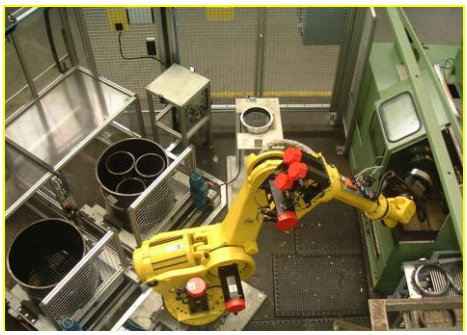
Product Info

Loading and unloading of a Brinkmann turning machine and „EMA" hardening machine with a FANUC S430iW robot



Cycle time = 59 seconds
Weight of work piece: Up to 15 kg

The task definition comprised the design, software, commissioning, construction, and delivery of a plant with the required documentation (including a manufacturer's declaration in line with EC Machine Directive 89/392 EEC.

Process description:

The FANUC S430iW robot grabs the geared ring from the turning machine and places the part on the deposit station in front of the curing oven. It then travels to the next part on the feed conveyor, picks it up, and takes the new part to the turning machine. The turning machine chuck clamps the part and the grabber opens. The turning machine starts machining the part. In the meantime, the robot moves to the part in the curing oven. The robot's grabber picks up the part and moves it to the deposit station in front of the curing oven. The grabber opens and the robot pivots round and grabs the second part at the deposit station. It transports this part to the curing oven and sets it down. The part is processed in the curing oven. Now, the robot moves to the cured part at the deposit station, grabs it, and places it into the tempering basket. The process then starts anew.

Other information:

When selecting a part for insertion into the inspection drawer, the robot removes the finished part from the turning machine, places it into the drawer, and inserts a new part into the turning machine from the feed belt. Parts have to be returned to the processing line following inspection.

Grabber technology:

The jaws on the grabber system are designed so that parts can be gripped on the inside or outside as required.

The plant is enclosed using safety fencing in accordance with statutory safety guidelines; two of the safety fences have monitored doors with safety locks.
The deposit station in front of the EMA is designed so that three work pieces can be placed there.