback.

The AMKASYN servo inverters KE/KW are certified according to the safety category 4 in accordance to EN 954-1 as well as SIL 3 according to IEC 61508 (in preparation):

- Cost saving by integration in the drive system
- Simplified amount of wiring because no external elements are needed
- High flexibility, because of free possibilities for configuring the safety functions

Dynamic and compact for increasing the work speed.

DYNASYN Servo motors.

The DT motor series is available in a very wide performance range from 280 W to 60 KW. Due to the optimized winding and magnet construction, individually adjusted to the cooling methods, the motors are available with continuous stall torques of 0.5 – 500 Nm at a high overload capacity for peak demands. The bandwidth allows an integrated drive concept; from the auxiliary axis to the main drive.

Reduction of the cabinet volume.

AMKASMART IDT.

The AMKASMART IDT is a complete mechatronic function unit that can be installed into the machine decentrally. Consisting of a high torque motor, servo controller and position encoder, it provides excellent servo properties and controller intelligence “on board” for the tasks in a packaging machine.

Thanks to the decentralized automation, not only does the cabinet volume decrease, but also the amount of wiring.



Integrated solutions for modular machines.

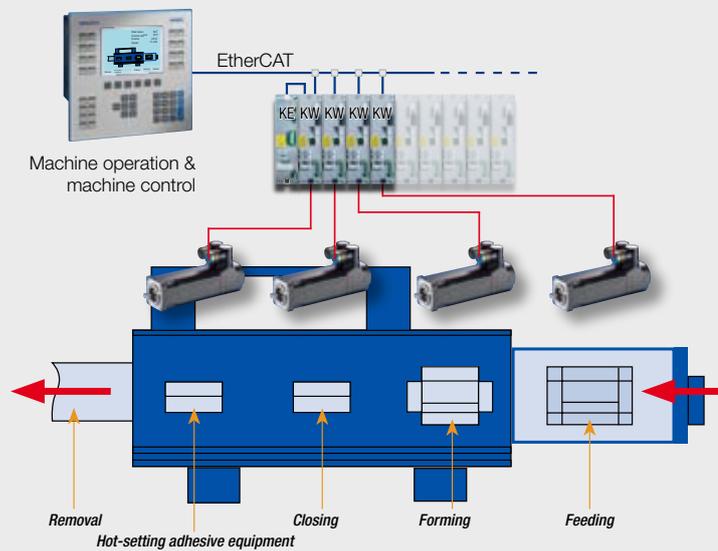
Solution Competence and Know-how.

The intelligent solutions of AMK ensure high cycle rates and optimal productivity for various packaging tasks; whether it is a stand-alone machine or an entire production line.

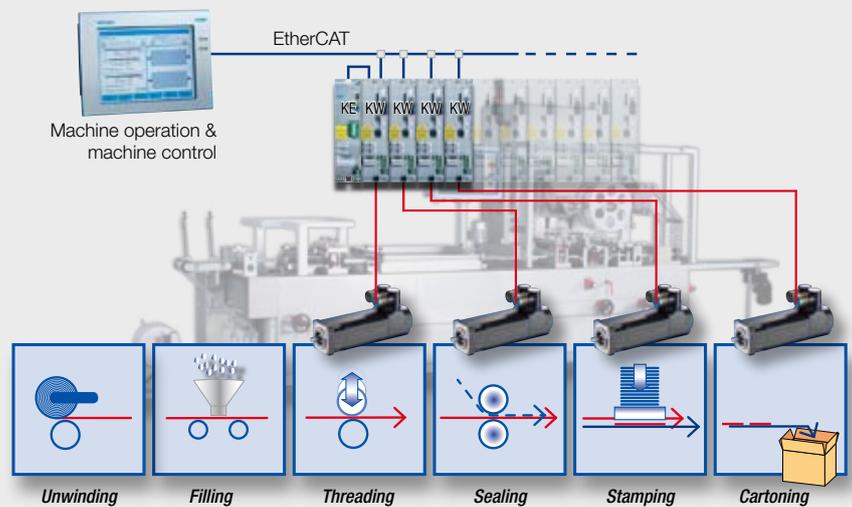
Lower your costs spiral and shorten your time to market. Your application can be solved quickly, simply and reliably for years to come with the scalable hardware, a uniform system software, the pre-programmed technology functions, a system bus and the drive-integrated safety equipment.

- ▶ Primary Packaging
- ▶ Secondary Packaging
- ▶ End-of-line Packaging
- ▶ Handling and Robotic

■ Carton forming



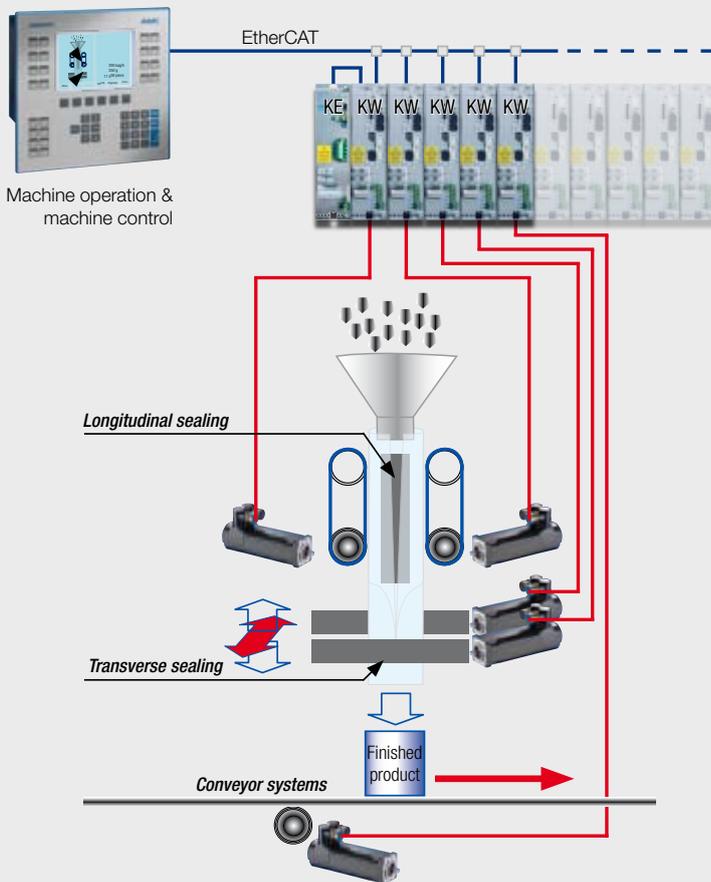
■ Blister packaging





Higher cycle rates to increase productivity.

■ Tubular bag packaging



- ▶ Carton forming
- ▶ Blister packaging
- ▶ Tubular bag packaging
- ▶ Palletizing
- ▶ Bagging
- ▶ Pick and place
- ▶ Cross cutting
- ▶ Labeling
- ▶ Wrapping
- ▶ Strapping
- ▶ Foiling
- ▶ Enveloping
- ▶ Commissioning
- ▶ Welding

The drive and controller modules from AMK will always provide you with an economic solution. You can also profit from the expertise of the AMK application engineers. Our engineers will gladly assist in the programming of your application.

Control your Motion.



- **AMKAMAC**
Controllers
- **AMKASYN**
Servo inverters
- **DYNASYN**
Servo motors
- **AMKASMART**
Inverter integrated motors
- **SPINDASYN**
Hollow shaft motors
- **TORGSystem**
Gear motors
- **AMKAVERT**
Frequency inverters

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