

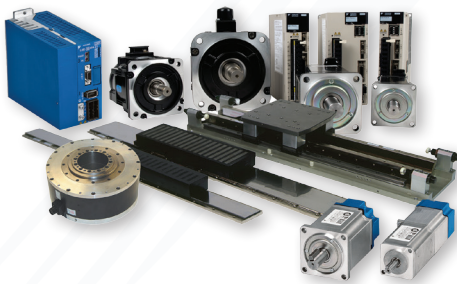
## Gearheads

Concept Automation, located in Carson City, Nevada, is a design and manufacturing company specializing in a full line of labeling machines, as well as custom designs. It's customer base consists of large OEMs that typically private label its equipment.

**IT'S PERSONAL  
YASKAWA™**



YASKAWA'S BROAD PRODUCT RANGE OF SERVO SYSTEMS INCLUDES BRUSHLESS AC SERVO MOTORS, DIGITAL AMPLIFIERS, LINEAR MOTORS, AND DIRECT DRIVE MOTORS. THESE BEST-IN-CLASS SERVO SYSTEMS CAN BE MATCHED WITH SINGLE-AXIS OR MULTI-AXIS MOTION CONTROLLERS FOR A SYSTEM SOLUTION WITH THE BEST QUALITY AND RELIABILITY IN THE BUSINESS.



### Challenge

The company was looking to improve the existing design for its high-speed bottle label applicator to offer greater reliability and increased through-put. The design originally used stepper motors and lower end servos with gear reductions.

One idea considered was to use a directly-driven servo on an axis that was particularly high-duty cycle. Eliminating a gearhead would reduce cost, and improve reliability by reducing backlash and component wear.

### Solution

Yaskawa and the Concept Automation team determined what it could provide was two different servo lines: 1) the lower-cost Junma series for axes that required speed control, and: 2) the higher-end, industry-leading Sigma-5 series servo on an axis that required sub 15 millisecond settling times and very high duty-cycle. This axis went from standstill to 600 RPM and back to zero in about 120 milliseconds.

Yaskawa provided on-site commissioning support to ensure the Sigma-5 axis and Junma axes performed at peak performance levels. The full-featured Sigma-5 servo allowed Yaskawa and Concept Automation to observe the settling time in the SigmaWin+ analysis tool.

### Results

"We've been producing high-speed label applicators for more than 20 years and the Sigma-5 has significantly raised performance levels. Choosing a vendor able to provide us with servos at the price of steppers (Junma) as well as the high performance shown by the Sigma 5 has been a really good experience for us. The great support shown by Yaskawa in getting the first line running has exceeded expectations". -President, Concept Automation.

The Concept Automation machine delivered 12% greater throughput over previous designs. Also, settling time was able to be reduced to fewer than 10 milliseconds.

