

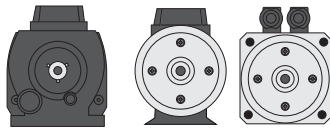


AUTOMATION SOLUTIONS FOR PLASTICS MACHINERY

EN

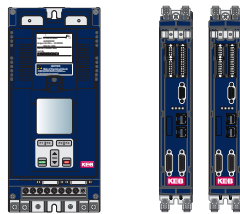
PLASTICS TECHNOLOGY

MOTORS 360°



Synchronous servo motors, square asynchronous motors, synchronous reluctance motors and gear motors offer maximum dynamics and flexibility in connection with machine design. With high overload capacity and low mass moment of inertia, they are the ideal solution for your plastics machine. In combination with the COMBIVERT F6/S6 drive controllers, they create powerful drive systems that are precisely matched to each other.

DRIVES 270°



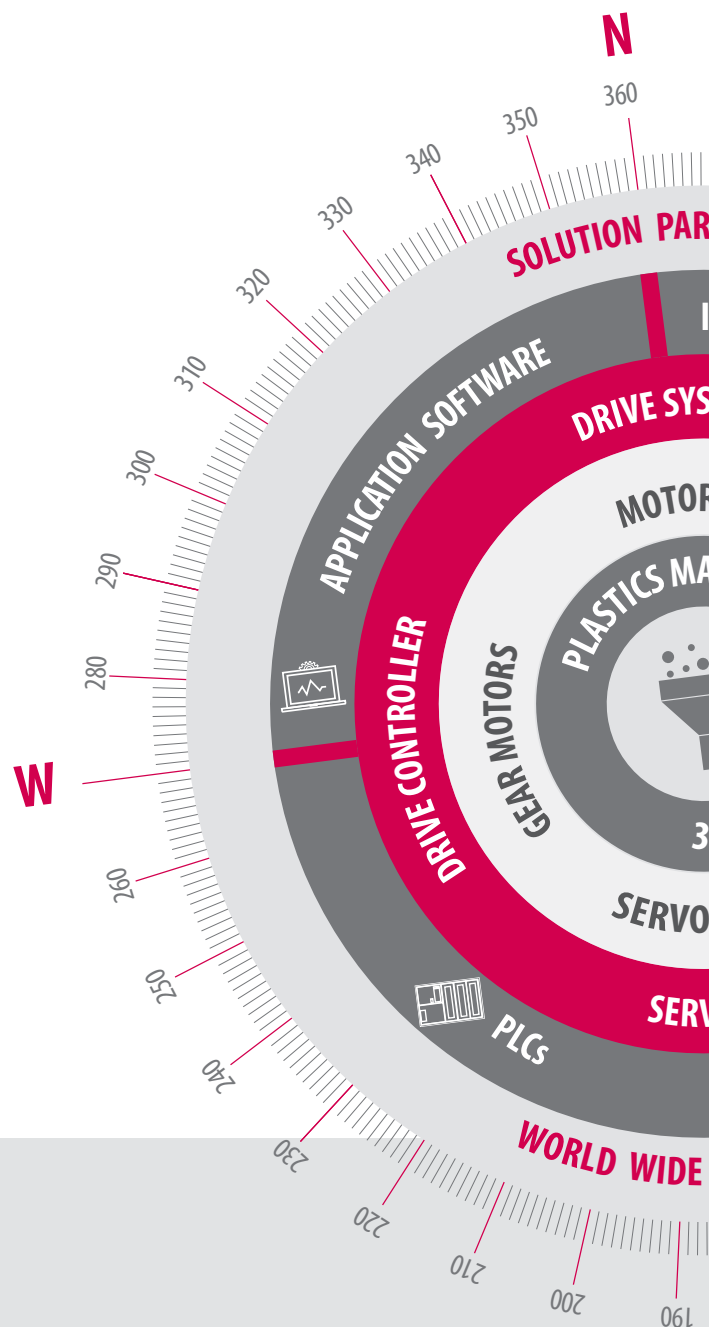
In addition to functionality and cost-effectiveness, flexibility plays a key role in future-oriented drive systems.

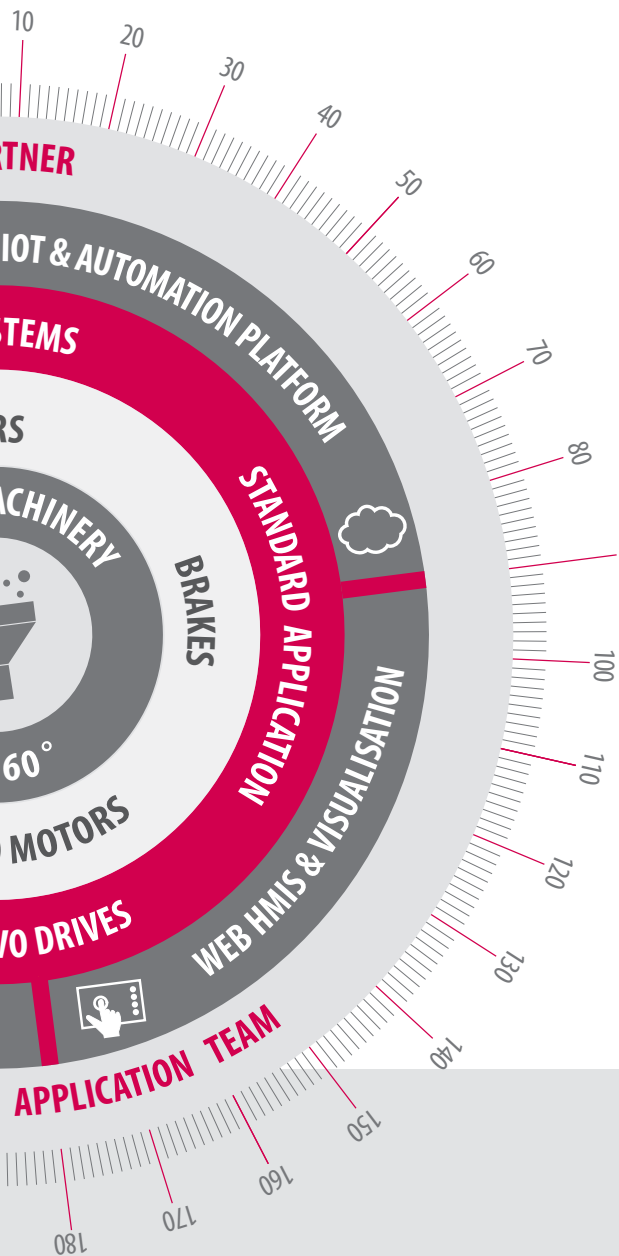
Drive controllers from KEB support the implementation of new machine concepts with extended requirements in terms of performance, communication and integrated safety. The operation of different motors with outputs starting at 0.75 kW and extending into the megawatt range offers a wide range of application-specific special functions for your plastics machine.

PRECISION, PERFORMANCE AND QUALITY

Precision, performance and quality – the strengths of our systems, which come into play in one of our main fields of application: plastics machinery. These are complemented by our worldwide service, a globally active application team and more than 25 years of experience in plastics applications.

360° for plastics machinery? Today, our portfolio offers individually tailored 360° solutions – from software including an open IIoT platform, visualisation, web HMI and PLC to drive controllers. The system is rounded off by motors and gearboxes with matching brakes.





SOFTWARE 90°



NOA (Next Open Automation) is an open IIoT and automation platform from KEB. It supports applications for communication, visualisation and data analysis, and also allows for custom Docker-based apps. The platform is manufacturer-independent, flexibly scalable and ideal for digital transformation in industry.

HELIO is a browser-based HMI management system for creating intuitive, web-based user interfaces for industrial applications. Its innovative architecture enables easy operation and high flexibility. The HMIs created are responsive and platform-independent.

E

PLC 180°



The C6 COMPACT 3 is the right choice for automating applications with low to medium complexity. It is based on a Linux operating system and uses an open microservice architecture that enables container-based software integration. This allows various functions such as motion control, gateway applications, IIoT/edge computing and HMI server services to be implemented flexibly. The controller is characterised by real-time capability, communication via an integrated EtherCAT master, and programmability according to IEC 61131. Thanks to its modularity and openness, the C6 COMPACT 3 is a future-proof solution for modern automation systems.

S

With our broad portfolio, the plastics applications team supports you in solving your requirements. The KEB Automation Group is internationally positioned and achieves optimal results for your machine through continuous communication with you.

We accompany the process from the idea to development and commissioning to after-sales and service.

INJECTION MOLDING TECHNOLOGY



SERVOPUMP KERNEL

Intelligent servo pump control



COMBIVIS studio 6

Automation tool for PLC, safety and drives



HELIO

HMI management system



NOA NEXT OPEN AUTOMATION

Automation and IIoT platform



COMBIVIS CONNECT

Remote maintenance



KEB provides the right solutions for all types of injection moulding machines: from fully electric machines to hybrid machines (electric and servo-hydraulic) to hydraulic machines for which appropriate servo pump software is available. Fully electric solutions with non-linear torque control are ideal for regulating the clamping unit and thus reducing the machine cycle.

In addition, powerful DL4 motors are available, which are characterised by high torque and low inertia. With the resulting high degree of dynamics, the motors are perfectly suited to the requirements of injection moulding machines.



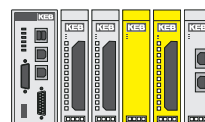
EMBEDDED CONTROLS IPC CONTROLS

Scalable real-time control solutions



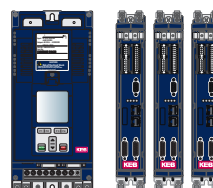
REMOTE I/O SAFETY PLC

EtherCAT-based I/O system
Safety over EtherCAT



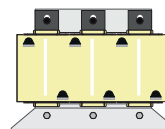
DRIVES

Modular drive systems



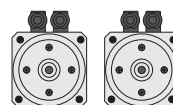
FILTER

Flexible drive and motor filters



MOTORS

Extensive range of motors



SUB-MOUNTED BRAKING RESISTORS

Braking resistors mounted directly on the drive enable high peak currents to be absorbed without additional wiring. Water cooling via the heat sink increases performance, while an internal temperature model protects against overheating.

DC CONNECTION

Operating in a DC network saves energy and reduces installation costs. A central AC feed is sufficient to connect several inverters. This increases the efficiency and flexibility of the application and also saves space in the control cabinet, as braking resistors are no longer required.



HIGHLIGHTS

- Optimal speed control
- Cooling concepts
- Functional safety
- DC connection
- Non-linear kinematics
- Sub-mounted braking resistors

EXTRUSION TECHNOLOGY



HMI VISUALISATION

Intuitive, responsive HMIs based on web technology



SCREW PROTECTION

Prevent mechanical damage



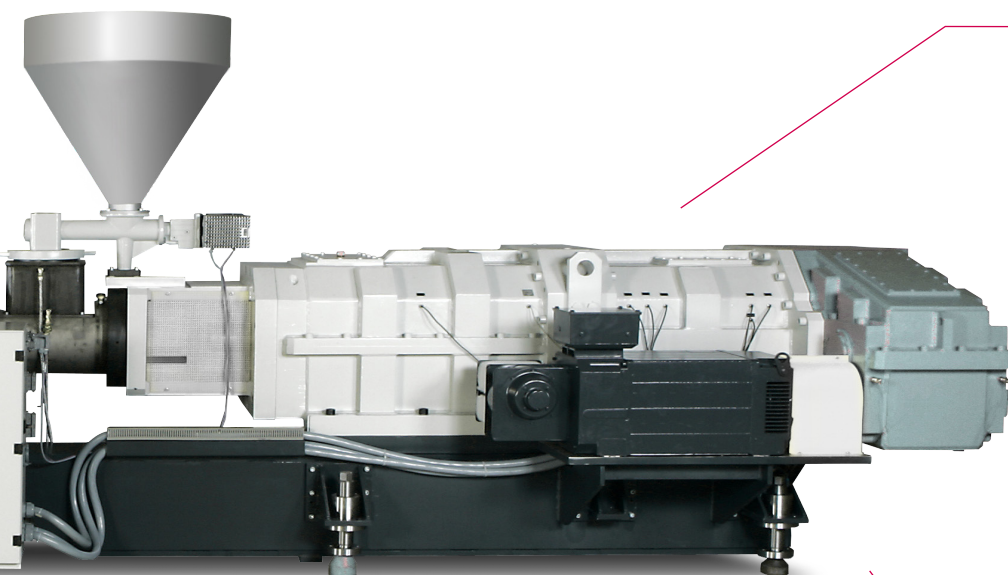
SMART SOLUTIONS

Reduction of machine downtime



SHAPING PLASTICS:

The core of extrusion technology consists of continuously pressing the liquefied plastic through a shaping opening in order to produce the desired profile. Within this process technology, high material output and very low downtime are important keys to success. Extruding the material at outputs into the megawatt range requires powerful drive controllers, which KEB has been supplying for more than 25 years in the field of plastics technology. Combined with a high-quality control system and a powerful motor, users receive a comprehensive system solution for use in extruders.



COOLING CONCEPTS

Air or liquid cooling



ENCODERLESS CONTROL

Efficient and simple installation



MOTOR TYPES

Various motor types (IPM, SynRM, SM, ASM)



THE 360° SOLUTION FOR YOUR SUCCESS

KEB's special extruder functions are specifically tailored to the requirements of plastics processing and contribute significantly to process reliability and efficiency. A key element is the screw protection, which reliably protects the mechanical components of the extruder in the event of overload, thus preventing expensive damage. In addition, the targeted reduction of machine downtime through intelligent drive and control solutions ensures higher plant availability and lower production losses. KEB's SCL (Sensorless Closed Loop) and ASCL (Asynchronous Sensorless Closed Loop) control methods enable precise motor control without encoders. Virtual motor models in the software optimally support the process and are suitable for asynchronous, synchronous, reluctance, linear, spindle and torque motors. Simple installation and cost-effective design round off the package perfectly.



HIGHLIGHTS

- Hardware and software for the plastics industry from a single source
- Customised products and solutions
- High availability, torque accuracy and speed quality
- Reproducibility and dynamics



KEB'S COUNTRY ORGANISATIONS

Austria | KEB Automation GmbH
E-Mail: info@keb.at Web: keb-automation.com

Benelux | KEB Automation KG
E-Mail: info.benelux@keb.de Web: keb-automation.com

Czech Republic | KEB Automation s.r.o.
E-Mail: info@keb.cz Web: keb-automation.com

France | Société Française KEB SASU
E-Mail: info@keb.fr Web: keb-automation.com

Germany | Geared Motors
KEB Antriebstechnik GmbH
E-Mail: info@keb-drive.de Web: keb-automation.com

Germany | Headquarters
KEB Automation KG
E-Mail: info@keb.de Web: keb-automation.com

Italy | KEB Italia S.r.l. Unipersonale
E-Mail: info@keb.it Web: <https://blog.keb.it>

Japan | KEB Japan Ltd.
E-Mail: info@keb.jp Web: keb.jp

P. R. China | KEB Power Transmission Technology (Shanghai) Co. Ltd.
E-Mail: info@keb.cn Web: keb.cn

Poland | KEB Automation KG
E-Mail: roman.trinczek@keb.de Web: keb-automation.com

Republic of Korea | KEB Automation KG
E-Mail: vb.korea@keb.de Web: keb-automation.com

Spain | KEB Automation KG
E-Mail: vb.espana@keb.de Web: keb-automation.com

Switzerland | KEB Automation AG
E-Mail: info@keb.ch Web: keb-automation.com

United Kingdom | KEB (UK) Ltd.
E-Mail: info@keb.co.uk Web: keb-automation.com

United States | KEB America, Inc.
E-Mail: info@kebamerica.com Web: kebamerica.com

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THE COMPLETE WORLDWIDE KEB PARTNER NETWORK



Automation with Drive

keb-automation.com

KEB Automation KG Suedstrasse 38 32683 Barntrup Germany Phone +49 5263 401-0 E-Mail: info@keb.de