



## **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.

### 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 centre



Controllers AMKAMAC



Servo inverters AMKASYN



Servo motors DYNASYN



AMKASMART IDT



Engineering Tool **AIPEXPRO**



Consultation, service, training

# Modern and flexible automation solutions.

## Scalable solutions – From the controller to the drive.

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

### Servo motors DYNASYN.

The DT motor series is available in a very wide performance range from 280 W to 100 KW. Due to the optimised winding and magnet construction, individually adjusted to the cooling methods, the motors are available with continuous stall torques of 0.5 – 650 Nm at a high overload capacity for peak demands. The bandwidth allows an integrated drive concept; from the auxiliary axis to the main drive.

### Mechatronic solution 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 decentralised automation, not only does the cabinet volume decrease, but also the amount of wiring. 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.

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## It just fits:

Your individual automation solution.



### Servo inverters AMKASYN.

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 the so-called cold plate technology. The AMKASYN servo inverters are liquid cooled and available with air cooling too. For a sustainable energy management, 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 PL e according to EN ISO 13849-1.

### Controller AMKAMAC.

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 and CANopen synchronised, an uninterrupted communication of the drives, sensors, actuators and up to the corporate control centre is ensured. High-precision and dynamic processes can be realised by the real-time synchronisation 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 visualisation is already integrated in CoDeSys. Thus, functional connections between an

# Reduction of the engineering costs by integrated technology functions.

unlimited number of sensors and actuators can be programmed fast and easily and visualised. Numerous pre-programmed technology modules make easy and simple engineering possible for the user. This considerably reduces the development time for the machine.

## AIPEX<sup>PRO</sup> Engineering-Tool

**AIPEX<sup>PRO</sup>** integrates all engineering tools needed during the life cycle of a machine, such as:

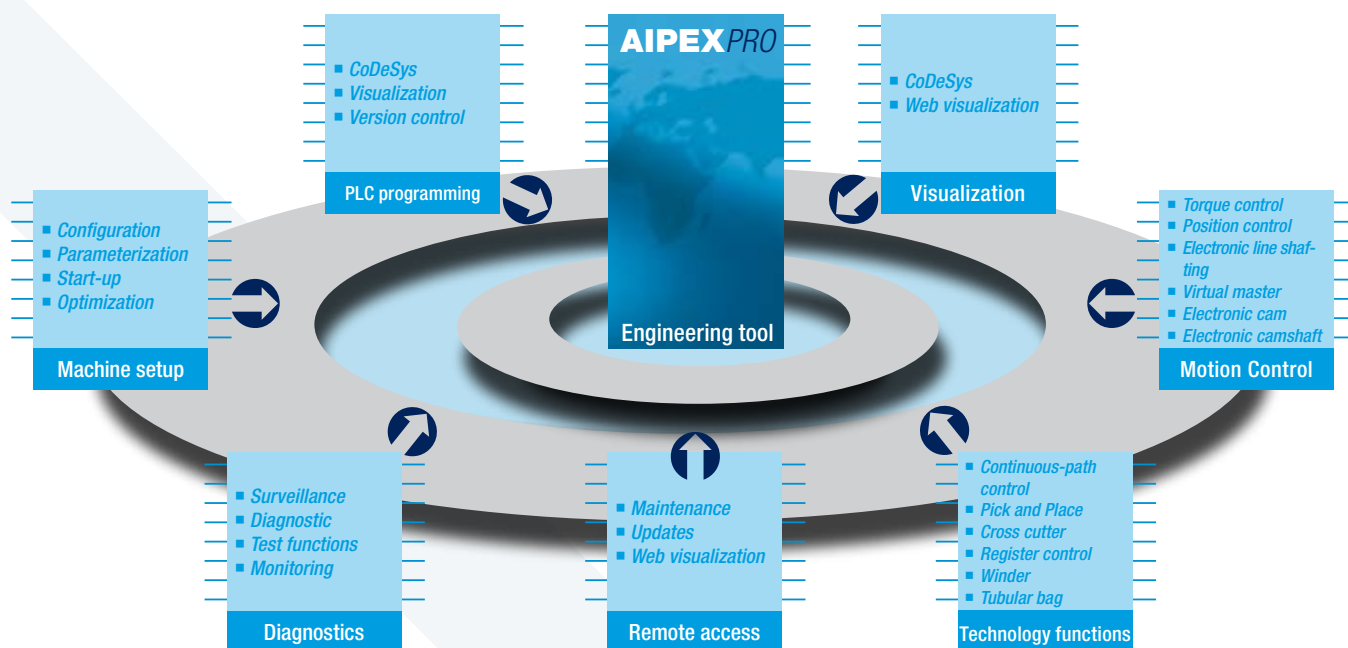
- Configuration
- Programming
- Parameterization
- Commissioning
- Optimization
- Remote maintenance
- Diagnostics

This saves you time-consuming efforts to coordinate, for example, between your PLC program containing drive parameters and the configuration of user data exchange via the field bus. **AIPEX<sup>PRO</sup>** does this work for you automatically and frees you from all tasks not directly tied to your application. This leaves you free to concentrate on what is really important in your application.

**A D V A N T A G E S**

- Highest cycle rates
- Reduction of size
- Minimal changeover times
- Collecting and saving process data
- Real-time synchronisation 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
- Centralised access to system data
- Low engineering costs by automatic configuration
- Energy efficient

## All-in-one: AIPEX<sup>PRO</sup>.





# Integrated solutions for modular machines.

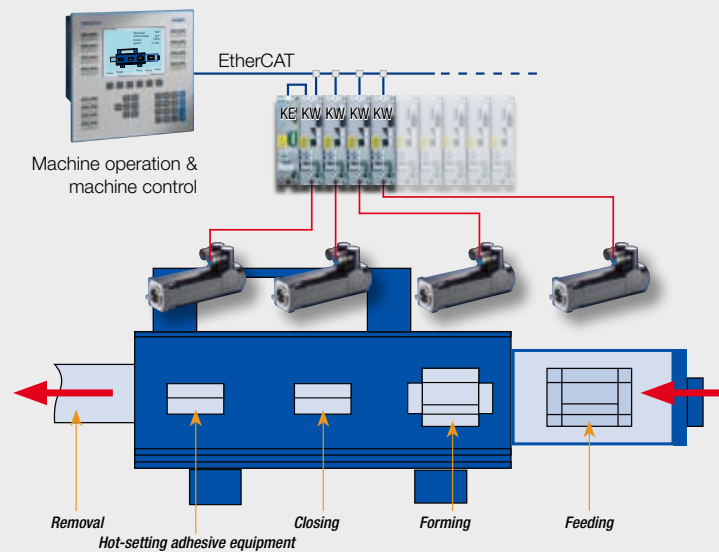
## Solution Competence and Know-how.

The intelligent solutions of AMK ensure high cycle rates and optimal productivity for various packaging tasks; no matter if it is a stand-alone machine or an entire production line.

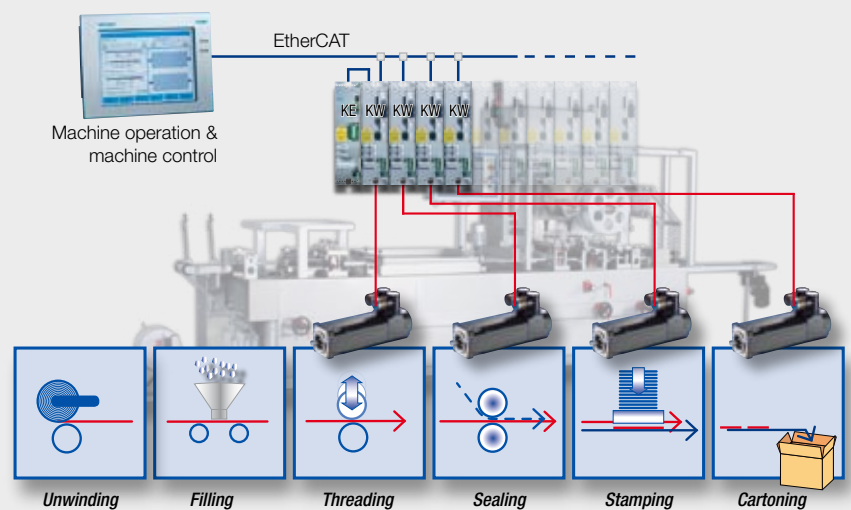
Lower your costs spiral and shorten your time to market. Your application can be solved quickly, simply and reliably for years to come with the scalable hardware, a uniform system software, the pre-programmed technology functions, a system bus and the drive-integrated safety equipment.

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

## ■ Carton forming



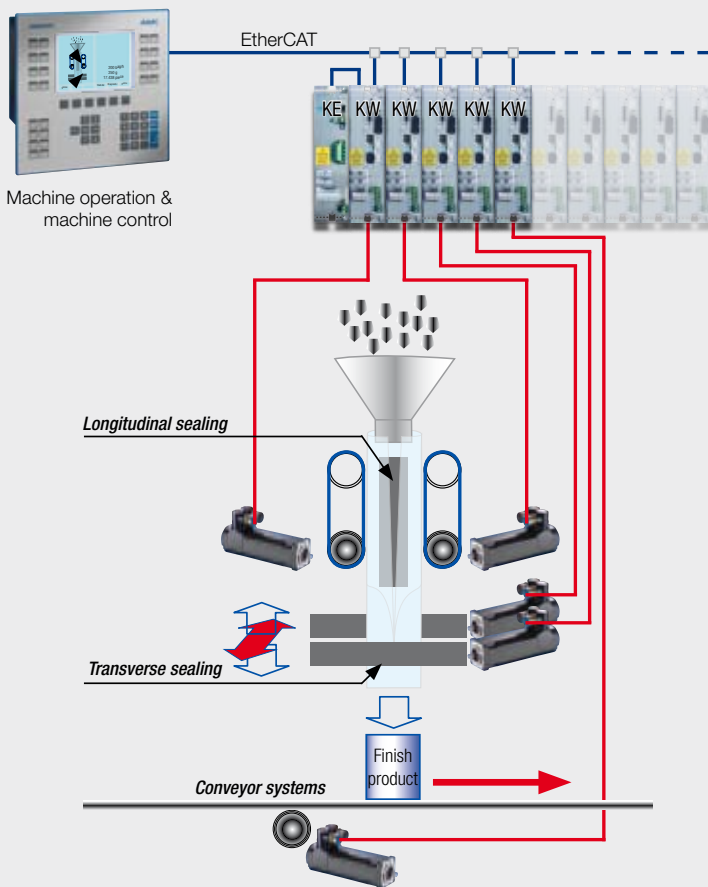
## ■ Blister packaging





# Higher cycle rates to increase productivity.

## ■ Tubular bag packaging



- ▶ Carton forming
- ▶ Blister packaging
- ▶ Tubular bag packaging
- ▶ Palletising
- ▶ Bagging
- ▶ Pick and place
- ▶ Cross cutting
- ▶ Labelling
- ▶ Wrapping
- ▶ Hooping
- ▶ 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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