

CUSTOMER INDUSTRY

Plastic Manufacturer and Recycler.

THE APPLICATION

24" flow control ball valve.

THE PROBLEM

The customer needed better control of the valve and wanted everything to be remotely automated. In addition, the customer needed a rotary actuator that would provide 1.5 million inch pounds of torque to rotate the valve.



THE SOLUTION

Controlled Fluids designed and built a rotary actuator that would provide the required 1.5 million inch pounds of torque along with a hydraulic power unit and controls to operate the actuator. CFI worked with the customer to determine their requirements for feedback, response times, and manual override capabilities. Furthermore, Controlled Fluids placed a position feedback sensor on the actuator to determine that the correct degree of rotation had been achieved.



THE RESULTS

The power unit that Controlled Fluids built was an accumulator based system. The unit operates off of the stored fluid power in three 15 gallon accumulators. Since the duty cycle of the control valve is very low, CFI designed the power unit with an air/hydraulic pump that will replenish the accumulators during normal operation. A supplemental electric pump/motor was also placed on the system to assist during times of high flow demand. Using an air/hydraulic pump eliminated the need for an oil

cooler, thus saving the customer both space and cost. Due to the operating conditions of the unit, CFI installed multiple filtration and desiccation systems to ensure that the unit's oil remains clean. The customer is very excited about the unit as it provides them with much more feedback as to the position of the control valve along with the fact that the unit operates without any human interface, contrary to the prior scenario where the valve was controlled manually.