

## Success Story

# Flat Panel Glass Inspection Machine

### Sales Challenge and Results

Flat panel glass inspection machine utilizes multiple axes of linear and rotary servo motors and drives provided by Danaher Motion.

### Key Customer Requirements

The systems utilize several axes of rotary and linear servo as well as rotary steppers. This application had repeated problems integrating motors and drives from different manufacturers, and also experienced numerous quality issues.

A key requirement was for Danaher Motion to provide a linear servo motor and amplifier solution set with a single point for support. After making inroads with a differentiated solution, Danaher Motion was able to displace several other axes of servo on the machine with a standard set of rotary servo products.

### Application

- The inspection system looks for defects in flat panel glass just after it is manufactured. The current system handles pieces of glass approximately 2 meters square.
- The cassette handling systems removes the glass sheets from a storage cassette and pulls them onto a conveyor.
- The "walking beam" linear motor picks the glass up from the handling conveyor and passes it in front of a bank of CCD cameras at a tightly controlled velocity. This function identifies and locates imperfections in the glass.
- The sheets of glass with imperfections are passed to the "manual revisit station." This station contains two axes of linear servo motors that position a camera. A technician views images of the imperfections and decides whether the glass is usable or needs to be recycled.

### Danaher Motion Solution

- The cassette handling system utilized a Kollmorgen S600 drive with a Devicenet interface card and an AKM Servo Motor.
- The "walking beam" and "manual revisit station" utilized Kollmorgen ServoStar CD amplifiers and Kollmorgen Ironless DDL linear servomotors. The CD drives operate in position mode, and receive serial commands from the PLC. Tight servo control on these axes was important, both for good velocity control and fast point-to-point moves. High performance from the motor and drive were required here.

### Further Opportunity

Danaher Motion gained even further machine content as the stepper motors driving the conveyor are replaced with S200 servo drives, AKM Servo Motors, and Micron Gearheads.