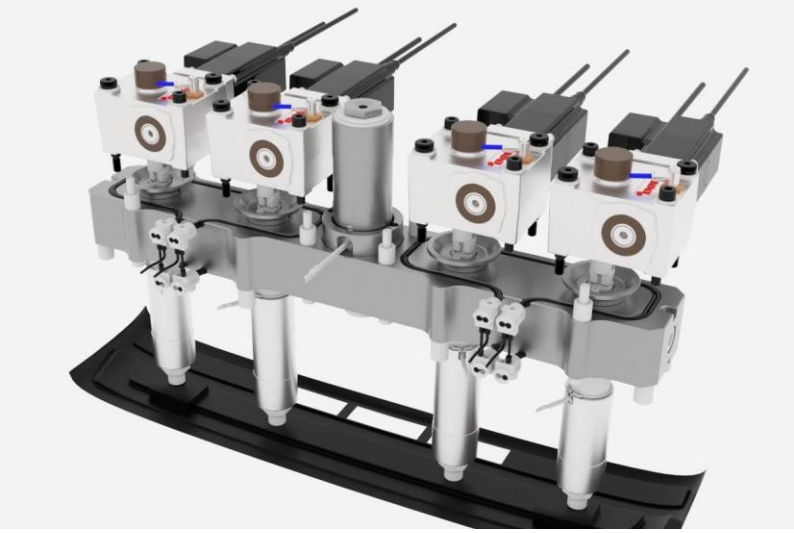
APPLICATION STORY

JVL ServoStep Motor Powers YUDO's YUDRIVE eco Electric Valve Gate System

Compact all-in-one solution replaces pneumatic and hydraulic valve actuation



YUDO's YUDRIVE eco multi-cavity hot runner system uses individual electric actuators for precise valve pin control.

PRECISE CONTROL OF THE MOULDING PROCESS

In hot runner injection moulding, the valve pins control the flow of molten plastic into the mould cavities. Precise timing and positioning are essential for achieving consistent filling, good surface quality and stable production results.

YUDO, a manufacturer of advanced hot runner systems, wanted to replace conventional pneumatic and hydraulic valve actuation with a compact electric solution. Together with JVL, YUDO developed YUDRIVE eco, an electric valve gate system built around the JVL MIS23, mainly for demanding automotive applications.

Electric actuation gives the machine builder much more precise control of each valve pin. This helps improve the finished product, reduce scrap and create a cleaner and safer production environment.

ALL-IN-ONE SERVOSTEP MOTOR

The solution is based on the JVL MIS23 integrated ServoStep motor. Motor, driver, encoder, motion controller and ePLC are built into one compact unit. No separate drive or motion controller is required in the cabinet.

The motor's built-in ePLC receives the standard 24 VDC signal normally used by the injection moulding machine to operate the hot runner valve. The motion sequence is then handled locally inside the motor, making the system easy to integrate with different moulding machines.

Closed-loop operation monitors the actual motor position and ensures repeatable valve movement. This provides a stable solution even when the valve pin is exposed to demanding process conditions.



YUDRIVE eco electric valve actuator with JVL MIS23 motor, mounted directly on the hot runner system.

"The JVL solution proved to be the most compact and stable solution evaluated for the application."

WHY JVL WAS SELECTED

Several alternative motors had previously been tested, including a conventional servo motor solution. YUDO selected the JVL ServoStep motor because it provided the required stability in a significantly more compact and complete package.

Integrating the PLC and drive electronics directly into the motor eliminated additional cabinet space and reduced wiring. The complete JVL solution was also a more cost-effective alternative to the servo motor previously used.

More precise valve control	**Less waste and improved quality**	**No additional controller cabinet**
Cleaner and safer production	**Compact, stable all-in-one design**	**Lower system cost**



JVL MIS23 with integrated drive, encoder, controller and ePLC.

More information: JVL MIS23 Integrated ServoStep Motors