

Compact by Design

Microelectronics – Hard Drive Test Equipment Robotic Gripper Application

Application Challenge

The customer needed custom cylinders for robotic end effect gripper for 2.5" disc drive testing tools. The envelope space constraints and light weight gripper mechanism of the application required custom pneumatic cylinders capable of high-speed, high-cyclic frequency, and 20 million cycles.

Project Solution

Compact custom cylinder bodies, piston stroke lengths, and mounting hole patterns were designed around the gripper concept. The mechanism required a set of 3 different cylinders per system along with low friction seals that were incorporated for low breakaway and smooth stroking. A custom sealing strategy was incorporated to prevent the product's internal lubrication from escaping and contaminating the products.

Customer Benefit

The desired speeds, cyclic frequency, and zero rod contamination were achieved allowing the customer to test the hard drives as they were required.

