

EMERGENCY RESCUE EQUIPMENT MANUFACTURER

PROCESS: HIGH-SPEED MANUFACTURING, MULTI-PROCESS TURNING, CONTINUOUS FLOW

COMPANY BACKGROUND

An established manufacturer, the customer in this study produces products and industrial tools used for emergency rescues.

CHALLENGE

The old method of manufacturing that the customer was using was done by a combination of lathes and vertical machining centers. Each of these machines had tooling specific to the operation being performed on the parts. The resultant stack up of tolerances made making the parts to the required tolerance parameters very difficult to accomplish, becoming extremely tedious operations.

ASSESSMENT

The customer wanted to incorporate a mill turn lathe with robot load and unload into their manufacturing plan. They believed that this would be very important to them now and in the future as they continue to take advantage of modern technology to reduce costs and increase productivity. The goal of the customer was to not only increase production, but also to learn more about automation and see if it would be useful in other parts of their facility.

SOLUTION

Utilizing a FANUC Robotics M-20iA six axis robot and controller, the automation cell designed by Ellison Technologies Automation includes an outbound conveyor and a Mori Seiki NT 4300-1500SY machine designed for inbound. Able to incorporate a single part gripper or a Robotiq Hand Gripper to handle all 28 different parts, the robot unloads parts from the machine tool and places them in the 5' long and 12" wide outbound conveyor.

END RESULT

Now running the automation cell 24 hours a day, production has increased to three parts per hour, an increase from one part per hour previously.

BEFORE

- Complex process
- Monotonous for operators
- One part per hour

AFTER

- 24-hour automated production
- Decreased cost
- Three parts per hour

"It was money well spent as far as the automation and we are saving so much by not having the operator idle," said a company representative. "It'll pay for itself in approximately a year when you consider overnight operation."



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