A Linear Actuator Helps in Dispensing, Packaging & Assembly by Michael Adams

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The definition of a linear actuator is â€˜a device that converts some kind of power, such as hydraulic or electric power, into linear motion.â€™ Such actuators are used in hundreds of applications in the industrial, commercial and consumer products industry. So whether it is applications such as dispensing, packaging, assembly or several other operations, these actuators can be easily integrated into the production or testing process.

Every single aspect about this device can be controlledâ€”right from its stroke length to landing force to time lapse between strokes etc. Interestingly, with the advancement in engineering, there are technologies such as the patented "Soft-Land" function. This allows for delicate and controlled force when landing on fragile components. The advancement of technology has also led to better devices such as the electric cylinder that is fast replacing pneumatic devices.

Letâ€™s take a look at the different applications in which a linear motion actuator can be used:

â€¢Assembly applications: There are special actuators that are suited for pick and place operations. So, you can program their speed, position, force and repeatability. They provide for an unmatched level of accuracy. These actuators also feature programmable torque, position and force making them best suited for integration in PCB assembly lines. They can be used for the most fragile operations thanks to a new â€˜Soft Landâ€™ technology.

â€¢Automobile and automotive applications: Since this industry has zero-defect requirements, rigorous testing is the only way to meet the required industry benchmarks. For instance, linear motion actuators can be integrated for functions such as seatbelt efficiency testing. Automation reduces chances of human error and parts rejection can virtually be eliminated. All these factors go a long way in increasing the pace of production.

â€¢Electronic applications: This industry deals with a number of delicate and high value components. Thatâ€™s precisely why a regular actuator will just not do. A linear actuator with a â€˜soft landâ€™ feature be used to deal with exceedingly delicate components. Options such as a vacuum pick-up facility can also be integrated with these actuators. Applications such as switch testing of mobile phones, PDAs, touch screens etc can be effectively carried out with the use of linear actuators.

â€¢Medical and scientific applications: A number of such applications require precision positioning. Open-loop actuators might cause incremental errors but precision actuators are fully close-looped. Hence, they provide extremely accurate position data and positioning abilities. For instance, such actuators can be used for push/pull testing of hypodermic needles.

For automation applications that require positioning and repeatability, electric cylinders can be integrated in the production line. These are a much better alternative to pneumatic devices, leading to considerable cost savings.

So, if you need a highly programmable device that offers repeatability, precise positioning among other features, the best solution would be invest in a linear actuator. You could choose between standard options or opt for a customized version.

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I have many years of experience in the electronics & electrical manufacturing industry. I take interest in sharing my knowledge about cost effective a linear actuator and a electric cylinder for businesses. If you are looking for such electric linear actuators, you stand to benefit from my articles.

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