APPLICATION STORY

One ServoStep Motor Replaces DC, Stepper and Servo Motors in Clothing Folding Machine

Better performance and no cabinet space needed for any of the motors



Illustration of the machine: folding (1), bagging with the belt drive that moves the clothing into the bag (2), and the elevator that stacks the bagged clothing (3).

1 **Folding**
Simple DC motors
→ JVL MIS232S1

2 **Belt drive / bagging**
400 W servo with gear
→ JVL MIS232S1, direct drive

3 **Elevator**
Standard stepper motors
→ JVL MIS232S1

3 motions, 7 motors replaced by the same integrated ServoStep™ motor. No cabinet space required.

FOLDING AND BAGGING CLOTHING

The machine folds clothing and packs it in bags. JVL ServoStep motors drive three motions: folding, bagging with the long belt movement that moves the clothing into the bag, and the elevator that stacks the bagged clothing.

The same JVL MIS232S1 motor is used for all three. It replaces a servo motor, DC motors and stepper motors, which all required space in the cabinet.

With drive, encoder and controller built into the motor, none of them requires any cabinet space.

THREE MOTIONS, ONE MOTOR

Folding: The MIS232S1 replaced simple DC motors. The motion is controlled far better, so the clothing is folded more neatly.

Belt drive / bagging: The same motor replaced a 400 W servo on the long movement that moves the clothing into the bag. It saved cost, and since the ServoStep motor is far more tolerant of inertia, it works as direct drive, so the gear was no longer needed.

Elevator: The motor replaced standard stepper motors, giving better motion and performance.

WHY JVL WON

JVL won because we could replace all motors in the machine with one type of JVL motor. Where the machine used DC motors, stepper motors and a servo motor, the same JVL MIS232S1 is now used everywhere, which lowered the total price of the machine.

Having just one motor type also simplifies spare parts. The machine builder can keep motors in stock, and the end user can keep a single spare motor, since the same motor fits every axis. This was significantly more costly and harder to manage with three different motors, three different drivers, encoders and a variety of cables.

The cabinet could be reduced significantly, because drive, encoder and controller are built into the motors. Fewer parts and less cabinet space also helped bring the price down.

The motion is controlled far better than before. The clothing is folded more neatly, so the customer gets a better end product. The machine also produces more items in less time, while using less power.



JVL MIS232S1 integrated ServoStep motor.

One motor type for the whole machine	**Lower total cost**	**Significantly smaller cabinet**
Better end product	**More goods in less time, less power**	**Direct drive, no gear on the belt**

INTEGRATED MOTORS SIMPLIFY THE WHOLE MACHINE

SHORTER BUILD TIME

Fewer parts and fewer cables make the machine faster to build.

SIMPLER PURCHASING

Fewer different parts to buy, order and keep in stock.

FEWER DRAWINGS

Fewer components and cables mean simpler drawings and documentation.

MINIMAL DOWNTIME

No need to trace a fault to the cable, driver, encoder, motor or controller. Swap one integrated motor, and the machine is quickly running again.

More information: www.jvl.dk