

New iQ motion control included as standard feature of viper robots

Optimised tracking planning for shorter cycle times

Schwertberg, Austria – August 2021

ENGEL is expanding its range of smart assistance systems for Fakuma 2021. The new iQ motion control enables ENGEL viper series linear robots to make a safe early start combined with fully automatically optimised track planning. This means double benefits for users, through time savings in the teach-in and shorter production cycles.

Where the injection moulding machine and robot coordinate their movements, this reduces the cycle time in many applications. This is because the robot arm can already move into the mould area while the machine is still moving, i.e., although the mould is not yet completely open. To ensure that the robot moves parallel to the mould mounting platen, individual movement points as well as the speed and acceleration of the entry movement are specified during the teach-in. The trajectory along the individual points is determined manually in legacy applications. But the new iQ motion control reduces this teach-in overhead to a few clicks. The software calculates the optimum motion for the respective part removal process, and this further reduces the overall cycle time of the injection moulding process.

Faster part removal without waits

The prerequisite for parallel motion is that the injection moulding machine and robot share a database, as is the case with integrated system solutions by ENGEL. When it moves into the mould area, the robot does not need to wait for the mould to open completely. Due to the familiar "early start" feature, which is now integrated in iQ motion control, the robot starts moving parallel to the moving mould mounting platen.

A suggestion for the early start position based on the robot and machine setting parameters is displayed on the iQ motion control setting screen. This allows even less experienced ma-

chine operators to take full advantage of iQ motion control. The software relies on a two-stage safety system to safely rule out any collision between the robot and the moving mould half despite early entry into the machine area.

Large mould opening stroke, large efficiency gain

iQ motion control will be included in the standard scope of delivery of all new linear robots in the ENGEL viper series from October. Independently of the injection moulding machine type and the type of part removal, injection moulders will see benefits even for simple handling tasks. The efficiency gains are particularly clear in applications with large mould opening strokes, such as the production of deep housing components, boxes or containers, which require long mould cores.

ENGEL at Fakuma 2021: hall A5, stand 5204



iQ motion control works with automatically optimised track planning, reducing both the teach-in overhead and the cycle time.

Picture: ENGEL

ENGEL AUSTRIA GmbH

ENGEL is one of the global leaders in the manufacture of plastics processing machines. Today, the ENGEL Group offers a full range of technology modules for plastics processing as a single source supplier: injection moulding machines for thermoplastics and elastomers together with automation, with individual components also being competitive and successful in the market. With nine production plants in Europe, North America and Asia (China and Korea), and subsidiaries and representatives in more than 85 countries, ENGEL offers its customers the excellent global support they need to compete and succeed with new technologies and leading-edge production systems.

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