



Summary

Industry:	Transport - Operation
Application:	Paddle gates
Actual Saving:	36% saving on material costs
Payback Period:	Immediate



Improving the Design of Automated Paddle Gates

ISSUE

A customer needed to redesign their paddle gates to reduce costs, and approached ERIKS for support.

Their original design used a conventional induction motor and worm gearbox with a variable speed drive. Limit switches sense the end of travel position. An encoder monitors the gate position while it is in motion. This indicates if the gate closes on a pedestrian, or more often their baggage. When a "jam" is detected a clutch is used to disconnect the gearbox output shaft from the final drive allowing the gate to move freely. When the gate is closed there must be sufficient enough force to discourage people from forcing the gate open, but in the event of an emergency it should be possible to force the gate open.

SOLUTION

Following detailed discussions with the customer to fully understand the requirements for the new design, ERIKS selected a DC brushless servo motor from Dunkermotoren with planetary gearbox and integrated drive. The integrated drive eliminates the need for an inverter

The additional functionality in the integrated drive enables the torque to be limited electronically which eliminates the need for a clutch. On board position monitoring also eliminates the need for an encoder. As the motor can run to a dead stop without detriment, limit switches are no longer required.

OTHER BENEFITS

- Reduction in costs
- Improved functionality

FURTHER COMMENTS...

The solution provided by ERIKS Automation provided the customer with a saving of 36% on material costs. The smaller footprint allows the size of the gate pedestal to be reduced offering a more pleasing appearance and a reduction in cost. The build time (and cost) has been cut, whilst still providing improved functionality through the programmable motor current.

MORE INFORMATION

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