6 CYLINDER ALUMINUM HEAD CELL

PROCESS: HIGH SPEED MANUFACTURING, MULTI-PROCESS TURNING, SETUP REDUCTION

COMPANY BACKGROUND

Evolving from a small parts company to a leader in its industry, this company's facilities and operations are stretched across the globe. Their markets include automotive, commercial vehicles, industrial materials, and various consumer products.

CHALLENGE

The customer wanted to install their new block machining line completely automated in order to increase production throughput and eliminate ergonomic issues associated with manual loading. This large system had a very short timeline of 18 weeks from order to shipment to automate (18) Mori-Seiki NHx5000 HMC machines.

ASSESSMENT

A clean sheet was what ET Automation was given, so the skillful team of engineers and staff at Ellison Technologies Automation had to develop the most cost effective layout to fit the customer's facility and production levels. In addition to machining the blocks, ET Automation had to perform part making, barcode reading to provide product tracking through the entire process and integrate it with third party vendors on the parts washer and leak testing equipment.

SOLUTION

The expert team of ET Automation engineers developed a solution that combines efficiency with production. This automated solution utilizes The FANUC Robotics R-2000iB/165F & M-710iC/50 robots. These FANUC Robotics models were chosen because of their payload and reach, the robots handle all part transfer and load/unload responsibilities using dual grippers to reduce the time required at an individual station. Other components of the automated cell include an inbound/outbound conveyor system, pin stampers, and Ellison Technologies Automation's cell controller and safety system.

END RESULT

The move to an automation cell helped to reduce the amount of manual labor while also increasing throughput production. The customer's request was met with integrated part marking as well as barcode reading, giving the customer the ability to work with its third party vendors. The large, multi-process is ergonomically designed, giving the operators a healthier and safer environment. In addition, this automation cell now gives the customer a continuous process that does not require intense manual labor for its operators.

BEFORE

- Intense manual labor
- Average throughput
- Difficult process

AFTER

- Integrated with different parts
- Increased production
- Ergonomically designed