

Examples of Industries Served

- Centrifuge Manufacturers
- Pellet Mill Manufacturers
- Heavy Machine Manufacturers
- Irrigation Equipment Manufacturers
- Tool and Die Manufacturers
- Food Service Companies
- Medical Equipment Manufacturers
- Medical Researchers



Case Study

Opportunity:

Controlled Motion Dynamics was approached by a customer designing a machine to automatically unload a CNC machine. A CNC machine takes a piece of raw material (like a square steel block) and using various tools (drills and cutters) machines it into a usable part. The customer was designing a machine that would reach into the CNC, retrieve the finished part, and place it on a rotary table in preparation for the next operation. They approached CMDI for help with the linear motion and programming required to complete this machine design.

Solution:

Design and Implementation:

- CMDI sized and selected two Tol-O-Matic linear air actuators and air valves and programmed a small PLC for this machine.
 - The reason for using two actuators was to reduce the overall footprint of the machine.
 - With the actuators mounted on top of one another, the reach was doubled but the size was cut in half.
- This machine eliminated the need for constant operator attendance to unloading and thereby increased speed of production.
- The machine sequence operation is as follows:
 - The CNC machine sends a signal to say it is ready to unload.
 - The air actuators reach into the machine.
 - The parts basket opens and sends a signal to the CNC to release part.
 - When the part is in the basket it closes.
 - The air actuators retract and send a signal to CNC to start next part.
 - The part basket opens and part drops onto rotary table.
 - The cycle repeats.



Controlled Motion Dynamics assisted the customer in automating an important step in their operation.