

Specialized Design Requires Robust Lift and Tilt Mechanism

Enidine Air Spring Application

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Product Overview

Recently, a manufacturer of building automation systems was designing a custom machine to lift and tilt heavy, jail cell doors onto an over-head, automated paint conveyor chain. The originally selected pneumatic cylinders could not withstand the variability of uneven loading when the heavy jail cell door tilted into position prior to lifting. Additionally, the pneumatic cylinders were subjected to damaging stress and strain every time the operator shoved the jail door from the machine onto the conveyor's chain. Efforts to modify the pneumatic cylinders proved costly yet resulted in cylinder seal leakage, rod bending, and premature failure. Recognizing ITT Enidine Inc. for their expertise in motion control, our key distributor, familiar with the manufacturer's requirements, contacted us for an alternative solution.

Product Solution

ITT Enidine Inc. suggested using the YI-2B6 Series Air Springs for actuation in lieu of the inadequate pneumatic cylinders. The robust air springs were able to handle the load of the heavy doors as well as the additional displacement forces introduced when moving the door from the machine onto the over-head conveyor system. The YI-2B6 air springs were able to provide the consistency, durability and economics of a pneumatic solution at a fraction of the price.

Application Opportunity

Although a complex, custom designed machine was required, the simple construction of a standard ITT Enidine Air Spring provided an effective and cost-efficient solution that met the designer's expectations in performance and durability. By utilizing a standard ITT Enidine Inc. product, we are able to offer a readily available, easy-to-source solution, encouraging the manufacturer to design replacement kits for existing field installations. There are thousands of custom machinery manufacturers in the United States today. All can benefit from replacing pneumatic cylinders with ITT Enidine Inc. Air Springs in similar lifting applications that encounter uneven loading, bending moments or harsh environments.

